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Principles of  
**Macro-**  
**eeco-**  
**nomics**  
2e.



# Principles of Macroeconomics 2e

SENIOR CONTRIBUTING AUTHORS

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Based on the 2nd edition of *Principles of  
Economics, Economics and the Economy, 2e*  
by Timothy Taylor, published in 2011.



@&(\$1E. F!  
' /01!+2/3145/67!  
89: : !; </2!"64116!; "=>?@!  
. AB56A2(!) 1D<5!?? : @!  
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)A!E1<42!F A41!<GAB6!&H12"6<D!3/5/6! 66H5JKAH1256<DLA4M!  
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!  
YA4!] B156/A25!41M<4N/2M!6! /5!E/0125/2M!HE1<51!0A26<06!5BHHA46 ^ AH1256<DLA4M!  
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2". M( / . "N)\*  
)I 1!&H12"6<D!2<F 1!&H12"6<D!EAMAC!&H12"6<D!GAA0!0A3145!&H12"6<D!( \$ \_!2<F 1!&H12"6<D!( \$ \_!EAMAC!  
&H12"6<D!)B6A4!2<F 1!&H1256<D!)B6A4!EAMAC!(A221D/A25!2<F 1!(A221D/A25!EAMAC! /01!+2/3145/67!2<F 1!<2N!  
' /01!+2/3145/67!EAMA!<41!2A6!5BG'106!6A!6! 1!E/01251!<2N!F <7!2A6!G141H4ANB01N!P/6! AB6!6! 1!H4/A4!<2N!1DH4155!  
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!  
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<06/A2K!R/01251!J!( (!\*T!QL: !!  
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! 9>52\*0@@P\*>1050! H\* I QRSTI TOQJQJ\*  
! 9>52\*0@@P\*>1050! U\* RTJQI QRSTI TOQJQJ\*  
! CA\*4391>@5\*>1050! H\* I QRSTI TOQURQV\*  
! CA\*4391>@5\*>1050! U\* RTJQI QRSTI TOQURQV\*  
35B65D3C\*23W20@@P\*>1050! H\* I QRSTI TOQVHQX\*  
35B65D3C\*23W20@@P\*>1050! U\* RTJQI QRSTI TOQVHQH\*  
9(K#)#+\$\*5Y/ Z(\*\* - 6000HI TQHHI Q[HU\I J]0: D\*  
@"#^#\$ . \*\*! YZ'#. E#+\$\*??. \*\* OHI T\*

@! 35126W\*

&H12"6<D! H4A3N15! V411! H114=413/1P1N! AH12E7! E/01251N! 61D6GAA05! VA4! /264ANB06A47! 0AE1M1! <2N! -N3<201N! WE<01F 126C!  
0AB4515! <2N! EAP=0A56! H145A2<E/d1N! 0AB451P<41! 6! <6! I 1EH5! 56BN1265! E1<42! -! 2A2H4AV/6! 1N! 610I ! /2/6/<6/31! G<51N! <6! ' /0!  
+ 2/3145/67! P141! 0AF F /661N! 6A! I 1EH/2M! 56BN1265! <00155! 6! 1! 6AAE5! 6! 17! 211N! 6A! 0AF HE161! 6! 1/4! 0AB4515! <2N! F 116! 6! 1/4!  
1NB0<6/A2<E!MA<E5!  
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9>D3\*=5>4391>2?\*

&H12"6<D! &H12"6<D! (\$\_! <2N! &H12"6<D! )B6A4! <41! /2/6/<6/315! AV! ' /0! + 2/3145/67! - 5! <! E1<N/2M! 4151<40I ! B2/3145/67! P/6! ! <!  
N/56/206/31! 0AF F /6F 126! 6A! B2N14M4<NB<6! 1NB0<6/A2! ' /0! + 2/3145/67! <5H/415! 6A! H<6! =G41<0/2M! 4151<40I ! B25B4H<551N!  
61<0I /2M! <2N! 0A264/GB6/A25!6A! 1! G16614F 126! AV! AB4! PA4EN! %6! 51105! 6A! VBEV/E! 6! /5! F /55/A2! G7! 0BE6/3<6/2M! <N! /31451! 0AF F B2/67!  
AV! E1<42/2M! <2N! N/50A3147! 6! <6! H4ANB015! E1<N145! <04A55! 6! 1! 5H1064BF ! AV! ! BF <2! 12N1<3A4!  
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A@=5C62>@5\*1=!! @92\*

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&H12"6<D! /5! M4<6! VBE! VA4! 6! 1! 641F 12NAB5! 5BHHA46! AV! AB4! 5HA25A45! ! b /6! AB6! 6! 1/4! 564A2M! 12M<M1F 126! 6! 1! MA<E!  
AV! V411! <00155! 6A! /MI =] B<E/67! 6! D6GAA05! PABEN! 41F </2! B56! <N! 41<F !  
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R<B4<! <2N! fA! 2! - 42AEN! YAB2N<6/A2! SRF - YU! <06/31E7! 51105! AHHA46B2/6/15! 6A! /23156! /2! A4M<2/d<6/A25! <2N!  
6! ABM! 6! E1<N145! 6! <6! I <31! <! 5/20141! /2614156! /2! /F HE1F 126/2M! VB2N<F 126<E! 0I <2M15! 6! <6! 2A6! A2E7!  
7/1EN! /F F 1N<6! 1M</25! GB6! <E5A! 41H</4! G4A012! 57561F 5! VA4! VB6B41! M1214<6/A25! URf - Y! 0B44126E7! VA0B515!  
/65! 564<6! M/0! /23156F 1265! A2! 1NB0<6/A2! 04F /2<E! B56/01! 4151<40I ! /261M4/67! <2N! HBG/E/0! <00AB26<G/E/67!  
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) I 1! b/E! <F ! <2N! YE4<! . 1PE166! YAB2N<6/A2! I <5! G112! F <0/2M! M4<265! 5/201! 9g8? ! 6A! I 1EH! 5AE3! 15A0! <E!  
<2N! 123/4A2F 126<E! H4AG! 1F 5! <6! I AF 1! <2N! <4AB2N! 6! 1! PA4EN! ) I 1! YAB2N<6/A2! 0A201264<615! /65!  
415AB4015! A2! <06/3/6/15! /2! 1NB0<6/A2! 6! 1! 123/4A2F 126! MEAG<E! N131EAHF 126! <2N! HAHE<6/A2!  
H14VA4F /2M! <465! <2N! HI /E<26! 4AH7! <2N! F <015! M4<265! 6A! 5BHHA46! N/5<N3<26<M1N! 0AF F B2/6/15! /2! 6! 1!  
" <2! Y4<20/50A! \* <7! - 41<!  
!

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(<E3/2! h! h<d<2' /<2! P<5! 6! 1! VAB2N14! <2N! H415N126! AV! W1614! W<BE! S - EF A2N! fA7! %20! . 1! W! 4F E7! G1E/131N!  
6! <6! 6! 1! F A41! H1AHE! 1! B2N1456AAN! <GAB! G<5/0! 10A2AF /05! 6! 1! I <HH/14! <2N! F A41! H4A5H14AB5! 6! 17!  
PABEN! G1! - 00A4N/2ME7! 1! 1156<GE/5! 1N! 6! 1! (<E3/2! h! h<d<2' /<2! #0A2AF /05! YAB2N<6/A2! %20! /2! 9gOg! <5! <!  
HI /E<26! 4AH/0! 2A2HAE/6/0<E! 1NB0<6/A2<E! A4M<2/d<6/A2! 6A! 5BHHA46! 1WA465! 6! <6! 121 <201N! 10A2AF /0!  
B2N1456<2N/2M!  
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, B/N1N! G7! 6! 1! G1E/1W! 6! <6! 13147! EV1! ! <5! 1] B<E! 3<EB1! 6! 1! \* /E! i ! ; 1E/2N<!, <615! YAB2N<6/A2! PA405! 6A!  
I 1EH! <E! H1AHE! 1! E1<N! I 1<E6! 7! H4ANB06/31! E/315! %2! N131EAH/2M! 0AB264/15! /6! VA0B515! A2! /F H4A3/2M!  
H1AHE! 1! 5! I 1<E6! ! P/6! ! 3<00/215! <2N! A6! 14! E/1-5<3/2M! 6AAE5! <2N! M/3/2M! 6! 1F ! 6! 1! 0! <201! 6A! E/V!  
6! 1F 51E3! 15! AB6! AV! I B2M14! <2N! 1D641F 1! HA31467! ! %2! 6! 1! + 2/61N! "6<615! /6! 51105! 6A! 5M2/N/0<26E7!  
/F H4A3! 1! 1NB0<6/A2! 5A! 6! <E! 7AB2M! H1AHE! 1! <31! 6! 1! AHHA46B2/67! 6A! 41<0! ! 6! 1/4! VBE! HA6126<E! ! \* <51N!  
/2! " 1<66E1! b <5! /2M6A2! 6! 1! VAB2N<6/A2! /5! E1N! G7! (#&! f1W! ' </015! <2N! (A=0! </4! b/E! <F ! . ! , <615! "4L!  
B2N14! 6! 1! N/4106/A2! AV! \* /E! <2N! ; 1E/2N<!, <615! <2N! b<4412! \* BW166!  
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) I 1! ; <DW/1EN! YAB2N<6/A2! 5BHHA465! H4A 1065! P/6! ! HA6126<E! VA4! ! /M! ! /F H<06! /2! 50/1201! 1NB0<6/A2!  
5B56</2<G/E/67! <2N! A6! 14! <41<5! AV! 5A0! <E! /F HA46<201!  
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&B4! F /55/A2! <6! ) I 1! ; /0! 1E5A2! [ : ; ; ! YAB2N<6/A2! /5! 6A! M4AP! <00155! <2N! 5B00155! G7! 1E/F /2<6/2M!  
B2210155<47! I B4NE15! 6A! <WA4N<G/E/67! ! b 1! 5BHHA46! 6! 1! 041<6/A2! 5! <4/2M! <2N! H4AEV14<6/A2! AV! F A41!  
1W106/31! F A41! <WA4N<GE! 1NB0<6/A2<E! 0A26126! G7! E1314-M/2M! N/54BH/6/31! 610I 2AEAM/15! AH12!  
1NB0<6/A2<E! 415AB4015! <2N! 21P! F AN1E5! VA4! 0AE<GA4<6/A2! G16P112! VA4=H4AV/6! 2A2H4AV/6! <2N! HBG/E/0!  
126/6/15!  
!

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) I 1! \* /E! <2N! "61HI <2/1! "/00! YB2N! 5BHHA465! /22A3<6/31! H4A 1065! /2! 6! 1! <41<5! AV! #NB0<6/A2! - 46! "0/1201!  
<2N! #2M/2114/2M!  
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new school year.

new classes.

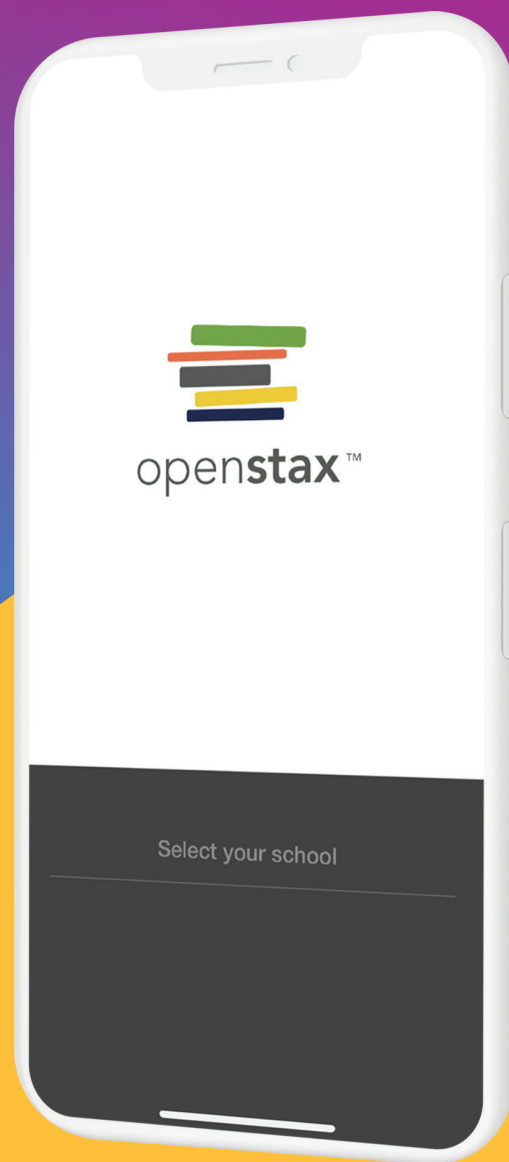
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;4CG8E / 8?6B@8 GB 6BAB@<6F  
7E>Q)P %@LKLJF@P >KA 7EV)P)Q)JMLQ>KQ  
-F@OLB@LKLJF@P>KA ->@OLB@LKLJF@P  
(LT %@LKLJFPQP 5PB 4EBOFBP>KA -LABIP QL 5KABOPQ>KA %@LKLJF@)PPRBP  
(LT 4L / OD>KFWB %@LKLJFBP !K / SBOSFBT LC %@LKLJF@ 3VPQB JP

;4CG8E ;B<68 <A 4 / BE?7 B9 +64E6<GL  
(LT)KAFSfAR>IP ->HB #ELF@BP ">PBA LK 4EBFO "RADBQ #LKPQ>FKQ  
4EB OOLAR@QFLK OLPPF?FHF@BP &OLKQFB0>KA 3L@F>I #ELF@BP  
#LKCCLKQFKD / ??B@QFLKP QL QEB %@LKLJF@ !MMOL>@E

;4CG8E 8@4A7 4A7 +HCC?L  
\$BJ>KA 3RMMIV >KA %NRHF?QFR J FK ->OHBQP CLO 'LLAP >KA 3BOSF@BP  
3EFCQP FK \$BJ>KA >KA 3RMMIV CLO 'LLAP >KA 3BOSF@BP  
#E>KDBP FK %NRHF?QFR J OOF@B >KA 1R>KQFQV 4EB &LR0 3QBM OOL@BPP  
OOF@B #BFIFKDP >KA OOF@B &ILLQ  
\$BJ>KA 3RMMIV >KA %CCF@FBK@V

;4CG8E \$45BE 4A7 <A4A6<4? %4E>8GF  
\$BJ>KA >KA 3RMMIV >Q 7LOH FK ,>?LO ->OHBQP  
\$BJ>KA >KA 3RMMIV FK &FK>K@F>I ->OHBQP  
4EB ->OHBQ 3VPQB J >P >K %CCF@FBKQ -B@E>KFP J CLO )KCL0 J >QFLK

;4CG8E ?4FG<6<GL  
OOF@B %I>PQF@FQV LC \$BJ>KA >KA OOF@B %I>PQF@FQV LC 3RMMIV  
OLI>O #>PBP LC %I>PQF@FQV >KA #LKPQ>KQ %I>PQF@FQV  
%I>PQF@FQV >KA OOF@FKD  
%I>PQF@FQV FK !OB>P / QEBO 4E>K OOF@B

;4CG8E , ; 8 %46EB86BAB@<6 (8EFC86G<18  
-B>PROFKD QEB 3FWB LC QEB %@LKLJV 'OLPP \$LJBPQF@ OOLAR@Q  
!AGRQFKD .LJFK>I 6>IRBP QL 2B>I 6>IRBP  
4O>@HFKD 2B>I ' \$O LSBO 4FJB  
#LJM>QFKD ' \$O >JLKD #LRKQOFBP  
(LT 7BII ' \$O -B>PROBP QEB 7BII "BFKD LC 3L@FBQV

;4CG8E 6BAB@<6 EB JG ;  
4EB 2BI>QFSBIV 2B@BKQ !OFS>I LC %@LKLJF@ 'OLTQE  
,>?LO OOLAR@QFSQV >KA %@LKLJF@ 'OLTQE  
#LJMLKQBQP LC %@LKLJF@ 'OLTQE  
%@LKLJF@ #LKSBOBK@B

;4CG8E -A8@C?BL@8AG  
(LT %@LKLJFPQP \$BCFKB >KA #LJMRQB 5KB JMILVJBKQ 2>QB  
O>QQBOKP LC 5KB JMILVJBKQ  
7E>Q #>RPBP #E>KDBP FK 5KB JMILVJBKQ LSBO QEB 3ELOQ 2RK  
7E>Q #>RPBP #E>KDBP FK 5KB JMILVJBKQ LSBO QEB ,LKD 2RK

;4CG8E !A9?4G<BA  
4O>@HFKD)KCI>QFLK  
(LT QL -B>PROB #E>KDBP FK QEB #LPQ LC ,FSFKD  
(LT QEB 5 3 >KA / QEBO #LRKQOFBP %UMB@FBK@B)KCI>QFLK  
4EB #LKC@PF@L / SBO)KCI>QFLK  
)KABU@FKD >KA)QP ,FJFQ>QFLKP

;4CG8E , ; 8 !AG8EA4G<BA4? ,E478 4A7 4C<G4? ?BJF  
-B>PROFKD 4O>AB ">I>K@BP  
4O>AB ">I>K@BP FK (FPQL@F@>I >KA)KQBOK>QFLK>I #LQBUQ  
4O>AB ">I>K@BP >KA &ILTP LC &FK>K@F>I #>MFQ>I  
4EB .>QFLK>I 3>SFKD >KA)KSBPQJBKQ)ABKQFQV  
4EB OOLP >KA #LKP LC 4O>AB \$BCF@FQP >KA 3ROMIRPBP  
4EB \$FC@BOK@B ?BQTBBK ,BSBI LC 4O>AB >KA QEB 4O>AB ">I>K@B

;4CG8E , ; 8 : :E8 :4G8 8@4A7 : :E8 :4G8 +HCC?L %B78?  
->@OLB@LKLJF@ OBOPMB@QFSBP LK \$BJ>KA >KA 3RMMIV  
"RFIAFKD > -LABI LC !DD@BD>QB \$BJ>KA >KA !DD@BD>QB 3RMMIV

3EFCQP FK !DD0BD>QB 3RMMIV  
3EFCQP FK !DD0BD>QB \$B J >KA  
(LT QEB ! \$ ! 3 - LABI )K@LOML0>QBP ' 0LTQE 5KB J MILV J BKQ >KA )KCI>QFLK  
+BVKBPa ,>T >KA 3>VAP ,>T FK QEB ! \$ ! 3 - LABI  
;4C68E , ; 8 #8LA8F<4A (8EFC86G<I8  
!DD0BD>QB \$B J >KA FK +BVKBPF>K !K>IVPFP  
4EB "RFAFKD "IL@HP LC +BVKBPF>K !K>IVPFP  
4EB OEFIFMP #ROSB  
4EB +BVKBPF>K OBOPMB@QFSB LK ->0HBQ &L0@BP  
;4C68E , ; 8 &8B6?4FF<64? (8EFC86G<I8  
4EB "RFAFKD "IL@HP LC . BL@I>PPF@>I !K>IVPFP  
4EB OLIF@V ) J MIF@>QFLK LC QEB . BL@I>PPF@>I OBOPMB@QFSB  
">I>K@FKD +BVKBPF>K >KA . BL@I>PPF@>I - LABIP  
;4C68E %BA8L 4A7 4A><A :  
\$BCKFKD - LKBV ?V )QP &RK@QFLKP  
- B>PROFKD - LKBV #R00BK@V - >KA -  
4EB 2LIB LC ">KHP  
(LT ">KHP #0B>QB - LKBV  
;4C68E %BA8G4EL (B?<6L 4A7 4A> \* 8 : H?4G<BA  
4EB &BAB0>I 2BPB0SB ">KHFKD 3VPQB J >KA #BKQ0>I ">KHP  
">KH 2BDRI>QFLK  
(LT > #BKQ0>I ">KH %UB@RQBP - LKBQ>0V OLIF@V  
- LKBQ>0V OLIF@V >KA %@LKL J F@ / RQ@L J BP  
OFQC>IIP CLO - LKBQ>0V OLIF@V  
;4C68E K6 ; 4A : 8 \* 4G8F 4A7 !A68EA4G<BA4? 4C<G4? ?B J F  
(LT QEB &LOBFDK %U@E>KDB ->0HBQ 7 LOHP  
\$B J >KA >KA 3RMMIV 3EFCQP FK &LOBFDK %U@E>KDB ->0HBQP  
->@0LB@LKL J F@ %CCB@QP LC %U@E>KDB 2>QBP  
%U@E>KDB 2>QB OLIF@FBP  
;4C68E B18EA@8AG H7 : 8G F 4A7 <F64? (B?<6L  
'LSBOK J BKQ 3MBKAFKD  
4>U>QFLK  
&BAB0>I \$BCK@FQP >KA QEB .>QFLK>I \$B?Q  
5PFKD &FP@>I OLIF@V QL &FDEQ 2B@BPPFLK 5KB J MILV J BKQ >KA )KCI>QFLK  
!RQL J >QF@ 3Q>?FIFWBOP  
00>@QF@>I 00L?IB J P TRQE \$FP@0BQFLK>0V &FP@>I OLIF@V  
4EB 1RBPQFLK LC > ">I>K@BA "RADBQ  
;4C68E , ; 8 !@C46G F B9 B18EA@8AG BEEB J <A :  
(LT 'LSBOK J BKQ "L00LTFKD !CCB@QP )KSBPQ J BKQ >KA QEB 40>AB ">I>K@B  
&FP@>I OLIF@V >KA QEB 40>AB ">I>K@B  
(LT 'LSBOK J BKQ "L00LTFKD !CCB@QP 00FS>QB 3>SFKD  
&FP@>I OLIF@V )KSBPQ J BKQ >KA %@LKL J F@ '0LTQE  
;4C68E %46EB86BAB@<6 (B?<6L EBHA7 G ; 8 / BE?7  
4EB \$FSBOPQV LC #LRKQOFBP >KA %@LKL J FBP >@0LPP QEB 7 LOIA  
)JMOLSKD #LRKQOFBPa 3Q>KA>0AP LC ,FSFKD  
#>RPBP LC 5KB J MILV J BKQ >0LRKA QEB 7 LOIA  
#>RPBP LC )KCI>QFLK FK 6>0FLRP #LRKQOFBP >KA 2BDFLKP  
">I>K@B LC 40>AB #LK@BOKP  
;4C68E !A68EA4G<BA4? ,E478  
! ?PLIRQB >KA #L J M>0>QFSB !AS>KQ>DB  
7E>Q (>MMBKP 7EBK > #LRKQOV (>P >K ! ?PLIRQB !AS>KQ>DB FK !II 'LLAP  
)KQ0> FKARPQOV 40>AB ?BQTBK 3F J FI>0 %@LKL J FBP  
4EB "BKBCQP LC 2BAR@FKD ">00FBOP QL )KQBOK>QFLK>I 40>AB



;4C8E ?B54?M4G<BA 4A7 (EBG86G<BA<F@  
OOLQB@QFLKFP J !K )KAF0B@Q 3R?PFAV COL J #LKPR JBOP QL OOLAR@BOP  
)KQBOK>QFLK>I 40>AB >KA )QP %CCB@QP LK \*L?P 7>DBP >KA 7 LOHFKD #LKAQFLKP  
!ODR JBKQP FK 3RMML0Q LC 2BPQF@QFKD )JML0QP  
(LT 'LSBOK JBKQP %K>@Q 40>AB OLIF@V 'IL?>IIV 2BDFLK>IIV >KA .>QFLK>IIV  
4EB 40>ABLCCP LC 40>AB OLIF@V  
N , ;8 -F8 B9 %4G ;8@4G<6F <A (E<A6<C?8F B9 6BAB@<6F  
N , ;8 KC8A7<GHE8 'HGCHG %B78?  
!A78K



# 02%&! #%

6BI@L J B QL *Principles of Macroeconomics 2e* KA \$AFQFLK >K . MBK2Q>U OBPLRO@B 3EFP QBUQ?LLH T>P T0FQQBK QL FK@OB>PB PQRABKQ >@BPP QL EFDE NR>IFVQ IB>OKFKD J >QBOF>IP J >FKQ>FKFKD EFDEBPQ PQ>KA>OAP LC >@>AB J F@ OFDLO >Q IFQQIB QL KL @LPQ

## 5BH6 ' C8A+G4K

. MBK2Q>U FP > KLKMLCFQ ?>PBA >Q 1F@B 4KFSBOPFV >KA FQdP LRO J FPPFLK QL F J MOLSB PQRABKQ >@BPP QL BAR@>QFLK . RO CFOPQ LMBKIV IF@BKPBA @LIIBDB QBUQ?LLH T>P MR?IFPEBA FK >KA LRO IF?>OV E>P PFK@B P@>IBA QL LSBO ?LLHP CLO @LIIBDB >KA / \ @LROBP RPBA ?V ERKAOBAP LC QELRP>KAP LC PQRABKQ . MBK2Q>U 3RQLO LRO ILT @LPQ MBOPLK>IFWBA IB>OKFKD QLLI FP ?BFKD RPBA FK @LIIBDB @LROBP QEOLRDELQ QEB @LRKQOV 3EOLRDE LRO M>OQKBOPEFMP TFQE MEFI>KQEOLMF@ CLRKA>QFLK >KA LRO >IIF>K@B TFQE LQEBO BAR@>QFLK>I OBPLRO@B LOD>KFW>QFLK . MBK2Q>U FP ?OB>HFKD ALTK QEB J LPQ @L J J LK ?>OOFBOP QL IB>OKFKD >KA B J MLTBOFKD PQRABKQ >KA FKPQOR@QLOP QL PR@>BBA

## 5BH6 ' C8A+G4K E8FBHE68F

HFGB@<M4G<BA

*Principles of Macroeconomics 2e* FP IF@BKPBA RKABO > "OB>QFSB "L J J LKP QOQF?RQFLK (KQBOK>QFLK>I " " ! 8 IF@BKPBA TEF@E J B>KP QE>Q VLR @>K AFPQOF?RQB OB J FU >KA ?RFIA RMLK QEB @LKQBKQ >P ILKD >P VLR MOLSFAB >QOQF?RQFLK QL . MBK2Q>U >KA FQP @LKQBKQ @LKQOF?RQLOP

!B@>RPB LRO ?LLHP >OB LMBKIV IF@BKPBA VLR >OB COBB QL RPB QEB BKQFOB ?LLH LO MF@H >KA @ELLPB QEB PB@QFLKQ QE>Q >OB J LPQ OBIBS>KQ QL QEB KBBAP LC VLRO @LROBP %BBI COBB QL OB J FU QEB @LKQBKQ ?V >PPFDKFKD VLRO PQRABKQ @BO>FK @E>MQBOP >KA PB@QFLKQ FK VLRO PVII>?RP FK QEB LOABO QE>Q VLR MOBCHO 8LR @>K BSBK MOLSFAB > AFOB@Q IFKH FK VLRO PVII>?RP QL QEB PB@QFLKQ FK QEB TB? SFBT LC VLRO ?LLH

(KPQOR@QLOP >IPL E>SB QEB LMQFLK LC @OB>QFKD > @RPQLJ FWBA SBOPFLK LC QEBFO . MBK2Q>U ?LLH 3EB @RPQLJ SBOPFLK @>K ?B J >AB >S>FI>?IB QL PQRABKQ FK ILT @LPQ MOFKQ LO AFDQ>I CLO J QEOLRDE QEBFO @> J MRP ?LLHPQLOB 5FPFQ QEB (KPQOR@QLO 1BPLRO@BP PB@QFLK LC VLRO ?LLH M>DB LK . MBK2Q>U LOD CLO J LOB FKCLQ J >QFLK

## EE4G4

II . MBK2Q>U QBUQ?LLHP RKABODL > OFDLOLRP OBSFBT MOL@BPP ' LTBSBO IFHB >KV MOLCBPPFLK>I DO>AB QBUQ?LLH BOOLOP PL J BQF J BP L@@RO 2FK@B LRO ?LLHP >OB TB? ?>PBA TB @>K J >HB RMA>QBP MBOFLAF@>IIV TEBK ABB J BA MBA>DLDF@>IIV KB@BPP>OV (C VLR E>SB > @LOOB@QFLK QL PRDDBPQ PR? J FQ FQ QEOLRDE QEB IFKH LK VLRO ?LLH M>DB LK . MBK2Q>U LOD 2R?GB@Q J >QBO BUMBOQP OBSFBT >II BOO>Q> PRDDBPQFLK . MBK2Q>U FP @L J J FQQA QL OB J >FKFKD QO>KPM>OBKQ >?LRQ >II RMA>QBP PL VLR TFII >IPL CFKA > IFFQ LC M>PQ BOO>Q> @E>KDBP LK VLRO ?LLH M>DB LK . MBK2Q>U LOD

## BE@4G

8LR @>K >@BPP QEFP QBUQ?LLH CLO COBB FK TB? SFBT LO / #% QEOLRDE . MBK2Q>U LOD >KA CLO > ILT @LPQ FK MOFKQ

## 5BH6 *Principles of Macroeconomics 2e*

*Principles of Macroeconomics 2e* KA BAFQFLK @LSBOP QEB P@LMB >KA PBNRBK@B OBNRFOB J BKQP LC J LPQ FKQOLAR@QLOV J >@OLB@LKL J F@P @LROBP 3EB QBUQ FK@IRABP J >KV @ROOBKQ BU> J MIBP TEF@E >OB E>KAIBA FK > MLIFQ@>IIV BNRQF>?IB T>V 3EB LRQ@L J B FP > ?>I>K@BA >MMOL>@E QL ?LQE \*BVKBP>K >KA @I>PPF@>I SFBTP >KA QL QEB QEBLOV >KA >MMIF@>QFLK LC B@LKL J F@P @LK@BMQP 3EB PB@LKA BAFQFLK E>P ?BBK QEOLRDEIV OBSFPBA QL FK@OB>PB @I>OFVQ RMA>QB A>Q> >KA @ROOBKQ BSBKQ F J M>@QP >KA FK@LOMLO>QB QEB CBBA?>@H COL J J >KV OBSFBTBOP >KA >ALMQBOP

## B18E4:8 4A7 F6BC8

3L ABSBILM QEB CFOPQ BAFQFLK LC *Principles of Macroeconomics* TB >@NRFOBA QEB OFDEQP QL 3F J LQEV 3>VILOdP *Principles of Economics* >KA PLIF@FQBA FAB>P COL J B@LKL J F@P FKPQOR@QLOP >Q >II IBSBIP LC EFDEBO BAR@>QFLK COL J @L J J RKFQV @LIIBDBP QL / E# DO>KQFKD RKFBSOPFQFBP %LO QEB PB@LKA BAFQFLK TB OB@BFSBA BSBK J LOB BUM>KPFBS >KA >@QFLK>?IB CBBA?>@H COL J ERKAOBAP LC >ALMQBOP TEL E>A RPBA QEB ?LLH CLO PBSBO>I >@>AB J F@ QBO J P 3EBPB HKLTIBADB>?IB FKPQOR@QLOP FKCLQ J BA QEB MBA>DLDF@>I @LROBP IB>OKFKD L?GB@QFSB ABSBILM J BKQ >KA CRICFII J BKQ >KA QEB @E>MQBO >OO>KDB J BKQP %>@RIQV TEL Q>RDEQ COL J QEB J >QBOF>I MOLSFABA @OFQF@>I >KA ABQ>FIBA @L J J BKQ>OV

3EB OBPRIQ FP > ?LLH QE>Q @LSBOP QEB ?OB>AQE LC B@LKL J F@P QLMF@P >KA >IPL MOLSFABP QEB KB@BPP>OV ABMQE QL BKPROB QEB @LROPB FP J >K>DB>?IB CLO FKPQOR@QLOP >KA PQRABKQP >IFHB 6B PQOLSB QL ?>I>K@B QEBLOV >KA >MMIF@>QFLK >P TBII >P QEB >J LRRKQ LC @>I@RI>QFLK >KA J >QEB J >QF@>I BU> J MIBP

3EB ?LLH FP LOD>KFWBA FKQL PBSBK J >FK M>OQP

**What is Economics?** 3EB CFOPQ QTL @E>MQBOP FKQOLAR@B PQRABKQP QL QEB PQRRAV LC B@LKL J F@P TFQE > CL@RP LK J >HFKD @ELF@BP FK > TLOIA LC P@>0@B OBPLRO@BP

**Supply and Demand** "E>MQBOP >KA FKQOLAR@BP >KA BUMI>FKP QEB CFOPQ >K>IVQF@>I J LABI FK B@LKL J F@P PRMMIV AB J >KA >KA BNRIF?QFR J ?BCLQB PELTFKD >MMIF@>QFLK FK QEB J >OHBQP CLO I>?LO >KA CFK>K@B

**Elasticity and Price** "E>MQBOP FKQOLAR@BP >KA BUMI>FKP BI>PQF@FQV >KA MOF@B QTL HBV @LK@BMQP FK B@LKL J F@P

**The Macroeconomic Perspective and Goals** "E>MQBOP QEOLRDE FKQOLAR@BP >KR J ?BO LC HBV @LK@BMQP FK J >@OL B@LKL J F@P DOLTQE RKB J MILV J BKQ >KA FKCI>QFLK >KA FKQBOK>QFLK>I QO>AB >KA @>MFQ>I CILTP

**A Framework for Macroeconomic Analysis** "E>MQBOP QEOLRDE FKQOLAR@BP QEB MOFK@FM>I >K>IVQF@>I LABI FK J >@OL K>J BIV QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV , LABI 3EB J LABI FP QEBK >MMIFBA QL QEB \*BVKBP>K >KA -BL@I>PPF@>I MBOPMB@QFSB 3EB BUMBKAFQROB LRQMRQ J LABI FP CRIIV BUMI>FKBA FK >PQ>KA >ILKB >MMBKAFU

**Monetary and Fiscal Policy** "E>MQBOP QEOLRDE BUMI>FKP QEB OLIB LC J LKBV >KA QEB ?>KHFKD PVPQB J >P TBII >P J LKBQ>OV MLIF@V >KA CFK>K@F>I OBDRI>QFLK 3EBK QEB AFP@RPPFLK PTFQ@EBP QL DLSBOK J BKQ ABCF@FQP >KA CFP@>I MLIF@V

**International Economics** "E>MQBOP QEOLRDE QEB CFK>I M>OQ LC QEB QBUQ FKQOLAR@BP QEB FKQBOK>QFLK>I AF J BKPELKP LC B@LKL J F@P FK@IRAFKD FKQBOK>QFLK>I QO>AB >KA MOLQB@QFLKFP J

?8EA4G8 +8DH8A6<A :

*Principles of Macroeconomics 2e* T>P @LK@BFSBA >KA T@FQQBK QL CFQ > M>OQF@RI>O QLMF@>I PBNRBK@B ?RQ FQ @>K ?B RPBA CIBUF?IV QL >@@L J J LA>QB LQEB @LROPB PQOR@QROBP . KB PR@E MLQBKQF>I PQOR@QROB TEF@E TFII CFQ OB>PLK>?IV TBII TFQE QEB QBUQ?LLH @LKQBKQ FP MOLSFABA ?BILT /IB>PB @LKPFABO ELTBSBO QE>Q QEB @E>MQBOP TBOB KLQ T@FQQBK QL ?B @L J MIBQIV FKABMBKABKQ >KA QE>Q QEB MOLMLPBA >IQBOK>QB PBNRBK@B PELRIA ?B @>OBCRIIV @LKPFABOBA CLO PQRABKQ MOBM>O>QFLK >KA QBUQR>I @LKPFPQBK@V

"E>MQBOP 6BI@L J B QL \$@LKL J F@P  
 "E>MQBOP "ELF@B FK > 6LOIA LC 2@>0@FQV  
 "E>MQBOP #B J >KA >KA 2RMMIV  
 "E>MQBOP +>?LO >KA %FK>K@F>I , >OHBQP  
 "E>MQBOP \$I>PQF@FQV  
 "E>MQBOP (KQBOK>QFLK>I 3O>AB  
 "E>MQBOP 3EB , >@OLB@LKL J F@P /BOPMB@QFSB  
 "E>MQBOP \$@LKL J F@P &@L TQE  
 "E>MQBOP 4KB J MILV J BKQ  
 "E>MQBOP (KCI>QFLK  
 "E>MQBOP 3EB (KQBOK>QFLK>I 3O>AB >KA ">MFQ>I %ILTP  
 "E>MQBOP 3EB \*BVKBP>K /BOPMB@QFSB  
 "E>MQBOP 3EB -BL@I>PPF@>I /BOPMB@QFSB  
 "E>MQBOP , LKBV >KA !>KHFKD  
 "E>MQBOP , LKBQ>OV /LIF@V >KA !>KH 1BDRI>QFLK  
 "E>MQBOP \$U@E>KDB 1>QBP >KA (KQBOK>QFLK>I ">MFQ>I %ILTP  
 "E>MQBOP &LSBOK J BKQ !RADBP >KA %FP@>I /LIF@V  
 "E>MQBOP 3EB DDOBD>QB #B J >KA DDOBD>QB 2RMMIV , LABI  
 "E>MQBOP 3EB ( J M>@QP LC &LSBOK J BKQ !LOOLTFKD  
 "E>MQBOP , >@OLB@LKL J F@P /LIF@V OLRKA QEB 6LOIA  
 "E>MQBOP &IL?>IFW>QFLK >KA /OLQB@QFLKFP J

MMBKAFU 3EB 4PB LC , >QEB J >QF@P FK /OFK@FMIBP LC \$@LKL J F@P  
 MMBKAFU ! 3EB \$UMBKAFQROB . RQMRQ , LABI

; 4A : 8F 6B G ; 8 F86BA7 87<G<BA

. MBK2Q>U LKIV RKABOQ>HBP OBSFPFLKP TEBK PFDKFCF@>KQ J LAFCF@>QLFKP QL > QBUQ >OB KB@BPP>OV (K QEB @>PB LC Principles of Macroeconomics TB OB@BFSBA > TB>IQE LC @LKPQOR@QFSB CBBA?>@H , >KV LC QEB ?LLHdP RPBOP CBIQ QE>Q @LKPBNRKBKQF>I J LSB J BKQ FK B@LKL J F@ A>Q> @LRMIBA TFQE QEB F J M>@QP LC K>QLK>I >KA DIL?>I BSBKQP T>OO>KQBA > CRII OBSFPFLK 6 B >IPL QLLH >AS>KQ>DB LC QEB LMMLQQRKFQV QL F J MOLSB QEB TOFQFKD >KA PBNRKB@FKD LC QEB QBUQ >P TBII >P J >KV LC QEB @>I@RI>QLK BU> J MIBP 3EB J >GLO @E>KDBP >OB PR J J >OFWBA ?BILT

RD J BKQBA BUMI>K>QLKP FK @E>MQBOP LKB QEOLRDE CLRO MOLSFAB > J LOB @L J MOBEBKPFBS >KA FKCLO J >QFSB CLRKA>QLK CLO QEB ?LLH

@IB>OBO BUMI>K>QLK RPFKD > KR J BOF@>I BU> J MIB E>P ?BBK DFSBK CLO CFKAFKD QEB RQFIFV J >UF J FWEKD @L J ?FK>QLK LC DLLAP >KA PBOSF@BP > @LKPR J BO PELRIA @ELLPB

3EB 3EBLOV LC /OLAR@QLK E>P ?BBK >AABA QL QEB @E>MQBO LK @LPQP FKARPQOV PQOR@QROB

J LOB @L J MIBQB QOB>Q J BKQ E>P ?BBK DFSBK QL I>?LO J >OHBQP FK@IRAFKD QEB QEBLOFBP LC @L J MBQFQFSB >KA J LKLMPLKFPQF@ I>?LO J >OHBQP >KA ?FI>QBO>I J LKLM LIV >KA QEB I>?LO J >OHBQP @E>MQBO >KA QEB MLSBOQV >KA B@LKL J F@ FKBNR>IFQV @E>MQBO E>SB ?BBK OBPNRKB@BA

2R?PQ>KQF>I OBSFPFLKP QL QEB # 2 J LABI FK @E>MQBOP MOBPBKQ QEB @LOB @LK@BMQP LC J >@OLB@LKL J F@P FK > @IB>OBO J LOB AVK> J F@ J >KKBO

">PB PQRAFBP >KA BU> J MIBP E>SB ?BBK OBSFPBA >KA FK PL J B @>PBP OBMI>@BA QL MOLSFAB J LOB OBIBS>KQ >KA RPBCRI FKCLO J >QLK CLO PQRABKQP

\$@LKL J F@ A>Q> Q>?IBP >KA DO>MEP >P TBII >P AFP@RPPFLK >KA >K>IVPFP >OLRKA QE>Q A>Q> E>SB ?BBK QEOLRDEIV RMA>QBA

6 EBOSBO MLPPF?IB A>Q> COL J QEB %BABO>I 1BPBOSB \$@LKL J F@ #>Q>?>PB %1 \$ # T>P FK@IRABA >KA OBCBOBK@BA (K J LPQ LC QEBPB RPBP IFKHP QL QEB AFOB@Q PLRO@B LC QEB %1 \$ # A>Q> >OB MOLSFABA >KA PQRABKQP >OB BK@LRO>DBA QL BUMILOB QEB FKCLO J >QLK >KA QEB LSBO>II %1 \$ # OBPLRO@BP J LOB QEOLRDEIV

AAFQLK>I RMA>QB >KA OBSFPFLKP >MMB>O QEOLRDELRLQ QEB ?LLH 3EBV OBCIB@Q @E>KDBP QL B@LKL J F@ OB>IFQFBP >KA MLIF@FBP OBD>OAFKD FKQBOK>QLK>I QO>AB Q>U>QLK FKPRO>K@B >KA LQEBO QLMF@P %LO FPPRBP QE>Q J >V @E>KDB FK QEB J LKQEP LO VB>OP CLIL TFKD QEB QBUQ?LLH P MR?IF@>QLK QEB >RQELOP LCQBK MOLSFABA > J LOB LMBK BKABA BUMI>K>QLK ?RQ TB TFII RMA>QB QEB QBUQ >KKR>IIV QL >AAOBPP CROQEBO @E>KDBP

3EB OBSFPFLK LC Principles of Macroeconomics T>P RKABOQ>HBK ?V 2QBSBK &OBBKI>T 4KFSBOPFV LC , >OV 6>PEFKDQLK >KA #>SFA 2E>MFOL /BKKPVIS>KF> 2Q>QB 4KFSBOPFV TFQE PFDKFCF@>KQ FKMRQ ?V IB>A OBSFBTBO #>KFBI , >@#LK>IA ">IFCLOKF> 2Q>QB 4KFSBOPFV 2>K !BOK>OAFKL

( 874 : B : <64? 9BHA74<G<BA

3EOLRDELRLQ Principles of Macroeconomics 2e VLR TFII CFKA CB>QROBP QE>Q BKD>DB QEB PQRABKQP FK B@LKL J F@ FKNRFOV >KA PRMMLQ QEBFO IB>OKFKD . RO CB>QROBP FK@IRAB

**Bring It Home:** 3EFP >AABA CB>QROB FP > ?OFBC @>PB PQRAV PMB@FCF@ QL B>@E @E>MQBO TEF@E @LKKB@QP QEB @E>MQBODP J >FK QLMF@ QL QEB OB>I TLOA (Q FP ?OLHBK RM FKQL QTL M>OQP QEB CFOPQ >Q QEB ?BDFKFKD LC QEB @E>MQBO FK QEB FKQOL J LARIB >KA QEB PB@LKA >Q @E>MQBODP BKA TEBK PQRABKQP E>SB IB>OKBA TE>QdP KB@BPP>OV QL RKABOP>KA QEB @>PB >KA e?OFKD EL J Bf QEB @E>MQBODP @LOB @LK@BMQP

**Work It Out:** 3EFP >AABA CB>QROB >PHP PQRABKQP QL TLOH QEOLRDE > DBKBO>IIV >K>IVQF@>I LO @L J MRQ>QLK>I MOL?IB J >KA DRFABP QEB J PQBM ?V PQBM QL CFKA LRQ ELT FQP PLIRQLK FP ABOFSBA

**Clear It Up:** 3EFP ?LUBA CB>QROB TEF@E FK@IRABP MOB BUFPQFKD CB>QROBP COL J 3>VILOdP QBUQ >AAOBPPBP @L J J LK PQRABKQ J FP@LK@BMQFLKP >?LRQ QEB @LKQBKQ "IB>O (Q 4MP >OB RPR>IIV ABBMBO BUMI>K>QLK LC PL J BQEFKD FK QEB J >FK ?LAV LC QEB QBUQ \$>@E "(4 PQ>OQP TFQE > NRPBQFLK 3EB OBPQ LC QEB CB>QROB BUMI>FKP QEB >KPTBO

**Link It Up:** 3EFP >AABA CB>QROB FP > SBOV ?OFBC FKQOLAR@QLK QL > TB?PFB QE>Q FP MBOQFKBKQ QL PQRABKQPd RKABOP>KAFKD >KA BKGLV J BKQ LC QEB QLMF@ >Q E>KA

) H8F<BAF 9BE 846 ; ?818? B9 ?84EA<A :

Principles of Macroeconomics 2e LCCBOP CLRO QVMBP LC BKA LC J LARIB NRBQFLKP CLO PQRABKQP

**Self-Checks** >OB >K>IVQF@>I PBIC >PPBPP J BKQ NRBQFLKP QE>Q >MMB>O >Q QEB BKA LC B>@E J LARIB 3EBV e@IF@H QL

OBSB>If >K >KPTBO FK QEB TB? SFBT PL PQRABKQP @>K @EB@H QEBFO RKABOPQ>KAFKD ?BCLOB JLSFKD LK QL QEB KBUQ J LARIB 2BIC "EB@H NRBPQFLKP >OB KLQ PF J MIB ILLH RM NRBPQFLKP 3EBV MRPE QEB PQRABKQ QL QEFKH ?BVLKA TE>Q FP P>FA FK QEB QBUQ 2BIC "EB@H NRBPQFLKP >OB ABPFDKBA CLO CLO J >QFSB C>QEBO QE>K PR J J >QFSB >PPBP J BKQ 3EB NRBPQFLKP >KA >KPTBOP >OB BUMI>FKBA PL QE>Q PQRABKQP CBI IFHB QEBV >OB ?BFKD T>IHBA QEOLRDE QEB MOL?IB J

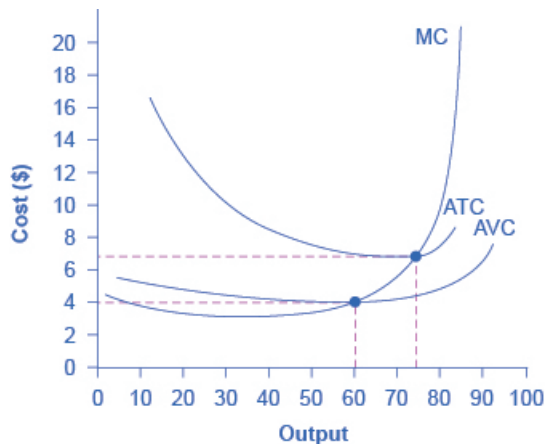
**Review Questions** E>SB ?BBK OBQ>FKBA COL J 3>VILodP SBOPFLK >KA >OB PF J MIB OB@>II NRBPQFLKP COL J QEB @E>MQBO FK LMBK OBPKLPB CLO J >Q KLQ J RIQFMIB @ELF@B LO QORB C>IPB 3EB >KPTBOP @>K ?B ILLHBA RM FK QEB QBUQ

**Critical Thinking Questions** >OB KBT EFDEBO IBSBI @LK@BMQR>I NRBPQFLKP QE>Q >PH PQRABKQP QL *demonstrate their understanding by applying* TE>Q QEBV E>SB IB>OKBA FK AFCCBOBKQ @LKQBUQP 3EBV >PH CLO LRQPFAB QEB ?LU QEFKHFKD CLO *reasoning* >?LRQ QEB @LK@BMQP 3EBV MRPE QEB PQRABKQ QL MI>@BP QEBV TLRIAKdQ E>SB QELRDEQ LC DLFKD QEB J PBISBP

**Problems** >OB BUBO@FPBP QE>Q DFSB PQRABKQP >AAFQFLK>I MO>@QF@B TLOHFKD TFQE QEB >K>IVQF@ >KA @L J MRQ>QFLK>I @LK@BMQP FK QEB J LARIB

- C74687 4EG

*Principles of Macroeconomics 2e* FK@IRABP >K RMA>QBA >OQ MOLDO> J QL ?BQBO FK CLO J QLA>VdP PQRABKQ MOLSFAFKD QEB I>QBPQ A>Q> LK @LSBOBA QLMF@P



## 77<G<BA4? E8FBHE68F

+GH78AG 4A7 <AFGEH6G6E E8FBHE68F

6 BdSB @L J MFIBA >AAFQFLK>I OBPLRO@BP CLO ?LQE PQRABKQP >KA FKPQOR@QLOP FK@IRAFKD &BQQFKD 2Q>0QBA &RFABP >K FKPQOR@QLO  
PLIRQFLK J>KR>I QBPQ ?>KH >KA /LTB0/LFKQ PIFABP (KPQOR@QLO OBPLRO@BP OBNRF0B > SBOFCFBA FKPQOR@QLO >@LRKQ TEF@E  
VLR @>K >MMIV CLO TEBK VLR ILD FK LO @OB>QB VLRO >@LRKQ LK . MBK2Q>U LOD 3>HB >AS>KQ>DB LC QEBPB OBPLRO@BP QL  
PRMMIB J BKQ VLRO . MBK2Q>U ?LLH

B@>HA<GL H5F



. MBK2Q>U M>0QKBOP TFQE QEB (KPQFQRQB CLO QEB 2QRAV LC \*KLTIBADB , >K>DB J BKQ FK \$AR@>QFLK (2\* , \$ QL LCCB0  
"L J J RKFQV 'R?P LK . \$1 "L J J LKP a > MI>QCLO J CLO FKPQOR@QLOP QL PE>OB @L J J RKFQV @OB>QBA OBPLRO@BP QE>Q PRMML0Q  
. MBK2Q>U ?LLHP COBB LC @E>ODB 3EOLRDE LRO "L J J RKFQV 'R?P FKPQOR@QLOP @>K RMIL>A QEBFO LTK J>QBOF>IP LO  
ALTKIL>A OBPLRO@BP QL RPB FK QEBFO LTK @LROPBP FK@IRAFKD >AAFQFLK>I >K@FII>OFBP QB>@EFKD J>QBOF>I J RIQF J BAF> >KA  
OBIBS>KQ @LROPB @LKQBKQ 6 B BK@LRO>DB FKPQOR@QLOP QL GLFK QEB ER?P CLO QEB PR?GB@QP J LPQ OBIBS>KQ QL VLRO QB>@EFKD >KA

0BPB>0@E >P >K LMMLOQRKFQV ?LQE QL BKOF@E VLRO @LROBPB >KA QL BKD>DB TFQE LQEBO C>@RIQV  
3L 0B>@E QEB " L J J RKFQV ' R?P SFPPQ TTT LBO@L J J LKP LOD ER?P . MBK2Q>U

**,86 ; AB?B : L C4EGA8EF**

P >IIFBP FK J >HFKD EFDE NR>IFQV IB>OKFKD J >QBOF>IP >@BPPF?IB LRO QB@EKLILDV M>QQKBOP LCCBO LMQFLK>I ILT @LPQ QLLIP  
QE>Q >0B FKQBD0>QBA TFQE . MBK2Q>U ?LLHP 3L >@BPP QEB QB@EKLILDV LMQFLKP CLO VLRO QBUQ SFPPQ VLRO ?LLH M>DB LK  
. MBK2Q>U LOD



A5BHGG 8 4HG BEF
+8A-BE6BAC5HGA: 4HG BEF

Steven A. Greenlaw, University of Mary Washington

20SEK&BEK>T E>P?BEK@>@HKDMK@MPLCB@KLJ F@>LOJ L@>K30 VE>Q. (K1999, EB@>@SBAQB&@HIBQ
". 2H MLK T>@ACLOS@HIBK@BK4 KABDOAR>@3B>@HKD>@QB4 KISB@HVC, >V6 >PEKQK ' BIP@B>R@LO
LCDoing Economics: A Guide to Doing and Understanding Economic Research, >P TBI >P>S>@BVLC>@Q@P LK
B@KLJ F@MA>DLV>KAKP@Q@LKH @@KLILDV, MR?IPEBAK@BJournal of Economic Education, @BInternational
Review of Economic Education, >KAL@BOLR@B. ' BT@B@BJ LARIBLK0 R>KQ@B6 @K@DLOStarting Point:
Teaching and Learning Economics, @B T@B M@D@L?@P@M@Q@P@H@B>@HKD@B@KLJ F@. 20SEK&BEK>T IIS@H@
IBU>K@>, 5@H@>T@E@P@T@B\*>@V>K@Q@H@Q@B@H@A@K

David Shapiro, Pennsylvania State University

#>SFA2E>M@L IP / @B@P@L@S@J @B@P@L@C\$@@KLJ F@, # BJ L@D@M@V, >KA6 LJ B@K@, &B@K@>>KA2@B@R>H@V 2@R@B@P>Q
@B / @K@P@M@S>K@> 2@Q@4 KISB@HVC. ' B @B@SBA >! H@B@KLJ F@ >KA M@H@Q@I P@H@B@ @LJ @B 4 KISB@HVC
, @H@>K, >KA>K, >P TBI >P>/@# H@B@KLJ F@ @LJ / @K@B@L@K4 KISB@HVC. ' B?@D>K@E@P>@A@B@I F@@>@B@>Q
. @EL 2@Q@4 KISB@HVC@K1971, >K@J L@SBA@L / @K@2@Q@4@K1980. ' IP@B>@V@B@P@>@L@R@P@B@L@K@T@L@J H@>K@M@L@R@Q@H@
@B4 K@P@A 2@Q@4 P@I>?@L@J >@H@Q@%@L@I@L@T@H@D> 1978-79 P@K@>P> %@R@?@D@E@Q@M@L@P@H@L@O>@QB4 KISB@HVC LC\* H@P@>P> H@
@B# BJ L@D@>@1 @M@R@I@F@L@C@B" L@K@L, @E@P @B@>@L@P@E@K@B@A@L@R@P@Q @B@H@V@H@K \* H@P@>P> >K@J L@B?@L>@V, H@P@R?>
2>E>@K @>. ' B@E>P>@P@L @B@SBAQB@L@M@M@B@L@O@>@H@D>@Q@L@Q. @EL 2@Q@>K@/ @K@2@Q@

2M@>I@>K@P@Q" @P@P@K/ L@B@L@J 4 KISB@HVC, >V6 >PEKQK T@L@L@L@R@D@E@I@V@B@>@L@B@A>K@>M@I@B@J >K@V
L@C@B@A>Q@R@M@>@P>K@M@L@S@F@A@B@L@R@K@>@L@K@L@O@J >K@V@K@I >K@@S@H@P@A@H@I@R@P@Q@L@K@P.

D8I 87BC@8AG87<BE

3ELJ >P2HBI

CBAC5HGA: 4HG BEF

\$@#@# L@D@B ' >K@S@B@O' L@I@B@D@B
" V@K@P@>@>J B@W@4 KISB@HVC L@C3@B@P>@Q\$1 / >P@L
K@A@P@>R@O@D@R@F" L@I@R@J ?R@P2@Q@4 KISB@HVC
# B@K@B\* B@K@>K, " B@O@Q@P" L@I@B@D@B
# >K, >@L@K>I@A " >I@F@L@O@K@>2@Q@4 KISB@HVC, 2>K! B@K@>@A@R@L
J V>W, L@I@B@H@>, 3@E@B" L@I@B@D@B L@C6 L@L@P@O
" @H@D1 F@>@A@L@K, 6 H@P@Q@K>2>I@B 2@Q@4 KISB@HVC
# >SFA2E>M@L, / @K@P@M@S>K@> 2@Q@4 KISB@HVC
1>I@M@E 2L@K@B@P@E@R@B, J @B@K@K4 KISB@HVC

\* 8I <@J 8EF

! @>K @R@F@>Q- L@O@E@T@B@Q @H@K@P@>P" L@J J R@K@V" L@I@B@D@B
! >P@H I' >P@E@H @, @P>" L@J J R@K@V" L@I@B@D@B
\$J H! B@B@K@A@Q, L@R@K@Q@Q, >@P@4 KISB@HVC
9@B@>! R@P@Q A>J P2@Q@4 KISB@HVC
# L@R@D@>P" >J M@B@I, 3@E@B4 KISB@HVC L@C, B@J M@E@P
2>K@R@H@Q" @>R@A@E@R@Q, 4 KISB@HVC L@C6 I@P@L@K@H@K@>\$>R" I>@B@B
7 R@B@V" @B@K@D I>?>J >2@Q@4 KISB@HVC

1L?BOQ "RKKFKDE>J IJ> "LIIBDB  
 1LP> +B> #>KFBIPK "LIIBDB LC #R/>DB  
 2QBSBK #BIL>@E \$ILK 4KFSBOPFQV  
 , F@E>BI \$KW %0>J FKDE>J 2Q>QB 4KFSBOPFQV  
 #B??FB \$SBO@ILRA 4KFSBOPFQV LC "LIL0>AL #BKSBO  
 1BW> &ELO>PEF 1F@E>0A 2QL@HQLK "LIIBDB LC - BT )BOPBV  
 1L?BOQ &FIIBQQB 4KFSBOPFQV LC \*BKQR@HV  
 2E>L J FK 'R>KD +BTFP "I>0H 2Q>QB "LIIBDB  
 &BLODB )LKBP 4KFSBOPFQV LC 6FP@LKPFK 1L@H "LRKQV  
 "E>OIBP \*OLK@HB "LIIBDB LC , LRKQ 2Q )LPBME  
 3BOBP> +>RDEIFK />IL J >0 "L J J RKFQV "LIIBDB  
 ">OILP +F>0A , ROFBKQB "BKQ>I "LKKB@QF@RQ 2Q>QB 4KFSBOPFQV  
 'B>QEBO +RB> \*>KP>P 2Q>QB 4KFSBOPFQV  
 2QBSBK +RD>RBO 4KFSBOPFQV LC -LQB #>J B  
 6FIIF>J , LPEBO ->PER> "L J J RKFQV "LIIBDB  
 , F@E>BI -BQQ> 'RAPLK "LRKQV "L J J RKFQV "LIIBDB  
 -F@H -L?IB , F>J F 4KFSBOPFQV  
 )LB -LT>HLTPHF , RPHFKDR J 4KFSBOPFQV  
 2E>TK .PBII 4KFSBOPFQV LC 6FP@LKPFK 2RMBOFLO  
 , >0H .TBKP , FAAIB 3BKKBPPBB 2Q>QB 4KFSBOPFQV  
 2LKF> /BOBFO> !>OK>0A "LIIBDB  
 )BKKFCBO /I>Q>KF> \$ILK 4KFSBOPFQV  
 1L?BOQ 1V@QLCQ 4KFSBOPFQV LC , >0V 6>PEFKDQLK  
 AOFBKKB 2>@EPB %ILOFA> 2Q>QB "LIIBDB >Q )>@HPLKSFIB  
 '>KP 2@ER J >KK 3BU>P , 4KFSBOPFQV  
 &FK> 2E>J PE>H &LR@EBO "LIIBDB  
 "E0FP 6>0?ROQLK )LEK )>V "LIIBDB LC "OF J FK>I )RPQF@B "4 - 8  
 , >0H 6FQQB -LQETBPQBOK 4KFSBOPFQV

# N / 8?6B@8 GB 6BAB@<6F



<:HE8 B 1BH -F8 4685BB> %@LKLJf@P FP DOB>QIV FJM>@QBA ?V ELT TBII FKCL0J >QFLK QO>SBIP QEOLRDE PL@FBQV  
4LA>V PL@F>I JBAF> DF>KQP 4TFQ@B0 &>@B?LLH >KA )KPQ>DO>J >OB J>@LO CLO@BP LK QEB FKCL0J >QFLK PRMBO EFDET>V  
#0BARQ \*LE>K ,>OPPLK &f@HO

## Bring it Home

86<F<BAF 86<F<BAF <A G ; 8 +B6<4? %87<4 :8

4L MLPQ LO KLQ QL MLPQ %SB0V A>V TB >OB C>@BA TFQE > JVO>A LC AB@FPFLKP C0L J TE>Q QL E>SB CLO ?OB>HC>PQ QL  
TEF@E OLRQB QL Q>HB QL @I>PP QL QEB JLOB @LJ MIBU \_ b3ELRIA ) ALR?IB J>@LO >KA >AA MLPPF?IV >KLQEB0 PB JBPQBO  
LC PQRAV QL J V BAR@>QFLK c / RO OBPMLKPB QL QEBPB @ELF@BP ABMBKAP LK QEB FKCL0J >QFLK TB E>SB >S>fI>?IB >Q  
>KV DF@SBK J L J BKQ %@LKLJf@P @>II QEFf bfJ MB0CB@Qc ?B@>RPB TB O>OBIV E>SB >II QEB A>Q> TB KBBA QL J>HB  
MB0CB@Q AB@FPFLKP \$BPMf@B QEB I>@H LC MB0CB@Q FKCL0J >QFLK TB PQfII J>HB ERKA0BAP LC AB@FPFLKP > A>V

. LT TB E>SB >KLQEB0 >SBKRB FK TEF@E QL D>QEB0 FKCL0J >QFLK \_ PL@F>I JBAF> / RQIBQP IFHB &>@B?LLH >KA 4TFQ@B0  
>OB >IQB0FKD QEB MOL@BPP ?V TEF@E TB J>HB @ELF@BP ELT TB PMBKA LRO Qf JB TEF@E JLSfBP TB PBB TEF@E  
MOLAR@QP TB ?RV >KA JLOB (LT J>KV LC VLR @ELPB > RKfSB0PQV TQELRQ @EB@HFKD LRQ fQP &>@B?LLH M>DB LO  
4TFQ@B0 PQ@B>J CFOPQ CLO FKCL0J >QFLK >KA CBBA?>@H

! P VLR THII PBB FK QEFf @LROPB TE>Q E>MMBKP FK B@LKLJf@P FP >CCB@QBA ?V ELT TBII >KA ELT C>PQ FKCL0J >QFLK  
A@PPB JfK>QBP QEOLRDE > PL@FBQV PR@E >P ELT NRR@HIV FKCL0J >QFLK QO>SBIP QEOLRDE &>@B?LLH b%@LKLJf@P ILSB  
KLQEFKD ?BQ@BO QE>K TEBK ABBM >KA IFNRFA J>OHBQP LMB>QB RKABO @LKAf@FLKP LC MB0CB@Q FKCL0J >QFLK c P>VP  
\*BPPf@>)OSfKB .>QFLK>I %@LKLJf@P %Af@LO CLO . BTP #LOM !RPQO>f>

4EFf IB>AP RP QL QEB QLMf@ LC QEFf @E>M@B0 >K FKQOLAR@QFLK QL QEB TLOIA LC J>HFKD AB@FPFLKP MOL@BPPfKD

FKCLOJ>QLK >KA RKABOPQ>KAFKD ?BE>SFL0 FK J>0HBQP \_ QEB TLOIA LC B@LKL J F@P %>@E @E>M@B0 FK QEF?>LLH TFH  
PQ>OQ TFQE > AFP@RPPFLK >?LRQ @R00BKQ LO PL J B@F J BP M>PQ BSBKQP >KA OBSFPQ FQ >Q @E>M@B0aP BKA \_ QL b?0FKD  
EL J Bc QEB @LKB@BMQP FK MI>V

## !AGEB7H6G<BA

(K QEF@E>M@B0 VLR TFH IB>OK >?LRQ

- g 6E>Q (P \$@LKL J F@P >KA 6EV (P (Q (J MLOQ>KQ
- g , F@OLB@LKL J F@P >KA , >@OLB@LKL J F@P
- g 'LT \$@LKL J FPQP 4PB 3EBOFBP >KA , LABIP QL 4KABOPQ>KA \$@LKL J F@ (PPRBP
- g 'LT \$@LKL J FBP ">K !B .OD>KFWBA K .SBOSFBT LC \$@LKL J F@ 2VPQB J P

6E>Q FP B@LKL J F@P >KA TEV PELRIA VLR PMBKA VLRO QF J B IB>OKFKD FQ CQBO >II QEBOB >OB LQEBO AFP@FMIFKBP VLR @LRIA  
?B P@RAVFKD >KA LQEBO T>VP VLR @LRIA ?B PMBKAFKD VLRO QF J B P QEB !OFKD FQ 'L J B CB>QROB GRPQ J BKQFLKBA J >HFKD  
@ELF@BP FP >Q QEB EB>OQ LC TE>Q B@LKL J FPQP P@RAV >KA VLRO AB@FPFLK QL Q>HB QEF@LROPB FP >P J R@E >P B@LKL J F@ AB@FPFLK  
>P >KVQEFKD BIPB

\$@LKL J F@P FP MOL?>?IV KLQ TE>Q VLR QEFKH (Q FP KLQ MOF J >OFIV >?LRQ J LKVB LO CFK>K@B (Q FP KLQ MOF J >OFIV >?LRQ  
>RPFKBPP (Q FP KLQ J >QEB J >QF@P 6E>Q FP FQ QEBK (Q FP ?LQE > PR?GB@Q >OB> >KA > T>V LC SFBTFKD QEB TLOIA

## N / ;4G !F 6BAB@<6F 4A7 / ;L !F !G !@CBEG4AG

!V QEB BKA LC QEF PB@QLK VLR TFH ?B >?IB QL

- d #FP@RPP QEB F J MLOQ>K@B LC P@RAVFKD B@LKL J F@P
- d \$UMI>FK QEB OBI>QLKPEFM ?BQTBBK MOLAR@QLK >KA AFSFPFLK LC I>?LO
- d \$S>IR>QB QEB PFDKFCF@>K@B LC P@>O@FQV

**Economics** FP QEB P@RAV LC ELT ER J >KP J >HB AB@FPFLK FK QEB C>@B LC P@>O@FQV 3EBPB @>K ?B FKAFSFAR>I AB@FPFLK  
> J FIV AB@FPFLK ?RPFKBPP AB@FPFLK LO PL@FBQ>I AB@FPFLK (C VLR ILLH >OLRKA @>OBCRIIV VLR TFH PBB QE>Q P@>O@FQV FP >  
>@> LC IFCB **Scarcity** J B>KP QE>Q ER J >K T>KQP CLO DLLAP PBOSF@BP >KA OBPLRO@BP BU@BBA TE>Q FP >S>FI>?IB 1BPLRO@BP  
PR@E >P I>?LO QLLIP I>KA >KA O>T J >QBOF>IP >OB KB@BPP>OV QL MOLAR@B QEB DLLAP >KA PBOSF@BP TB T>KQ ?RQ QEBV BUFPQ FK  
IF J FQBA PRMMIV . C @LROPB QEB RIQF J >QB P@>O@B OBPLRO@B FP QF J B BSOVLKB OF@E LO MLL0 E>P GRPQ BUMBKA>?IB ELROP  
FK QEB A>V QL B>OK FK@L J B QL >@NRFOB DLLAP >KA PBOSF@BP CLO IBFPROB QF J B LO CLO PIBBM Q >KV MLFKQ FK QF J B QEBOB FP  
LKIV >CFKFQB > J LKQ LC OBPLRO@BP >S>FI>?IB

3EFKH >?LRQ FQ QEF T>V (K QEB I>?LO CLO@B FK QEB 4KFQBA 2Q>QBP @LKLQ>FKBA LSBO J FIFLK TLOHBOP >@>LOAFKD  
QL QEB 4 2 !ROB>R LC +>?LO 2Q>QFPQF@P 3EB QLQ>I I>KA >OB> T>P PNR>OB J FIBP 6EFIB QEBPB >OB @BOQ>FKIV I>ODB  
KR J ?BOP QEBV >OB KLQ FKCFKFQB !B@>RPB QEBPB OBPLRO@BP >OB IF J FQBA PL >OB QEB KR J ?BOP LC DLLAP >KA PBOSF@BP TB  
MOLAR@B TFQE QEB J "L J ?FKB QEF TFQE QEB C>@Q QE>Q ER J >K T>KQP PBB J QL ?B SFOQR>IIV FKCFKFQB >KA VLR @>K PBB TEV  
P@>O@FQV FP > MOL?IB J

## !AGEB7H6G<BA GB \*

#>Q> FP SBOV F J MLOQ>KQ FK B@LKL J F@P ?B@>RPB FQ ABP@OF?BP >KA J B>PROBP QEB FPPRBP >KA MOL?IB J P QE>Q B@LKL J F@P PBBH  
QL RKABOPQ>KA S>OFBQV LC DLSBOK J BKQ >DBK@FBP MR?IFPE B@LKL J F@P >KA PL@F>I A>Q> %LO QEF@LROPB TB TFH DBKB0>IIV  
RPB A>Q> COL J QEB 2Q +LRFP %BABA>I 1BPBOSB !>KHP %1 \$# A>Q>?>PB %1 \$# FP SBOV RPBO COFBKAIV (Q >IILTP VLR QL  
AFPMI>V A>Q> FK Q>?IBP LO @E>ODBP >KA VLR @>K B>PFIV ALTKIL>A FQ FKQL PMOB>APEBBQ CLO J FC VLR T>KQ QL RPB QEB A>Q> CLO  
LQEBO MROMLPBP 3EB \* **J85F<G8 ;GCF BC8AF64K BE: ? \*** FK@IRABP A>Q> LK KB>OIV AL J BPQF@  
>KA FKQBOK>QLK>I S>OF>?IBP LSBO QF J B FK QEB CLHILTTFKD ?OL>A @>QBDLOFBP

- d , LKBV !>KHFKD %FK>K@B
- d /LMRI>QLK \$ J MILV J BKQ +>?LO , >0HBQP FK@IRAFKD (K@L J B #FPQOF?RQFLK

d ->QLK>I @LRKQP &OLPP #LJBPQF@ /OLAR@Q FQP @LJMLKKBKQP %ILTLC%RKAP >KA (KQBOK>QLK>I @LRKQP  
d /OLAR@QLK !RPFKBPP @QFSQV FK@IRAFKD !RPFKBPP "V@IBP  
d /OF@BP (KCI>QLK FK@IRAFKD QEB "LKPRJB0 /OF@B (KABU QEB /OLAR@B0 /OF@B (KABU >KA QEB \$J MILVJBKQ "LPQ  
(KABU  
d (KQBOK>QLK>I #>Q> COLJ LQEBO K>QLKP  
d 4 2 1BDFLK>I #>Q>  
d @>ABJF@ #>Q> FK@IRAFKD /BKK 6LOIA 3>?IBP - ! \$ 1 , >@OLEFPQLOV A>Q>?>PB

%LO JLOB FKCL0J>QLK >?LRQ ELT QL RPB %1 \$ # PBB QEB S>OFBQV LC I<78BF ;GGCF BC8AF64K BE: ? \* 3<AGEB  
LK 8LR3R?B PQ>OQFKD TFQE QEFP FKQLAR@QLK



<:HE8 +64E6<GL B9 \*8FBHE68F (LJ BIBPP MBLMIB >OB > P@>O@FQV FP > MOL?IBJ @LKPFABO QEB CLILITFKD #LBP BSB0VLKB OBNRFOB CLLA QL B>Q #LBP  
bA>SBVKFKc &f@H0 #OB>QFSB #LJ J LKP

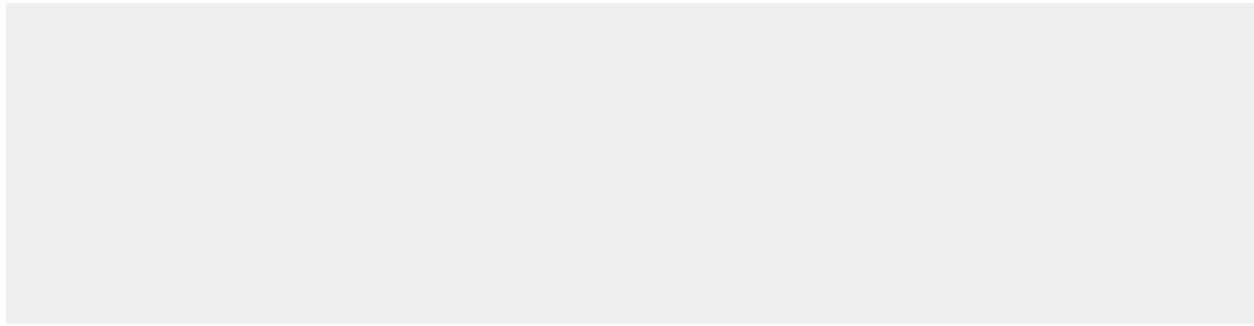
(C VLR PQFH AL KLQ ?BIFBSB QE>Q P@>O@FQV FP > MOL?IBJ @LKPFABO QEB CLILITFKD #LBP BSB0VLKB OBNRFOB CLLA QL B>Q #LBP  
BSB0VLKB KBBA > AB@BKQ MI>@B QL IFSB #LBP BSB0VLKB E>SB >@BPP QL EB>IQE@>OB (K BSB0V @LRKQOV FK QEB TLOIA QEBOB  
>OB MBLMIB TEL >OB ERKDOV ELJ BIBPP CLO BU>J MIB QELPB TEL @>II M>OH ?BK@EBP QEBFO ?BAP >P <:HE8 PELTP  
>KA FK KBBA LC EB>IQE@>OB GRPQ QL CL@RP LK > CBT @OFQF@>I DLLAP >KA PBOF@BP 6 EV FP QEFP QEB @>PB (Q FP ?B@>RPB LC  
P@>O@FQV +BQdP ABISB FKQL QEB @LK@BMQ LC P@>O@FQV > IFQIB ABBMBO ?B@>RPB FQ FP @OR@F>I QL RKABOPQ>KAFKD B@LKLJF@P

, ;8 (EB5?8@ B9 +64E6<GL

3EFKH >?LRQ >II QEB QEFKDP VLR @LKPRJB CLLA PEBIQBO @ILQEFKD QO>KPMLOQ>QLK EB>IQE@>OB >KA BKQBOK>FKJBKQ 'LT AL  
VLR >@NRFOB QELPB FQB JP 8LR AL KLQ MOLAR@B QEB J VLROPBIC 8LR ?RV QEB J 'LT AL VLR >CCL0A QEB QEFKDP VLR ?RV  
8LR TLOH CLO M>V (C VLR AL KLQ PLJ BLKB BIPB ALBP LK VLRO ?BE>IC 8BQ JLPQ LC RP KBSBO E>SB BKL RDE FK@LJBQL ?RV  
>II QEB QEFKDP TB T>KQ 3EFP FP ?B@>RPB LC P@>O@FQV 2L ELT AL TB PLISB FQ

# Link It Up

6FPFQ QEFP TB?P@B EQQM LMBKPQ>U LOD I AOLRDEQ QL OB>A >?LRQ ELT QEB 5KfQBA 3Q>QBP FP AB>fKD TFQE P@>O@FQV FK  
QBPLR0@BP



\$SBOV PL@FBQV >Q BSB0V IBSBI J RPQ J >HB @ELF@BP >?LRQ ELT QL RPB FQP OBPLR0@BP %> J FIFBP J RPQ AB@FAB TEBQEBO QL PMBKA QEBFO J LKBV LK > KBT @>0 LO > C>K@V S>@>QFLK 3LTKP J RPQ @ELLPB TEBQEBO QL MRQ J LOB LC QEB ?RADBQ FKQL MLIF@B >KA CFOB MOLQB@QFLK LO FKQL QEB P@ELLI PVPQB J ->QFLK J RPQ AB@FAB TEBQEBO QL ABSLQB J LOB CRKAP QL K>QFLK>I ABCBKP LO QL MOLQB@QFKD QEB BKSFOLK J BKQ (K J LPQ @>PBP QEB0B GRPQ FPKd BKL RDE J LKBV FK QEB ?RADBQ QL AL BSB0VQEFKD ' LT AL TB RPB LR0 IF J FQBA OBPLR0@BP QEB ?BPQ T>V MLPPF?IB QE>Q FP QL L?Q>FK QEB J LPQ DLLAP >KA PB0SF@BP TB @>K 3EB0B >OB > @LRMIB LC LMQFLKP %FOPQ TB @LRIA B>@E MOLAR@B BSB0VQEFKD TB B>@E @LKPR J B IQBOK>QFSBIV TB @LRIA B>@E MOLAR@B PL J B LC TE>Q TB T>KQ QL @LKPR J B >KA eQ>ABf CLO QEB 0BPQ LC TE>Q TB T>KQ +BQdP BUMILOB QEBPB LMQFLKP 6 EV AL TB KLQ B>@E GRPQ MOLAR@B >II LC QEB QEFKDP TB @LKPR J B 3EFKH ?>@H QL MFLKBBO A>VP TEBK FKAfSFAR>IP HKBT ELT QL AL PL J R@E J LOB QE>K TB AL QLA>V COL J ?RFIAFKD QEBFO EL J BP QL DOLTfKD QEBFO @OLMP QL ERKQFKD CLO CLLA QL OBM>FOFKD QEBFO BNRFM J BKQ , LPQ LC RP AL KLQ HKLT ELT QL AL >II b LO >KV b LC QELPB QEFKDP ?RQ FQ FP KLQ ?B@>RPB TB @LRIA KLQ IB>OK 1>QEBO TB AL KLQ E>SB QL 3EB 0B>PLK TEV FP PL J BQEFKD @>IIBA *the division and specialization of labor* > MOLAR@QFLK FKKLS>QFLK CFOPQ MRQ CLOQE ?V A> J 2 J FQE <:HEB FK EFP ?LLH *The Wealth of Nations*

<:HEB 74@ +@<; !A> J 3 J FQE FKQ@LAR@BA QEB FAB> LC AFSfAFKD I>?LO FKQL AfP@0BQB Q>PHP #0BAFQ 7HF J BAF> #L J J LKP

, ; 8 <I<F<BA B9 4A7 +C86<4?<M4G<BA B9 \$45BE

3EB CLO J >I P@RAV LC B@LKL J F@P ?BD>K TEBK A> J 2 J FQE a MR?IFPEBA EFP C> J LRP ?LLH *The Wealth of Nations* FK , >KV >RQELOP E>A T@FQ@BK LK B@LKL J F@P FK QEB @BKQROFBP ?BCLOB 2 J FQE ?RQ EB T>P QEB CFOPQ QL >AA0BPP QEB PR?GB@Q FK > @L J M0EBKPFBSB T>V (K QEB CFOPQ @E>MQB0 2 J FQE FKQ@LAR@BP QEB @LK@BMQ LC **division of labor** TEF@E J B>KP QE>Q QEB T>V LKB MOLAR@BP > DLLA LO PB0SF@B FP AFSFABA FKQL > KR J ?B0 LC Q>PHP QE>Q AFCC0B0KQ T'LOHBOP MBOCLO J FKPQB>A LC >II QEB Q>PHP ?BFKD ALKB ?V QEB P> J B MBOPLK

3L FIIRPQ0>QB AFSFPLK LC I>?LO 2 J FQE @LRKQBA ELT J >KV Q>PHP T'BKQ FKQL J >HFKD > MFK A0>TFKD LRQ > MFB@B LC T'FOB @RQ@FKD FQ QL QEB OFDEQ IBKDQE P@Q>FDEQ@BKFKD FQ MRQ@FKD > EB>A LK LKB BKA >KA > MLFKQ LK QEB LQEBO >KA M>@H>DFKD MFKP CLO P>IB QL K> J B GRPQ > CBT 2 J FQE @LRKQBA AFPQFK@Q Q>PHP QE>Q AFCC0B0KQ MBLMIB MBOCLO J BA b >II CLO > MFK ?BIFBSB FQ LO KLQ

, LABOK ?RPFKBPPP AFSFAB Q>PHP >P TBII \$SBK > OBI>QFSBIV PF J MIB ?RPFKBPP IFHB > 0BPQ>RO>KQ AFSFABP QEB Q>PH LC PB0SFKD J B>IP FKQL > O>KDB LC GL?P IFHB QLM @EBC PLRP @EBCP IBPP PHFIIBA HFQ@EBK EBIM PB0SBOP QL T>FQ LK QEB Q>?IBP > DOBBQBO >Q QEB ALLO C>KFQLOP QL @IB>K RM >KA > ?RPFKBPP J >K>DBO QL E>KAIB M>V@EB@HP >KA ?FIIP b KLQ QL J BKQFLK QEB B@LKL J F@P

@LKKB@QFLKP > OBQ>RO>KQ E>P TFQE PRMMIFBOP LC CLLA CROKFQROB HFQ@EBK BNRFM J BKQ >KA QEB ?RFIAFKD TEBOB FQ FP IL@>QBA  
@L J MIBU ?RPFKBPP IFHB > I>ODB J >KRC>@QROFKD C>@QLOV PR@E >P QEB PELB C>@QLOV <.:HEB LO > ELPMF@I @>K E>SB  
ERKAOBAP LC GL? @I>PPFCF@>QFLKP

<.:HEB <I<F<BA B9 \$45BE 7 LOHBOP LK >K >PPBJ?IV IFKB >OB >K BU>J MIB LC QEB AFSF@FLKP LC I>?LO #0BAFQ .FK>  
(>IB &f@H0 #0B>QFSB #LJ J LKP

## / ;L G ;8 <I<F<BA B9 \$45BE !A6E84F8F (EB7H6G<BA

6 EBK TB AFSFAB >KA PR?AFSAB QEB Q>PHP FKSLISBA TFQE MOLAR@FKD > DLLA LO PBOSF@B TLOHBOP >KA ?RPFKBPPBP @>K  
MOLAR@B > DOB>QBO NR>KQFQV LC LRQMRQ (K EFP L?PBOS>QFLKP LC MFK C>@QLOFBP 2 J FQE KLQF@BA QE>Q LKB TLOHBO >ILKB J FDEQ  
J>HB MFKP FK > A>V ?RQ QE>Q > P J >II ?RPFKBPP LC TLOHBOP PL J B LC TEL J TLRJA KBBA QL @L J MIBQB QTL LO QEOBB  
LC QEB Q>PHP FKSLISBA TFQE MFK J>HFKD @LRJA J>HB MFKP FK > A>V 'LT @>K > DOLRM LC TLOHBOP B>@E  
PMB@F>IFWFKD FK @BQ>FK Q>PHP MOLAR@B PL J R@E J LOB QE>K QEB P> J B KR J ?BO LC TLOHBOP TEL QOV QL MOLAR@B QEB BKQFOB  
DLLA LO PBOSF@B ?V QEB J PBISBP 2 J FQE LCCBOBA QEOBB OB>PLKP

%FOPQ **specialization** FK > M>OQF@RI>O P J >II GL? >IILTP TLOHBOP QL CL@RP LK QEB M>OQP LC QEB MOLAR@QFLK MOL@BPP TEBOB  
QEBV E>SB >K >AS>KQ>DB (K I>QBO @E>MQBOP TB TFII ABSBILM QEFP FAB> ?V AFP@RPPFKD @L J M>O>QFSB >AS>KQ>DB /BLMIB  
E>SB AFCCBOBKQ PHFIIP Q>IBKQP >KA FKQBOBPQP PL QEBV TFII ?B ?BQQBO >Q PL J B GL?P QE>K >Q LQEBOP 3EB M>OQF@RI>O >AS>KQ>DBP  
J>V ?B ?>PBA LK BAR@>QFLK>I @ELF@BP TEF@E >OB FK QROK PE>MBA ?V FKQBOBPQP >KA Q>IBKQP .KIV QELPB TFQE J BAF@>I  
ABDOBBP NR>IFCV QL ?B@L J B AL@QLOP CLO FKPQ>K@B %LO PL J B DLLAP DBLDO>MEV >CCB@QF PMB@F>IFW>QFLK %LO BU> J MIB FQ FP  
B>PFBO QL ?B > TEB>Q C>O J BO FK - LOQE #>HLQ> QE>K FK %ILOFA> ?RQ B>PFBO QL ORK > QLROFPQ ELQBI FK %ILOFA> QE>K FK - LOQE  
#>HLQ> (C VLR IFSB FK LO KB>O > ?FD @FQV FQ FP B>PFBO QL >QQO>@Q BKL RDE @RPQL J BOP QL LMBQ>QB > PR@>BPPCRI AOV @IB>KFKD  
?RPFKBPP LO J LSF B QEB>QBO QE>K FC VLR IFSB FK > PM>OPBIV MLMRI>QBA ORO>I >OB> 6 E>QBSBO QEB OB>PLK FC MBLMIB PMB@F>IFWB  
FK QEB MOLAR@QFLK LC TE>Q QEBV AL ?BPQ QEBV TFII ?B J LOB BCCB@QFSB QE>K FC QEBV MOLAR@B > @L J ?FK>QFLK LC QEFKDP PL J B  
LC TEF@E QEBV >OB DLLA >Q >KA PL J B LC TEF@E QEBV >OB KLQ

2B@LKA TLOHBOP TEL PMB@F>IFWB FK @BQ>FK Q>PHP LCQBK IB>OK QL MOLAR@B J LOB NRF@HIV >KA TFQE EFDEBO NR>IFQV 3EFP  
M>QQBOK ELIAP QORB CLO J >KV TLOHBOP FK@IRAFKD >PPBJ?IV IFKB I>?LOBOP TEL ?RFIA @>OP PQVIFPQ TEL @RQ E>FO >KA  
AL@QLOP TEL MBOCLOJ EB>OQ PRODBOV (K C>@Q PMB@F>IFWBA TLOHBOP LCQBK HKLT QEBFO GL?P TBII BKL RDE QL PRDDBQP  
FKKLS>QFSB T>VP QL AL QEBFO TLOH C>PQBO >KA ?BQQBO

PF J FI>O M>QQBOK LCQBK LMBQ>QBP TFQEFK ?RPFKBPPBP (K J >KV @>PBP > ?RPFKBPP QE>Q CL@RPBP LK LKB LO > CBT MOLAR@Q  
PL J BQF J BP @>IIBA FQP e@LOB @L J MBQBK@Vf FP J LOB PR@>BPPCRI QE>K CFO J P QE>Q QOV QL J >HB > TFAB O>KDB LC MOLAR@Q

3EFOA PMB@F>IFW>QFLK >IILTP ?RPFKBPPBP QL Q>HB >AS>KQ>DB LC **economies of scale** TEF@E J B>KP QE>Q CLO J >KV DLLAP  
>P QEB IBSBI LC MOLAR@QFLK FK@OB>PBP QEB >SBO>DB @LPQ LC MOLAR@FKD B>@E FKAFFAR>I RKFQ AB@IFKBP %LO BU> J MIB FC >  
C>@QLOV MOLAR@BP LKIV @>OP MBO VB>O B>@E @>O TFII ?B NRF@B BUMBKPFBS QL J >HB LK >SBO>DB 'LTBSBO FC > C>@QLOV  
MOLAR@BP @>OP B>@E VB>O QEBK FQ @>K PBQ RM >K >PPBJ?IV IFKB TFQE ERDB J>@EFKBP >KA TLOHBOP MBOCLOJ FKD  
PMB@F>IFWBA Q>PHP >KA QEB >SBO>DB @LPQ LC MOLAR@QFLK MBO @>O TFII ?B ILTBO 3EB RIQF J >QB OBPRIQ LC TLOHBOP TEL @>K  
CL@RP LK QEBFO MBOCBOBK@BP >KA Q>IBKQP IB>OK QL AL QEBFO PMB@F>IFWBA GL?P ?BQQBO >KA TLOH FK I>ODBO LOD>KFW>QFLKP FP QE>Q  
PL@FBQV >P > TELIB @>K MOLAR@B >KA @LKPR J B C>O J LOB QE>K FC B>@E MBOPLK QOFBA QL MOLAR@B >II LC EFP LO EBO LTK DLLAP  
>KA PBOSF@BP 3EB AFSF@FLK >KA PMB@F>IFW>QFLK LC I>?LO E>P ?BBK > CLO@B >D>FKPQ QEB MOL?IB J LC P@>O@FQV

## ,E478 4A7 %4E>8GF

2MB@F>IFW>QFLK LKIV J >HBP PBKPB QELRDE FC T'LOHBOP @>K RPB QEB M>V QEBV OB@BFSB CLO ALFKD QEBFO GL?P QL MRO@E>PB QEB LQEBO DLLAP >KA PBOF@BP QE>Q QEBV KBBA (K PELOQ PMB@F>IFW>QFLK OBNRFOBP QO>AB

8LR AL KLQ E>SB QL HKL T >KVQEFKD >?LRQ BIB@QOLKF@P LO PLRKA PVPQB J P QL MI>V J RPF@ b VLR GRPQ ?RV >K F/LA LO , / MI>VBO ALT'KIL>A QEB J RPF@ >KA IFPQB 8LR AL KLQ E>SB QL HKL T >KVQEFKD >?LRQ >OQFCF@F>I CF?BOP LO QEB @LKPQOR@QFLK LC PBTFKD J >@EFKBP FC VLR KBBA >G>@HBQ b VLR GRPQ ?RV QEB G>@HBQ >KA TB>O FQ 8LR AL KLQ KBBA QL HKL T >KVQEFKD >?LRQ FKQBOK>I @L J ?RPQFLK BKDFKBP QL LMBO>QB > @>O b VLR GRPQ DBQ FK >KA AOFBS (KPQB>A LC QOVFKD QL >@NRFOB >II QEB HKL TIBADB >KA PHFIIP FKSLISBA FK MOLAR@FKD >II LC QEB DLLAP >KA PBOF@BP QE>Q VLR T'PE QL @LKPR J B QEB J >OHBQ >IILT'P VLR QL IB>OK > PMB@F>IFWBA PBQ LC PHFIIP >KA QEBK RPB QEB M>V VLR OB@BFSB QL ?RV QEB DLLAP >KA PBOF@BP VLR KBBA LO T>KQ 3EFP FP ELT LRO J LABOK PL@FBQV E>P BSLISBA FKQL > P'QOLKD B@LKL J V

## / ;L +GH7L 6BAB@<6F

-LT QE>Q VLR E>SB >K LSBOSFBT LK TE>Q B@LKL J F@P P'QRAFBP IBQdP NRF@HIV AFP@RPP TEV VLR >OB OFDEQ QL P'QRAV FQ \$@LKL J F@P FP KLQ MOF J >OFIV > @LIIB@QFLK LC C>@QP QL J B J LOFWB >IQELRDE QEBOB >OB MIBKQV LC F J MLOQ>KQ @LK@BMQP QL IB>OK (KPQB>A QEFKH LC B@LKL J F@P >P > @LIIB@QFLK LC NRBPQFLK QL >KPTBO LO MRWWIBP QL T'LOH , LPQ F J MLOQ>KQIV B@LKL J F@P MOLSFABP QEB QLLIP QL PLISB QELPB MRWWIBP (C QEB B@LKL J F@P e?Rdf E>P KLQ ?FQQBK VLR VBQ QEBOB >OB LQEBO OB>PLKP TEV VLR PELRIA P'QRAV B@LKL J F@P

- d 5FOQR>IIV BSOV J >GLO MOL?IB J C>@FKD QEB T'LOIA QLA>V COL J DIL?>I T>O J FKD QL T'LOIA MLSBOV QL QEB @LKCIF@QP FK 2VOF> CDE>KFPQ>K >KA 2L J >IF> E>P >K B@LKL J F@P AF J BKPFLK (C VLR >OB DLFKD QL ?B M>OQ LC PLISFKD QELPB MOL?IB J P VLR KBBA QL ?B >?IB QL RKABOP>KA QEB J \$@LKL J F@P FP @OR@F>I
- d (Q FP E>OA QL LSBOPQ>QB QEB F J MLOQ>K@B LC B@LKL J F@P QL DLLA @FQFWBKPEFM 8LR KBBA QL ?B >?IB QL SLQB FKQBIFDBKQIV LK ?RADBP OBDRI>QFLK >KA I>TP FK DBKBO>I 6EBK QEB 4 2 DLSBOK J BKQ @> J B @ILPB QL > P>KAPQFII >Q QEB BKA LC ARB QL QEB eCF@>I @IFCC f TE>Q TBOB QEB FPPRBP #FA VLR HKL T
- d ?>PF@ RKABOP>KAFKD LC B@LKL J F@P J >HBP VLR > TBII OLRKABA QEFKHBO 6EBK VLR OB>A >OQF@IBP >?LRQ B@LKL J F@P FPPRBP VLR TFII RKABOP>KA >KA ?B >?IB QL BS>IR>QB QEB T'OFQBOd >ODR J BKQ 6EBK VLR EB>O @I>PP J >QB @L T'LOHBOP LO MLIFQF@>I @>KAFA>QB Q>IHFKD >?LRQ B@LKL J F@P VLR TFII ?B >?IB QL AFPQFKDRFPE ?BQ'TBBK @L J J LK PBKPB >KA KLKPBKPB 8LR TFII CFKA KBT T>VP LC QEFKHFKD >?LRQ @ROOBKQ BSBKQP >KA >?LRQ MBOPLK>I >KA ?RPFKBP AB@FPFLK >P TBII >P @ROOBKQ BSBKQP >KA MLIFQF@P

3EB P'QRAV LC B@LKL J F@P ALBP KLQ AF@Q>QB QEB >KPTBOP ?RQ FQ @>K FIIR J FK>QB QEB AFCCBOBKQ @ELF@BP

## N %<6EB86BAB@<6F 4A7 %46EB86BAB@<6F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d #BP@OF?B J F@OLB@LKL J F@P
- d #BP@OF?B J >@OLB@LKL J F@P
- d " LKQO>PQ J LKBQ>OV MLIF@V >KA CFP@>I MLIF@V

\$@LKL J F@P FP @LK@BOKBA T'FQE QEB TBII ?BFKD LC all MBLMIB FK@IRAFKD QELPB T'FQE GL?P >KA QELPB T'FQELRQ GL?P >P TBII >P QELPB T'FQE EFDE FK@L J BP >KA QELPB T'FQE ILT FK@L J BP \$@LKL J F@P >@HKL TIBADBP QE>Q MOLAR@QFLK LC RPBCCI DLLAP >KA PBOF@BP @>K @OB>QB MOL?IB J P LC BKSFOLK J BKQ>I MLIIRQFLK (Q BUMILOBP QEB NRBPQFLK LC ELT FKSBPQFKD FK BAR@>QFLK EBIMP QL ABSBILM T'LOHBOPd PHFIIP (Q MOL?BP NRBPQFLK IFHB ELT QL QBII TEBK ?FD ?RPFKBPBP LO ?FD I>?LO RKFLK >OB LMBO>QFKD FK > T>V QE>Q ?BKBCFP PL@FBQV >P > TELIB >KA TEBK QEBV >OB LMBO>QFKD FK > T>V QE>Q ?BKBCFP QEBFO LTKBOP LO J B J ?BOP >Q QEB BUMKPB LC LQEBOP (Q ILLHP >Q ELT DLSBOK J BKQ PMBKAFKD Q>UBP >KA OBDRI>QFLK >CCB@Q AB@FPFLK >?LRQ MOLAR@QFLK >KA @LKPR J MQFLK

(Q PELRIA ?B @IB>O ?V KLT QE>Q B@LKL J F@P @LSBOP @LKPFABO>?IB DOLRKA 6B @>K AFSFAB QE>Q DOLRKA FKQL QTL M>OQP **Microeconomics** CL@RPBP LK QEB >@QFLK LC FKAFFAR>I >DBKQP T'FQEFK QEB B@LKL J V IFHB ELRPBELIAP T'LOHBOP >KA ?RPFKBPBP **Macroeconomics** ILLHP >Q QEB B@LKL J V >P > TELIB (Q CL@RPBP LK ?OL>A FPPRBP PR@E >P DOLTQE LC MOLAR@QFLK QEB KR J ?BO LC RKB J MILVBA MBLMIB QEB FKCI>QFLK>OV FK@OB>PB FK MOF@BP DLSBOK J BKQ ABCF@FQP >KA IBSBIP LC BUMLOQP >KA F J MLOQP , F@OLB@LKL J F@P >KA J >@OLB@LKL J F@P >OB KLQ PBM>O>QB PR?GB@QP ?RQ O>QEB @L J MIB J BKQ>OV MBOPMB@QFSBP LK QEB LSBO>II PR?GB@Q LC QEB B@LKL J V



3L RKABOPQ>KA TEV ?LQE JF@OLB@LKLJF@ >KA J>@OLB@LKLJF@ MBOPMB@QFSBP >OB RPBARI @LKPFAO QEB MOL?IBJ LC PQRVFKD > ?FLILDF@>I B@LPVPQB J IFHB > I>HB . KB MBOPLK TEL PBQP LRQ QL PQRV QEB I>HB J FDEQ CL@RP LK PMB@FCF@ QLMF@P @BOQ>FK HFKAP LC >ID>B LO MI>KQ IFCB QEB @E>O>@QBOFP@P LC M>OQF@RI>O CFFE LO PK>FIP LO QEB QOBBP PROOLRKAQFKD QEB I>HB KLQEBO MBOPLK J FDEQ Q>HB >K LSBO>II SFBT >KA FKPQB>A @LKPFAO QEB I>HB P B@LPVPQB J COL J QLM QL ?LQQL J TE>Q B>QP TE>Q ELT QEB PVPQB J P>VP FK > OLRDE ?>I>K@B >KA TE>Q BKSFOLK J BKQ>I PQOBPPBP >CCB@Q QEFP ?>I>K@B !LQE >MMOL>@EBP >OB RPBARI >KA ?LQE BU> JFKB QEB P> J B I>HB ?RQ QEB SFBTMLFKQP >OB AFCCBOBKQ (K > PF J FI>O T>V ?LQE JF@OLB@LKLJF@P >KA J>@OLB@LKLJF@P PQRV QEB P> J B @LKL J V ?RQ B>@E E>P > AFCCBOBKQ SFBTMLFKQ

6 EBQEBO VLR >OB P@ORQFKFWFKD I>HBP LO B@LKLJF@P QEB JF@OL >KA QEB J>@OL FKPFEQP PELRIA ?IBKA TFEQ B>@E LQEBO (K PQRVFKD > I>HB QEB JF@OL FKPFEQP >?LRQ M>OQF@RI>O MI>KQP >KA >KF J >IP EBIM QL RKABOPQ>KA QEB LSBO>II CLLA @E>FK TEFIB QEB J>@OL FKPFEQP >?LRQ QEB LSBO>II CLLA @E>FK EBIM QL BUMI>FK QEB BKSFOLK J BKQ FK TEF@E FKAFSAR>I MI>KQP >KA >KF J >IP IFSB

(K B@LKLJF@P QEB JF@OL AB@FPFLKP LC FKAFSAR>I ?RPFKPPBP >OB FKCIRBK@BA ?V TEBQEBO QEB J>@OLB@LKLJ V FP EB>IQEV %LO BU> J MIB CFO J P TFII ?B J LOB IFHBIV QL EFOB TLOHBOP FC QEB LSBO>II B@LKLJ V FP DOLTFKD (K QROK J>@OLB@LKLJ V P MBOCLO J>K@B RIQF J >QIV ABMBKAP LK QEB JF@OLB@LKLJF@P AB@FPFLKP QE>Q FKAFSAR>I ELRPBELIAP >KA ?RPFKPPBP J>HB

### %<6EB86BAB@<6F

6 E>Q ABQBO J FKBP ELT ELRPBELIAP >KA FKAFSAR>IP PMBKA QEBFO ?RADBQ 6 E>Q @LJ ?FK>QFLK LC DLLAP >KA PBOSF@BP TFII ?BPQ CFQ QEBFO KBBAP >KA T>KQP DFSBK QEB ?RADBQ QEBV E>SB QL PMBKA 'LT AL MBLMIB AB@FAB TEBQEBO QL TLOH >KA FC PL TEBQEBO QL TLOH CRII QF J B LO M>OQ QF J B 'LT AL MBLMIB AB@FAB ELT J R@E QL P>SB CLO QEB CRQROB LO TEBQEBO QEBV PELRIA ?LOOLT QL PMBKA ?BVLKA QEBFO @ROOBKQ J B>KP

6 E>Q ABQBO J FKBP QEB MOLAR@QP >KA ELT J>KV LC B>@E > CFO J TFII MOLAR@B >KA PBII 6 E>Q ABQBO J FKBP QEB MOF@BP > CFO J TFII @E>ODB 6 E>Q ABQBO J FKBP ELT > CFO J TFII MOLAR@B FQP MOLAR@QP 6 E>Q ABQBO J FKBP ELT J>KV TLOHBOP FQ TFII EFOB 'LT TFII > CFO J CFK>K@B FQP ?RPFKBP 6 EBK TFII > CFO J AB@FAB QL BUM>KA ALTKPFWB LO BSBK @ILPB (K QEB JF@OLB@LKLJF@P M>OQ LC QEFP ?LLH TB TFII IB>OK >?LRQ QEB QEBLOV LC @LKPR J BO ?BE>SFLO QEB QEBLOV LC QEB CFO J ELT J >OHBQP CLO I>?LO >KA LQEBO OBPLR@BP TLOH >KA ELT J >OHBQP PL J BQF J BP C>FI QL TLOH MOLMBOIV

### %46EB86BAB@<6F

6 E>Q ABQBO J FKBP QEB IBSBI LC B@LKLJF@ >@QFSFVQ FK > PL@FBVQ (K LQEBO TLOAP TE>Q ABQBO J FKBP ELT J>KV DLLAP >KA PBOSF@BP > K>QFLK >@QR>IIV MOLAR@BP 6 E>Q ABQBO J FKBP ELT J>KV GL?P >OB >S>FI>?IB FK >K B@LKLJ V 6 E>Q ABQBO J FKBP > K>QFLK@P P>KA>OA LC IFSFKD 6 E>Q @>RPBP QEB B@LKLJ V QL PMBBA RM LO PILT ALTK 6 E>Q @>RPBP CFO J P QL EFOB J LOB TLOHBOP LO QL I>V QEB J LCC %FK>IIV TE>Q @>RPBP QEB B@LKLJ V QL DOLT LSBO QEB ILKD QBO J

6B @>K ABQBO JFKB >K B@LKLJ V P J>@OLB@LKLJF@ EB>IQE ?V BU> JFKFKD > KRJ ?BO LC DL>IP DOLTQE FK QEB P>KA>OA LC IFSFKD ILT RKB J MILV J BKQ >KA ILT FKCI>QFLK QL K>J B QEB J LPQ F J MLOQ>KQ 'LT @>K TB RPB DLSBOK J BKQ J>@OLB@LKLJF@ MLIF@V QL MROPRB QEBPB DL>IP K>QFLK P @BKQ>I ?>KH @LKAR@QP **monetary policy** TEF@E FKSLISBP MLIF@FBP QE>Q >CCB@Q ?>KH IBKAFKD FKQBOBPQ O>QBP >KA CFK>K@F>I @>MFQ>I J >OHBQP %LO QEB 4KFQBA 2Q>QBP QEFP FP QEB %BABA>I 1BPBOSB K>QFLK P IBDFPI>QFSB ?LAV ABQBO JFKBP **fiscal policy** TEF@E FKSLISBP DLSBOK J BKQ PMBKAQFKD >KA Q>UBP %LO QEB 4KFQBA 2Q>QBP QEFP FP QEB "LKDOBPP >KA QEB BUB@RQFSB ?O>K@E TEF@E LOFDK>QBP QEB CBABA>I ?RADBQ 3EBPB >OB QEB DLSBOK J BKQ P J >FK QLLIP J BQF@>KP QBKA QL BUMB@Q QE>Q DLSBOK J BKQ @>K CFU TE>QBSBO B@LKLJF@ MOL?IBJ P TB BK@LRKQBO ?RQ QL TE>Q BUQBKQ FP QE>Q BUMB@Q>QFLK OB>IFPQF@ 3EBPB >OB GRPQ PL J B LC QEB FPRBP QE>Q TB TFII BUMILOB FK QEB J>@OLB@LKLJF@ @E>MQBOP LC QEFP ?LLH

## N BJ 6BAB@<FGF - F8 , ; 8BE<8F 4A7 %B78?F GB - A78EFG4A7 6BAB@<6 !FFH8F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d (KQBOMOBQ > @FO@RI>O CILT AF>DO> J
- d \$UMI>FK QEB F J MLOQ>K@B LC B@LKLJF@ QEBLOFBP >KA J LABIP
- d #BP@QF?B DLLAP >KA PBOSF@BP J >OHBQP >KA I>?LO J >OHBQP

<:HE8 "B;A %4LA4E7 #8LA8F / KB LC QEB J LPQ FK CIRBKQf>I B@LKL J fPQP FK J LABOK Qf J BP T>P \*LEK ->VK>0A +BVKBP #0BAfQ 7 Hf J BAf> #L J J LKP

)LEK ,>VK>0A \*BVKBP a LKB LC QEB DOB>QBPQ B@LKL J fPQP LC QEB QTBKQFBQE @BKQROV MLFKQBA LRQ QE>Q B@LKL J f@P FP KLQ GRPQ > PR?GB@Q >OB> ?RQ >IPL > T>V LC QEFKHFKD \*BVKBP <:HE8 C>JLRPIV TOLQB FK QEB FKQOLAR@QFLK QL > CBIIIT B@LKL J fPQP ?LLH e:\$@LKL J f@P; FP > J BQELA O>QEBO QE>K > AL@QOFKB >K >MM>O>QRP LC QEB J FKA > QB@EKFNRB LC QEFKHFKD TEF@E EBIMP FQP MLPPBPLO QL AO>T @L00B@Q @LK@IRPFLKP f (K LQEBO TLOAP B@LKL J f@P QB>@EBP VLR ELT QL QEFKH KLQ TE>Q QL QEFKH

# Link It Up

7>Q@E QEF Sfabl EQM LMBKP>U LOD I +BVKBP >?LRQ \*LEK ->VK>0A +BVKBP >KA EFP FK CIRBK@B LK B@LKL J f@P

\$@LKL J fPQP PBB QEB TLOIA QEOLRDE > AFCCBOBKQ IBKP QE>K >KQEOLMLILDfPQP ?FLILDfPQP @I>PPF@FPQP LO MO>@QFQFLKBOP LC >KV LQEBO AFP@FMIFKB 3EBV >K>IVWB FPPRB >KA MOL?IB J P RPFKD B@LKL J f@ QEBLOFBP QE>Q >OB ?>PBA LK M>OQF@RI>O >PPR J MQFLKP >?LRQ ER J >K ?BE>SfLO 3EBPB >PPR J MQFLKP QBKA QL ?B AFCCBOBKQ QE>K QEB >PPR J MQFLKP >K >KQEOLMLILDfPQ LO MPV@ELILDfPQ J FDEQ RPB **theory** FP > PF J MIFCBA OBMOPBKQ>QFLK LC ELT QTL LO J LOB S>O?>?IBP FKQBO>@Q TFQE B>@E LQEBO 3EB MROMLPB LC > QEBLOV FP QL Q>HB > @L J MIBU OB>I TLOIA FPPRB >KA PF J MIFCV FQ ALTK QL FQP BPPBKQf>IP (C ALKB TBII QEFB BK>?IBP QEB >K>IVPQ QL RKABOP>KA QEB FPPRB >KA >KV MOL?IB J P >OLRKA FQ DLLA QEBLOV FP PF J MIB BKL RDE QL RKABOP>KA TEFIB @L J MIBU BKL RDE QL @>MQROB QEB HBV CB>QROBP LC QEB L?GB@Q LO PFQR>QFLK VLR >OB PQRVFKD

2L J BQf J BP B@LKL J fPQP RPB QEB QBO J **model** FKPQ>A LC QEBLOV 2QOF@QIV PMB>HFKD > QEBLOV FP > J LOB >?PQO>@Q OBMOPBKQ>QFLK TEFIB > J LABI FP > J LOB >MMIFBA LO B J MFOF@>I OBMOPBKQ>QFLK 6B RPB J LABIP QL QBPQ QEBLOFBP ?RQ CLO QEFP @LROPB TB TFII RPB QEB QBO J P FKQBO@E>KDB>?IV

%LO BU>J MIB >K >O@EFQB@Q TEL FP MI>KFKD > J >GLO LCCF@B ?RFIAFKD TFII LCQBK ?RFIA > MEVPF@>I J LABI QE>Q PFQP LK > Q>?IBQLM QL PELT ELT QEB BKQFOB @FQV ?IL@H TFII ILLH >CQBO QEB KBT ?RFIAFKD FP @LKPQOR@QBA "L J M>KFBP LCQBK ?RFIA J LABIP LC QEBFO KBT MOLAR@Q TEF@E >OB J LOB OLRDE >KA RKCFKPEBA QE>K QEB CFK>I MOLAR@Q ?RQ @>K PQFII AB J LKPQO>QB ELT QEB KBT MOLAR@Q TFII TLOH

DLLA J LABI QL PQ>OQ TFQE FK B@LKL J f@P FP QEB **circular flow diagram** <:HE8 (Q MF@QROBP QEB B@LKL J V >P @LKPFPQFKD LC QTL DOLRMP b ELRPBELIAP >KA CFO J P b QE>Q FKQBO>@Q FK QTL J >OHBQP QEB **goods and services market** FK TEF@E CFO J P PBII >KA ELRPBELIAP ?RV >KA QEB **labor market** FK TEF@E ELRPBELIAP PBII I>?LO QL ?RPFKBPP CFO J P LO LQEBO B J MILVBBP

<:HE8 ,;8 <EGH?4E ?BJ <4:E4@ 4EB @FO@RI>0 CILT AF>DO>J PELTP ELT ELRPBELIAP >KA CFO J P FKQBO>@Q FK QEB DLLAP >KA PBOSf@BP J>0HBQ >KA FK QEB I>?LO J>0HBQ 4EB AFOB@QFLK LC QEB >OOLTP PELTP QE>Q FK QEB DLLAP >KA PBOSf@BP J>0HBQ ELRPBELIAP OB@BfSB DLLAP >KA PBOSf@BP >KA M>V CFO J P CLO QEB J )K QEB I>?LO J>0HBQ ELRPBELIAP MOLSFAB I>?LO >KA OB@BfSB M>V J BKQ C@L J CFO J P QEOLRDE T>DBP P>I>OFBP >KA ?BKBCfQP

%FO J P MOLAR@B >KA PBII DLLAP >KA PBOSf@BP QL ELRPBELIAP FK QEB J>0HBQ CLO DLLAP >KA PBOSf@BP LO MOLAR@Q J>0HBQ OOLT e f FKAf@>QBP QEFf ' LRPBELIAP M>V CLO DLLAP >KA PBOSf@BP TEF@E ?B@L J BP QEB OBSBKRBP QL CFO J P OOLT e ! f FKAf@>QBP QEFf OOLT P >KA ! OBMOBPBKQ QEB QTL PFABP LC QEB MOLAR@Q J>0HBQ 6 EBOB AL ELRPBELIAP L?Q>FK QEB FK@L J B QL ?RV DLLAP >KA PBOSf@BP 3EBV MOLSFAB QEB I>?LO >KA LQEB0 OBPLRO@BP B D I>KA @>MFQ>I 0>T J>QBOF>IP CFO J P KBBA QL MOLAR@B DLLAP >KA PBOSf@BP FK QEB J>0HBQ CLO FKMRQP LO C>@QLOP LC MOLAR@QFLK OOLT e " f FKAf@>QBP QEFf (K OBQROK CFO J P M>V CLO QEB FKMRQP LO OBPLRO@BP QEBV RPB FK QEB CLO J LC T>DBP >KA LQEB0 C>@QLO M>V J BKQP OOLT e # f FKAf@>QBP QEFf OOLT P e " f >KA e # f OBMOBPBKQ QEB QTL PFABP LC QEB C>@QLO J>0HBQ

. C @LROPB FK QEB OB>I TLOIA QEB0B >OB J>KV AFCCBOBKQ J>0HBQP CLO DLLAP >KA PBOSf@BP >KA J>0HBQP CLO J>KV AFCCBOBKQ QVMBP LC I>?LO 3EB @FO@RI>0 CILT AF>DO>J PF J MIFCFBP QEFf QL J>HB QEB MF@QROB B>PFBO QL DO>PM (K QEB AF>DO>J CFO J P MOLAR@B DLLAP >KA PBOSf@BP TEF@E QEBV PBII QL ELRPBELIAP FK OBQROK CLO OBSBKRBP 3EB LRQBO @FO@IB PELTP QEFf >KA OBMOBPBKQ QEB QTL PFABP LC QEB MOLAR@Q J>0HBQ CLO BU>J MIB QEB J>0HBQ CLO DLLAP >KA PBOSf@BP FK TEF@E ELRPBELIAP AB J >KA >KA CFO J P PRMMIV ' LRPBELIAP PBII QEBFO I>?LO >P TLOHBOP QL CFO J P FK OBQROK CLO T>DBP P>I>OFBP >KA ?BKBCfQP 3EB FKKBO @FO@IB PELTP QEFf >KA OBMOBPBKQ QEB QTL PFABP LC QEB I>?LO J>0HBQ FK TEF@E ELRPBELIAP PRMMIV >KA CFO J P AB J >KA

3EFP SBOPFLK LC QEB @FO@RI>0 CILT J LABI FP PQOFMBA ALTK QL QEB BPPBKQF>IP ?RQ FQ E>P BKL RDE CB>QROBP QL BUMI>FK ELT QEB MOLAR@Q >KA I>?LO J>0HBQP TLOH FK QEB B@LKL J V 6B @LRIA B>PFIV >AA ABQ>FIP QL QEFf ?>PF@ J LABI FC TB T>KQBA QL FKQOLAR@B J LOB OB>I TLOIA BIB J BKQP IFHB CFK>K@F>I J>0HBQP DLSBOK J BKQP >KA FKQBO>@QFLKP TFQE QEB OBPQ LC QEB DIL?B F J MLOQP >KA BUMLOQP

\$@LKL J FPQP @>00V > PBQ LC QEBLOFBP FK QEBFO EB>AP IFHB > @>OMBKQBO @>00FBP >OLRKA > QLLIHFQ 6 EBK QEBV PBB >K B@LKL J F@ FPPRB LO MOL?IB J QEBV DL QEOLRDE QEB QEBLOFBP QEBV HKLT QL PBB FC QEBV @>K CFKA LKB QE>Q CFQP 3EBK QEBV RPB QEB QEBLOV QL ABOFSB FKPFDEQP >?LRQ QEB FPPRB LO MOL?IB J \$@LKL J FPQP BUMOBPP QEBLOFBP >P AF>DO>J P DO>MEP LO BSBK >P J>QEB J>QF>I BNR>QFLKP #L KLQ TLOOV (K QEFf @LROPB TB TFII J LPQIV RPB DO>MEP \$@LKL J FPQP AL KLQ CFDR0B LRQ QEB >KPTBO QL QEB MOL?IB J CFOPQ >KA QEBK AO>T QEB DO>ME QL FIHPQO>QB 1>QEB0 QEBV RPB QEB DO>ME LC QEB QEBLOV QL EBIM QEB J CFDR0B LRQ QEB >KPTBO IQELRDE >Q QEB FKQOLAR@QLOV IBSBI VLR @>K PL J BQF J BP CFDR0B LRQ QEB OFDEQ >KPTBO TFQELRQ >MMIVFKD > J LABI FC VLR HBBM PQRVFKD B@LKL J F@P ?BCL0B QLL ILKD VLR TFII ORK FKQL FPPRB >KA MOL?IB J P QE>Q VLR TFII KBBA QL DO>ME QL PLISB 6B BUMI>FK ?LQE J F@OL >KA J>@OLB@LKL J F@P FK QBO J P LC QEBLOFBP >KA J LABIP 3EB J LPQ TBII HKLTK QEBLOFBP >OB MOL?>?IV QELPB LC PRMMIV >KA AB J >KA ?RQ VLR TFII IB>OK > KR J ?BO LC LQEBOP

# N BJ ,B 'E:4A<M8 6BAB@<8F A ' I8E1<8J B9 6BAB@<6 +LFG8@F

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d " LKQ>PQ QO>AFQFLK>I B@LKL J FBP @L J J >KA B@LKL J FBP >KA J >0HBQ B@LKL J FBP
- d \$UMI>FK DOLPP AL J BPQF@ MOLAR@Q &# /
- d PPBPP QEB F J MLOQ>K@B >KA BCCB@QP LC DIL?>IFW>QFLK

3EFKH >?LRQ TE>Q > @L J MIBU PVPQB J > J LABOK B@LKL J V FP (Q FK@IRABP >II MOLAR@QFLK LC DLLAP >KA PBOSF@BP >II ?RVFKD >KA PBIIFKD >II B J MILV J BKQ 3EB B@LKL J F@ IFCB LC BSOV FKAFSAR>I FP FKQBOBI>QBA >Q IB>PQ QL > P J >II BUQBKQ TFQE QEB B@LKL J F@ IFSBP LC QELRP>KAP LO BSBK J FIFLKP LC LQEBO FKAFSAR>IP 6 EL LOD>KFWBP >KA @LLOAFK>QBP QEFB PVPQB J 6 EL FKPROBP QE>Q CLO BU> J MIB QEB KR J ?BO LC QBIBSFPLK > PL@FBQV MOLSFABP FP QEB P> J B >P QEB > J LRKQ FQ KBBAP >KA T>KQP 6 EL FKPROBP QE>Q QEB OFDEQ KR J ?BO LC B J MILVBBP TLOH FK QEB BIB@QQLKF@P FKARPQOV 6 EL FKPROBP QE>Q QBIBSFPLK >OB MOLAR@BA FK QEB ?BPQ T>V MLPPF?IB ' LT ALBP FQ >II DBQ ALKB

3EBOB >OB >Q IB>PQ QEOBB T>VP QE>Q PL@FBQFBP LOD>KFWB >K B@LKL J V 3EB CFOPQ FP QEB **traditional economy** TEF@E FP QEB LIABPQ B@LKL J F@ PVPQB J >KA FP RPBA FK M>OQP LC PF> COF@> >KA 2LRQE J BOF@> 3O>AFQFLK>I B@LKL J FBP LOD>KFWB QEBFO B@LKL J F@ >CC>FOP QEB T>V QEBV E>SB >IT>VP ALKB F B QO>AFQFLK . @RM>QFLK P Q>V FK QEB C> J FIV , LPQ C> J FIFBP >OB C>0 J BOP TEL DOLT QEB @OLMP RPFKD QO>AFQFLK>I J BQELAP 6 E>Q VLR MOLAR@B FP TE>Q VLR @LKPR J B !B@>RPB QO>AFQFLK AOFSPB QEB T>V LC IFCB QEBOB FP IFQIB B@LKL J F@ MOLDOBPP LO ABSBILM J BKQ



<:HE8 B@@4A7 6BAB@L !K@fBKQ %DVMQ T>P >K BU> J MIB LC > @L J J >KA B@LKL J V #0BAFQ \*>V "B0DBPBK &f@H0 #0B>QFSB #L J J LKP

"L J J >KA B@LKL J FBP >OB SBOV AFCCB0BKQ (K > **command economy** B@LKL J F@ BCCLQ FP ABSLQBA QL DL>IP M>PPBA ALTK COL J > ORIBO LO ORIFKD @I>PP K@fBKQ \$DVMQ T>P > DLA BU> J MIB > I>ODB M>OQ LC B@LKL J F@ IFCB T>P ABSLQBA QL ?RFIAFKD MV0> J FAP IFHB QELPB FK <:HE8 CLO QEB ME>O>LEP , BAFBS>I J >KLO IFCB FP >KLQEBU BU> J MIB QEB ILOA MOLSFABA QEB I>KA CLO DOLT FKD @OLMP >KA MOLQB@QFLK FK QEB BSBKQ LC T>0 (K OBQROK S>PP>IP MOLSFABA I>?LO >KA PLIAFBOP QL AL QEB ILOAdP ?FAAFKD (K QEB I>PQ @BKQROV @L J J RKFP J B J ME>PFWBA @L J J >KA B@LKL J FBP

(K > @L J J >KA B@LKL J V QEB DLSBOK J BKQ AB@FABP TE>Q DLLAP >KA PBOSF@BP TFII ?B MOLAR@BA >KA TE>Q MOF@BP FQ TFII @E>ODB CLO QEB J 3EB DLSBOK J BKQ AB@FABP TE>Q J BQELAP LC MOLAR@QFLK QL RPB >KA PBQP T>DBP CLO TLOHBOP 3EB DLSBOK J BKQ MOLSFABP J >KV KB@BPPFQFBP IFHB EB>IQE@>OB >KA BAR@>QFLK CLO COBB "ROOBKQIV "R?> >KA -LOQE \*LOB> E>SB @L J J >KA B@LKL J FBP



<:HE8 %4E>8G 6BAB@L . LQEFKD P>VP bJ>OHBQc JLOB QE>K 4EB . BT 9LOH 3QL@H %U@E>KDB #0BAFQ %0FH \$0LPQ &f@HO #0B>QFSB #LJ J LKP

IQELRDE @LJ J>KA B@LKLJFBP E>SB > SBOV @BKQO>IFWBA PQOR@QROB CLO B@LKLJF@ AB@FPFLKP J>OHBQ B@LKLJFBP E>SB > SBOV AB@BKQO>IFWBA PQOR@QROB **market** FP >K FKPQFQRQFLK QE>Q ?0FKDP QLDBQEBO ?RVBOP >KA PBIIBOP LC DLLAP LO PBOF@BP TEL J>V ?B BFQEBO FKAFSFAR>IP LO ?RPFKBPPBP 3EB -BT 8LOH 2QL@H \$U@E>KDB <:HE8 FP > MOFJB BU>JMIB LC > J>OHBQ TEF@E ?0FKDP ?RVBOP >KA PBIIBOP QLDBQEBO (K > **market economy** AB@FPFLK J>HFKD FP AB@BKQO>IFWBA , >OHBQ B@LKLJFBP >OB ?>PBA LK **private enterprise** QEB MOFS>QB FKAFSFAR>IP LO DOLRMP LC MOFS>QB FKAFSFAR>IP LTK >KA LMBO>QB QEB JB>KP LC MOLAR@QFLK OBPLRO@BP >KA ?RPFKBPPBP !RPFKBPPBP PRMMIV DLLAP >KA PBOF@BP ?>PBA LK ABJ>KA (K > @LJ J>KA B@LKLJV ?V @LKQO>PQ QEB DLSBOKJ BKQ LTKP OBPLRO@BP >KA ?RPFKBPPBP 2RMMIV LC DLLAP >KA PBOF@BP ABMBKAP LK TE>Q QEB ABJ>KAP MBOPLKdP FK@LJJBFP ?>PBA LK EFP LO EBO >?FIFQV QL @LKSBOQ OBPLRO@BP BMB@F>IIV I>?LO FKQL PLJBQEFKD QE>Q PL@FBQV S>IRBP 3EB JLOB PL@FBQV S>IRBP QEB MBOPLKdP LRQMRQ QEB EFDEBO QEB FK@LJB QEFKH +>AV &>D> LO +B !OLK )>JBP (K QEFP P@BK>OFL J>OHBQ CLO@BP KLQ DLSBOKJ BKQP ABQBO JFKB B@LKLJF@ AB@FPFLKP

, LPQ B@LKLJFBP FK QEB OB>I TLOIA >OB JFUBA 3EBV @LJ ?FKB BIBJ BKQP LC @LJ J>KA >KA J>OHBQ >KA BSBK QO>AFQFLK>I PVPQB JP 3EB 4 2 B@LKLJV FP MLPFQFLKBA QLT>OA QEB J>OHBQ LOFBKQBA BKA LC QEB PMB@QORJ , >KV @LRKQOFBP FK \$ROLMB >KA +>QFK JBOF@> TEFIB MOFJ>OFIV J>OHBQ LOFBKQBA E>SB > DOB>QBO ABDQBB LC DLSBOKJ BKQ FKSLISB JBKQ FK B@LKLJF@ AB@FPFLKP QE>K QEB 4 2 B@LKLJV "EFK> >KA 1RPPF> TEFIB LSBO QEB M>PQ PBSBO>I AB@>ABP E>SB JLSBA JLOB FK QEB AFOB@QFLK LC E>SFKD > J>OHBQ LOFBKQBA PVPQB J OB J>FK @ILPBO QL QEB @LJ J>KA B@LKLJV BKA LC QEB PMB@QORJ 3EB 'BOFQ>DB %LRKA>QFLK MOLSFABP FKCLQJ>QFLK >?LRQ ELT COBB >KA QERP J>OHBQ LOFBKQBA AFCCBOBKQ @LRKQOFBP >OB >P QEB CLILTFKD "IB>O (Q 4M CB>QROB AFP@RPPBP %LO > PFJFI>O O>KHFKD ?RQ LKB QE>Q ABCFKBP COBBALJ JLOB ?OL>AIV PBB QEB ">QL %LRKA>QFLK P 'RJ>K %BBALJ **!A78K ;G6CF BC8AF64K BE : ? 64GB**

# Clear It Up

/ ;4G 6BHAGE<8F 4E8 6BAF<78E87 86BAB@<64??L 9E88

7EL FP FK @LKQOLI LC B@LKLJF@ AB@FPFLKP !OB MBLMIB COBB QL AL TE>Q QEBV T>KQ >KA QL TLOH TEB0B QEBV T>KQ !OB ?RPFKBPPBP COBB QL MOLAR@B TEBK QEBV T>KQ >KA TE>Q QEBV @ELLPB >KA QL EFOB >KA CFOB >P QEBV TFPE !OB ?>KHP COBB QL @ELLPB TEL TFII OB@BFSB IL>KP LO ALBP QEB DLSBOKJ BKQ @LKQOLI QEBPB HFAP LC @ELF@BP %>@E VB>O OBPB>O@EBOP >Q QEB (BOFQ>DB &LRKA>QFLK >KA QEB *Wall Street Journal* ILLH >Q AFCCBOBKQ @>QBDLOFBP LC B@LKLJF@ COBBALJ CLO @LRKQOFBP >OLRKA QEB TLOIA 4EBV DFSB B>@E K>QFLK >P@LOB ?>PBA LK QEB BUQBKQ LC B@LKLJF@ COBBALJ FK B>@E @>QBDLOV

4EB (BOFQ>DB &LRKA>QFLKaP)KABU LC %@LKLJF@ &OBBALJ OBMLQ O>KHBA @LRKQOFBP >OLRKA QEB TLOIA **,45?8** IFPQ PLJB BU>JMIB LC QEB JLPQ COBB >KA QEB IB>PQ COBB @LRKQOFBP 3BSBO>I >AAQFLK>I @LRKQOFBP TBOB KLQ O>KHBA ?B>@RPB LC BUQB JB FKQ>?FIFQV QE>Q J>AB GRAD JBKQP >?LRQ B@LKLJF@ COBBALJ FJMLPPF?IB 4EBPB @LRKQOFBP FK@IRAB !CDE>KFPQ>K )O>N ,F?V> 3V0F> 3LJ>IF> >KA 9BJBK

4EB >PPFDKBA O>KHFKDP >OB FBBSQ>?IV ?>PBA LK BPQFJ>QBP VBQ BSBK QEBPB OLRDE JB>PROBP @>K ?B RPB@RI CLO AFP@BOKFKD QOBKAP )K LC QEB FK@IRABA @LRKQOFBP PEFCQBA QLT>OA DOB>QBO B@LKLJF@ COBBALJ >IQELRDE LC QEB @LRKQOFBP PEFCQBA QLT>OA IBPP B@LKLJF@ COBBALJ )K OB@BKQ AB@>ABP QEB LSBO>II QOBKA E>P ?BBK > *higher level of economic freedom around the world*

%BFG 6BAB@<6 E887B@	\$84FG 6BAB@<6 E887B@
( LKD +LKD	4F J L0 ,BPQB
3FKD>MLOB	\$B J L@0>QF@ 2BMR?IF@ LC #LKDL
. BT :B>I>KA	! ODBKQFK>
3TFQWBOI>KA	%NR>QLQF>I ' RfKB>
! RPQO>IF>	)O>K
#>K>A>	2BMR?IF@ LC #LKDL
#EFIB	%OFQOB>
)OBI>KA	4R0H J BKFPQ>K
%PQLKF>	: FJ ?>?TB
5KFQBA +FKDAL J	6BKBWRBI>
5KFQBA 3Q>QBP	#R?>
\$BK J >OH	. LQOE +LOB>

,45?8 6BAB@<6 E887B@F 3LR0@B 4EB ( BOfQ>DB &LRKA>QFLK )KABU LC  
 %@LKL J F@ &0BBAL J #LRKQOV 2>KHFKDP EQQM TTT EBOFQ>DB LOD FKABU O>KHFKD

**\* 8 : H?4G<BAF , ; 8 \* H?8F B9 G ; 8 4@8**

, >OHBQP >KA DLSBOK J BKQ OBDRI>QFLKP >OB >IT>VP BKQ>KDIBA 3EBOB FP KL PRQE QEFKD >P >K >?PLIRQBIV COBB J >OHBQ  
 1BDRI>QFLKP >IT>VP ABCFKB QEB eORIBP LC QEB D> J Bf FK QEB B@LKL J V \$@LKL J FBP QE>Q >OB MOF J >OFIV J >OHBQ LOFBKQBA  
 E>SB CBTBO OBDRI>QFLKP b FAB>IIV GRPQ BKL RDE QL J >FKQ>FK >K BSBK MI>VFKD CFBIA CLO M>OQF@FM>KQP Q > J FKF J R J QEBPB  
 I>TP DLSBOK J >QQBOP IFHB P>CBDR>OAFKD MOFS>QB MOLMBOQV >D>FKPQ QEBQ MOLQB@QFKD MBLMIB COL J SFLIBK@B BKCL0@FKD IBD>I  
 @LKQO>@P MOBSBKQFKD CO>RA >KA @LIIB@QFKD Q>UBP "LKSBOBPBIV BSBK QEB J LPQ @L J J >KA LOFBKQBA B@LKL J FBP LMBO>QB  
 RPFKD J >OHBQP ' LT BIPB TLRIA ?RVFKD >KA PBIIFKD L@@RO 3EB DLSBOK J BKQ EB>SFIV OBDRI>QBP AB@FPFLKP LC TE>Q QL  
 MOLAR@B >KA MOF@BP QL @E>ODB ' B>SFIV OBDRI>QBA B@LKL J FBP LCQBK E>SB **underground economies** LO ?I>@H J >OHBQP  
 TEF@E >OB J >OHBQP TEBQB QEB ?RVBOP >KA PBIIBOP J >HB QO>KP>@QFLKP TFQELRQ QEB DLSBOK J BKQdP >MMOLS>I

3EB NRBQFLK LC ELT QL LOD>KFWB B@LKL J F@ FKPQQRQFLKP FP QVMF@>IIV KLQ > ?I>@H LO TEFQB @ELF@B ?BQTBBK >II J >OHBQ  
 LO >II DLSBOK J BKQ ?RQ FKPQB>A FKSLSBP > ?>I>K@FKD >@Q LSBO QEB >MMOLMOF>QB @L J ?FK>QFLK LC J >OHBQ COBBAL J >KA  
 DLSBOK J BKQ ORIBP



<:HE8 ?B54?M4G<BA #>ODL PEfMP >OB LKB J LAB LC QO>KPMLQ>QFLK CLO PEfMMFKD DLLAP FK QEB DIL?>I B@LKL J V #0BAfQ 2>RI 6>IABW &f@HO #0B>QfSB #L J J LKP

, ; 8 \* <F8 B9 ?B54?M4G<BA

1B@BKQ AB@>ABP E>SB PBBK > QOBKA QLT>OA globalization TEF@E FP QEB BUM>KAFKD @RIQR0>I MLIFQf@>I >KA B@LKL J F@ @LKKB@QFLK ?BQTBBK MBLMIB >OLRKA QEB TLOIA . KB JB>PROB LC QEF FP QEB FK@OB>PBA ?RVFKD >KA PBIFKD LC DLLAP PBOSf@BP >KA >PPBP >@OLPP K>QFLK>I ?LOABOP b FK LQEB TLOAP FKQBOK>QFLK>I QO>AB >KA CFK>K@F>I @>MFQ>I CIL TP

&IL?>IFW>QFLK E>P L@R00BA CLO > KR J ?BO LC OB>PLKP ( J MOLSB JBKQP FK PEfMMFKD >P FIIRPQO>QBA ?V QEB @LKQ>FKBO PEfM FK <:HE8 >KA >FO @>ODL E>SB AOFsBK AL TK QO>KPMLQ>QFLK @LPQP (KKLS>QFLK FK @L J MRQFKD >KA QBIB@L J J RKF@>QFLK E>SB J >AB FQ B>PFBO >KA @EB>MBO QL J >K>DB ILKD AFPQ>K@B B@LKL J F@ @LKKB@QFLK LC MOLAR@QFLK >KA P>IBP , >KV S>IR>?IB MOLAR@QP >KA PBOSf@BP FK QEB J LABOK B@LKL J V @>K Q>HB QEB CLO J LC FKLO J >QFLK b CLO BU> J MIB @L J MRQBO PLCQT>OB CFK>K@F>I >ASF@B QO>SBI MI>KKFKD J RPF@ ?LLHP >KA J LSFBP >KA ?IRBMOFKQP CLO ABPFDKFKD > ?RFIAFKD 3EBPB MOLAR@QP >KA J >KV LQEBOP @>K ?B QO>KPMLQ0BA LSBO QBIBMELKBP >KA @L J MRQBO KBQTL0HP >Q BSBO ILTBO @LPQP %FK>IIV FKQBOK>QFLK>I >DOBB JBKQP >KA QOB>QFBP ?BQTBBK @LRKQfBP E>SB BK@LR0>DBA DOB>QBO QO>AB

,45?8 MOBPBKQP LKB JB>PROB LC DIL?>IFW>QFLK (Q PELTP QEB MBO@BKQ>DB LC AL J BPQf@ B@LKL J F@ MOLAR@QFLK QE>Q T>P BUMLOQBA CLO > PBIB@QFLK LC @LRKQfBP COL J QL >@LOAFKD QL >K BKQfQV HKLTK >P 3EB 6LOIA !>KH Exports >OB QEB DLLAP >KA PBOSf@BP QE>Q LKB MOLAR@BP AL J BPQf@>IIV >KA PBIIP >?OL>A Imports >OB QEB DLLAP >KA PBOSf@BP QE>Q LKB MOLAR@BP >?OL>A >KA QEBK PBIIP AL J BPQf@>IIV Gross domestic product (GDP) J B>PROBP QEB PFWB LC QLQ>I MOLAR@QFLK FK >K B@LKL J V 3ERP QEB O>QFL LC BUMLOQP AFSFABA ?V &# / JB>PROBP TE>Q PE>OB LC > @LRKQOVdP QLQ>I B@LKL J F@ MOLAR@QFLK FP PLIA FK LQEB @LRKQfBP

BHAGEL						
(FDEB0)K@LJB #LRKQfBP						
5KfQBA 3Q>QBP						
" BIDfR J						
#>K>A>						
&O>K@B						
- FAAIB)K@LJB #LRKQfBP						
" O>WFI						
- BUF@L						
3LRQE +LOB>						

,45?8 , ; 8 KG8AG B9 ?B54?M4G<BA 8KCBEGF ( 3LR0@B EQQM A>Q>?>KH TLOIA?>KH LOD A>Q>

BHAGEL

,LTB0)K@L J B #LRKQOFBP						
#E>A						
#EFK>						
)KAF>						
.FDBQF>						

,45?8 , ; 8 KG8AG B9 ?B54?M4G<BA 8KCBEGF ( 3LR0@B EQQM A>Q>?>KH TLOIA?>KH LOD A>Q>

(K OB@BKQ AB@>ABP QEB BUMLOQ &# / 0>QL E>P DBKBO>IIV OFPBK ?LQE TLOIA TFAB >KA CLO QEB 4 2 B@LKL J V (KQBOPQFKDIV QEB PE>OB LC 4 2 BUMLOQ FK MOLMLQQLK QL QEB 4 2 B@LKL J V FP TBII ?BILT QEB DIL?>I >SBO>DB FK M>OQ ?B@>RPB I>ODB B@LKL J FBP IFHB QEB 4KFQBA 2Q>QBP @>K @LKLQ>FK J LOB LC QEB AFSFPFLK LC I>?LO FKPFAB QEBFO K>QLK>I ?LOABOP ' LTBSBO P J >IIBO B@LKL J FBP IFHB ! BIDFR J \*LOB> >KA ">K>A> KBBA QL QO>AB >@OLPP QEBFO ?LOABOP TFQE LQEBO @LRKQOFBP QL Q>HB CRII >AS>KQ>DB LC AFSFPFLK LC I>?LO PMB@F>IFW>QLK >KA B@LKL J FBP LC P@>IB (K QEFP PBKPB QEB BKLO J LRP 4 2 B@LKL J V FP IBPP >CCB@QBA ?V DIL?>IFW>QLK QE>K J LPQ LQEBO @LRKQOFBP

,45?8 FKAFA>QBP QE>Q J >KV J BAFR J >KA ILT FK@L J B @LRKQOFBP >OLRKA QEB TLOIA IFHB , BUFL >KA "EFK> E>SB >IPL BUMBOFBK@BA > PRODB LC DIL?>IFW>QLK FK OB@BKQ AB@>ABP (C >K >PQOLK>RQ FK LO?FQ @LRIA MRQ LK PMB@F>I DI>PPBP QE>Q J >HB >II B@LKL J F@ QO>KP>@QLKP SFPF?IB >P ?OFDEQIV @LILLOBA IFKBP >KA ILLH ALTK >Q \$>OQE QEB >PQOLK>RQ TLRIA PBB QEB MI>KBQ @LSBOBA TFQE @LKKB@QLKLP

#BPMFQB QEB OFPB FK DIL?>IFW>QLK LSBO QEB I>PQ CBT AB@>ABP FK OB@BKQ VB>OP TB SB PBBK PFDKFCF@>KQ MRPE?>@H >D>FKPQ DIL?>IFW>QLK COL J MBLMIB >@OLPP QEB TLOIA @LK@BOKBA >?LRQ ILPP LC GL?P ILPP LC MLIFQF@>I PLSBOBFDKQV >KA FK@OB>PBA B@LKL J F@ FKBNR>IFQV /OL J FKBKQ BU> J MIBP LC QEFP MRPE?>@H FK@IRAB QEB SLQB FK &OB>Q !OFQ>FK QL BUFL QEB \$ROLMB>K 4KFLK F B !OBUFL >KA QEB BIB@QLK LC #LK>IA ) 3OR J M CLO /OBPFABKQ LC QEB 4KFQBA 2Q>QBP

'LMBCRIIV VLR KLT E>SB >K FAB> >?LRQ B@LKL J F@P !BCLOB VLR J LSB QL >KV LQEBO @E>MQBO LC PQRAV ?B PROB QL OB>A QEB SBOV F J MLOQ>KQ >MMBKAFU QL QEFP @E>MQBO @>IIBA , ; 8 -F8 B9 %4G ; 8@4G<6F <A (E<A6<C'8F B9 6BAB@<6F (Q FP BPPBKQ>I QE>Q VLR IB>OK J LOB >?LRQ ELT QL OB>A >KA RPB J LABIP FK B@LKL J F@P



86<F<BAF 86<F<BAF <A G ; 8 +B6<4? %87<4 : 8

4EB TLOIA TB IFSB FK QLA>V MOLSFABP KB>OIV FKPQ>KQ >@@BPP QL > TB>IQE LC FKCLQJ>QLK #LKPFABO QE>Q >P OB@BKQIV >P QEB I>QB P QEB Farmer's Almanac >ILKD TFQE QEB 7 B>QEBO "ROB>R LC QEB 5 3 \$BM>OQ J BKQ LC !DQF@RIQRQB TBOB QEB MOF J >OV PLRQ@BP ! J BQF@>K C>O J BOP RPBA QL ABQBO J FKB TEBK QL MI>KQ >KA E>OSBPQ QEBFO @OLMP 4LA>V C>O J BOP >OB J LOB IFHBIV QL >@@BPP LKIFKB TB>QEBO CLOB@>PQP COL J QEB .>QLK>I /@B>KF@ >KA !Q J LPMEOF@ !A J FKFPQO>QLK LO T>Q@E QEB 7 B>QEBO #E>KKBI !QQBO >II HKLTFKD QEB RM@L J FKD CLOB@>PQ @LRIA A@FSB TEBK QL E>OSBPQ @OLMP #LKPBNRBKQIV HKLTFKD QEB RM@L J FKD TB>QEBO @LRIA @E>KDB QEB >J LRKQ LC @OLM E>OSBPQBA

3LJB OBI>QFSBIV KBT FKCLQJ>QLK CLORJP PR@E >P &>B?LLH >OB O>MFAIV @E>KDFKD ELT FKCLQJ>QLK FP A@FQF>RQBA EBK@B FKCB@B@FKD AB@F@FLK J >HFKD )K QEB OBT 2BPB>O@E #BKQBO OBMLQBA QE>Q LC LKIFKB >ARIQP RPB &>B?LLH 4EFP PL@F>I J BAF> CLORJ MLPQP QLMF@P O>KDFKD COL J QEB .>QLK>I ">PHBQ?>II !PPL@F>QLK QL @BIB?OFQV FFKDBOP >KA MBOCLO J BOP QL C>O J BOP

)KCLQJ>QLK EBIMP RP J >HB AB@F@FLK >P PF J MIB >P TE>Q QL TB>O QLA>V QL ELT J >KV OBMLQBO QEB J BAF> PELRIA PBKA QL @LSBO > @O>PE %>@E LC QEBPB AB@F@FLK >P >K B@LKL J F@ AB@F@FLK !QQBO >II OBPLRQ@BP >OB P@>O@B )C QEB J BAF> PBKA QBK OBMLQBO QL @LSBO >K >@F@B@KQ QEBV >OB KLQ >S>F>?IB QL @LSBO LQEBO P@LQFBP LO @L J MIBQB LQEBO Q>PHP )KCLQJ>QLK MOLSFABP QEB KB@BPP>OV HKL TIBADB QL J >HB QEB ?BPQ MLPPF?IB AB@F@FLK LK ELT QL RQFIFWB P@>O@B OBPLRQ@BP 7 B@L J B QL QEB TLOIA LC B@LKL J F@P



# # 1 , \*%+

6<E6H?4E 9?B J 7<4 :E4@ > AF>D0> J QE>Q SFBTP QEB B@LKL J V >P @LKPFPQFKD LC ELRPBELIAP >KA CFO J P FKQBO>@QFKD FK > DLLAP >KA PB0SF@BP J >0HBQ >KA > I>?LO J >0HBQ

6B@<4A7 86BAB@L >K B@LKL J V TEB0B B@LKL J F@ AB@FPFLKP >0B M>PPBA ALTK COL J DLSBOK J BKQ >RQELOFQV >KA TEB0B QEB DLSBOK J BKQ LTKP QEB 0BPLR0@BP

7<I<F<BA B9 ?45BE QEB T>V FK TEF@E AFCCBOBKQ TLOHBOP AFSFAB 0BNRFOBA Q>PHP QL MOLAR@B > DLLA LO PB0SF@B

86BAB@<6F QEB PQRVAV LC ELT ER J >KP J >HB @ELF@BP RKABO @LKAFLKLP LC P@>0@FQV

86BAB@<8F B9 F64?8 TEBK QEB >SB0>DB @LPQ LC MOLAR@FKD B>@E FKAFSFAR>I RKFQ AB@IFKBP >P QLQ>I LRQMRQ FK@0B>PBP

8KCBEGF MOLAR@QP DLLAP >KA PB0SF@BP J >AB AL J BPQF@>IIV >KA PLIA >?0L>A

9<F64? CB?<6L B@LKL J F@ MLIF@FBP QE>Q FKSLISB DLSBOK J BKQ PMBKAFKD >KA Q>UBP

: ?B54?<M4G<BA QEB Q0BKA FK TEF@E ?RVFKD >KA PBIIFKD FK J >0HBQP E>SB FK@0B>PFKDIV @0LPPBA K>QFLK>I ?LOABOP

: BB7F 4A7 F8EI<68F @4E>8G > J >0HBQ FK TEF@E CFO J P >0B PBII0P LC TE>Q QEBV MOLAR@B >KA ELRPBELIAP >0B ?RVBOP

: EBF7 7B@8F<6 CEB7H6G ( J B>PROB LC QEB PFWB LC QLQ>I MOLAR@QFLK FK >K B@LKL J V

<@CBEGF MOLAR@QP DLLAP >KA PB0SF@BP J >AB >?0L>A >KA QEBK PLIA AL J BPQF@>IIV

?45BE @4E>8G QEB J >0HBQ FK TEF@E ELRPBELIAP PBII QEBFO I>?LO >P TLOHBOP QL ?RPFKBPP CFO J P LO LQEB0 B J MILVBOP

@46EB86BAB@<6F QEB ?0>K@E LC B@LKL J F@P QE>Q CL@RPBP LK ?0L>A FPPRBP PR@E >P DOLTQE RKB J MILV J BKQ FKCI>QFLK >KA Q0>AB ?>I>K@B

@4E>8G FKQBO>@QFLK ?BQTBBK MLQBKQF>I ?RVBOP >KA PBII0P > @L J ?FK>QFLK LC AB J >KA >KA PRMMIV

@4E>8G 86BAB@L >K B@LKL J V TEB0B B@LKL J F@ AB@FPFLKP >0B AB@BKQ>IFWBA MOFS>QB FKAFSFAR>IP LTK 0BPLR0@BP >KA ?RPFKBPPP PRMMIV DLLAP >KA PB0SF@BP ?>PBA LK AB J >KA

@<6EB86BAB@<6F QEB ?0>K@E LC B@LKL J F@P QE>Q CL@RPBP LK >@QFLK LC M>0QF@RI>0 >DBKQP TFQEFK QEB B@LKL J V IFHB ELRPBELIAP TLOHBOP >KA ?RPFKBPP CFO J P

@B78? PBB QEBLOV

@BA8G4EL CB?<6L MLIF@V QE>Q FKSLISBP >IQB0FKD QEB IBSBI LC FKQBOBPQ 0>0BP QEB >S>FI>?FIFQV LC @0BAFQ FK QEB B@LKL J V >KA QEB BUQBKQ LC ?LOOLTFKD

CE<I4G8 8AG8ECE<F8 PVPQB J TEB0B MOFS>QB FKAFSFAR>IP LO D0LRMP LC MOFS>QB FKAFSFAR>IP LTK >KA LMBO>QB QEB J B>KP LC MOLAR@QFLK 0BPLR0@BP >KA ?RPFKBPPP

F64E6<GL TEBK ER J >K T>KQP CLO DLLAP >KA PB0SF@BP BU@BBA QEB >S>FI>?IB PRMMIV

FC86<4?<M4G<BA TEBK TLOHBOP LO CFO J P CL@RP LK M>0QF@RI>0 Q>PHP CLO TEF@E QEBV >0B TBII PRQBA TFQEFK QEB LSBO>II MOLAR@QFLK MOL@BPP

G ; 8BEL > 0BMOBPBKQ>QFLK LC >K L?GB@Q LO PFQR>QFLK QE>Q FP PF J MIFCFBA TEFIB FK@IRAFKD BKL RDE LC QEB HBV CB>QROBP QL EBIM RP RKABOPQ>KA QEB L?GB@Q LO PFQR>QFLK

GE47<G<BA4? 86BAB@L QVMF@>IIV >K >D0F@RIQR0>I B@LKL J V TEB0B QEFKDP >0B ALKB QEB P> J B >P QEBV E>SB >IT>VP ?BBK ALKB

HA78E : EBHA7 86BAB@L > J >0HBQ TEB0B QEB ?RVBOP >KA PBII0P J >HB Q0>KP>@QFLK FK SFLI>QFLK LC LKB LO J LOB

DLSBOK J BKQ OBDRI>QFLKP

# 1 ' & ( , + & + - % % \* 1

/ ; 4G !F 6BAB@<6F 4A7 / ; L !F !G !@CBE64AG

\$@LKL J F@P PBBHP QL PLISB QEB MOL?IB J LC P@>0@FQV TEF@E FP TEBK ER J >K T>KQP CLO DLLAP >KA PBOSF@BP BU@BBA QEB >S>FI>?IB PRMMIV J LABOK B@LKL J V AFPMI>VP > AFSFPFLK LC I>?LO FK TEF@E MBLMIB B>OK FK@L J B ?V PMB@F>IFWFKD FK TE>Q QEBV MOLAR@B >KA QEBK RPB QE>Q FK@L J B QL MRO@E>PB QEB MOLAR@QP QEBV KBBA LO T>KQ 3EB AFSFPFLK LC I>?LO >IIL TP FKAFSFAR>IP >KA CFO J P QL PMB@F>IFWB >KA QL MOLAR@B J LOB CLO PBSBO>I OB>PLKP > (Q >IIL TP QEB >DBKQP QL CL@RP LK >OB>P LC >AS>KQ>DB ARB QL K>QRO>I C>@QLOP >KA PHFII IBSBIP ? (Q BK@LRO>DBP QEB >DBKQP QL IB>OK >KA FKS BKQ @ (Q >IIL TP >DBKQP QL Q>HB >AS>KQ>DB LC B@LKL J FBP LC P@>IB #FSFPFLK >KA PMB@F>IFW>QFLK LC I>?LO LKIV TLOH TEBK FKAFSFAR>IP @>K MRO@E>PB TE>Q QEBV AL KLQ MOLAR@B FK J >OHBQP +B>OKFKD >?LRQ B@LKL J F@P EBIMP VLR RKABOPQ>KA QEB J >GLO MOL?IB J P C>@FKD QEB TLOIA QLA>V MOBM>OBP VLR QL ?B > DLLA @FQFWBK >KA EBIMP VLR ?B@L J B > TBII OLRKABA QEFKHB0

%<6EB86BAB@<6F 4A7 %46EB86BAB@<6F

, F@OLB@LKL J F@P >KA J>@OLB@LKL J F@P >OB QTL AFCCBOBKQ MBOPMB@QFSBP LK QEB B@LKL J V 3EB J F@OLB@LKL J F@ MBOPMB@QFSB CL@RPBP LK M>OQP LC QEB B@LKL J V FKAFSFAR>IP CFO J P >KA FKARPQOFPB 3EB J >@OLB@LKL J F@ MBOPMB@QFSB ILLHP >Q QEB B@LKL J V >P > TELIB CL@RPFKD LK DL>IP IFHB DOLTQE FK QEB P>KA>OA LC IFSFKD RKB J MILV J BKQ >KA FKCI>QFLK , >@OLB@LKL J F@P E>P QTL QVMBP LC MLIF@FBP CLO MROPRFKD QEBPB DL>IP J LKBQ>OV MLIF@V >KA CFP@>I MLIF@V

BJ 6BAB@<6F - F8 , ; 8BE<8F 4A7 %B78?F GB - A78EF64A7 6BAB@<6 !FFH8F

\$@LKL J FPQ >K>IVWB MOL?IB J P AFCCBOBKQIV QE>K AL LQEBO AFP@FMIFK>OV BUMBOQP 3EB J >FK QLLIP B@LKL J FPQP RPB >OB B@LKL J F@ QEBLOFBP LO J LABIP QEBLOV FP KLQ >K FIIRPQ>QFLK LC QEB >KPTBO QL > MOL?IB J 1>QEBO > QEBLOV FP > QLLI CLO ABQBO J FFKD QEB >KPTBO

BJ , B 'E:4A<M8 6BAB@<8F A '18E1<8J B9 6BAB@<6 +LF68@F

6B @>K LOD>KFWB PL@FBQFBP >P QO>AFQFLK>I @L J J >KA LO J >OHBQ LOFBKQBA B@LKL J FBP , LPQ PL@FBQFBP >OB > J FU 3EB I>PQ CBT AB@>ABP E>SB PBBK DIL?>IFW>QFLK BSLISB >P > OBPRIQ LC DOLTQE FK @L J J B0@F>I >KA CFK>K@F>I KBQTTLOHP QE>Q @OLPP K>QFLK>I ?LOABOP J >HFKD ?RPFKBPPP >KA TLOHBOP COL J AFCCBOBKQ B@LKL J FBP FK@OB>PFKDIV FKQBOABMBKABKQ

+ \$ # ) - + , ! ' & +

6E>Q FP P@>0@FQV " >K VLR QEFKH LC QTL @>RPBP LC P@>0@FQV

1BPFABKQP LC QEB QLTK LC 2 J FQECFBIA IFHB QL @LKPR J B E>J P ?RQ B>@E E>J OBNRFOBP MBLMIB QL MOLAR@B FQ >KA Q>HBP > J LKQE (C QEB QLTK E>P > QLQ>I LC MBLMIB TE>Q FP QEB J >UF J R J > J LKQ LC E>J QEB OBPFBKQP @>K @LKPR J B FK > J LKQE

@LKPRIQ>KQ TLOHP CLO MBO ELRO 2EB IFHBP QL B>Q SBDBQ>?IBP ?RQ FP KLQ SBOV DLLA >Q DOLTFKD QEB J 6 EV ALBP FQ J >HB J LOB B@LKL J F@ PBKPB CLO EBO QL PMBKA EBO QF J B >Q QEB @LKPRIQFKD GL? >KA PELM CLO EBO SBDBQ>?IBP

@L J MRQBO PVPQB J P BKDFKBBO @LRIA M>FKQ EFP ELRPB ?RQ FQ J >HBP J LOB PBKPB CLO EF J QL EFOB > M>FKQBO QL AL FQ \$UMI>FK TEV

6E>Q TLRIA ?B >KLQEBO BU>J MIB LC > ePVPQB J f FK QEB OB>I TLOIA QE>Q @LRIA PBOSB >P > J BQ>MEL0 CLO J F@OL >KA J >@OLB@LKL J F@P

2RMMLPB TB BUQBKA QEB @FO@RI>0 CILT J LABI QL >AA F J MLOQP >KA BUMLOQP " LMV QEB @FO@RI>0 CILT AF>DO>J LKQL > PEBBQ LC M>MBO >KA QEBK >AA > CLOBFDK @LRKQOV >P > QEF0A >DBKQ #0>T > OLRDE PHBQ@E LC QEB CILT P LC F J MLOQP BUMLOQP >KA QEB M>V J BKQP CLO B>@E LK VLRO AF>DO>J

6E>Q FP >K BU>J MIB LC > MOL?IB J FK QEB TLOIA QLA>V KLQ J BKQFLKBA FK QEB @E>MQBO QE>Q E>P >K B@LKL J F@ AF J BKPFLK

3EB @E>MQB0 ABCFKBP *private enterprise* >P > @E>0>@QB0FPQF@ LC J >OHBQ LOFBKQBA B@LKLJFBP 6E>Q TLRIA *public enterprise* ?B *Hint* (Q FP > @E>0>@QB0FPQF@ LC @LJ J >KA B@LKLJFBP

6 EV J FDEQ !BIDFR J %0>K@B (Q>IV >KA 2TBABK E>SB > EFDEBO BUMLOQ QL &# / 0>QFL QE>K QEB 4KFQBA 2Q>QB

\* .! / ) - + ,!' &+

&FSB QEB QE0BB OB>PLKP QE>Q BUMI>FK TEV QEB AFSFPFLK LC I>?LO FK@OB>PBP >K B@LKLJ V@P IBSBI LC MOLAR@QFLK

6 E>Q >OB QE0BB OB>PLKP QL PQRVA B@LKLJ F@P

6 E>Q FP QEB AFCCB0BK@B ?BQTBBK JF@OLB@LKLJ F@P >KA J >@OLB@LKLJ F@P

6 E>Q >OB BU>J MIBP LC FKAFSAR>I B@LKLJ F@ >DBKQP

6 E>Q >OB QEB QE0BB J>FK DL>IP LC J >@OLB@LKLJ F@P

\*!,! \$ , !&#!& ) - + ,!' &+

2RMMLPB VLR E>SB > QB>J LC QTL TLOHB0P LKB FP > ?>HBO >KA LKB FP > @EBC \$UMI>FK TEV QEB HFQ@EBK @>K MOLAR@B JLOB JB>IP FK > DFBK MBOFLA LC QFJB FC B>@E TLOHBO PMB@F>IFWBP FK TE>Q QEBV AL ?BPQ QE>K FC B>@E TLOHBO Q0FBP QL AL BSOVQEFKD COL J >MMBQFWBO QL ABPPB0Q

6 EV TLRIA AFSFPFLK LC I>?LO TFQELRQ Q0>AB KLQ TLOH

">K VLR QEFKH LC >KV BU>J MIBP LC *free* DLLAP QE>Q FP DLLAP LO PB0SF@BP QE>Q >OB KLQ P@>0@B

?>I>K@BA CBAB0>I ?RADBQ >KA > ?>I>K@B LC Q0>AB >OB PB@LKA>0V DL>IP LC J >@OLB@LKLJ F@P TEFIB D0LTQE FK QEB PQ>KA>0A LC IFSEKD CLO BU>J MIB FP > MOF J >0V DL>I 6 EV AL VLR QEFKH QE>Q FP PL

'LT AFA )LEK , >VK>0A \*BVKBP ABCFKB B@LKLJ F@P

OB ELRPBELIAP MOF J >0FIV ?RVBOP LO PBIIBOP FK QEB DLLAP >KA PB0SF@BP J >OHBQ (K QEB I>?LO J >OHBQ

OB CFO J P MOF J >0FIV ?RVBOP LO PBIIBOP FK QEB DLLAP >KA PB0SF@BP J >OHBQ (K QEB I>?LO J >OHBQ

6 E>Q >OB QEB QE0BB T>VP QE>Q PL@FBQFBP @>K LOD>KFWB QEB J PBISBP B@LKLJ F@>IIV

6 E>Q FP DIL?>IFW>QFLK 'LT AL VLR QEFKH FQ J FDEQ E>SB >CCB@QBA QEB B@LKLJ VLSBO QEB M>PQ AB@>AB

, >@OLB@LKLJ F@P FP >K >DD0BD>QB LC TE>Q E>MMBKP >Q QEB JF@OLB@LKLJ F@P IBSBI 6LRIA FQ ?B MLPPF?IB CLO TE>Q E>MMBKP >Q QEB J >@OL IBSBI QL AFCCBO COL J ELT B@LKLJ F@P >DBKQP TLRIA OB>@Q QL PLJB PQF J RIRP >Q QEB JF@OL IBSBI *Hint*: 3EFKH >?LRQ QEB ?BE>SFLO LC @OLTAP

6 EV FP FQ RKC>FO LO JB>KFKDIBPP QL @0FQF@FWB >QEBLOV >P eRKO B>IFPQF@ f

2RMMLPB >P >K B@LKLJ F@P VLR >OB >PHBA QL >K>IVWB >K FPPRB RKIFHB >KVQEFKD VLR E>SB BSBO ALKB ?BCL0B IPL PRMMLPB VLR AL KLQ E>SB > PMB@FCF@ JLABI CLO >K>IVWFKD QE>Q FPPRB 6 E>Q PELRIA VLR AL *Hint*: 6 E>Q TLRIA > @>OMBKQBO AL FK > PF J FI>0 PFQR>QFLK

6 EV AL VLR QEFKH QE>Q JLPQ JLABOK @LRKQ0FBPd B@LKLJFBP >OB > JFU LC @LJ J >KA >KA J >OHBQ QVMBP

">K VLR QEFKH LC T>VP QE>Q DIL?>IFW>QFLK E>P EBIMBA VLR B@LKLJ F@>IIV ">K VLR QEFKH LC T>VP QE>Q FQ E>P KLQ



# N ; B<68 <A 4 / BE?7 B9 +64E6<GL



<:HE8 ;B<68F 4A7 ,E478B99F )K DBKB0>I QEB EFDEB0 QEB ABD0BB QEB EFDEB0 QEB P>I>OV PL TEV >0BK@ J L0B  
MBLMIB MR0PRFKD EFDEB0 ABD0BBP 4EB PEL0Q >KPTB0 @ELF@BP >KA Q0>ABLCCP #0BAFQ J LAFcf@>QFLK LC TLOH ?V b\*F J QEB  
OELQLD0>MEB0c &If@H0 #0B>QFSB #L J J LKP

## Bring it Home

;B<68F ,B / ;4G 8:E88

)K QEB JBAF>K FK@L J B CLO TLOHBO TEL ELIA J>PQBO P ABD0BBP S>QFBP C0L J J>IBP QL CB J>IBP 4EB  
>SBO>DB LC QEB QTL FP TBBHIV - RIQFMIV QEF P >SBO>DB ?V TBBHP >KA VLR DBQ >K >SBO>DB P>I>OV LC  
#L J M>OB QE>Q QL QEB JBAF>K TBBHIV B>OKFKDP CLO > CRII QF J B TLOHBO LSBO TFQE KL EFDEB0 QE>K >  
?>@EBILOaP ABD0BB TBBHIV >KA > VB>0 7E>Q ?>LRQ QELPB TFQE KL EFDEB0 QE>K > EFDE P@ELLI  
AFMIL J > FK 4EBV B>OK GRPQ TBBHIV >KA LSBO J LKQEP )K LQEB0 TLOAP P>VP QEB "ROB>R LC  
,>?L0 3Q>QFPQ@P " , 3 B>OKFKD > ?>@EBILOaP ABD0BB ?LLPQBA P>I>QFBP LSBO TE>Q VLR TLRIA E>SB B>OKBA  
FC VLR E>A PQLMMBA VLRO BAR@>QFLK >QBO EFDE P@ELLI ! J>PQBOaP ABD0BB VFIAP > P>I>OV >I J LPQ ALR?IB QE>Q LC >  
EFDE P@ELLI AFMIL J >

'FSBK QEBBP P>QFPQ@P TB J FDEQ BUMB@Q J >KV MBLMIB QL @ELLPB QL DL QL @LIIBDB >KA >Q IB>PQ B>OK > ?>@EBILOaP  
ABD0BB ! PPR J FKD QE>Q MBLMIB T>KQ QL F J MOLSB QEBFO J >QB0F>I TBII ?BfKD FQ PBB J P IFHB QEBV TLRIA J>HB QELPB  
@ELF@BP QE>Q MOLSFAB QEB J TFQE QEB DOB>QBPQ LMMLOQRKfV QL @LKPR J B DLLAP >KA PB0SF@BP ! P FQ QROKP LRQ QEB  
>K>IVPFP FP KLQ KB>OIV >P PF J MIB >P QEF P )K C>@Q FK QEB " , 3 OBMLQ0BA QE>Q TEHIB >I J LPQ LC QEB  
MLMRI>QFLK FK QEB 5KfQBA 3Q>QBP E>A > EFDE P@ELLI AFMIL J > LKIV LC ^ VB>0 LIAP E>A ?>@EBILOaP  
ABD0BBP >KA LKIV LC ^ VB>0 LIAP FK E>A B>OKBA > J>PQBOaP

4EFP ?0FKDP RP QL QEB PR?@B@Q LC QEF P @E>MQB0 TEV MBLMIB J>HB QEB @ELF@BP QEBV J>HB >KA ELT B@LKL J FQ P  
BUMI>FK QELPB @ELF@BP

# !AGEB7H6G<BA GB ; B<68 <A 4 / BE?7 B9 +64E6<GL

(K QEFP @E>M@B0 VLR TFII IB>OK >?LRQ

g ' LT (KAFSFAR>IP , >HB "ELF@BP !>PBA LK 3EBFO !RADBQ "LKPQ0>FKQ

g 3EB /OLAR@QLK /LPPF?FIFQFBP %OLKQFBO >KA 2L@F>I "ELF@BP

g "LKCOLKQFKD . ?GB@QLKQP QL QEB \$@LKL J F@ MMOL>@E

8LR TFII IB>OK NRF@HIV TEBK VLR BU> J FKB QEB OBI>QLKPEFM ?BQTBBK B@LKL J F@P >KA P@>0@FQV QE>Q @ELF@BP FKSLISB Q0>ABLCCP \$SBOV @ELF@B E>P > @LPQ

(K QEB 1LIIFKD 2QLKBP OB@LOABA e8LR ">KdQ IT>VP &BQ 6E>Q 8LR 6>KQ f \$@LKL J FPQP @ER@HIBA ?B@>RBP QEBV E>A ?BBK PFKDFKD > PF J FI>0 QRKB CLO AB@>ABP \$KDIFPE B@LKL J FPQ +FLKBI 1L??FKP a FK EFP *Essay on the Nature and Significance of Economic Science* FK ABP@OF?BA KLQ >IT>VP DBQQFKD TE>Q VLR T>KQ FK QEFP T>V

3EB QF J B >Q LRO AFPMLP>I FP IF J FQBA 3EB0B >OB LKIV QTBKQV CLRO ELROP FK QEB A>V 6B E>SB QL @ELLPB ?BQTBBK QEB AFCCB0BKQ RBPB QL TEF@E QEBV J>V ?B MRQ \$SBOVTEB0B TB QROK FC TB @ELLPB LKB QEFKD TB J RPQ OBIKFNRFPE LQEBOP TEF@E FK AFCCB0BKQ @FO@R J P Q>K@BP TB TLRIA TPPE KLQ QL E>SB OBIKFNRFPEBA 2@>0@FQV LC J B>KP QL P>QFPCV DFSBK BKAP FP >K >I J LPQ R?FNRFQLRP @LKAQFLK LC ER J >K K>QROB

!B@>RBP MBLMIB IFSB FK > TLOIA LC P@>0@FQV QEBV @>KKLQ E>SB >II QEB QF J B J LKBV MLPPBPPFLKP >KA BUMB0FBK@BP QEBV TFPE - BFQEB0 @>K PL@FBQV

3EFP @E>M@B0 TFII @LKQFKRB LRO AFP@RPPFLK LC P@>0@FQV >KA QEB B@LKL J F@ T>V LC QEFKHFKD ?V CFOPQ FKQOLAR@FKD QE0BB @OFQF@>I @LK@BMQP LMML0QRKFQV @LPQ J >ODFK>I AB@FPFLK J >HFKD >KA AF J FKPFPEFKD OBQROKP +>QBO FQ TFII @LKPFA0 TEBQEB0 QEB B@LKL J F@ T>V LC QEFKHFKD >@RO>QBIV ABP@OF?BP BFQEB0 ELT TB *make* @ELF@BP >KA ELT TB *should* J >HB QEB J

## N BJ !A7<I<7H4?F %4>8 ; B<68F 4F87 BA , ;8<E H7 : 8G BAFGE4<AG

!V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d ">I@RI>QB >KA D0>ME ?RADBQ @LKPQ0>FKQP
- d \$UMI>FK LMML0QRKFQV PBQP >KA LMML0QRKFQV @LPQP
- d \$S>IR>QB QEB I>T LC AF J FKPFPEFKD J >ODFK>I RQFIFQV
- d \$UMI>FK ELT J >ODFK>I >K>IVPFP >KA RQFIFQV FKCIRBK@B @ELF@BP

"LKPFA0 QEB QVMF@>I @LKPR J B0@P ?RADBQ MOL?IB J "LKPR J BOP E>SB > IF J FQBA > J LRKQ LC FK@L J B QL PMBKA LK QEB QEFKDP QEBV KBBA >KA T>KQ 2RMMLPB IMELKPL E>P FK PMBKAFKD J LKBV B>@E TBBH QE>Q EB @>K >IIL@>QB ?BQTBBK ?RP QF@HBQP CLO DBQQFKD QL TLOH >KA QEB ?RODBOP QE>Q EB B>QP CLO IRK@E !RODBOP @LPQ B>@E >KA ?RP QF@HBQP >OB @BKQP B>@E 6B @>K PBB IMELKPL P ?RADBQ MOL?IB J FK <:HE8

<:HE8 , ;8 H7:8G BAFGE4<AG ?C;BAFBRF BAFH@C@BA ;B<68 'CCBEGHA<GL EBA@<8E %>@E MLFKQ LK QEB ?RADBQ @LKPQ0>FKQ OBM0BPPBKP > @L J ?FK>QFLK LC ?RODBOP >KA ?RP QF@HBQP TELPB QLQ>I @LPQ >AAP RM QL !IMELKPL@P ?RADBQ LC 4EB OBI>QFSB M0F@B LC ?RODBOP >KA ?RP QF@HBQP ABQBO J FKBP QEB PILMB LC QEB ?RADBQ @LKPQ0>FKQ !II >ILKD QEB ?RADBQ PBQ DFSKD RM LKB ?RODBO J B>KP D>FKFKD CLRO ?RP QF@HBQP

3EB SBOQF@>I >UFP FK QEB CFDR0B PEL TP ?RODBO MRO@E>PBP >KA QEB EL0FWLKQ>I >UFP PEL TP ?RP QF@HBQ MRO@E>PBP (C IMELKPL PMBKAP >II EFP J LKBV LK ?RODBOP EB @>K >CCL0A CFSB MBO TBBH MBO TBBH MBO ?RODBO ?RODBOP MBO TBBH ' LTBSBO FC EB ALBP QEFP EB TFII KLQ ?B >?IB QL >CCL0A >KV ?RP QF@HBQP /LFKQ FK QEB CFDR0B PEL TP QEB @ELF@B WBOL ?RP QF@HBQP >KA CFSB ?RODBOP IQBOK>QFSBIV FC IMELKPL PMBKAP >II EFP J LKBV LK ?RP QF@HBQP EB @>K >CCL0A MBO TBBH MBO TBBH MBO ?RP QF@HBQ ?RP QF@HBQP MBO TBBH 3EBK ELTBSBO EB TFII KLQ ?B >?IB QL >CCL0A >KV ?RODBOP /LFKQ % PEL TP QEFP >IQBOK>QFSB @ELF@B ?RP QF@HBQP >KA WBOL ?RODBOP

(C TB @LKKB@Q >II QEB MLFKQP ?BQTBBK >KA % TB DBQ IMELKPL P **budget constraint** 3EFP FKA@>QBP >II QEB @L J ?FK>QFLK LC ?RODBOP >KA ?RP QF@HBQP IMELKPL @>K >CCL0A DFSBK QEB MOF@B LC QEB QTL DLLAP >KA EFP ?RADBQ > J LRKQ

(C IMELKPL FP IFHB J LPQ MBLMIB EB TFII @ELLPB PL J B @L J ?FK>QFLK QE>Q FK@IRABP ?LQE ?RP QF@HBQP >KA ?RODBOP 3E>Q FP EB TFII @ELLPB PL J B @L J ?FK>QFLK LK QEB ?RADBQ @LKPQO>FKQ QE>Q FP ?BQTBBK MLFKQP >KA % \$SSOV MLFKQ LK LO FKPFAB QEB @LKPQO>FKQ PEL TP > @L J ?FK>QFLK LC ?RODBOP >KA ?RP QF@HBQP QE>Q IMELKPL @>K >CCL0A KV MLFKQ LRPQFAB QEB @LKPQO>FKQ FP KLQ >CCL0A>?IB ?B@>RPB FQ TLRIA @LPQ J LOB J LKBV QE>K IMELKPL E>P FK EFP ?RADBQ

3EB ?RADBQ @LKPQO>FKQ @IB>0IV PEL TP QEB QO>ABLCC IMELKPL C>@BP FK @ELLPFKD ?BQTBBK ?RODBOP >KA ?RP QF@HBQP 2RMMLPB EB FP @ROOBKQIV >Q MLFKQ # TEB0B EB @>K >CCL0A ?RP QF@HBQP >KA QTL ?RODBOP 6E>Q TLRIA FQ @LPQ IMELKPL CLO LKB J LOB ?RODBO (Q TLRIA ?B K>QRO>I QL >KPTBO ?RQ QE>QdP KLQ QEB T>V B@LKL J FPQP QEFKH (KQBA A QEBV >PH ELT J >KV ?RP QF@HBQP TLRIA IMELKPL E>SB QL DFSB RM QL DBQ LKB J LOB ?RODBO TEFIB PQ>VFKD TFQEFK EFP ?RADBQ 2FK@B ?RP QF@HBQP @LPQ @BKQP IMELKPL TLRIA E>SB QL DFSB RM CLRO QL >CCL0A LKB J LOB ?RODBO 3E>Q FP QEB QORB @LPQ QL IMELKPL

### , ; 8 BA68CG B9 ' CCBEHGA<GL BFG

\$@LKL J FPQP RPB QEB QBO J **opportunity cost** QL FKA@>QB TE>Q LKB J RPQ DFSB RM QL L?>FK TE>Q EB LO PEB ABPFOB 3EB FAB> ?BEFKA LMMLOQRKFQV @LPQ FP QE>Q QEB @LPQ LC LKB FQJ J FP QEB ILPQ LMMLOQRKFQV QL AL LO @LKPR J B PL J BQEFKD BIPB (K PELOQ LMMLOQRKFQV @LPQ FP QEB S>IRB LC QEB KBUQ ?BPQ >IQBOK>QFSB %LO IMELKPL QEB LMMLOQRKFQV @LPQ LC > ?RODBO FP QEB CLRO ?RP QF@HBQP EB TLRIA E>SB QL DFSB RM ' B TLRIA AB@FAB TEBQEBO LO KLQ QL @ELLPB QEB ?RODBO ABMBKAFKD LK TEBQEBO QEB S>IRB LC QEB ?RODBO BU@BBAP QEB S>IRB LC QEB CLODLKB >IQBOK>QFSB b FK QEFP @>PB ?RP QF@HBQP 2FK@B MBLMIB J RPQ @ELLPB QEBV FKBSFQ>IV C>@B QO>ABLCCP FK TEF@E QEBV E>SB QL DFSB RM QEFKDP QEBV ABPFOB QL L?>FK LQEBO QEFKDP QEBV ABPFOB J LOB

# Link It Up

6@BT QEFP TB?PQ@B EQQM LMBKPQ>U@LIIBDB LOD I FKBPQ>KAFKD CLO >K BU>JMIB LC LMMLOQRKFQV @LPQ \_ M>VFKD PL J BLKB BIPB QL T>FQ FK IFKB CLO VLR

CRKA> J BKQ>I MOFK@FMIB LC B@LKL J F@P FP QE>Q BSOV @ELF@B E>P >K LMMLOQRKFQV @LPQ (C VLR PIBBM QEOLRDE VLRO B@LKL J F@P @I>PP QEB LMMLOQRKFQV @LPQ FP QEB IB>OKFKD VLR J FPP COL J KLQ >QQBKAFKD @I>PP (C VLR PMBKA VLRO FK@L J B LK SFABL D> J BP VLR @>KKLQ PMBKA FQ LK J LSFBP (C VLR @ELLPB QL J >00V LKB MBOPLK VLR DFSB RM QEB LMMLOQRKFQV QL J >00V >KVLKB BIPB (K PELOQ LMMLOQRKFQV @LPQ FP >II >OLRKA RP >KA M>OQ LC ER J >K BUFPQB@B

3EB CLIIITFKD 6LOH (Q . RQ CB>QROB PEL TP >PQBM ?V PQBM >K>IVPFP LC > ?RADBQ @LKPQO>FKQ @>I@RI>QFLK 1B>A QEOLRDE FQ QL RKABOPQ>KA >KLQEBO F J MLOQ>KQ @LK@BMQ b PILMB b QE>Q TB CROQEBO BUMI>FK FK QEB >MMBKAFU , ; 8 - F8 B9 %4G ; 8@4G 6F <A (E<A6C<8F B9 6BAB@<6F

# Work It Out

- A78EFG4A7<A: H7:8G BAFGE4<AGF

"RADBQ @LKPQO>FKQP >OB B>PV QL RKABOPQ>KA FC VLR >MMIV > IFQIB J>QE 4EB >MMBKAFU , ; 8 - F8 B9 %4G ; 8@4G6F <A (E<A6<C78F B9 6BAB@<6F BUMI>FKP >II QEB J>QE VLR >OB IFHBIV QL KBBA FK QEF ?LLH 4EB0BCL0B FC J>QE FP KLQ VLRO P@BKDQE VLR J FDEQ T>KQ QL Q>HB > ILLH >Q QEB >MMBKAFU

3QBM 4EB BNR>QFLK CLO >KV ?RADBQ @LKPQO>FKQ FP

$$\text{Budget} = P_1 \times Q_1 + P_2 \times Q_2$$

TEB0B 0 >KA 1 >OB QEB MOF@B >KA NR>KQFV LC FQB J P MR0@E>PBA TEF@E TB >PPR J B EBOB QL ?B QTL FQB J P >KA "RADBQ FP QEB > J LRKQ LC FK@L J B LKB E>P QL PMBKA

3QBM ! MMIV QEB ?RADBQ @LKPQO>FKQ BNR>QFLK QL QEB P@BK>OFL )K ! IMELKPLaP @>PB QEF T LOHP LRQ QL ?B

$$\text{Budget} = P_1 \times Q_1 + P_2 \times Q_2$$

\$10 budget = \$2 per burger × quantity of burgers + \$0.50 per bus ticket × quantity of bus tickets

$$\$10 = \$2 \times Q_{\text{burgers}} + \$0.50 \times Q_{\text{bus tickets}}$$

3QBM 5PFKD > IFQIB >IDB?> TB @>K QROK QEF FKQL QEB C> J FIF>O BNR>QFLK LC > IFKB

$$y = b + mx$$

&L0 ! IMELKPL QEF FP

$$\$10 = \$2 \times Q_{\text{burgers}} + \$0.50 \times Q_{\text{bus tickets}}$$

3QBM 3F J MFCV QEB BNR>QFLK " BDFK ?V J RIQFMIVFKD ?LQE PFABP LC QEB BNR>QFLK ?V

$$2 \times 10 = 2 \times 2 \times Q_{\text{burgers}} + 2 \times 0.5 \times Q_{\text{bus tickets}}$$

$$20 = 4 \times Q_{\text{burgers}} + 1 \times Q_{\text{bus tickets}}$$

3QBM 3R?QO>@Q LKB ?RP QF@HBQ COL J ?LQE PFABP

$$20 - Q_{\text{bus tickets}} = 4 \times Q_{\text{burgers}}$$

\$fSfAB B>@E PfAB ?V QL VfBIA QEB >KPTB0

$$5 - 0.25 \times Q_{\text{bus tickets}} = Q_{\text{burgers}}$$

or

$$Q_{\text{burgers}} = 5 - 0.25 \times Q_{\text{bus tickets}}$$

3QBM . LQF@B QE>Q QEF BNR>QFLK CFQP QEB ?RADBQ @LKPQO>FKQ FK <:HE8 4EB SBOQF@>I FKQBO@BMQ FP >KA QEB PILMB FP ^ @RPQ >P QEB BNR>QFLK P>VP )C VLR MIRD ?RP QF@HBQ FKQL QEB BNR>QFLK VLR DBQ ?RODBOP )C VLR MIRD LQEBO KR J ?BOP LC ?RP QF@HBQ FKQL QEB BNR>QFLK VLR DBQ QEB OBPRQP PBB ,45?8 TEF@E >OB QEB MLFKQP LK ! IMELKPLaP ?RADBQ @LKPQO>FKQ

(B<AG ) H4AG<GL B9 HE : 8EF 4G	) H4AG<GL B9 HF , <6>8GF 4G	68AGF
!		
"		
#		
\$		

,45?8



(B<AG ) H4AG<GL B9 HE : 8EF 4G ) H4AG<GL B9 HF , <6>8GF 4G 68AGF
%
&

,45?8

3QBM . LQF@B QE>Q QEB PILMB LC > ?RADBQ @LKPQ>FKQ >IT>VP PELTP QEB LMMLOQRKFQV @LPQ LC QEB DLLA TEF@E FP LK QEB ELQFWLKQ>I >UFP &LO !IMELKPL QEB PILMB FP f FKAf@>QFKD QE>Q CLO BSBQV ?RP QF@HBQ EB ?RVP EB JRPQ DfSB RM ?RQDBO 4L MEO>PB FQ AfCCBQKQIV CLO BSBQV CLRO QF@HBQ EB ?RVP !IMELKPL JRPQ DfSB RM ?RQDBO

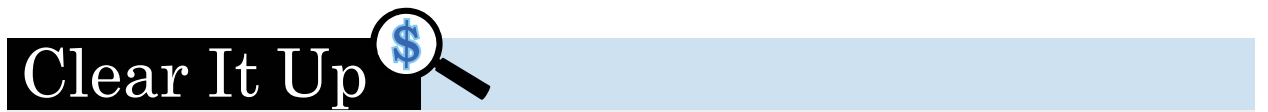
4EBOB >OB QTL FJ MLQ>KQ L?PBOS>QLKP EBOB &FOPQ QEB >IDB?Q>F@ PFDK LC QEB PILMB FP KBD>QFSB TEF@E JB>KP QE>Q QEB LKIV T>V QL DBQ JLOB LC LKB DLLA FP QL DfSB RM PLJB LC QEB LQEBQ 3B@LKA TB ABCfKB QEB PILMB >P QEB MOF@B LC ?RP QF@HBQ TE>QBSBO FP LK QEB ELQFWLKQ>I >UFP FK QEB DO>ME AfSfABA ?V QEB MOF@B LC ?RQDBOP TE>QBSBO FP LK QEB SBOQF@>I >UFP FK QEF@ >PB )C VLR T>KQ QL ABQBO JFKB QEB LMMLOQRKFQV @LPQ Nrf@HIV GRPQ AfSfAB QEB QTL MOF@BP

### !78AG<9LA: 'CCBEGHA<GL BFG

(K J>KV @>PBP FQ FP OB>PLK>?IB QL OBCBO QL QEB LMMLOQRKFQV @LPQ >P QEB MOF@B (C VLRO @LRPFK ?RVP > KBT ?F@V@IB CLO QEBK J B>PROBP QEB > JLRKQ LC eLQEBQ @LKPR JMQFLKf QE>Q EB E>P CLOP>HBK %LO MO>@QF@>I MROMLPBP QEBQB J>V ?B KL PMB@F>I KBBA QL FABKQFCV QEB PMB@FCF@ >IQBOK>QFSB MOLAR@Q LO MOLAR@QP QE>Q EB @LRIA E>SB ?LRDEQ TFQE QE>Q ?RQ PL JBQF JBP QEB MOF@B >P J B>PROBA FK ALII>OP J>V KLQ >@>RO>QIV @>MQROB QEB QORB LMMLOQRKFQV @LPQ 3EFP MOL?IB J @>K ILL J BPMB@F>IIV I>ODB TEBK @LPQ LC QF JB >OB FKSLISBA

%LO BU>J MIB @LKPfABO > ?LPP TEL AB@FABP QE>Q >II B J MILVBBP TFII >QBKA > QTL A>V OBQOB>Q QL e?RFIA QB>J PMFOFQ f 3EB LRQ LC ML@HBQ J LKBQ>OV @LPQ LC QEB BSBKQ J>V FKSLISB EFOFKD >K LRQPFAB @LKPRIQFKD CFO J QL ORK QEB OBQOB>Q >P TBII >P OLL J >KA ?L>OA CLO >II M>OQF@FM>KQP 'LTBSBO >K LMMLOQRKFQV @LPQ BUFPQ >P TBII AROFKD QEB QTL A>VP LC QEB OBQOB>Q KLKB LC QEB B J MILVBBP >OB ALFKD >KV LQEBQ TLOH

QQBKAFKD @LIIBDB FP >KLQEBQ @>PB TEBQB QEB LMMLOQRKFQV @LPQ BU@BBAP QEB J LKBQ>OV @LPQ 3EB LRQ LC ML@HBQ @LPQ LC >QQBKAFKD @LIIBDB FK@IRAB QRFQFLK ?LHP OLL J >KA ?L>OA >KA LQEBQ BUMBKBPB 'LTBSBO FK >AAfQFLK AROFKD QEB ELROP QE>Q VLR >OB >QQBKAFKD @I>PP >KA PQRAVFKD FQ FP FJ MLPPF?IB QL TLOH >Q >M>VFKD GL? 3ERP @LIIBDB FJ MLBPB ?LQE >K LRQ LC ML@HBQ @LPQ >KA >K LMMLOQRKFQV @LPQ LC ILPQ B>OKFKDP



/ ; 4G <F G ; 8 BCCBEGHA<GL 6BFG 4FFB6<4G87 J<G ; <A6E84F87 4<ECBEG F86HE<GL @84FHE8F

!CQBO QEB QBOOLOFPQ MI>KB Ef@>HFKDP LK 3BMQB J?BO J>KV PQBMP TBOB MOLMLPBA QL FJ MOLSBS >FO QO>SBI P>CBQV &LO BU>J MIB QEB CBABO>I DLSBOK JBKQ @LRIA MOLSFAB >O JBA bPHV J>OPE>IPc TEL TLRIA QO>SBI FK@LKPmf@RLRPV TFQE QEB OBPQ LC QEB M>PPBKDBOP 4EB @LPQ LC E>SfKD > PHV J>OPE>I LK BSBQV ClfDEQ TLRIA ?B OLRDEIV ?FIIFLK MBO VB>O 2BQQLCFQFKD >II 5 3 MI>KBP TFQE OBfKCLQ@BA @L@HMFQ ALLOP QL J>HB FQ E>OABO CLO QBOOLOFPQ QL Q>HB LSBO QEB MI>KB TLRIA E>SB > MOF@B Q>D LC JFIIFLK "RVfKD JLOB PLMEfQF@>QBA PB@ROFQV BNRfM JBKQ CLO >FOMLOQP IFHB QEObB Af JBKPFfLk>I ?>DD>DB P@>KKBOP >KA @>JBOP P IFKHBA QL C>@B OB@LDKfQFLK PLQQT>OB @LRIA @LPQ >KLQEBQ ?FIIFLK

(LTBSBO QEB PFKDIB ?FDDBPQ @LPQ LC DOB>QBO >FOIFKB PB@ROFQV ALBP KLQ FKSLISB PMBKAFKD J LKBV )Q FP QEB LMMLOQRKFQV @LPQ LC >AAfQFLK>I T>FQFKD QF JB >Q QEB >FOMLOQ !@@LOAFKD QL QEB 5KfQBA 3Q>QP \$BM>OQ JBKQ LC 4O>KPMLQ>QFLK \$ / 4 QEBQB TBOB JFIIFLK PVPQBJ TfAB ALJBPF@ >KA FKQBOk>QFLK>I P@EBARIBA PBOSf@B M>PPBKDBOP FK 3FK@B QEB Ef@>HFKDP PB@ROFQV P@OBBKfKD E>P ?B@LJB JLOB FKQBKPFsB >KA @LKPBNRBKQIV QEB MOL@BAROB Q>HBP ILKDQO QE>K FK QEB M>PQ 3>V QE>Q LK >SBO>DB B>@E >FO M>PPBKDBO PMBKAP

>K BUQQ> JFKRQBP FK QEB >FOMLOQ MBO QOFM %@LKLJFPQP @LJ J LKIV MI>@B > S>IRB LK QFJB QL @LKSBOQ >K LMMLOQRKFQV @LPQ FK QFJB FKQL > J LKBQ>OV CFDR0B "B@>RPB J>KV >FO QO>SBIBOP >OB OBI>QFSBIV EFDE M>FA ?RPFKBPB MBLMIB @LKPBO>QFSB BPQF J>QBP PBQ QEB >SBO>DB MOF@B LC QFJB CLO >FO QO>SBIBOP >Q MBO ELRO "V QEBPB ?>@H LC QEB BKSBLMB @>I@RI>QFLKP QEB LMMLOQRKFQV @LPQ LC ABI>VP FK >FOMLOQP @LRIA ?B >P JR@E >P JFIHLK \ ELROP \ ELRO LO ?FIHLK MBO VB>0 #IB>OIV QEB LMMLOQRKFQV @LPQ LC T>QFKD QFJB @>K ?B GRPQ >P FJ MLQ>KQ >P @LPQP QE>Q FKSLISB A@B@Q PMBKAFKD

(K PLJB @>PBP OB>IFWFKD QEB LMMLOQRKFQV @LPQ @>K >IQBO ?BE>SFL0 (J>DFKB CLO BU>J MIB QE>Q VLR PMBKA LK IRK@E BSBOV A>V >Q TLOH 8LR J>V HKLT MBOCB@QIV TBII QE>Q ?QFKDFKD > IRK@E COL J ELJB TLRIA @LPQ LKIV > A>V PL QEB LMMLOQRKFQV @LPQ LC ?RVFKD IRK@E >Q QEB OBPQ>RO>KQ FP B>@E A>V QE>Q FP QEB ?RVFKD IRK@E @LPQ JFKRP QEB VLRO IRK@E COL J ELJB TLRIA @LPQ %FSB ALII>OP B>@E A>V ALBP KLQ PBB J QL ?B QE>Q JR@E 'LTBSBO FC VLR MOLGB@Q TE>Q QE>Q >AAP RM QL FK > VB>0 b A>VP > VB>0 ^ MBO A>V BNR>IP QEB @LPQ MBOE>MP LC > AB@BKQ S>@>QFLK (C VLR ABP@OF?B QEB LMMLOQRKFQV @LPQ >P e> KF@B S>@>QFLKf FKPB>A LC e > A>V f VLR JFDEQ J>HB AFCCBOBKQ @ELF@BP

%4E:<A4? 86<F<BA %4><A: 4A7 <@<A<F; <A: %4E:<A4? -G?<GL

3EB ?RADBQ @LKPQ>FKQ CO>J BTLOH EBIMP QL B J ME>PFWB QE>Q J LPQ @ELF@BP FK QEB OB>I TLOIA >OB KLQ >?LRQ DBQ@FKD >II LC LKB QEFKD LO >II LC >KLQEBQ QE>Q FP QEBV >OB KLQ >?LRQ @ELLPFKD BQEBQ QEB MLFKQ >Q LKB BKA LC QEB ?RADBQ @LKPQ>FKQ LO BIPB QEB MLFKQ >II QEB T>V >Q QEB LQEBQ BKA (KPB>A J LPQ @ELF@BP FKSLISB **marginal analysis** TEF@E JB>KP BU>J FKFKD QEB ?BKBCFP >KA @LPQ LC @ELLPFKD > IFQIB JLOB LO > IFQIB IBPP LC > DLLA /BLMIB K>QRO>IIV @LJM>OB @LPQ >KA ?BKBCFP ?RQ LCQBK TB ILLH >Q QLQ>I @LPQ >KA QLQ>I ?BKBCFP TEBK QEB LMQF J>I @ELF@B KB@BPPFQ>QBP @LJM>OFKD ELT @LPQ >KA ?BKBCFP @E>KDB COL J LKB LMQFLK QL >KLQEBQ 8LR JFDEQ QEFKH LC J >ODFK>I >K>IVPPF >P e@E>KDB >K>IVPPF f , >ODFK>I >K>IVPPF FP RPBA QEOLRDELRO B@LKL JF@P

6B KLT QROK QL QEB KLQFLK LC **utility** /BLMIB ABPFOB DLLAP >KA PBOF@BP CLO QEB P>QFPC>@QFLK LO RQFIFQV QELPB DLLAP >KA PBOF@BP MOLSFAB 4QFIFV >P TB TFII PBB FK QEB @E>MQBO LK **BAFH@8E ;B<68F ;GGC 6AK BE: 6BA<8AG @ 74<8FG** FP PR>GB@QFSB ?RQ QE>Q ALBP KLQ J>HB FQ IBPP OB>I \$@LKL JFPQ QVMF@>IIV >PPR JB QE>Q QEB JLOB LC PL JB DLLA LKB @LKPR JB CLO BU>J MIB PIF@BP LC MFWW> QEB JLOB RQFIFQV LKB L?>FKP Q QEB P>JB QFJB QEB RQFIFQV >MBOPLK OB@BFSBP COL J @LKPR JFKD QEB CFOPQ RKFQ LC > DLLA FP QVMF@>IIV JLOB QE>K QEB RQFIFQV OB@BFSBA COL J @LKPR JFKD QEB CFQCE LO QEB QBKQE RKFQ LC QE>Q P>JB DLLA 6EBK IMELKPL @ELLBP ?BQTBBK ?RODBOP >KA ?RP QF@HBQP CLO BU>J MIB QEB CFOPQ CBT ?RP OFABP QE>Q EB @ELLBP JFDEQ MOLSFAB EFJ TFQE > DOB>Q AB>I LC RQFIFQV b MBOE>MP QEBV EBIM EFJ DBQ QL >GL? FKQBOSFBT LO > AL@QL0dP >MMLFKQ JBKQ 'LTBSBO I>QBO ?RP OFABP JFDEQ MOLSFAB JR@E IBPP RQFIFQV b QEBV J>V LKIV PBOB QL HFII QFJB LK >O>FKV A>V 2F JFI>OIV QEB CFOPQ ?RODBO QE>Q IMELKPL @ELLBP QL ?RV J>V ?B LK >A>V TEBK EB JFPBA ?OB>HC>PQ >KA FP O>SBKLRPIV ERKDOV 'LTBSBO FC IMELKPL E>P > ?RODBO BSBOV PFKDIB A>V QEB I>PQ CBT ?RODBOP J>V >P>QB MOBQQV ?LOFKD 3EB DBKBO>I M>QQBOK QE>Q @LKPR JMQFLK LC QEB CFOPQ CBT RKFQ LC >KV DLLA QBKAP QL ?QFKD > EFDEBO IBSBI LC RQFIFQV QL > MBOPLK QE>K @LKPR JMQFLK LC I>QBO RKFQ FP >@LJ J LK M>QQBOK \$@LKL JFPQ OBCBO QL QEFQ M>QQBOK >P QEB **law of diminishing marginal utility** TEF@E JB>KP QE>Q >P >MBOPLK OB@BFSBP JLOB LC > DLLA QEB >AAFQFLK>I LO J>ODFK>I RQFIFQV COL JB>@E >AAFQFLK>I RKFQ LC QEB DLLA AB@IFKBP (K LQEBQ TLOAP QEB CFOPQ PIF@B LC MFWW> ?QFKDP JLOB P>QFPC>@QFLK QE>K QEB PFUQE

3EB I>T LC AF JFKPFQFKD J>ODFK>I RQFIFQV BUMI>FKP TEV MBLMIB >KA PL@FBQFBP O>OBIV J>HB >II LO KLQEFKD @ELF@BP 8LR TLRIA KLQ P>V e , V >C>SLOFQB CLLA FP F@B @OB>J PL (TFII B>Q KLQEFKD ?RQ F@B @OB>J COL J KLT LK f (KPB>A BSBK FC VLR DBQ > SBOV EFDE IBSBI LC RQFIFQV COL J VLRO C>SLOFQB CLLA FC VLR >QB FQ BU@IRPFSBIV QEB >AAFQFLK>I LO J>ODFK>I RQFIFQV COL J QELPB I>PQ CBT PBOF@KDP TLRIA KLQ ?B SBOV EFDE 2F JFI>OIV JLPQ TLOHBOP AL KLQ P>V e( BKGLV IBFPROB PL (dII KBSBO TLOH f (KPB>A TLOHBOP OB@LDKFWB QE>Q BSBK QELRDE PLJB IBFPROB FP SBOV KF@B > @LJ ?FK>QFLK LC >II IBFPROB >KA KL FK@LJB FP KLQ PL >QQO>@QFSB 3EB ?RADBQ @LKPQ>FKQ CO>J BTLOH PRDDBPQ QE>Q TEBK MBLMIB J>HB @ELF@BP FK > TLOIA LC P@>0@FQV QEBV TFII RPB J>ODFK>I >K>IVPPF >KA QEFKH >?LRQ TEBQEBQ QEBV TLRIA MBOCBO > IFQIB JLOB LO > IFQIB IBPP

O>QFLK>I @LKPR JB TLRIA LKIV MRO@E>PB >AAFQFLK>I RKFQ LC PL JB MOLAR@Q >P ILKD >P QEB J>ODFK>I RQFIFQV BU@BBAP QEB LMMLOQRKFQV @LPQ 2RMMLPB IMELKPL JLSBP ALTK EFP ?RADBQ @LKPQ>FKQ COL J /LFKQ QL /LFKQ " >KA CROQEBO P EB @LKPR JB JLOB ?RP QF@HBQP QEB J>ODFK>I RQFIFQV LC ?RP QF@HBQP TFII AF JFKFPE TEFIB QEB LMMLOQRKFQV @LPQ QE>Q FP QEB J>ODFK>I RQFIFQV LC CLOBDLKB ?RODBOP TFII FK@OB>PB \$SBKQ>IIV QEB LMMLOQRKFQV @LPQ TFII BU@BBA QEB J>ODFK>I RQFIFQV LC >K >AAFQFLK>I ?RP QF@HBQP (C IMELKPL FP O>QFLK>I EB TLKdQ MRO@E>PB JLOB ?RP QF@HBQP LK@B QEB J>ODFK>I RQFIFQV GRPQ BNR>IP QEB LMMLOQRKFQV @LPQ 6EFIB TB @>KdQ VBQ P>V BU>@QIV ELT J>KV ?RP QF@HBQP IMELKPL TFII ?RV QE>Q KRJ ?BO FP RKIFHBIV QL ?B QEB JLPQ EB @>K >CCL0A

+HA> BFGF

(K QEB ?RADBQ @LKPQ>FKQ CO>J BTLOH >II AB@FPFLKP FKSLISB TE>Q TFII E>MMBK KBUQ QE>Q FP TE>Q NR>KQFQFBP LC DLLAP TFII

VLR @LKPR J B ELT J >KV ELROP TFII VLR T'LOH LO ELT J R@E TFII VLR P>SB 3EBPB AB@FPFLK AL KLQ ILLH ?>@H QL M>PQ @ELF@BP 3ERP QEB ?RADBQ @LKPQ>FKQ CO>J BTLOH >PPR J B P QE>Q **sunk costs** TEF@E >OB @LQP QE>Q TBOB FK@ROOBA FK QEB M>PQ >KA @>KKLQ ?B OB@LSBOBA PELRIA KLQ >CCB@Q QEB @ROOBKQ AB@FPFLK

"LKPFBQ QEB @>PB LC 2BIBK> TEL M>VP QL PBB > J LSF B ?RQ >C@BO T>Q@EFKD QEB CFI J CLO J FKRQBP PEB HKLTP QE>Q FQ FP QORIV QBOOF?IB 2ELRIA PEB PQ>V >KA T>Q@E QEB OBPQ LC QEB J LSF B ?B@>RPB PEB M>FA CLO QEB QF@HBQ LO PELRIA PEB IB>SB 3EB J LKBV PEB PMBKQ FP > PRKH @LPQ >KA RKIBPP QEB QEB>QBO J >K>DBO FP PV J M>QEBQF@ 2BIBK> TFII KLQ DBQ > OBCRKA ' L'TBSBO PQ>VFKD FK QEB J LSF B PQFII J B>KP M>VFKD >K LMMLOQRKQV @LPQ FK QF J B ' BO @ELF@B FP TEBQEBO QL PMBKA QEB KBUQ J FKRQBP PRCCBOFKD QEOLRDE > @FKB J >QF@ AFP>PQBO LO QL AL PL J BQEFKD b >KVQEFKD b BIPB 3EB IBPPLK LC PRKH @LPQ FP QL CLODBQ >?LRQ QEB J LKBV >KA QF J B QE>Q FP FOOBQFBS>?IV DLKB >KA FKPQ>A QL CL@RP LK QEB J >ODFK>I @LPQ >KA ?BKBCFQ LC @ROOBKQ >KA CRQROB LMQFLK

%LO MBLMIB >KA CFO J P >IFHB AB>IFKD TFQE PRKH @LPQ @>K ?B CORPQ>QFKD (Q LCQBK J B>KP >A J FQFKD >K B>OIFBO BOOLO FK GRAD J BKQ , >KV CFO J P CLO BU> J MIB CFKA FQ E>OA QL DFSB RM LK > KBT MOLAR@Q QE>Q FP ALFKD MLLQIV ?B@>RPB QEBV PMBKQ PL J R@E J LKBV FK @OB>QFKD >KA I>RK@EFKD QEB MOLAR@Q ' L'TBSBO QEB IBPPLK LC PRKH @LPQ FP QL FDKLOB QEB J >KA J >HB AB@FPFLK ?>PBA LK TE>Q TFII E>MMBK FK QEB CRQROB

### EB@ 4 %B78? J<G; , JB BB7F GB ' A8 B9 %4AL BB7F

3EB ?RADBQ @LKPQ>FKQ AF>DO> J @LKQ>FKFKD GRPQ QTL DLLAP IFHB J LPQ J LABIP RPBA FK QEFP ?LLH FP KLQ OB>IFPQF@ CQBO >II FK > J LABOK B@LKL J V MBLMIB @ELLPB COL J QELRP>KAP LC DLLAP ' L'TBSBO QEFKHFKD >?LRQ > J LABI TFQE J >KV DLLAP FP > PQ>FDEQCLQ>OA BUQBKPKL LC TE>Q TB AFP@RPPBA EBOB (KPB>A LC AO>TFKD GRPQ LKB ?RADBQ @LKPQ>FKQ PELTFKD QEB QO>ABLCC ?BQTB BK QTL DLLAP VLR @>K AO>T J RIQFMI B ?RADBQ @LKPQ>FKQ PELTFKD QEB MLPPF?IB QO>ABLCC ?BQTB BK J >KV AFCCBOBKQ M>POP LC DLLAP (K J LOB >AS>K@BA @I>PPBP FK B@LKL J F@P VLR TLRIA RPB J >QEB J >QF@>I BNR>QLKQ QE>Q FK@IRAB J >KV MLPPF?IB DLLAP >KA PBOSF@BP QE>Q @>K ?B MRO@E>PBA QLDBQEBO TFQE QEBFO NR>KQFQBP >KA MOF@BP >KA PELT ELT QEB QLQ>I PMBKAFKD LK >II DLLAP >KA PBOSF@BP FP IF J FQBA QL QEB LSBO>II ?RADBQ >S>FI>?IB 3EB DO>ME TFQE QTL DLLAP QE>Q TB MOBPBKQBA EBOB @IB>OIV FIIRPQ>QBP QE>Q BSOV @ELF@B E>P >K LMMLOQRKQV @LPQ TEF@E FP QEB MLFKQ QE>Q ALBP @>OOV LSBO QL QEB OB>I TLOIA

## N , ; 8 (EB7H6G<BA (BFF<5<?<G<8F EBAG<8E 4A7 +B6<4? ; B<68F

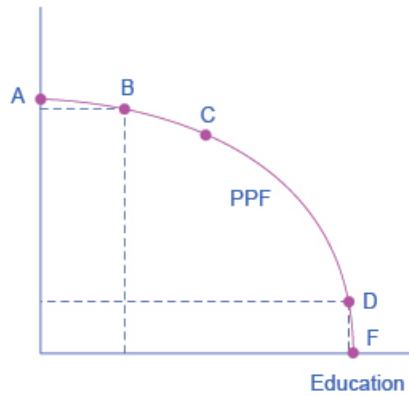
! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d (KQBOMOBQ MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO DO>MEP
- d "LKQO>PQ > ?RADBQ @LKPQ>FKQ >KA > MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO
- d \$UMI>FK QEB OBI>QFLKPEFM ?BQTB BK > MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO >KA QEB I>T LC AF J FKFPEFKD OBQROK
- d "LKQO>PQ MOLAR@QFSB BCCF@FBK@V >KA >IIL@>QFSB BCCF@FBK@V
- d #BCFKB @L J M>O>QFSB >AS>KQ>DB

)RPQ >P FKAFSFAR>IP @>KKLQ E>SB BSOVQEFKD QEBV T>KQ >KA J RPQ FKPQ>A J >HB @ELF@BP PL@FBQV >P > TELIB @>KKLQ E>SB BSOVQEFKD FQ J FDEQ T>KQ BFQEBO 3EFP PB@QFLK LC QEB @E>M@B0 TFII BUMI>FK QEB @LKPQ>FKQ PL@FBQV C>@BP RPFKD > J LABI @>IIBA QEB **production possibilities frontier (PPF)** 3EBOB >OB J LOB PF J FI>OFQFBP QE>K AFCCBOBK@BP ?BQTB BK FKAFSFAR>I @ELF@B >KA PL@F>I @ELF@B P VLR OB>A QEFP PB@QFLK CL@RP LK QEB PF J FI>OFQFBP

! B@>RPB PL@FBQV E>P IF J FQBA OBPLRO@BP B D I>?LO I>KA @>MFQ>I O>T J >QBOF>IP >Q >KV MLFKQ FK QF J B QEBOB FP > IF J FQ QL QEB NR>KQFQBP LC DLLAP >KA PBOSF@BP FQ @>K MOLAR@B 2RMMLPB > PL@FBQV ABPFBP QTL MOLAR@Q EB>IQE@>OB >KA BAR@>QFLK 3EB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO FK <: **HE8** FIIRPQ>QBP QEFP PFQR>QFLK

Healthcare



<:HE8 84% 64E8 IF 7H64G<BA (EB7H6G<BA (BFF<5<G<8F EBA<8E 4EFP MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO PEL TP > QO>ABLCC ?BQ TBBK ABSLQFKD PL@F>I OBPLRO@BP QL EB>IQE@>OB >KA ABSLQFKD QEB J QL BAR@>QFLK ! Q ! >II OBPLRO@BP DL QL EB>IQE@>OB >KA >Q " J LPQ DL QL EB>IQE@>OB ! Q \$ J LPQ OBPLRO@BP DL QL BAR@>QFLK >KA >Q & >II DL QL BAR@>QFLK

<:HE8 PEL TP EB>IQE@>OB LK QEB SBOQF@>I >UFP >KA BAR@>QFLK LK QEB ELOFWLKQ>I >UFP (C QEB PL@FBQV TBOB QL >IIL@>QB >II LC FQP OBPLRO@BP QL EB>IQE@>OB FQ @LRIA MOLAR@B >Q MLFKQ ' L TBSBO FQ TLRIA KLQ E>SB >KV OBPLRO@BP QL MOLAR@B BAR@>QFLK (C FQ TBOB QL >IIL@>QB >II LC FQP OBPLRO@BP QL BAR@>QFLK FQ @LRIA MOLAR@B >Q MLFKQ % IQBOK>QFSBIV QEB PL@FBQV @LRIA @ELLPB QL MOLAR@B >KV @L J ?FK>QFLK LC EB>IQE@>OB >KA BAR@>QFLK LK QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO (K BCCB@Q QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO MI>VP QEB P> J B OLIB CLO PL@FBQV >P QEB ?RADBQ @LKPQO>FKQ MI>VP CLO IMELKPL 2L@FBQV @>K @ELLPB >KV @L J ?FK>QFLK LC QEB QTL DLLAP LK LO FKPFAB QEB // % ' L TBSBO FQ ALBP KLQ E>SB BKL RDE OBPLRO@BP QL MOLAR@B LRQPFAB QEB // %

, LPQ F J MLOQ>KQIV QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO @IB>OIV PEL TP QEB QO>ABLCC ?BQ TBBK EB>IQE@>OB >KA BAR@>QFLK 2RMMLPB PL@FBQV E>P @ELPBK QL LMBO>QB >Q MLFKQ ! >KA FQ FP @LKPFBABOFKD MOLAR@FKD J LOB BAR@>QFLK ! B@>RPB QEB // % FP ALTKT>OA PILMFKD COL J IBCQ QL OFDEQ QEB LKIV T>V PL@FBQV @>K L ?>FK J LOB BAR@>QFLK FP ?V DFSKD RM PL J B EB>IQE@>OB 3E>Q FP QEB QO>ABLCC PL@FBQV C>@BP 2RMMLPB FQ @LKPFBABOP J LSKD COL J MLFKQ ! QL MLFKQ " 6 E>Q TLRIA QEB LMMLOQRKFQV @LPQ ?B CLO QEB >AAFQFLK>I BAR@>QFLK 3EB LMMLOQRKFQV @LPQ TLRIA ?B QEB EB>IQE@>OB PL@FBQV E>P QL CLODL )RPQ >P TFQE IMELKPL@P ?RADBQ @LKPQO>FKQ QEB slope LC QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO PEL TP QEB LMMLOQRKFQV @LPQ ! V KLT VLR J FDEQ ?B P>VFKD e ' BV QEFP // % FP PLRKA FKD IFHB QEB ?RADBQ @LKPQO>FKQ f (C PL OB>A QEB CLIL TFKD " IB>O (Q 4M CB>QROB

# Clear It Up

/ ; 4GRF G ; 8 7<998E8A68 58G J88A 4 5H7 : 8G 6BAFGE4<AG 4A7 4 ( (

4EBOB >OB QTL J >LO AFCCBOBK@BP ?BQ TBBK > ?RADBQ @LKPQO>FKQ >KA > MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO 4EB CFOPQ FP QEB C>@Q QE>Q QEB ?RADBQ @LKPQO>FKQ FP > PQQ>FDEQ IFBK 4EFP FP ?B@>RPB FQP PILMB FP DfSBK ?V QEB OBI>QFSB MOF@BP LC QEB QTL DLLAP TEF@E COL J QEB MLFKQ LC SfBT LC >K KFAFSFAR>I @LKPJR J BO >OB CFUBA PL QEB PILMB ALBPK Q @E>KDB )K @LKQO>PQ QEB OO& E>P > @ROSBA PE>MB ?B@>RPB LC QEB I>T LC QEB AF J FKPF EKD OBQROKP 4ERP QEB PILMB FP AFCCBOBKQ >Q S>OFLRP MLFKQ P LK QEB OO& 4EB PB@LKA J >LO AFCCBOBK@B FP QEB >?PBK@B LC PMB@FCF@ KR J ?BOP LK QEB >UBP LC QEB OO& 4EBOB >OB KL PMB@FCF@ KR J ?BOP ?B@>RPB TB AL KLQ HKLT QEB BU>@Q > J LRKQ LC OBPLRO@BP QEFP F J >DfK>OV B@LKL J V E>P KLO AL TB HKLT ELT J >KV OBPLRO@BP FQ Q>HBP QL MOLAR@B EB>IQE@>OB >KA ELT J >KV OBPLRO@BP FQ Q>HBP QL MOLAR@B BAR@>QFLK )C QEFP TBOB > OB>I TLOIA BU> J MIB QE>Q A>Q> TLRIA ?B >S>FI>?IB

7 EBQEBO LO KLQ TB E>SB PMB@FCF@ KR J ?BOP @LK@BMR>IIV TB @>K JB>PROB QEB LMMLOQRKFQV @LPQ LC >AAFQFLK>I BAR@>QFLK >P PL@FBQV JLSBP COL J MLFKQ " QL MLFKQ # LK QEB OO& 7 B JB>PROB QEB >AAFQFLK>I BAR@>QFLK ?V QEB ELOFWLKQ>I AFPQ>K@B ?BQ TBBK " >KA # 4EB CLOBDLKB EB>IQE@>OB FP DfSBK ?V QEB SBOQF@>I AFPQ>K@B ?BQ TBBK " >KA # 4EB PILMB LC QEB OO& ?BQ TBBK " >KA # FP >MMLUFJ >QBIV QEB SBOQF@>I AFPQ>K@B QEB b@FPBc LSBQ QEB ELOFWLKQ>I AFPQ>K@B QEB b@RKC 4EFP FP QEB LMMLOQRKFQV @LPQ LC QEB >AAFQFLK>I BAR@>QFLK

, ; 8 + ; 4C8 B9 G ; 8 ( ( 4A7 G ; 8 \$4 J B9 <@<A<F ; <A : \* 8GHEAF

3EB ?RADBQ @LKPQ>FKQP QE>Q TB MOBPKQBA B>OIFBO FK QEFP @E>MQBO PELTFKD FKAFSFAR>I @ELF@BP >?LRQ TE>Q NR>KQFQBP LC DLLAP QL @LKP R J B TBOB >II PQO>FDEQ IFKBP 3EB OB>PLK CLO QEBBP PQO>FDEQ IFKBP T>P QE>Q QEB OBI>QFSB MOF@BP LC QEB QTL DLLAP FK QEB **consumption budget constraint** ABQBO J FKBA QEB PILMB LC QEB ?RADBQ @LKPQ>FKQ 'LTBSBO TB AOBT QEB MOLAR@QLK MLPPF?FIFQFB COLKQFBO CLO EB>IQE@>OB >KA BAR@>QLK >P > @ROSBA IFKB 6 EV ALBP QEB // % E>SB > AFCCBOBKQ PE>MB

3L RKABOP>KA TEV QEB // % FP @ROSBA PQ>OQ ?V @LKPFAOFKD MLFKQ >Q QEB QLM IBCQ E>KA PFAB LC QEB // % Q MLFKQ >II >S>FI>?IB OBPLRO@BP >OB ABSLQBA QL EB>IQE@>OB >KA KLKB >OB IBCQ CLO BAR@>QLK 3EFP PFQR>QLK TLRIA ?B BUQOB J B >KA BSBK OFAF@RILRP %LO BU> J MIB @EFIAOBK >OB PBBFKD > AL@QLO BSOV A>V TEBQEBO QEBV >OB PF@H LO KLQ ?RQ KLQ >QQBKAFKD P@ELLI /BLMIB >OB E>SFKD @L P J BQF@ PRODBOV LK BSOV M>OQ LC QEBFO ?LAFBP ?RQ KL EFDE P@ELLI LO @LIIBDB BAR@>QLK BUFPQP -LT F J >DFKB QE>Q PL J B LC QEBPB OBPLRO@BP >OB AFSBOQBA COL J EB>IQE@>OB QL BAR@>QLK PL QE>Q QEB B@LKL J V FP >Q MLFKQ ! FKPQ>A LC MLFKQ #FSBOQFKD PL J B OBPLRO@BP >T>V COL J QL ! @>RPBP OBI>QFSBIV IFQIB OBAR@QLK FK EB>IQE ?B@>RPB QEB I>PQ CBT J >ODFK>I ALII>OP DLFKD FKQL EB>IQE@>OB PBOF@BP >OB KLQ MOLAR@FKD J R@E >AAFQFLK>I D>FK FK EB>IQE 'LTBSBO MRQFKD QELP J >ODFK>I ALII>OP FKQL BAR@>QLK TEF@E FP @L J MIBQIV TFQELRQ OBPLRO@BP >Q MLFKQ @>K MOLAR@B OBI>QFSBIV I>ODB D>FKP %LO QEFP OB>PLK QEB PE>MB LC QEB // % COL J QL ! FP OBI>QFSBIV CI>Q OBMOBPKQFKD > OBI>QFSBIV P J >II AOLM LCC FK EB>IQE >KA > OBI>QFSBIV I>ODB D>FK FK BAR@>QLK

-LT @LKPFAO QEB LQEBO BKA >Q QEB ILTBO OFDEQ LC QEB MOLAR@QLK MLPPF?FIFQFB COLKQFBO (J >DFKB QE>Q PL@FBQV PQ>OQP >Q @ELF@B # TEF@E FP ABSLQFKD KB>OIV >II OBPLRO@BP QL BAR@>QLK >KA SBOV CBT QL EB>IQE@>OB >KA JLSBP QL MLFKQ % TEF@E FP ABSLQFKD all PMBKAFKD QL BAR@>QLK >KA KLKB QL EB>IQE@>OB %LO QEB P>HB LC @LK@OBQBKBP VLR @>K F J >DFKB QE>Q FK QEB JLSB J BKQ COL J # QL % QEB I>PQ CBT AL@QLOP J RPQ ?B@L J B EFDE P@ELLI P@FBK@B QB>@EBOP QEB I>PQ CBT KROPBP J RPQ ?B@L J B P@ELLI IF?O>OF>K P O>QEBO QE>K AFBMBKBP LC S>@@FK>QLKP >KA QEB I>PQ CBT B J BODBK@V OLL J P >OB QROKBA FKQL HFKABOD>QBK 3EB D>FKP QL BAR@>QLK COL J >AAFKD QEBPB I>PQ CBT OBPLRO@BP QL BAR@>QLK >OB SBOV P J >II 'LTBSBO QEB LMLQQRKFQV @LPQ ILPQ QL EB>IQE TFII ?B C>FOIV I>ODB >KA QERP QEB PILMB LC QEB // % ?BQTBK # >KA % FP PQBBM PELTFKD > I>ODB AOLM FK EB>IQE CLO LKIV > P J >II D>FK FK BAR@>QLK

3EB IBPPLK FP KLQ QE>Q PL@FBQV FP IFHBIV QL J >HB >K BUQOB J B @ELF@B IFHB ABSLQFKD KL OBPLRO@BP QL BAR@>QLK >Q MLFKQ LO KL OBPLRO@BP QL EB>IQE >Q MLFKQ % (KQ>A QEB IBPPLK FP QE>Q QEB D>FKP COL J @L J J FQFKD >AAFQFLK>I J >ODFK>I OBPLRO@BP QL BAR@>QLK ABMBKA LK ELT J R@E FP >IOB>AV ?BFKD PMBKQ (C LK QEB LKB E>KA SBOV CBT OBPLRO@BP >OB @ROOBKQIV @L J J FQQBA QL BAR@>QLK QEBK >K FK@OB>PB FK OBPLRO@BP RPBA @>K ?OFKD OBI>QFSBIV I>ODB D>FKP . K QEB LQEBO E>KA FC > I>ODB KR J ?BO LC OBPLRO@BP >OB >IOB>AV @L J J FQQBA QL BAR@>QLK QEBK @L J J FQFKD >AAFQFLK>I OBPLRO@BP TFII ?OFKD OBI>QFSBIV P J >IIBO D>FKP

3EFP M>QQBOK FP @L J J LK BKL RDE QE>Q B@LKL J FPQP E>SB DFBK FQ > K> J B QEB **law of diminishing returns** TEF@E ELIAP QE>Q >P >AAFQFLK>I FK@OB J BKQP LC OBPLRO@BP >OB >AABA QL > @BOQ>FK MROMLPB QEB J >ODFK>I ?BKBCFQ COL J QELPB >AAFQFLK>I FK@OB J BKQP TFII AB@IFKB 3EB I>T LC AF J FKFPEFKD J >ODFK>I RQFIFQV QE>Q TB FKQOLAR@BA FK QEB I>PQ PB@QLK FP > J LOB PMB@FCF@ @>PB LC QEB I>T LC AF J FKFPEFKD OBQROK 6 EBK DLSBOK J BKQ PMBKAP > @BOQ>FK > J LKQ J LOB LK OBAR@FKD @OF J B CLO BU> J MIB QEB LOFDFK>I D>FKP FK OBAR@FKD @OF J B @LRIA ?B OBI>QFSBIV I>ODB 'LTBSBO >AAFQFLK>I FK@OB>PBP QVMF@>IIV @>RPB OBI>QFSBIV P J >IIBO OBAR@QLK FP @OF J B >KA M>VFKD CLO BKL RDE MLIF@B >KA PB@ROFQV QL OBAR@B @OF J B QL KLQEFKD >Q >II TLRIA ?B QOB J BKALRPV BUMBKPSB

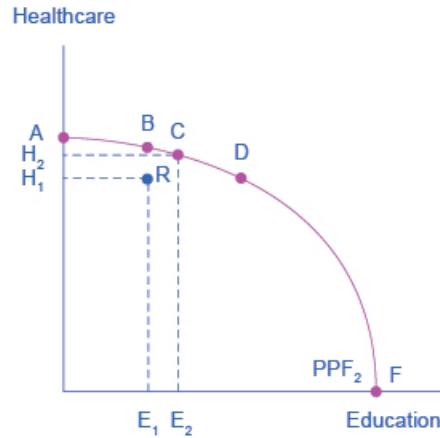
3EB @ROS>QROB LC QEB MOLAR@QLK MLPPF?FIFQFB COLKQFBO PELTP QE>Q >P TB >AA J LOB OBPLRO@BP QL BAR@>QLK JLSFKD COL J IBCQ QL OFDEQ >ILKD QEB ELOFWLKQ>I >UFP QEB LOFDFK>I D>FKP >OB C>FOIV I>ODB ?RQ DO>AR>IIV AF J FKPE 3ERP QEB PILMB LC QEB // % FP OBI>QFSBIV CI>Q ! V @LKKQ>PQ >P TB >AA J LOB OBPLRO@BP QL EB>IQE@>OB JLSFKD COL J ?LQL J QL QLM LK QEB SBOQF@>I >UFP QEB LOFDFK>I D>FKP >OB C>FOIV I>ODB ?RQ >D>FK DO>AR>IIV AF J FKPE 3ERP QEB PILMB LC QEB // % FP OBI>QFSBIV PQBBM (K QEFP T>V QEB I>T LC AF J FKFPEFKD OBQROK MOLAR@BP QEB LRQ>TA ?BKAFKD PE>MB LC QEB MOLAR@QLK MLPPF?FIFQFB COLKQFBO

(EB7H6G<I8 99<6<8A6L 4A7 ??B64G<I8 99<6<8A6L

3EB PQRAV LC B@LKL J F@P ALBP KLQ MOBPR J B QL QBII > PL@FBQV TE>Q @ELF@B FQ PELRIA J >HB >ILKD FQP MOLAR@QLK MLPPF?FIFQFB COLKQFBO (K > J >OHBQ LOFBKQBA B@LKL J V TFQE > AB J L@>QF@ DLSBOK J BKQ QEB @ELF@B TFII FKSLISB > J FUQROB LC AB@FP LKP ?V FKAFSFAR>IP CFO J P >KA DLSBOK J BKQ 'LTBSBO B@LKL J F@P @>K MLFKQ LRQ QE>Q PL J B @ELF@BP >OB RK> J ?FDRLRPV ?BQQBO QE>K LQEBO 3EFP L?PBO>QLK FP ?>PBA LK QEB @LK@BMQ LC BCCF@FBK@V (K BSOVA>V RP>DB BCCF@FBK@V OBCBOP QL I>@H LC T>PQB K FKBCCF@FBKQ J >@EFKB LMBO>QBP >Q EFDE @LPQ TEFIB >K BCCF@FBKQ J >@EFKB LMBO>QBP >Q ILTBO @LPQ ?B@>RPB FQ FP KLQ T>PQFKD BKBODV LO J >QBOF>IP K FKBCCF@FBKQ LOD>KFW>QLK LMBO>QBP TFQE ILKD ABI>VP >KA EFDE @LPQ TEFIB >K BCCF@FBKQ LOD>KFW>QLK J BQP P@EBARIBP FP CL@RPBA >KA MBOCLO J P TFQEFK ?RADBQ

3EB MOLAR@QLK MLPPF?FIFQFB COLKQFBO @>K FIIRPQ>QB QTL HFKAP LC BCCF@FBK@V MOLAR@QFSB BCCF@FBK@V >KA >IIL@>QFSB BCCF@FBK@V <: HE8 FIIRPQ>QBP QEBPB FAB>P RPFKD > MOLAR@QLK MLPPF?FIFQFB COLKQFBO ?BQTBK EB>IQE@>OB >KA

BAR@>QFLK



<:HE8 (EB7H6G<18 4A7 ??B64G<18 99<6<8A6L OOLAR@QFSB BCCF@FBK@V JB>KP FQ FP F J MLPPF?IB QL MOLAR@B J LOB LC LKB DLLA TFQELRQ AB@OB>PFKD QEB NR>KQFV QE>Q FP MOLAR@BA LC >KLQEBO DLLA 4ERP >II @ELF@BP >ILKD > DfSBK OO& IFHB " # >KA \$ AFPMI>V MOLAR@QFSB BCCF@FBK@V ?RQ 2 ALBP KLQ ! IIL@>QFSB BCCF@FBK@V JB>KP QE>Q QEB M>QF@RI>0 J FU LC DLLAP ?BFKD MOLAR@BA \_QE>Q FP QEB PMB@FCF@ @ELF@B >ILKD QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO \_OBM@BPBKQP QEB >IIL@>QFLK QE>Q PL@FBQV J LPQ ABPFOBP

**Productive efficiency** JB>KP QE>Q DfSBK QEB >S>FI>?IB FKMRQP >KA QB@EKLILDV FQ FP F J MLPPF?IB QL MOLAR@B J LOB LC LKB DLLA TFQELRQ AB@OB>PFKD QEB NR>KQFV QE>Q FP MOLAR@BA LC >KLQEBO DLLA II @ELF@BP LK QEB // % FK <:HE8 FK@IRAFKD ! " # >KA % AFPMI>V MOLAR@QFSB BCCF@FBK@V P > CFO J JLSBP COL J >KV LKB LC QEBPB @ELF@BP QL >KV LQEBO BFQEBO EB>IQE@>OB FK@OB>PBP >KA BAR@>QFLK AB@OB>PBP LO SF@B SBOP> 'LTBSBO >KV @ELF@B FKPFAB QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO FP MOLAR@QFSBIV FKBCCF@FBKQ >KA T>PQBCRI ?B@>RPB FQ FP MLPPF?IB QL MOLAR@B J LOB LC LKB DLLA QEB LQEBO DLLA LO PL JB @L J ?FK>QFLK LC ?LQE DLLAP

%LO BU>J MIB MLFKQ 1 FP MOLAR@QFSBIV FKBCCF@FBKQ ?B@>RPB FQ FP MLPPF?IB >Q @ELF@B " QL E>SB J LOB LC ?LQE DLLAP BAR@>QFLK LK QEB ELOFWLKQ>I >UFP FP EFDEBO >Q MLFKQ " QE>K MLFKQ 1 \$ FP DOB>QBO QE>K \$ >KA EB>IQE@>OB LK QEB SBOQF@>I >UFP FP >IPL EFDEBO >Q MLFKQ " QE>K MLFKQ 1 ' FP DOB>Q QE>K '

6B @>K PELT QEB M>QF@RI>0 J FU LC DLLAP >KA PBOF@BP MOLAR@BA b QE>Q FP QEB PMB@FCF@ @L J ?FK>QFLK LC PBIB@QBA EB>IQE@>OB >KA BAR@>QFLK >ILKD QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO b >P >0>V IFKB COL J QEB LOFDFK QL >PMB@FCF@ MLFKQ LK QEB // % .RQMRQ J FUBP QE>Q E>A J LOB EB>IQE@>OB >KA IBPP BAR@>QFLK TLRIA E>SB >PQBMBMO 0>V TEFIB QELPB TFQE J LOB BAR@>QFLK >KA IBPP EB>IQE@>OB TLRIA E>SB >CI>QQBO 0>V

**Allocative efficiency** JB>KP QE>Q QEB M>QF@RI>0 @L J ?FK>QFLK LC DLLAP >KA PBOF@BP LK QEB MOLAR@QFLK MLPPF?FIFQV @ROSB QE>Q > PL@FBQV MOLAR@BP OBM@BPBKQP QEB @L J ?FK>QFLK QE>Q PL@FBQV J LPQ ABPFOBP 'LT QL ABQBO J FKB TE>Q > PL@FBQV ABPFOBP @>K ?B >@LKO@LSBOPF>I NRP@QFLK >KA FP RPR>IIV > AFP@RPPFLK FK MLIFQF@>I P@FBK@B PL@FLILDV >KA MEFILPLMEV @I>PPBP >P TBII >P FK B@LKL J F@P Q FQ J LPQ ?>PF@ >IIL@>QFSB BCCF@FBK@V JB>KP MOLAR@BOP PRMMIV QEB NR>KQFV LC B>E MOLAR@Q QE>Q @LKP@R JBOP AB J >KA . KIV LKB LC QEB MOLAR@QFSBIV BCCF@FBKQ @ELF@BP TFII ?B QEB >IIL@>QFSBIV BCCF@FBKQ @ELF@B CLO PL@FBQV >P > TELIB

/ ;L +B6<8GL %HFG ;BBF8

(K / 8?6B@>8 GB 6BAB@<6F TB IB>OKBA QE>Q BSOV PL@FBQV C>@BP QEB MOL?IB J LC P@>0@FV TEBOB IF J FQBA OBPLRO@BP @LKCIF@Q TFQE RKIF J FQBA KBBAP >KA T>KQP 3EB MOLAR@QFLK MLPPF?FIFQFBP @ROSB FIIRPQO>QBP QEB @ELF@BP FKSLISBA FK QEFP AFIB J J >

\$SOV B@LKL J V C>@BP QTL PFQR>QFLKP FK TEF@E FQ J >V ?B >?IB QL BUM>KA @LKP@R J MQFLK LC >II DLLAP (K QEB CFOPQ @>PB > PL@FBQV J >V AFP@LSBO QE>Q FQ E>P ?BBK RPFKD FQ OBPLRO@BP FKBCCF@FBKQIV FK TEF@E @>PB ?V F J MOLSFKD BCCF@FBK@V >KA MOLAR@FKD LK QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO FQ @>K E>SB J LOB LC >II DLLAP LO >Q IB>PQ J LOB LC PL JB >KA IBPP LC KLKB (K QEB PB@LKA @>PB >P OBPLRO@BP DOLT LSBO >MBOFLA LC VB>OP B D J LOB I>?LO >KA J LOB @>MFQ>I QEB B@LKL J V DOLT P FQ ALBP QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO CLO > PL@FBQV TFII QBKA QL PEFCQ LRQT>OA >KA PL@FBQV TFII ?B >?IB QL >CCLOA J LOB LC >II DLLAP

' LTBSBO F J MOLSB J BKQP FK MOLAR@QFSB BCCF@FBK@V Q>HB QF J B QL AFP@LSBO >KA F J MIB J BKQ >KA B@LKL J F@ DOLTQE E>MMBKP LKIV DO>AR>IIV 3ERP > PL@FBQV J RPQ @ELLPB ?BQTBKK QO>ABLCCP FK QEB MOBPBKQ %LO DLSBOK J BKQ QEFP MOL@BPP LCQBK FKSLSBP QOVFKD QL FABKQFCV TEBOB >AAFQFLK>I PMBKAFKD @LRIA AL QEB J LPQ DLLA >KA TEBOB OBAR@QFLKP FK PMBKAFKD TLRIA AL QEB IB>PQ E>0 J Q QEB FKAFFAR>I >KA CFO J IBSBI QEB J >OHBQ B@LKL J V @LLOAFK>QBP > MOL@BPP FK TEF@E CFO J P PBBH QL MOLAR@B DLLAP >KA PBOSF@BP FK QEB NR>KQFQV NR>IFQV >KA MOF@B QE>Q MBLMIB T>KQ ' LTBSBO CLO ?LQE QEB DLSBOK J BKQ >KA QEB J >OHBQ B@LKL J V FK QEB PELOQ QBO J FK@OB>PBP FK MOLAR@QFLK LC LKB DLLA QVMF@>IIV J B>K LCCPBQFKD AB@OB>PBP PL J BTEBOB BIPB FK QEB B@LKL J V

### ,;8 (( 4A7 B@C4E4G<18 714AG4:8

6 EFIB BSBOV PL@FBQV J RPQ @ELLPB ELT J R@E LC B>@E DLLA LO PBOSF@B FQ PELRIA MOLAR@B FQ ALBP KLQ KBBA QL MOLAR@B BSBOV PFKDIB DLLA FQ @LKPR J BP . CQBK ELT J R@E LC > DLLA > @LRKQOV AB@FABP QL MOLAR@B ABMBKAP LK ELT BUMBKPFSB FQ FP QL MOLAR@B FQ SBOPRP ?RVFKD FQ COL J > AFCCBOBKQ @LRKQOV P TB P>T B>OIFBO QEB @ROS>QROB LC > @LRKQOV@P // % DFSBP RP FKCL J >QFLK >?LRQ QEB QO>ABLCC ?BQTBKK ABSLQFKD OBPLRO@BP QL MOLAR@FKD LKB DLLA SBOPRP >KLQEB (K M>OQF@RI>O FQP PILMB DFSBP QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD LKB J LOB RKFQ LC QEB DLLA FK QEB U >UFP FK QBO J P LC QEB LQEB DLLA FK QEB V >UFP "LRKQOFBP QBKA QL E>SB AFCCBOBKQ LMMLOQRKFQV @LPQ LC MOLAR@FKD > PMB@FCF@ DLLA BFQEB ?B@>RPB LC AFCCBOBKQ @IF J >QBP DBLDO>MEV QB@EKLILDV LO PHFIIP

2RMMLPB QTL @LRKQOFBP QEB 4 2 >KA !>WFI KBBA QL AB@FAB ELT J R@E QEBV TFII MOLAR@B LC QTL @QLMP PRD>0 @>KB >KA TEB>Q #RB QL FQP @IF J >QF@ @LKAFLK !>WFI @>K MOLAR@B NRFQB > ?FQ LC PRD>0 @>KB MBO >@OB ?RQ KLQ J R@E TEB>Q "LKSBOBPBIV QEB 4 2 @>K MOLAR@B I>ODB > JLRKQP LC TEB>Q MBO >@OB ?RQ KLQ J R@E PRD>0 @>KB "IB>OIV !>WFI E>P > ILTBO LMMLOQRKFQV @LPQ LC MOLAR@FKD PRD>0 @>KB FK QBO J P LC TEB>Q QE>K QEB 4 2 3EB OBSBOPB FP >IPL QORB QEB 4 2 E>P > ILTBO LMMLOQRKFQV @LPQ LC MOLAR@FKD TEB>Q QE>K !>WFI 6B FIIRPQ>QB QEFP ?V QEB // %P LC QEB QTL @LRKQOFBP FK <: HE8

<: HE8 (EB7H6G<BA (BFF<5<GL EBA<8E 9BE G; 8 - + 4A7 E4M? 4EB 5 3 00& FP CI>QQBO QE>K QEB "O>WFI 00& F J MIVFKD QE>Q QEB LMMLOQRKFQV @LPQ LC TEB>Q FK QBO J P LC PRD>0 @>KB FP ILTBO FK QEB 5 3 QE>K FK "O>WFI #LKSBOBPBIV QEB LMMLOQRKFQV @LPQ LC PRD>0 @>KB FP ILTBO FK "O>WFI 4EB 5 3 E>P @L J M>O>QFSB >AS>KQ>DB FK TEB>Q >KA "O>WFI E>P @L J M>O>QFSB >AS>KQ>DB FK PRD>0 @>KB

6 EBK > @LRKQOV @>K MOLAR@B > DLLA >Q > ILTBO LMMLOQRKFQV @LPQ QE>K >KLQEB @LRKQOV TB P>V QE>Q QEFP @LRKQOV E>P > **comparative advantage** FK QE>Q DLLA "L J M>O>QFSB >AS>KQ>DB FP KLQ QEB P> J B >P >?PLIRQB >AS>KQ>DB TEF@E FP TEBK > @LRKQOV @>K MOLAR@B J LOB LC > DLLA "L J M>O>QFSB >AS>KQ>DB FP KLQ QEB P> J B >P >?PLIRQB >AS>KQ>DB TEF@E FP TEBK > @LRKQOV @>K MOLAR@B J LOB LC > DLLA (K LRO BU> J MIB !>WFI E>P >K >?PLIRQB >AS>KQ>DB FK PRD>0 @>KB >KA QEB 4 2 E>P >K >?PLIRQB >AS>KQ>DB FK TEB>Q . KB @>K B>PFIV PBB QEFP TFQE > PF J MIB L ?PBOS>QFLK LC QEB BUQOB J B MOLAR@QFLK MLFKQP FK QEB // %P LC QEB QTL @LRKQOFBP (C !>WFI ABSLQBA >II LC FQP OBPLRO@BP QL MOLAR@FKD TEB>Q FQ TLRIA ?B MOLAR@FKD >Q MLFKQ (C ELTBSBO FQ E>A ABSLQBA >II LC FQP OBPLRO@BP QL MOLAR@FKD PRD>0 @>KB FKPQB>A FQ TLRIA ?B MOLAR@FKD > J R@E I>ODBO

> J L R K Q Q E > K Q E B 4 2 > Q M L F K Q !

3EB PILMB LC QEB // % DFSBP QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD >K >AAFQFLK>I RKFQ LC TEB>Q 6 EFIB QEB PILMB FP KLQ @LKPQ>KQ QEOLRDELQ QEB // %P FQ FP NRFQB >MM>OBKQ QE>Q QEB // % FK ! 0>WFI FP J R@E PQBBMBO QE>K FK QEB 4 2 >KA QEBOBCLQB QEB LMMLOQRKFQV @LPQ LC TEB>Q DBKBO>IIV EFDEBO FK ! 0>WFI (K QEB @E>M@B0 LK !A68EA4G<BA4? ,E478 VLR TFII IB>OK QE>Q @LRKQOFBPD AFCCBOBK@BP FK @L J M>O>QFSB >AS>KQ>DB ABQBO J FKB TEF@E DLLAP QEBV TFII @ELLPB QL MOLAR@B >KA QO>AB 6 EBK @LRKQOFBPD BKD>DB FK QO>AB QEBV PMB@F>IFWB FK QEB MOLAR@QFLK LC QEB DLLAP FK TEF@E QEBV E>SB @L J M>O>QFSB >AS>KQ>DB >KA QO>AB M>OQ LC QE>Q MOLAR@QFLK CLO DLLAP FK TEF@E QEBV AL KLQ E>SB @L J M>O>QFSB >AS>KQ>DB 6 FQE QO>AB J >KRC>@QROBOP MOLAR@B DLLAP TEBQB QEB LMMLOQRKFQV @LPQ FP ILTBPQ PL QLQ>I MOLAR@QFLK FK@QB>PBP ?BKBCFQFKD ?LQE QO>AFKD M>OQFBP

## N BA9EBAG<A: ' 5=86G<BAF GB G; 8 6BAB@<6 CCEB46;

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d K>IVWB >ODR J BKQP >D>FKPQ B@LKL J F@ >MMOL>@EBP QL AB@FPFLK J >HFKD
- d (KQBOMOBQ > QO>ABLCC AF>DO> J
- d " LKQO>PQ KLO J >QFSB PQ>QB J BKQP >KA MLPPQFSB PQ>QB J BKQP

(Q FP LKB QEFKD QL RKABOP>KA QEB B@LKL J F@ >MMOL>@E QL AB@FPFLK J >HFKD >KA >KLQEBO QEFKD QL CBBI @L J CLOQ>?IB >MMIVFKD FQ 3EB PLRO@BP LC AFP@L J CLOQ QVME@>IIV C>II FKQL QTL @>QBDLOFBP QE>Q MBLMIB AL KLQ @>Q FK QEB T>V QE>Q CFQP QEB B@LKL J F@ T>V LC QEFKHFKD >KA QE>Q BSBK FC MBLMIB AFA @>Q QE>Q T>V QEBV PELRIA QOV KLQ QL +BQdP @LKPFBABO QEBPB >ODR J BKQP FK QRQK

## <EFG ' 5=86G<BA (8BC?8 <E@F 4A7 +B6<8GL B &BG 6G \$<>8 , ; <F

3EB B@LKL J F@ >MMOL>@E QL AB@FPFLK J >HFKD PBB J P QL OBNRFOB J LOB FKLO J >QFLK QE>K J LPQ FKAFSAR>IP MLPPBPP >KA J LOB @>OBCRI AB@FPFLK J >HFKD QE>K J LPQ FKAFSAR>IP @>QR>IIV AFPMI>V CQBO >II AL VLR LO >KV LC VLRO COFBKAP AO>T > ?RADBQ @LKPQO>FKQ >KA J RQQBO QL VLROBPIC >?LRQ J >UF J FWEKD RQFIFQV ?BCLQB VLR EB>A QL QEB PELMMFKD J >II #L J B J ?BOP LC QEB 4 2 " LKDOBPP @LKQB J MI>QB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBOP ?BCLQB QEBV SLQB LK QEB >KKR>I ?RADBQ 3EB J BPPV T>VP FK TEF@E MBLMIB >KA PL@FBQFBP LMBQ>QB PL J BELT ALBPKdQ ILLH J R@E IFHB KB>Q ?RADBQ @LKPQO>FKQP LO P J LLQEIV @ROSFKD MOLAR@QFLK MLPPF?FIFQFBP COLKQFBOP

' L TBSBO QEB B@LKL J F@ >MMOL>@E @>K ?B > RPBCRI T>V QL >K>IVWB >KA RKABOP>KA QEB QO>ABLCCP LC B@LKL J F@ AB@FPFLK 3L >MMOB@F>QB QEFP MLFKQ F J >DFKB CLO > J L J BKQ QE>Q VLR >OB MI>VFKD ?>PHBQ?>II AOF?>?IFKD QL QEB OFDEQ >KA QEOLTFKD > ?LRK@B M>PP QL QEB IBCQ QL > QB> J J >QB TEL FP ORKKFKD QLT>OA QEB ?>PHBQ MEVVP@FPQ LO BKDFKBBO @LRIA TLOH LRQ QEB @LQOB@Q PMBBA >KA QO>GB@QLOV CLO QEB M>PP DFSBK QEB AFCCBOBKQ J LSB J BKQP FKSLISBA >KA QEB TBFDEQ >KA ?LRK@FKBPP LC QEB ?>II ' L TBSBO TEBK VLR >OB MI>VFKD ?>PHBQ?>II VLR AL KLQ MBOCLO J >KV LC QEBPB @>I@RI>QFLK 8LR GRPQ M>PP QEB ?>II >KA FC VLR >OB > DLLA MI>VBO VLR TFII AL PL TFQE EFDE @>@RO>@V

2L J BLKB J FDEQ >ODRB e3EB P@FBKQFPQdP CLO J RI> LC QEB ?LRK@B M>PP OBNRFOB > C>O DOB>QBO HKL TIBADB LC MEVVP@P >KA C>O J LOB PMB@FCF@ FKLO J >QFLK >?LRQ PMBBAP LC J LSB J BKQ >KA TBFDEQ QE>K QEB ?>PHBQ?>II MI>VBO >@QR>IIV E>P PL FQ J RPQ ?B >K RKOB>IFPQF@ ABP@OFM@FLK LC ELT ?>PHBQ?>II M>PPBP >@QR>IIV L@>RO f 3EFP OB>@QFLK TLRIA ?B TOLKDEB>ABA 3EB C>@Q QE>Q > DLLA MI>VBO @>K QEOLT QEB ?>II >@>RO>QBIV ?B@>RPB LC MO>@F@B >KA PHFII TFQELRQ J >HFKD > MEVVP@P @>I@RI>QFLK ALBP KLQ J B>K QE>Q QEB MEVVP@P @>I@RI>QFLK FP TOLKD

2F J FI>OIV COL J >K B@LKL J F@ MLFKQ LC SFBT PL J BLKB TEL PELMP CLO DOL@BOFBP BSOV TBBH E>P > DOB>Q AB>I LC MO>@QF@B TFQE ELT QL MRO@E>PB QEB @L J ?FK>QFLK LC DLLAP QE>Q TFII MOLSFAB QE>Q MBOPLK TFQE RQFIFQV BSBK FC QEB PELMMBO ALBP KLQ MEO>PB AB@FPFLK FK QBO J P LC > ?RADBQ @LKPQO>FKQ &LSBOK J BKQ FKPQFQRQFLK J >V TLOH F J MBOCB@QIV >KA PILTIV ?RQ FK DBKBO>I > AB J L@>QF@ CLO J LC DLSBOK J BKQ CBBIP MOBPPROB COL J SLQBOP >KA PL@F>I FKPQFQRQFLK QL J >HB QEB @ELF@BP QE>Q >OB J LPQ TFABIV MBOCB00BA ?V MBLMIB FK QE>Q PL@FBQV 3ERP TEBK QEFKHFKD >?LRQ QEB B@LKL J F@ >@QFLK LC DOLRMP LC MBLMIB CFO J P >KA PL@FBQV FQ FP OB>PLK>?IB >P > CFOPQ >MMOLUF J >QFLK QL >K>IVWB QEB J TFQE QEB QLLIP LC B@LKL J F@ >K>IVPFP %LO J LOB LK QEFP OB>A >?LRQ ?BE>SFLQ>I B@LKL J F@P FK QEB @E>M@B0 LK BAFH@8E ;B<68F ;GGC 6AK BE: 6BAG8AG @ ?4G8FG

## +86BA7 ' 5=86G<BA (8BC?8 <E@F 4A7 +B6<8GL +;BH?7 &BG 6G , ; <F / 4L

3EB B@LKL J F@ >MMOL>@E MLOQO>VP MBLMIB >P PBIC FKQBOBPBA %LO PL J B @OFQF@P LC QEFP >MMOL>@E BSBK FC PBIC FKQBOBPQ FP >K >@>RO>QB ABP@OFM@FLK LC ELT MBLMIB ?BE>SB QEBPB ?BE>SFLQ >OB KLQ J LO>I (KQP>A QEB @OFQF@P >ODRB QE>Q MBLMIB



PELRIA ?B Q>RDEQ QL @>OB J LOB ABBMIV >?LRQ LQEBOP \$@LKL J FPQP LCCBO PBSBO>I >KPTBOP QL QEBPB @LK@BOKP

%FOPQ B@LKL JF@P FP KLQ > CLO J LC J LO>I FKPQOR@QFLK 1>QEBO FQ PBBHP QL ABP@OF?B B@LKL JF@ ?BE>SFL0 >P FQ >@QR>IIV  
BUFPQP /EFILPLMEBOP AO>T > AFPQFK@QFLK ?BQTBBK **positive statements** TEF@E ABP@OF?B QEB TLOIA >P FQ FP >KA **normative  
statements** TEF@E ABP@OF?B ELT QEB TLOIA PELRIA ?B /LPPQFSB PQ>QB J BKQP >OB C>@QR>I 3EBV J >V ?B QORB LO C>IPB  
?RQ TB @>K QBP QEB J >Q IB>PQ FK MOFK@FMIB - LO J >QFSB PQ>QB J BKQP >OB PR?GB@QFSB NRBPPQLKP LC LMFKFLK 6B @>KKLQ QBPQ  
QEB J PFK@B TB @>KKLQ MOLS LMFKFLK QL ?B QORB LO C>IPB 3EBV GRPQ >OB LMFKFLK ?>PBA LK LKB P S>IRBP %LO BU> J MIB  
>K B@LKL JFPQ @LRIA >K>IVWB > MOLMLPBA PR?T>V PVPQJ J FK > @BO>FK @FV (C QEB BUMB@QBA ?BKBCFP BU@BBA QEB @LPQP  
EB @LK@IRABP QE>Q QEB MOLGB@Q FP TLOQEV b >K BU> J MIB LC MLPPQFSB >K>IVPFP KLQEB0 B@LKL JFPQ >ODRBP CLO BUQBKABA  
RKB J MILV J BKQ @L J MBKP>QFLK AROFKD QEB &OB>Q #BMOBPPFLK ?B@>RPB > OF@E @LRKQOV IFHB QEB 4KFQBA 2Q>QBP PELRIA Q>HB  
>OB LC FQP IBPP CLOQRK>QB @FQFBKP b >K BU> J MIB LC KLO J >QFSB >K>IVPFP

\$SBK FC QEB IFKB ?BQTBBK MLPPQFSB >KA KLO J >QFSB PQ>QB J BKQP FP KLQ >IT>VP @OVPQ>I @IB>0 B@LKL JF@ >K>IVPFP ALBP QOV QL  
OB J >FK OLLQBA FK QEB PQRV LC QEB >@QR>I MBLMIB TEL FKE>?FQ QEB >@QR>I B@LKL J V %LOQRK>QBIV ELTBSBO QEB >PPR J MQFLK  
QE>Q FKAFSFAR>IP >OB MROBIV PBIC FKQBOPQBA FP > PF J MIFCF>QFLK >?LRQ ER J >K K>QROB (K C>@Q TB KBBA QL ILLH KL CROQEBO  
QE>K QL A>J 2 J FQE QEB SBOV C>QEBO LC J LABOK B@LKL JF@P QL CFKA BSFABK@B LC QEFP 3EB LMBKFKD PBKQBK@B LC EFP ?LLH  
*The Theory of Moral Sentiments* MRQP FQ SBOV @IB>OIV e ' LT PBICPE PLBSBO J >K J >V ?B PRMMLPBA QEB0B >OB BSFABKQV  
PL J B MOFK@FMIBP FK EFP K>QROB TEF@E FKQBOPQ EF J FK QEB CLOQRKB LC LQEBOP >KA OBKABO QEBFO E>MMEKBPB KB@BPP>OV QL EF J  
QELRDE EB ABOFSBP KLQEFKD COL J FQ BU@BMQ QEB MIB>PROB LC PBBFKD FQ f " IB>OIV FKAFSFAR>IP >OB ?LQE PBIC FKQBOPQBA >KA  
>IQORFPQ@

2B@LKA TB @>K I>?BI PBIC FKQBOPQBA ?BE>SFL0 >KA MOLCFQ PBBHFKD TFQE LQEB0 K>JBP PR@E >P MBOPLK>I @ELF@B >KA  
COBBAL J 3EB >?FIFV QL J >HB MBOPLK>I @ELF@BP >?LRQ ?RVFKD TLOHFKD >KA P>SEKD FP >K F J MLOQ>KQ MBOPLK>I COBBAL J  
2L J B MBLMIB J >V @ELLPB EFDE MOPBPROB EFDE M>VFKD GL?P PL QE>Q QEBV @>K B>OK >KA PMBKA @LKPFB0>?IB > J LRKQP LC  
J LKVB LK QEB J PBISBP . QEBOP J >V >IIL@>QB I>ODB MLQFLKP LC QEBFO B>OKFKDP QL @E>OFV LO PMBKA FQ LK QEBFO COFBKAP >KA  
C> J FIV . QEBOP J >V ABSLQB QEB J PBISBP QL > @>OBBO QE>Q @>K OBNRFOB J R@E QF J B BKBODV >KA BUMBOQFPB ?RQ ALBP KLQ LCCBO  
EFDE CFK>K@F>I OBT>OAP IFHB ?BFKD >K BIB J BKQ>OV P@ELLI QB>EBO LO > PL@F>I TLOHBO 2QFII LQEBOP J >V @ELLPB > GL? QE>Q  
ALBP @LKPR J B J R@E LC QEBFO QF J B LO MOLSAB > EFDE IBSBI LC FK@L J B ?RQ PQFII IB>SBP QF J B CLO C> J FIV COFBKAP >KA  
@LKQB J MI>QFLK 2L J B MBLMIB J >V MOCBO QL TLOH CLO > I>ODB @L J M>KV LQEBOP J FDEQ T>KQ QL PQ>OQ QEBFO LTK ?RPFKBP  
/BLMIB@ COBBAL J QL J >HB QEBFO LTK B@LKL JF@ @ELF@BP E>P > J LO>I S>IRB TLOQE OBPMB@QFKD

# Clear It Up

## IF 4 7<4 : E4@ 5L 4AL BG ; 8E A4@8 G ; 8 F4@8

7 EBK VLR PQRV B@LKL JF@P VLR J >V CBBI ?R@FBA RKABO >K >S>I>K@EB LC AF>D0>J P 9LRO DL>I PELRIA ?B QL  
OB@LDK@WB QEB @L J J LK RKABOIVFKD ILDF@ >KA M>QQBOK LC QEB AF>D0>J P KLQ QL J B J LOFWB B>@E LKB

4EFP @E>M@B0 RBPB LKIV LKB ?>PF@ AF>D0>J >IQELRDE TB MOPBPKQ FQ TFQE AFCCBOBKQ PBQP LC I>?BIP 4EB  
@LKPR J MQFLK ?RADBQ @LKPQO>FKQ >KA QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO CLO PL@FBQV >P > TELIB >OB QEB P>J B  
?>PF@ AF>D0>J <:HE8 PELTP >K FKAFSFAR>I ?RADBQ @LKPQO>FKQ >KA > MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO CLO QTL  
DLLAP 'LLA >KA 'LLA 4EB QO>ABLCC AF>D0>J >IT>VP FIIRPQO>QBP QE0BB ?>PF@ QEB JBP P@>O@FV QO>ABLCCP  
>KA B@LKL JF@ BCCF@FBK@V

4EB CFOPQ QEB J B FP P@>O@FV )Q FP KLQ CB>PF?IB QL E>SB RKIF J FQBA > J LRKQP LC ?LQE DLLAP %SBK FC QEB ?RADBQ  
@LKPQO>FKQ LO > O@& PERQP P@>O@FV OB J >FKP \_ GRPQ >Q > AFCCBOBKQ IBSBI 4EB PB@LKA QEB J B FP QO>ABLCCP !P  
ABMF@QBA FK QEB ?RADBQ @LKPQO>FKQ LO QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO FQ FP KB@BPP>OV QL CLODL PL J B LC LKB  
DLLA QL D>FK J LOB LC QEB LQEB0 DLLA 4EB ABQ>FIP LC QEFP QO>ABLCC S>OV )K > ?RADBQ @LKPQO>FKQ TB ABQO J FKB  
QEB QO>ABLCC FP ABQO J FKB ?V QEB OBI>QFSB MOF@BP LC QEB DLLAP QE>Q FP QEB OBI>QFSB MOF@B LC QTL DLLAP FK QEB  
@LKPR J MQFLK @ELF@B ?RADBQ @LKPQO>FKQ 4EBPB QO>ABLCCP >MMB>0 >P > PQO>FDEQ IFKB (LTBSBO > @ROSBA IFKB  
OBMOPBPKQ QEB QO>ABLCCP FK J >KV MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO ?B@>RPB QEB I>T LC AF J FK@PEFKD OBQROKP ELIAP  
QE>Q >P TB >AA OBPLRO@BP QL >K >OB> QEB J >ODFK>I D>FKP QBKA QL AF J FK@PE 2BD>OAIAPP LC QEB PMB@F@F@ PE>MB  
QO>ABLCCP OB J >FK

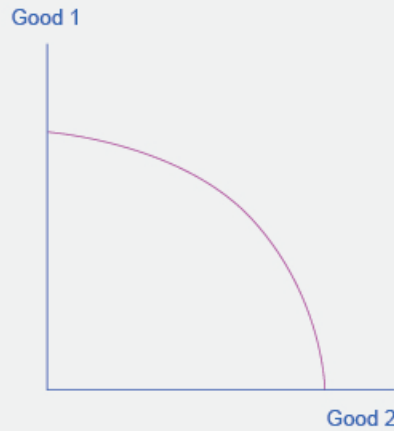
4EB QEFOA QEB J B FP B@LKL JF@ BCCF@FBK@V LO DBQFKD QEB J LPQ ?BKBCFQ COL J P@>O@B OBPLRO@BP !II @ELF@BP LK QEB  
MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO PELT MOLAR@QFSB BCCF@FBK@V ?B@>RPB FK PR@E @>PBP QEB0B FP KL T>V QL FK@OB>PB  
QEB NR>KQFV LC LKB DLLA TFQELRQ AB@OB>PFKD QEB NR>KQFV LC QEB LQEB0 3F J FI>OIV TEBK >K FKAFSFAR>I J >HBP >

@ELF@B >ILKD > ?RADBQ @LKPQ>FKQ QEBQB FP KL T>V QL FK@OB>PB QEB NR>KQFV LC LKB DLLA TFQELRQ AB@OB>PFKD QEB NR>KQFV LC QEB LQEBQ 4EB @ELF@B LK > MOLAR@QFLK MLPPF?FIFQFBP PBQ QE>Q FP PL@F>IIV MOBCB00BA LO QEB @ELF@B LK >K FKAFSFAR>I@P ?RADBQ @LKPQ>FKQ QE>Q FP MBOPLK>IIV MOBCB00BA TFII AFPMI>V >IIL@>QFSB BCCF@FBK@V

4EB ?>PF@ ?RADBQ @LKPQ>FKQ MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO AF>DO> J TFII OB@RO QEOLRDELQ QEFQ ?LLH 3LJB BU>J MIBP FK@IRAB RPFKD QEBPB QO>ABLCC AF>DO> J P QL >K>IVWB QO>AB BKS@OLK JBKQ>I MOLQB@QFLK >KA B@LKL JF@ LRQMRQ BNR>IFQV LC FK@L JBP >KA B@LKL JF@ LRQMRQ >KA QEB J>@OLB@LKL JF@ QO>ABLCC ?BQTTBBK @LKPJ MQFLK >KA FKSBBPQ JBKQ \$L KLQ >IILT QEB AFCCB0BKQ I>?BIP QL @LKP@VLR 4EB ?RADBQ @LKPQ>FKQ MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO AF>DO> J FP >IT>VP @RPQ >QLLI CLO QEFKHKFD @>OBCRIIV ?>LRQ P@>0@FV QO>ABLCCP >KA BCCF@FBK@V FK > M>OQ@F@RI>O PFRQ>QFLK



(a) An individual opportunity set



(b) A social production possibilities frontier

<:HE8 , ;8 ,E478B99 <4:E4@ " LQE QEB FKAFSFAR>I LMLLQ@RKQFV PBQ LO ?RADBQ @LKPQ>FKQ >KA QEB PL@F>I MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO PELT QEB @LKPQ>FKQ RKABO TEF@E FKAFSFAR>I @LKPJ BOP >KA PL@FBQV >P > TELIB LMBQ>QB " LQE AF>DO> J P PELT QEB QO>ABLCC FK @ELLPFKD J LOB LC LKB DLLA >Q QEB @LPQ LC IBPP LC QEB LQEBQ

3EFOA PBIC FKQB0BPQBA ?BE>S@LO @>K IB>A QL MLPPF@FSB PL@F>I OBPRIQP %LO BU>J MIBP TEBK MBLMIB TLOH E>OA QL J>HB > IFSFKD QEBV @OB>QB B@LKL JF@ LRQMRQ " LKPR J BOP TEL >OB ILLHFKD CLO QEB ?BPQ AB>IP TFII BK@LRO>DB ?RPFKBPPP QL LCCBO DLLAP >KA PBOSF@BP QE>Q JBBQ QEBFO KBBAP A>J 2 J FQE T@FQFKD FK *The Wealth of Nations* K>J BA QEFQ MOLMBOQV QEB **invisible hand** (K ABP@QF?FKD ELT @LKPJ BOP >KA MOLAR@BOP FKQBQ>@Q FK > J>OHBQ B@LKL J V 2 J FQE TOLQB

\$SBOV FKAFSFAR>I h DBKBO>IIV FKABBA KBFQEBQ FKQBKAP QL MOL J LQB QEB MR?IF@ FKQB0BPQ KLO HKLTP ELT J R@E EB FP MOL J LQFKD FQ !V MOBCB00FKD QEB PRMMLQ LC AL J BPQF@ QL QE>Q LC CLOBFDK FKARPQOV EB FKQBKAP LKIV EFP LTK PB@ROFQV >KA ?V AFOB@QFKD QE>Q FKARPQOV FK PR@E > J>KKBO >P FQP MOLAR@B J >V ?B LC QEB DOB>QBPQ S>IRB EB FKQBKAP LKIV EFP LTK D>FK KA EB FP FK QEFQ >P FK J>KV LQEBQ @>PBP IBA ?V >K FKSFPF?IB E>KA QL MOL J LQB >K BKA TEF@E T>P KL M>OQ LC EFP FKQBKQFLK h !V MROPRFKD EFP LTK FKQB0BPQ EB COBNRBKQIV MOL J LQBP QE>Q LC QEB PL@FBQV J LOB BCCB@QR>IIV QE>K TEBK EB OB>IIV FKQBKAP QL MOL J LQB FQ

3EB J BQ>MELO LC QEB FKSFPF?IB E>KA PRDDBQP QEB OB J >OH>?IB MLPPF?FIFQV QE>Q ?OL>ABO PL@F>I DLLA @>K B J BODB COL J PBICFPE FKAFSFAR>I >@QFLK

%LROQE BSBK MBLMIB TEL CL@RP LK QEBFO LTK PBIC FKQB0BPQ FK QEB B@LKL JF@ M>OQ LC QEBFO IFCB LCQBK PBQ >PFAB QEBFO LTK K>OOL T PBIC FKQB0BPQ FK LQEBQ M>OQP LC IFCB %LO BU>J MIBP VLR J FDEQ CL@RP LK VLRO LTK PBIC FKQB0BPQ TEBK >PHFKD VLRO B J MILVBO CLO > O>FPB LO KBDLQF>QFKD QL ?RV > @>O 3EBK VLR J FDEQ QROK >OLRKA >KA CL@RP LK LQEBQ MBLMIB TEBK VLR SLIRKQBBO QL OB>A P@LOFBP >Q QEB IL@>I IF?>O>V EBIM > COFBKA J LSB QL > KBT >M>OQ JBKQ LO ALK>QB J LKBV QL > @E>OFQV 2BIC FKQB0BPQ FP > OB>PLK>?IB P@>OQFKD MLFKQ CLO >K>IVWFKD J >KV B@LKL JF@ AB@FPFLKP TFQELRQ KBBAFKD QL F J MIV QE>Q MBLMIB KBSBO AL >KVQEFKD QE>Q FP KLQ FK QEBFO LTK F J J BAF>QB PBIC FKQB0BPQ

# Bring it Home

;B<68F ,B / ;4G 8:E88

7 E>Q E>SB TB IB>OKBA 7 B HKLT QE>Q P@>0@FQV FJM>@QP >II QEB @ELF@BP TB J>HB !K B@LKL JFPQ JFDEQ >ODRB  
QE>Q MBLMIB AL KLQ L?Q>FK > ?>@EBILOaP LO J>PQBOaP ABD0BB ?B@>RPB QEBV AL KLQ E>SB QEB OBPLRO@BP QL J>HB  
QELPB @ELF@BP LO ?B@>RPB QEBFO FK@L JBP >OB QLL ILT >KA LO QEB MOF@B LC QEBPB ABD0BBP FP QLL EFDE ! ?>@EBILOaP  
LO > J>PQBOaP ABD0BB J>V KLQ ?B >S>FI>?IB FK QEBFO LMMLOQRKFQV PBQ

4EB MOF@B LC QEBPB ABD0BBP J>V ?B QLL EFDE KLQ LKIV ?B@>RPB QEB >@QR>I MOF@B @LIIBDB QRFQFLK >KA MBOE>MP  
OLL J >KA ?L>0A FP QLL EFDE !K B@LKL JFPQ JFDEQ >IPL P>V QE>Q CLO J>KV MBLMIB QEB CRH LMMLOQRKFQV @LPQ LC >  
?>@EBILOaP LO > J>PQBOaP ABD0BB FP QLL EFDE &LO QEBPB MBLMIB QEBV >OB RKTFFHFKD LO RK>?IB QL J>HB QEB QO>ABLCC  
LC CLOCBFQFKD VB>OP LC TLOHFKD >KA B>OKFKD >K FK@L J B QL B>OK > ABD0BB

&fk>IIV QEB PQ>QFPQ@P TB FKQOLAR@BA >Q QEB PQ>OQ LC QEB @E>M@B0 OBSB>I FK CLO J>QFLK >?LRQ FKQBOQB J MLO>I @ELF@BP  
!K B@LKL JFPQ JFDEQ P>V QE>Q MBLMIB @ELLPB KLQ QL L?Q>FK > @LIIBDB ABD0BB ?B@>RPB QEBV J>V E>SB QL ?L00LT  
J LKBV QL >QQBKA @LIIBDB >KA QEB FKQBOBPQ QEBV E>SB QL M>V LK QE>Q IL>K FK QEB CRQROB TFH >CCB@Q QEBFO AB@FPFLKP  
QLA>V !IPL FQ @LRIA ?B QE>Q PL J B MBLMIB E>SB > MOBCBOBK@B CLO @R00BKQ @LKPR J MQFLK LSBO CRQROB @LKPR J MQFLK  
PL QEBV @ELLPB QL TLOH KLT >Q > ILTBO P>I>OV >KA @LKPR J B KLT O>QEBO QE>K MLPQMLKFKD QE>Q @LKPR J MQFLK  
RKQFI >CQBO QEBV DO>AR>QB @LIIBDB

# # 1 , \*%+

4??B64G<18 899<6<8A6L TEBK QEB J FU LC DLLAP MOLAR@BA OBM0BPBKQP QEB J FU QE>Q PL@FBQV J LPQ ABPFOBP

5H7 :8G 6BAFGE4<AG >II MLPPF?IB @LKPR J MQFLK @L J ?FK>QLKPC LC DLLAP QE>Q PL J BLKB @>K >CCL0A DFSBK QEB MOF@BP LC DLLAP TEBK >II FK@L J B FP PMBKQ QEB ?LRKA>0V LC QEB LMMLOQRKFQV PBQ

6B@C4E4G<18 4714A64 :8 TEBK > @LRKQOV @>K MOLAR@B > DLLA >Q > ILTB0 @LPQ FK QBO J P LC LQEBO DLLAP LO TEBK > @LRKQOV E>P > ILTB0 LMMLOQRKFQV @LPQ LC MOLAR@QFLK

<A1<F<5?8 ; 4A7 A> J 2 J FQE P @LK@BMQ QE>Q FKAFSFAR>IP PBIC FKQB0BPQBA ?BE>SFL0 @>K IB>A QL MLPFQFSB PL@F>I LRQ@L J BP

?4 J B9 7<@<A<F ; <A : @4E :<A4? HG<?<GL >P TB @LKPR J B J LOB LC > DLLA LO PBOSF@B QEB RQFIFQV TB DBQ COL J >AAFQFLK>I RKFQP LC QEB DLLA LO PBOSF@B QBKAP QL ?B@L J B P J >IIBO QE>K TE>Q TB OB@BFSBA COL J B>OIFBO RKFQP

?4 J B9 7<@<A<F ; <A : E8GHEAF >P TB >AA >AAFQFLK>I FK@OB J BKQP LC OBPLRO@BP QL MOLAR@FKD > DLLA LO PBOSF@B QEB J >ODFK>I ?BKBCFQ COL J QELPB >AAFQFLK>I FK@OB J BKQP TFII AB@IFKB

@4E :<A4? 4A4?LF<F BU> J FK>QFLK LC AB@FPFLKP LK QEB J >ODFK J B>KFKD > IFQQIB J LOB LO > IFQQIB IBPP COL J QEB PQ>QRP NRL

ABE@4G<18 F64G8@8AG PQ>QB J BKQ TEF@E ABP@OF?BP ELT QEB TLOIA PELRIA ?B

BCCBEGHA<GL 6BFG J B>PROBP @LPQ ?V TE>Q TB DFSB RM CLOCBFQ FK BU@E>KDB LMMLOQRKFQV @LPQ J B>PROBP QEB S>IRB LC QEB CLODLKB >IQBOK>QFSB

BCCBEGHA<GL F8G >II MLPPF?IB @L J ?FK>QLKPC LC @LKPR J MQFLK QE>Q PL J BLKB @>K >CCL0A DFSBK QEB MOF@BP LC DLLAP >KA QEB FKAFSFAR>IdP FK@L J B

CBF<G<18 F64G8@8AG PQ>QB J BKQ TEF@E ABP@OF?BP QEB TLOIA >P FQ FP

CEB7H6G<BA CBFF<5<?<G<8F 9EBAG<8E ( ( > AF>D0> J QE>Q PELTP QEB MOLAR@QFSBIV BCCF@FBKQ @L J ?FK>QLKPC LC QTL MOLAR@QP QE>Q >K B@LKL J V @>K MOLAR@B DFSBK QEB OBPLRO@BP FQ E>P >S>FI>?IB

CEB7H6G<18 899<6<8A6L TEBK FQ FP F J MLPPF?IB QL MOLAR@B J LOB LC LKB DLLA LO PBOSF@B TFQELRQ AB@OB>PFKD QEB NR>KQFQV MOLAR@BA LC >KLQEBO DLLA LO PBOSF@B

FHA> 6BFGF @LPQP QE>Q TB J >HB FK QEB M>PQ QE>Q TB @>KKLQ OB@LSBO

HG<?<GL P>QFPC>@QFLK RPBCRIKBPP LO S>IRB LKB L?Q>FKP COL J @LKPR J FKD DLLAP >KA PBOSF@BP

# # 1 ' & ( , + & + - % % \* 1

**BJ !A7<1<7H4?F %4>8 ; B<68F 4F87 BA , ;8<E H7 :8G BAFGE4<AG**

\$@LKL J FPQP PBB QEB OB>I TLOIA >P LKB LC P@>0@FV QE>Q FP > TLOIA FK TEF@E MBLMIBdP ABPFOBP BU@BBA TE>Q FP MLPPF?IB P > OBPRIQ B@LKL J F@ ?BE>SFL0 FKSLISBP QO>ABLCCP FK TEF@E FKAFSFAR>IP CFO J P >KA PL@FBQV J RPQ CLODL PL J BQEFKD QE>Q QEBV ABPFOB QL L?Q>FK QEFKDP QE>Q QEBV ABPFOB J LOB (KAFSFAR>IP C>@B QEB QO>ABLCC LC TE>Q NR>KQFQFBP LC DLLAP >KA PBOSF@BP QL @LKPR J B 3EB ?RADBQ @LKPQO>FKQ TEF@E FP QEB COLKQFBO LC QEB LMMLOQRKFQV PBQ FIIRPQO>QBP QEB O>KDB LC >S>FI>?IB @ELF@BP 3EB OBI>QFSB MOF@B LC QEB @ELF@BP ABQBO J FKBP QEB PILMB LC QEB ?RADBQ @LKPQO>FKQ " ELF@BP ?BVLKA QEB ?RADBQ @LKPQO>FKQ >OB KLQ >CCL0A>?IB

. MML0QRKFQV @LPQ J B>PROBP @LPQ ?V TE>Q TB CLODL FK BU@E>KDB 2L J BQF J BP TB @>K J B>PROB LMMLOQRKFQV @LPQ FK J LKBV ?RQ FQ FP LCQBK RPBCRI QL @LKPFABO QF J B >P TBII LO QL J B>PROB FQ FK QBO J P LC QEB >@QR>I OBPLRO@BP QE>Q TB J RPQ CLOCBFQ

, LPQ B@LKL J F@ AB@FPFLKP >KA QO>ABLCCP >OB KLQ >II LO KLQEFKD (KPQB>A QEBV FKSLISB J >ODFK>I >K>IVPFP TEF@E J B>KP QEBV >OB >?LRQ AB@FPFLKP LK QEB J >ODFK FKSLISFKD > IFQQIB J LOB LO > IFQQIB IBPP 3EB I>T LC AF J FKPFKFD J >ODFK>I RQFIFQV MLFKQP LRQ QE>Q >P > MBOPLK OB@BFSBP J LOB LC PL J BQEFKD b TEBQEBO FQ FP > PMB@FCF@ DLLA LO >KLQEBO OBPLRO@B b QEB

>AAFQFLK>I J >ODFK>I D>FKP QBKA QL ?B@L J B P J >IIBO !B@>RBP PRKH @LPQP L@>R00BA FK QEB M>PQ >KA @>KKLQ ?B OB@LSBOBA QEBV PELRIA ?B AFPOBD>0ABA FK J >HFKD @R00BKQ AB@FPFLKP

, ; 8 (EB7H6@BA (BFF<5?<@<8F EBAG<8E 4A7 +B6<4? ;B<68F

MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO ABCFKBP QEB PBQ LC @ELF@BP PL@FBQV C>@BP CLO QEB @L J ?FK>QFLKP LC DLLAP >KA PBO SF@BP FQ @>K MOLAR@B DFBK QEB OBPLR0@BP >S>FI>?IB 3EB PE>MB LC QEB // % FP QVMF@>IIV @ROSBA LRQT>0A 0>QEB0 QE>K PQ0>FDEQ " ELF@BP LRQPFAB QEB // % >OB RK>QQ>FK>?IB >KA @ELF@BP FKPFBAB QEB // % >OB T>PQBCRI . SBO QF J B >DOL TFKD B@LKL J V TFII QBKA QL PEFCQ QEB // % LRQT>0AP

3EB I>T LC AF J FKFPEFKD OBQROKP ELIAP QE>Q >P FK@OB J BKQP LC >AAFQFLK>I OBPLR0@BP >OB ABSLQBA QL MOLAR@FKD PL J BQEFKD QEB J >ODFK>I FK@OB>PB FK LRQMRQ TFII ?B@L J B FK@OB>PFKDIV P J >IIBO II @ELF@BP >ILKD >MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO AFPMI>V MOLAR@QFSB BCCF@FBK@V QE>Q FP FQ FP F J MLPPF?IB QL RPB PL@FBQVdP OBPLR0@BP QL MOLAR@B J LOB LC LKB DLLA TFQELRQ AB@OB>PFKD MOLAR@QFLK LC QEB LQEBO DLLA 3EB PMB@FCF@ @ELF@B >ILKD >MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO QE>Q OBCIB@QP QEB J FU LC DLLAP PL@FBQV MOBQBOP FP QEB @ELF@B TFQE >IIL@>QFSB BCCF@FBK@V 3EB @ROS>QROB LC QEB // % FP IFHBIV QL AFCCBO ?V @LRKQOV TEF@E OBPRIQP FK AFCCBOBKQ @LRKQOFBP E>SFKD @L J M>0>QFSB >AS>KQ>DB FK AFCCBOBKQ DLLAP 3LQ>I MOLAR@QFLK @>K FK@OB>PB FC @LRKQOFBP PMB@F>IFWB FK QEB DLLAP FK TEF@E QEBV E>SB @L J M>0>QFSB >AS>KQ>DB >KA Q0>AB PL J B LC QEBFO MOLAR@QFLK CLO QEB OB J >FKFKD DLLAP

BA@EBAG<A: '5-86@BAF @B @;8 6BAB@<6 CCEB46;

3EB B@LKL J F@ T>V LC QEFKHKFD MOLSFABP >RBPBCRI >MMOL>@E QL RKABOPQ>KAFKD ER J >K ?BE>SFL0 \$@LKL J FPQP J >HB QEB @>OBCRI AFPQFK@QFLK ?BQTTBBK MLPPFQFSB PQ>QB J BKQP TEF@E ABP@OF?B QEB TLOIA >P FQ FP >KA KLO J >QFSB PQ>QB J BKQP TEF@E ABP@OF?B ELT QEB TLOIA PELRIA ?B \$SBK TEBK B@LKL J F@P >K>IVWBP QEB D>FKP >KA ILPPBP COL J S>OFLRP BSBKQP LO MLIF@FBP >KA QERP AO>TP KLO J >QFSB @LK@IRPFLK >?LRQ ELT QEB TLOIA PELRIA ?B QEB >K>IVWBP LC B@LKL J F@P FP OLLQBA FK >MLPPFQFSB >K>IVWBP LC ELT MBLMIB CFO J P >KA DLSBOK J BKQP >@QR>IIV ?BE>SB KLQ ELT QEBV PELRIA ?BE>SB

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2RMMLPB IMELKPLdP QLTK 0>FPBA QEB MOF@B LC ?RP QF@HQB QL MBO QOFM TEFIB QEB MOF@B LC ?RODBOP PQ>VBA >Q >KA EFP ?RADBQ OB J >FKBA MBO TBBH #0>T IMELKPLdP KBT ?RADBQ @LKPQ0>FKQ 6 E>Q E>MMBKP QL QEB LMML0QRKFQV @LPQ LC ?RP QF@HQB

1BQROK QL QEB BU>J MIB FK <:HE8 2RMMLPB QEB0B FP >K F J MOLSB J BKQ FK J BAF@>I QB@EKLILDV QE>Q BK>?IBP J LOB EB>IQE@>OB TFQE QEB P> J B > J LRKQ LC OBPLR0@BP ' LT TLRIA QEFP >CCB@Q QEB MOLAR@QFLK MLPPF?FIFQFBP @ROSB >KA FK M>0QF@RI>0 ELT TLRIA FQ >CCB@Q QEB LMML0QRKFQV @LPQ LC BAR@>QFLK

" LRIA >K>QFLK ?B MOLAR@FKD FK > T>V QE>Q FP >IIL@>QFSBIV BCCF@FBKQ ?RQ MOLAR@QFSBIV FK BCCF@FBKQ

6 E>Q >OB QEB PF J FI>OFQFBP ?BQTTBBK >@LKPR J B0dP ?RADBQ @LKPQ0>FKQ >KA PL@FBQVdP MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO KLQ GRPQ DO>MEF@>IIV ?RQ >K>IVQF@>IIV

(KAFSFAR>IP J >V KLQ >@Q FK QEB 0>QFLK>I @>I@RI>QFKD T>V ABP@OF?BA ?V QEB B@LKL J F@ J LABI LC AB@FPFLK J >HFKD J B>PROFKD RQFIFQV >KA @LPQP >Q QEB J >ODFK ?RQ @>K VLR J >HB >@>PB QE>Q QEBV ?BE>SB >MMOLUF J >QBIV QE>Q T>V

6 LRIA >K LM BA MFB@B FK > KBTMP>MBO RODFKD QEB >ALMQFLK LC > M>0QF@RI>0 B@LKL J F@ MLIF@V ?B >MLPPFQFSB LO KLO J >QFSB PQ>QB J BKQ

6 LRIA >OBPB>0@E PQRAV LK QEB BCCB@QP LC PLCQ AOFKH @LKPR J MQFLK LK @EFIAOBKdP @LDKQFQFSB ABSBILM J BKQ ?B >MLPPFQFSB LO KLO J >QFSB PQ>QB J BKQ

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\$UMI>FK TEV P@>0@FQV IB>AP QL Q0>ABLCCP

6 E>Q FP @L J M>0>QFSB >AS>KQ>DB

\$UMI>FK TEV FKAFFAR>IP J >HB @ELF@BP QE>Q >OB AF0B@QIV LK QEB ?RADBQ @LKPQ0>FKQ 0>QEB0 QE>K FKPFBAB QEB ?RADBQ @LKPQ0>FKQ LO LRQPFAB FQ

6 E>Q ALBP >MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO FIIRPQ0>QB

6 EV FP > MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO QVMF@>IIV  
AO>TK >P > @ROSB 0>QEBO QE>K > PQ>FDEQ IFKB

\$UMI>FK TEV PL@FBQFBP @>KKLQ J >HB > @ELF@B >?LSB  
QEBFO MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO >KA PELRIA KLQ  
J >HB > @ELF@B ?BILT FQ

6 E>Q >OB AF J FKPFEPKD J >ODFK>I OBQROKP

6 E>Q FP MOLAR@QFSB BCCF@FBK@V IIL@>QFSB  
BCCF@FBK@V

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2RMMLPB IMELKPLdP QLTk 0>FPBP QEB MOF@B LC ?RP  
QF@HBQP COL J QL >KA QEB MOF@B LC ?RODBOP OFPBP  
COL J QL 6 EV FP QEB LMMLOQRKFQV @LPQ LC ?RP QF@HBQP  
RK@E>KDBA 2RMMLPB IMELKPLdP TBBHIV PMBKAFKD  
J LKBV FK@OB>PBP COL J QL 'LT FP EFP ?RADBQ  
@LKPQO>FKQ >CCB@QBA COL J >II QEOBB @E>KDBP \$UMI>FK

#ROFKD QEB 2B@LKA 6 LOIA 6>0 &B0 J >KVdP  
C>@QLOFBP TBOB AB@FJ >QBA (Q >IPL PRCCBOBA J >KV ER J >K  
>PR>IQFBP ?LQE PLIAFBOP >KA @FSFIF>KP 'LT AFA QEB T>0  
>CCB@Q &B0 J >KVdP MOLAR@QFLK MLPPF?FIFQFBP @ROSB

(\* ' \$ %+

4PB QEFB FKCL0J >QFLK QL >KPTBO QEB CLILTFKD  
NRBPQFLKP , >OFB E>P > TBBHIV ?RADBQ LC TEF@E PEB  
IFHBP QL PMBKA LK J >D>WFKBP >KA MFBP

(C QEB MOF@B LC > J >D>WFKB FP B>@E TE>Q FP  
QEB J >UF J R J KR J ?BO LC J >D>WFKBP PEB @LRIA ?RV FK >  
TBBH

(C QEB MOF@B LC > MFB FP TE>Q FP QEB J >UF J R J  
KR J ?BO LC MFBP PEB @LRIA ?RV FK > TBBH

6 E>Q FP QEB AFCCBOBK@B ?BQTBBK > MLPFQFSB >KA >  
KLO J >QFSB PQ>QB J BKQ

(P QEB B@LKL J F@ J LABI LC AB@FPFLK J >HFKD  
FKQBKABA >P > IFQBO>I ABP@OFMQFLK LC ELT FKAFSFAR>IP  
CFO J P >KA QEB DLSBOK J BKQP >@QR>IIV J >HB AB@FPFLK

6 E>Q >OB CLRO OBPMLKBPB QL QEB @I>F J QE>Q MBLMIB  
PELRIA KLQ ?BE>SB FK QEB T>V ABP@OF?BA FK QEFB @E>MQB0

(Q FP @IB>0 QE>Q MOLAR@QFSB FKBCCF@FBK@V FP > T>PQB  
PFK@B OBPLRO@BP >OB RPBA FK > T>V QE>Q MOLAR@BP IBPP  
DLLAP >KA PBOSE@BP QE>K > K>QFLK FP @>M>?IB LC 6 EV FP  
>IIL@>QFSB FKBCCF@FBK@V >IPL T>PQBCRI

6 E>Q >PPR J MQFLKP >?LRQ QEB B@LKL J V J RPQ ?B QORB  
CLO QEB FKSFPF?IB E>KA QL TLOH 3L TE>Q BUQBKQ >OB QELPB  
>PPR J MQFLKP S>IFA FK QEB OB>I TLOIA

#L B@LKL J FPQP E>SB >KV M>OQF@RI>0 BUMBOQFPB >Q  
J >HFKD KLO J >QFSB >ODR J BKQP (K LQEBO TLOAP QEBV E>SB  
BUMBOQFPB >Q J >HFKD MLPFQFSB PQ>QB J BKQP FB TE>Q *will*  
E>MMBK >?LRQ PL J B B@LKL J F@ MLIF@V CLO BU> J MIB ?RQ  
AL QEBV E>SB PMB@F>I BUMBOQFPB QL GRADB TEBQEBO LO KLQ  
QEB MLIF@V *should* ?B RKABOQ>HBK

#0>T , >OFBdP ?RADBQ @LKPQO>FKQ TFQE MFBP LK QEB  
ELOFWLQK>I >UFP >KA J >D>WFKBP LK QEB SBOQF@>I >UFP 6 E>Q  
FP QEB PILMB LC QEB ?RADBQ @LKPQO>FKQ

6 E>Q FP , >OFBdP LMMLOQRKFQV @LPQ LC MRO@E>PFKD >  
MFB

# N 8@4A7 4A7 +HCC?L



<:HEB 4E@8ERF %4E>8G / OD>Kf@ SBDBQ>?IBP >KA CORFQP QE>Q >OB DOLTK >KA PLIA TRFEFK > PMB@FCF@ DBLDO>MEF@>I  
0BDFLK PELRIA FK QEBLOV @LPQ IBPP QE>K @LKS BKQFLK>I MOLAR@B ?B@>RPB QEB QO>KPMLQO>QFLK @LPQP >OB IBPP 4E>Q FP KLQ  
ELTB SBO RPR>IIV QEB @>PB #0BAFQ - LAFcf@>QFLK LC TLOH ?V .>Q>IFB ->VKLO &IF@HO #OB>QFSB #LJ J LKP

## Bring it Home

/ ;L 4A / 8 &BG 8G ABH: ; B9 'E:4A<6

/ OD>Kf@ CLLA FP FK@OB>PFKDIV MLMRI>O KLQ GRPQ FK QEB 5KRQBA 3Q>QBP ?RQ TLOIATFAB !Q LKB QF JB @LKPR JBOP E>A  
QL DL QL PMB@F>IQV PQLQBP LO C>O JBOP J>OHBQP QL CFKA LOD>Kf@ MOLAR@B . LT FQ FP >S>FI>?IB FK J LPQ DOL@BOV PQLQBP  
)K PELOQ LOD>Kf@ FP M>OQ LC QEB J>FKPQOB>J

%SBO TLKABO TEV LOD>Kf@ CLLA @LPQP J LOB QE>K @LKS BKQFLK>I CLLA 7 EV P>V ALBP >K LOD>Kf@ &Rcf >MMIB @LPQ  
> MLRKA TEHIB FQP @LKS BKQFLK>I @LRKQBOM>OQ @LPQP > MLRKA 4EB P>JB MOF@B OBI>QFLKPEFM FP QORB CLO  
GRPQ >?LRQ BSBOV LOD>Kf@ MOLAR@Q LK QEB J>OHBQ )C J>KV LOD>Kf@ CLLAP >OB IL@>IIV DOLTK TLRIA QEBV KLQ Q>HB  
IBPP QF JB QL DBQ QL J>OHBQ >KA QEBOB CLOB ?B @EB>MBO 7 E>Q >OB QEB CLO@BP QE>Q HBBM QELPB MOF@BP COL J @L J FKD  
ALTK 4R0KP LRQ QELPB CLO@BP E>SB NRFQB > ?FQ QL AL TRFE QEFP @E>MQB0aP QLMF@ AB J>KA >KA PRMMIV

## !AGEB7H6G<BA GB 8@4A7 4A7 +HCC?L

(K QEFP @E>MQB0 VLR TFH IB>OK >?LRQ

- g #BJ>KA 2RMMIV >KA \$NRFIF?OFR J FK ,>OHBQP CLO &LLAP >KA 2BOSF@BP
- g 2EFCQP FK #BJ>KA >KA 2RMMIV CLO &LLAP >KA 2BOSF@BP
- g "E>KDBP FK \$NRFIF?OFR J /OF@B >KA OR>KQFQV 3EB %LRO 2QBM /OL@BPP

g /OF@B "BFIFKDP >KA /OF@B %ILLOP

K >R@QFLK ?FAABO M>VP QELRP>KAP LC ALII>OP CLO > AOBPP 6 EFQKBV 'LRPQLK TLOB @LIIB@QLO PMBKAP > P J >II CLOQRKB  
CLO > CBT AO>TFKDP ?V )LEK +BKKLK /BLMIB RPR>IIV OB>@Q QL MRO@E>PBP IFHB QEBPB FK QTL T>VP QEBFO C>T AOLMP ?B@>RPB  
QEBV QEFKH QEBPB >OB EFDE MOF@BP QL M>V CLO PR@E DLLAP LO QEBV QEFKH QEBPB >OB O>OB ABPFQ>?IB FQB J P >KA QEB > J LRKQ M>FA  
PBB J P OFDEQ

# Link It Up

6fFfQ QEFp TB?PfqB EQQM LMBKPQ>U@LIIBDB LOD I @BIB?>R@QFLK QL OB>A > IFPQ LC ?FW>OOb FqBJP QE>Q E>SB ?BBK  
MRO@E>PBA CLO QEBFO QfBP QL @BIB?OfqBP 4EBPB BU>J MIBP OBMObPBKQ >K FKQBOBPQfKD C>@BQ LC AB J >KA >KA PRMMIV

6 EBK B@LKL JFPQP Q>IH >?LRQ MOF@BP QEBV >OB IBPP FKQBOBPQBA FK J >HFKD GRAD J BKQP QE>K FK D>FKFKD > MO>@Qf@>I  
RKABOPQ>KAFKD LC TE>Q ABQBO J FKBP MOF@BP >KA TEV MOF@BP @E>KDB "LKPfABO > MOF@B J LPQ LC RP @LKBKA TfQE TBBHIV  
QE>Q LC > D>IILK LC D>P 6 EV T>P QEB >SBO>DB MOF@B LC D>PLIFKB FK QEB 4KfQBA 2Q>QBP MBO D>IILK FK )RKB  
6 EV AFA QEB MOF@B CLO D>PLIFKB C>II PE>OMIV QL MBO D>IILK ?V )>KR>OV 3L BUMI>FK QEBPB MOF@B J LSB J BKQP  
B@LKL J FPQP CL@RP LK QEB ABQBO J FK>KQP LC TE>Q D>PLIFKB ?RVBOP >OB TfHfKD QL M>V >KA TE>Q D>PLIFKB PBIIBOP >OB TfHfKD  
QL >@@BMQ

P FQ QROKP LRQ QEB MOF@B LC D>PLIFKB FK )RKB LC >KV DfSBK VB>O FP KB>OIV >IT>VP EFDEBO QE>K QEB MOF@B FK )>KR>OV LC QE>Q  
P>J B VB>O . SBO OB@BKQ AB@>ABP D>PLIFKB MOF@BP FK J fAPR J J BO E>SB >SBO>DBA >?LRQ @BKQP MBO D>IILK J LOB QE>K  
QEBFO J fATfKQBO ILT 3EB fHfBIV OB>PLK FP QE>Q MBLMIB AOfSB J LOB FK QEB PR J J BO >KA >OB >IPL TfHfKD QL M>V J LOB CLO  
D>P ?RQ QE>Q ALBP KLQ BUMI>FK ELT PqBBMIV D>P MOF@BP CBII . QEBQ C>@QLOP TBOB >Q TLOH AROfKD QELPB J LKQEP PR@E >P  
FK@OB>PBP FK PRMMIV >KA AB@OB>PBP FK QEB AB J >KA CLO @ORAB LfI

3EFP @E>MqBO FKQOLAR@BP QEB B@LKL Jf@ J LABI LC AB J >KA >KA PRMMIV b LKB LC QEB J LPQ MLTBOCRI J LABIP FK >II LC  
B@LKL J f@P 3EB AFP@RPfLK EBOB ?BDFKP ?V BU>J FKFKD ELT AB J >KA >KA PRMMIV ABQBO J FK B QEB MOF@B >KA QEB NR>KQfQV  
PLIA FK J >OHBQP CLO DLLAP >KA PBOsf@BP >KA ELT @E>KDBP FK AB J >KA >KA PRMMIV IB>A QL @E>KDBP FK MOF@BP >KA  
NR>KQfQfBP

## N 8@4A7 +HCC?L 4A7 DH<?<5E<H@ <A %4E>8GF 9BE BB7F 4A7 +8EI<68F

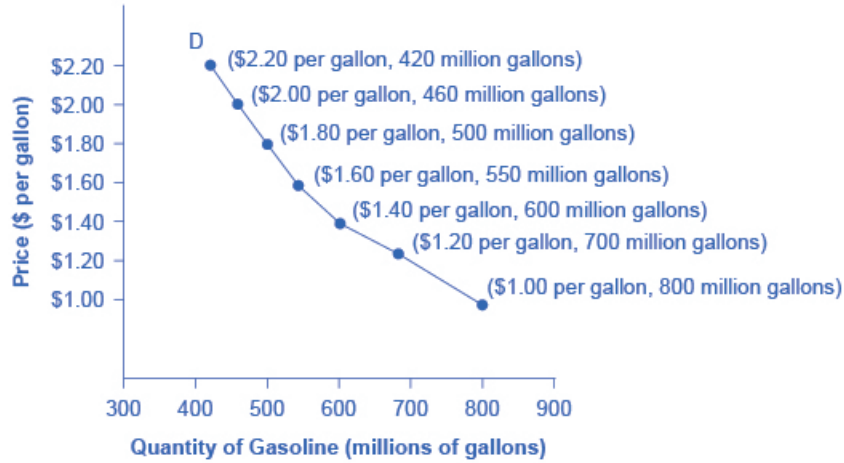
! V QEB BKA LC QEFp PB@QFLK VLR TfII ?B >?IB QL

- d \$UMI>FK AB J >KA NR>KQfQV AB J >KABA >KA QEB I>T LC AB J >KA
- d (ABKQfCV > AB J >KA @ROSB >KA > PRMMIV @ROSB
- d \$UMI>FK PRMMIV NR>KQfQV PRMMIFBA >KA QEB I>T LC PRMMIV
- d \$UMI>FK BNRfIF?OFR J BNRfIF?OFR J MOF@B >KA BNRfIF?OFR J NR>KQfQV

%FOPQ IBQdP CFOPQ CL@RP LK TE>Q B@LKL JFPQP J B>K ?V AB J >KA TE>Q QEBV J B>K ?V PRMMIV >KA QEBK ELT AB J >KA >KA  
PRMMIV FKQBO>@Q FK > J >OHBQ







<:HEB 8@4A7 HEI8 9BE 4FB?A8 4EB AB J>KA P@EBARIB PELTP QE>Q >P MOF@B OFPBP NR>KQFQV AB J>KABA AB@OB>PBP >KA SF@B SBOP> 7 B DO>ME QEBPB MLFKQP >KA QEB IFKB @LKKB@QFKD QEB J FP QEB AB J>KA @ROSB \$ 4EB ALTKT>0A PILMB LC QEB AB J>KA @ROSB >D>FK FIIRPQ>QBP QEB I>T LC AB J>KA \_ QEB FKSBOPB OBI>QFLKPEFM ?BQTBBK MOF@BP >KA NR>KQFQV AB J>KABA

#BJ>KA @ROSB TFII >MMB>0 PLJBTE>Q AFCCBOBKQ CLO B>@E MOLAR@Q 3EBV J>V >MMB>0 OBI>QFSBIV PQBBM LO CI>Q LO QEBV J>V ?B PQ>FDEQ LO @ROSBA - B>OIV >II AB J>KA @ROSB PE>OB QEB CRKA> JBKQ>I PF JFI>OFQV QE>Q QEBV PILMB ALTK COL J IBCQ QL OFDEQ #BJ>KA @ROSB BJ?LAV QEB I>T LC AB J>KA P QEB MOF@B FK@OB>PBP QEB NR>KQFQV AB J>KABA AB@OB>PBP >KA @LKSOPBIV >P QEB MOF@B AB@OB>PBP QEB NR>KQFQV AB J>KABA FK@OB>PBP

"LKCRPA >?LRQ QEBPB AFCCBOBKQ QVMBP LC AB J>KA 1B>A QEB KBUQ "IB>0 (Q 4M CB>QROB

# Clear It Up

!F 78@4A7 G; 8 F4@8 4F DH4AG<GL 78@4A787

JK B@LKL JF@ QBO JFKLILDV AB J>KA FP KLQ QEB P>JB >P NR>KQFQV AB J>KABA 7EBK B@LKL JFPQP Q>IH >?LRQ AB J>KA QEBV JB>K QEB OBI>QFLKPEFM ?BQTBBK > Q>KDB LC MOF@BP >KA QEB NR>KQFQV AB J>KABA >Q QELPB MOF@BP >P FIIRPQ>QBA ?V > AB J>KA @ROSB LO > AB J>KA P@EBARIB 7EBK B@LKL JFPQP Q>IH >?LRQ NR>KQFQV AB J>KABA QEBV JB>K LKIV > @BOQ>FK MLFKQ LK QEB AB J>KA @ROSB LO LKB NR>KQFQV LK QEB AB J>KA P@EBARIB JK PELOQ AB J>KA OBCBOP QL QEB @ROSB >KA NR>KQFQV AB J>KABA OBCBOP QL QEB PMB@FCF@ MLFKQ LK QEB @ROSB

## +HCC?L B9 BB7F 4A7 +8EI<68F

6EBK B@LKL JFPQP Q>IH >?LRQ **supply** QEBV JB>K QEB > JLRKQ LC PL JB DLLA LO PBOSF@B > MOLAR@BO FP TFIFKD QL PRMMIV >Q B>@E MOF@B /OF@B FP TE>Q QEB MOLAR@BO @BFSBP CLO PBIFKD LKB RKFQ LC > DLLA LO PBOSF@B OFPB FK MOF@B >I JLPQ >IT>VP IB>AP QL >K FK@OB>PB FK QEB **quantity supplied** LC QE>Q DLLA LO PBOSF@B TEFIB > C>II FK MOF@B TFII AB@OB>PB QEB NR>KQFQV PRMMIFBA 6EBK QEB MOF@B LC D>PLIFKB OFPBP CLO BU> J MIB FQ BK@LRO>DBP MOLCFQ PBBHFKD CFO J P QL Q>HB PBSBO>I >@QFLKP BUM>KA BUMILO>QFLK CLO LFI OBPBOSBP AOFII CLO J LOB LFI FKSBPQ FK J LOB MFMBIFKBP >KA LFI Q>KHBOP QL ?OFKD QEB LFI QL MI>KQP CLO OBCFKFKD FKQL D>PLIFKB ?RFIA KBT LFI OBCFKBOFBP MRO@E>PB >AAFQELK>I MFMBIFKBP >KA QOR@HP QL PEFM QEB D>PLIFKB QL D>P PQ>QFLKP >KA LMBK J LOB D>P PQ>QFLKP LO HBBM BUFPQFKD D>P PQ>QFLKP LMBK ILKDBO ELROP \$@LKL JFPQP @>II QEPF MLPFQFSB OBI>QFLKPEFM ?BQTBBK MOF@B >KA NR>KQFQV PRMMIFBA b QE>Q > EFDEBO MOF@B IB>AP QL > EFDEBO NR>KQFQV PRMMIFBA >KA > ILTBO MOF@B IB>AP QL > ILTBO NR>KQFQV PRMMIFBA b QEB **law of supply** 3EB I>T LC PRMMIV >PPR J BP QE>Q >II LQEBO S>OF>?IBP QE>Q >CCB@Q PRMMIV QL ?B BUMI>FKBA FK QEB KBUQ J LARIB >OB EBIA @LKPQ>KQ

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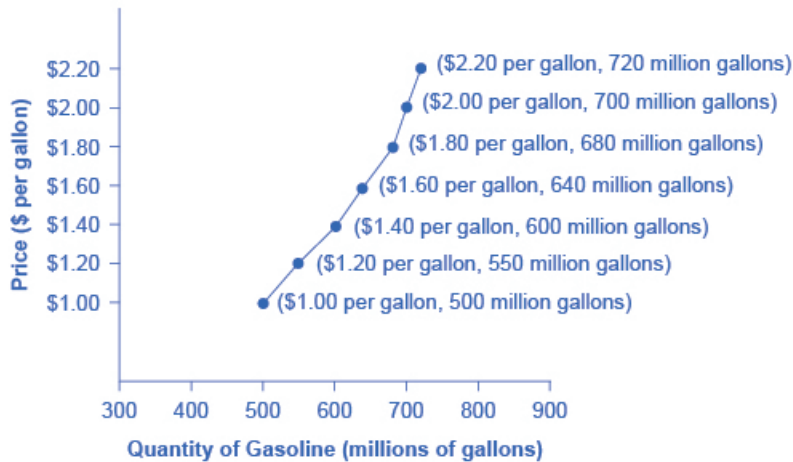
# Clear It Up



## !F FHCC?L G ; 8 F4@8 4F DH4AG<GL FHCC?<87

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<:HE8 FIIRPQO>QB QEB I>T LC PRMMIV >D>FK RPFKD QEB J>OHBQ CLO D>PLIFKB >P >K BU> J MIB +FHB AB J>KA TB @>K FIIRPQO>QB PRMMIV RPFKD > Q>?IB L0 > DO>ME **supply schedule** FP > Q>?IB IFHB ,45?8 QE>Q PELTP QEB NR>KQFQV PRMMIFBA >Q > O>KDB LC AFCCBOBKQ MOF@BP D>FK TB JB>PROB MOF@B FK ALII>OP MBO D>IILK LC D>PLIFKB >KA TB JB>PROB NR>KQFQV PRMMIFBA FK JFIILKP LC D>IILKP **supply curve** FP > DO>MEF@ FIIRPQO>QLK LC QEB OBI>QLKPEFM ?BQTBBK MOF@B PELTK LK QEB SBOQF@>I >UFP >KA NR>KQFQV PELTK LK QEB ELOFWLKQ>I >UFP 3EB PRMMIV P@EBARIB >KA QEB PRMMIV @ROSB >OB GRPQ QTL AFCCBOBKQ T>VP LC PELTFKD QEB P> JB FKLO J>QLK - LQF@B QE>Q QEB ELOFWLKQ>I >KA SBOQF@>I >UBP LK QEB DO>ME CLO QEB PRMMIV @ROSB >OB QEB P> JB >P CLO QEB AB J>KA @ROSB



<:HE8 +HCC?L HEI8 9BE 4FB?<A8 4EB PRMMIV P@EBARIB FP QEB Q>?IB QE>Q PELTP NR>KQFQV PRMMIFBA LC D>PLIFKB >Q B>E MOF@B !P MOF@B OFPBP NR>KQFQV PRMMIFBA >IPL FK@OB>PBP >KA Sf@B SBOP> 4EB PRMMIV @ROSB 3 FP @OB>QBA ?V DO>MEFKD QEB MLFKQP COL J QEB PRMMIV P@EBARIB >KA QEBK @LKKB@QFKD QEB J 4EB RMT>QA PILMB LC QEB PRMMIV @ROSB FIIRPQO>QB QEB I>T LC PRMMIV \_ QE>Q > EFDEBO MOF@B IB>AP QL > EFDEBO NR>KQFQV PRMMIFBA >KA Sf@B SBOP>

(E<68 C8E : 4??BA	) H4AG<GL +HCC?<87 @<??<BAF B9 : 4??BAF

,45?8 (E<68 4A7 +HCC?L B9 4FB?<A8

(E<68 C8E : 4??BA ) H4AG<GL +HCC?<87 @<??<BAF B9 : 4??BAF

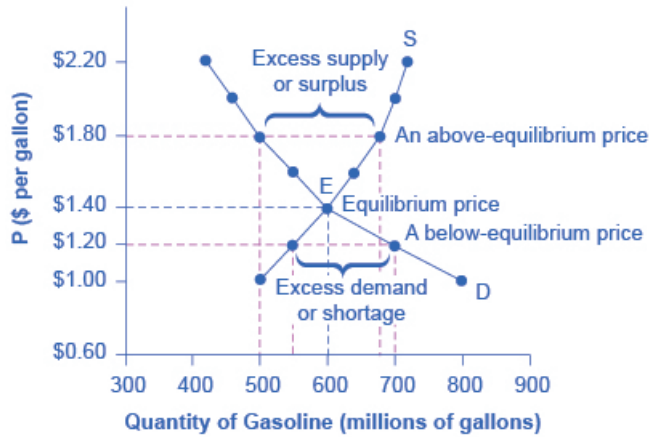
,45?8 (E<68 4A7 +HCC?<L B9 4FB?<A8

3EB PE>MB LC PRMMIV @ROSBP THII S>OV PL J BTE>Q >@@L0AFKD QL QEB MOLAR@Q PQBBMBO CI>QQB0 PQO>FDEQB0 LO @ROSB - B>OIV  
>II PRMMIV @ROSBP ELTBSB0 PE>OB > ?>PF@ PF J FI>OFQV QEBV PILMB RM COL J IBCQ QL OFDEQ >KA FIIRPQO>QB QEB I>T LC PRMMIV  
>P QEB MOF@B OFPBP P>V COL J MBO D>IILK QL MBO D>IILK QEB NR>KQFQV PRMMIFBA FK@OB>PBP COL J D>IILKP QL  
D>IILKP " LKSBOPBIV >P QEB MOF@B C>IIP QEB NR>KQFQV PRMMIFBA AB@OB>PBP

DH<?<5E<H@ Q / ;8E8 8@4A7 4A7 +HCC?<L !A68EF86G

! B@>RPB QEB DO>MEP CLO AB J >KA >KA PRMMIV @ROSBP ?LQE E>SB MOF@B LK QEB SBOQF@>I >UFP >KA NR>KQFQV LK QEB ELOFWLKQ>I  
>UFP QEB AB J >KA @ROSB >KA PRMMIV @ROSB CLO > M>OQF@RI>0 DLLA LO PBOF@B @>K >MMB>0 LK QEB P> J B DO>ME 3LDBQEBO  
AB J >KA >KA PRMMIV ABQBO J FKB QEB MOF@B >KA QEB NR>KQFQV QE>Q TFII ?B ?LRDEQ >KA PLIA FK > J >OHBQ

<: HE8 FIIRPQO>QBP QEB FKQBO>@QFLK LC AB J >KA >KA PRMMIV FK QEB J >OHBQ CLO D>PLIFKB 3EB AB J >KA @ROSB # FP  
FABKQF@>I QL <: HE8 3EB PRMMIV @ROSB 2 FP FABKQF@>I QL <: HE8 ,45?8 @LKQ>FKP QEB P> J B FKLO J >QFLK FK  
Q>?RI>0 CLO J



<: HE8 8@4A7 4A7 +HCC?<L 9BE 4FB?<A8 4EB AB J >KA @ROSB \$ >KA QEB PRMMIV @ROSB 3 FKQBPB@Q >Q QEB  
BNRFIF?OFR J MLFKQ % TFQE > MOF@B LC >KA > NR>KQFQV LC 4EB BNRHF?OFR J FP QEB LKIV MOF@B TEB0B NR>KQFQV  
AB J >KABA FP BNR>I QL NR>KQFQV PRMMIFBA !Q > MOF@B >?LSB BNRHF?OFR J IFHB NR>KQFQV PRMMIFBA BU@BBAP QEB  
NR>KQFQV AB J >KABA PL QEB0B FP BU@BPP PRMMIV !Q > MOF@B ?BILT BNRHF?OFR J PR@E >P NR>KQFQV AB J >KABA  
BU@BBAP NR>KQFQV PRMMIFBA PL QEB0B FP BU@BPP AB J >KA

(E<68 C8E : 4??BA ) H4AG<GL 78@4A787 @<??<BAF B9 : 4??BAF ) H4AG<GL FHCC?<87 @<??<BAF B9 : 4??BAF


,45?8 (E<68 ) H4AG<GL 8@4A787 4A7 ) H4AG<GL +HCC?<87

(E<68 C8E : 4??BA	) H4AG<GL 78@4A787 @<??<BAF B9 : 4??BAF	) H4AG<GL FHCC?<87 @<??<BAF B9 : 4??BAF

,45?8 (E<68 ) H4AG<GL 8@4A787 4A7 ) H4AG<GL +HCC?<87

1B J B J ?BO QEFP 6 EBK QTL IFKBP LK > AF>DO> J @OLPP QEFP FKQBOPB@QLK RPR>IIV J B>KP PL J BQEFKD 3EB MLFKQ TEBOB QEB PRMMIV @ROSB 2 >KA QEB AB J >KA @ROSB # @OLPP ABPFDK>QBA ?V MLFKQ \$ FK <:HE8 FP @>IIBA QEB **equilibrium** 3EB **equilibrium price** FP QEB LKIV MOF@B TEBOB QEB MI>KP LC @LKPR J BOP >KA QEB MI>KP LC MOLAR@BOP >DOBB b QE>Q FP TEBOB QEB > J LRKQ LC QEB MOLAR@Q @LKPR J BOP T>KQ QL ?RV NR>KQFQV AB J >KABA FP BNR>I QL QEB > J LRKQ MOLAR@BOP T>KQ QL PBII NR>KQFQV PRMMIFBA \$@LKL J FPQP @>II QEFP @L J J LK NR>KQFQV QEB **equilibrium quantity** Q >KV LQEBO MOF@B QEB NR>KQFQV AB J >KABA ALBP KLQ BNR>I QEB NR>KQFQV PRMMIFBA PL QEB J >OHBQ FP KLQ FK BNRIF?OFR J >Q QE>Q MOF@B

(K <:HE8 QEB BNRIF?OFR J MOF@B FP MBO D>IILK LC D>PLIFKB >KA QEB BNRIF?OFR J NR>KQFQV FP J FIIFLK D>IILKP (C VLR E>A LKIV QEB AB J >KA >KA PRMMIV P@EBARIBP >KA KLQ QEB DO>ME VLR @LRIA CFKA QEB BNRIF?OFR J ?V ILLHFKD CLO QEB MOF@B IBSBI LK QEB Q>?IBP TEBOB QEB NR>KQFQV AB J >KABA >KA QEB NR>KQFQV PRMMIFBA >OB BNR>I

3EB TLOA eBNRIF?OFR J f J B>KP e??I>K@B f (C > J>OHBQ FP >Q FQP BNRIF?OFR J MOF@B >KA NR>KQFQV QEBK FQ E>P KL OB>PLK QL J LSB >T>V COL J QE>Q MLFKQ 'LTBSBO FC > J>OHBQ FP KLQ >Q BNRIF?OFR J QEBK B@LKL J F@ MOBPPROBP >OFPB QL J LSB QEB J >OHBQ QL T>OA QEB BNRIF?OFR J MOF@B >KA QEB BNRIF?OFR J NR>KQFQV

(J >DFKB CLO BU>J MIB QE>Q QEB MOF@B LC >D>IILK LC D>PLIFKB T>P >?LSB QEB BNRIF?OFR J MOF@B b QE>Q FP FKPQB>A LC MBO D>IILK QEB MOF@B FP MBO D>IILK 3EB A>PEBA ELOFWLKQ>I IFKB >Q QEB MOF@B LC FK <:HE8 FIIRPQ>QBP QEFP >?LSB BNRIF?OFR J MOF@B Q QEFP EFDEBO MOF@B QEB NR>KQFQV AB J >KABA AOLMP COL J QL 3EFP AB@IFKB FK NR>KQFQV OBCIB@QP ELT @LKPR J BOP OB>@Q QL QEB EFDEBO MOF@B ?V CFKAFKD T>VP QL RPB IBPP D>PLIFKB

, LOBLSBO >Q QEFP EFDEBO MOF@B LC QEB NR>KQFQV LC D>PLIFKB PRMMIFBA OFPBP COL J QEB QL >P QEB EFDEBO MOF@B J >HBP FQ J LOB MOLCFQ>?IB CLO D>PLIFKB MOLAR@BOP QL BUM>KA QEBFO LRQMRQ -LT @LKPFAO ELT NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA >OB OBI>QBA >Q QEFP >?LSB BNRIF?OFR J MOF@B OR>KQFQV AB J >KABA E>P C>IIBK QL D>IILKP TEFIB NR>KQFQV PRMMIFBA E>P OFPBK QL D>IILKP (K C>@Q >Q >KV >?LSB BNRIF?OFR J MOF@B QEB NR>KQFQV PRMMIFBA BU@BBAP QEB NR>KQFQV AB J >KABA 6B @>II QEFP >K **excess supply** L0 > **surplus**

6 FQE > PROMIRP D>PLIFKB >@R J RI>QBP >Q D>P PQ>QLKP FK Q>KHBO QOR@HP FK MFMBIFKBP >KA >Q LFI OBCFKBOFBP 3EFP >@R J RI>QLK MRQP MOBPPROB LK D>PLIFKB PBIIBOP (C > PROMIRP OB J >FKP RKPLIA QELPB CFO J P FKSLISBA FK J >HEKD >KA PBIIFKD D>PLIFKB >OB KLQ OB@BFSFKD BKL RDE @>PE QL M>V QEBFO TLOHBOP >KA QL @LSBO QEBFO BUMBKPBP (K QEFP PFQR>QLK PL J B MOLAR@BOP >KA PBIIBOP TFII T>KQ QL @RQ MOF@BP ?B>RBP FQ FP ?BQQBO QL PBII >Q > ILTBO MOF@B QE>K KLQ QL PBII >Q >II .K@B PL J B PBIIBOP PQ>OQ @RQFKD MOF@BP LQEBOP TFII CLILT QL >SLFA ILPFKD P>IBP 3EBPB MOF@B OBAR@QLKP FK QROK TFII PQF J RI>QB > EFDEBO NR>KQFQV AB J >KABA 3EBOBCLOB FC QEB MOF@B FP >?LSB QEB BNRIF?OFR J IBSBI FK@BKQFSBP ?RFI FKQL QEB PQOR@QROB LC AB J >KA >KA PRMMIV TFII @OB>QB MOBPPROBP CLO QEB MOF@B QL C>II QL T>OA QEB BNRIF?OFR J

-LT PRMLLPB QE>Q QEB MOF@B FP ?BILT FQP BNRIF?OFR J IBSBI >Q MBO D>IILK >P QEB A>PEBA ELOFWLKQ>I IFKB >Q QEFP MOF@B FK <:HE8 PELTP Q QEFP ILTBO MOF@B QEB NR>KQFQV AB J >KABA FK@OB>PBP COL J QL >P AOFBSOP Q>HB ILKDBO QOFMP PMBKA J LOB J FKRQBP T>O J FKD RM QEB @>O FK QEB AOF SBT>V FK TFKQBOQF J B PQLM PE>OFKD OFABP QL TLOH >KA ?RV I>ODBO @>OP QE>Q DBQ CBTBO J FIBP QL QEB D>IILK 'LTBSBO QEB ?BILT BNRIF?OFR J MOF@B OBAR@BP D>PLIFKB MOLAR@BOPd FK@BKQFSBP QL MOLAR@B >KA PBII D>PLIFKB >KA QEB NR>KQFQV PRMMIFBA C>IIP COL J QL

6 EBK QEB MOF@B FP ?BILT BNRIF?OFR J QEBOP FP **excess demand** L0 > **shortage** b QE>Q FP >Q QEB DfSBK MOF@B QEB NR>KQFQV AB J >KABA TEF@E E>P ?BBK PQF J RI>QBA ?V QEB ILTBO MOF@B KLT BU@BBAP QEB NR>KQFQV PRMMIFBA TEF@E E>A ?BBK ABMOBPPBA ?V QEB ILTBO MOF@B (K QEFP PFQR>QLK B>DBO D>PLIFKB ?RVBOP J L? QEB D>P PQ>QLKP LKIV QL CFKA J >KV PQ>QLKP ORKKFKD PELOQ LC CRBI .FI @L J M>KFBP >KA D>P PQ>QLKP OB@LDKFWB QE>Q QEBV E>SB >K LMMLOQRKQV QL J >HB EFDEBO MOLCFQ ?V PBIIFKD TE>Q D>PLIFKB QEBV E>SB >Q > EFDEBO MOF@B P > OBPRIQ QEB MOF@B OFPBP QL T>OA QEB BNRIF?OFR J IBSBI 1B>A **8@4A7 +HCC?<L 4A7 99<6<8A6L** CLO J LOB AFP@RPPFLK LK QEB F J MLOQ>K@B LC QEB AB J >KA >KA PRMMIV J LABI

N + ; <9GF <A 8@4A7 4A7 +HCC?<L 9BE BB7F 4A7

## +8EI<68F

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL  
 d (ABKQFCV C>@QLOP QE>Q >CCB@Q AB J >KA  
 d &0>ME AB J >KA @ROSBP >KA AB J >KA PEFCQP  
 d (ABKQFCV C>@QLOP QE>Q >CCB@Q PRMMIV  
 d &0>ME PRMMIV @ROSBP >KA PRMMIV PEFCQP

3EB MOBSFLRP J LARIB BUMILOBA ELT MOF@B >CCB@QP QEB NR>KQFQV AB J >KABA >KA QEB NR>KQFQV PRMMIFBA 3EB OBPRIQ T>P QEB AB J >KA @ROSB >KA QEB PRMMIV @ROSB /OF@B ELTBSBO FP KLQ QEB LKIV C>@QLO QE>Q FKCIRBK@BP AB J >KA KLO FP FQ QEB LKIV QEFKD QE>Q FKCIRBK@BP PRMMIV %LO BU> J MIB ELT FP AB J >KA CLO SBDBQ>OF>K CLLA >CCB@QBA FC P>V EB>IQE @LK@BOKP @>RPB J LOB @LKPR J BOP QL >SLFA B>QFKD J B>Q ' LT FP QEB PRMMIV LC AF> J LKAP >CCB@QBA FC AF> J LKA MOLAR@BOP AFP@LSBO PBSBO>I KBT AF> J LKA J FKBP 6E>Q >OB QEB J >GLO C>@QLOP FK >AAFQFLK QL QEB MOF@B QE>Q FKCIRBK@B AB J >KA LO PRMMIV

# Link It Up

6FPFQ QEFB TB?PFB EQM LMBKP>U@LIIBDB LOD I QLLQECFPE QL OB>A > ?CFBC KLQB LK ELT J >OHBQFKD PQQ>QBDFBP @>K FKCIRBK@B PRMMIV >KA AB J >KA LC MOLAR@QP

## / ;4G 46GBEF 9986G 8@4A7

6B ABCFKBA AB J >KA >P QEB > J LRKQ LC PL J B MOLAR@Q > @LKPR J BO FP THIFKD >KA >?IB QL MRO@E>PB >Q B>@E MOF@B 3E>Q PRDDBPQP >Q IB>PQ QTL C>@QLOP FK >AAFQFLK QL MOF@B QE>Q >CCB@Q AB J >KA 6 HIFKDKBPP QL MRO@E>PB PRDDBPQP > ABPFOB ?>PBA LK TE>Q B@LKL J FPQP @>II Q>PQBP >KA MOBCBOKB@BP (C VLR KBFQEBO KBBA KLO T>KQ PL J BQEFKD VLR TFII KLQ ?RV FQ ?FIFQV QL MRO@E>PB PRDDBPQP QE>Q FK@L J B FP F J MLOQ>KQ /OLCBPPLP >OB RPR>IIV >?IB QL >CCLOA ?BQ@BO ELRPFKD >KA QO>KPMLQ>QFLK QE>K PQRABKQP ?B>RPB QEBV E>SB J LOB FK@L J B /OF@BP LC OBI>QBA DLLAP @>K >CCB@Q AB J >KA >IPL (C VLR KBBA > KBT @>O QEB MOF@B LC > ' LKA> J >V >CCB@Q VLRO AB J >KA CLO > %LOA %FK>IIV QEB PFWB LO @L J MLPFQFLK LC QEB MLMRI>QFLK @>K >CCB@Q AB J >KA 3EB J LOB @EFIAOBK > C> J FIV E>P QEB DOB>QBO QEBFO AB J >KA CLO @ILQEFKD 3EB J LOB AOFSEFKD >DB @EFIAOBK > C> J FIV E>P QEB DOB>QBO QEBFO AB J >KA CLO @>O FKPRO>K@B >KA QEB IBPP CLO AF>MBOP >KA ??>V CLO J RI>

3EBPB C>@QLOP J >Q@BO CLO ?LQE FKAFSFAR>I >KA J >OHBQ AB J >KA >P > TELIB \$U>@QIV ELT AL QEBPB S>OFLRP C>@QLOP >CCB@Q AB J >KA >KA ELT AL TB PELT QEB BCCB@QP DO>MEF@>IIV 3L >KPTBO QELPB NRBPQLKP TB KBBA QEB *ceteris paribus* >PPR J MQFLK

## , ; 8 Ceteris Paribus FFH@CG<BA

AB J >KA @ROSB LO > PRMMIV @ROSB FP > OBI>QFLKPEFM ?BQTBKQ QTL >KA LKIV QTL S>OF>?IBP NR>KQFQV LK QEB ELOFWLKQ>I >UFP >KA MOF@B LK QEB SBOQE@>I >UFP 3EB >PPR J MQFLK ?BEFKA > AB J >KA @ROSB LO > PRMMIV @ROSB FP QE>Q KL OBIBS>KQ B@LKL J F@ C>@QLOP LQEBO QE>K QEB MOLAR@QP MOF@B >OB @E>KDFKD \$@LKL J FPQP @>II QEFB >PPR J MQFLK **ceteris paribus** > +>QFK MEO>PB J B>KFKD eLQEBO QEFKDP ?BFKD BNR>I f KV DFSBK AB J >KA LO PRMMIV @ROSB FP ?>PBA LK QEB *ceteris paribus* >PPR J MQFLK QE>Q >II BIPB FP EBIA BNR>I AB J >KA @ROSB LO > PRMMIV @ROSB FP > OBI>QFLKPEFM ?BQTBKQ QTL >KA LKIV QTL S>OF>?IBP TEBK >II LQEBO S>OF>?IBP >OB HBMQ @LKQ>KQ (C >II BIPB FP KLQ EBIA BNR>I QEBK QEB I>TP LC PRMMIV >KA AB J >KA TFII KLQ KB@BPP>OFIV ELIA >P QEB CLILTFKD " IB>O (Q 4M CB>QROB PELT P

# Clear It Up



## / ;8A 7B8F *ceteris paribus* 4CC?L

7B QVMF@>IIV >MMIV *ceteris paribus* TEBK TB L?PBO SB ELT @E>KDBP FK MOF@B >CCB@Q AB J>KA LO PRMMIV ?RQ TB @>K >MMIV *ceteris paribus* J LOB DBKB0>IIV )K QEB OB>I TLOIA AB J>KA >KA PRMMIV ABMBKA LK J LOB C>@QLOP QE>K GRPQ MOF@B &LO BU>J MIB > @LKPR JB0aP AB J>KA ABMBKAP LK FK@L J B >KA > MOLAR@B0aP PRMMIV ABMBKAP LK QEB @LPQ LC MOLAR@FKD QEB MOLAR@Q (LT @>K TB >K>IVWB QEB BCCB@Q LK AB J>KA LO PRMMIV FC J RIQFMIB C>@QLOP >OB @E>KDFKD >Q QEB P>JB QF JB \_P>V MOF@B OFPBP >KA FK@L J B C>IIP 4EB >KPTBO FP QE>Q TB BU>J FK B QEB @E>KDBP LKB >Q > QF JB >PPR J FKD QEB LQEBO C>@QLOP >OB EBIA @LKPRQ>KQ

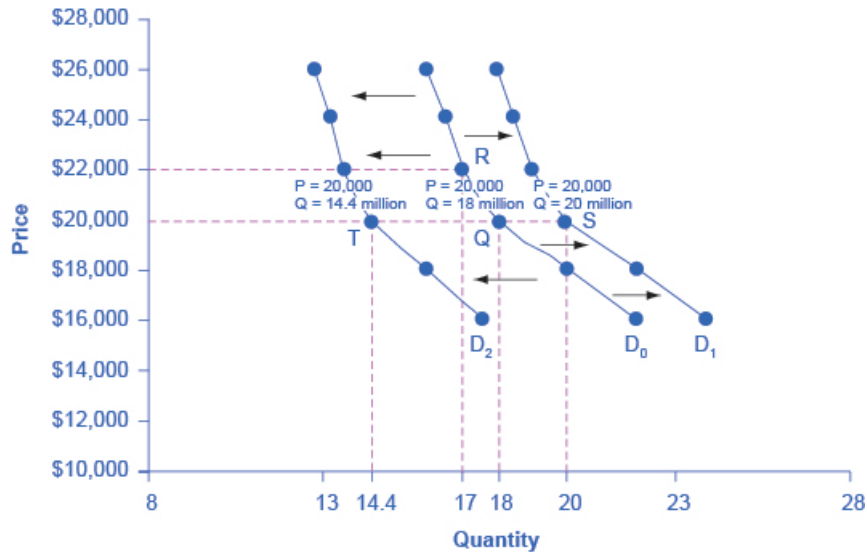
&LO BU>J MIB TB @>K P>V QE>Q >K FK@OB>PB FK QEB MOF@B OBAR@BP QEB >JLRKQ @LKPR JBOP TFII ?RV >PPR J FKD FK@L J B >KA >KVQEFKD BIPB QE>Q >CCB@Q AB J>KA FP RK@E>KDBA !AAQFLK>IIV > AB@OB>PB FK FK@L J B OBAR@BP QEB >JLRKQ @LKPR JBOP @>K >CCLOA QL ?RV >PPR J FKD MOF@B >KA >KVQEFKD BIPB QE>Q >CCB@Q AB J>KA FP RK@E>KDBA 4EFP FP TE>Q QEB *ceteris paribus* >PPR J MQFLK OB>IIV JB>KP )K QEFP M>OQF@RI>O @>PB >CQBO TB >K>IVWB B>@E C>@QLO PBM>O>Q BIV TB @>K @L J ?FKB QEB OBPRIQP 4EB >JLRKQ @LKPR JBOP ?RV C>IIP CLO QTL OB>PLKP CFPQ ?B@>RPB LC QEB EFDEBO MOF@B >KA PB@LKA ?B@>RPB LC QEB ILTBO FK@L J B

## BJ B8F !A6B@8 9986G 8@4A7

+BQdP RPB FK@L J B >P >K BU>J MIB LC ELT C>@QLOP LQEBO QE>K MOF@B >CCB@Q AB J>KA <:HE8 PELTP QEB FKQF>I AB J>KA CLO >RQL J L?FIBP >P # Q MLFKQ O CLO BU>J MIB FC QEB MOF@B FP MBO @>O QEB NR>KQFQV LC @>OP AB J>KABA FP J FIIFLK # >IPL PELTP ELT QEB NR>KQFQV LC @>OP AB J>KABA TLRIA @E>KDB >P >OBPRIQ LC >EFDEBO LO ILTBO MOF@B %LO BU>J MIB FC QEB MOF@B LC >@>O OLPB QL QEB NR>KQFQV AB J>KABA TLRIA AB@OB>PB QL J FIIFLK >Q MLFKQ 1

3EB LOFDFK>I AB J>KA @ROSB # IFHB BSB0V AB J>KA @ROSB FP ?>PBA LK QEB *ceteris paribus* >PPR J MQFLK QE>Q KL LQEBO B@LKL J F@>IIV OBIBS>KQ C>@QLOP @E>KDB -LT F J >DFKB QE>Q QEB B@LKL J V BUM>KAP FK > T>V QE>Q O>FPBP QEB FK@L J BP LC J >KV MBLMIB J >HFKD @>OP J LOB >CCLOA>?IB 'LT TFII QEFP >CCB@Q AB J>KA 'LT @>K TB PELT QEFP DO>MEF@>IIV

1BQROK QL <:HE8 3EB MOF@B LC @>OP FP PQFII ?RQ TFQE EFDEBO FK@L J BP QEB NR>KQFQV AB J>KABA E>P KLT FK@OB>PBA QL J FIIFLK @>OP PELTK >Q MLFKQ 2 P >OBPRIQ LC QEB EFDEBO FK@L J B IBSBIP QEB AB J>KA @ROSB PEFCQP QL QEB OFDEQ QL QEB KBT AB J>KA @ROSB # FKAF@>QFKD >K FK@OB>PB FK AB J>KA ,45?8 PELTP @IB>OIV QE>Q QEFP FK@OB>PBA AB J>KA TLRIA L@>RO >Q BSB0V MOF@B KLQ GRPQ QEB LOFDFK>I LKB



<:HE8 +;<9GF<A 8@4A7 4E K4@C?8 )K@OB>PBA AB J>KA JB>KP QE>Q >Q BSB0V DfSBK MOF@B QEB NR>KQFQV AB J>KABA FP EFDEBO PL QE>Q QEB AB J>KA @ROSB PEFCQP QL QEB OFDEQ COL J \$ QL \$ \$B@OB>PBA AB J>KA JB>KP QE>Q >Q BSB0V DfSBK MOF@B QEB NR>KQFQV AB J>KABA FP ILTBO PL QE>Q QEB AB J>KA @ROSB PEFCQP QL QEB IB@Q COL J \$ QL \$

(E<68	86E84F8 GB	' E<: <A4? ) H4AG<GL 8@4A787	!A6E84F8 GB
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK

,45'8 (E<68 4A7 8@4A7 + ;<9G 4E K4@C'8

- LT F J >DFKB QE>Q QEB B@LKL J V PILTP ALTK PL QE>Q J >KV MBLMIB ILPB QEBFO GL?P LO TLOH CBTBO ELROP OBAR@FKD QEBFO FK@L J BP (K QEPF @>PB QEB AB@OB>PB FK FK@L J B TLRIA IB>A QL > ILTBO NR>KQFQV LC @>OP AB J >KABA >Q BSBQV DFBK MOF@B >KA QEB LOFDK>I AB J >KA @ROSB # TLRIA PEFCQ IBCQ QL # 3EB PEFCQ COL J # QL # OBM0BPBKQP PR@E > AB@OB>PB FK AB J >KA Q >KV DFBK MOF@B IBSBI QEB NR>KQFQV AB J >KABA FP KLT ILTBO (K QEPF BU> J MIB > MOF@B LC J B>KP J FIIFLK @>OP PLIA >ILKD QEB LOFDK>I AB J >KA @ROSB ?RQ LKIV J FIIFLK PLIA >CQBO AB J >KA CBII

6 EBK > AB J >KA @ROSB PEFCQP FQ ALBP KLQ J B>K QE>Q QEB NR>KQFQV AB J >KABA ?V BSBQV FKAFFAR>I ?RVBO @E>KDBP ?V QEB P> J B > J LKQ (K QEPF BU> J MIB KLQ BSOVLKB TLRIA E>SB EFDEBO LO ILTBO FK@L J B >KA KLQ BSOVLKB TLRIA ?RV LO KLQ ?RV >K >AAFQFLK>I @>0 (KQB>A > PEFCQ FK > AB J >KA @ROSB @>MQROBP > M>QQBOK CLO QEB J >OHBQ >P > TELIB

(K QEB MOBSFLRP PB@QFLK TB >DRBA QE>Q EFDEBO FK@L J B @>RPBP DOB>QBO AB J >KA >Q BSBQV MOF@B 3EFP FP QORB CLO J LQP DLLAP >KA PBOF@BP %LO PL J B b IRUROV @>OP S>@>QFLK FK \$ROLMB >KA CFKB GBTBIOV b QEB BCC@Q LC > OFPB FK FK@L J B @>K ?B BPMB@F>IIV MOLKLRK@BA MOLAR@Q TELPB AB J >KA OFPB TEBK FK@L J B OFPB >KA SF@B SBOP> FP @>IIBA > **normal good** CBT BU@BM@FLK QL QEPF M>QQBOK AL BUFPQ P FK@L J BP OFPB J >KV MBLMIB TFII ?RV CBTBO DBKBOF@ ?O>KA DOL@BOFBP >KA J LOB K> J B ?O>KA DOL@BOFBP 3EBV >OB IBPP IFHBIV QL ?RV RPBA @>OP >KA J LOB IFHBIV QL ?RV KBT @>OP 3EBV TFII ?B IBPP IFHBIV QL OBKQ >K >M>OQ J BKQ >KA J LOB IFHBIV QL LTK > EL J B MOLAR@Q TELPB AB J >KA C>IIP TEBK FK@L J B OFPB >KA SF@B SBOP> FP @>IIBA >K **inferior good** (K LQEBO TLOAP TEBK FK@L J B FK@OB>PBP QEB AB J >KA @ROSB PEFCQP QL QEB IBCQ

' G ; 8E 46GBEF , ; 4G + ; <9G 8@4A7 HEI8F

(K@L J B FP KLQ QEB LKIV C>@QLO QE>Q @>RPBP > PEFCQ FK AB J >KA . QEB C>@QLOP QE>Q @E>KDB AB J >KA FK@IRAB Q>PQBP >KA MOBCBOBK@BP QEB @L J MLPF@FLK LO PFWB LC QEB MLMRI>QFLK QEB MOF@BP LC OBI>QBA DLLAP >KA BSBK BUMB@Q>QFLK @E>KDB FK >KV LKB LC QEB RKABOIVFKD C>@QLOP QE>Q ABQBO J FKB TE>Q NR>KQFQV MBLMIB >OB TFIFKD QL ?RV >Q > DFBK MOF@B TFII @>RPB > PEFCQ FK AB J >KA &<O>MEF@>IIV QEB KBT AB J >KA @ROSB IFBP BFQBO QL QEB OFDEQ >K FK@OB>PB LO QL QEB IBCQ > AB@OB>PB LC QEB LOFDK>I AB J >KA @ROSB +BQ@P ILLH >Q QEBPB C>@QLOP

### Changing Tastes or Preferences

%OL J QL QEB MBO MBOPLK @LKP J MQFLK LC @EF@HBK ?V J BOF@>KP OLPB COL J MLRKAP MBO VB>0 QL MLRKAP MBO VB>0 >KA @LKP J MQFLK LC ?BBC CBII COL J MLRKAP MBO VB>0 QL MLRKAP MBO VB>0 >@>LOAFKD QL QEB 4 2 #BM>OQ J BKQ LC DOF@RIQROB 42# "E>KDBP IFHB QEBPB >OB I>ODBIV ARB QL J LSB J BKQP FK >PQB TEF@E @E>KDB QEB NR>KQFQV LC > DLLA AB J >KABA >Q BSBQV MOF@B QE>Q FP QEBV PEFCQ QEB AB J >KA @ROSB CLO QE>Q DLLA OFDEQ T>OA CLO @EF@HBK >KA IBCQ T>OA CLO ?BBC

### Changes in the Composition of the Population

3EB MOLMLQFLK LC BIABOIV @FQFWBKP FK QEB 4KFQBA 2Q>QBP MLMRI>QFLK FP OFPFKD (Q OLPB COL J FK QL FK >KA TFII ?B > MOLGB@QBA ?V QEB 4 2 "BKPRP !ROB>R LC QEB MLMRI>QFLK ?V PL@FBQV TFQE OBI>QFSBIV J LOB @EFIAOBK IFHB QEB 4KFQBA 2Q>QBP FK QEB P TFII E>SB DOB>QBO AB J >KA CLO DLLAP >KA PBOF@BP IFHB QOF@V@IBP >KA A>V @>OB C>@FIFQFBP PL@FBQV TFQE OBI>QFSBIV J LOB BIABOIV MBOPLK >P QEB 4KFQBA 2Q>QBP FP MOLGB@QBA QL E>SB ?V E>P > EFDEBO AB J >KA CLO KROPFKD EL J BP >KA EB>OFKD >FAP 2F J FI>OIV @E>KDBP FK QEB PFWB LC QEB MLMRI>QFLK @>K >CCB@Q QEB AB J >KA CLO ELRPFKD >KA J >KV LQEBO DLLAP \$>@E LC QEBPB @E>KDBP FK AB J >KA TFII ?B PEL TK >P > PEFCQ FK QEB AB J >KA @ROSB

"E>KDBP FK QEB MOF@BP LC OBI>QBA DLLAP PR@E >P PR?PQFQRQBP LO @L J MIB J BKQP >IPL @>K >CCB@Q QEB AB J >KA CLO > MOLAR@Q



**substitute** FP > DLLA LO PBOSF@B QE>Q TB @>K RPB FK MI>@B LC >KLQEBO DLLA LO PBOSF@B P BIB@QQLKF@ ?LLHP IFHB QEFP LKB ?B@L J B J LOB >S>FI>?IB VLR TLRIA BUMB@Q QL PBB > AB@OB>PB FK AB J >KA CLO QO>AFQFLK>I MOFKQBA ?LLHP ILTBO MOF@B CLO > PR?PQFQRQB AB@OB>PBP AB J >KA CLO QEB LQEBO MOLAR@Q %LO BU> J MIB FK OB@BKQ VB>OP >P QEB MOF@B LC Q>?IBQ @L J MRQBOP E>P C>IIBK QEB NR>KQFQV AB J >KABA E>P FK@OB>PBA ?B@>RBP LC QEB I>T LC AB J >KA 2FK@B MBLMIB >OB MRO@E>PFKD Q>?IBQP QEBOB E>P ?BBK > AB@OB>PB FK AB J >KA CLO I>MQLMP TEF@E TB @>K PELT DO>MEF@>IIV >P > IBCQT>OA PEFCQ FK QEB AB J >KA @ROSB CLO I>MQLMP EFDEBO MOF@B CLO > PR?PQFQRQB DLLA E>P QEB OBSBOPB BCCB@Q

. QEBO DLLAP >OB **complements** CLO B>@E LQEBO J B>KFKD TB LCQBK RPB QEB DLLAP QLDBQEBO ?B@>RBP @LKPR J MQFLK LC LKB DLLA QBKAP QL BKE>K@B @LKPR J MQFLK LC QEB LQEBO \$U> J MIBP FK@IRAB ?OB>HC>PQ @B@B>I >KA J FIH KLQB?LLHP >KA MBKP LO MBK@FIP DLIC ?>IIP >KA DLIC @IR?P D>PLIFKB >KA PMLQ RQFIFQV SBEF@IBP >KA QEB CFSB T>V @L J ?FK>QFLK LC ?>@LK IBQQR@B QL J >QL J >VLKK>FPB >KA ?OB>A (C QEB MOF@B LC DLIC @IR?P OFPBP PFK@B QEB NR>KQFQV AB J >KABA LC DLIC @IR?P C>IIP ?B@>RBP LC QEB I>T LC AB J >KA AB J >KA CLO > @L J MIB J BKQ DLLA IFHB DLIC ?>IIP AB@OB>PBP QLL 2F J FI>OIV > EFDEBO MOF@B CLO PHFP TLRIA PEFCQ QEB AB J >KA @ROSB CLO > @L J MIB J BKQ DLLA IFHB PHF OBPLQ QOFMP QL QEB IBCQ TEFIB > ILTBO MOF@B CLO > @L J MIB J BKQ E>P QEB OBSBOPB BCCB@Q

### Changes in Expectations about Future Prices or Other Factors that Affect Demand

6 EFIB FQ FP @IB>O QE>Q QEB MOF@B LC > DLLA >CCB@Q QEB NR>KQFQV AB J >KABA FQ FP >IPL QORB QE>Q BUMB@Q>QFLKP >?LRQ QEB CRQROB MOF@B LO BUMB@Q>QFLKP >?LRQ Q>PQBP >KA MOBCBOBK@BP FK@L J B >KA PL LK @>K >CCB@Q AB J >KA %LO BU> J MIB FC MBLMIB EB>O QE>Q > EROOF@>KB FP @L J FKD QEBV J >V ORPE QL QEB P@LOB QL ?RV CI>PEIFDEQ ?>QQBOFBP >KA ?LQQIBA T>QBO (C MBLMIB IB>OK QE>Q QEB MOF@B LC > DLLA IFHB @LCCBB FP IFHBIV QL OFPB FK QEB CRQROB QEBV J >V EB>A CLO QEB P@LOB QL P@L@H RM LK @LCCBB KLT 6B PELT QEBPB @E>KDBP FK AB J >KA >P PEFCQ FK QEB @ROSB 3EBOB@CLOB > **shift in demand** E>MMBKP TEBK > @E>KDBP FK PL J B B@LKL J F@ C>@QL LQEBO QE>K MOF@B @>RBP > AFCCBOBKQ NR>KQFQV QL ?B AB J >KABA >Q BSBOV MOF@B 3EB CLILTFKD 6 LOH (Q . RQ CB>QROB PELTP ELT QEFP E>MMBKP

## Work It Out

+ ; <9G <A 8@4A7

! PEFCQ FK AB J >KA J B>KP QE>Q >Q >KV MOF@B >KA >Q BSBOV MOF@B QEB NR>KQFQV AB J >KABA TFIH ?B AFCCBOBKQ QE>K FQ T>P ?B@CLOB &LILTFKD FP >K BU> J MIB LC > PEFCQ FK AB J >KA ARB QL >K FK@L J B FK@OB>PB

3QBM \$O>T QEB DO>ME LC > AB J >KA @ROSB CLO > KLO J >I DLLA IFHB MFWW> OF@H > MOF@B IFHB O )ABKQFCV QEB @L@OBPMLKAFKD 1 3BB >K BU> J MIB FK <:HE8

<:HE8 8@4A7 HE18 7B @>K RPB QEB AB J >KA @ROSB QL FABKQFCV ELT JR@E @LKPR JBOP TLRIA ?RV >Q >KV DFSBK MOF@B

3QBM 3RMLLPB FK@L J B FK@OB>PBP !P > OBPRIQ LC QEB @E>KDB >OB @LKPR JBOP DLFKD QL ?RV J LOB LO IBPP MFWW> 4EB >KPTBO FP J LOB \$O>T > ALQ@BA EL@FWLKQ>I IFKB @L J QEB @ELPBK MOF@B QEOLRDE QEB LO@DFK>I NR>KQFQV AB J >KABA QL QEB KBT MLFKQ TRQE QEB KBT 1 \$O>T > ALQ@BA SBOQF@>I IFKB ALTK QL QEB EL@FWLKQ>I >UFP >KA I>?BI QEB KBT 1 <:HE8 MOLS@ABP >K BU> J MIB

<:HE8 8@4A7 HE18 J<; !A6B@8 !A6E84F8 7 FQE >K FK@0B>PB FK FK@L J B @LKPR J BOP TFI MRO@E>PB I>0DB0 NR>KQFQFBP MRPEFKD AB J>KA QL QEB OFDEQ

3QBM . LT PEFCQ QEB @ROSB QEOLRDE QEB KBT MLFKQ 9LR TFI PBB QE>Q >K FK@0B>PB FK FK@L J B @>RPBP >K RMT>0A LO OFDEQT>0A PEFCQ FK QEB AB J>KA @ROSB PL QE>Q >Q >KV MOF@B QEB NR>KQFQFBP AB J>KABA TFI ?B EFDEBO >P <:HE8 FIIRPQO>QBP

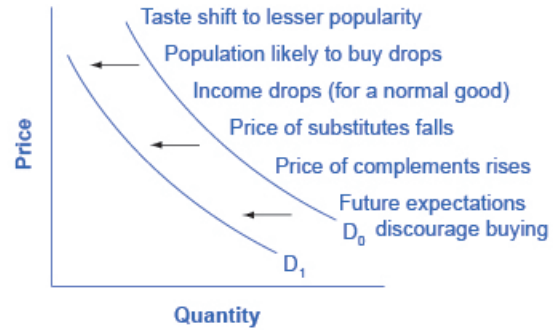
<:HE8 8@4A7 HE18 +;<9G87 \*<: ;G 7 FQE >K FK@0B>PB FK FK@L J B @LKPR J BOP TFI MRO@E>PB I>0DB0 NR>KQFQFBP MRPEFKD AB J>KA QL QEB OFDEQ >KA @>RPFKD QEB AB J>KA @ROSB QL PEFCQ OFDEQ

### +H@@<A: -C 46GBEF , ;4G ;4A:8 8@4A7

<:HE8 PR J J>OFWBP PFU C>@QLOP QE>Q @>K PEFCQ AB J>KA @ROSBP 3EB AFOB@QFLK LC QEB >00LTP FKAf@>QBP TEBQEBO QEB AB J>KA @ROSB PEFCQP OBMOBPBKQ >K FK@0B>PB FK AB J>KA LO > AB@0B>PB FK AB J>KA - LQF@B QE>Q > @E>KDB FK QEB MOF@B LC QEB DLLA LO PBOSF@B FQPBIC FP KLQ IFPQBA > J LKD QEB C>@QLOP QE>Q @>K PEFCQ > AB J>KA @ROSB @E>KDB FK QEB MOF@B LC > DLLA LO PBOSF@B @>RPBP > J LSB J BKQ >ILKD > PMB@FCF@ AB J>KA @ROSB >KA FQ QVMF@>IIV IB>AP QL PL J B @E>KDB FK QEB NR>KQFQV AB J>KABA ?RQ FQ ALBP KLQ PEFCQ QEB AB J>KA @ROSB



(a) Factors that increase demand



(b) Factors that decrease demand

<:HEB 46GBEF , ;4G + ;<9G 8@4A7 HE18F > ! IFPQ LC C>@QLQP QE>Q @>K @>RPB >K FK@OB>PB FK AB J>KA CCL J \$ QL \$ ? 4EB P>J B C>@QLQP FC QEBO AFOB@QLK FP OBSBPBA @>K @>RPB > AB@OB>PB FK AB J>KA CCL J \$ QL \$

6EBK > AB J>KA @ROSB PEFCQP FQ TFII QEBK FKQBOPB@Q TFQE > DFSBK PRMMIV @ROSB >Q > AFCCBOBKQ BNRIF?OFR J MOF@B >KA NR>KQFQV 6B >OB ELTBSBO DBQFKD >EB>A LC LRO PQLOV !BCLQB AFP@RPPFKD ELT @E>KDBP FK AB J>KA @>K >CCB@Q BNRIF?OFR J MOF@B >KA NR>KQFQV TB CFOQ KBBA QL AFP@RPP PEFCQP FK PRMMIV @ROSBP

### BJ (EB7H6G<BA BFGF 9986G +HCC?L

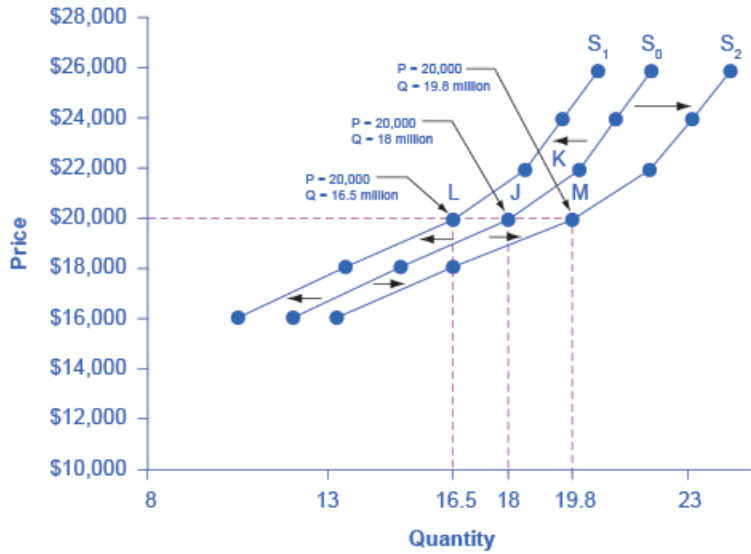
PRMMIV @ROSB PELTP ELT NR>KQFQV PRMMIFBA TFII @E>KDB >P QEB MOF@B OFPBP >KA C>IIP >PPR J FKD *ceteris paribus* PL QE>Q KL LQEBO B@LKL JF@>IIV OBIBS>KQ C>@QLQP >OB @E>KDFKD (C LQEBO C>@QLQP OBIBS>KQ QL PRMMIV AL @E>KDB QEBK QEB BKQFOB PRMMIV @ROSB TFII PEFCQ )RPQ >P TB ABP@OF?BA >PEFCQ FK AB J>KA >P > @E>KDB FK QEB NR>KQFQV AB J>KABA >Q BSOBV MOF@B > **shift in supply** J B>KP > @E>KDB FK QEB NR>KQFQV PRMMIFBA >Q BSOBV MOF@B

(K QEFKHKD >?LRQ QEB C>@QLQP QE>Q >CCB@Q PRMMIV OB J B J ?BO TE>Q J LQFS>QBP CFO J P MOLCFQP TEF@E >OB QEB AFCCBOBK@B ?BQTTBBK OBSBKRBP >KA @LPQ CFO J MOLAR@BP DLLAP >KA PBO SF@BP RPFKD @L J ?FK>QLKP LC I>?LO J >QBOF>IP >KA J >@EFKBOV LO TE>Q TB @>II **inputs** LO **factors of production** (C >CFO J C>@BP ILTBO @LPQP LC MOLAR@QLK TEFIB QEB MOF@BP CLO QEB DLLA LO PBO SF@B QEB CFO J MOLAR@BP OB J >FK RK@E>KDBA >CFO J dP MOLCFQP DL RM 6EBK >CFO J dP MOLCFQP FK@OB>PB FQ FP J LOB J LQFS>QBA QL MOLAR@B LRQMRQ PFK@B QEB J LOB FQ MOLAR@BP QEB J LOB MOLCFQ FQ TFII B>OK 6EBK @LPQ LC MOLAR@QLK C>II >CFO J TFII QBKA QL PRMMIV >I>ODBO NR>KQFQV >Q >KV DFSBK MOF@B CLO FQP LRQMRQ 6B @>K PELT QEFP ?V QEB PRMMIV @ROSB PEFCQFKD QL QEB OFDEQ

3>HB CLO BU>J MIB >J BPPBKDBO @L J M>KV QE>Q ABIFSBOP M>@H>DBP >OLRKA >@FQV 3EB @L J M>KV J >V CFKA QE>Q ?RVFKD D>PLIFKB FP LKB LC FQP J >FK @LPQP (C QEB MOF@B LC D>PLIFKB C>IIP QEBK QEB @L J M>KV TFII CFKA FQ @>K ABIFSBOP J BPP>DBP J LOB @EB>MIV QE>K ?BCLQB 2FK@B ILTBO @LPQP @LOOBPMLKA QL EFDEBO MOLCFQP QEB J BPPBKDBO @L J M>KV J >V KLT PRMMIV J LOB LC FQP PBO SF@BP >Q >KV DFSBK MOF@B %LO BU>J MIB DFSBK QEB ILTBO D>PLIFKB MOF@BP QEB @L J M>KV @>K KLT PBO SB > DOB>QBO >OB> >KA FK@OB>PB FQP PRMMIV

"LKSBOBPBIV FC >CFO J C>@BP EFDEBO @LPQP LC MOLAR@QLK QEBK FQ TFII B>OK ILTBO MOLCFQP >Q >KV DFSBK PBIFKD MOF@B CLO FQP MOLAR@QP P >OBPRIQ >EFDEBO @LPQ LC MOLAR@QLK QVMF@>IIV @>RPBP >CFO J QL PRMMIV >P J >IIBO NR>KQFQV >Q >KV DFSBK MOF@B (K QEFP @>PB QEB PRMMIV @ROSB PEFCQP QL QEB IBCQ

"LKPFABO QEB PRMMIV CLO @>OP PELTK ?V @ROSB 2 FK <:HEB /LFKQ ) FKAF@>QBP QE>Q FC QEB MOF@B FP QEB NR>KQFQV PRMMIFBA TFII ?B J FIIFLK @>OP (C QEB MOF@B OFPBP QL MBO @>0 *ceteris paribus*, QEB NR>KQFQV PRMMIFBA TFII OFPBP QL J FIIFLK @>OP >P MLFKQ \* LK QEB 2 @ROSB PELTP 6B @>K PELT QEB P>J B FK CLO J >QLK FK Q>?IB CLO J >P FK ,45'8



<:HE8 +;9GF <A +HCC?L 4E K4@C?8 \$B@0B>PBA PRMMIV JB>KP QE>Q >Q BSB0V DFSBK MOF@B QEB NR>KQFQV PRMMIFBA FP ILTB0 PL QE>Q QEB PRMMIV @ROSB PEFCQP QL QEB IBCQ COL J 3 QL 3 )K@0B>PBA PRMMIV JB>KP QE>Q >Q BSB0V DFSBK MOF@B QEB NR>KQFQV PRMMIFBA FP EFDEB0 PL QE>Q QEB PRMMIV @ROSB PEFCQP QL QEB OFDEQ COL J 3 QL 3

(E<68	86E84F8 GB +	' E': <A4? ) H4AGGL +HCC?<87 +	!A6E84F8 GB +
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK
	J FIIFLK	J FIIFLK	J FIIFLK

,45?8 (E<68 4A7 +;9GF <A +HCC?L 4E K4@C?8

-LT FJ >DFKB QE>Q QEB MOF@B LC PQBBI >K FJ ML0Q>KQ FKDOBAFBKQ FK J >KRC>@QROFKD @>OP OFPBP PL QE>Q MOLAR@FKD > @>0 E>P ?B@L JB JLOB BUMBKPFBSB Q >KV DFSBK MOF@B CLO PBIIFKD @>OP @>0 J >KRC>@QROBOP TFII OB>@Q ?V PRMMIVFKD > ILTB0 NR>KQFQV 6B @>K PELT QEFP DO>MEF@>IIV >P > IBCQT>0A PEFCQ LC PRMMIV COL J 2 QL 2 TEF@E FKAFA>QBP QE>Q >Q >KV DFSBK MOF@B QEB NR>KQFQV PRMMIFBA AB@OB>PBP (K QEFP BU>J MIB >Q > MOF@B LC QEB NR>KQFQV PRMMIFBA AB@OB>PBP COL J J FIIFLK LK QEB LOFDFK>I PRMMIV @ROSB 2 QL J FIIFLK LK QEB PRMMIV @ROSB 2 TEF@E FP I?BIBA >P MLFKQ +

"LKSBOPBIV FC QEB MOF@B LC PQBBI AB@OB>PBP MOLAR@FKD > @>0 ?B@L JB IBPP BUMBKPFBSB Q >KV DFSBK MOF@B CLO PBIIFKD @>OP @>0 J >KRC>@QROBOP @>K KLT BUMB@Q QL B>OK EFDEB0 MOLCFQP PL QEBV TFII PRMMIV > EFDEB0 NR>KQFQV 3EB PEFCQ LC PRMMIV QL QEB OFDEQ COL J 2 QL 2 JB>KP QE>Q >Q >II MOF@BP QEB NR>KQFQV PRMMIFBA E>P FK@OB>PBA (K QEFP BU>J MIB >Q > MOF@B LC QEB NR>KQFQV PRMMIFBA FK@OB>PBP COL J J FIIFLK LK QEB LOFDFK>I PRMMIV @ROSB 2 QL J FIIFLK LK QEB PRMMIV @ROSB 2 TEF@E FP I?BIBA ,

'G;8E 46GBEF , ;4G 9986G +HCC?L

(K QEB BU>J MIB >?LSB TB P>T QE>Q @E>KDBP FK QEB MOF@BP LC FKMRQP FK QEB MOLAR@QFLK MOL@BPP TFII >CCB@Q QEB @LPQ LC MOLAR@QFLK >KA QERP QEB PRMMIV 2BSB0>I LQEB0 QEFKDP >CCB@Q QEB @LPQ LC MOLAR@QFLK QLL PR@E >P @E>KDBP FK TB>QEB0 LO LQEB0 K>QRO>I @LKAFAQFLK KBT QB@EKLILDFBP CLO MOLAR@QFLK >KA PL JB DLSBOK J BKQ MLIF@FBP

"E>KDBP FK TB>QEB0 >KA @IFJ >QB TFII >CCB@Q QEB @LPQ LC MOLAR@QFLK CLO J >KV >DOF@RIQRO>I MOLAR@QP %LO BU>J MIB FK

QEB , >K@EROF>K /I>FK FK -LQ@EB>PQ@BOK "EFK> TEF@E MOLAR@BP J LPQ LC QEB @LRKQOV P TEB>Q @L@K >KA PLV?B>KP BUMB@FBK@BA FQP J LPQ PBSBOB AOLRDEQ FK VB>OP AOLRDEQ AB@OB>PBP QEB PRMMIV LC >DOF@RIQRO>I MOLAR@QP TEF@E J B>KP QE>Q >Q >KV D@SBK MOF@B > ILTBO NR>KQFQV TFII ?B PRMMIFBA "LKS@BPBIV BPMB@F>IIV DLLA TB>QEB@ TLRIA PEFCQ QEB PRMMIV @ROSB QL QEB OFDEQ

6 EBK > CFO J AFP@LSBOP > KBT QB@EKLILDV QE>Q >IILTP QEB CFO J QL MOLAR@B >Q > ILTBO @LPQ QEB PRMMIV @ROSB TFII PEFCQ QL QEB OFDEQ >P TBII %LO FKPQ>K@B FK QEB P > J >GLO P@FBKQFCF@ BCCL@Q KF@HK> J BA QEB &@BBK 1BSLIR@FLK CL@RPBA LK ?OBBAFKD F J M@LSBA PBBAP CLO ?>P@ @OLMP IFHB TEB>Q >KA OF@B !V QEB B>@IV P J LOB QE>K QTL QEF@AP LC QEB TEB>Q >KA OF@B FK ILT FK@L J B @LRKQ@FBP >OLRKA QEB TLOIA RPBA QEBPB &@BBK 1BSLIR@FLK PBBAP b >KA QEB E>@SBPQ T>P QTF@B >P EFDE MBO >@OB QB@EKLILD@>I F J M@LSB J BKQ QE>Q OBAR@BP @LPQP LC MOLAR@QFLK TFII PEFCQ PRMMIV QL QEB OFDEQ PL QE>Q > DOB>QBO NR>KQFQV TFII ?B MOLAR@BA >Q >KV D@SBK MOF@B

&LSBOK J BKQ MLIF@FBP @>K >CCB@Q QEB @LPQ LC MOLAR@QFLK >KA QEB PRMMIV @ROSB QE@LRDE Q>UBP OBDRI>QFLKP >KA PR?PFAFBP %LO BU> J MIB QEB 4 2 DLSBOK J BKQ F J MLPBP > Q>U LK >I@LELIF@ ?BSBO>DBP QE>Q @LIIB@QP >?LRQ ?FIIFLK MBO VB>O COL J MOLAR@BOP !RPFKBPPP QOB>Q Q>UBP >P @LPQP 'FDEBO @LPQP AB@OB>PB PRMMIV CLO QEB OB>PLKP TB AFP@RPPBA >?LSB . QEB@ BU> J MIBP LC MLIF@V QE>Q @>K >CCB@Q @LPQ >OB QEB TFAB >OO>V LC DLSBOK J BKQ OBDRI>QFLKP QE>Q OBNRFOB CFO J P QL P@MBA J LKBV QL M@LSFAB > @IB>KBO BKS@OLK J BKQ LO >P>CBO TLOHMI>@B "L J MIVFKD TFQE OBDRI>QFLKP FK@OB>PBP @LPQP

DLSBOK J BKQ PR?PFAV LK QEB LQEB@ E>KA FP QEB LMMLP@B LC > Q>U PR?PFAV L@@ROP TEBK QEB DLSBOK J BKQ M>VP > CFO J AFOB@QIV LO OBAR@BP QEB CFO J @P Q>UBP FC QEB CFO J @>O@FBP LRQ @BQ>FK >@QFLKP %OL J QEB CFO J @P MBOPMB@QFSB Q>UBP LO OBDRI>QFLKP >OB >K >AA@FLK>I @LPQ LC MOLAR@QFLK QE>Q PEFCQP PRMMIV QL QEB IBCQ IB>AFKD QEB CFO J QL MOLAR@B > ILTBO NR>KQFQV >Q BSBOV D@SBK MOF@B &LSBOK J BKQ PR?PFAFBP OBAR@B QEB @LPQ LC MOLAR@QFLK >KA FK@OB>PB PRMMIV >Q BSBOV D@SBK MOF@B PEFCQFKD PRMMIV QL QEB OFDEQ 3EB CLILTFKD 6 LOH (Q . RQ CB>QROB PELTP ELT QEF@ PEFCQ E>MMBKP

# Work It Out

## + ; <9G <A +HCC?L

7 B HKLT QE>Q > PRMMIV @ROSB PELTP QEB J FK@J R J MOF@B > CFO J TFII >@@BMQ QL MOLAR@B > D@SBK NR>KQFQV LC LRQMRQ 7 E>Q E>MMBKP QL QEB PRMMIV @ROSB TEBK QEB @LPQ LC MOLAR@QFLK DLBP RM &LILTFKD FP >K BU> J MIB LC > PEFCQ FK PRMMIV ARB QL > MOLAR@QFLK @LPQ FK@OB>PB

3QBM \$O>T > DO>ME LC > PRMMIV @ROSB CLO MFWW> Of@H > NR>KQFQV IFHB 1 )C VLR A@>T > SB@Q@>I IFKB RM COL J 1 QL QEB PRMMIV @ROSB VLR TFII PBB QEB MOF@B QEB CFO J @ELLBPB <:HEB M@LSFABP >K BU> J MIB

<:HEB +HCC?L HEI8 9LR @>K RPB > PRMMIV @ROSB QL PELT QEB J FK@J R J MOF@B > CFO J TFII >@@BMQ QL MOLAR@B > D@SBK NR>KQFQV LC LRQMRQ

3QBM 7 EV AFA QEB CFO J @ELLBP QE>Q MOF@B >KA KLQ PL J B LQEB@ /KB T>V QL QEFKH >?LRQ QEF@ FP QE>Q QEB MOF@B FP @L J MLPBA LC QTL M>OQP 4EB CFO@Q M>OQ FP QEB @LPQ LC MOLAR@FKD MFWW>P >Q QEB J >ODFK FK QEF@ @>PB QEB @LPQ LC MOLAR@FKD QEB MFWW> FK@IRAFKD @LPQ LC FKDOBA@FBKQP B D ALRDE P>R@B @EBBPB >KA MBMMBOLKF QEB @LPQ LC QEB MFWW> LSBK QEB PELM O@KQ >KA QEB TLOH@OP T>DBP 4EB PB@LKA M>OQ FP QEB CFO J @P ABPFOBA MOL@Q TEF@E FP ABQBO J FKBA > J LKD LQEB@ C>@QL@OP ?V QEB MOL@Q J >ODFKP FK QE>Q M>OQ@RI>O ?RPFKBPP )C VLR >AA QEBPB QTL M>OQP QLDBQEB@ VLR DBQ QEB MOF@B QEB CFO J TFPEBP QL @E>ODB 4EB NR>KQFQV 1 >KA >PPL@>QBA MOF@B O D@SB VLR LKB MLFKQ LK QEB CFO J @P PRMMIV @ROSB >P <:HEB HIIRPQ>QEB

<:HE8 +8GG<A: (E<68F 4EB @LPQ LC MOLAR@QFLK >KA QEB ABPFOBA MOLCFQ BNR>I QEB MOF@B > CFO J TFII PBQ CLO  
> MOLAR@Q

3QBM . LT PRMMLPB QE>Q QEB @LPQ LC MOLAR@QFLK FK@OB>PBP OB0E>MP @EBBPB E>P ?B@L J B J LOB BUMBKPFBSB ?V  
MBO MFWW> )C QE>Q FP QORB QEB CFO J TFII T>KQ QL O>FPB FQP MOF@B ?V QEB > J LRKQ LC QEB FK@OB>PB FK @LPQ  
\$0>T QEFP MLFKQ LK QEB PRMMIV @ROSB AFOB@QIV >?LSB QEB FKQF>I MLFKQ LK QEB @ROSB ?RQ EFDEBO >P <:HE8  
PELTP

<:HE8 !A6E84F<A: BFGF \$847F GB !A6E84F<A: (E<68 "B@>RPB QEB @LPQ LC MOLAR@QFLK >KA QEB  
ABPFOBA MOLCFQ BNR>I QEB MOF@B > CFO J TFII PBQ CLO > MOLAR@Q FC QEB @LPQ LC MOLAR@QFLK FK@OB>PBP QEB MOF@B CLO QEB  
MOLAR@Q TFII >IPL KBBA QL FK@OB>PB

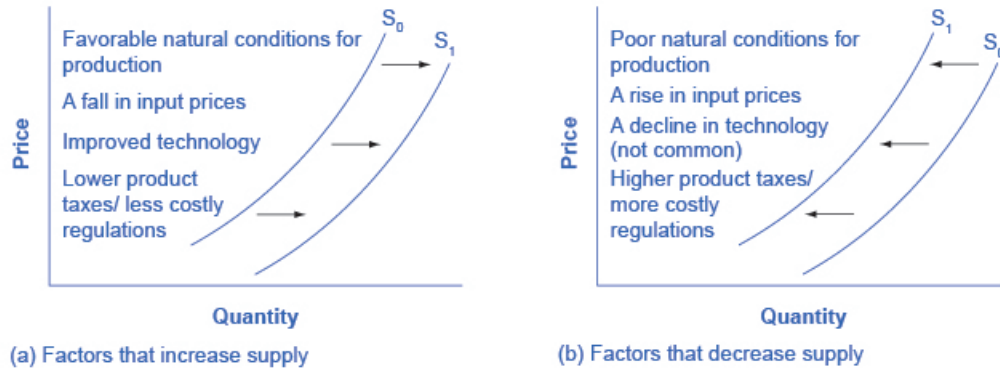
3QBM 3EFCQ QEB PRMMIV @ROSB QEOLRDE QEFP MLFKQ 9LR TFII PBB QE>Q >K FK@OB>PB FK @LPQ @>RPBP >K RMT>0A LO >  
IBCQT>0A PEFCQ LC QEB PRMMIV @ROSB PL QE>Q >Q >KV MOF@B QEB NR>KQFQFBP PRMMIFBA TFII ?B P J >IIBO >P <:HE8  
FIIRPQ>QBP

<:HE8 +HCC?L HEI8 +; <9GF 7 EBK QEB @LPQ LC MOLAR@QFLK FK@OB>PBP QEB PRMMIV @ROSB PEFCQP  
RMT>0AIV QL > KBT MOF@B IBSBI

### +H@<A: -C 46GBEF , ;4G ;4A:8 +HCC?L

"E>KDBP FK QEB @LPQ LC FKMRQP K>QRO>I AFP>PQBOP KBT QB@EKLILDFBP >KA QEB F J M>@Q LC DLBOK J BKQ AB@FPFLKP >II >CCB@Q QEB @LPQ LC MOLAR@QFLK (K QROK QEBPB C>@QLOP >CCB@Q ELT J R@E CFO J P >OB TFHFKD QL PRMMIV >Q >KV DFSBK MOF@B

<:HE8 PR J J >OFWBP C>@QLOP QE>Q @E>KDB QEB PRMMIV LC DLLAP >KA PBOB@BP -LQF@B QE>Q >@E>KDB FK QEB MOF@B LC QEB MOLAR@Q FQPBC FP KLQ > J LKD QEB C>@QLOP QE>Q PEFCQ QEB PRMMIV @ROSB IQELRDE >@E>KDB FK MOF@B LC > DLLA LO PBOB@B QVMF@>IIV @>RBPB >@E>KDB FK NR>KQFQV PRMMIFBA LO > J LSB J BKQ >ILKD QEB PRMMIV @ROSB CLO QE>Q PMB@FCF@ DLLA LO PBOB@B FQ ALBP KLQ @>RBP QEB PRMMIV @ROSB FQPBC QL PEFCQ



<:HE8 46GBEF , ;4G +; <G +HCC?L HE18F > ! IFPQ LC C>@QLOP QE>Q @>K @>RBP >K FK@OB>PB FK PRMMIV C@L J 3 QL 3 ? 4EB P>JB C>@QLOP FC QEBFO AF@B@QFLK FP OBSB@PBA @>K @>RBP > AB@OB>PB FK PRMMIV C@L J 3 QL 3

!B@>RBP AB J >KA >KA PRMMIV @ROSBP >MMB>O LK > QTL AF J BKPFLK>I AF>D@> J TFQE LKIV MOF@B >KA NR>KQFQV LK QEB >UBP >K RKT>OV SFPF@LO QL QEB I>KA LC B@LKL J F@P J FDEQ ?B CLLIBA FKQL ?BIFBSFKD QE>Q B@LKL J F@P FP >?LRQ LKIV CLRO QLMF@P AB J >KA PRMMIV MOF@B >KA NR>KQFQV 'LTBSBO AB J >KA >KA PRMMIV >OB OB>IIV eR J ?@BII>f @LK@BMQP AB J >KA @LSBOP >II QEB C>@QLOP QE>Q >CCB@Q AB J >KA >KA PRMMIV @LSBOP >II QEB C>@QLOP QE>Q >CCB@Q PRMMIV 6B FK@IRAB C>@QLOP LQEB@ QE>K MOF@B QE>Q >CCB@Q AB J >KA >KA PRMMIV >OB FK@IRABA ?V RPFKD PEFCQ FK QEB AB J >KA LO QEB PRMMIV @ROSB (K QEFP T>V QEB QTL AF J BKPFLK>I AB J >KA >KA PRMMIV J LABI ?B@L J BP > MLTBOCRI QLLI CLO >K>IVWFKD > TFAB O>KDB LC B@LKL J F@ @FO@R J PQ>K@BP

### N ;4A:8F <A DH<?5E<H@ (E<68 4A7 ) H4AG<GL , ;8 BHE +G8C (EB68FF

!V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d (ABKQFCV BNRFF?OFR J MOF@B >KA NR>KQFQV QEOLRDE QEB CLRO PQBM MOL@BPP
  - d &O>ME BNRFF?OFR J MOF@B >KA NR>KQFQV
  - d "LKQ>PQ PEFCQ LC AB J >KA LO PRMMIV >KA J LSB J BKQ >ILKD > AB J >KA LO PRMMIV @ROSB
  - d &O>ME AB J >KA >KA PRMMIV @ROSBP FK@IRAFKD BNRFF?OFR J MOF@B >KA NR>KQFQV ?>PBA LK OB>I TLOIA
- BU> J MIBP

+BQ@P ?BDFK QEFP AFP@RPPFLK TFQE > PFKDIB B@LKL J F@ BSBKQ (Q J FDEQ ?B >K BSBKQ QE>Q >CCB@Q AB J >KA IFHB > @E>KDB FK FK@L J B MLMRI>QFLK Q>PQB MOF@BP LC PR?PQF@RQB LO @L J MIB J BKQ LO BUMB@>QFLK >?LRQ CRQROB MOF@BP (Q J FDEQ ?B >K BSBKQ QE>Q >CCB@Q PRMMIV IFHB > @E>KDB FK K>QRO>I @LKAQFLK FKMRQ MOF@BP LO QB@EKLILDV LO DLBOK J BKQ MLIF@FBP QE>Q >CCB@Q MOLAR@QFLK 'LT ALBP QEFP B@LKL J F@ BSBKQ >CCB@Q BNRFF?OFR J MOF@B >KA NR>KQFQV 6B TFII >K>IVWB QEFP NRB@QFLK RPFKD > CLRO PQBM MOL@BPP

2QBM #O>T > AB J >KA >KA PRMMIV J LABI ?B@LQB QEB B@LKL J F@ @E>KDB QLLH MI>@B 3L BPQ>?IFPE QEB J LABI OBNRFOBP CLRO PQ>KA>OA MFB@BP LC FK@LO J >QFLK 3EB I>T LC AB J >KA TEF@E QBII RP QEB PILMB LC QEB AB J >KA @ROSB QEB I>T LC PRMMIV TEF@E DFSBP RP QEB PILMB LC QEB PRMMIV @ROSB QEB PEFCQ S>OF>?IBP CLO AB J >KA >KA QEB PEFCQ S>OF>?IBP CLO PRMMIV %OL J QEFP J LABI CFKA QEB FKQF>I BNRFF?OFR J S>IRBP CLO MOF@B >KA NR>KQFQV

2QBM #B@FAB TEBQEB@ QEB B@LKL J F@ @E>KDB VLR >OB >K>IVWFKD >CCB@Q AB J >KA LO PRMMIV (K LQEB@ TLOAP ALBP QEB

BSBKQ OBCB0 QL PL J BQEFKD FK QEB IFPQ LC AB J >KA C>@QLOP LO PRMMIV C>@QLOP

2QBM #B@FAB TEBQEBO QEB BCCB@Q LK AB J >KA LO PRMMIV @>RPBP QEB @ROSB QL PEFCQ QL QEB OFDEQ LO QL QEB IBCQ >KA PHBQ@E QEB KBT AB J >KA LO PRMMIV @ROSB LK QEB AF>DO>J (K LQEBO TLOAP ALBP QEB BSBKQ FK@OB>PB LO AB@OB>PB QEB >J LRKQ @LKPR J BOP T>KQ QL ?RV LO MOLAR@BOP T>KQ QL PBII

2QBM (ABKQFCV QEB KBT BNRFFI?OFR J >KA QEBK @L J M>OB QEB LOFDK>I BNRFFI?OFR J MOF@B >KA NR>KQFQV QL QEB KBT BNRFFI?OFR J MOF@B >KA NR>KQFQV

+BQ@P @LKPFA0 LKB BU> J MIB QE>Q FKSLISBP > PEFCQ FK PRMMIV >KA LKB QE>Q FKSLISBP > PEFCQ FK AB J >KA 3EBK TB TFII @LKPFA0 >K BU> J MIB TEB0B ?LQE PRMMIV >KA AB J >KA PEFCQ

**BB7 / 84G ; 8E 9BE +4?@BA <F ; <A :**

2RMMPLPBA QE>Q AROFKD QEB PR J J B0 LC TB>QEBO @LKAQFLKP TBOB BU@BIIBKQ CLO @L J J B0@F>I P>I J LK CFPEFKD LCC QEB ">IFCLOKF> @L>PQ ' B>SV 0>FKP J B>KQ EFDEBO QE>K KLO J >I IBSBIP LC T>QBO FK QEB OFSBOP TEF@E EBIMP QEB P>I J LK QL ?OBBA 2IFDEQIV @LLIBO L@B>K QB J MBO>QROBP PQF J RI>QBA QEB DOLTQE LC MI>KHQLK QEB J F@QLP@LMF@ LOD>KFP J P >Q QEB ?LQQL J LC QEB L@B>K CLLA @E>FK MOLSFAPKD BSOVQEFKD FK QEB L@B>K TFQE > EB>0QV CLLA PRMMIV 3EB L@B>K PQ>VBA @>I J AROFKD CFPEFKD PB>PLK PL @L J J B0@F>I CFPEFKD LMBO>QFLKP AFA KLQ ILPB J >KV A>VP QL ?>A TB>QEBO ' LT AFA QEBPB @IF J >QB @LKAQFLKP >CCB@Q QEB NR>KQFQV >KA MOF@B LC P>I J LK <:HE8 FIIRPQ>QBP QEB CLRO PQBM >MMOL>@E TEF@E TB BUMI>FK ?BILT QL TLOH QEOLRDE QEFP MOL?IB J ,45?8 >IPL MOLSFABP QEB FKCL0 J >QFLK QL TLOH QEB MOL?IB J

<:HE8 BB7 / 84G ; 8E 9BE +4?@BA <F ; <A : , ; 8 BHE +08C (EB68FF 5KRPR>IIV DLLA TB>QEBO IB>AP QL @E>KDBP FK QEB MOF@B >KA NR>KQFQV LC P>I J LK

(E<68 C8E (BHA7	) H4AG<GL +HCC?<87 <A	) H4AG<GL +HCC?<87 <A	) H4AG<GL 8@4A787

,45?8 +4?@BA <F ; <A :



(E<68 C8E (BHA7	) H4AG<GL +HCC?<87 <A	) H4AG<GL +HCC?<87 <A	) H4AG<GL 8@4A787

,45?8 +4?@BA <F;<A:

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2QBM #FA QEB B@LKL J F@ BSBKQ >CCB@Q PRMMIV LO AB J>KA &LLA TB>QEBO FP >K BU> J MIB LC > K>QRO>I @LKAFLKPK QE>Q >CCB@Q PRMMIV

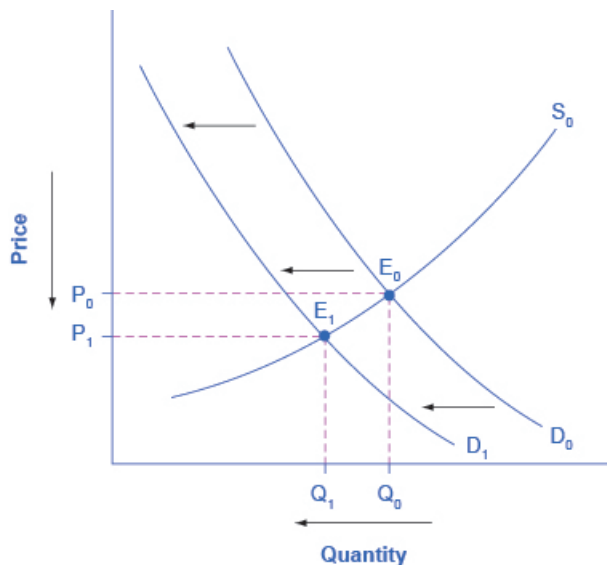
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2QBM "L J M>OB QEB KBT BNRHIF?OFR J MOF@B >KA NR>KQFQV QL QEB LOFDFK>I BNRHIF?OFR J Q QEB KBT BNRHIF?OFR J \$ QEB BNRHIF?OFR J MOF@B C>IIP COL J QL ?RQ QEB BNRHIF?OFR J NR>KQFQV FK@OB>PBP COL J QL P>IJ LK - LQF@B QE>Q QEB BNRHIF?OFR J NR>KQFQV AB J>KABA FK@OB>PBA BSBK QELRDE QEB AB J>KA @ROSB AFA KLQ J LSB

(K PELOQ DLLA TB>QEBO @LKAFLKPK FK@OB>PBA PRMMIV LC QEB ">IFCLOKF> @L J J BO@F>I P>IJ LK 3EB OBPRIQ T>P > EFDEBO BNRHIF?OFR J NR>KQFQV LC P>IJ LK ?LRDEQ >KA PLIA FK QEB J >OHBQ >Q > IL TBO MOF@B

### &8JFC4C8EF 4A7 6 ; 8 !AG8EA8G

@@LOAFKD QL QEB /BT 1BPB>0@E "BKQBO CLO /BLMIB >KA QEB /OBPP FK@OB>PFKDIV J LOB MBLMIB BPMB@F>IIV VLRKDBO MBLMIB >OB L?Q>FKFKD QEBFO KBTP COL J LKIFKB >KA AFDQ>I PLRO@BP 3EB J>GLOFQV LC 4 2 >ARIQ KLT LTK PJ >OQMEKBP LO Q>?IBQP >KA J LPQ LC QELPB J BOF@>KP P>V QEBV RPB QEB J FK M>OQ QL >@BPP QEB KBTP %OL J QL QEB PE>OB LC J BOF@>KP TEL OBMLQBA L?Q>FKFKD QEBFO KBTP COL J AFDQ>I PLRO@BP FK@OB>PBA COL J QL 'LT E>P QEFP >CCB@QBA @LKPR J MQFLK LC MOFKQ KBTP J BAF> >KA O>AFL >KA QBIBSFPFLK KBTP <:HE8 >KA QEB QBUQ ?BILT FIIRPQO>QB RPFKD QEB CLRO PQBM >K>IVPFP QL >KPTBO QEFP NRBPPQLK



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PMB@FCF@ KR J ?BOP LK QEB MOF@B >KA NR>KQFQV >UFP

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NR>KQFQV AB J>KABA LC QO>AFQFLK>I KBTP PLRO@BP >Q BSOV DFBK MOF@B @>RPFKD QEB AB J>KA @ROSB CLO MOFKQ >KA LQEB O  
QO>AFQFLK>I KBTP PLRO@BP QL PEFCQ QL QEB IBCQ COL J # QL #

2QBM " L J M>OB QEB KBT BNRFF?OFR J MOF@B >KA NR>KQFQV QL QEB LOFDK>I BNRFF?OFR J MOF@B 3EB KBT BNRFF?OFR J \$  
L@>ROP >Q > ILTBO NR>KQFQV >KA > ILTBO MOF@B QE>K QEB LOFDK>I BNRFF?OFR J \$

3EB AB@IFKB FK MOFKQ KBTP OB>AFKD MOBA>QBP /OFKQ KBTPM>MBO @FO@RI>QFLK MB>HBA FK >KA E>P AB@IFKBA PFK@B  
QEBK ARB QL @L J MBQFQFLK COL J QBIBSFPLK >KA O>AFL KBTP (K LC J BOF@>KP FKA@>QBA QEBV OB@BFSBA QEBFO  
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QBIBSFPLK >Q >II

### , ; 8 !AG8E6BAA86G<BAF 4A7 +C887 B9 7=HFG@8AG <A \*84? %4E>8Gf

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>OP J FDEQ FK@OB>PB ?B@>RPB LC OFPKD FK@L J BP >KA MLMRI>QFLK >KA FQ J FDEQ AB@OB>PB ?B@>RPB LC OFPKD D>PLIFKB MOF@BP  
> @L J MIB J BKQ>OV DLLA +FHBTFPB QEB PRMMIV LC @>OP J FDEQ FK@OB>PB ?B@>RPB LC FKKLS>QFSB KBT QB@EKLILDFBP QE>Q  
OBAR@B QEB @LPQ LC @>O MOLAR@QFLK >KA FQ J FDEQ AB@OB>PB >P > OBPRIQ LC KBT DLSBOK J BKQ OBDRI>QFLKP OBNRFQFKD QEB  
FKPQ>II>QFLK LC @LPQIV MLIRQFLK @LKQOLI QB@EKLILDV

, LOBLSBO OFPKD FK@L J BP >KA MLMRI>QFLK LO @E>KDBP FK D>PLIFKB MOF@BP TFH >CCB@Q J >KV J >OHBQ KLQ GRPQ @>OP ' LT  
>K >K B@LKL J FPQ PLOQ LRQ >II QEBPB FKQBO@LKKB@QBA BSBKQP 3EB >KPTBO IFBP FK QEB *ceteris paribus* >PPR J MQFLK +LLH  
>Q ELT B>@E B@LKL J F@ BSBKQ >CCB@QP B>@E J >OHBQ LKB BSBKQ >Q > QF J B ELIAFKD >II BIPB @LKPQ>KQ 3EBK @L J ?FKB QEB  
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ARB QL @LPQ LC IFSKD FK@OB>PBP Q QEB P> J B QF J B FK@OB>PFKDIV J LOB MBLMIB >OB RPFKD B J >FI QBUQ >KA LQEB O AFDQ>I  
J BPP>DB CLO J P PR@E >P %>@B?LLH >KA 3TFQBO QL @L J J RKF@>QB TFQE COFBKAP >KA LQEBOP 6 E>Q ALBP QEF PRDDBPQ >?LRQ  
QEB @LKQFKRBA SF>?FIFV LC QEB /LPQ>I 2BOSF@B <:HE8 >KA QEB QBUQ ?BILT FIIRPQ>QB QEF RPFKD QEB CLRO PQBM  
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2FK@B QEFP MOL?IB J FKSLISBP QTL AFPQR0?>K@BP TB KBBA QTL CLRO PQBM >K>IVBPB QEB CFOPQ QL >K>IVWB QEB BCCB@QP LC EFDEBO @L J MBKP>QLK CLO MLPQ>I TLOHBOP QEB PB@LKA QL >K>IVWB QEB BCCB@QP LC J >KV MBLMIB PTFQ@EFKD COL J ePK>FI J >Fif QL BJ >FI >KA LQEBO AFDFQ>I J BPP>DBP

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2QBM 6>P QEB BCCB@Q LK PRMMIV MLPQFSB LO KBD>QFSB ' FDEBO I>?LO @L J MBKP>QLK IB>AP QL > ILTBO NR>KQFV PRMMIFBA LC MLPQ>I PBOSF@BP >Q BSOV DFBK MOF@B @>RPFKD QEB PRMMIV @ROSB CLO MLPQ>I PBOSF@BP QL PEFCQ QL QEB IBCQ COL J 2 QL 2

2QBM " L J M>OB QEB KBT BNRHIF?0FR J MOF@B >KA NR>KQFV QL QEB LOFDFK>I BNRHIF?0FR J MOF@B 3EB KBT BNRHIF?0FR J \$ L@@ROP >Q > ILTBO NR>KQFV >KA > EFDEBO MOF@B QE>K QEB LOFDFK>I BNRHIF?0FR J \$

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2QBM #FA QEB @E>KDB ABP@OF?BA >CCB@Q PRMMIV LO AB J >KA @E>KDB FK Q>PQBP >T>V COL J PK>FI J >FI QL T>0A AFDFQ>I J BPP>DBP THII @>RPB > @E>KDB FK AB J >KA CLO QEB /LPQ>I 2BOSF@B

2QBM 6>P QEB BCCB@Q LK AB J >KA MLPQFSB LO KBD>QFSB @E>KDB FK Q>PQBP >T>V COL J PK>FI J >FI QL T>0A AFDFQ>I J BPP>DBP @>RBPB ILTBO NR>KQFV AB J >KABA LC MLPQ>I PBOSF@BP >Q BSOV DFBK MOF@B @>RPFKD QEB AB J >KA @ROSB CLO MLPQ>I PBOSF@BP QL PEFCQ QL QEB IBCQ COL J # QL #

2QBM " L J M>OB QEB KBT BNRHIF?0FR J MOF@B >KA NR>KQFV QL QEB LOFDFK>I BNRHIF?0FR J MOF@B 3EB KBT BNRHIF?0FR J \$ L@@ROP >Q > ILTBO NR>KQFV >KA > ILTBO MOF@B QE>K QEB LOFDFK>I BNRHIF?0FR J \$

3EB CFK>I PQBM FK > P@BK>OFL TEBOB ?LQE PRMMIV >KA AB J >KA PEFCQ FP QL @L J ?FKB QEB QTL FKAFSFAR>I >K>IVBPB QL ABQBO JFKB TE>Q E>MMBKP QL QEB BNRHIF?0FR J NR>KQFV >KA MOF@B &0>MEF@>HIV TB PRMBOF J MLPB QEB MOBSFLRP QTL AF>DO> J P LKB LK QLM LC QEB LQEBO >P FK <:HE8

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%LIILTTFKD >OB QEB OBPRIQP

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FP QL AB@OB>PB QEB BNRHIF?OFR J NR>KQFQV 3EB BCCB@Q LC > @E>KDB FK Q>PQBP >T>V COL J PK>FI J >FI FP QL AB@OB>PB QEB  
BNRHIF?OFR J NR>KQFQV 2FK@B ?LQE PEFCQP >OB QL QEB IBCQ QEB LSBO>II F J M>@Q FP > AB@OB>PB FK QEB BNRHIF?OFR J NR>KQFQV LC  
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>T>V COL J PK>FI J >FI FP QL AB@OB>PB QEB BNRHIF?OFR J MOF@B 2FK@B QEB QTL BCCB@QP >OB FK LMMLPFQB AFOB@QFLKP RKIBPP TB  
HKLT QEB J >DKFQRABP LC QEB QTL BCCB@QP QEB LSBO>II BCCB@Q FP RK@IB>O 3EFP FP KLQ RKRPR>I 6EBK ?LQE @ROSBP PEFCQ  
QVMF@>IIV TB @>K ABQBO J FKBA QEB LSBO>II BCCB@Q LK MOF@B LO LK NR>KQFQV ?RQ KLQ LK ?LQE (K QEFP @>PB TB ABQBO J FKBA QEB  
LSBO>II BCCB@Q LK QEB BNRHIF?OFR J NR>KQFQV ?RQ KLQ LK QEB BNRHIF?OFR J MOF@B (K LQEBO @>PBP FQ J FDEQ ?B QEB LMMLPFQB

3EB KBUQ "IB>O (Q 4M CB>QROB CL@RBPB LK QEB AFCCBOBK@B ?BQTBBK PEFCQP LC PRMMIV LO AB J>KA >KA J LSB J BKQP >ILKD >  
@ROSB

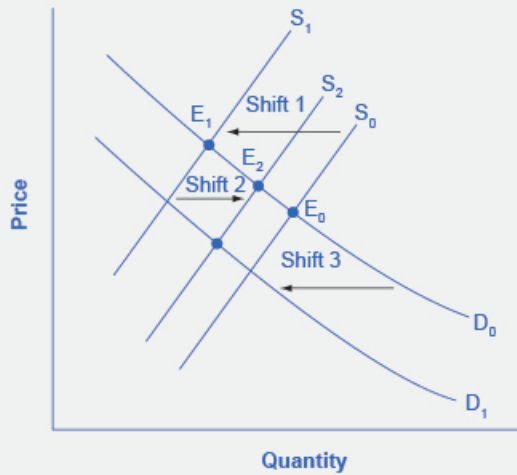
# Clear It Up

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@B I8@8AGF 4?BA : 4 78@4A7 BE FHCC?L 6HEI8

/ KB @L J J LK J FPQ>HB FK >MMIVFKD QEB AB J>KA >KA PRMMIV CO> J B TLOH FP QL @L KCRPB QEB PEFCQ LC > AB J>KA LO >  
PRMMIV @ROSB TFE J LSB JBKQ >ILKD > AB J>KA LO PRMMIV @ROSB !P >K BU>J MIB @L KPFABO > MOL?IB J QE>Q >PHP  
TEBQEBO > AOLRDEQ THH FK@OB>PB LO AB@OB>PB QEB BNRHIF?OFR J NR>KQFQV >KA BNRHIF?OFR J MOF@B LC TEB>Q ,BB >  
PQRABKQ FK >K FKQOLAR@QLQOV B@LKL J F@P @I>PP J FDEQ OB>PLK

b 7 BII FQ FP @IB>O QE>Q > AOLRDEQ OBAR@BP PRMMIV PL ) THH PEFCQ ?>@H QEB PRMMIV @ROSB >P FK QEB PEFCQ COL J QEB  
LOFDK>I PRMMIV @ROSB 3 QL 3 LK QEB AF>DO>J 3EFCQ 4EB BNRHIF?OFR J JLSBP COL J % QL % QEB BNRHIF?OFR J  
NR>KQFQV FP ILTBO >KA QEB BNRHIF?OFR J MOF@B FP EFDEBO 4EBK > EFDEBO MOF@B J >HBP C>O J BOP J LOB IFHBIV QL PRMMIV  
QEB DLLA PL QEB PRMMIV @ROSB PEFCQP OFDEQ >P PELTP QEB PEFCQ COL J 3 QL 3 PELTP LK QEB AF>DO>J 3EFCQ  
PL QE>Q QEB BNRHIF?OFR J KLT JLSBP COL J % QL % 4EB EFDEBO MOF@B ELTBSBO >IPL OBAR@BP AB J>KA >KA PL  
@>RBPB AB J>KA QL PEFCQ ?>@H IFHB QEB PEFCQ COL J QEB LOFDK>I AB J>KA @ROSB \$ QL \$ LK QEB AF>DO>J I>?BIBA

3EFQ >KA QEB BNRFF?OFR J JLSBP COL J % QL % c



<: HE8 + ; <9GF B9 8@4A7 BE +HCC?L I8EFHF %B I8@8AGF 4?BA: 4 8@4A7 BE +HCC?L HE I8 !  
 PEFQ FK LKB @ROSB KBSBO @>RPBP > PEFQ FK QEB LQEB @ROSB 2>QEB > PEFQ FK LKB @ROSB @>RPBP > JLSB JBKQ  
 >ILKD QEB PB@LKA @ROSB

! Q >?LRQ QEF MLFKQ , BB PRMB@QP QE>Q QEF >KPTBO FP EB>ABA ALTK QEB TOLKD M>QE 4EFKH >?LRQ TE>Q JFDEQ ?B  
 TOLKD TFQE , BB@P ILDF@ >KA QEBK OB>A QEB >KPTBO QE>Q CLILTP

Answer: , BB@P CFOPQ PQBM FP @L00B@Q QE>Q FP > AOLRDEQ PEFQ ?>@H QEB PRMMIV @ROSB LC TEB>Q >KA IB>AP QL >  
 MOBAF@QLK LC > ILTBO BNRFF?OFR J NR>KQFV >KA > EFDEBO BNRFF?OFR J MOF@B 4EFP @L00BPMLKAP QL > JLSB JBKQ  
 >ILKD QEB LQEBK>I AB J >KA @ROSB \$ COL J % QL % 4EB OBPQ LC , BB@P >ODR JBKQ FP TOLKD ?B@>RPB FQ JFUBP RM  
 PEFQ FK PRMMIV TFQE NR>KQFV PRMMIFBA >KA PEFQ FK AB J >KA TFQE NR>KQFV AB J >KABA ! EFDEBO LO ILTBO MOF@B  
 KBSBO PEFQ QEB PRMMIV @ROSB >P PRDDBPQBA ?V QEB PEFQ FK PRMMIV COL J 3 QL 3 )KPQ>A > MOF@B @E>KDB IB>AP  
 QL > JLSB JBKQ >ILKD > DfSBK PRMMIV @ROSB 3f J FI>OIV > EFDEBO LO ILTBO MOF@B KBSBO PEFQ > AB J >KA @ROSB  
 >P PRDDBPQBA FK QEB PEFQ COL J \$ QL \$ )KPQ>A > MOF@B @E>KDB IB>AP QL > JLSB JBKQ >ILKD > DfSBK AB J >KA  
 @ROSB 2B J B J ?BO > @E>KDB FK QEB MOF@B LC > DLLA KBSBO @>RPBP QEB AB J >KA LO PRMMIV @ROSB CLO QE>Q DLLA QL  
 PEFQ

4EFKH @>OBCRIIV >?LRQ QEB QF J BIFKB LC BSBKQP 7E>Q E>MMBKP CFOPQ TE>Q E>MMBKP KBUQ 7E>Q FP @>RPB TE>Q FP  
 B@B@Q )C VLR HBBM QEB LOABO OFDEQ VLR >OB J LOB IFHBIV QL DBQ QEB >K>IVPFP @L00B@Q

(K QEB CLRO PQBM >K>IVPFP LC ELT B@LKL J F@ BSBKQP >CCB@Q BNRFF?OFR J MOF@B >KA NR>KQFV QEB JLSB JBKQ COL J QEB LIA QL  
 QEB KBT BNRFF?OFR J PBB J P F J JBAF>QB P >MO>@QF>I J >QBO ELTBSBO MOF@BP >KA NR>KQFQFB LCQBK AL KLQ WLL J PQO>FDEQ  
 QL BNRFF?OFR J , LOB OB>IFPQF>IIV TEBK >K B@LKL J F@ BSBKQP @>RPBP AB J >KA LO PRMMIV QL PEFQ MOF@BP >KA NR>KQFQFB  
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 @E>KDB FK AB J >KA LO PRMMIV LCQB MRPEBP MOF@BP QLT>OA >KLQEB BNRFF?OFR J

## N (E<68 8<?A:F 4A7 (E<68 ?BBEF

! V QEB BKA LC QEF PB@QLK VLR TFII ?B >?IB QL

d \$UMI>FK MOF@B @LKQOLIP MOF@B @BFIKDP >KA MOF@B CILLOP

d K>IVWB AB J >KA >KA PRMMIV >P > PL@F>I >AGRPQ JBKQ JB@E>KFP J

3L QEF MLFKQ FK QEB @E>MQBO TB E>SB ?BBK >PPR J FKD QE>Q J >OHBQ >OB COBB QE>Q FP QEBV LMBO>QB TFQE KL DLSBOK JBKQ  
 FKQBOSBKQLK (K QEF PB@QLK TB TFII BUMILOB QEB LRQ@L J BP ?LQE >KQF@FM>QBA >KA LQEBOTFPB TEBK DLSBOK JBKQ ALBP  
 FKQBOSBK FK > J >OHBQ BFQEBO QL MOBSBKQ QEB MOF@B LC PL J B DLLA LO PBOF@B COL J OFFPKD eQLL EFDEF LO QL MOBSBKQ QEB MOF@B  
 LC PL J B DLLA LO PBOF@B COL J C>IIFKD eQLL ILT f

\$@LKL J FPQP ?BIFBSB QEBQB >OB > P J >II KR J ?BO LC CRKA> J BKQ>I MOFK@FMIBP QE>Q BUMI>FK ELT B@LKL J F@ >DBKQP OBPMLKA FK AFCCBOBKQ PFR>QLKP 3TL LC QEBPB MOFK@FMIBP TEF@E TB E>SB >IOB>AV FKQLAR@BA >OB QEB I>TP LC AB J >KA >KA PRMMIV

&LSBOK J BKQP @>K M>PP I>TP >CCB@QFKD J >OHBQ LRQ@L J BP ?RQ KL I>T @>K KBD>QB QEBPB B@LKL J F@ MOFK@FMIBP 1>QEBO QEB MOFK@FMIBP TFII ?B@L J B >MM>OBKQ FK PL J BQF J BP RKBUMB@QBA T>VP TEF@E J >V RKABO J FKB QEB FKQBKQ LC QEB DLSBOK J BKQ MLIF@V 3EFP FP LKB LC QEB J >GLO @LK@IRPFLKP LC QEFP PB@QFLK

"LKQQLSBOPV PL J BQF J BP PROOLRKP QEB MOF@BP >KA NR>KQFQFBP BPQ>?IFPEBA ?V AB J >KA >KA PRMMIV BPMB@F>IIV CLO MOLAR@QP QE>Q >OB @LKPFABOBA KB@BPPFQFBP (K PL J B @>PBP AFP@LKQBKQ LSBO MOF@BP QRQK FKQL MR?IF@ MOBPPROB LK MLIFQF@F>KP TEL J >V QEBK M>PP IBDPFI>QLK QL MOBSBKQ > @BOQ>FK MOF@B COL J @IF J ?FKD eQLL EFDE f LO C>IIFKD eQLL ILT f

3EB AB J >KA >KA PRMMIV J LABI PELTP ELT MBLMIB >KA CFO J P TFII OB>@Q QL QEB FK@BKQFSBP QE>Q QEBPB I>TP MOLSFAB QL @LKQOLI MOF@BP FK T>VP QE>Q TFII LCQBK IB>A QL RKABPFO>?IB @LKPBNRBK@BP IQBOK>QFSB MLIF@V QLLIP @>K LCQBK >@EFBSB QEB ABPFOBA DL>IP LC MOF@B @LKQOLI I>TP TEFIB >SLFAFKD >Q IB>PQ PL J B LC QEBFO @LPQP >KA QO>ABLCCP

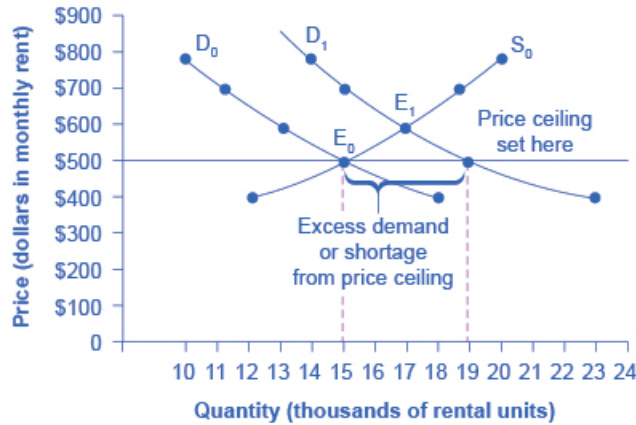
(E<68 8<?A:F

+>TP QE>Q DLSBOK J BKQ BK>@Q QL OBDRI>QB MOF@BP >OB @>IIBA **price controls** /OF@B @LKQOLIP @L J B FK QTL CI>SLOP **price ceiling** HBBMP > MOF@B COL J OFPKD >?LSB > @BOQ>FK IBSBI QEB e@BFIFKdf TEFIB > **price floor** HBBMP > MOF@B COL J C>IIFKD ?BILT > DFSBK IBSBI QEB eCILLOf 3EFP PB@QFLK RPBQ QEB AB J >KA >KA PRMMIV CO> J BTLOH QL >K>IVWB MOF@B @BFIFKDP 3EB KBUQ PB@QFLK AFP@RPPBP MOF@B CILLOP

MOF@B @BFIFKDP FP > IBD>I J >UF J R J MOF@B QE>Q LKB M>VP CLO PL J B DLLA LO PBOSF@B DLSBOK J BKQ F J MLPBP MOF@B @BFIFKDP FK LOABO QL HBBM QEB MOF@B LC PL J B KB@BPP>OV DLLA LO PBOSF@B >CCLOA>?IB %LO BU> J MIB FK AROFKD 'ROOF@>KB \*>QFK> QEB MOF@B LC ?LQQIBA T>QBO FK@OB>PBA >?LSB MBO D>IILK P > OBPRIQ J >KV MBLMIB @>IIBA CLO MOF@B @LKQOLIP LK ?LQQIBA T>QBO QL MOBSBKQ QEB MOF@B COL J OFPKD PL EFDE (K QEFP M>QF@RI>O @>PB QEB DLSBOK J BKQ AFA KLQ F J MLPB > MOF@B @BFIFKDP ?RQ QEBQB >OB LQEBO BU> J MIBP LC TEBQB MOF@B @BFIFKDP AFA L@>RO

(K J >KV J >OHBQP CLO DLLAP >KA PBOSF@BP AB J >KABOP LRQKR J ?BO PRMMIFBOP "LKPR J BOP TEL >OB >IPL MLQBKQF>I SLQBOP PL J BQF J BP RKFQB ?BEFKA > MLIFQF@>I MOLMLP>I QL ELIA ALTK > @BOQ>FK MOF@B (K PL J B @FQFBP PR@E >P I?>KV OBKQBOP E>SB MOBPPBA MLIFQF@>I IB>ABOP QL M>PP OBKQ @LKQOLI I>TP > MOF@B @BFIFKDP QE>Q RPR>IIV TLOHP ?V PQ>QFKD QE>Q I>KAILOAP @>K O>FPB OBKQP ?V LKIV > @BOQ>FK J >UF J R J MBQ@BKQ>DB B>@E VB>O 2L J B LC QEB ?BPQ BU> J MIBP LC OBKQ @LKQOLI L@>RO FK RO?>K >OB>P PR@E >P -BT 8LOH 6>PEFKDQLK # " LO 2>K %O>K@FP@L

1BKQ @LKQOLI ?B@L J BP > MLIFQF@>IIV ELQ QLMF@ TEBK OBKQP ?BDFK QL OFPB O>MFAIV \$SBOVLKB KBBAP >K >CCLOA>?IB MI>@B QL IFSB /BOE>MP > @E>KDB FK Q>PQBP J >HBP > @BOQ>FK PR?RO? LO QLTK > J LOB MLMRI>O MI>@B QL IFSB /BOE>MP IL@>IIV ??PBA ?RPFKBPPBP BUM>KA ?OFKDFKD EFDEBO FK@L J BP >KA J LOB MBLMIB FKQL QEB >OB> 2R@E @E>KDBP @>K @>RPB > @E>KDB FK QEB AB J >KA CLO OBKQ>I ELRPFKD >P <:HE8 FIIRPQ>QBP 3EB LOFDK>I BNRIF?OFR J \$ IFBP >Q QEB FKQBOPB@QLK LC PRMMIV @ROSB 2 >KA AB J >KA @ROSB # @LOOBPMLKAFKD QL >K BNRIF?OFR J MOF@B LC >KA >K BNRIF?OFR J NR>KQFQV LC RKFQP LC OBKQ>I ELRPFKD 3EB BCCB@Q LC DOB>QBO FK@L J B LO > @E>KDB FK Q>PQBP FP QL PEFCQ QEB AB J >KA @ROSB CLO OBKQ>I ELRPFKD QL QEB OFDEQ >P QEB A>Q> FK ,45?8 PELTP >KA QEB PEFCQ COL J # QL # LK QEB DO>ME (K QEFP J >OHBQ >Q QEB KBT BNRIF?OFR J \$ QEB MOF@B LC > OBKQ>I RKFQ TLRIA OFPB QL >KA QEB BNRIF?OFR J NR>KQFQV TLRIA FK@OB>PB QL RKFQP



<:HE8 (E<68 8<A: K4@C?8Q \*8AG BAGEB? 4EB LOFDFK>I FKQB@PB@QLK LC AB J>KA >KA PRMMIV L@@R@P >Q % )C AB J>KA PEFCQP COL J \$ QL \$ QEB KBT BNRFF?OFR J TLRIA ?B >Q % \_ RKIBPP > MOF@B @BFIFKD MOBSBKQP QEB MOF@B COL J OFFPKD )C QEB MOF@B FP KLQ MBO J FQ@BA QL OFPB QEB NR>KQFQV PRMMIFBA OB J>FKP >Q ( LTBSBO >C@B@ QEB @E>KDB FK AB J>KA QEB NR>KQFQV AB J>KABA OFPB QL OBPRIFKD FK >PELQ>DB

(E<68 'E<:<A4? )H4AG<GL +HCC?>87	'E<: <A4? )H4AG<GL 8@4A787	&8J )H4AG<GL 8@4A787

,45?8 \*8AG BAGEB?

2RMMILPB QE>Q > @FQV DLSBOK J BKQ M>PPBP > OBKQ @LKQOLI I>T QL HBBM QEB MOF@B >Q QEB LOFDFK>I BNRFF?OFR J LC CLO > QVMF@>I >M>OQ J BKQ (K <:HE8 QEB ELOFWLKQ>I IFKB >Q QEB MOF@B LC PELTP QEB IBD>IIV CFUBA J >UF J R J MOF@B PBQ ?V QEB OBKQ @LKQOLI I>T ' LTBSBO QEB RKABOIVFKD CLO@BP QE>Q PEFCQBA QEB AB J >KA @ROSB QL QEB OFDEQ >OB PQFII QEB@B Q QE>Q MOF@B QEB NR>KQFQV PRMMIFBA OB J>FKP >Q QEB P> J B OBKQ>I RKFQP ?RQ QEB NR>KQFQV AB J >KABA FP OBKQ>I RKFQP (K LQEB@ TLOAP QEB NR>KQFQV AB J >KABA BU@BBAP QEB NR>KQFQV PRMMIFBA PL QEB@B FP >PELQ>DB LC OBKQ>I ELRPFKD . KB LC QEB FOLKFBP LC MOF@B @BFIFKDP FP QE>Q TEFIB QEB MOF@B @BFIFKD T>P FKQBKABA QL EBIM OBKQBOP QEB@B >OB >@QR>IIV CBTBO >M>OQ J BKQP OBKQBA LRQ RKABO QEB MOF@B @BFIFKD OBKQ>I RKFQP QE>K TLRIA ?B QEB @>PB >Q QEB J >OHBQ OBKQ LC OBKQ>I RKFQP

/OF@B @BFIFKDP AL KLQ PF J MIV ?BKBCFQ OBKQBOP >Q QEB BUMBKPB LC I>KAILOAP 1>QEB@ PL J B OBKQBOP LO MLQBKF>I OBKQBOP ILPB QEBFO ELRPFKD >P I>KAILOAP @LKSBOQ >M>OQ J BKQP QL @L LMP >KA @L KALP \$SBK TEBK QEB ELRPFKD OB J >FKP FK QEB OBKQ>I J >OHBQ I>KAILOAP QBKA QL PMBKA IBPP LK J >FKQBK>K@B >KA LK BPPBKF>IP IFHB EB>QFKD @LLIFKD ELQ T>QBO >KA IFDEQFKD 3EB CFOPQ ORIB LC B@LKL J F@P FP VLR AL KLQ DBQ PL J BQEFKD CLO KLQEFKD b BSOVQEFKD E>P >K LMMLOQRKFQV @LPQ 3ERP FC OBKQBOP L?>QFK e@EB>MBOF ELRPFKD QE>K QEB J >OHBQ OBNRFOBP QEBV QBKA QL >IPL BKA RM TFQE ILTBO NR>IFQV ELRPFKD

/OF@B @BFIFKDP >OB BK>@QBA FK >K >QB J MQ QL HBBM MOF@BP ILT CLO QELPB TEL KBBA QEB MOLAR@Q ' LTBSBO TEBK QEB J >OHBQ MOF@B FP KLQ >IILTBA QL OFPB QL QEB BNRFF?OFR J IBSBI NR>KQFQV AB J >KABA BU@BBAP NR>KQFQV PRMMIFBA >KA QERP >PELQ>DB L@@R@P 3ELPB TEL J >K>DB QL MRO@E>PB QEB MOLAR@Q >Q QEB ILTBO MOF@B DFBK ?V QEB MOF@B @BFIFKD TFII ?BKBCFQ ?RQ PBIIBOP LC QEB MOLAR@Q TFII PRCCBO >ILKD TFQE QELPB TEL >OB KLQ >?IB QL MRO@E>PB QEB MOLAR@Q >Q >II OR>IFQV FP >IPL IFHBIV QL ABQBOFLO>QB

(E<68 ?BBEF

MOF@B CILLO FP QEB ILTBPQ MOF@B QE>Q LKB @>K IBD>IIV M>V CLO PL J B DLLA LO PBOSF@B /BOE>MP QEB ?BPQ HKLTK BU>J MIB

LC > MOF@B CILLO FP QEB J FKJ R J T>DB TEF@E FP ?>PBA LK QEB SFBT QE>Q PL J BLKB TLOHFKD CRUI QF J B PELRIA ?B >?IB QL  
>CCL0A > ?>PF@ PQ>KA>0A LC IFSFKD 3EB CBABO>I J FKJ R J T>DB FK T>P MBO ELRO >IQELRDE PL J B PQ>QBP >KA  
IL@>IFQFBP E>SB > EFDEBO J FKJ R J T>DB 3EB CBABO>I J FKJ R J T>DB VFBIAF >K >KKR>I FK@L J B CLO > PFKDIB MBOPLK LC  
TEF@E FP PIFDEQIV EFDEBO QE>K QEB %BABO>I MLSSOQV IFKB LC P QEB @LPQ LC IFSFKD OFPBP LSBO QF J B QEB  
"LKDOBPP MBOFLAF@>IIV O>FPBP QEB CBABO>I J FKJ R J T>DB

/OF@B CILLOP >OB PL J BQF J BP @>IIBA eMOF@B PRMMLQOP f ?B@>RPB QEBV PRMMLQO > MOF@B ?V MOBSBKQFKD FQ COL J C>IIFKD ?BILT  
> @BOQ>FK IBSBI OLRKA QEB TLOIA J >KV @LRKQOFBP E>SB M>PPBA I>TP QL @OB>QB >DOF@RIQRO>I MOF@B PRMMLQOP %>O J MOF@BP  
>KA QERP C>O J FK@L J BP CIR@QR>QB PL J BQF J BP TFABIV \$SBK FC LK >SBO>DB C>O J FK@L J BP >OB >ABNR>QB PL J B VB>OP QEBV  
>K ?B NRFQB ILT 3EB MROMLPB LC MOF@B PRMMLQOP FP QL MOBSBKQ QEBPB PTFKDP

3EB J LPQ @L J J LK T>V MOF@B PRMMLQOP TLOH FP QE>Q QEB DLSBOK J BKQ BKQOBP QEB J >OHBQ >KA ?RVP RM QEB MOLAR@Q >AAFKD  
QL AB J >KA QL HBBM MOF@BP EFDEBO QE>K QEBV LQEBOTFPB TLRIA ?B @>LOAFKD QL QEB "L J J LK DOF@RIQRO>I /LIF@V OBCL0 J  
M>PPBA FK QEB \$ROMLB>K 4KFLK \$4 TFII PMBKA >?LRQ ?FIIFLK BROLP MBO VB>O LO ?FIIFLK ALII>OP MBO VB>O  
TFQE QEB -LSB J ?BO BU@E>KDB O>QB LO OLRDEIV LC QEB \$4 ?RADBQ LK MOF@B PRMMLQOP CLO \$ROMLBdP C>O J BOP  
COL J QL

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LK QEB J >OHBQ CLO TEB>Q FK \$ROMLB (K QEB >?PBK@B LC DLSBOK J BKQ FKQBOSBKQFLK QEB MOF@B TLRIA >AGRP PL QE>Q QEB  
NR>KQFQV PRMMIFBA TLRIA BNR>I QEB NR>KQFQV AB J >KABA >Q QEB BNRFFI?OFR J MLFKQ \$ TFQE MOF@B / >KA NR>KQFQV O  
' LTBSBO MLIF@FBP QL HBBM MOF@BP EFDE CLO C>O J BOP HBBMP QEB MOF@B >?LSB TE>Q TLRIA E>SB ?BBK QEB J >OHBQ BNRFFI?OFR J  
IBSBI b QEB MOF@B /C PELTK ?V QEB A>PEBA ELOFWLKQ>I IFKB FK QEB AF>DO> J 3EB OBPRIQ FP > NR>KQFQV PRMMIFBA FK BU@BPP LC  
QEB NR>KQFQV AB J >KABA OA 6 EBK NR>KQFQV PRMMIFBA BU@BBAP NR>KQFQV AB J >KABA > PROMIRP BUFPQP

\$@LKL J FPQP BPQF J >QB QE>Q QEB EFDE FK@L J B >OB>P LC QEB TLOIA FK@IRAFKD QEB 4KFQBA 2Q>QBP \$ROMLB >KA )>M>K PMBKA  
OLRDEIV ?FIIFLK MBO A>V FK PRMMLQOFKD QEBFO C>O J BOP (C QEB DLSBOK J BKQ FP TFIIFKD QL MRO@E>PB QEB BU@BPP PRMMIV  
LO QL MOLSFAB M>V J BKQP CLO LQEBOP QL MRO@E>PB FQ QEBK C>O J BOP TFII ?BKBCFQ COL J QEB MOF@B CILLO ?RQ Q>UM>VBOP >KA  
>LKP R J BOP LC CLLA TFII M>V QEB @LPQP DOF@RIQRO>I B@LKL J FPQP >KA MLIF@V J >HBOP E>SB LCCBOBA KR J BOLRP MOLMLP>IP  
CLO OBAR@FKD C>O J PR?PFAFBP (K J >KV @LRKQOFBP ELTBSBO MLIFQF@>I PRMMLQO CLO PR?PFAFBP CLO C>O J BOP OB J >FKP PQQLKD  
3EFP FP BFQEB0 ?B@>RPB QEB MLMRI>QFLK SFBTP QEFP >P PRMMLQOFKD QEB QO>AFQFLK>I ORO>I T>V LC IFCB LO ?B@>RPB LC FKARPQOV P  
IL??VFKD MLTBO LC QEB >DOL ?RPFKBPP

<:HE8 HEBC84A / ; 84\$ (E<68F (E<68 ?BBE K4@C'8 4EB FKQBOPB@QFLK LC AB J >KA \$ >KA PRMMIV 3  
TLRIA ?B >Q QEB BNRFFI?OFR J MLFKQ % (LTBSBO > MOF@B CILLO PBQ >Q OC ELIAP QEB MOF@B >?LSB % >KA MOBSBKQP FQ COL J  
>IIFKD 4EB OBPRIQ LC QEB MOF@B CILLO FP QE>Q QEB NR>KQFQV PRMMIFBA 1P BU@BBAP QEB NR>KQFQV AB J >KABA 1A 4EB0B FP  
BU@BPP PRMMIV >IPL @>IIBA > PROMIRP



# N 8@4A7 +HCC?L 4A7 99<6<8A6L

! V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL

- d "LKQO>PQ @LKPR J BO PROMIRP MOLAR@BO PROMIRP >KA PL@F>I PROMIRP
- d \$UMI>FK TEV MOF@B CILLOP >KA MOF@B @BFIFKDP @>K ?B FKBCCF@FBKQ
- d K>IVWB AB J >KA >KA PRMMIV >P > PL@F>I >AGRPQ J BKQ J B@E>KFP J

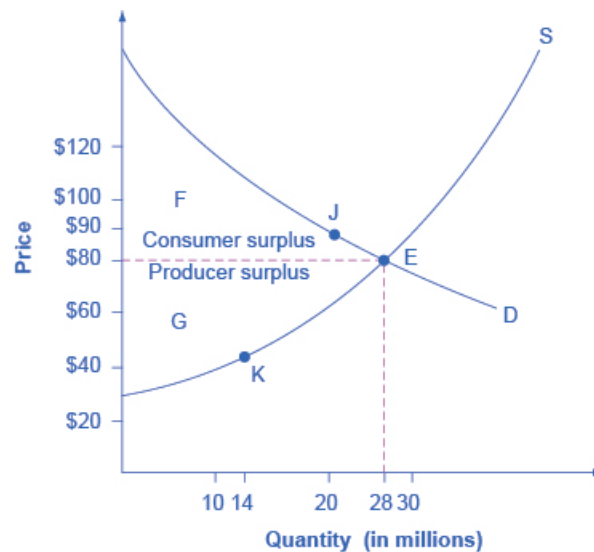
3EB C> J FIF>O AB J >KA >KA PRMMIV AF>DO> J ELIAP TFQEFK FQ QEB @LK@BMQ LC B@LKL J F@ BCCF@FBK@V . KB QVMF@>I T>V QE>Q B@LKL J FFP ABCFKB BCCF@FBK@V FP TEBK FQ FP F J MLPPF?IB QL F J MOLSB QEB PFQR>QLK LC LKB M>OQV TFQELRQ F J MLPFKD > @LPQ LK >KLQEB " LKSBOBPBIV FC > PFQR>QLK FP FKBCCF@FBKQ FQ ?B@L J BP MLPPF?IB QL ?BKBCFQ >Q IB>PQ LKB M>OQV TFQELRQ F J MLPFKD @LPQP LK LQEBOP

\$CCF@FBK@V FK QEB AB J >KA >KA PRMMIV J LABI E>P QEB P> J B ?>PF@ J B>KFKD 3EB B@LKL J V FP DBQFKD >P J R@E ?BKBCFQ >P MLPPF?IB COL J FQP P@>O@B OBPLRO@BP >KA >II QEB MLPPF?IB D>FKP COL J QO>AB E>SB ?BBK >@EFBSBA (K LQEB TLOAP QEB LMQF J >I > J LRKQ LC B>@E DLLA >KA PBO SF@B FP MOLAR@BA >KA @LKPR J BA

## BAFH@8E +HEC?HF (EB7H68E +HEC?HF +B6<4? +HEC?HF

"LKPFABO > J >OHBQ CLO Q>?IBQ @L J MRQBOP >P <:HE8 PELTP 3EB BNRHIF?OFR J MOF@B FP >KA QEB BNRHIF?OFR J NR>KQFQV FP J FIFLK 3L PBB QEB ?BKBCFQ QL @LKPR J BOP ILLH >Q QEB PBD J BKQ LC QEB AB J >KA @ROSB >?LSB QEB BNRHIF?OFR J MLFKQ >KA QL QEB IBCQ 3EFP MLOQLK LC QEB AB J >KA @ROSB PELTP QE>Q >Q IB>PQ PL J B AB J >KABOP TLRIA E>SB ?BBK TFIFKD QL M>V J LOB QE>K CLO >Q>?IBQ

%LO BU> J MIB MLFKQ ) PELTP QE>Q FC QEB MOF@B TBOB J FIFLK Q>?IBQ TLRIA ?B PLIA 3ELPB @LKPR J BOP TEL TLRIA E>SB ?BBK TFIFKD QL M>V CLO >Q>?IBQ ?>PBA LK QEB RQFIFQV QEBV BUMB@Q QL OB@BFSB COL J FQ ?RQ TEL TBOB >?IB QL M>V QEB BNRHIF?OFR J MOF@B LC @IB>OIV OB@BFSBA > ?BKBCFQ ?BVLKA TE>Q QEBV E>A QL M>V 1B J B J ?BO QEB AB J >KA @ROSB QO>@BP @LKPR J BOPD TFIFKDKBPP QL M>V CLO AFCCBOBKQ NR>KQFQV 3EB > J LRKQ QE>Q FKAFSAR>IP TLRIA E>SB ?BBK TFIFKD QL M>V J FKRQ QEB > J LRKQ QE>Q QEBV >@QR>IIV M>FA FP @>IIBA **consumer surplus** "LKPR J BO PROMIRP FP QEB >OB> I>?BIBA % b QE>Q FP QEB >OB> >?LSB QEB J >OHBQ MOF@B >KA ?BILT QEB AB J >KA @ROSB



<:HE8 BAFH@8E 4A7 (EB7H68E +HEC?HF 4EB PL J BTE>Q QO>KDRIO >OB> I>?BIBA ?V & PELTP QEB >OB> LC @LKPR J BO PROMIRP TEF@E PELTP QE>Q QEB BNRHIF?OFR J MOF@B FK QEB J >OHBQ T>P IBPP QE>K TE>Q J >KV LC QEB @LKPR J BOP TBOB TFIFKD QL M>V OLFKQ \* LK QEB AB J >KA @ROSB PELTP QE>Q BSBK >Q QEB MOF@B LC @LKPR J BOP TLRIA E>SB ?BBK TFIFKD QL MRO@E>PB > NR>KQFQV LC J FIFLK 4EB PL J BTE>Q QO>KDRIO >OB> I>?BIBA ?V ' PELTP QEB >OB> LC MOLAR@BO PROMIRP TEF@E PELTP QE>Q QEB BNRHIF?OFR J MOF@B OB@BFSBA FK QEB J >OHBQ T>P J LOB QE>K TE>Q J >KV LC QEB MOLAR@BO TBOB TFIFKD QL >@BMQ CLO QEBFO MOLAR@QP &LO BU> J MIB MLFKQ + LK QEB PRMMIV @ROSB PELTP QE>Q >Q > MOF@B LC CFO J P TLRIA E>SB ?BBK TFIFKD QL PRMMIV > NR>KQFQV LC J FIFLK

3EB PRMMIV @ROSB PELTP QEB NR>KQFQV QE>Q CFO J P >OB TFIFKD QL PRMMIV >Q B>@E MOF@B %LO BU> J MIB MLFKQ \* FK <:HE8

FIIRPQ>QBP QE>Q >Q CFO J P TLRJA PQFII E>SB ?BBK TFIIFKD QL PRMMIV > NR>KQFQV LC J FIIFLK 3ELPB MOLAR@BOP  
TEL TLRJA E>SB ?BBK TFIIFKD QL PRMMIV QEB Q>?IBQP >Q ?RQ TEL TBOB FKPB>A >?IB QL @E>ODB QEB BNRIF?OFR J MOF@B  
LC @IB>OIV OB@BFSBA >K BUQO> ?BKBCFQ ?BVLKA TE>Q QEBV OBNRFOBA QL PRMMIV QEB MOLAR@Q 3EB > J LRKQ QE>Q > PBIIBO  
FP M>FA CLO > DLLA J FKRP QEB PBIIBoP >@QR>I @LPQ FP @>IIBA **producer surplus** (K <: HE8 MOLAR@BO PROMIRP FP QEB  
>OB> I>?BIBA & b QE>Q FP QEB >OB> ?BQ'TBBK QEB J >OHBQ MOF@B >KA QEB PBD J BKQ LC QEB PRMMIV @ROSB ?BIL'T QEB BNRIF?OFR J

3EB PR J LC @LKPR J BO PROMIRP >KA MOLAR@BO PROMIRP FP **social surplus** >IPL OBCBOOBA QL >P **economic surplus** LO **total  
surplus** (K <: HE8 TB PELT PL@F>I PROMIRP >P QEB >OB> % & 2L@F>I PROMIRP FP I>ODBO >Q BNRIF?OFR J NR>KQFQV  
>KA MOF@B QE>K FQ TLRJA ?B >Q >KV LQEBO NR>KQFQV 3EFP AB J LKPQ>QBP QEB B@LKL J F@ BCCF@FBK@V LC QEB J >OHBQ BNRIF?OFR J  
(K >AAFQFLK >Q QEB BCCF@FBKQ IBSBI LC LRQMRQ FQ FP F J MLPPF?IB QL MOLAR@B DOB>QBO @LKPR J BO PROMIRP TFQELRQ OBAR@FKD  
MOLAR@BO PROMIRP >KA FQ FP F J MLPPF?IB QL MOLAR@B DOB>QBO MOLAR@BO PROMIRP TFQELRQ OBAR@FKD @LKPR J BO PROMIRP

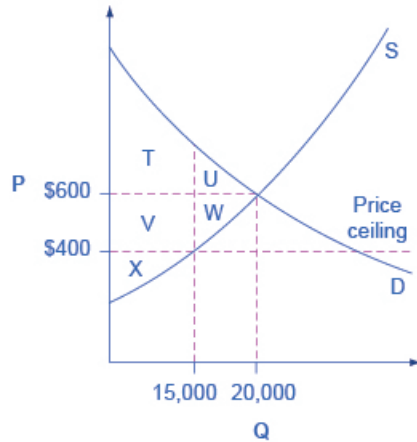
**!A899<6<8A6L B9 (E<68 ?BBEF 4A7 (E<68 8<?A:F**

3EB F J MLPFQFLK LC > MOF@B CILLO LO > MOF@B @BFIFKD TFII MOBSBKQ > J >OHBQ COL J >AGRPQFKD QL FQP BNRIF?OFR J MOF@B >KA  
NR>KQFQV >KA QERP TFII @OB>QB >K FKBCCF@FBKQ LRQ@L J B ' LTBSBO QEBOB FP >K >AAFQFLK>I QTFPP EBOB ILKD TFQE @OB>QFKD  
FKBCCF@FBK@V MOF@B CILLOP >KA @BFIFKDP TFII >IPL QO>KPCBO PL J B @LKPR J BO PROMIRP QL MOLAR@BOP LO PL J B MOLAR@BO PROMIRP  
QL @LKPR J BOP

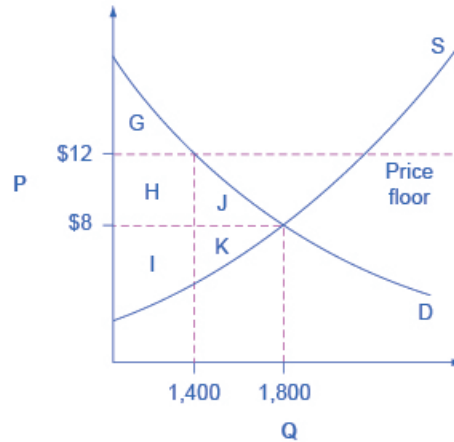
(J >DFKB QE>Q PBSBO>I CFO J P ABSBILM > MOL J FPFKD ?RQ BUMBKPFBS KBT AORD CLO QOB>QFKD ?>@H M>FK (C QEFP QEBO>MV FP  
IBCQ QL QEB J >OHBQ QEB BNRIF?OFR J MOF@B TFII ?B MBO J LKQE >KA MBLMIB TFII RPB QEB AORD >P PELTK FK  
<: HE8 > 3EB LOFDK>I IBSBI LC @LKPR J BO PROMIRP FP 3 4 >KA MOLAR@BO PROMIRP FP 5 6 7 ' LTBSBO QEB  
DLSBOK J BKQ AB@FABP QL F J MLPB > MOF@B @BFIFKD LC QL J >HB QEB AORD J LOB >CCLOA>?IB Q QEFP MOF@B @BFIFKD CFO J P  
FK QEB J >OHBQ KLT MOLAR@B LKIV

P > OBPRIQ Q'TL @E>KDBP L@@RO %FOPQ >K FKBCCF@FBKQ LRQ@L J B L@@ROP >KA QEB QLQ>I PROMIRP LC PL@FBQV FP OBAR@BA 3EB  
ILPP FK PL@F>I PROMIRP QE>Q L@@ROP TEBK QEB B@LKL J V MOLAR@BP >Q >K FKBCCF@FBKQ NR>KQFQV FP @>IIBA **deadweight loss** (K >  
SBOV OB>I PBKPB FQ FP IFHB J LKBV QEOLTK >T>V QE>Q ?BKBCFQ KL LKB (K <: HE8 > QEB AB>A TBFDEQ ILPP FP QEB >OB>  
4 6 6 EBK AB>A TBFDEQ ILPP BUFPQ FQ FP MLPPF?IB CLO ?LQE @LKPR J BO >KA MOLAR@BO PROMIRP QL ?B EFDEBO FK QEFP @>PB  
?B@>RPB QEB MOF@B @LKQOLI FP ?IL@HFKD PL J B PRMMIFBOP >KA AB J >KABOP COL J QO>KP>@QFLKP QEBV TLRJA ?LQE ?B TFIIFKD QL  
J >HB

PB@LKA @E>KDB COL J QEB MOF@B @BFIFKD FP QE>Q PL J B LC QEB MOLAR@BO PROMIRP FP QO>KPCBOOBA QL @LKPR J BOP CQBO QEB  
MOF@B @BFIFKD FP F J MLPBA QEB KBT @LKPR J BO PROMIRP FP 3 5 TEFIB QEB KBT MOLAR@BO PROMIRP FP 7 (K LQEBO TLOAP QEB  
MOF@B @BFIFKD QO>KPCBOP QEB >OB> LC PROMIRP 5 COL J MOLAR@BOP QL @LKPR J BOP - LQB QE>Q QEB D>FK QL @LKPR J BOP FP IBPP  
QE>K QEB ILPP QL MOLAR@BOP TEF@E FP GRPQ >KLQEBO T>V LC PBBFKD QEB AB>A TBFDEQ ILPP



(a) Reduced social surplus from a price ceiling



(b) Reduced social surplus from a price floor

<:HE8 99<6<8A6L 4A7 (E<68 ?BBEF 4A7 8<A:F > 4EB LOFDfK>I BNRHF?OFR J MOF@B FP TFQE > NR>KQFQV LC  
 #LKPR J BO PROMIRP FP 4 5 >KA MOLAR@BO PROMIRP FP 6 7 8 ! MOF@B @BFIKDP FP F J MLPBA >Q PL CFO J P FK  
 QEB J >OHBQ KLT MOLAR@B LKIV > NR>KQFQV LC ! P > OBPRIQ QEB KBT @LKPR J BO PROMIRP FP 4 6 TEF@E QEB KBT  
 MOLAR@BO PROMIRP FP 8 ? 4EB LOFDfK>I BNRHF?OFR J FP >Q > NR>KQFQV LC #LKPR J BO PROMIRP FP ' ( \* >KA  
 MOLAR@BO PROMIRP FP ) + ! MOF@B CILLO FP F J MLPBA >Q TEF@E J B>KP QE>Q NR>KQFQV AB J >KABA C>IIP QL ! P >  
 OBPRIQ QEB KBT @LKPR J BO PROMIRP FP ' >KA QEB KBT MOLAR@BO PROMIRP FP ( )

<:HE8 ? PELTP > MOF@B CILLO BU>J MIB RPKFD > PQQFKD LC PQORDDIFKD J LSF@B QEB>QBOP >II FK QEB P> J B @FQV 3EB  
 @ROOBKQ BNRHF?OFR J FP MBO J LSF@B QF@HBQ TFQE MBLMIB >Q@BKAFKD J LSF@B 3EB LOFDfK>I @LKPR J BO PROMIRP FP &  
 ' ) >KA MOLAR@BO PROMIRP FP ( \* 3EB @FQV DLSBOK J BKQ FP TLOOFBA QE>Q J LSF@B QEB>QBOP TFII DL LRQ LC ?RPFKBP  
 OBAR@FKD QEB BKQBOQ>FK J BKQ LM@FLKP >S>FI>?IB QL @FQFWBKP PL FQ AB@FABP QL F J MLPB > MOF@B CILLO LC MBO QF@HBQ P >  
 OBPRIQ QEB NR>KQFQV AB J >KABA LC J LSF@B QF@HBQ C>IIP QL 3EB KBT @LKPR J BO PROMIRP FP & >KA QEB KBT MOLAR@BO  
 PROMIRP FP ' ( ( K BCCB@Q QEB MOF@B CILLO @>RPBP QEB >OB> ' QL ?B QO>KPCBOOBA COL J @LKPR J BO QL MOLAR@BO PROMIRP ?RQ  
 >IPL @>RPBP > AB>ATBFDEQ ILPP LC ) \*

3EP >K>IVPP PELTP QE>Q > MOF@B @BFIKDP IFHB > I>T BPQ>?IFPEFKD OBKQ @LKQOLIP TFII QO>KPCBO PL J B MOLAR@BO PROMIRP QL  
 @LKPR J BO b TEF@E EBIMQ QL BUMI>FK TEV @LKPR J BO LCQBK C>SLO QEB J " LKSBOPBIV > MOF@B CILLO IFHB > DR>O>KQBB QE>Q  
 C>O J BOP TFII OB@BFSB > @BOQ>FK MOF@B CLO QEBFO @QLMP TFII QO>KPCBO PL J B @LKPR J BO PROMIRP QL MOLAR@BOP TEF@E BUMI>FKP  
 TEV MOLAR@BOP LCQBK C>SLO QEB J ' LTBSBO ?LQE MOF@B CILLO >KA MOF@B @BFIKDP ?IL@H PL J B QO>KP>@QLKP QE>Q ?RVBOP  
 >KA PBIIBOP TLRIA E>SB ?BBK TFIIFKD QL J >HB >KA @OB>QB AB>ATBFDEQ ILPP 1 B J LSF@B PR@E ?>OOFBOP PL QE>Q MOF@BP >KA  
 NR>KQFQV @>K >AGRQ QL QEBFO BNRHF?OFR J IBBSI TFII FK@OB>PB QEB B@LKL J VdP PL@F>I PROMIRP

8@4A7 4A7 +HCC?L 4F 4 +B6<4? 7=HFG@8AG %86 ; 4A<F@

3EB AB J >KA >KA PRMMIV J LABI B J ME>PFWBP QE>Q MOF@BP >OB KLQ PBQ LKIV ?V AB J >KA LO LKIV ?V PRMMIV ?RQ ?V QEB  
 FKQBO>@QLK ?BQTBBK QEB TTL (K QEB C> J LRP B@LKL J FPQ ICOBA , >OPE>II TOLQB QE>Q >PHFKD TEBQEBOP PRMMIV LO  
 AB J >KA ABQBO J FKBA > MOF@B T>P IFHB >ODRFKD eTEBQEBOP FQ FP QEB RMMBO LO QEB RKABO ?I>AB LC > M>FO LC P@FPPLQP QE>Q @RQP  
 > MFB@B LC M>MBO f 3EB >KPTBO FP QE>Q ?LQE ?I>ABP LC QEB AB J >KA >KA PRMMIV P@FPPLQP >OB >IT>VP FKSLISBA

3EB >AGRQ J BKQP LC BNRHF?OFR J MOF@B >KA NR>KQFQV FK > J >OHBQ LOFBKQBA B@LKL J V LCQBK L@RO TFQELRQ J R@E  
 DLSBOK J BKQ AFOB@QLK LO LSBOPFDEQ (C QEB @LCCBB @OLM FK ! O>WFI PRCCBOP > QBOOF?IB COLPQ QEBK QEB PRMMIV @ROSB LC @LCCBB  
 PEFCQP QL QEB IBCQ >KA QEB MOF@B LC @LCCBB OFPBP 2L J B MBLMIB b @>II QEB J QEB @LCCBB >AAF@QP b @LKQFKRB QL AOFKH @LCCBB  
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 QL >AGRQ @LCCBB MOF@BP TEF@E @L J M>KFBP TFII ?B >IILTBA QL MOL@BPP QEB OB J >FKFKD PRMMIV TEF@E PRMBO J >OHBQ FK  
 TEF@E @FQFBP TFII DBQ ELT J R@E @LCCBB QL PBII LO TEF@E @LKPR J BO TFII RIQF J >QBIV ?B >IILTBA QL AOFKH QEB ?OBT 2R@E  
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 TB ?>OBIV KLQF@B QEB J

3EFKH CLO > J L J BKQ LC >II QEB PB>PLK>I CLLAP QE>Q >OB >S>FI>?IB >KA FKBUMBKPF@SB >Q @BOQ>FK QF J BP LC QEB VB>O IFHB COBPE  
 @LOK FK J FAPR J J BO ?RQ J LOB BUMBKPF@SB >Q LQEBO QF J BP LC QEB VB>O /BLMIB >IQBO QEBFO AFBQP >KA OBPQ>RO>KQP >IQBO QEBFO  
 J BKRP FK OBPMLKPB QL QEBPB CIR@QR>QLKP FK MOF@BP TFQELRQ CRPP LO C>K>OB %LO ?LQE QEB 4 2 B@LKL J V >KA QEB TLOIA

B@LKL JV >P > TELIB J >OHBQP b QE>Q FP AB J>KA >KA PRMMIV b >OB QEB MOF J >OV PL@F>I J B@E>KFP J CLO >KPTBQFKD QEB  
?>PF@ NRBPQFLKP >?LRQ TE>Q FP MOLAR@BA ELT FQ FP MOLAR@BA >KA CLO TEL J FQ FP MOLAR@BA

# Bring it Home

/ ;L 4A / 8 &BG 8G ABH: ; B9 'E:4A<6

/OD>Kf@ CLLA FP DOLTK TfqELRQ PVKQEBQf@ MBPQf@FABP @EB Jf@>I CBOQFIRWBOP LO DBKBQf@>IIV J LAFcfBA PBBAP JK  
OB@BKQ AB@>ABP QEB AB J>KA CLO LOD>Kf@ MOLAR@QP E>P FK@OB>PBA AO>J>Qf@>IIV 4EB /OD>Kf@ 4Q>AB !PPL@F>QFLK  
OBMLQ@BA P>IBP FK@OB>PBA COL J ?FIIFLK FK QL ?FIIFLK FK JLOB QE>K LC TEF@E TBOB P>IBP  
LC CLLA MOLAR@QP

7EV QEBK >OB LOD>Kf@ CLLAP JLOB BUMBKPFsB QE>K QEBFO @LKSbKqFLK>I @LRKQbOM>QQP 4EB >KPTBO FP > @IB>O  
>MMf@>QFLK LC QEB QEBLOFBP LC PRMMIV >KA AB J>KA !P MBLMIB E>SB IB>OKBA JLOB >?LRQ QEB E>O JCRi BCCB@QP LC  
@EB Jf@>I CBOQFIRWBOP DOLTQE ELQJLKBP MBPQf@FABP >KA QEB IFHB COL J I>ODB P@>IB C>@QLOV C>O JFKD LRO Q>PQBP >KA  
MOBcBOBK@BP CLO P>CBO LOD>Kf@ CLLAP E>SB FK@OB>PBA 4EFP @E>KDB FK Q>PQBP E>P ?BBK OBfKcLO@BA ?V FK@OB>PBP  
FK FK@LJB TEF@E >IILT MBLMIB QL MRQ@E>PB MOF@FB0 MOLAR@QP >KA E>P J>AB LOD>Kf@ CLLAP JLOB J>FKPQOB> J  
4EFP E>P IBA QL >K FK@OB>PBA AB J>KA CLO LOD>Kf@ CLLAP 'O>MEF@>IIV QEB AB J>KA @ROSB E>P PEFQ@BA OFDEQ >KA  
TB E>SB JLSBA RM QEB PRMMIV @ROSB >P MOLAR@BOP E>SB OBPMKLKABA QL QEB EFDEBO MOF@BP ?V PRMMIVfKD > DOB>QBO  
NR>KQfQV

JK >AAfQFLK QL QEB JLSB JBKQ >ILKD QEB PRMMIV @ROSB TB E>SB >IPL E>A >K FK@OB>PB FK QEB KR J?BO LC C>O JBOP  
@LKSbQfKD QL LOD>Kf@ C>O JFKD LSBO QfJB 4EFP FP OBMObPBKQBA ?V > PEFQ QL QEB OFDEQ LC QEB PRMMIV @ROSB  
3fK@B ?LQE AB J>KA >KA PRMMIV E>SB PEFQ@BA QL QEB OFDEQ QEB OBPRiQfKD BNRfif?OfR J NR>KQfQV LC LOD>Kf@ CLLAP  
FP ABCfKfQbIV EFDEBO ?RQ QEB MOF@B THi LKIV C>II TeBK QEB FK@OB>PB FK PRMMIV FP I>ODBO QE>K QEB FK@OB>PB FK  
AB J>KA 7B J>V KBBA JLOB QfJB ?BcLOB TB PBB ILTBO MOF@BP FK LOD>Kf@ CLLAP 3fK@B QEB MOLAR@QFLK @LpQP LC  
QEBPB CLLAP J>V OB J>FK EFDEBO QE>K @LKSbKqFLK>I C>O JFKD ?B@>RPB LOD>Kf@ CBOQFIRWBOP >KA MBPQ J>K>DB JBKQ  
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!P > CfK>I PMB@Fcf@ BU>JMIB 4EB %KSFOLK JBKQ>I 7LOHfKD 'OLRMaP b\$foQV \$LWBKc IFPQ LC CORfQP >KA SBDBQ>?IBP  
TEF@E QBPQ EFDE CLO MBPQf@FAB OBPFARB BSBK >CQBO T>PEfKD T>P OBIB>PBA FK !MOFI 4EB FK@IRPFLK LC  
PQO>T?BOOfBP LK QEB IFPQ E>P IBA QL >K FK@OB>PB FK AB J>KA CLO LOD>Kf@ PQO>T?BOOfBP OBPRiQfKD FK ?LQE > EFDEBO  
BNRfif?OfR J MOF@B >KA NR>KQfQV LC P>IBP

# # 1 , \*%+

68G8E<F C4E<5HF LQEBO QEFKDP ?BFKD BNR>I

6B@C?8@8AGF DLLAP QE>Q >OB LCQBK RPBA QLDBQEBO PL QE>Q @LKPR J MQFLK LC LKB DLLA QBKAP QL BKE>K@B @LKPR J MQFLK LC QEB LQEBO

6BAFH@8E FHEC?HF QEB BUQO> ?BKBCFQ @LKPR J BOP OB@BFSB COL J ?RVFKD > DLLA LO PBOSF@B J B>PROBA ?V TE>Q QEB FKAFSFAR>IP TLRIA E>SB ?BBK TFIIFKD QL M>V J FKRP QEB > J LRKQ QE>Q QEBV >@QR>IIV M>FA

7847 J8< ; G ?BFF QEB ILPP FK PL@F>I PROMIRP QE>Q L@>ROP TEBK > J >OHBQ MOLAR@BP >K FKBCCF@FBKQ NR>KQFQV

78@4A7 QEB OBI>QLKPEFM ?BQTBBK MOF@B >KA QEB NR>KQFQV AB J >KABA LC > @BOQ>FK DLLA LO PBOSF@B

78@4A7 6HEI8 > DO>MEF@ OBMOPBPKQ>QLK LC QEB OBI>QLKPEFM ?BQTBBK MOF@B >KA NR>KQFQV AB J >KABA LC > @BOQ>FK DLLA LO PBOSF@B TFQE NR>KQFQV LK QEB ELOFWLKQ>I >UFP >KA QEB MOF@B LK QEB SBOQF@>I >UFP

78@4A7 F6 ; 87H?8 > Q>?IB QE>Q PELTP > O>KDB LC MOF@BP CLO > @BOQ>FK DLLA LO PBOSF@B >KA QEB NR>KQFQV AB J >KABA >Q B>@E MOF@B

86BAB@<6 FHEC?HF PBB PL@F>I PROMIRP

8DH<?5E<H@ QEB PFQR>QLK TEBOB NR>KQFQV AB J >KABA FP BNR>I QL QEB NR>KQFQV PRMMIFBA QEB @L J ?FK>QLK LC MOF@B >KA NR>KQFQV TEBOB QEBOB FP KL B@LKL J F@ MOBPPROB COL J PROMIRPBP LO PELOQ>DBP QE>Q TLRIA @>RPB MOF@B LO NR>KQFQV QL @E>KDB

8DH<?5E<H@ CE<68 QEB MOF@B TEBOB NR>KQFQV AB J >KABA FP BNR>I QL NR>KQFQV PRMMIFBA

8DH<?5E<H@ DH4AG<GL QEB NR>KQFQV >Q TEF@E NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA >OB BNR>I CLO > @BOQ>FK MOF@B IBSBI

8K68FF 78@4A7 >Q QEB BUFPQFKD MOF@B QEB NR>KQFQV AB J >KABA BU@BBAP QEB NR>KQFQV PRMMIFBA >IPL @>IIBA > PELOQ>DB

8K68FF FHCC?L >Q QEB BUFPQFKD MOF@B NR>KQFQV PRMMIFBA BU@BBAP QEB NR>KQFQV AB J >KABA >IPL @>IIBA > PROMIRP

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<A98E<BE : BB7 > DLLA FK TEF@E QEB NR>KQFQV AB J >KABA C>IIP >P FK@L J B OFPBP >KA FK TEF@E NR>KQFQV AB J >KABA OFPBP >KA FK@L J B C>IIP

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?4 J B9 78@4A7 QEB @L J J LK OBI>QLKPEFM QE>Q > EFDEBO MOF@B IB>AP QL > IL TBO NR>KQFQV AB J >KABA LC > @BOQ>FK DLLA LO PBOSF@B >KA > IL TBO MOF@B IB>AP QL > EFDEBO NR>KQFQV AB J >KABA TEFIB >II LQEBO S>OF>?IBP >OB EBIA @LKPQ>KQ

?4 J B9 FHCC?L QEB @L J J LK OBI>QLKPEFM QE>Q > EFDEBO MOF@B IB>AP QL > DOB>QBO NR>KQFQV PRMMIFBA >KA > IL TBO MOF@B IB>AP QL > IL TBO NR>KQFQV PRMMIFBA TEFIB >II LQEBO S>OF>?IBP >OB EBIA @LKPQ>KQ

ABE@4? : BB7 > DLLA FK TEF@E QEB NR>KQFQV AB J >KABA OFPBP >P FK@L J B OFPBP >KA FK TEF@E NR>KQFQV AB J >KABA C>IIP >P FK@L J B C>IIP

CE<68 TE>Q > ?RVBO M>VP CLO > RKFQ LC QEB PMB@FCF@ DLLA LO PBOSF@B

CE<68 68<?<A : > IBD>I J >UF J R J MOF@B

CE<68 6BAGEB? DLSBOK J BKQ I>TP QL OBDRI>QB MOF@BP FKPQB>A LC IBQQFKD J >OHBQ CLO@BP ABQBO J FKB MOF@BP

CE<68 9?BBE > IBD>I J FKF J R J MOF@B

CEB7H68E FHEC?HF QEB BUQO> ?BKBCFQ MOLAR@BOP OB@BFSB COL J PBIIFKD > DLLA LO PBOSF@B J B>PROBA ?V QEB MOF@B QEB MOLAR@BO >@QR>IIV OB@BFSBA J FKRQ QEB MOF@B QEB MOLAR@BO TLRIA E>SB ?BBK TFIIFKD QL >@@BMQ

DH4AG<GL 78@4A787 QEB QLQ>I KR J ?BO LC RKFQP LC > DLLA LO PBOSF@B @LKPR J BOP >OB TFIIFKD QL MRO@E>PB >Q > DFSBK MOF@B

DH4AG<GL FHCC?<87 QEB QLQ>I KR J ?BO LC RKFQP LC > DLLA LO PBOSF@B MOLAR@BOP >OB TFIIFKD QL PBII >Q > DFSBK MOF@B

F ; <9G <A 78@4A7 TEBK > @E>KDB FK PL J B B@LKL J F@ C>@QL0 LQEBO QE>K MOF@B @>RPBP > AFCCBOBKQ NR>KQFQV QL ?B AB J >KABA >Q BSOV MOF@B

F ; <9G <A FHCC?L TEBK > @E>KDB FK PL J B B@LKL J F@ C>@QL0 LQEBO QE>K MOF@B @>RPBP > AFCCBOBKQ NR>KQFQV QL ?B PRMMIFBA >Q BSOV MOF@B

F ; BEG4 : 8 >Q QEB BUFPQFKD MOF@B QEB NR>KQFQV AB J >KABA BU@BBAP QEB NR>KQFQV PRMMIFBA >IPL @>IIBA BU@BPP AB J >KA

FB6<4? FHEC?HF QEB PR J LC @LKPR J BO PROMIRP >KA MOLAR@BO PROMIRP

FH5F6<GH68 > DLLA QE>Q @>K OBMI>@B >KLQEBO QL PL J B BUQBKQ PL QE>Q DOB>QBO @LKPR J MQFLK LC LKB DLLA @>K J B>K IBPP LC QEB LQEBO

FHCC?L QEB OBI>QLKPEFM ?BQTBBK MOF@B >KA QEB NR>KQFQV PRMMIFBA LC > @BOQ>FK DLLA LO PBOSF@B

FHCC?L 6HEI8 > IFKB QE>Q PEL TP QEB OBI>QLKPEFM ?BQTBBK MOF@B >KA NR>KQFQV PRMMIFBA LK > DO>ME TFE NR>KQFQV PRMMIFBA LK QEB ELOFWLKQ>I >UFP >KA MOF@B LK QEB SBOQF@>I >UFP

FHCC?L F6 ; 87H?8 > Q>?IB QE>Q PEL TP > O>KDB LC MOF@BP CLO > DLLA LO PBOSF@B >KA QEB NR>KQFQV PRMMIFBA >Q B>@E MOF@B

FHEC?HF >Q QEB BUFPQFKD MOF@B NR>KQFQV PRMMIFBA BU@BBAP QEB NR>KQFQV AB J >KABA >IPL @>IIBA BU@BPP PRMMIV

GBG4? FHEC?HF PBB PL@F>I PROMIRP

# # 1 ' & ( , + & + - % % \* 1

## 8@4A7 +HCC?L 4A7 DH<?5E<H@ <A %4E>8GF 9BE BB7F 4A7 +8EI<68F

AB J >KA P@EBARIB FP > Q>?IB QE>Q PEL TP QEB NR>KQFQV AB J >KABA >Q AFCCBOBKQ MOF@BP FK QEB J >OHBQ AB J >KA @ROSB PEL TP QEB OBI>QLKPEFM ?BQTBBK NR>KQFQV AB J >KABA >KA MOF@B FK > DFSBK J >OHBQ LK > DO>ME 3EB I>T LC AB J >KA PQ>QBP QE>Q > EFDEBO MOF@B QVMF@>IIV IB>AP QL > IL TBO NR>KQFQV AB J >KABA

PRMMIV P@EBARIB FP > Q>?IB QE>Q PEL TP QEB NR>KQFQV PRMMIFBA >Q AFCCBOBKQ MOF@BP FK QEB J >OHBQ PRMMIV @ROSB PEL TP QEB OBI>QLKPEFM ?BQTBBK NR>KQFQV PRMMIFBA >KA MOF@B LK > DO>ME 3EB I>T LC PRMMIV P>VP QE>Q > EFDEBO MOF@B QVMF@>IIV IB>AP QL > EFDEBO NR>KQFQV PRMMIFBA

3EB BNRIF?OFR J MOF@B >KA BNRIF?OFR J NR>KQFQV L@RO TEBOB QEB PRMMIV >KA AB J >KA @ROSBP @OLPP 3EB BNRIF?OFR J L@ROP TEBOB QEB NR>KQFQV AB J >KABA FP BNR>I QL QEB NR>KQFQV PRMMIFBA (C QEB MOF@B FP ?BILT QEB BNRIF?OFR J IBSBI QEBK QEB NR>KQFQV AB J >KABA TFII BU@BBA QEB NR>KQFQV PRMMIFBA \$U@BPP AB J >KA LO > PELQ>DB TFII BUFPQ (C QEB MOF@B FP >?LSB QEB BNRIF?OFR J IBSBI QEBK QEB NR>KQFQV PRMMIFBA TFII BU@BBA QEB NR>KQFQV AB J >KABA \$U@BPP PRMMIV LO > PROMIRP TFII BUFPQ (K BFQEBO @>PB B@LKL J F@ MOBPPROBP TFII MRPE QEB MOF@B QL T>OA QEB BNRIF?OFR J IBSBI

## + ; <9GF <A 8@4A7 4A7 +HCC?L 9BE BB7F 4A7 +8EI<68F

\$@LKL J FPQP LCQBK RPB QEB *ceteris paribus* LO eLQEBO QEFKDP ?BFKD BNR>If >PPR J MQFLK TEFIB BU> J FKFKD QEB B@LKL J F@ F J M>@Q LC LKB BSBKQ >II LQEBO C>@QLOP OB J >FK RK@E>KDBA CLO >K>IVPPP MROMLPBP %>@QLOP QE>Q @>K PEFCQ QEB AB J >KA @ROSB CLO DLLAP >KA PBOSF@BP @>RPFKD > AFCCBOBKQ NR>KQFQV QL ?B AB J >KABA >Q >KV DFSBK MOF@B FK@IRAB @E>KDBP FK Q>PQBP MLMRI>QLK FK@L J B MOF@BP LC PR>PQFQRQB LO @L J MIB J BKQ DLLAP >KA BUMB@Q>QLKP >?LRQ CRQROB @LKAFLKLP >KA MOF@BP %>@QLOP QE>Q @>K PEFCQ QEB PRMMIV @ROSB CLO DLLAP >KA PBOSF@BP @>RPFKD > AFCCBOBKQ NR>KQFQV QL ?B PRMMIFBA >Q >KV DFSBK MOF@B FK@IRAB FKMRQ MOF@BP K>QRO>I @LKAFLKLP @E>KDBP FK QEB@EKLILDV >KA DLSBOK J BKQ Q>UBP OBDRI>QLKP LO PR>PFAFBP

;4A:8F <A DH<?5E<H@ (E<68 4A7 )H4A<GL , ;8 BHE +G8C (EB68FF

6 EBK RPFKD QEB PRMMIV >KA AB J>KA CO> J BTLOH QL QEFKH >?LRQ ELT >K BSBKQ TFII >CCB@Q QEB BNRIF?OFR J MOF@B >KA NR>KQFQV MOL@BBA QEOLRDE CLRO PQBMP PHBQ@E > PRMMIV >KA AB J>KA AF>DO> J QL QEFKH >?LRQ TE>Q QEB J >OHBQ ILLHBA IFHB ?BCLQB QEB BSBKQ AB@FAB TEBQEBO QEB BSBKQ TFII >CCB@Q PRMMIV LO AB J>KA AB@FAB TEBQEBO QEB BCCB@Q LK PRMMIV LO AB J>KA FP KBD>QFSB LO MLPQFSB >KA AO>T QEB >MMOLMOF>QB PEFCQBA PRMMIV LO AB J>KA @ROSB @L J M>OB QEB KBT BNRIF?OFR J MOF@B >KA NR>KQFQV QL QEB LOFDFK>I LKBP

(E<68 8<A:F 4A7 (E<68 ?BBEF

/OF@B @BFIFKDP MOBSBKQ > MOF@B COL J OFPKD >?LSB > @BOQ>FK IBSBI 6 EBK > MOF@B @BFIFKD FP PBQ ?BILT QEB BNRIF?OFR J MOF@B NR>KQFQV AB J>KABA TFII BU@BBA NR>KQFQV PRMMIFBA >KA BU@BPP AB J>KA LO PELOQ>DBP TFII OBPRIQ /OF@B CILLOP MOBSBKQ > MOF@B COL J C>IIFKD ?BILT > @BOQ>FK IBSBI 6 EBK > MOF@B CILLO FP PBQ >?LSB QEB BNRIF?OFR J MOF@B NR>KQFQV PRMMIFBA TFII BU@BBA NR>KQFQV AB J>KABA >KA BU@BPP PRMMIV LO PROMIRPBP TFII OBPRIQ /OF@B CILLOP >KA MOF@B @BFIFKDP LCQBK IB>A QL RKFKQBKABA @LKPBNRBK@BP

8@4A7 +HCC?L 4A7 99<6<8A6L

"LKPR J BO PROMIRP FP QEB D>M ?BQTBKQ QEB MOF@B QE>Q @LKPR J BOP >OB TFIFKD QL M>V ?>PBA LK QEBFO MOBCBOBK@BP >KA QEB J >OHBQ BNRIF?OFR J MOF@B /OLAR@BO PROMIRP FP QEB D>M ?BQTBKQ QEB MOF@B CLO TEF@E MOLAR@BOP >OB TFIFKD QL PBII > MOLAR@Q ?>PBA LK QEBFO @LPQ >KA QEB J >OHBQ BNRIF?OFR J MOF@B 2L@F>I PROMIRP FP QEB PR J LC @LKPR J BO PROMIRP >KA MOLAR@BO PROMIRP 3LQ>I PROMIRP FP I>ODBO >Q QEB BNRIF?OFR J NR>KQFQV >KA MOF@B QE>K FQ TFII ?B >Q >KV LQEBO NR>KQFQV >KA MOF@B #B>ATBFDEQ ILPP FP ILPP FK QLQ>I PROMIRP QE>Q L@>ROP TEBK QEB B@LKL J V MOLAR@BP >Q >K FKBCCF@FBKQ NR>KQFQV

+ \$ # ) - +,!'&+

1BSFBT <:HE8 2RMMLPB QEB MOF@B LC D>PLIFKB FP MBO D>IILK (P QEB NR>KQFQV AB J>KABA EFDEBO LO ILTBO QE>K >Q QEB BNRIF?OFR J MOF@B LC MBO D>IILK 6 E>Q >?LRQ QEB NR>KQFQV PRMMIFBA (P QEBOB >PELOQ>DB LO > PROMIRP FK QEB J >OHBQ (C PL ELT J R@E

6 EV AL B@LKL J FPQP RPB QEB ceteris paribus >PPR J M@FLK

(K >K >K>IVPFP LC QEB J >OHBQ CLO M>FKQ >K B@LKL J FPQ AFP@LSBOP QEB C>@QP IFPQBA ?BILT 2Q>QB TEBQEBO B>@E LC QEBPB @E>KDBP TFII >CCB@Q PRMMIV LO AB J>KA >KA FK TE>Q AFOB@QFLK

- > 3EBOB E>SB OB@BKQIV ?BBK PL J B F J MLOQ>KQ @LPQ P>SFKD FKSBKQFLKP FK QEB QB@EKLILDV CLO J >HFKD M>FKQ
- ? />FKQ FP I>PQFKD ILKDBO PL QE>Q MOLMBOQV LTKBOP KBBA KLQ OBM>FKQ >P LCQBK
- @ !B@>RBP LC PBSBOB E>FIPQLO J P J >KV MBLMIB KBBA QL OBM>FKQ KL T
- A 3EB E>FIPQLO J P A> J >DBA PBSBO>I C>@QLOFBP QE>Q J >HB M>FKQ CLO@FKD QEB J QL @ILPB ALTK CLO PBSBO>I J LKQEP

, >KV @E>KDBP >OB >CCB@QFKD QEB J >OHBQ CLO LFI /OBAF@Q ELT B>@E LC QEB CLIL TFKD BSBKQ TFII >CCB@Q QEB BNRIF?OFR J MOF@B >KA NR>KQFQV FK QEB J >OHBQ CLO LFI (K B>@E @>PB PQ>QB ELT QEB BSBKQ TFII >CCB@Q QEB PRMMIV >KA AB J>KA AF>DO> J "OB>QB > PHBQ@E LC QEB AF>DO> J FC KB@BPP>OV

- > ">OP >OB ?B@L J FKD J LOB CRBI BCCF@FBKQ >KA QEBOBCLQB DBQ J LOB J FIBP QL QEB D>IILK
- ? 3EB TFKQBO FP BU@BMQFLK>IIV @LIA
- @ J >GLO AFP@LSBOV LC KBT LFI FP J >AB LCC QEB @L>PQ LC -LOT>V
- A 3EB B@LKL J FBP LC PL J B J >GLO LFI RPFKD K>QFLKP IFHB )>M>K PILT ALTK
- B T>O FK QEB , FAAIB \$>PQ AFPORMQP LFI MR J MFKD P@EBARIBP
- C +>KAILOAP FKPQ>II >AAQFLK>I FKPRI>QFLK FK ?RFIAFKDP
- D 3EB MOF@B LC PLI>O BKBODV C>IIP AO> J >QF>IIV
- E "EB J F@>I @L J M>KFBP FKSBKQ > KBT MLMRI>O HFKA LC MI>PQF@ J >AB COL J LFI

+B@QP QEFKH >?LRQ QEB J >OHBQ CLO >FO QO>SBI %OL J RDRPQ QL )>KR>OV QEB MOF@B LC GBQ CRBI FK@OB>PBA OLRDEIV 4PFKD QEB CLRO PQBM >K>IVPFP ELT AL VLR QEFKH QEF CRBI MOF@B FK@OB>PB >CCB@QBA QEB BNRIF?OFR J MOF@B >KA NR>KQFQV LC >FO QO>SBI

Q>OFCC FP > Q>U LK F J MLOQBA DLLAP 2RMMLPB QEB 4 2 DLSBOK J BKQ @RQP QEB Q>OFCC LK F J MLOQBA CI>Q P@OBBK QBIBSFPLKP 4PFKD QEB CLRO PQBM >K>IVFPF ELT AL VLR QEFKH QEB Q>OFCC OBAR@QFLK TFII >CCB@Q QEB BNRFFI?OFR J MOF@B >KA NR>KQFQV LC CI>Q P@OBBK 3 5 P

6 E>Q FP QEB BCCB@Q LC > MOF@B @BFIFKD LK QEB NR>KQFQV AB J >KABA LC QEB MOLAR@Q 6 E>Q FP QEB BCCB@Q LC > MOF@B @BFIFKD LK QEB NR>KQFQV PRMMIFBA 6 EV BU>@QIV ALBP > MOF@B @BFIFKD @>RPB > PELOQ>DB

#LBP > MOF@B @BFIFKD @E>KDB QEB BNRFFI?OFR J MOF@B

6 E>Q TLRIA ?B QEB F J M>@Q LC F J MLPFKD > MOF@B CILLO ?BILT QEB BNRFFI?OFR J MOF@B

#LBP > MOF@B @BFIFKD FK@OB>PB LO AB@OB>PB QEB KR J ?BO LC QO>KP>@QFLKP FK > J >OHBQ 6 EV 6 E>Q >?LRQ > MOF@B CILLO

(C > MOF@B CILLO ?BKBCFQP MOLAR@BOP TEV ALBP > MOF@B CILLO OBAR@B PL@F>I PROMIRP

\* .! / ) - + ,!'&+

6 E>Q ABQBO J FKBP QEB IBSBI LC MOF@BP FK > J >OHBQ

6 E>Q ALBP > ALTKT>0A PILMFKD AB J >KA @ROSB J B>K >?LRQ ELT ?RVBOP FK > J >OHBQ TFII OB>@Q QL > EFDEBO MOF@B

6 FII AB J >KA @ROSBP E>SB QEB P> J B BU>@Q PE>MB FK >II J >OHBQP (C KLQ ELT TFII QEBV AFCCBO

6 FII PRMMIV @ROSBP E>SB QEB P> J B PE>MB FK >II J >OHBQP (C KLQ ELT TFII QEBV AFCCBO

6 E>Q FP QEB OBI>QFLKPEFM ?BQTB BK NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA >Q BNRFFI?OFR J 6 E>Q FP QEB OBI>QFLKPEFM TEBK QEBOB FP > PELOQ>DB 6 E>Q FP QEB OBI>QFLKPEFM TEBK QEBOB FP > PROMIRP

' LT @>K VLR IL>@QB QEB BNRFFI?OFR J MLFKQ LK > AB J >KA >KA PRMMIV DO>ME

(C QEB MOF@B FP >?LSB QEB BNRFFI?OFR J IBSBI TLRIA VLR MOBAF@Q > PROMIRP LO > PELOQ>DB (C QEB MOF@B FP ?BILT QEB BNRFFI?OFR J IBSBI TLRIA VLR MOBAF@Q > PROMIRP LO > PELOQ>DB 6 EV

6 EBK QEB MOF@B FP >?LSB QEB BNRFFI?OFR J BUMI>FK ELT J >OHBQ CLO@BP J LSB QEB J >OHBQ MOF@B QL BNRFFI?OFR J #L QEB P> J B TEBK QEB MOF@B FP ?BILT QEB BNRFFI?OFR J

6 E>Q FP QEB AFCCBOBK@B ?BQTB BK QEB AB J >KA >KA QEB NR>KQFQV AB J >KABA LC > MOLAR@Q P>V J FII \$SUMI>FK FK TLOAP >KA PELT QEB AFCCBOBK@B LK > DO>ME TFQE > AB J >KA @ROSB CLO J FII

6 E>Q FP QEB AFCCBOBK@B ?BQTB BK QEB PRMMIV >KA QEB NR>KQFQV PRMMIFBA LC > MOLAR@Q P>V J FII \$SUMI>FK FK TLOAP >KA PELT QEB AFCCBOBK@B LK > DO>ME TFQE QEB PRMMIV @ROSB CLO J FII

6 EBK >K>IVWFKD > J >OHBQ ELT AL B@LKL J FPQP AB>I TFQE QEB MOL ?IB J QE>Q J >KV C>@QLOP QE>Q >CCB@Q QEB J >OHBQ >OB @E>KDFKD >Q QEB P> J B QF J B

- > J B PL J B C>@QLOP QE>Q @>K @>RPB > PEFCQ FK QEB AB J >KA @ROSB FK J >OHBQP CLO DLLAP >KA PBO SF@BP

- > J B PL J B C>@QLOP QE>Q @>K @>RPB > PEFCQ FK QEB PRMMIV @ROSB FK J >OHBQP CLO DLLAP >KA PBO SF@BP

' LT ALBP LKB >K>IVWB > J >OHBQ TEBOB ?LQE AB J >KA >KA PRMMIV PEFCQ

6 E>Q @>RPBP > J LSB J BKQ >ILKD QEB AB J >KA @ROSB 6 E>Q @>RPBP > J LSB J BKQ >ILKD QEB PRMMIV @ROSB

#LBP > MOF@B @BFIFKD >QB J MQ QL J >HB > MOF@B EFDEBO LO IL TB0

' LT ALBP > MOF@B @BFIFKD PBQ ?BILT QEB BNRFFI?OFR J IBSBI >CCB@Q NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA

#LBP > MOF@B CILLO >QB J MQ QL J >HB > MOF@B EFDEBO LO IL TB0

' LT ALBP > MOF@B CILLO PBQ >?LSB QEB BNRFFI?OFR J IBSBI >CCB@Q NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA

6 E>Q FP @LKPR J BO PROMIRP ' LT FP FQ FIIRPQO>QBA LK > AB J >KA >KA PRMMIV AF>DO> J

6 E>Q FP MOLAR@BO PROMIRP ' LT FP FQ FIIRPQO>QBA LK > AB J >KA >KA PRMMIV AF>DO> J

6 E>Q FP QLQ>I PROMIRP ' LT FP FQ FIIRPQO>QBA LK > AB J >KA >KA PRMMIV AF>DO> J

6 E>Q FP QEB OBI>QFLKPEFM ?BQTB BK QLQ>I PROMIRP >KA B@LKL J F@ BCCF@FBK@V

6 E>Q FP AB>ATBFDEQ ILPP



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1BSFBT <:HE8 2RMMLPB QEB DLSBOK J BKQ AB@FABA QE>Q PFK@B D>PLIFKB FP > KB@BPPFQV FQP MOF@B PELRIA ?B IBD>IIV @>MMBA >Q MBO D>IILK 6E>Q AL VLR >KQF@FM>QB TLRIA ?B QEB LRQ@L J B FK QEB D>PLIFKB J >OHBQ

\$UMI>FK TEV QEB CLILTFKD PQ>QB J BKQ FP C>IPB e(K QEB DLLAP J >OHBQ KL ?RVBO TLRIA ?B TFIIFKD QL M>V J LOB QE>K QEB BNRFFI?OFR J MOF@B f

\$UMI>FK TEV QEB CLILTFKD PQ>QB J BKQ FP C>IPB e(K QEB DLLAP J >OHBQ KL PBIIBO TLRIA ?B TFIIFKD QL PBII CLO IBPP QE>K QEB BNRFFI?OFR J MOF@B f

"LKPFABO QEB AB J >KA CLO E> J ?RODBOP (C QEB MOF@B LC > PR?PQFQRQB DLLA CLO BU> J MIB ELQ ALDP FK@OB>PBP >KA QEB MOF@B LC > @L J MIB J BKQ DLLA CLO BU> J MIB E> J ?RODBO ?RKP FK@OB>PBP @>K VLR QBII CLO PROB TE>Q TFI E>MMBK QL QEB AB J >KA CLO E> J ?RODBOP 6 EV LO TEV KLQ (IIRPQO>QB VLRO >KPTBO TFQE > DO>ME

'LT AL VLR PRMMLPB QEB AB J LDO>MEF@P LC >K >DFKD MLMRI>QFLK LC e!>?V !LL J BOPf FK QEB 4KFQBA 2Q>QBP TFII >CCB@Q QEB AB J >KA CLO J FII )RPQFCV VLRO >KPTBO

6B HKLT QE>Q > @E>KDB FK QEB MOF@B LC > MOLAR@Q @>RPBP > J LSB J BKQ >ILKD QEB AB J >KA @ROSB 2RMMLPB @LKPR J BOP ?BIFBSB QE>Q MOF@BP TFII ?B OFFPKD FK QEB CRQROB 'LT TFII QE>Q >CCB@Q AB J >KA CLO QEB MOLAR@Q FK QEB MOBPBKQ ">K VLR PELT QEFP DO>MEF@>IIV

2RMMLPB QEBOB FP > PLA> Q>U QL @RO? L?BPFQV 6E>Q PELRIA > OBAR@QFLK FK QEB PLA> Q>U AL QL QEB PRMMIV LC PLA>P >KA QL QEB BNRFFI?OFR J MOF@B >KA NR>KQFQV ">K VLR PELT QEFP DO>MEF@>IIV Hint PPR J B QE>Q QEB PLA> Q>U FP @LIIB@QBA COL J QEB PBIIBOP

4PB QEB CLRO PQBM MOL@BPP QL >K>IVWB QEB F J M>@Q LC QEB >ASBKQ LC QEB F/LA LO LQEBO MLQ>?IB AFDFQ>I J RPF@ MI>VBOP LK QEB BNRFFI?OFR J MOF@B >KA NR>KQFQV LC QEB 2LKV 6>IH J >K LO LQEBO MLQ>?IB >RAFL @>PPBQQB MI>VBOP

(\* ' \$ %+

1BSFBT <:HE8 >D>FK 2RMMLPB QEB MOF@B LC D>PLIFKB FP 6 FII QEB NR>KQFQV AB J >KABA ?B ILTBO LO EFDEBO QE>K >Q QEB BNRFFI?OFR J MOF@B LC MBO D>IILK 6 FII QEB NR>KQFQV PRMMIFBA ?B ILTBO LO EFDEBO (P QEBOB >PELO>DB LO > PROMIRP FK QEB J >OHBQ (C PL LC ELT J R@E

4PB QEB CLRO PQBM MOL@BPP QL >K>IVWB QEB F J M>@Q LC > OBAR@QFLK FK Q>OFCCP LK F J MLOQP LC F/LAP LK QEB BNRFFI?OFR J MOF@B >KA NR>KQFQV LC 2LKV 6>IH J >K QVMB MOLAR@QP

2RMMLPB ?LQE LC QEBPB BSBKQP QLLH MI>@B >Q QEB P> J B QF J B "L J ?FKB VLRO >K>IVBP LC QEB F J M>@Q LC QEB F/LA >KA QEB Q>OFCC OBAR@QFLK QL ABQBO J FK B QEB IFHBIV F J M>@Q LK QEB BNRFFI?OFR J MOF@B >KA NR>KQFQV LC 2LKV 6>IH J >K QVMB MOLAR@QP 2ELT VLRO >KPTBO DO>MEF@>IIV

, LPQ DLSBOK J BKQ MLIF@V AB@FPFLKP E>SB TFKKBOP >KA ILPBOP 6E>Q >OB QEB BCCB@QP LC O>FPFKD QEB J FKF J R J T>DB (Q FP J LOB @L J MIBU QE>K PF J MIV MOLAR@BOP ILPB >KA TLOHBOP D>FK 6 EL >OB QEB TFKKBOP >KA TEL >OB QEB ILPBOP >KA TE>Q BU>@QIV AL QEBV TFK >KA ILPB 3L TE>Q BUQBKQ ALBP QEB MLIF@V @E>KDB >@EFSB FQP DL>IP

DOF@RIQRO>I MOF@B PRMMLQOP OBPRIQ FK DLSBOK J BKQ ELIAFKD I>ODB FKSBKQLOFBP LC >DOF@RIQRO>I MOLAR@QP 6 EV AL VLR QEFKH QEB DLSBOK J BKQ @>KKLQ PF J MIV DFSB QEB MOLAR@QP >T>V QL MLLQ MBLMIB

">K VLR MOLMLPB > MLIF@V QE>Q TLRIA FKAR@B QEB J >OHBQ QL PRMMIV J LOB OBKQ>I ELRPFKD RKFQP

6E>Q QBO J TLRIA >K B@LKL J FPQ RPB QL ABP@OF?B TE>Q E>MMBK TEBK > PELMMBO DBQP > eDLLA AB>If LK > MOLAR@Q

\$UMI>FK TEV SLIRKQ>OV QO>KP>@QFLKP F J MOLSB PL@F>I TBIC>OB

6 EV TLRIA > COBB J >OHBQ KSBBO LMBO>QB >Q > NR>KQFQV DOB>QBO QE>K QEB BNRFFI?OFR J NR>KQFQV Hint: 6E>Q TLRIA ?B OBNRFOBA CLO > QO>KP>@QFLK QL L@>RO >Q QE>Q NR>KQFQV

,45?8 PELTP FKCL0 J>QFLK LK QEB AB J>KA >KA PRMMIV CLO ?F@V@IBP TEB0B QEB NR>KQFQFBP LC ?F@V@IBP >0B J B>PROBA FK QELRP>KAP

(E<68	)7	)F

,45?8

- > 6 E>Q FP QEB NR>KQFQV AB J>KABA >KA QEB NR>KQFQV PRMMIFBA >Q > MOF@B LC
- ? Q TE>Q MOF@B FP QEB NR>KQFQV PRMMIFBA BNR>I QL
- @ &0>ME QEB AB J>KA >KA PRMMIV @ROSB CLO ?F@V@IBP 'LT @>K VLR ABQBO JFKB QEB BNRIF?OFR J MOF@B >KA NR>KQFQV COL J QEB DO>ME 'LT @>K VLR ABQBO JFKB QEB BNRIF?OFR J MOF@B >KA NR>KQFQV COL J QEB Q>?IB 6 E>Q >0B QEB BNRIF?OFR J MOF@B >KA BNRIF?OFR J NR>KQFQV
- A (C QEB MOF@B T>P TE>Q TLRJA QEB NR>KQFQFBP AB J>KABA >KA PRMMIFBA ?B 6 LRJA > PELOQ>DB LO PROMIRP BUFPQ (C PL ELT I>0DB TLRJA QEB PELOQ>DB LO PROMIRP ?B

3EB @L JMRQBO J>0HBQ FK 0B@BKQ VB>0P E>P PBBK J>KV JLOB @L JMRQBOP PBII >Q J R@E ILTBO MOF@BP 6 E>Q PEFCQ FK AB J>KA LO PRMMIV FP JLPQ IFHBIV QL BUMI>FK QEFP LRQ@L J B 2HBQ@E > AB J>KA >KA PRMMIV AF>DO>J >KA BUMI>FK VLRO 0B>PLKFKD CLO B>@E

- > OFPB FK AB J>KA
- ? C>II FK AB J>KA
- @ OFPB FK PRMMIV
- A C>II FK PRMMIV

,45?8 FIIRPQ0>QBP QEB J>0HBQ P AB J>KA >KA PRMMIV CLO @EBAA>0 @EBBPB &0>ME QEB A>Q> >KA CFKA QEB BNRIF?OFR J - BUQ @0B>QB > Q>?IB PELTFKD QEB @E>KDB FK NR>KQFQV AB J>KABA LO NR>KQFQV PRMMIFBA >KA > DO>ME LC QEB KBT BNRIF?OFR J FK B>@E LC QEB CLIL TFKD PFQR>QFLKP

- > 3EB MOF@B LC JFIH > HBV FKMRQ CLO @EBBPB MOLAR@QFLK OFPBP PL QE>Q QEB PRMMIV AB@0B>PBP ?V MLRKAP >Q BSBOV MOF@B
- ? KBT PRAV P>VP QE>Q B>QFKD @EBBPB FP DLLA CLO VLRO EB>IQE PL QE>Q AB J>KA FK@0B>PBP ?V >Q BSBOV MOF@B

(E<68 C8E (BHA7	)7	)F

,45?8

,45?8 PELTP QEB PRMMIV >KA AB J>KA CLO  
JLSFB QF@HBQP FK > @FQV &0>ME AB J>KA >KA PRMMIV >KA  
FABKQFCV QEB BNRFFI?OFR J 3EBK @>I@RI>QB FK > Q>?IB >KA  
DO>ME QEB BCCB@Q LC QEB CLILTFKD QTL @E>KDBP

- > 3E0BB KBT KFDEQ@IR?P LMBK 3EBV LCCB0 AB@BKQ  
?>KAP >KA E>SB KL @LSB0 @E>ODB ?RQ J>HB QEBF0  
JLKBV ?V PBIIFKD CLLA >KA AOFKH P > OBPRIQ  
AB J>KA CLO JLSFB QF@HBQP C>IIP ?V PFU RKFQP >Q  
BSBOV MOF@B
- ? 3EB @FQV BIF J FK>QBP > Q>U QE>Q FQ MI>@BA LK >II  
IL@>I BKQBQ>FK J BKQ ?RPFKBPPBP 3EB OBPRIQ FP QE>Q  
QEB NR>KQFQV PRMMIFBA LC JLSFBP >Q >KV DFSBK  
MOF@B FK@OB>PBP ?V

(E<68 C8E (BHA7	) 7	) F

,45?8

ILT FK@L J B @LRKQOV AB@FABP QL PBQ > MOF@B @BFIFKD  
LK ?OB>A PL FQ @>K J >HB PROB QE>Q ?OB>A FP >CCLOA>?IB QL  
QEB MLL0 ,45?8 MOLSFABP QEB @LKAFQFLKP LC AB J>KA  
>KA PRMMIV 6 E>Q >OB QEB BNRFFI?OFR J MOF@B >KA  
BNRFFI?OFR J NR>KQFQV ?BCL0B QEB MOF@B @BFIFKD 6 E>Q TFII  
QEB BU@BPP AB J>KA LO QEB PELOQ>DB QE>Q FP NR>KQFQV  
AB J>KABA J FKRP NR>KQFQV PRMMIFBA ?B FC QEB MOF@B  
@BFIFKD FP PBQ >Q Q Q

(E<68	) 7	) F

,45?8



# N \$45BE 4A7 <A4A6<4? %4E>8GF



<:HEB OBLMIB LQ@BK QEFKH LC AB J>KA >KA PRMMIV FK OBI>QFLK QL DLLAP ?RQ I>?L0 J>0HBQP PR@E >P QEB KROPFKD MOLCBPPFLK @>K >IPL >MMIV QL QEFP >K>IVPFP #0BARQ J LAFcf@>QFLK LC TLOH ?V &LQLP ' / 6 " ! &f@H0 #0B>QFSB #L J J LKP

## Bring it Home

45L BB@8EF B@8 B9 :8

4EB #BKPRP "ROB>R OBMLQ@P QE>Q >P LC LC QEB 5 3 MLMRI>QFLK T>P LSBO VB>0P LIA TEF@E JB>KP QE>Q >I J LPQ J FIFLK MBLMIB >0B OB>@EFKD >K >DB TEBK QEBV THII KBBA FK@OB>PBA JBAF@>I @>0B

4EB ??>V ?LL J B0 MLMRI>QFLK QEB DOLRM ?LQK ?BQTTBBK >KA FP @L J MOFPBA LC >MMOLUF J >QBIV J FIFLK MBLMIB TEL E>SB GRPQ OB>@EBA OBQFOB JBKQ >DB !P QEFP MLMRI>QFLK DOLT P LIABO QEBV THII ?B C>@BA TRQE @L J J LK EB>IQE@>OB FPPRBP PR@E >P EB>0Q @LKAQFLKP >0QEORQFP >KA !IWEBF J B0@P QE>Q J >V OBNRFOB ELPMPQ>fW>QFLK ILKD QBO J LO >Q EL J B KROPFKD @>0B !DFKD ??>V ?LL J BOP >KA >AS>K@BP FK fCB P>SFKD >KA fCB BUQBKAfKD QB@EKLILDFBP THII FK@OB>PB QEB AB J >KA CLO EB>IQE@>OB >KA KROPFKD !AAfQFLK>IIV QEB !C@LOA>?IB #>0B !@Q TEF@E BUM>KAP >@@BPP QL EB>IQE@>OB CLO J FIFLKP LC ! J BOf@>KP E>P CROQEBO FK@OB>PB QEB AB J >KA >IQELRDE TRQE QEB BIB@QFLK LC \$LK>IA \* 40R J M QEFP FK@OB>PB J >V KLQ ?B PRPQ>fKBA

!@@LOAFKD QL QEB "ROB>R LC ,>?L0 3Q>QFPQ@P OBDfPQBOBA KROPFKD GL?P >0B BUMB@QBA QL FK@OB>PB ?V ?BQTTBBK >KA 4EB JBAF>K >KKR>I T>DB LC FK FP >IPL BUMB@QBA QL FK@OB>PB 4EB " , 3 CLOB@>PQP QE>Q KBT KROPBP THII ?B FK AB J >KA ?V

4EBPB A>Q> QBII RP >P B@LKL JFPQP QE>Q QEB J>0HBQ CLO EB>IQE@>OB MOLCBPPFLK>IP >KA KROPBP FK M>0Qf@RI>0 THII C>@B PBSBO>I @E>IIBKDBP / RO PQRV LC PRMMIV >KA AB J >KA THII EBIM RP QL >K>IVWB TE>Q JfDEQ E>MMBK FK QEB

I>?LO J>0HBQ CLO KROPFKD >KA LQEBO EB>IQE@>0B MOLCBPPFLK>IP >P TB TFII AF@RPP FK QEB PB@LKA E>IC LC QEFP @>PB  
>Q QEB BKA LC QEB @E>MqB0

## !AGEB7H6G<BA GB \$45BE 4A7 <A4A6<4? %4E>8GF

(K QEFP @E>MqB0 VLR TFII IB>OK >?LRQ

- g #BJ>KA >KA 2RMMIV >Q 6LOH FK +>?LO , >0HBQP
- g #BJ>KA >KA 2RMMIV FK %fK>K@f>I , >0HBQP
- g 3EB , >0HBQ 2VPQB J >P >K \$CCF@fBKQ , B@E>KFP J CLO (KCL0 J >QFLK

3EB QEBLOFBP LC PRMMIV >KA AB J >KA AL KLQ >MMIV GRPQ QL J >0HBQP CLO DLLAP 3EBV >MMIV QL >KV J >0HBQ BSBK J >0HBQP  
CLO QEFKDP TB J >V KLQ QEFKH LC >P DLLAP >KA PBOSF@BP IFHB I>?LO >KA CFK>K@f>I PBOSF@BP +>?LO J >0HBQP >0B J >0HBQP CLO  
B J MILVBBP LO GL?P %fK>K@f>I PBOSF@BP J >0HBQP >0B J >0HBQP CLO P>SFKD LO ?LOOLTFKD

6 EBK TB QEFKH >?LRQ AB J >KA >KA PRMMIV @ROSBP FK DLLAP >KA PBOSF@BP J >0HBQP FQ FP B>PV QL MF@QROB QEB AB J >KABOP >KA  
PRMMIFBOP ?RPFKBPPBP MOLAR@B QEB MOLAR@QP >KA ELRPBELIAP ?RV QEB J 6 EL >0B QEB AB J >KABOP >KA PRMMIFBOP FK I>?LO  
>KA CFK>K@f>I PBOSF@B J >0HBQP (K I>?LO J >0HBQP GL? PBBHBOP FKAfSFAR>IP >0B QEB PRMMIFBOP LC I>?LO TEFIB CFO J P >KA  
LQEBO B J MILVBOP TEL EFOB I>?LO >0B QEB AB J >KABOP CLO I>?LO (K CFK>K@f>I J >0HBQP >KV FKAfSFAR>I LO CFO J TEL P>SBP  
@LKQOF?RQBP QL QEB PRMMIV LC J LKBV >KA >KV TEL ?LOOLTP MBOPLK CFO J LO DLSBOK J BKQ @LKQOF?RQBP QL QEB AB J >KA  
CLO J LKBV

P > @LIIBDB PQRABKQ VLR J LPQ IFHBIV M>OQF@FM>QB FK ?LQE I>?LO >KA CFK>K@f>I J >0HBQP \$ J MILV J BKQ FP > C>@Q LC IFCB CLO  
J LPQ @LIIBDB PQRABKQP @LOAFKD QL QEB ->QFLK>I "BKQBO CLO \$AR@>QFLK>I 2Q>QFPQ@P FK LC CRII QF J B @LIIBDB  
PQRABKQP >KA LC M>OQ QF J B @LIIBDB PQRABKQP TBOB B J MILVBA , LPQ @LIIBDB PQRABKQP >0B >IPL EB>SFIV FKSLISBA FK  
CFK>K@f>I J >0HBQP MOF J >OIV >P ?LOOLTBOP J LKD CRII QF J B PQRABKQP >?LRQ E>IC Q>HB LRQ > IL>K QL EBIM CFK>K@B QEBFO  
BAR@>QFLK B>@E VB>0 >KA QELPB IL>KP >SBO>DB >?LRQ MBO VB>0 , >KV PQRABKQP >IPL ?LOOLT CLO LQEBO BUMBKBP  
IFHB MR0@E>PFKD >@>0 P QEFP @E>MqB0 TFII FIIRPQ>QB TB @>K >K>IVWB I>?LO J >0HBQP >KA CFK>K@f>I J >0HBQP TFQE QEB P> J B  
QLLIP TB RPB QL >K>IVWB AB J >KA >KA PRMMIV FK QEB DLLAP J >0HBQP

## N 8@4A7 4A7 +HCC?L 4G / BE> <A \$45BE %4E>8GF

!V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d /OBAF@Q PEFCQP FK QEB AB J >KA >KA PRMMIV @ROSBP LC QEB I>?LO J >0HBQ
- d \$UMI>FK QEB F J M>@Q LC KBT QB@EKLILDV LK QEB AB J >KA >KA PRMMIV @ROSBP LC QEB I>?LO J >0HBQ
- d \$UMI>FK MOF@B CILLOP FK QEB I>?LO J >0HBQ PR@E >P J FKF J R J T>DB LO > IFSFKD T>DB

, >0HBQP CLO I>?LO E>SB AB J >KA >KA PRMMIV @ROSBP GRPQ IFHB J >0HBQP CLO DLLAP 3EB I>T LC AB J >KA >MMIFBP FK I>?LO  
J >0HBQP QEFP T>V EFDEBO **salary** LO **wage** b qE>Q FP > EFDEBO MOF@B FK QEB I>?LO J >0HBQ b IB>AP QL > AB@0B>PB FK QEB  
NR>KQFQV LC I>?LO AB J >KABA ?V B J MILVBOP TEFIB > ILTBO P>I>OV LO T>DB IB>AP QL >K FK@0B>PB FK QEB NR>KQFQV LC I>?LO  
AB J >KABA 3EB I>T LC PRMMIV CRK@QFLKP FK I>?LO J >0HBQP QLL EFDEBO MOF@B CLO I>?LO IB>AP QL > EFDEBO NR>KQFQV LC  
I>?LO PRMMIFBA > ILTBO MOF@B IB>AP QL > ILTBO NR>KQFQV PRMMIFBA

## DH<?5E<H@ <A G ; 8 \$45BE %4E>8G

(K >?LRQ OBDFFQBOBA KROPBP TLOHBA FK QEB , FKKB>MLIFP 2Q />RI ! ILL J FKDQLK , FKKBPLQ> 6 FP@LKPFPK  
J BQQLMLIFQ>K >0B> >@LOAFKD QL QEB ! +2 3EBV TLOHBA CLO > S>OFBQV LC B J MILVBOP ELPMFQ>IP AL@QL0Pd LCCF@BP P@ELLIP  
EB>IQE @IFKF@P >KA KROPFKD EL J BP <: HE8 FIIRPQ>QB ELT AB J >KA >KA PRMMIV ABQBO J FKB BNRIF?OFR J FK QEFP I>?LO  
J >0HBQ 3EB AB J >KA >KA PRMMIV P@EBARIBP FK ,45?8 IFPQ QEB NR>KQFQV PRMMIFBA >KA NR>KQFQV AB J >KABA LC KROPBP >Q  
AFCCBOBKQ P>I>OFBP

<:HEB \$45BE %4E>8G K4@C?8 8@4A7 4A7 +HCC?L 9BE &HEF8F <A %<AA84CB?<F +G (4H? ?BB@<A:GBA 4EB  
AB J>KA @ROSB \$ LC QELPB B J MILVBOP TEL T>KQ QL EFOB KROPBP FKQBPB@QP TRQE QEB PRMMIV @ROSB 3 LC QELPB TEL >OB  
NR>IFCFBA >KA THIFKD QL TLOH >P KROPBP >Q QEB BNRHF?OFR J MLFKQ % 4EB BNRHF?OFR J P>I>OV FP >KA QEB  
BNRHF?OFR J NR>KQFQV FP KROPBP !Q >K >?LSB BNRHF?OFR J P>I>OV LC NR>KQFQV PRMMIFBA FK@OB>PBP QL  
?RQ QEB NR>KQFQV LC KROPBP AB J>KABA >Q QEB EFDEBO M>V AB@IFKBP QL !Q QEF P>?LSB BNRHF?OFR J P>I>OV  
>K BU@BPP PRMMIV LO PROMIRP LC KROPBP TLRIA BUFPQ !Q > ?BILT BNRHF?OFR J P>I>OV LC NR>KQFQV PRMMIFBA  
AB@IFKBP QL TEFB QEB NR>KQFQV AB J>KABA >Q QEB ILTBO T>DB FK@OB>PBP QL KROPBP !Q QEF P ?BILT  
BNRHF?OFR J P>I>OV BU@BPP AB J>KA LO > PELQ>DB BUFPQP

AAH4? +4?4EL	) H4AG<GL 8@4A787	) H4AG<GL +HCC?<87

,45?8 8@4A7 4A7 +HCC?L B9 &HEF8F <A %<AA84CB?<F +G (4H? ?BB@<A:GBA

3EB ELOFWLKQ>I >UFP PELTP QEB NR>KQFQV LC KROPBP EFOBA (K QEF BU> J MIB TB J B>PROB I>?LO ?V KR J ?BO LC TLOHBOP ?RQ  
>KLQEB @L J J LK T>V QL J B>PROB QEB NR>KQFQV LC I>?LO FP ?V QEB KR J ?BO LC ELROP TLOHBA 3EB SBOQF@>I >UFP PELTP  
QEB MOF@B CLO KROPBPd I>?LO b QE>Q FP ELT J R@E QEBV >OB M>FA (K QEB OB>I TLOIA QEF eMOF@Bf TLRIA ?B QLQ>I I>?LO  
@L J MBKP>QFLK P>I>OV MIRP ?BKBCFP (Q FP KLQ L?SELRP ?RQ ?BKBCFP >OB > PFDKFCF@>KQ M>OQ >P EFDE >P MBO@BKQ LC I>?LO  
@L J MBKP>QFLK (K QEF BU> J MIB TB J B>PROB QEB MOF@B LC I>?LO ?V P>I>OV LK >K >KKR>I ?>PFP >IQELRDE FK LQEB @>PBP TB  
@LRIA J B>PROB QEB MOF@B LC I>?LO ?V J LKQEI V LO TBBHIV M>V LO BSBK QEB T>DB M>FA MBO ELRO P QEB P>I>OV CLO KROPBP  
OFPBP QEB NR>KQFQV AB J>KABA THII C>II 2L J B ELPMFQ>IP >KA KROPFKD EL J BP J >V OBAR@B QEB KR J ?BO LC KROPBP QEBV EFOB  
LO QEBV J >V I>V LCC PL J B LC QEBFO BUFPQFKD KROPBP O>QEBQ QE>K M>V QEB J EFDEBO P>I>OFPB \$ J MILVBOP TEL C>@B EFDEBO  
KROPBPd P>I>OFPB J >V >IPL QOV QL OBMI>@B PL J B KROPFKD CRK@QFLK ?V FKSBPQFKD FK MEVPF@>I BNRFM J BKQ IFHB @L J MRQBO  
J LKFQLOFKD >KA AF>DKLPQF@ PVPQB J P QL J LKFQLO M>QFBKQP LO ?V RPFKD ILTBO M>FA EB>IQE @>OB >FABP QL OBAR@B QEB KR J ?BO  
LC KROPBP QEBV KBBA

P QEB P>I>OV CLO KROPBP OFPBP QEB NR>KQFQV PRMMIFBA THII OFPBP (C KROPBPd P>I>OFPB FK , FKKB>MLIFP 2Q />RI !ILL J FKDQLK  
>OB EFDEBO QE>K FK LQEB @FQFBP J LOB KROPBP THII J LSB QL , FKKB>MLIFP 2Q />RI !ILL J FKDQLK QL CFKA GL?P J LOB MBLMIB  
THII ?B THIFKD QL QO>FK >P KROPBP >KA QELPB @ROOBKQIV QO>FKBA >P KROPBP THII ?B J LOB IFHBIV QL MROPRB KROPFKD >P > CRII  
QF J B GL? (K LQEB TLOAP QEBOB THII ?B J LOB KROPBP ILLHFKD CLO GL?P FK QEB >OB>

Q equilibrium QEB NR>KQFQV PRMMIFBA >KA QEB NR>KQFQV AB J>KABA >OB BNR>I 3ERP BSBV B J MILVBO TEL T>KQP QL EFOB > KROBP >Q QEPF BNRFF?OFR J T>DB @>K CFKA > TFIIFKD TLOHBO >KA BSBV KROBP TEL T>KQP QL TLOH >Q QEPF BNRFF?OFR J P>I>OV @>K CFKA > GL? (K <:HE8 QEB PRMMIV @ROSB 2 >KA AB J>KA @ROSB # FKQOB@Q >Q QEB BNRFF?OFR J MLFKQ \$ 3EB BNRFF?OFR J NR>KQFQV LC KROBP FK QEB , FKKB>MLIFP 2Q />RI ! ILL J FKDQLK >OB> FP >KA QEB BNRFF?OFR J P>I>OV FP MBO VB>O 3EFP BU> J MIB PF J MIFCFBP QEB KROPFKD J>OHBQ ?V CL@RPFKD LK QEB e>SBO>DBf KROBP (K OB>IFQV LC @LROBP QEB J>OHBQ CLO KROBP >@QR>IIV @L J MOFPBP J>KV P J>IIBO J>OHBQP IFHB J>OHBQP CLO KROBP TFQE S>OVFKD ABDDBP LC BUMBOFBK@B >KA @OBABKQF>IP , >KV J>OHBQP @LKQ>FK @ILPBIV OBI>QBA MOLAR@QP QE>Q AFCCBO FK NR>IFQV %LO FKQ>K@B BSBK > PF J MIB MOLAR@Q IFHB D>PLIFKB @L J BP FK OBDRI>O MOB J FR J >KA PRMO MOB J FR J B>@E TFQE > AFCCBOBKQ MOF@B \$SBK FK PR@E @>BPP AFP@RPPFKD QEB >SBO>DB MOF@B LC D>PLIFKB IFHB QEB >SBO>DB P>I>OV CLO KROBP @>K PQFII ?B RPBCRI ?B@>RPB FQ OBCIB@QP TE>Q FP E>MMBKFKD FK J LPQ LC QEB PR? J>OHBQP

6 EBK QEB MOF@B LC I>?LO FP KLQ >Q QEB BNRFF?OFR J B@LKL J F@ FK@BKQFSBP QBKA QL J LSB P>I>OFBP QLT>OA QEB BNRFF?OFR J %LO BU> J MIB FC P>I>OFBP CLO KROBP FK , FKKB>MLIFP 2Q />RI ! ILL J FKDQLK TBOB >?LSB QEB BNRFF?OFR J >Q MBO VB>O QEBK MBLMIB T>KQ QL TLOH >P KROBP ?RQ B J MILVBOP T>KQ QL EFOB LKIV KROBP Q QE>Q >?LSB BNRFF?OFR J P>I>OV BU@BPP PRMMIV LO > PROMIRP OBPRIQP (K > PFQR>QFLK LC BU@BPP PRMMIV FK QEB labor market TFQE J>KV >MMIF@>KQP CLO BSBV GL? LMBKFKD B J MILVBOP TFII E>SB >K FK@BKQFSB QL LCCBO ILTBO T>DBP QE>K QEBV LQEBOTFFP TLRIA E>SB - ROPBPd P>I>OV TFII J LSB ALTK QLT>OA BNRFF?OFR J

(K @LKQ>PQ FC QEB P>I>OV FP ?BILT QEB BNRFF?OFR J >Q P>V MBO VB>O QEBK > PFQR>QFLK LC BU@BPP AB J>KA LO > PELOQ>DB >OFPBP (K QEPF @>PB B J MILVBOP BK@LRO>DBA ?V QEB OBI>QFSBIV ILTBO T>DB T>KQ QL EFOB KROBP ?RQ LKIV FKAFSAR>IP T>KQ QL TLOH >P KROBP >Q QE>Q P>I>OV FK , FKKB>MLIFP 2Q />RI ! ILL J FKDQLK (K OBPMLKPB QL QEB PELOQ>DB PL J B B J MILVBOP TFII LCCBO EFDEBO M>V QL >QQ>@Q QEB KROBP . QEB B J MILVBOP TFII E>SB QL J>@E QEB EFDEBO M>V QL HBBM QEBFO LTK B J MILVBOP 3EB EFDEBO P>I>OFBP TFII BK@LRO>DB J LOB KROBP QL QO>FK LO TLOH FK , FKKB>MLIFP 2Q />RI ! ILL J FKDQLK D>FK MOF@B >KA NR>KQFQV FK QEB I>?LO J>OHBQ TFII J LSB QLT>OA BNRFF?OFR J

### + ;<9GF <A \$45BE 8@4A7

3EB AB J>KA @ROSB CLO I>?LO PELTP QEB NR>KQFQV LC I>?LO B J MILVBOP TFPE QL EFOB >Q >KV DFSBK P>I>OV LO T>DB O>QB RKABO QEB ceteris paribus >PPR J MQFLK @E>KDB FK QEB T>DB LO P>I>OV TFII OBPRIQ FK > @E>KDB FK QEB NR>KQFQV AB J>KABA LC I>?LO (C QEB T>DB O>QB FK@OB>PBP B J MILVBOP TFII T>KQ QL EFOB CBTBO B J MILVBOP 3EB NR>KQFQV LC I>?LO AB J>KABA TFII AB@OB>PB >KA QEBOB TFII ?B > J LSB J BKQ RMT>OA >ILKD QEB AB J>KA @ROSB (C QEB T>DBP >KA P>I>OFBP AB@OB>PB B J MILVBOP >OB J LOB IFHBIV QL EFOB >DOB>QBO KR J ?BO LC TLOHOBP 3EB NR>KQFQV LC I>?LO AB J>KABA TFII FK@OB>PB OBPRIQFKD FK > ALTKT>OA J LSB J BKQ >ILKD QEB AB J>KA @ROSB

2EFCQ FK QEB AB J>KA @ROSB CLO I>?LO L@RO CLO J>KV OB>PLKP . KB HBV OB>PLK FP QE>Q QEB AB J>KA CLO I>?LO FP ?>PBA LK QEB AB J>KA CLO QEB DLLA LO PBOFS@B QE>Q FP MOLAR@BA %LO BU> J MIB QEB J LOB KBT >RQL J L ?FIBP @LKPR J BOP AB J>KA QEB DOB>QBO QEB KR J ?BO LC TLOHOBP >RQL J >HBOP TFII KBBA QL EFOB 3EB OBCLOB QEB AB J>KA CLO I>?LO FP @>IIBA > eABOFSBA AB J>KA f ' BOB >OB PL J B BU> J MIBP LC ABOFSBA AB J>KA CLO I>?LO

- d 3EB AB J>KA CLO @EBCP FP ABMBKABKQ LK QEB AB J>KA CLO OBPQ>RO>KQ J B>IP
- d 3EB AB J>KA CLO ME>O J>@FPQP FP ABMBKABKQ LK QEB AB J>KA CLO MOBP@OFMQFLK AORDP
- d 3EB AB J>KA CLO >QLLOKBVP FP ABMBKABKQ LK QEB AB J>KA CLO IBD>I PBOFS@BP

P QEB AB J>KA CLO QEB DLLAP >KA PBOFS@BP FK@OB>PBP QEB AB J>KA CLO I>?LO TFII FK@OB>PB LO PEFCQ QL QEB OFDEQ QL J BBQ B J MILVBOPd MOLAR@QFLK OBNRFOB J BKQP P QEB AB J>KA CLO QEB DLLAP >KA PBOFS@BP AB@OB>PBP QEB AB J>KA CLO I>?LO TFII AB@OB>PB LO PEFCQ QL QEB IBCQ ,45?8 PELTP QE>Q FK >AAFQFLK QL QEB ABOFSBA AB J>KA CLO I>?LO AB J>KA @>K >IPL FK@OB>PB LO AB@OB>PB PEFCQ FK OBPMLKPB QL PBSBO>I C>@QLOP

46GBEF	*8FH?GF
\$B J>KA CLO / RQMRQ	7 EBK QEB AB J>KA CLO QEB DLLA MOLAR@BA LRQMRQ FK@OB>PBP ?LQE QEB LRQMRQ MOF@B >KA MOLCFQ>?FIFQV FK@OB>PB ! P > OBPRIQ MOLAR@BOP AB J>KA J LOB I>?LO QL O> JM RM MOLAR@QFLK

,45?8 46GBEF , ;4G 4A + ;<9G 8@4A7



46GBEF	*8FH?GF
<p>%AR@&gt;QLK &gt;KA 4Q&gt;FKFKD</p>	<p>! TBII QO&gt;FKBA &gt;KA BAR@&gt;QBA TLOHCL0@B @&gt;RPBP &gt;K FK@0B&gt;PB FK QEB AB J &gt;KA CLO QE&gt;Q I&gt;?LO ?V B J MILVBOP )K@0B&gt;PBA IBSBIP LC MOLAR@QFSFQV TFQEFK QEB TLOHCL0@B TFII @&gt;RPB QEB AB J &gt;KA CLO I&gt;?LO QL PEFCQ QL QEB OFDEQ )C QEB TLOHCL0@B FP KLQ TBII QO&gt;FKBA LO BAR@&gt;QBA B J MILVBOP TFII KLQ EFOB COL J TFQEFK QE&gt;Q I&gt;?LO MLLI PFK@B QEBV TFII KBBA QL PMBKA &gt; PFDKFCF@&gt;KQ &gt; JLRKQ LC QF J B &gt;KA J LKBV QO&gt;FKFKD QE&gt;Q TLOHCL0@B \$B J &gt;KA CLO PR@E TFII PEFCQ QL QEB IBCQ</p>
<p>4B@EKLILDV</p>	<p>4B@EKLILDV @E&gt;KDBP @&gt;K &gt;@Q &gt;P BFQEB0 PR?PQFQRQB CLO LO @L J MIB J BKQP QL I&gt;?LO 7 EBK QB@EKLILDV &gt;@QP &gt;P &gt; PR?PQFQRQB FQ 0BMI&gt;@BP QEB KBBA CLO QEB KR J ?BO LC TLOHBOP &gt;K B J MILVBO KBBAP QL EFOB &amp;LO BU&gt; J MIB TLOA MOL@BPPFKD AB@0B&gt;PBA QEB KR J ?BO LC QVMFQP KBBABA FK QEB TLOHMI&gt;@B 4EFP PEFCQBA QEB AB J &gt;KA @ROSB CLO QVMFQP IBCQ ! K FK@0B&gt;PB FK QEB &gt;S&gt;FI&gt;?FIFQV LC @BOQ&gt;FK QB@EKLILDFBP J &gt;V FK@0B&gt;PB QEB AB J &gt;KA CLO I&gt;?LO 4B@EKLILDV QE&gt;Q &gt;@QP &gt;P &gt; @L J MIB J BKQ QL I&gt;?LO TFII FK@0B&gt;PB QEB AB J &gt;KA CLO @BOQ&gt;FK QVMBP LC I&gt;?LO 0BPRIQFKD FK &gt; OFDEQT&gt;0A PEFCQ LC QEB AB J &gt;KA @ROSB &amp;LO BU&gt; J MIB QEB FK@0B&gt;PBA RPB LC TLOA MOL@BPPFKD &gt;KA LQEB0 PLCQT&gt;0B E&gt;P FK@0B&gt;PBA QEB AB J &gt;KA CLO FKCL0 J &gt;QLK QB@EKLILDV MOLCBPPFLK&gt;IP TEL @&gt;K 0BPLISB PLCQT&gt;0B &gt;KA E&gt;0AT&gt;0B FPPRBP 0BI&gt;QBA QL &gt; CFO J aP KBQTLOH - LOB &gt;KA ?BQ0B0 QB@EKLILDV TFII FK@0B&gt;PB AB J &gt;KA CLO PHFIIBA TLOHBOP TEL HKLT ELT QL RPB QB@EKLILDV QL BKE&gt;K@B TLOHMI&gt;@B MOLAR@QFSFQV 4ELPB TLOHBOP TEL AL KLQ &gt;A&gt;MQ QL @E&gt;KDBP FK QB@EKLILDV TFII BUMBOFBK@B &gt; AB@0B&gt;PB FK AB J &gt;KA</p>
<p>. R J ?BO LC #L J M&gt;KFBP</p>	<p>! K FK@0B&gt;PB FK QEB KR J ?BO LC @L J M&gt;KFBP MOLAR@FKD &gt; DfsBK MOLAR@Q TFII FK@0B&gt;PB QEB AB J &gt;KA CLO I&gt;?LO 0BPRIQFKD FK &gt; PEFCQ QL QEB OFDEQ ! AB@0B&gt;PB FK QEB KR J ?BO LC @L J M&gt;KFBP MOLAR@FKD &gt; DfsBK MOLAR@Q TFII AB@0B&gt;PB QEB AB J &gt;KA CLO I&gt;?LO 0BPRIQFKD FK &gt; PEFCQ QL QEB IBCQ</p>
<p>' LSBOK J BKQ 2BDRI&gt;QLKP</p>	<p>#L J MIVFKD TFQE DLSBOK J BKQ 0BDRI&gt;QLKP @&gt;K FK@0B&gt;PB LO AB@0B&gt;PB QEB AB J &gt;KA CLO I&gt;?LO &gt;Q &gt;KV DfsBK T&gt;DB )K QEB EB&gt;IQE@&gt;0B FKARPQOV DLSBOK J BKQ 0RIBP J &gt;V 0BNRFOB QE&gt;Q KR0PBP ?B EFOBA QL @&gt;00V LRQ @BOQ&gt;FK J BAF@&gt;I MOL@BAROBP 4EFP TFII FK@0B&gt;PB QEB AB J &gt;KA CLO KR0PBP , BPP QO&gt;FKBA EB&gt;IQE@&gt;0B TLOHBOP TLRIA ?B MOLEF?FQBA COL J @&gt;00VFKD LRQ QEBPB MOL@BAROBP &gt;KA QEB AB J &gt;KA CLO QEBPB TLOHBOP TFII PEFCQ QL QEB IBCQ</p>
<p>00F@B &gt;KA ! S&gt;FI&gt;?FIFQV LC / QEBO )KMRQP</p>	<p>,&gt;?LO FP KLQ QEB LKIV FKMRQ FKQL QEB MOLAR@QLK MOL@BPP &amp;LO BU&gt; J MIB &gt;P&gt;IBPMB0PLK &gt;Q &gt; @&gt;II @BKQBO KBBAP &gt; QBIMELKB &gt;KA &gt; @L J MRQBO QBO J FK&gt;I QL BKQBO A&gt;Q&gt; &gt;KA 0B@LOA P&gt;IBP )C MOF@BP LC LQEB0 FKMRQP C&gt;II MOLAR@QLK TFII ?B@L J B J LOB MOLCFQ&gt;?IB &gt;KA PRMMIFBOP TFII AB J &gt;KA J LOB I&gt;?LO QL FK@0B&gt;PB MOLAR@QLK 4EFP TFII @&gt;RPB &gt; OFDEQT&gt;0A PEFCQ FK QEB AB J &gt;KA @ROSB CLO I&gt;?LO 4EB LMMLPFQB FP &gt;IPL QORB ( FDEBO MOF@BP CLO LQEB0 FKMRQP ILTB0 AB J &gt;KA CLO I&gt;?LO</p>

,45?8 46GBEF , ;46 4A + ;<96 8@4A7

# Link It Up

#IF@H EBOB EQQM LMBKPQ>U@LIIBDB LOD I &RQROBTLOH QL 0B>A J LOB >?LRQ b40BKAP >KA #E>IIBKDBP CLO 7 LOH FK QEB P@ #BKQROV c

+ ; <9GF <A \$45BE +HCC?L

3EB PRMMIV LC I>?LO FP RMT>OA PILMFKD >KA >AEB0BP QL QEB I>T LC PRMMIV 3EB EFDEBO QEB MOF@B QEB DOB>QBO QEB NR>KQFQV PRMMIFBA >KA QEB ILTBO QEB MOF@B QEB IBPP NR>KQFQV PRMMIFBA 3EB PRMMIV @ROSB J LABIP QEB QO>ABLCC ?BQTBBK PRMMIVFKD I>?LO FKQL QEB J >OHBQ LO RPFKD QF J B FK IBFPROB >@QFSFQFBP >Q BSOV DFSBK MOF@B IBSBI 3EB EFDEBO QEB T>DB QEB J LOB I>?LO FP TFHFKD QL TLOH >KA CLOBDL IBFPROB >@QFSFQFBP ,45?8 IFQP PL J B LC QEB C>@QLOP QE>Q TFH @>RBP QEB PRMMIV QL FK@OB>PB LO AB@OB>PB

46GBEF	* 8FH?GF
. R J ?BO LC 7 LOHBOP	! K FK@OB>PBA KR J ?BO LC TLOHBOP TFH @>RBP QEB PRMMIV @ROSB QL PEFQ QL QEB OFDEQ ! K FK@OB>PBA KR J ?BO LC TLOHBOP @>K ?B ARB QL PBSBO>I C>@QLOP PR@E >P F J J FDO>QFLK FK@OB>PFKD MLMRI>QFLK >K >DFKD MLMRI>QFLK >KA @E>KDFKD AB J LDO>MEF@P OLIF@FBP QE>Q BK@LRO>DB F J J FDO>QFLK TFH FK@OB>PB QEB PRMMIV LC I>?LO >KA SF@B SBOP> OLMRI>QFLK DOLT P TEBK ?FOQE O>QBP BU@BBA AB>QE O>QBP 4EFP BSBKQR>IIV FK@OB>PBP PRMMIV LC I>?LO TEBK QEB CLO J BO OB>@E TLOHFKD >DB ! K >DFKD >KA QEB0BCLOB OBQFQFKD MLMRI>QFLK TFH AB@OB>PB QEB PRMMIV LC I>?LO ! KLQEB0 BU> J MIB LC @E>KDFKD AB J LDO>MEF@P FP J LOB TL J BK TLOHFKD LRQPFAB LC QEB EL J B TEF@E FK@OB>PBP QEB PRMMIV LC I>?LO
2BNRFOBA %AR@>QFLK	4EB J LOB OBNRFOBA BAR@>QFLK QEB ILTBO QEB PRMMIV 4EB0B FP > ILTBO PRMMIV LC OE\$ J >QEB J >QF@F>KP QE>K LC EFDE P@ELLI J >QEB J >QF@P QB>@EBOP QEB0B FP > ILTBO PRMMIV LC @>OAFLLDFFQP QE>K LC MOF J >OV @>OB MEVPF@F>KP >KA QEB0B FP > ILTBO PRMMIV LC MEVPF@F>KP QE>K LC KROPBP
' LSBOK J BKQ OLIF@FBP	' LSBOK J BKQ MLIF@FBP @>K >IPL >CCB@Q QEB PRMMIV LC I>?LO CLO GL?P ! IQBOK>QFSBIV QEB DLSBOK J BKQ J >V PRMMLQ ORIBP QE>Q PBQ EFDE NR>IFCF@>QFLKP CLO @BOQ>FK GL?P >@>AB J F@ QO>FKFKD @BOQCF@>QBP LO IF@BKPBP LO BUMBOFBK@B 7 EBK QEBPB NR>IFCF@>QFLKP >OB J >AB QLRDEBO QEB KR J ?BO LC NR>IFCFBA TLOHBOP TFH AB@OB>PB >Q >KV DfSBK T>DB / K QEB LQEB0 E>KA QEB DLSBOK J BKQ J >V >IPL PR?PFAFWB QO>FKFKD LO BSBK OBAR@B QEB OBNRFOBA IBSBI LC NR>IFCF@>QFLKP &LO BU> J MIB DLSBOK J BKQ J FDEQ LCCBO PR?PFAFBP CLO KROPFKD P@ELLIP LO KROPFKD PQRABKQP 3R@E MOLSFPFLKP TLRIA PEFQ QEB PRMMIV @ROSB LC KROPBP QL QEB OFDEQ )K >AARQFLK DLSBOK J BKQ MLIF@FBP QE>Q @E>KDB QEB OBI>QFSB ABPF@>?FIFQV LC TLOHFKD SBOPRP KLQ TLOHFKD >IPL >CCB@Q QEB I>?LO PRMMIV 4EBPB FK@IRAB RKB J MILV J BKQ ?BKBCFQP J >QBOKFQV IB>SB @EHA @>OB ?BKBCFQP >KA TBIC>OB MLIF@V &LO BU> J MIB @EHA @>OB ?BKBCFQP J >V FK@OB>PB QEB I>?LO PRMMIV LC TLOHFKD J LQEBOP , LKD QBO J RKB J MILV J BKQ ?BKBCFQP J >V AFP@LRO>DB GL? PB>O@EFKD CLO RKB J MILVBA TLOHBOP ! II QEBPB MLIF@FBP J RPQ QEB0BCLOB ?B @>OBCRIIV ABPFDKBA QL J FK F FWB >KV KBD>QFSB I>?LO PRMMIV BCCB@QP

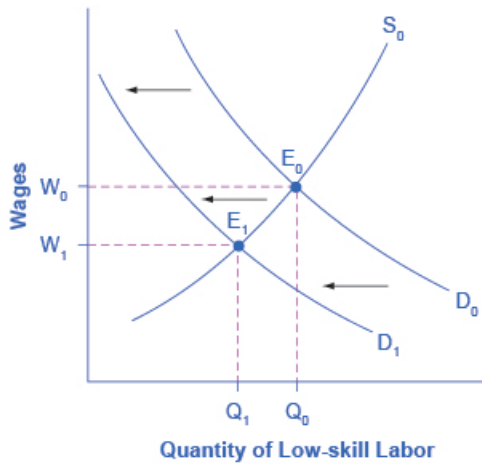
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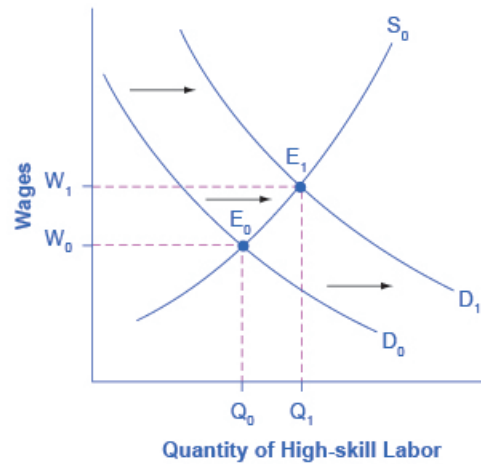
**,86;AB?B:L 4A7 / 4:8 !A8DH4?<GL , ;8 BHE +G8C (EB68FF**

\$@LKL JF@ BSBKQP @>K @E>KDB QEB BNRFFI?OFR J P>I>OV LO T>DB >KA NR>KQFV LC I>?LO "LKPFA0 ELT QEB T>SB LC KBT FKLO J>QFLK QB@EKLILDFBP IFHB @L JMRQBO >KA QBIB@L J J RKF@>QFLKP KBQTL0HP E>P >CCB@QBA ILT PHFII >KA EFDE PHFII TLOHBOP FK QEB 4 2 B@LKL J V %0L J QEB MBOPMB@QFSB LC B J MILVBOP TEL AB J>KA I>?LO QEBPB KBT QB@EKLILDFBP >OB LCQBK >PR?PQFQRQB CLO ILT PHFII I>?LOBOP IFHB CFIB @IBOHP TEL RPBA QL HBBM CFIB @>?FKBQP CRII LC M>MBO OB@LOAP LC QO>KP>@QFLKP 'LTBSBO QEB P>JB KBT QB@EKLILDFBP >OB > @L J MIB JBKQ QL EFDE PHFII TLOHBOP IFHB J>K>DBOP TEL ?BKBCFQ COL J QEB QB@EKLILDF@>I >AS>K@BP ?V E>SFKD QEB >?FIFQV QL J LKFQLO JLOB FKLO J>QFLK @L J J RKF@>QB JLOB B>PFIV >KA GRDDIB >TFABO >00>V LC OBPMLKP?FIFQFBP 'LT TFII QEB KBT QB@EKLILDFBP >CCB@Q QEB T>DBP LC EFDE PHFII >KA ILT PHFII TLOHBOP %LO QEFP NRBPQFLK QEB CLRO PQBM MOL@BPP LC >K>IVWFKD ELT PEFCQ FK PRMMIV LO AB J>KA >CCB@Q > J>0HBQ FKQOLAR@BA FK **8@4A7 4A7 +HCC?L** TLOHP FK QEFP T>V

2QBM 6E>Q AFA QEB J>0HBQP CLO ILT PHFII I>?LO >KA EFDE PHFII I>?LO ILLH IFHB ?BCLOB QEB >00FS>I LC QEB KBT QB@EKLILDFBP (K <:HE8 > >KA <:HE8 ? 2 FP QEB LOFDK>I PRMMIV @ROSB CLO I>?LO >KA # FP QEB LOFDK>I AB J>KA @ROSB CLO I>?LO FK B>@E J>0HBQ (K B>@E DO>ME QEB LOFDK>I MLFKQ LC BNRFFI?OFR J \$ L@>ROP >Q QEB MOF@B 6 >KA QEB NR>KQFV 0



(a) Technological change and low-skill labor



(b) Technological change and high-skill labor

<:HE8 ,86;AB?B:L 4A7 / 4:8F CC?L:A: 8@4A7 4A7 +HCC?L > 4EB AB J>KA CLO ILT PHFII I>?LO PEFCQ QL QEB IBQ TEBK QB@EKLILDV @>K AL QEB GL? MOBSFLRPV ALKB ?V QEBPB TLOHBOP ? .BT QB@EKLILDFBP @>K >IPL FK@OB>PB QEB AB J>KA CLO EFDE PHFII I>?LO FK CFBIAP PR@E >P FKLO J>QFLK QB@EKLILDV >KA KBQTL0H >A JFKFQO>QFLK

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2QBM 6FII QEB KBT QB@EKLILDV FK@OB>PB LO AB@OB>PB AB J>KA !>PBA LK QEB ABP@OFMQLK B>OIFBO >P QEB PR?PQFQRQB CLO ILT PHFII I>?LO ?B@L J BP >S>FI>IB AB J>KA CLO ILT PHFII I>?LO TFII PEFCQ QL QEB IBCQ COL J # QL # P QEB QB@EKLILDV @L J MIB JBKQ CLO EFDE PHFII I>?LO ?B@L J BP @EB>MBO AB J>KA CLO EFDE PHFII I>?LO TFII PEFCQ QL QEB OFDEQ COL J # QL #

2QBM 3EB KBT BNRFFI?OFR J CLO ILT PHFII I>?LO PELTK >P MLFKQ \$ TFQE MOF@B 6 >KA NR>KQFV 0 E>P > ILTBO T>DB >KA NR>KQFV EFOBA QE>K QEB LOFDK>I BNRFFI?OFR J \$ 3EB KBT BNRFFI?OFR J CLO EFDE PHFII I>?LO PELTK >P MLFKQ \$ TFQE MOF@B 6 >KA NR>KQFV 0 E>P > EFDEBO T>DB >KA NR>KQFV EFOBA QE>K QEB LOFDK>I BNRFFI?OFR J \$

3ERP QEB AB J>KA >KA PRMMIV JLABI MOBAF@QP QE>Q QEB KBT @L JMRQBO >KA @L J J RKF@>QFLKP QB@EKLILDFBP TFII O>FPB QEB M>V LC EFDE PHFII TLOHBOP ?RQ OBAR@B QEB M>V LC ILT PHFII TLOHBOP %0L J QEB P QL QEB JFA P QEB T>DB D>M TFABKBA ?BQTBBK EFDE PHFII >KA ILT PHFII I>?LO @>LOAFKD QL QEB ->QFLK>I "BKQBO CLO \$AR@>QFLK 2Q>QFPQF@P FK CLO BU>J MIB >@LIIBDB DO>AR>QB B>OKBA >?LRQ JLOB QE>K > EFDE P@ELLI DO>AR>QB TFQE @L J M>O>?IB GL? BUMBOFBK@B ?RQ ?V >@LIIBDB DO>AR>QB B>OKBA >?LRQ JLOB QE>K >K LQEBOTFPB @L J M>O>?IB EFDE P@ELLI DO>AR>QB ,>KV B@LKL JFPQ ?BIFBSB QE>Q QEB QOBKA QLT>OA DOB>QBO T>DB FKBNR>IFQV >@OLPP QEB 4 2 B@LKL J V FP ARB QL F J MOLSB JBKQP FK

QB@EKLILDV

# Link It Up

6FPQ QEP TB?PQB EQM LMBKP>U@LIIBDB LOD I LIAQB@E:L?P QL OB>A >?LRQ QBK QB@E PHFHP QE>Q E>SB ILPQ  
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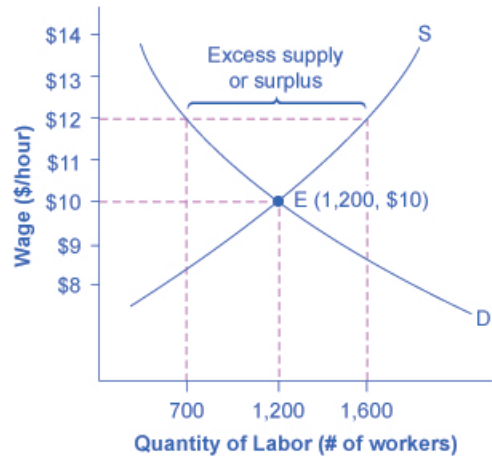
## (E<68 ?BBEF <A G;8 \$45BE %4E>8G \$<I<A: / 4:8F 4A7 %<A<@H@ / 4:8F

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COL J B>OKFKD FK@L J B >OB KLQ MLIFQF@>IIV MLMRI>0 3EB0B FP LKB BU@BMQFLK ?L>OAP LC QORPQBPP LO PQL@HELIABOP >P >K  
BU> J MIB MOLMLPB IF J FQP LK QEB EFDE FK@L J BP LC QLM ?RPFKBPP BUB@RQFSBP

3EB I>?LO J >0HBQ ELTBSBO MOBPBKQP PL J B MOL J FKBKQ BU> J MIBP LC MOF@B CILLOP TEF@E >OB >K >QB J MQ QL FK@OB>PB QEB  
T>DBP LC ILT M>FA TLOHBOP 3EB 4 2 DLSBOK J BKQ PBQP > **minimum wage** > MOF@B CILLO QE>Q J >HBP FQ FIIBD>I CLO >K  
B J MILVBO QL M>V B J MILVBPP IBPP QE>K > @BOQ>FK ELROIV 0>QB (K J FA QEB 4 2 J FKJ J R J T>DB T>P 0>FPBA QL  
MBO ELRO +L@>I MLIFQF@>I J LSB J BKQP FK > KR J ?BO LC 4 2 @FQFBP E>SB MRPEBA CLO > EFDEBO J FKJ J R J T>DB TEF@E QEBV  
>II > **living wage** /OL J LQBOP LC IFSFKD T>DB I>TP J >FK>FK QE>Q QEB J FKJ J R J T>DB FP QLL ILT QL BKPROB >OB>PLK>?IB  
PQ>KA>OA LC IFSFKD 3EBV ?>PB QEP @LK@IRPFLK LK QEB @>I@RI>QFLK QE>Q FC VLR TLOH ELROP > TBBH >Q > J FKJ J R J T>DB  
LC MBO ELRO CLO TBBHP > VB>0 VLRO >KKR>I FK@L J B FP TEF@E FP IBPP QE>K QEB LCCF@F>I 4 2 DLSBOK J BKQ  
ABCFFQFLK LC TE>Q FQ J B>KP CLO > C> J FIV QL ?B FK MLSBOQV C> J FIV TFQE QTL >ARIQP B>OKFKD J FKJ J R J T>DB >KA QTL  
VLRKD @EFIAOBK THII CFKA FQ J LOB @LPQ BCCF@FBKQ CLO LKB M>OBKQ QL MOLSAB @EFIA@>OB TEFIB QEB LQEBO TLOHP CLO FK@L J B  
3ERP QEB C> J FIV FK@L J B TLRIA ?B TEF@E FP PFDKFCF@>KQIV ILTBO QE>K QEB CBABO>I MLSBOQV IFKB CLO > C> J FIV LC  
CLRO TEF@E T>P FK

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FK PBSBO>I ALWBK @FQFBP BK>@QBA PF J FI>0 I>TP FK QEB I>QB P >KA QEB P 3EB IFSFKD T>DB LOAFK>K@BP AL KLQ  
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KL CBABO>I J FKJ J R J T>DB 3EB T>DB >MMB>OP LK QEB SBOQF@>I >UFP ?B@>RPB QEB T>DB FP QEB MOF@B FK QEB I>?LO J >0HBQ  
! BCLOB QEB M>PP>DB LC QEB IFSFKD T>DB I>T QEB BNRFFI?OFR J T>DB FP MBO ELRO >KA QEB @FQV EFOBP TLOHBOP >Q  
QEFP T>DB 'L TBSBO > DOLRM LC @LK@BOKBA @FQFBKPB MBOPR>ABP QEB @FQV @LRK@FI QL BK>@Q > IFSFKD T>DB I>T OBNRFOFKD  
B J MILVBOP QL M>V KL IBPP QE>K MBO ELRO (K OBPM LKPB QL QEB EFDEBO T>DB TLOHBOP ILLH CLO GL?P TFQE QEB  
@FQV Q QEFP EFDEBO T>DB QEB @FQV >P >K B J MILVBO FP THIFKD QL EFOB LKIV TLOHBOP Q QEB MOF@B CILLO QEB NR>KQFQV  
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E>SB > GL? >Q > EFDEBO P>I>OV IFCB E>P F J MOLSBA %LO QELPB TEL TBOB THIFKD QL TLOH >Q QEB LIA T>DB 0>QB ?RQ ILPQ  
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AFCCBOBKQ T>DBP



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E0		
E0		
E0		
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,45?8 \$<I<A: / 4:8 K4@C?8 B9 4 (E<68 ?BBE

, ; 8 %<A<@H@ / 4:8 4F 4A K4@C?8 B9 4 (E<68 ?BBE

3EB 4 2 J FKf J R J T>DB FP > MOF@B CILLO QE>Q FP PBQ BFQEBO SBOV @ILPB QL QEB BNRfIF?0FR J T>DB LO BSBK PIFDEQIV ?BILT FQ ?LRQ LC J BOF@>K TLOHBOP >OB >@QR>IIV M>FA QEB J FKf J R J T>DB (K LQEBO TLOAP QEB S>PQ J>GLOFQV LC QEB 4 2 I>?L0 CLO@B E>P FQP T>DBP ABQBO J FKBA FK QEB I>?L0 J>0HBQ KLQ >P > OBPRIQ LC QEB DLSBOK J BKQ MOF@B CILLO ' LTBSBO CLO TLOHBOP TfQE ILT PHfIP >KA IFQIB BUMBOFBK@B IFHB QELPB TfQELRQ > EFDE P@ELLI AFMIL J > LO QBK>DBOP QEB J FKf J R J T>DB FP NRfQB F J MLQ>KQ (K J>KV @fQFBP QEB CBABO>I J FKf J R J T>DB FP >MM>OBKQIV ?BILT QEB J>0HBQ MOF@B CLO RKPfHIBA I>?L0 ?B@>RPB B J MILVBOP LCCBO J LOB QE>K QEB J FKf J R J T>DB QL @EB@HLRQ @IBOHP >KA LQEBO ILT PHfII TLOHBOP TfQELRQ >KV DLSBOK J BKQ MOLAAFKD

\$@LKL J FPQ E>SB >QB J MQBA QL BPQF J >QB ELT J R@E QEB J FKf J R J T>DB OBAR@BP QEB NR>KQfQV AB J>KABA LC ILT PHfII I>?L0 QVMF@>I OBPRIQ LC PR@E PQRafBP FP QE>Q > FK@OB>PB FK QEB J FKf J R J T>DB TLRIA AB@OB>PB QEB EFOfKD LC RKPfHIBA TLOHBOP ?V QL TEF@E PBB J P > OBI>QFSBIV P J>II OBAR@QLK (K C>@Q PL J B PQRafBP E>SB BSBK CLRKA KL BCCB@Q LC > EFDEBO J FKf J R J T>DB LK B J MILV J BKQ >Q @BOQ>FK QF J BP >KA MI>@BP b >IQELRDE QEBPB PQRafBP >OB @LKQLSBOpF>I

+BQdP PRMMLPB QE>Q QEB J FKf J R J T>DB IFBP GRPQ PIFDEQIV below QEB BNRfIF?0FR J T>DB IBSBI 6>DBP @LRIA CIR@QR>QB >@>L0AFKD QL J>0HBQ CLO@BP >?LSB QEFP MOF@B CILLO ?RQ QEBV TLRIA KLQ ?B >IILTBA QL J LSB ?BKB>QE QEB CILLO (K QEFP PQR>QLK QEB MOF@B CILLO J FKf J R J T>DB FP nonbinding b QE>Q FP QEB MOF@B CILLO FP KLQ ABQBO J FKfKD QEB J>0HBQ LRQ@L J B \$SBK FC QEB J FKf J R J T>DB JLSBP GRPQ > IFQIB EFDEBO FQ TfH PqHII E>SB KL BCCB@Q LK QEB NR>KQfQV LC

B J MILV J BKQ FK QEB B@LKL J V >P ILKD >P FQ OB J >FKP ?BILT QEB BNRFF?OFR J T>DB \$SBK FC QEB DLSBOK J BKQ FK@OB>PBP J FKF J R J T>DB ?V BKL RDE PL QE>Q FQ OFPBP PIFDEQIV >?LSB QEB BNRFF?OFR J T>DB >KA ?B@L J BP ?FKAFKD QEB OB TFII ?B LKIV > P J >II BU@PPP PRMMIV D>M ?BQTBBK QEB NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA

3EBPB FKPFDEQP EBIM QL BUMI>FK TEV 4 2 J FKF J R J T>DB I>TP E>SB EFPQLOF@>IIV E>A LKIV > P J >II F J M>@Q LK B J MILV J BKQ 2FK@B QEB J FKF J R J T>DB E>P QVMF@>IIV ?BBK PBQ @ILPB QL QEB BNRFF?OFR J T>DB CLO ILT PHFII I>?LO >KA PL J B Q F J B P BSBK ?BILT FQ FQ E>P KLQ E>A > I>ODB BCCB@Q FK @OB>QFKD >K BU@PPP PRMMIV LC I>?LO 'LTBSBO FC QEB J FKF J R J T>DB FK@OB>PBA A0> J >QF@>IIV b P>V FC FQ ALR?IBA QL J >Q@E QEB IFSFKD T>DBP QE>Q PL J B 4 2 @FQFBP E>SB @LKPFABOBA b QEBK FQ F J M>@Q LK OBAR@FKD QEB NR>KQFQV AB J >KABA LC B J MILV J BKQ TLRIA ?B C>O DOB>QBO P LC J >KV 4 2 PQ>QBP >OB PBQ QL FK@OB>PB QEBFO J FKF J R J T>DB QL MBO ELRO 6 B TFII PBB TE>Q E>MMBKP 3EB CLILTFKD "IB>0 (Q 4M CB>QROB ABP@OF?BP FK DOB>QBO ABQ>FI PL J B LC QEB >ODR J BKQP CLO >KA >D>FKPQ @E>KDBP QL J FKF J R J T>DB

# Clear It Up

/ ; 4GRF G ; 8 ; 4E@ <A E4<F<A : G ; 8 @<A<@H@ J4:8

"B@>RPB LC QEB I>T LC AB J >KA > EFDEBO OBNRF@BA T>DB TFII OBAR@B QEB >J LRKQ LC ILT PHFII B J MILV J BKQ B FQ EBO FK QBO J P LC B J MILV B B P LO FK QBO J P LC T LOH ELROP ! IQELRDE QEB OB FP @LKQ@LSBOPV LSBO QEB KR J ?BOP IB@P P>V CLO QEB P>HB LC QEB >ODR J BKQ QE>Q > OFPB FK QEB J FKF J R J T>DB TFII OBAR@B QEB B J MILV J BKQ LC ILT PHFII T LOHBOP ?V \$LBP QEF LRQ@L J B J B>K QE>Q O>FPFKD QEB J FKF J R J T>DB ?V FP ?>A MR?IF@ MLIF@V . LQ KB@BPP>OFIV

JC LC QELPB OB@BfSfKD QEB J FKF J R J T>DB E>SB > M>V FK@OB>PB LC ?RQ LC QELPB OB@BfSfKD QEB J FKF J R J T>DB ILPB QEBFO GL?P >OB QEB D>FKP CLO PL@FBQV >P > TELIB DOB>QBO QE>K QEB ILPPBP 4EB >KPTBO FP KLQ @IB>0 ?B@>RPB GL? ILPPBP BSBK CLO > P J >II DOLRM J >V @>RPB J LOB M>FK QE>K J LABPQ FK@L J B D>FKP CLO LQEBOP &LO LKB QEFKD TB KBBA QL @LKPFABO TEF@E J FKF J R J T>DB T LOHBOP >OB ILPFKD QEBFO GL?P )C QEB LC J FKF J R J T>DB T LOHBOP TEL ILPB QEBFO GL?P >OB PQORDDIFKD QL PRMMLQ C> J FFBP QE>Q FP LKB QEFKD )C QELPB TEL ILPB QEBFO GL? >OB EFDE P@ELLI PQRABKQP MF@HFKD RM PMBKAfKD J LKBV LSBO PR J J BO S>@>FLK QE>Q FP PL J B QEFKD BIPB

!KLQEB @L J MIBUQV FP QE>Q J >KV J FKF J R J T>DB T LOHBOP AL KLQ T LOH CRII QF J B CLO >K BKQFOB VB>0 )J>DFKB > J FKF J R J T>DB T LOHBO TEL ELIAP AFCCBOBK M>OQ QF J B GL?P CLO > CBT J LKQEP >Q > QF J B TRQE ?LRQP LC RKB J MILV J BKQ FK ?BQTBBK 4EB T LOHBO FK QEF PRQ>QFLK OB@BfSBP QEB O>FPB FK QEB J FKF J R J T>DB TEBK T LOHFKD ?RQ >IPL BKAP RM T LOHFKD CBTBO ELROP AROFKD QEB VB>0 ?B@>RPB QEB EFDEBO J FKF J R J T>DB OBAR@BP ELT J R @E B J MILV BOP T>KQ MBLMIB QL T LOH / SBO>II QEF T LOHBO@P FK@L J B TLRIA OFPB ?B@>RPB QEB M>V O>FPB TLRIA J LOB QE>K LCCPBQ QEB CBTBO ELROP T LOHBA

/ C @LRPB QEBPB >ODR J BKQP AL KLQ MOLSB QE>Q O>FPFKD QEB J FKF J R J T>DB FP KB@BPP>OFIV > DLLA FAB> B FQ EBO 4EB0B J >V TBII ?B LQEB ?BQQBO MR?IF@ MLIF@V LM@FLKP CLO EBIMFKD ILT T>DB T LOHBOP 4EB (B18EGL 4A7 6BAB<6 !A8DH4?<GL ;GGC 6AK BE: 6BAG8AG @ ?4G8FG @E>M@BO Afp@RPPBP PL J B MLPPF?FIFQFBP 4EB IBPPLK COL J QEF J >WB LC J FKF J R J T>DB >ODR J BKQP FP QE>Q @L J MIBU PL@f>I MOL?IB J P O>OBIV E>SB PF J MIB >KPTBOP %SBK QELPB TEL >DOBB LK ELT > MOLMLPBA B@LKL J F@ MLIF@V >CCB@QP NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA J >V PQFII Afp>DOBB LK TEBQEB QEB MLIF@V FP > DLLA FAB>

N 8@4A7 4A7 +HCC?L <A <A4A6<4? %4E>8GF

! V QEB BKA LC QEF PB@QFLK VLR TFII ?B >?IB QL

- d (ABKQFCV QEB AB J >KABOP >KA PRMMIFBOP FK > CFK>K@f>I J >OHBQ
- d \$UMI>FK ELT FKQBOBPQ O>QBP @>K >CCB@Q PRMMIV >KA AB J >KA
- d K>IVWB QEB B@LKL J F@ BCCB@QP LC 4 2 AB?Q FK QBO J P LC AL J BPQF@ CFK>K@f>I J >OHBQP
- d \$UMI>FK QEB OLIB LC MOF@B @BFIFKDP >KA RPROV I>TP FK QEB 4 2

4KFQBA 2Q>QBP ELRPBELIAP FKPFQFQFLKP >KA AL J BPQF@ ?RPFKBPPBP P>SBA >I J LPQ QOFIFLK FK 6 EBOB AFA QE>Q P>SFKDP DL >KA ELT T>P FQ RPBA 2L J B LC QEB P>SFKDP BKABA RM FK ?>KHP TEF@E FK QROK IL>KBA QEB J LKBV QL FKAfSFAR>IP LO ?RPFKBPPBP QE>Q T>KQBA QL ?LOOLT J LKBV 2L J B T>P FKSBPQBA FK MOFS>QB @L J M>KFBP LO IL>KBA QL

#E>M@B0 X ,>?L0 >KA &#K>K@F>I ->0HBQP

DLSBOK J BKQ >DBK@FBP QE>Q T>KQBA QL ?LOOLT J LKBV QL O>FPB CRKAP CLO MROMLPBP IFHB ?RFIAFKD OL>AP LO J >PP QO>KPFQ 2L J B CFO J P OBFKSBPQBA QEBFO P>SFKDP FK QEBFO LTK ?RPFKBPPBP

(K QEFP PB@QLK TB TFII ABQBO J FKB ELT QEB AB J >KA >KA PRMMIV J LABI IFKHP QELPB TEL TPPE QL PRMMIV **financial capital** FB P>SFKDP TFQE QELPB TEL AB J >KA CFK>K@F>I @>MFQ>I FB ?LOOLTFKD 3ELPB TEL P>SB J LKBV LO J >HB CFK>K@F>I FKSBPQ J BKQP TEF@E FP QEB P>J B QEFKD TEBQEBO FKAFFAR>IP LO ?RPFKBPPBP >OB LK QEB PRMMIV PFAB LC QEB CFK>K@F>I J >OHBQ 3ELPB TEL ?LOOLT J LKBV >OB LK QEB AB J >KA PFAB LC QEB CFK>K@F>I J >OHBQ %LO > J LOB ABQ>FIBA QOB>Q J BKQ LC QEB AFCCBOBKQ HFAP LC CFK>K@F>I FKSBPQ J BKQP IFHB ?>KH >@@LRKQP PQL@HP >KA ?LKAP PBB QEB <A4A6<4? %4E>8GF ;GGC 6AK BE: 6BA68AG @ ?4G8FG @E>M@B0

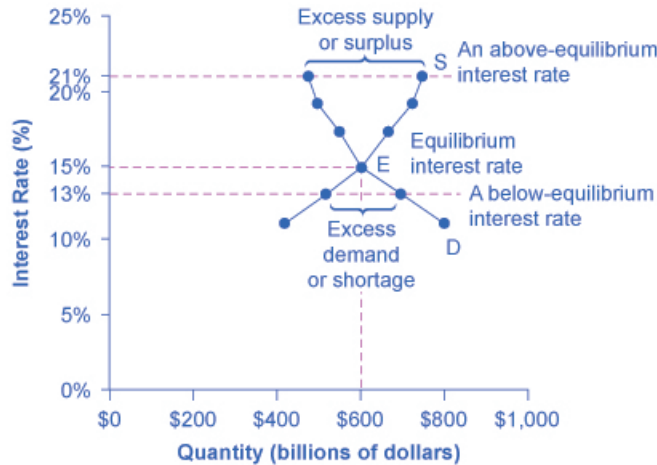
/ ;B 8@4A7F 4A7 / ;B +HCC?<8F <A <A4A6<4? %4E>8GF

(K >KV J >OHBQ QEB MOF@B FP TE>Q PRMMIFBOP OB@BFSB >KA TE>Q AB J >KABOP M>V (K CFK>K@F>I J >OHBQP QELPB TEL PRMMIV CFK>K@F>I @>MFQ>I QEOLRDE P>SFKD BUMB@Q QL OB@BFSB > O>QB LC OBQRKQ TEFIB QELPB TEL AB J >KA CFK>K@F>I @>MFQ>I ?V OB@BFSFKD CRKAP BUMB@Q QL M>V > O>QB LC OBQRKQ 3EFP O>QB LC OBQRKQ @>K @L J B FK > S>OFBQV LC CLO J P ABMBKAFKD LK QEB QVMB LC FKSBPQ J BKQ

3EB PF J MIBPQ BU> J MIB LC > O>QB LC OBQRKQ FP QEB **interest rate** %LO BU> J MIB TEBK VLR PRMMIV J LKBV FKQL > P>SFKDP >@@LRKQ >Q > ?>KH VLR OB@BFSB FKQBOBPQ LK VLRO ABMLPFQ 3EB FKQBOBPQ QEB ?>KH M>VP VLR >P > MBO@BKQ LC VLRO ABMLPFQ FP QEB FKQBOBPQ O>QB 2F J FI>OIV FC VLR AB J >KA > IL>K QL ?RV > @>O LO > @L J MRQBO VLR THH KBBA QL M>V FKQBOBPQ LK QEB J LKBV VLR ?LOOLT

+BQdP @LKPFBABO QEB J >OHBQ CLO ?LOOLTFKD J LKBV TFQE @OBAFQ @>OAP (K >I J LPQ J FIIFLK J BOF@>KP TBOB @>OAEIABOP " OBAFQ @>OAP >IILT VLR QL ?LOOLT J LKBV COL J QEB @>OAP FPPRBO >KA M>V ?>@H QEB ?LOOLTBA > J LRKQ MIRP FKQBOBPQ >IQELRDE J LPQ >IILT VLR > MBOFLA LC QF J B FK TEF@E VLR @>K OBM>V QEB IL>K TFQELRQ M>VFKD FKQBOBPQ QVMF@>I @OBAFQ @>OA FKQBOBPQ O>QB O>KDBP COL J QL MBO VB>O (K , >V J BOF@>KP E>A >?LRQ ?FIIFLK LRQPQ>KAFKD FK @OBAFQ @>OA AB?QP ?LRQ E>IC LC 4 2 C> J FIFBP TFQE @OBAFQ @>OAP OBMLQO QE>Q QEBV >I J LPQ >IT>VP M>V QEB CRII ?>I>K@B LK QF J B ?RQ LKB NR>OQBO LC 4 2 C> J FIFBP TFQE @OBAFQ @>OAP P>V QE>Q QEBV eE>OAV BSBOf M>V LCC QEB @>OA FK CRII (K C>@Q FK LC @LKPR J BOP @>OOFBA >K RKM>FA ?>I>K@B FK QEB I>PQ J LKQEP +BQdP P>V QE>Q LK >SBO>DB QEB >KKR>I FKQBOBPQ O>QB CLO @OBAFQ @>OA ?LOOLTFKD FP MBO VB>O 3ERP J BOF@>KP M>V QBKP LC ?FIIFLK LC ALII>OP BSBOf VB>O FK FKQBOBPQ LK QEBFO @OBAFQ @>OAP b MIRP ?>PF@ CBBP CLO QEB @OBAFQ @>OA LO CBBP CLO I>QB M>V J BKQP

< :HE8 FIIRPQO>QP AB J >KA >KA PRMMIV FK QEB CFK>K@F>I J >OHBQ CLO @OBAFQ @>OAP 3EB ELOFWLKQ>I >UFP LC QEB CFK>K@F>I J >OHBQ PELTP QEB NR>KQFQV LC J LKBV IL>KBA LO ?LOOLTBA FK QEFP J >OHBQ 3EB SBOQF@>I LO MOF@B >UFP PELTP QEB O>QB LC OBQRKQ TEF@E FK QEB @>PB LC @OBAFQ @>OA ?LOOLTFKD TB @>K J B>PROB TFQE >K FKQBOBPQ O>QB ,45?8 PELTP QEB NR>KQFQV LC CFK>K@F>I @>MFQ>I QE>Q @LKPR J BOP AB J >KA >Q S>OFLRP FKQBOBPQ O>QB >KA QEB NR>KQFQV QE>Q @OBAFQ @>OA CFO J P LCQBK ?>KHP >OB THIFKD QL PRMMIV



<:HE8 8@4A7 4A7 +HCC?L 9BE BEEBJ<A: %BA8L J<G; E87<G 4E7F )K QEFJ J>0HBQ CLO @0BAFQ @>0A ?LOOLTfKD  
QEB AB J>KA @ROSB \$ CLO ?LOOLTfKD CFK>K@f>I @>MFQ>I FKQB0BPQ @QEB PRMMIV @ROSB 3 CLO IBKAFKD CFK>K@f>I @>MFQ>I >Q  
BNRFIF?OFR J % ! Q QEB BNRHF?OFR J QEB FKQB0BPQ 0>QB QEB bMOF@Bc FK QEFJ J>0HBQ FP >KA QEB NR>KQFQV LC CFK>K@f>I  
>MFQ>I IL>KBA >KA ?LOOLTBA FP ?FIIFLK 4EB BNRHF?OFR J MOF@B FP TEB0B QEB NR>KQFQV AB J>KABA >KA QEB NR>KQFQV  
PRMMIFBA >OB BNR>I ! Q >K >?LSB BNRHF?OFR J FKQB0BPQ 0>QB IFHB QEB NR>KQFQV LC CFK>K@f>I @>MFQ>I PRMMIFBA TLRIA  
FK@OB>PB QL ?FIIFLK ?RQ QEB NR>KQFQV AB J>KABA TLRIA AB@OB>PB QL ?FIIFLK ! Q > ?BILT BNRHF?OFR J FKQB0BPQ  
0>QB IFHB QEB NR>KQFQV LC CFK>K@f>I @>MFQ>I AB J>KABA TLRIA FK@OB>PB QL ?FIIFLK ?RQ QEB NR>KQFQV LC CFK>K@f>I  
>MFQ>I PRMMIFBA TLRIA AB@OB>PB QL ?FIIFLK

!AG8E8FG *4G8	)H4AG<GL B9 <A4A6<4? 4C<G4? 8@4A787 BEEBJ<A: 5??<BAF	)H4AG<GL B9 <A4A6<4? 4C<G4? +HCC?<87 \$8A7<A: 5??<BAF

,45?8 8@4A7 4A7 +HCC?L 9BE BEEBJ<A: %BA8L J<G; E87<G 4E7F

3EB I>TP LC AB J>KA >KA PRMMIV @LKQFKRB QL >MMIV FK QEB CFK>K@f>I J>0HBQP @@LOAFKD QL QEB law of demand > EFDEBO  
0>QB LC OBQR0K QE>Q FP > EFDEBO MOF@B TFII AB@OB>PB QEB NR>KQFQV AB J>KABA P QEB FKQB0BPQ 0>QB OFPBP @LKPR J BOP TFII  
OBAR@B QEB NR>KQFQV QE>Q QEBV ?LOOLT @@LOAFKD QL QEB I>T LC PRMMIV > EFDEBO MOF@B FK@OB>PBP QEB NR>KQFQV PRMMIFBA  
" LKPBNRBKQIV >P QEB FKQB0BPQ 0>QB M>FA LK @0BAFQ @>0A ?LOOLTfKD OFPBP J LOB CFO J P TFII ?B B>DBO QL FPFRB @0BAFQ @>0AP  
>KA QL BK@LRO>DB @RPQL J BOP QL RPB QEB J " LKSBOBPBIV FC QEB FKQB0BPQ 0>QB LK @0BAFQ @>0AP C>IIP QEB NR>KQFQV LC CFK>K@f>I  
>MFQ>I PRMMIFBA FK QEB @0BAFQ @>0A J>0HBQ TFII AB@OB>PB >KA QEB NR>KQFQV AB J>KABA TFII C>II

### DH<?5E<H@ <A <A4A6<4? %4E>8GF

(K QEB CFK>K@f>I J>0HBQ CLO @0BAFQ @>0AP FK <:HE8 QEB PRMMIV @ROSB 2 >KA QEB AB J>KA @ROSB # @OLPP >Q QEB  
BNRFIF?OFR J MLFKQ \$ 3EB BNRHF?OFR J L@@ROP >Q >K FKQB0BPQ 0>QB LC TEB0B QEB NR>KQFQV LC CRKAP AB J>KABA >KA  
QEB NR>KQFQV PRMMIFBA >OB BNR>I >Q >K BNRHF?OFR J NR>KQFQV LC ?FIIFLK

(C QEB FKQB0BPQ 0>QB OB J B J ?BO QEFJ J B>PROBP QEB eMOF@Bf FK QEB CFK>K@f>I J>0HBQ FP >?LSB QEB BNRHF?OFR J IBSBI QEBK  
>K BU@BPP PRMMIV LO > PROMIRP LC CFK>K@f>I @>MFQ>I TFII >OFPB FK QEFJ J>0HBQ %LO BU> J MIB >Q >K FKQB0BPQ 0>QB LC QEB  
NR>KQFQV LC CRKAP PRMMIFBA FK@OB>PBP QL ?FIIFLK TEFIB QEB NR>KQFQV AB J>KABA AB@OB>PBP QL ?FIIFLK Q QEFJ



#E>M@B0 X ,>?L0 >KA &#K@>I ->0HBQP

>?LSB BNRIF?0FR J FKQBOBPQ 0>QB CFO J P >OB B>DBO QL PRMMIV IL>KP QL @0BAFQ @>0A ?LOOLT BOP ?RQ OBI>QFSBIV CBT MBLMIB LO ?RPFKBPPBP TFPE QL ?LOOLT P >OBPRIQ PL J B @0BAFQ @>0A CFO J P TFII ILTBO QEB FKQBOBPQ 0>QBP LO LQEB0 CBBP QEBV @E>0DB QL >QQ>@Q J LOB ?RPFKBPP 3EFP PQ>QBDV TFII MRPE QEB FKQBOBPQ 0>QB ALTK QLT>0A QEB BNRIF?0FR J IBSBI

(C QEB FKQBOBPQ 0>QB FP ?BILT QEB BNRIF?0FR J QEBK BU@BPP AB J >KA LO >PELOQ>DB LC CRKAP L@@ROP FK QEFP J >0HBQ Q >K FKQBOBPQ 0>QB LC QEB NR>KQFQV LC CRKAP @0BAFQ @>0A ?LOOLT BOP AB J >KA FK@OB>PBP QL ?FIIFLK ?RQ QEB NR>KQFQV @0BAFQ @>0A CFO J P >OB TFII FDK QL PRMMIV FP LKIV ?FIIFLK (K QEFP PFQR>QLK @0BAFQ @>0A CFO J P TFII MBO@BFSB QE>Q QEBV >OB LSBOIL>ABA TFQE B>DBO ?LOOLT BOP >KA @LK@IRAB QE>Q QEBV E>SB >K LMMLOQRKFQV QL 0>FPB FKQBOBPQ 0>QBP LO CBBP 3EB FKQBOBPQ 0>QB TFII C>@B B@LKL J F@ M0BPPROBP QL @0BBM RM QLT>0A QEB BNRIF?0FR J IBSBI

3EB %1\$# A>Q>?>PB MR?IFEBP PL J B QTL ALWBK J B>PROBP LC FKQBOBPQ 0>QBP FK@IRAFKD FKQBOBPQ 0>QBP LK @0BAFQ @>0AP >RQL J L?FIB IL>KP MBOPLK>I IL>KP J LOQD>DB IL>KP >KA J LOB 8LR @>K CFKA QEBPB >Q QEB %1\$# **J85F<8** ;GGCF BC8AFG4K BE : ? \* 3FG?BH<F

**+ ;<9GF <A 8@4A7 4A7 +HCC?L <A <A4A6<4? %4E>8GF**

3ELPB TEL PRMMIV CFK>K@F>I @>MFQ>I C>@B QTL ?OL>A AB@FPFLKP ELT J R@E QL P>SB >KA ELT QL AFSFAB RM QEBFO P>SFKDP >J LKD AFCCBOBKQ CLO J P LC CFK>K@F>I FKSBPQ J BKQP 6 B TFII AFP@RPP B>@E LC QEBPB FK QROK

/>0QF@FM>KQP FK CFK>K@F>I J >0HBQP J RPQ AB@FAB TEBK QEBV M0BCB0 QL @LKPR J B DLLAP KLT LO FK QEB CRQROB \$@LKL J FPQP @>II QEFP **intertemporal decision making** ?B@>RPB FQ FKSLSBP AB@FPFLKP >@0LPP QF J B 4KIFHB >AB@FPFLK >?LRQ TE>Q QL ?RV COL J QEB DOL@BOV PQL0B MBLMIB J >HB FKSBPQ J BKQ LO P>SFKDP AB@FPFLKP >@0LPP >MBOFLA LC QF J B PL J BQF J BP >ILKD MBOFLA

, LPQ TLOHBOP P>SB CLO 0BQFOB J BKQ ?B@>RPB QEBFO FK@L J B FK QEB M0BPBKQ FP DOB>QBO QE>K QEBFO KBBAP TEFIB QEB LMMLPQFB TFII ?B QORB LK@B QEBV 0BQFOB 3ERP QEBV P>SB QLA>V >KA PRMMIV CFK>K@F>I J >0HBQP (C QEBFO FK@L J B FK@OB>PBP QEBV P>SB J LOB (C QEBFO MBO@BFSBA PFQR>QLK FK QEB CRQROB @E>KDBP QEBV @E>KDB QEB >J LRKQ LC QEBFO P>SFKD %LO BU>J MIB QEB0B FP PL J B BSFABK@B QE>Q 2L@F>I 2B@ROFQV QEB M0LDO>J QE>Q TLOHBOP M>V FKQL FK LOABO QL NR>IFCV CLO DLSBOK J BKQ @EB@HP >CQBO 0BQFOB J BKQ E>P QKBABA QL 0BAR@B QEB NR>KQFQV LC CFK>K@F>I @>MFQ>I QE>Q TLOHBOP P>SB (C QEFP FP QORB 2L@F>I 2B@ROFQV E>P PEFCQBA QEB PRMMIV LC CFK>K@F>I @>MFQ>I >Q >KV FKQBOBPQ 0>QB QL QEB IBCQ

! V @LKQ0>PQ J >KV @LIIBDB PQRABKQP KBBA J LKBV QLA>V TEBK QEBFO FK@L J B FP ILT LO KLKBUFFQBQ QL M>V QEBFO @LIIBDB BUMBKPPB P >OBPRIQ QEBV ?LOOLT QLA>V >KA AB J >KA COL J CFK>K@F>I J >0HBQP .K@B QEBV DO>AR>QB >KA ?B@L J B B J MILVBA QEBV TFII M>V ?>@H QEB IL>KP (KAFSFAR>IP ?LOOLT J LKBV QL MRQ@E>PB EL J BP LO @>OP ?RPFKBPP PBBHP CFK>K@F>I FKSBPQ J BKQ PL QE>Q FQ E>P QEB CRKAP QL ?RFIA >C>@QL0V LO FKSBPQ FK >OBPB>0@E >KA ABSBILM J BKQ MOLGB@Q QE>Q TFII KLQ M>V LCC CLO CFSB VB>OP QBK VB>OP LO BSBK J LOB 3ERP TEBK @LKPR J BOP >KA ?RPFKBPPBP E>SB DOB>QBO @LKCFAFK@B QE>Q QEBV TFII ?B >?IB QL OBM>V FK QEB CRQROB QEB NR>KQFQV AB J >KABA LC CFK>K@F>I @>MFQ>I >Q >KV DFSBK FKQBOBPQ 0>QB TFII PEFCQ QL QEB OFDEQ

%LO BU>J MIB FK QEB QB@EKLILDV ?LL J LC QEB I>QB P J >KV ?RPFKBPPBP ?B@>J B BUQOB J BIV @LKCFAFKQ QE>Q FKSBPQ J BKQP FK KBT QB@EKLILDV TLRIA E>SB >EFDE 0>QB LC 0BQROK >KA QEBFO AB J >KA CLO CFK>K@F>I @>MFQ>I PEFCQBA QL QEB OFDEQ "LKSBOBPBIV AROFKD QEB >KA &@B>Q 1B@BPPFLK QEBFO AB J >KA CLO CFK>K@F>I @>MFQ>I >Q >KV DFSBK FKQBOBPQ 0>QB PEFCQBA QL QEB IBCQ

3L QEFP MLFKQ TB E>SB ?BBK ILLHFKD >Q P>SFKD FK QLQ>I -LT IBQ RP @LKPFABO TE>Q >CCB@QP P>SFKD FK AFCCBOBKQ QVMBP LC CFK>K@F>I FKSBPQ J BKQP (K AB@FAFKD ?BQTBBK AFCCBOBKQ CLO J P LC CFK>K@F>I FKSBPQ J BKQP PRMMIFBOP LC CFK>K@F>I @>MFQ>I TFII E>SB QL @LKPFABO QEB 0>QBP LC 0BQROK >KA QEB OFPHP FKSLSBA 1>QB LC 0BQROK FP >MLPQFSB >QQF?RQB LC FKSBPQ J BKQP ?RQ OFPH FP >KBD>QFSB (C (KSBPQ J BKQ ?B@L J BP J LOB OFPHV LO QEB 0BQROK AF J FKPEBP QEBK P>SBOP TFII PEFCQ QEBFO CRKAP QL (KSBPQ J BKQ ! b >KA QEB PRMMIV @ROSB LC CFK>K@F>I @>MFQ>I CLO (KSBPQ J BKQ TFII PEFCQ ?>@H QL QEB IBCQ TEFIB QEB PRMMIV @ROSB LC @>MFQ>I CLO (KSBPQ J BKQ ! PEFCQ QL QEB OFDEQ

**, ;8 -A<G87 +G4G8F 4F 4 ?B54? BEEB J8E**

(K QEB DIL?>I B@LKL J V QOFIIFLKP LC ALII>OP LC CFK>K@F>I FKSBPQ J BKQ @0LPP K>QLK>I ?LOABOP BSB0V VB>0 (K QEB B>0IV P CFK>K@F>I FKSBPQLOP COL J CLOBFDK @LRKQOFBP TBOB FKSBPQFKD PBSBO>I ERKA0BA ?FIIFLK ALII>OP MBO VB>0 J LOB FK QEB 4 2 B@LKL J V QE>K 4 2 CFK>K@F>I FKSBPQLOP TBOB FKSBPQFKD >?0L>A 3EB CLILTFKD 6 LOH (Q . RQ AB>IP TFQE LKB LC QEB J >@0LB@LKL J F@ @LK@BOKP CLO QEB 4 2 B@LKL J V FK 0B@BKQ VB>OP

# Work It Out



, ;8 9986G B9 EBJ<A: - + 85G

)J>DFKB QE>Q CLOBFDK FKSBPQLQOP SFBTBA QEB 5 3 B@LKLJV >P > IBPP ABPFO>?IB MI>@B QL MRQ QEBFO J LKBV ?B@>RPB LC CB>OP >?LRQ QEB DOLTQE LC QEB 5 3 MR?IF@ AB?Q 5PFKD QEB CLRO PQBM MOL@BPP CLO >K>IVWFKD ELT @E>KDBP FK PRMMIV >KA AB J>KA >CCB@Q BNRHF?OFR J LRQ@L JBP ELT TLRIA FK@OB>PBA 5 3 MR?IF@ AB?Q >CCB@Q QEB BNRHF?OFR J MOF@B >KA NR>KQFQV CLO @>MFQ>I FK 5 3 CFK>K@f>I J>OHBQp

3QBM \$O>T > Af>DO>J PELTFKD AB J>KA >KA PRMMIV CLO CFK>K@f>I @>MFQ>I QE>Q OBMOBPBKQp QEB LOFDfK>I P@BK>OFL FK TEF@E CLOBFDK FKSBPQLQOP >OB MLROFKD J LKBV FKQL QEB 5 3 B@LKLJV <:HE8 PELTP > AB J>KA @ROSB \$ >KA > PRMMIV @ROSB 3 TEBOB QEB PRMMIV LC @>MFQ>I FK@IRABP QEB CRKAP >OOFsFKD COLJ CLOBFDK FKSBPQLQOP 4EB LOFDfK>I BNRHF?OFR J % L@@ROp >Q FKQBOBPQ O>QB 2 >KA NR>KQFQV LC CFK>K@f>I FKSBPQ J BKQ 1

<:HE8 , ;8 -A<G87 +G4G8F 4F 4 ?B54? BEEBJ8E 89BE8 - + 85G -A68EG4<AGL 4EB DO>ME PELTP QEB AB J>KA CLO CFK>K@f>I @>MFQ>I COLJ >KA PRMMIV LC CFK>K@f>I @>MFQ>I FKQL QEB 5 3 CFK>K@f>I J>OHBQp ?V QEB CLOBFDK PB@QLO ?BCLQB QEB FK@OB>PB FK RK@BOQ>FKQV OBD>OAFKD 5 3 MR?IF@ AB?Q 4EB LOFDfK>I BNRHF?OFR J % L@@ROp >Q >K BNRHF?OFR J O>QB LC OBQROK 2 >KA QEB BNRHF?OFR J NR>KQFQV FP >Q 1

3QBM 7 FII QEB Af J FKfPEBA @LKFABK@B FK QEB 5 3 B@LKLJV >P > MI>@B QL FKSBPQ >CCB@Q AB J>KA LO PRMMIV LC CFK>K@f>I @>MFQ>I 9BP FQ TFII >CCB@Q PRMMIV ->KV CLOBFDK FKSBPQLQOP ILLH QL QEB 5 3 CFK>K@f>I J>OHBQp QL PQLQB QEBFO J LKBV FK P>CB CFK>K@f>I SBef@IBP TfQE ILT OFPH >KA Pq>?IB OBQROKp \$FJ FKfPEBA @LKFABK@B JB>KP 5 3 CFK>K@f>I >PPBQp TFII ?B PBBK >P JLOB OFPHV

3QBM 7 FII PRMMIV FK@OB>PB LO AB@OB>PB 7 EBK QEB BKQERPF>P J LC CLOBFDK FKSBPQLQOPa CLO FKSBPQfKD QEBFO J LKBV FK QEB 5 3 B@LKLJV Af J FKfPEBP QEB PRMMIV LC CFK>K@f>I @>MFQ>I PEFQp QL QEB IBQ <:HE8 PELTP QEB PRMMIV @ROSB PEFQ COLJ 3 QL 3

<:HE8 , ;8 -A<G87 +G4G8F 4F 4 ?B54? BEEBJ8E 89BE8 4A7 9G8E - + 85G -A68E64<AGL 4EB  
DO>ME PEL TP QEB AB J >KA CLO CFK>K@f>I @>MFQ>I >KA PRMMIV LC CFK>K@f>I @>MFQ>I FKQL QEB 5 3 CFK>K@f>I J>0HBQP ?V  
QEB CLOBFDK PB@QLO ?BCL0B >KA >CQBO QEB FK@OB>PB FK RK@B0Q>fKQV 0BD>0AFKD 5 3 MR?f@ AB?Q 4EB LOFDfK>I  
BNRfHf?0FR J % L@>R0P >Q >K BNRfHf?0FR J 0>QB LC 0BQROK 2 >KA QEB BNRfHf?0FR J NR>KQfQV FP >Q 1

3QBM 4ERP CLOBFDK FKSBPQL0P: AF J fKfPEBA BKQERP>P J IB>AP QL > KBT BNRfHf?0FR J % TEF@E L@>R0P >Q QEB  
EFDEBO FKQB0BPQ 0>QB 2 >KA QEB ILTBO NR>KQfQV LC CFK>K@f>I FKSBPQJ BKQ 1 )K PELOQ 5 3 ?LOOLTBO TFI E>SB  
QL M>V J LOB FKQB0BPQ LK QEBFO ?LOOLTfKD

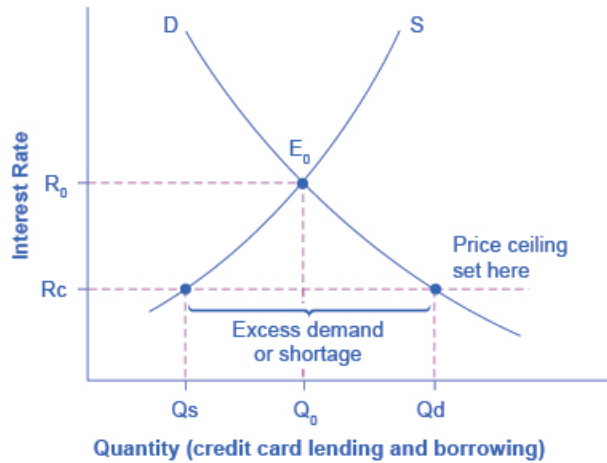
3EB B@LKL J V E>P BUMBOFBK@BA >K BKLO J LRP FKCLT LC CLOBFDK @>MFQ>I @>LOAFKD QL QEB 4 2 !ROB>R LC \$@LKL J f@  
K>IVFP ?V QEB QEOA NR>0QBO LC 4 2 FKSBPQL0P E>A >@>R J RI>QBA QOFIIFLK LC CLOBFDK >PPBQ ?RQ CLOBFDK  
FKSBPQL0P LTKBA >QLQ>I LC QOFIIFLK LC 4 2 >PPBQ (C CLOBFDK FKSBPQL0P TBOB QL MRH QEBFO J LKBV LRQ LC QEB 4 2  
B@LKL J V >KA FKSBPQ BIPBTEBOB FK QEB TLOIA QEB OBPRIQ @LRIA ?B > PFDKfCF@>KQIV ILTBO NR>KQfQV LC CFK>K@f>I FKSBPQ J BKQ  
FK QEB 4KfQBA 2Q>QBP >S>fI>?IB LKIV >Q > EFDEBO FKQB0BPQ 0>QB 3EFP OBAR@BA FKCLT LC CLOBFDK CFK>K@f>I FKSBPQ J BKQ @LRIA  
F J MLPB E>0APEFM LK 4 2 @LKPR J BOP >KA CFO J P FKQB0BPQBA FK ?LOOLTfKD

(K > J LABOK ABSBILMBA B@LKL J V CFK>K@f>I @>MFQ>I LCQBK JLSBP FKSFPfIV QEOLRDE BIB@QOLKf@ QO>KPCBOP ?BQTB BK LKB  
?>KH >@>LRKQ >KA >KLQEB0 8BQ TB @>K >K>IVWB QEBPB CLTP LC CRKAP TfQE QEB P> J B QLLIP LC AB J >KA >KA PRMMIV >P  
J>0HBQP CLO DLLAP LO I>?LO

### (E<68 8<?<A:F <A <A4A6<4? %4E>8GF - FHEL \$4JF

P TB KLQBA B>0IFBO >?LRQ J FIIFLK J BOF@>KP LTK @OBAFQ @>OAP >KA QEBFO FKQB0BPQ M>V J BKQP >KA CBBP QLQ>I QBP LC  
?FIIFLK LC ALH>OP B>@E VB>0 (Q FP IFQQIB TLKABO QE>Q MLIFQf@>I MOBPPROBP PL J BQf J BP >0FPB CLO PBQfKD IF J FQ LK QEB FKQB0BPQ  
0>QB L0 CBBP QE>Q @OBAFQ @>OA @L J M>KFBP @E>ODB 3EB CFO J P QE>Q FPPRB @OBAFQ @>OAP FK@IRAFKD ?>KHP LFI @L J M>KFBP  
MELKB @L J M>KFBP >KA OBQ>fI PQL0BP 0BPMLKA QE>Q QEB EFDEBO FKQB0BPQ 0>QB >OB KB@BPP>0V QL @LSBO QEB ILPPBP @OB>QBA ?V  
QELPB TEL ?LOOLT LK QEBFO @OBAFQ @>OAP >KA TEL AL KLQ OBM>V LK Qf J B LO >Q >II 3EBPB @L J M>KFBP >IPL MLFKQ LRQ QE>Q  
@>0AELIABOP @>K >SLFA M>VFKD FKQB0BPQ FC QEBV M>V QEBFO ?FIIP LK Qf J B

" LKPFABO QEB @OBAFQ @>OA J>0HBQ >P <:HE8 FIIRPQ>QL0P (K QEF CFK>K@f>I J>0HBQ QEB SBOQf@>I >UFP PEL TP QEB FKQB0BPQ  
0>QB TEF@E FP QEB MOF@B FK QEB CFK>K@f>I J>0HBQ #B J >KABOP FK QEB @OBAFQ @>OA J>0HBQ >OB ELRPBELIAP >KA ?RPFKPPBP  
2RMMIFBOP >OB QEB @L J M>KFBP QE>Q FPPRB @OBAFQ @>OAP 3EFP CFDROB ALBP KLQ RPB PMB@fCF@ KR J ?BOP TEF@E TLRIA ?B  
EVMQEBQf@>I FK >KV @>PB ?RQ FKQB>A CL@RPBP LK QEB RKABOIVFKD B@LKL J f@ OBI>QFLKPEFMP ( J >DFKB > I>T F J MLPBP > MOF@B  
@BFIFKD QE>Q ELIAP QEB FKQB0BPQ 0>QB @E>ODBA LK @OBAFQ @>OAP >Q QEB 0>QB 1@ TEF@E IFBP ?BILT QEB FKQB0BPQ 0>QB 1 QE>Q  
TLRIA LQEBOTfFP E>SB MOBS>FIBA FK QEB J>0HBQ 3EB ELOFwLKQ>I A>PEBA IFKB >Q FKQB0BPQ 0>QB 1@ FK <:HE8 PEL TP  
QEB MOF@B @BFIFKD 3EB AB J >KA >KA PRMMIV J LABI MOBAF@QP QE>Q >Q QEB ILTBO MOF@B @BFIFKD FKQB0BPQ 0>QB QEB NR>KQfQV  
AB J >KABA LC @OBAFQ @>OA AB?Q THII FK@OB>PB COL J FQ LOFDfK>I IBSBI LC 0 QL OA ELTBSBO QEB NR>KQfQV PRMMIFBA LC @OBAFQ  
@>OA AB?Q THII AB@OB>PB COL J QEB LOFDfK>I O QL OP Q QEB MOF@B @BFIFKD 1@ NR>KQfQV AB J >KABA THII BU@BBA NR>KQfQV  
PRMMIFBA " LKPNRNBKQIV > KR J ?BO LC MBLMIB TEL T>KQ QL E>SB @OBAFQ @>OAP >KA >OB THIIFKD QL M>V QEB MOBS>FIFKD  
FKQB0BPQ 0>QB THII CFKA QE>Q @L J M>KFBP >OB RKTHIIFKD QL FPPRB @>OAP QL QEB J 3EB OBPRIQ THII ?B > @OBAFQ PELOQ>DB



<:HEB E87<G 4E7 !AG8E8FG \*4G8F ABG ;8E (E<68 8<<A: K4@C?8 4EB LOFDfK>I fKQBOBP@QFLK LC AB J>KA \$>KA PRMMIV 3 L@@ROP >Q BNRfif?ofR J % (LTBSBO > MOF@B @BfifKd fP PBQ >Q QEB fKQBOBPQ O>QB 2@ ?BILT QEB BNRfif?ofR J fKQBOBPQ O>QB 2 >KA PL QEB fKQBOBPQ O>QB @>KKLQ >AGRPO RMT>0A QL QEB BNRfif?ofR J !Q QEB MOF@B @BfifKd QEB NR>KQfQV AB J>KABA 1A BU@BBAP QEB NR>KQfQV PRMMIFBA 1P 4EB0B fP BU@BPP AB J>KA >IPL @>IIBA >PELQ>DB

, >KV PQ>QB AL E>SB **usury laws** TEF@E F J MLPB >K RMMBO IF J fQ LK QEB fKQBOBPQ O>QB QE>Q IBKABOP @>K @E>ODB ' LTBSBO fK J >KV @>PBP QEBPB RMMBO IF J fQP >OB TBII >?LSB QEB J >OHBQ fKQBOBPQ O>QB %LO BU> J MIB fC QEB fKQBOBPQ O>QB fP KLQ >IILTBA QL OFPB >?LSB MBO VB>O fQ @>K PQfII CIR@QR>QB ?BILT QE>Q IBSBI >@@LOAFKd QL J >OHBQ CLO@BP MOF@B @BfifKd QE>Q fP PBQ >Q >OBI>QFSBIV EFDE IBSBI fP KLK?fKAFKd >KA fQ TfII E>SB KL MO>@Qf@>I BCCB@Q RKIBPP QEB BNRfif?ofR J MOF@B PL>OP EFDE BKLrDE QL BU@BBA QEB MOF@B @BfifKd

## N , ; 8 %4E>8G +LFG8@ 4F 4A 99<6<8AG %86 ; 4A<F@ 9BE !A9BE@4G<BA

! V QEB BKA LC QEFp PB@QFLK VLR TfII ?B >?IB QL

- d MMIV AB J>KA >KA PRMMIV J LABIP QL >K>IVWB MOF@BP >KA NR>KQfQFBP
- d \$UMI>fK QEB BCCB@QP LC MOF@B @LkQOLIP LK QEB BNRfif?ofR J LC MOF@BP >KA NR>KQfQFBP

/OF@BP BUFPQ fK J >OHBQP CLO DLLAP >KA PBOSF@BP CLO I>?LO >KA CLO CFK>K@f>I @>MfQ>I (K >II LC QEBPB J >OHBQP MOF@BP PBOSB >P >OB J >OH>?IB PL@f>I J B@E>KfP J CLO @LIIB@QfKd @L J ?fKfKd >KA QO>KP J fQfKd fKcLO J >QFLK QE>Q fP OBIBS>KQ QL QEB J >OHBQ b K> J BIV QEB OBI>QFLKPEFM ?BQTBbK AB J>KA >KA PRMMIV b >KA QEBK PBOSfKd >P J BPPBKDBOP QL @LKSbV QE>Q fKcLO J >QFLK QL ?RVBOP >KA PBIIBOP (K > J >OHBQ LOFBKQBA B@LKL J V KL DLSBOK J BKQ >DBK@V LO DRFAfKd fKQBIIFDBK@B LSBOPBBP QEB PBQ LC OBPLKPB >KA fKQBO@LKKB@QFLKp QE>Q OBPRIQ COL J > @E>KDB fK MOF@B (KPQB>A B>@E @LkPR J BO OB>@QP >@@LOAFKd QL QE>Q MBOPLKdP MOBCBOBK@BP >KA ?RADbQ PBQ >KA B>@E MOLCFQ PBBHFkd MOLAR@BO OB>@QP QL QEB F J M>@Q LK fQP BUMB@QBA MOLCFQ 3EB CLIL TfKd " IB>O (Q 4M CB>QROB BU> J fKBP QEB **demand and supply models**

## Clear It Up

/ ; L 4E8 78@4A7 4A7 FHCC?L 6HEI8F <@CBEG4AG

4EB AB J>KA >KA PRMMIV J LABI fP QEB PB@LKA CRKA> J BKQ>I Af>DO> J CLO QEFp @LROPB 4EB LMMLOQRKfQV PBQ J LABI QE>Q TB fKQOLAR@BA fK QEB ; B<68 <A 4 / BE?7 B9 +64E6<GL @E>M@BO T>P QEB CFOPQ \*RPQ >P fQ TLRIA ?B CLLIFPE QL QOV QL IB>OK QEB >OFQE J BQf@ LC ILKD AfSfPFLK ?V J B J LOFWfKd BSBov MLPPf?IB @L J ?fK>QFLK LC KR J ?BOP QE>Q @>K ?B AfSfABA ?V B>@E LQEBO fQ TLRIA ?B CLLIFPE QL QOV QL J B J LOFWB BSBov PMB@fCF@ BU> J MIB LC AB J>KA >KA PRMMIV fK QEFp @E>M@BO QEFp QBUQ?LLH LO QEFp @LROPB \$B J>KA >KA PRMMIV fP KLQ MOF J >OFIV > IPQ LC BU> J MIBP )Q fP >

J LABI QL >K>IVWB MOF@BP >KA NR>KQFQFBP %SBK QELRDE AB J>KA >KA PRMMIV AF>D0>J P E>SB J >KV I>?BIP QEBV >0B CRKA>J BKQ>IIV QEB P>J B FK QEBFO ILDF@ 9LRO DL>I PELRIA ?B QL RKABOPQ>KA QEB RKABOIVFKD J LABI PL VLR @>K RPB FQ QL >K>IVWB any J>0HBQ

<:HEB AFPMI>VP >DBKBOF@ AB J>KA >KA PRMMIV @ROSB 4EB EL0FWLKQ>I >UFP PELTP QEB AFCCB0BKQ JB>PROBP LC NR>KQFQV >NR>KQFQV LC >DLLA LO PB0SF@B LO >NR>KQFQV LC I>?LO CLO >DFSBK GL? LO >NR>KQFQV LC CFK>K@F>I @>MFQ>I 4EB SBOQF@>I >UFP PELTP >JB>PROB LC MOF@B QEB MOF@B LC >DLLA LO PB0SF@B QEB T>DB FK QEB I>?LO J>0HBQ LO QEB O>QB LC 0BQR0K IFHB QEB FKQB0BPQ O>QB FK QEB CFK>K@F>I J>0HBQ

4EB AB J>KA >KA PRMMIV J LABI @>K BUMI>FK QEB BUFPQFKD IBSBIP LC MOF@BP T>DBP >KA O>QBP LC 0BQR0K 4L @>00V LRQ PR@E >K >K>IVPFP QEFKH >?LRQ QEB NR>KQFQV QE>Q TFII ?B AB J>KABA >Q B>@E MOF@B >KA QEB NR>KQFQV QE>Q TFII ?B PRMMIFBA >Q B>@E MOF@B \_QE>Q FP QEFKH >?LRQ QEB PE>MB LC QEB AB J>KA >KA PRMMIV @ROSBP \_>KA ELT QEBPB CLO@BP TFII @L J ?FKB QL MOLAR@B BNRHF?0FR J

7 B @>K >IPL RPB AB J>KA >KA PRMMIV QL BUMI>FK ELT B@LKL JF@ BSBKQP TFII @>RPB @E>KDBP FK MOF@BP T>DBP >KA O>QBP LC 0BQR0K 4EB0B >0B LKIV CLRO MLPPF?FIFQFBP QEB @E>KDB FK >KV PFKDIB BSBKQ J>V @>RPB QEB AB J>KA @ROSB QL PEFCQ OFDEQ LO QL PEFCQ IBCQ LO FQ J>V @>RPB QEB PRMMIV @ROSB QL PEFCQ OFDEQ LO QL PEFCQ IBCQ 4EB HBV QL >K>IVWFKD QEB BCCB@Q LC >K B@LKL JF@ BSBKQ LK BNRHF?0FR J MOF@BP >KA NR>KQFQFBP FP QL ABQBO JFKB TEF@E LC QEBPB CLRO MLPPF?FIFQFBP L@>R00BA 4EB T>V QL AL QEFP @L00B@QIV FP QL QEFKH ?>@H QL QEB IFPQ LC C>@QL0P QE>Q PEFCQ QEB AB J>KA >KA PRMMIV @ROSBP .LQB QE>Q FC JLOB QE>K LKB S>0F>?IB FP @E>KDFKD >Q QEB P>JB QFJB QEB LSB0>II FJM>@Q TFII ABMBKA LK QEB ABDOBB LC QEB PEFCQP 7 EBK QEB0B >0B JRIQFMIB S>0F>?IBP B@LKL JFPQP FPLI>QB B>@E @E>KDB >KA >K>IVWB FQ FKABMBKABKQIV

<:HEB 8@4A7 4A7 +HCC?L HEI8F 4EB CFDR0B AFPMI>VP >DBKBOF@ AB J>KA >KA PRMMIV @ROSB 4EB EL0FWLKQ>I >UFP PELTP QEB AFCCB0BKQ JB>PROBP LC NR>KQFQV >NR>KQFQV LC >DLLA LO PB0SF@B >NR>KQFQV LC I>?LO CLO >DFSBK GL? LO >NR>KQFQV LC CFK>K@F>I @>MFQ>I 4EB SBOQF@>I >UFP PELTP >JB>PROB LC MOF@B QEB MOF@B LC >DLLA LO PB0SF@B QEB T>DB FK QEB I>?LO J>0HBQ LO QEB O>QB LC 0BQR0K IFHB QEB FKQB0BPQ O>QB FK QEB CFK>K@F>I J>0HBQ 7 B @>K RPB QEB AB J>KA >KA PRMMIV @ROSBP BUMI>FK ELT B@LKL JF@ BSBKQP TFII @>RPB @E>KDBP FK MOF@BP T>DBP >KA O>QBP LC 0BQR0K

K FK@OB>PB FK QEB MOF@B LC PL JB MOLAR@Q PFDK>IP @LKP RJBOP QE>Q QEB0B FP >PELOQ>DB QEB0BCLOB QEBV J>V T>KQ QL B@LKL JFWB LK ?RVFKD QEFP MOLAR@Q %LO BU>J MIB FC VLR >0B QEFKHFKD >?LRQ Q>HFKD >MI>KB QOFM QL ' >T>FF ?RQ QEB QF@HBQ QROKP LRQ QL ?B BUMBKPSB AROFKD QEB TBBH VLR FKQBKA QL DL VLR JFDEQ @LKPFA0 LQEB0 TBBHP TEBK QEB QF@HBQ JFDEQ ?B @EB>MBO 3EB MOF@B @LRIA ?B EFDE ?B@>RPB VLR TBOB MI>KKFKD QL QO>SBI AROFKD >ELIFA>V TEBK AB J>KA CLO QO>SBIFKD FP EFDE ,>V?B QEB @LPQ LC >K FKMRQ IFHB GBQ CRBI FK@OB>PBA LO QEB >FOIFKB E>P O>FPBA QEB MOF@B QB JML0>OFIV QL PBB ELT J>KV MBLMIB >0B TFIFKD QL M>V FQ /BOE>MP >II LC QEBPB C>@QL0P >0B MOBPBKQ >Q QEB P>JB QFJB 8LR AL KLQ KBBA QL >K>IVWB QEB J>0HBQ >KA ?0B>H ALTK QEB MOF@B @E>KDB FKQL FQP RKABOIVFKD C>@QL0P 8LR GRPQ E>SB QL ILLH >Q QEB QF@HBQ MOF@B >KA AB@FAB TEBQEB0 >KA TEBK QL CIV

(K QEB P>JB T>V MOF@B @E>KDBP M0LSFAB RPB0RI FK0LO J>QFLK QL MOLAR@BOP (J >DFKB QEB PFRQ>QFLK LC >C>0 JB0 TEL D0LTP

L>QP >KA IB>OKP QE>Q QEB MOF@B LC L>QP E>P OFPBK 3EB EFDEBO MOF@B @LRIA ?B ARB QL >K FK@OB>PB FK AB J>KA @>RPBA ?V > KBT P@FBKQFCF@ PQRV MOL@I>F J FKD QE>Q B>QFKD L>QP FP BPMB@F>IIV EB>IQECRI /BOE>MP QEB MOF@B LC > PR?PQFQRQB DO>FK IFHB @LOK E>P OFPBK >KA MBLMIB E>SB OBPMLKABA ?V ?RVFKD J LOB L>QP 3EB L>Q C>0 J BO ALBP KLQ KBBA QL HKLT QEB ABQ>FIP 3EB C>0 J BO LKIV KBBAP QL HKLT QE>Q QEB MOF@B LC L>QP E>P OFPBK >KA QE>Q FQ TFII ?B MOLCFQ>?IB QL BUM>KA MOLAR@QFLK >P > OBPRIQ

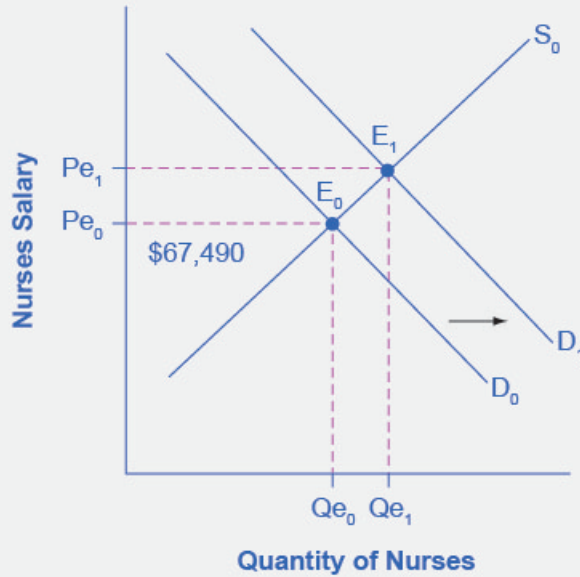
3EB >@QFLK LC FKAFSEAR>I @LKP J BOP >KA MOLAR@BOP >P QEBV OB>@Q QL MOF@BP LSOI>M >KA FKQBOIL@H FK J >0HBQP CLO DLLAP I>?L0 >KA CFK>K@f>I @>MFQ>I @E>KDB FK >KV PFKDIB J >0HBQ FP QO>KP J FQQA QEOLRDE QEBPB J RIQFMIB FKQBO@LKKB@QFLK QL LQEB0 J >0HBQP 3EB SFPFLK LC QEB OLIB LC CIBUF?IB MOF@BP EBIMFKD J >0HBQP QL OB>@E BNRHF?OFR J >KA IFKHFKD AFCCBOBKQ J >0HBQP QLDBQEB0 EBIM QL BUMI>FK TEV MOF@B @LKQOLIP @>K ?B PL @LRKQBOMOLAR@QFSB /OF@B @LKQOLIP >OB DLSBOK J BKQ I>TP QE>Q PBOBS QL OBDRI>QB MOF@BP O>QEB0 QE>K >ILT QEB S>OFLRP J >0HBQP QL ABQBO J FK B MOF@BP 3EB0B FP >K LIA MOLSOB? e#LKdQ HFII QEB J BPPBKDBO f (K >K@FBKQ QF J BP J BPPBKDBOP @>00FBA FKLO J >QFLK ?BQ'TBBK AFPQ>KQ @FQFBP >KA HFKDAL J P 6 EBK QEBV ?OLRDEQ ?>A KBTP QEB0B T>P >K B J LQFLK>I F J MRIPB QL HFII QEB J BPPBKDBO ' L'TBSBO HFIIFKD QEB J BPPBKDBO AFA KLQ HFII QEB ?>A KBTP , LOBSBO HFIIFKD QEB J BPPBKDBO E>A >K RKABPFO>?IB PFAB BCCB@Q . QEB0 J BPPBKDBOP TLRIA OBCRPB QL ?OFKD KBTP QL QE>Q @FQV LO HFKDAL J ABMOSFKD FQP @FQFWBKP LC SFQ>I FKLO J >QFLK

3ELPB TEL PBBH MOF@B @LKQOLIP >OB QOVFKD QL HFII QEB J BPPBKDBO b L0 >Q IB>PQ QL PQFCIB >K RKTBI@L J B J BPP>DB QE>Q MOF@BP >OB ?OFKDFKD >?LRQ QEB BNRHF?OFR J IBSBI LC MOF@B >KA NR>KQFQV ' L'TBSBO MOF@B @LKQOLIP AL KLQEFKD QL >CCB@Q QEB RKABOIVFKD CLO@BP LC AB J >KA >KA PRMMIV >KA QEFP @>K E>SB PBOFLRP OBMB0@RPPFLK #ROFKD "EFK>dP e&0B>Q +B>M %LOT>0af FK QEB I>QB P QEB DLSBOK J BKQ HBMQ CLLA MOF@BP >OQFCF@F>IIV ILT TFQE QEB OBPRIQ QE>Q QL J FIIFLK MBLMIB AFBA LC PQ>OS>QFLK ?B@>RPB QEB ILT MOF@BP ABMOBPPBA C>0 J MOLAR@QFLK 3EFP T>P @L J J RKFPQ M>OQV IB>ABO , >L 9BALKD P PL@f>I >KA B@LKL J F@ @> J M>FDK QL O>MFAIV QO>KPCL0 J QEB @LRKQOV COL J >K >DO>OF>K B@LKL J V QL > PL@f>IFPQ PL@FBQV QEOLRDE O>MFA FKARPQF>IFW>QFLK >KA @LIIB@QFSFW>QFLK "E>KDBP FK AB J >KA >KA PRMMIV TFII @LKQFKRB QL OBSB>I QEB J PBISBP QEOLRDE @LKPR J BOPd >KA MOLAR@BOPd ?BE>SFLO (J J L?FIFWFKD QEB MOF@B J BPPBKDBO QEOLRDE MOF@B @LKQOLIP TFII ABMOSB BSBOVLKB FK QEB B@LKL J V LC @OFQF@>I FKLO J >QFLK 6 FQELRQ QEFP FKLO J >QFLK FQ ?B@L J BP AFCCF@RIQ CLO BSBOVLKB b ?RVBOP >KA PBIIBOP >IFHB b QL OB>@Q FK > CIBUF?IB >KA >MMOLMOF>QB J >KKBO >P @E>KDBP L@>RO QEOLRDELQ QEB B@LKL J V

# Bring it Home

45L BB@8EF B@8 B9 :8

4EB QEBLOV LC PRMMIV >KA AB J >KA @>K BUMI>FK TE>Q E>MMBKP FK QEB I>?L0 J >0HBQP >KA PRDDBQP QE>Q QEB AB J >KA CLO KR0BPB TFII FK@OB>PB >P EB>IQE@>OB KBBAP LC ?>?V ?LL J BOP FK@OB>PB >P <:HE8 PELTP 4EB F J M>@Q LC QE>Q FK@OB>PB TFII OBPRIQ FK >K >SBO>DB P>I>OV EFDEBO QE>K QEB B>OKBA FK 0BCB0BK@BA FK QEB CFOPQ M>OQ LC QEFP @>PB 4EB KBT BNRHF?OFR J % TFII ?B >Q QEB KBT BNRHF?OFR J MOF@B OB %NRF?OFR J NR>KQFQV TFII >IPL FK@OB>PB COL J 1B QL 1B



<:HE8 !@C46G B9 !A6E84F<A: 8@4A7 9BE &HEF8F )K QEB JBAF>K P>I>OV CLO  
 KR0PBP T>P !P AB J>KA CLO PB0SF@BP fK@0B>PBP QEB AB J>KA @ROSB PEFCQP QL QEB OFDEQ COL J \$ QL \$  
 >KA QEB BNRHF?OFR J NR>KQFQV LC KR0PBP fK@0B>PBP COL J 1B QL 1B 4EB BNRHF?OFR J P>I>OV fK@0B>PBP COL J OB  
 QL OB

3RMMLPB QE>Q >P QEB AB J>KA CLO KR0PBP fK@0B>PBP QEB PRMMIV PE0fKHP ARB QL >K fK@0B>PfkD KR J ?B0 LC KR0PBP  
 BKQB0fKD 0BQfOB J BKQ >KA fK@0B>PBP fK QEB QRfQFLK LC KR0PfkD ABDOBBP 4EB IBCQT>0A PEFCQ LC QEB PRMMIV @ROSB fK

<:HE8 @>MQR0BP QEB F J M>@Q LC > AB@0B>PfkD PRMMIV LC KR0PBP 4EB PEFCQP fK QEB QTL @ROSBP 0BPRIQ fK EFDEBO  
 P>I>OFBP CLO KR0PBP ?RQ QEB LSB0>II F J M>@Q fK QEB NR>KQFQV LC KR0PBP FP RK@B0Q>fK >P fQ ABMBKAP LK QEB 0BI>QfSB  
 PEFCQP LC PRMMIV >KA AB J>KA

<:HE8 !@C46G B9 86E84F<A: +HCC?L B9 &HEF8F 58G J88A 4A7 4EB fK@0B>PB fK  
 AB J>KA CLO KR0PBP PELTK fK &fDROB IB>AP QL ?LQE EFDEBO MOF@BP >KA EFDEBO NR>KQFQfBP AB J>KABA !P  
 KR0PBP 0BQfOB COL J QEB TLOH CLO@B QEB PRMMIV LC KR0PBP AB@0B>PBP @>RPFKD > IBCQT>0A PEFCQ fK QEB PRMMIV @ROSB  
 >KA EFDEBO P>I>OFBP CLO KR0PBP >Q OB 4EB KBQ BCCB@Q LK QEB BNRHF?OFR J NR>KQFQV LC KR0PBP FP RK@B0Q>fK TEF@E  
 fK QEFP 0BMOBPBKQ>QfLK FP IBPP QE>K 1B ?RQ J LOB QE>K QEB fKfQf>I 1B

7 EFIB TB AL KLQ HKLT FC QEB KR J ?B0 LC KR0PBP TFII FK@0B>PB L0 AB@0B>PB 0BI>QFSB QL QEBF0 FKfQf>I B J MILV J BKQ TB  
HKLT QEBV TFII E>SB EFDEB0 P>I>0fBP



#E>MqB0 X ,>?L0 >KA &fK>K@f>I ->0HBQp

# # 1 , \*%+

<AG8E8Fg E4G8 QEB eMOF@Bf LC ?L00LTfkd FK QEB CFK>K@f>I J >0HBQ > 0>QB LC OBQR0K LK >K FKSBPQ J BKQ

@<A<@H@ J4:8 > MOF@B CILLO QE>Q J >HBP FQ FIIBD>I CLO >K B J MILVBO QL M>V B J MILVBBP IBPP QE>K > @B0Q>FK ELROIV 0>QB

HFHEL ?4JF I>TP QE>Q F J MLPB >K RMMBO IF J FQ LK QEB FKQB0BPQ 0>QB QE>Q IBKABOP @>K @E>0DB

# # 1 ' & ( , + & + - %% \* 1

## 8@4A7 4A7 +HCC?L 4G / BE> <A \$45BE %4E>8Gf

(K QEB I>?L0 J >0HBQ ELRPBELIAP >OB LK QEB PRMMIV PFAB LC QEB J >0HBQ >KA CFO J P >OB LK QEB AB J >KA PFAB (K QEB J >0HBQ CLO CFK>K@f>I @>MFQ>I ELRPBELIAP >KA CFO J P @>K ?B LK BFQEBO PFAB LC QEB J >0HBQ QEBV >OB PRMMIFBOP LC CFK>K@f>I @>MFQ>I TEBK QEBV P>SB L0 J >HB CFK>K@f>I FKSBPQ J BKQP >KA AB J >KABOP LC CFK>K@f>I @>MFQ>I TEBK QEBV ?L00LT L0 OB@BFSB CFK>K@f>I FKSBPQ J BKQP

(K QEB AB J >KA >KA PRMMIV >K>IVPFP LC I>?L0 J >0HBQ TB @>K J B>PROB QEB MOF@B ?V QEB >KKR>I P>I>OV L0 ELROIV T>DB OB@BFSBA 6B @>K J B>PROB QEB NR>KQFQV LC I>?L0 S>OFLRP T>VP IFHB KR J ?B0 LC TLOHBOP L0 QEB KR J ?B0 LC ELROP TLOHBA %>@QLOP QE>Q @>K PEFCQ QEB AB J >KA @ROSB CLO I>?L0 FK@IRAB > @E>KDB FK QEB NR>KQFQV AB J >KABA LC QEB MOLAR@Q QE>Q QEB I>?L0 MOLAR@BP > @E>KDB FK QEB MOLAR@QLK MOL@BPP QE>Q RPPB J LOB L0 IBPP I>?L0 >KA > @E>KDB FK DLSBOK J BKQ MLIF@V QE>Q >CCB@QP QEB NR>KQFQV LC I>?L0 QE>Q CFO J P TPPE QL EFOB >Q > DFSBK T>DB #B J >KA @>K >IPL FK@OB>PB L0 AB@OB>PB PEFCQ FK OBPMLKPB QL TLOHBOPd IBSBI LC BAR@>QLK >KA QO>FKFKD QB@EKLILDV QEB KR J ?B0 LC @L J M>KFBP >KA >S>FI>?FIFQV >KA MOF@B LC LQEBO FKMRQP

3EB J >FK C>@QLOP QE>Q @>K PEFCQ QEB PRMMIV @ROSB CLO I>?L0 >OB ELT ABPFO>?IB > GL? >MMB>OP QL TLOHBOP OBI>QFSB QL QEB >IQBOK>QFSBP DLSBOK J BKQ MLIF@V QE>Q BFQEBO OBPQ@QP L0 BK@LRO>DBP QEB NR>KQFQV LC TLOHBOP QO>FKBA CLO QEB GL? QEB KR J ?B0 LC TLOHBOP FK QEB B@LKL J V >KA OBNRFOBA BAR@>QLK

## 8@4A7 4A7 +HCC?L <A <A4A6<4? %4E>8Gf

(K QEB AB J >KA >KA PRMMIV >K>IVPFP LC CFK>K@f>I J >0HBQ QEB eMOF@Bf FP QEB 0>QB LC OBQR0K L0 QEB FKQB0BPQ 0>QB OB@BFSBA 6B J B>PROB QEB NR>KQFQV ?V QEB J LKBV QE>Q CILTP COL J QELPB TEL PRMMIV CFK>K@f>I @>MFQ>I QL QELPB TEL AB J >KA FQ

3TL C>@QLOP @>K PEFCQ QEB PRMMIV LC CFK>K@f>I @>MFQ>I QL > @B0Q>FK FKSBPQ J BKQ FC MBLMIB T>KQ QL >IQBO QEBFO BUFPQFKD IBSBIP LC @LKPR J MQFLK >KA FC QEB OPHFKBPP L0 OBQR0K LK LKB FKSBPQ J BKQ @E>KDBP OBI>QFSB QL LQEBO FKSBPQ J BKQP %>@QLOP QE>Q @>K PEFCQ AB J >KA CLO @>MFQ>I FK@IRAB ?RPFKBPP @LKCfABK@B >KA @LKPR J BO @LKCfABK@B FK QEB CRQROB b PFK@B CFK>K@f>I FKSBPQ J BKQP OB@BFSBA FK QEB MOBPKQ >OB QVMF@>IIV OBM>FA FK QEB CRQROB

## , ; 8 %4E>8G +LFg8@ 4F 4A 99<6<8AG %8G ;4A<F@ 9BE !A9BE@4G<BA

3EB J >0HBQ MOF@B PVPQB J MOLSFABP > EFEIV BCCF@FBKQ J B@E>KFP J CLO AFPPB J FK>QFKD FKCL0 J >QFLK >?LRQ OBI>QFSB P@>0@FQFBP LC DLLAP PBOSF@BP I>?L0 >KA CFK>K@f>I @>MFQ>I , >0HBQ M>OQF@FM>KQP AL KLQ KBBA QL HKL T TEV MOF@BP E>SB @E>KDBA LKIV QE>Q QEB @E>KDBP OBNRFOB QEB J QL OBSFPQ MOBSFLRP AB@FPFLK QEBV J >AB >?LRQ PRMMIV >KA AB J >KA /OF@B @LKQOLIP EFAB FKCL0 J >QFLK >?LRQ QEB QORB P@>0@FQV LC MOLAR@QP >KA QEB0B?V @>RPB J FP>IIL@>QFLK LC OBPLRO@BP

# + \$ # ) - + , ! ' & +

(K QEB I>?L0 J >0HBQ TE>Q @>RPBP > J LSB J BKQ >ILKD QEB AB J >KA @ROSB 6 E>Q @>RPBP > PEFCQ FK QEB AB J >KA @ROSB

(K QEB I>?L0 J >0HBQ TE>Q @>RPBP > J LSB J BKQ >ILKD QEB PRMMIV @ROSB 6 E>Q @>RPBP > PEFCQ FK QEB PRMMIV @ROSB

6 EV FP > IFSFKD T>DB @LKPfAB0BA > MOF@B CILLO #LBP F J MLPFKD > IFSFKD T>DB E>SB QEB P>J B LRQ@L J B >P > J FKF J R J T>DB

(K QEB CFK>K@f>I J >0HBQ TE>Q @>RPBP > J LSB J BKQ >ILKD QEB AB J >KA @ROSB 6 E>Q @>RPBP > PEFCQ FK QEB AB J >KA @ROSB

(K QEB CFK>K@f>I J >0HBQ TE>Q @>RPBP > J LSB J BKQ >ILKD QEB PRMMIV @ROSB 6 E>Q @>RPBP > PEFCQ FK QEB PRMMIV @ROSB

(C > RPROV I>T IF J FQP FKQBOBPQ 0>QBP QL KL J LOB QE>K TE>Q TLRIA QEB IFHBIV F J M>@Q ?B LK QEB > J LRKQ LC IL>KP  
J >AB >KA FKQBOBPQ 0>QBP M>FA

- 6 EF@E LC QEB CLILTFKD @E>KDBP FK QEB CFK>K@f>I J >0HBQ TFII IB>A QL > AB@IFKB FK FKQBOBPQ 0>QBP
- > > OFPB FK AB J >KA
- ? > C>II FK AB J >KA
- @ > OFPB FK PRMMIV
- A > C>II FK PRMMIV

6 EF@E LC QEB CLILTFKD @E>KDBP FK QEB CFK>K@f>I J >0HBQ TFII IB>A QL >K FK@OB>PB FK QEB NR>KQFQV LC IL>KP J >AB >KA  
OB@BFSBA

- > > OFPB FK AB J >KA
- ? > C>II FK AB J >KA
- @ > OFPB FK PRMMIV
- A > C>II FK PRMMIV

(ABKQFCV QEB J LPQ >@RO>QB PQ>QB J BKQ MOF@B CILLO TFII E>SB QEB I>ODBPQ BCCB@Q FC FQ FP PBQ

- > PR?PQ>KQF>IIV >?LSB QEB BNRIF?OFR J MOF@B
- ? PIFDEQIV >?LSB QEB BNRIF?OFR J MOF@B
- @ PIFDEQIV ?BILT QEB BNRIF?OFR J MOF@B
- A PR?PQ>KQF>IIV ?BILT QEB BNRIF?OFR J MOF@B

2HBQ@E >II CLRO LC QEBPB MLPPF?FIFQFBP LK > AB J >KA >KA PRMMIV AF>DO> J QL FHRPQO>QB VLRO >KPTBO

- MOF@B @BFIFKD TFII E>SB QEB I>ODBPQ BCCB@Q
- > PR?PQ>KQF>IIV ?BILT QEB BNRIF?OFR J MOF@B
- ? PIFDEQIV ?BILT QEB BNRIF?OFR J MOF@B
- @ PR?PQ>KQF>IIV >?LSB QEB BNRIF?OFR J MOF@B
- A PIFDEQIV >?LSB QEB BNRIF?OFR J MOF@B

2HBQ@E >II CLRO LC QEBPB MLPPF?FIFQFBP LK > AB J >KA >KA PRMMIV AF>DO> J QL FHRPQO>QB VLRO >KPTBO

- 2BIB@Q QEB @L00B@Q >KPTBO MOF@B CILLO TFII RPR>IIV PEFCQ
- > AB J >KA
- ? PRMMIV
- @ ?LQE
- A KBFQEBO

(IIRPQO>QB VLRO >KPTBO TFQE > AF>DO> J

- 2BIB@Q QEB @L00B@Q >KPTBO MOF@B @BFIFKD TFII RPR>IIV PEFCQ
- > AB J >KA
- ? PRMMIV
- @ ?LQE
- A KBFQEBO

\* .! / ) - + ,!' &+

6 E>Q FP QEB eMOF@Bf @L J J LKIV @>IIBA FK QEB I>?LO  
J >0HBQ

OB ELRPBELIAP AB J >KABOP LO PRMMIFBOP FK QEB  
DLLAP J >0HBQ OB CFO J P AB J >KABOP LO PRMMIFBOP FK QEB  
DLLAP J >0HBQ 6 E>Q >?LRQ QEB I>?LO J >0HBQ >KA QEB  
CFK>K@f>I J >0HBQ

-> J B PL J B C>@QLOP QE>Q @>K @>RPB > PEFCQ FK QEB  
AB J >KA @ROSB FK I>?LO J >0HBQP

-> J B PL J B C>@QLOP QE>Q @>K @>RPB > PEFCQ FK QEB  
PRMMIV @ROSB FK I>?LO J >0HBQP

' L T AL B@LKL J FPQP ABCFKB BNRIF?OFR J FK CFK>K@f>I  
J >0HBQP

#E>M@B0 X ,>?L0 >KA &fK>K@f>I ->0HBQP

6 E>Q TLRJA ?B > PFDK LC > PELOQ>DB FK CFK>K@f>I J>0HBQP

6LRJA RPROV I>TP EBIM LO EFKABO OBPLIRQFLK LC > PELOQ>DB FK CFK>K@f>I J>0HBQP

\*!,! \$ , !&#!& ) - +,! ' &+

.QEBO QE>K QEB AB J>KA CLO I>?LO TE>Q TLRJA ?B >KLQEBO BU> J MIB LC > eABOF SBA AB J>KA f

2RMMLPB QE>Q > FK@OB>PB FK QEB J FKF J R J T>DB @>RPBP > OBAR@QFLK FK B J MILV J BKQ ' LT TLRJA QEFP >CCB@Q B J MILVBOP >KA ELT TLRJA FQ >CCB@Q TLOHBOP (K VLRO LMFKFLK TLRJA QEFP ?B > DLLA MLIF@V

4KABO TE>Q @FO@R J PQ>K@BP TLRJA > J FKF J R J T>DB ?B > KLK?FKAFKD MOF@B CILLO 4KABO TE>Q @FO@R J PQ>K@BP TLRJA > IFSFKD T>DB ?B > ?FKAFKD MOF@B CILLO

2RMMLPB QEB 4 2 B@LKL J V ?BD>K QL DOLT J LOB O>MFAIV QE>K LQEBO @LRKQOFBP FK QEB TLOIA 6 E>Q TLRJA ?B QEB IFHBIV F J M>@Q LK 4 2 CFK>K@f>I J>0HBQP >P M>OQ LC QEB DIL?>I B@LKL J V

(C QEB DLSBOK J BKQ F J MLPBA > CBABO>I FKQBOBPQ O>QB @BFIFKD LC LK >I IL>KP TEL TLRJA D>FK >KA TEL TLRJA ILPB

6 EV >OB QEB C>@QLOP QE>Q PEFCQ QEB AB J>KA CLO > MOLAR@Q AFCCBOBKQ COL J QEB C>@QLOP QE>Q PEFCQ QEB AB J>KA CLO I>?LO 6 EV >OB QEB C>@QLOP QE>Q PEFCQ QEB PRMMIV LC > MOLAR@Q AFCCBOBKQ COL J QELPB QE>Q PEFCQ QEB PRMMIV LC I>?LO

(\* ' \$ %+

(ABKQFCV B>@E LC QEB CLILTFKD >P FKSLISFKD BFQEBO AB J>KA LO PRMMIV #O>T > @FO@RI>O CILT AF>DO>J >KA I>?BI QEB CILT TP QEOLRDE % 2L J B @ELF@BP @>K ?B LK ?LQE PFABP LC QEB DLLAP J>0HBQ

- > ' LRPBELIAP FK QEB I>?LO J>0HBQ
- ? %FO J P FK QEB DLLAP J>0HBQ
- @ %FO J P FK QEB CFK>K@f>I J>0HBQ
- A ' LRPBELIAP FK QEB DLLAP J>0HBQ
- B %FO J P FK QEB I>?LO J>0HBQ
- C ' LRPBELIAP FK QEB CFK>K@f>I J>0HBQ

6 EBQEBO QEB MOLAR@Q J>0HBQ LO QEB I>?LO J>0HBQ TE>Q E>MMBKP QL QEB BNRIF?OFR J MOF@B >KA NR>KQFQV CLO B>@E LC QEB CLRO MLPPF?FIFQFBP FK@OB>PB FK AB J>KA AB@OB>PB FK AB J>KA FK@OB>PB FK PRMMIV >KA AB@OB>PB FK PRMMIV

#ROFKD > AFP@RPPFLK PBSBO>I VB>OP >DL LK ?RFIAFKD > MFMBIFKB QL I>PH> QL @>OOV K>QRO>I D>P QEB 4 2 2BK>QB M>PPBA > ?FII PQFMRI>QFKD QE>Q QEBOB PELRIA ?B > DR>O>KQBBA J FKF J R J MOF@B CLO QEB K>QRO>I D>P QE>Q TLRJA CILT QEOLRDE QEB MFMBIFKB 3EB QEFKHFKD ?BEFKA QEB ?FII T>P QE>Q FC MOFS>QB CFO J P E>A > DR>O>KQBBA MOF@B CLO QEBFO K>QRO>I D>P QEBV TLRJA ?B J LOB TFHIFKD QL AOFII CLO D>P >KA QL M>V QL ?RFIA QEB MFMBIFKB

- > 4PFKD QEB AB J>KA >KA PRMMIV CO>J BTLOH MOBAF@Q QEB BCCB@QP LC QEFP MOF@B CILLO LK QEB MOF@B NR>KQFQV AB J>KABA >KA NR>KQFQV PRMMIFBA
- ? 6 FQE QEB BK>@Q J BKQ LC QEFP MOF@B CILLO CLO K>QRO>I D>P TE>Q >OB PL J B LC QEB IFHBIV RKFQKQBKABA @LKPBNRBK@BP FK QEB J>0HBQ
- @ 2RDDBPQ PL J B MLIF@FBP LQEBO QE>K QEB MOF@B CILLO QE>Q QEB DLSBOK J BKQ @>K MROPRB FC FQ TFPBEP QL BK@LRO>DB AOFIIFKD CLO K>QRO>I D>P >KA CLO > KBT MFMBIFKB FK I>PH>

/OBAF@Q ELT B>@E LC QEB CLILTFKD BSBKQP TFII O>FPB LO ILTBO QEB BNRIF?OFR J T>DB >KA NR>KQFQV LC LFI TLOHBOP FK 3BU>P (K B>@E @>PB PHBQ@E > AB J>KA >KA PRMMIV AF>DO>J QL FIIRPQO>QB VLRO >KPTBO

- > 3EB MOF@B LC LFI OFPBP
- ? -BT LFI AOFIIFKD BNRFM J BKQ FP FKSQBQBA QE>Q FP @EB>M >KA OBNRFOBP CBT TLOHBOP QL ORK
- @ 2BSBO>I J>GLO @L J M>KFBP QE>Q AL KLQ AOFII LFI LMBK C>@QLOFBP FK 3BU>P LCCBOFKD J>KV TBII M>FA GL?P LRQPFAB QEB LFI FKARPQOV
- A &LSBOK J BKQ F J MLPBP @LPQIV KBT OBDRI>QFLKP QL J>HB LFI AOFIIFKD >P>CBO GL?

/OBAF@Q ELT B>@E LC QEB CLIILTFKD B@LKLJF@  
@E>KDBP TFII >CCB@Q QEB BNRIF?OFR J MOF@B >KA NR>KQFQV FK  
QEB CFK>K@F>I J >OHBQ CLO EL J B IL>KP 2HBQ@E > AB J >KA  
>KA PRMMIV AF>DO> J QL PRMMLQ VLRO >KPTBOP

> 3EB KR J ?BO LC MBLMIB >Q QEB J LPQ @L J J LK >DBP  
CLO EL J B ?RVFKD FK@OB>PBP

? /BLMIB D>FK @LKFABK@B QE>Q QEB B@LKLJ V FP  
DOLTFKD >KA QE>Q QEBFO GL?P >OB PB@ROB

@ !>KHP QE>Q E>SB J >AB EL J B IL>KP CFKA QE>Q >  
I>ODBO KR J ?BO LC MBLMIB QE>K QEBV BUMB@QBA >OB  
KLQ OBM>VFKD QELPB IL>KP

A !B@>RPB LC > QEOB>Q LC > T>O MBLMIB ?B@L J B  
RK@BOQ>FK >?LRQ QEBFO B@LKLJ F@ CRQROB

B 3EB LSBO>II IBSBI LC P>SFKD FK QEB B@LKLJ V  
AF J FKPEBP

C 3EB CBABO>I DLSBOK JBKQ @E>KDBP FQP ?>KH  
OBDRI>QLFK FK > T>V QE>Q J >HBP FQ @EB>MBO >KA  
B>PFBO CLO ?>KHP QL J >HB EL J B IL>KP

,45?8

PELTP QEB >JLRKQ LC P>SFKDP >KA  
?LOOLTFKD FK > J >OHBQ CLO IL>KP QL MRO@E>PB EL J BP  
J B>PROBA FK J FIIFLK LC ALII>OP >Q S>OFLRP FKQBOBPQ O>QB  
6 E>Q FP QEB BNRIF?OFR J FKQBOBPQ O>QB >KA NR>KQFQV FK  
QEB @>MFQ>I CFK>K@F>I J >OHBQ 'LT @>K VLR QBII -LT  
F J >DFKB QE>Q ?B@>RPB LC > PEFCQ FK QEB MBO@BMQFLKP LC  
CLOBFDK FKSBPQLP QEB PRMMIV @ROSB PEFCQP PL QE>Q QEBOB  
TFII ?B J FIIFLK IBPP PRMMIFBA >Q BSBOV FKQBOBPQ O>QB  
>I@RI>QB QEB KBT BNRIF?OFR J FKQBOBPQ O>QB >KA NR>KQFQV  
>KA BUMI>FK TEV QEB AFOB@QLK LC QEB FKQBOBPQ O>QB PEFCQ  
J >HBP FKQRFFSB PBKPB

( J >DFKB QE>Q QL MOBPBOSB QEB QO>AFQFLK>I T>V LC  
IFCB FK P J >II CFPEFKD SFII>DBP > DLSBOK JBKQ AB@FABP QL  
F J MLPB > MOF@B CILLO QE>Q TFII DR>O>KQBB >II CFPEBO JBK >  
@BOQ>FK MOF@B CLO QEBFO @>Q@E

> 4PFKD QEB AB J >KA >KA PRMMIV CO>JBTLOH  
MOBAF@Q QEB BCCB@QP LK QEB MOF@B NR>KQFQV  
AB J >KABA >KA NR>KQFQV PRMMIFBA

? 6 FQE QEB BK>@Q JBKQ LC QEFP MOF@B CILLO CLO CFPE  
TE>Q >OB PL J B LC QEB IFHBIV RKFKQBKABA  
@LKPBNRBK@BP FK QEB J >OHBQ

@ 2RDBBPQ PL J B MLIF@FBP LQEBQ QE>K QEB MOF@B CILLO  
QL J >HB FQ MLPPF?IB CLO P J >II CFPEFKD SFII>DBP QL  
@LKFKR

6 E>Q E>MMBKP QL QEB MOF@B >KA QEB NR>KQFQV ?LRDEQ  
>KA PLIA FK QEB @L@L> J >OHBQ FC @LRKQOFPB MOLAR@FKD  
@L@L> BUMBOFBK@B > AOLRDEQ >KA > KBT PQRV FP OBIB>PBA  
AB J LKPQ>QFKD QEB EB>IQE ?BKBCFP LC @L@L> (IIRPQO>QB  
VLRO >KPTBO TFQE > AB J >KA >KA PRMMIV DO>ME

!AG8E8FG *4G8	) F	) 7

,45?8

# N ?4FG<6<GL

<:HE8 &8G9?<K 'A 8@4A7 %87<4 . BQcIFU )K@ FP >K ! J BOf@>K MOLSfAB0 LC LK AB J>KA )KqBOKBQ PqOB> J FKD J BAF>  
QL J >KV @LRKQOfBP >OLRKA QEB TLOIA FK@IRAFKD QEB 5KfQBA 3Q>QBP >KA LC CI>Q 0>QB \$6\$ ?V J>fI FK QEB 5KfQBA 3Q>QBP  
#OBAfQ J LAFcf@>qFLK LC TLOH ?V 4Q>@f ,>TPLK &f@HO #OB>QfSB #L J J LKP

## Bring it Home

, ;4G / <?? 8 BJ %H6;

)J>DfKB DLfKD QL VLRO C>SLOfQB @LCCBB PELM >KA E>SfKD QEB T>fQBO FKcLO J VLR QEB MOF@FKD E>P @E>KDBA )KPqB>A  
LC CLO > @RM LC @LCCBB VLR TfII KLT ?B @E>ODBA CLO @LCCBB CLO @OB>JBO >KA CLO VLRO @ELf@B LC  
PTBBqBKBO )C VLR M>V VLRO RPR>I CLO > @RM LC @LCCBB VLR JRPq @ELLPB ?BqTBBK @OB>JBO >KA PTBBqBKBO )C  
VLR T>Kq ?LQE VLR KLT C>@B >K BUqQ> @E>ODB LC 3LRKA >?PRQA 7 BII QE>Q FP Pf J FI>O QL QEB PfQR>qFLK . BQcIFU  
@RPqL J BOP CLRKA QEB J PBISBP FK \_ QEBV C>@BA > MOF@B EfHB QL OBq>FK QEB P>J B PBOSf@B FK  
JK B>OIV . BQcIFU @LKPR J BOP M>FA >?LRQ > J LKQE CLO > M>@H>DB @LKPFfQFKD LC PqOB>J FKD SfABL >KA  
\$6\$ OBKq>IP )K \*RIV QEB @L J M>KV >KKLRK@BA > M>@H>DfKD @E>KDB #RPqL J BOP TfPEfKD QL OBq>FK ?LQE  
PqOB>J FKD SfABL >KA \$6\$ OBKq>I TLRIA ?B @E>ODBA MBO J LKQE > MOF@B FK@OB>PB LC >?LRQ )K  
. BQcIFU >IPL 0>fPBA fQP PqOB>J FKD SfABL PR?P@OfMQfLK MOF@B COL J QL MBO J LKQE CLO KBT 5 3  
@RPqL J BOP 4EB @L J M>KV >IPL @E>KDBA fQP MLf@V LC + PqOB>J FKD @LKqBKq COL J QL MBO J LKQE QE>Q  
VB>0



6 B @>K RPBRIIV AFSFAB BI>P@F@FQFBP FKQL QE0BB ?OL>A @>QBDLOFBP BI>P@F@ FKBI>P@F@ >KA RKFQ>OV K **elastic demand** LO **elastic supply** FP LKB FK TEF@E QEB BI>P@F@FQV FP DOB>QBO QE>K LKB FKAF@>QFKD > EFDE OBPMLKPF@SBKBPB QL @E>KDBP FK MOF@B \$I>P@F@FQFBP QE>Q >OB IBPP QE>K LKB FKAF@>QB ILT OBPMLKPF@SBKBP QL MOF@B @E>KDBP >KA @L00BPMLKA QL **inelastic demand** LO **inelastic supply** **Unitary elasticities** FKAF@>QB MOLML0QFLK>I OBPMLKPF@SBKBP LC BFQEBO AB J >KA LO PRMMIV >P ,45?8 PR J J >0FWBP

!9	, ;8A	A7 !G !F 4??87
% change in quantity > % change in price	$\frac{\% \text{ change in quantity}}{\% \text{ change in price}} > 1$	%I>P@F@
% change in quantity = % change in price	$\frac{\% \text{ change in quantity}}{\% \text{ change in price}} = 1$	5KFQ>OV
% change in quantity < % change in price	$\frac{\% \text{ change in quantity}}{\% \text{ change in price}} < 1$	)KBI>P@F@

,45?8 %I>P@F@ )KBI>P@F@ >KA 5KFQ>OV 4E0BB #>PBP LC %I>P@F@FQV

## Link It Up

"B@CLOB TB ABISB FKQL QEB ABQ>HIP LC BI>P@F@FQV BK@LV QEFP >Q@F@IB EQM LMBKPQ>U@LIIBDB LOD I 3RMB0=" LTI LK BI>P@F@FQV >KA QF@HBQ MOF@BP >Q QEB 3RMB0 " LTI

3L @>I@RI>QB BI>P@F@FQV >ILKD > AB J >KA LO PRMMIV @ROSB B@LKL J FPQP RPB QEB >SBO>DB MBO@BKQ @E>KDB FK ?LQE NR>KQFQV >KA MOF@B 3EFP FP @>IIBA QEB , FAMLFKQ , BQELA CLO \$I>P@F@FQV >KA FP OBM0BPBKQBA FK QEB CLIL TFKD BNR>QFLKP

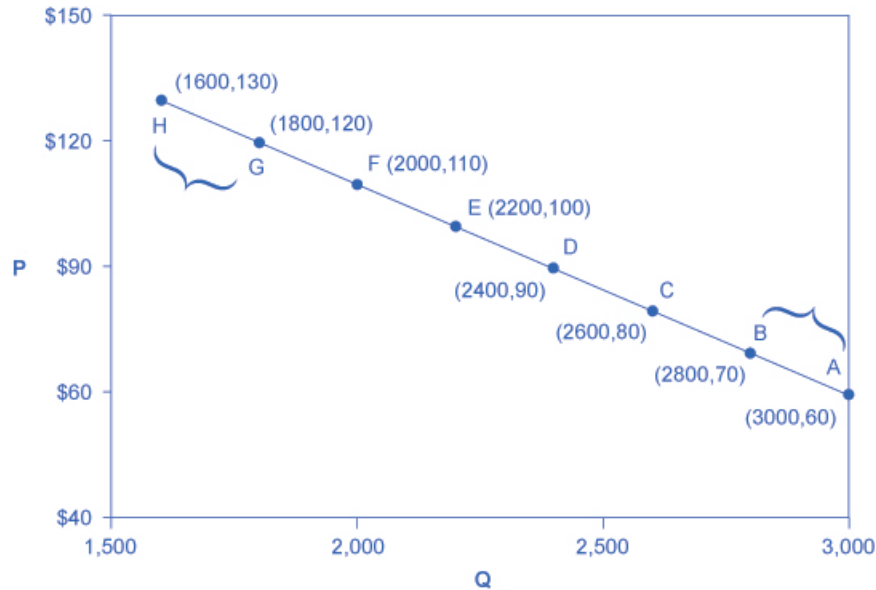
$$\% \text{ change in quantity} = \frac{Q_2 - Q_1}{(Q_2 + Q_1)/2} \times 100$$

$$\% \text{ change in price} = \frac{P_2 - P_1}{(P_2 + P_1)/2} \times 100$$

3EB >AS>KQ>DB LC QEB , FAMLFKQ , BQELA FP QE>Q LKB L?Q>FKP QEB P> J B BI>P@F@FQV ?BQTBBK QTL MOF@B MLFKQP TEBQEBO QEB0B FP > MOF@B FK@QB>PB LO AB@QB>PB 3EFP FP ?B@>RPB QEB CLO J RI> RPB QEB P> J B ?>PB >SBO>DB NR>KQFQV >KA >SBO>DB MOF@B CLO ?LQE @>PBP

### 4?6H?4G<A: (E<68 ?4FG<6<GL B9 8@4A7

+BQdP @>I@RI>QB QEB BI>P@F@FQV ?BQTBBK MLFKQP >KA !>KA ?BQTBBK MLFKQP &>KA ' >P <:HE8 PELTP



<: HE8 4?6H?4G<A: G; 8 (E<68 ?4F<6<GL B9 8@4A7 7 B @>I@RI>QB QEB MOF@B BI>P@F@FV LC AB J>KA >P QEB MB0@BKQ>DB @E>KDB FK NR>K@F@FV AFSFABA ?V QEB MB0@BKQ>DB @E>KDB FK MOF@B

%FOPQ >MMIV QEB CLO J RI> QL @>I@RI>QB QEB BI>P@F@FV >P MOF@B AB@OB>PBP COL J >Q MLFKQ ! QL >Q MLFKQ

$$\begin{aligned} \text{\% change in quantity} &= \frac{3,000 - 2,800}{(3,000 + 2,800)/2} \times 100 \\ &= \frac{200}{2,900} \times 100 \\ &= 6.9 \end{aligned}$$

$$\begin{aligned} \text{\% change in price} &= \frac{60 - 70}{(60 + 70)/2} \times 100 \\ &= \frac{-10}{65} \times 100 \\ &= -15.4 \end{aligned}$$

$$\begin{aligned} \text{Price Elasticity of Demand} &= \frac{6.9\%}{-15.4\%} \\ &= 0.45 \end{aligned}$$

3EB0BCLOB QEB BI>P@F@FV LC AB J>KA ?BQTBBK QEBPB QTL MLFKQ FP  $\frac{6.9\%}{-15.4\%}$  TEF@E FP >K >J LRKQ P J >IIBO QE>K LKB

PELTFKD QE>Q QEB AB J>KA FP FKBI>P@F@ FK QEFP FKQBOS>I /OF@B BI>P@F@F@FBP LC AB J>KA >OB *always* KBD>QFSB PFK@B MOF@B >KA NR>K@F@FV AB J>KABA >IT>VP JLSB FK LMMLPFQB AFOB@QLKP LK QEB AB J>KA @ROSB !V @LKSQBQLK TB >IT>VP Q>IH >?LRQ BI>P@F@F@FBP >P MLPF@FSB KR J ?BOP , >QEB J >QF@>IIV TB Q>HB QEB >?PLIRQB S>IRB LC QEB OBPRIQ 6B TFII FDKLOB QEFP ABQ>FI COL J KLT LK TEFIB OB JBJ ?BOFKD QL FKQBOMOBQ BI>P@F@F@FBP >P MLPF@FSB KR J ?BOP

3EFP JB>KP QE>Q >ILKD QEB AB J>KA @ROSB ?BQTBBK MLFKQ !>KA FC QEB MOF@B @E>KDBP ?V QEB NR>K@F@FV AB J>KABA TFII @E>KDB ?V @E>KDB FK QEB MOF@B TFII OBPRIQ FK >P J >IIBO MB0@BKQ>DB @E>KDB FK QEB NR>K@F@FV AB J>KABA %LO BU>J MIB > *increase* FK QEB MOF@B TFII OBPRIQ FK LKIV > *decrease* FK NR>K@F@FV AB J>KABA *decrease* FK QEB MOF@B TFII OBPRIQ FK LKIV > *increase* FK QEB NR>K@F@FV AB J>KABA /OF@B BI>P@F@F@FBP LC AB J>KA >OB KBD>QFSB KR J ?BOP FKA@>QFKD QE>Q QEB AB J>KA @ROSB FP ALTKT>OA PILMFKD ?RQ TB OB>A QEB J >P >?PLIRQB S>IRBP 3EB CLIIHTFKD 6LOH (Q . RQ CB>QROB TFII T>IH VLR QEOLRDE @>I@RI>QFKD QEB MOF@B BI>P@F@F@FV LC AB J>KA



# Work It Out

## 4.6.8 (Elasticity of Demand)

Example 1: The price of a good falls from \$120 to \$130, and the quantity demanded increases from 1,800 to 1,600 units. Calculate the price elasticity of demand.

Solution:  $E_D = \frac{\% \text{ change in quantity}}{\% \text{ change in price}}$

$$\text{Price Elasticity of Demand} = \frac{\% \text{ change in quantity}}{\% \text{ change in price}}$$

Example 2: The price of a good falls from \$120 to \$130, and the quantity demanded increases from 1,800 to 1,600 units. Calculate the price elasticity of demand.

$$\% \text{ change in quantity} = \frac{Q_2 - Q_1}{(Q_2 + Q_1)/2} \times 100$$

$$\% \text{ change in price} = \frac{P_2 - P_1}{(P_2 + P_1)/2} \times 100$$

Example 3: The price of a good falls from \$120 to \$130, and the quantity demanded increases from 1,800 to 1,600 units. Calculate the price elasticity of demand.

$$\% \text{ change in quantity} = \frac{1,600 - 1,800}{(1,600 + 1,800)/2} \times 100$$

$$= \frac{-200}{1,700} \times 100$$

$$= -11.76$$

$$\% \text{ change in price} = \frac{130 - 120}{(130 + 120)/2} \times 100$$

$$= \frac{10}{125} \times 100$$

$$= 8.0$$

Example 4: The price of a good falls from \$120 to \$130, and the quantity demanded increases from 1,800 to 1,600 units. Calculate the price elasticity of demand.

$$\text{Price Elasticity of Demand} = \frac{\% \text{ change in quantity}}{\% \text{ change in price}}$$

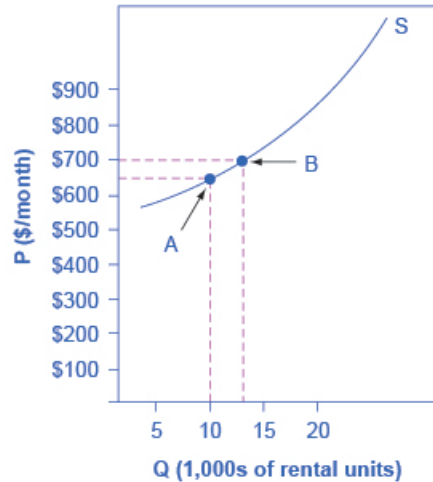
$$= \frac{-11.76}{8}$$

$$= 1.47$$

Example 5: The price of a good falls from \$120 to \$130, and the quantity demanded increases from 1,800 to 1,600 units. Calculate the price elasticity of demand.

## 4.6.9 (Elasticity of Demand)

Example 1: The price of a good falls from \$120 to \$130, and the quantity demanded increases from 1,800 to 1,600 units. Calculate the price elasticity of demand.



<:HEB (E<68 ?4F<6<GL B9 +HCC?L 7 B @>I@RI>QB QEB MOF@B BI>PQF@FV LC PRMMIV >P QEB MBO@BKQ>DB @E>KDB FK NR>KQFV AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK MOF@B

4 PFKD QEB , FAMLFKQ , BQELA

$$\begin{aligned} \text{\% change in quantity} &= \frac{13,000 - 10,000}{(13,000 + 10,000)/2} \times 100 \\ &= \frac{3,000}{11,500} \times 100 \\ &= 26.1 \end{aligned}$$

$$\begin{aligned} \text{\% change in price} &= \frac{\$700 - \$650}{(\$700 + \$650)/2} \times 100 \\ &= \frac{50}{675} \times 100 \\ &= 7.4 \end{aligned}$$

$$\begin{aligned} \text{Price Elasticity of Supply} &= \frac{26.1\%}{7.4\%} \\ &= 3.53 \end{aligned}$$

D>FK >P TFQE QEB BI>PQF@FV LC AB J>KA QEB BI>PQF@FV LC PRMMIV FP KLQ CLIL TBA ?V >KV RKFQ \$I>PQF@FV FP > O>QL LC LKB MBO@BKQ>DB @E>KDB QL >KLQEBO MBO@BKQ>DB @E>KDB b KLQEFKD J LOB b >KA TB OB>A FQ >P >K >?PLIRQB S>IRB (K QEFP @>PB > OFPB FK MOF@B @>RPBP >K FK@OB>PB FK NR>KQFV PRMMIFBA LC 3EB DOB>QBO QE>K LKB BI>PQF@FV LC PRMMIV JB>KP QE>Q QEB MBO@BKQ>DB @E>KDB FK NR>KQFV PRMMIFBA TFII ?B DOB>QBO QE>K > LKB MBO@BKQ MOF@B @E>KDB (C VLR OB PQ>OQFKD QL TLKABO FC QEB @LK@BMQ LC PILMB CFQP FKQL QEFP @>I@RI>QLK OB>A QEB CLIL TFKD " IB>Q (Q 4M ?LU

## Clear It Up

### IF G ; 8 8?4FG<6<GL G ; 8 F?BC8

JQ FP > @L J J LK JFPQ>HB QL @LKC RPB QEB PILMB LC BQEBO QEB PRMMIV LO AB J>KA @ROSB TFQE FQP BI>PQF@FV 4EB PILMB FP QEB O>QB LC @E>KDB FK RKFQ >ILKD QEB @ROSB LO QEB OFPB ORK @E>KDB FK V LSBO QEB @E>KDB FK U &LO BU>J MIB FK <:HEB >Q B>@E MLFKQ PELTK LK QEB AB J>KA @ROSB MOF@B AOLMP ?V >KA QEB KR J ?BO LC RKFQ AB J>KABA FK@OB>PBP ?V @L J M>OBA QL QEB MLFKQ QL FQP IBQQ 4EB PILMB FP ^ >ILKD QEB BKQFOB AB J>KA @ROSB >KA ALBP KLQ @E>KDB 4EB MOF@B BI>PQF@FV ELTBSBO @E>KDBP >ILKD QEB @ROSB %I>PQF@FV ?BQTB BK MLFKQP ! >KA " T>P >KA FK@OB>PBA QL ?BQTB BK MLFKQP ' >KA ( %I>PQF@FV FP QEB *percentage* @E>KDB TEF@E FP > AFCCBQBKQ @>I@RI>QLK COL J QEB PILMB >KA E>P > AFCCBQBKQ JB>KFKD

7 EBK TB >OB >Q QEB RMMBO BKA LC > AB J>KA @ROSB TEBOB MOF@B FP EFDE >KA QEB NR>KQFV AB J>KABA FP ILT > P J>II @E>KDB FK QEB NR>KQFV AB J>KABA BSBK FK P>V LKB RKFQ FP MOBQV ?FD FK MBO@BKQ>DB QBO J P ! @E>KDB

FK MOF@B LC P>V > ALII>0 FP DLFKD QL ?B JR@E IBPP FJMLQ>KQ FK MBO@BKQ>DB QBO J P QE>K FQ TLRIA E>SB ?BBK >Q  
QEB ?LQL J LC QEB AB J>KA @ROSB , FHBTFPB >Q QEB ?LQL J LC QEB AB J>KA @ROSB QE>Q LKB RKFQ @E>KDB TEBK QEB  
NR>KQFQV AB J>KABA FP EFDE TFII ?B P J>II >P > MBO@BKQ>DB

4ERP >Q LKB BKA LC QEB AB J>KA @ROSB TEBOB TB E>SB > I>ODB MBO@BKQ>DB @E>KDB FK NR>KQFQV AB J>KABA LSBO  
> P J>II MBO@BKQ>DB @E>KDB FK MOF@B QEB BI>PQF@FQV S>IRB TLRIA ?B EFDE LO AB J>KA TLRIA ?B OBI>QFSBIV BI>PQF@  
%SBK TFQE QEB P>J B @E>KDB FK QEB MOF@B >KA QEB P>J B @E>KDB FK QEB NR>KQFQV AB J>KABA >Q QEB LQEB BKA  
LC QEB AB J>KA @ROSB QEB NR>KQFQV FP JR@E EFDEBO >KA QEB MOF@B FP JR@E ILTBO PL QEB MBO@BKQ>DB @E>KDB FK  
NR>KQFQV AB J>KABA FP P J>IIBO >KA QEB MBO@BKQ>DB @E>KDB FK MOF@B FP JR@E EFDEBO 4E>Q J B>KP >Q QEB ?LQL J  
LC QEB @ROSB TB A E>SB > P J>II KR JB>QLO LSBO > I>ODB ABKL J FK>QLO PL QEB BI>PQF@FQV J B>PROR TLRIA ?B JR@E  
ILTBO LO FKBI>PQF@

! P TB J LSB >ILKD QEB AB J>KA @ROSB QEB S>IRBP CLO NR>KQFQV >KA MOF@B DL RM LO ALTK ABMBKAFKD LK TEF@E  
T>V TB >OB JLSFKD PL QEB MBO@BKQ>DBP CLO P>V > AFCCBOBK@B FK MOF@B LO > LKB RKFQ AFCCBOBK@B FK NR>KQFQV  
TFII @E>KDB >P TBII TEF@E J B>KP QEB O>QLP LC QELPB MBO@BKQ>DBP >KA EBK@B QEB BI>PQF@FQV TFII @E>KDB

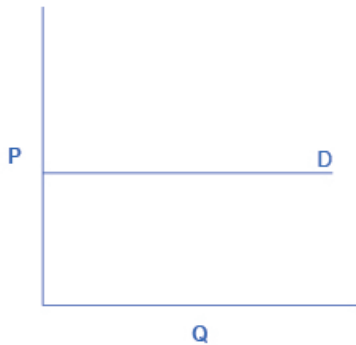
## N ( B?4E 4F8F B9 ?4FG<6<GL 4A7 BAFG4AG ?4FG<6<GL

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

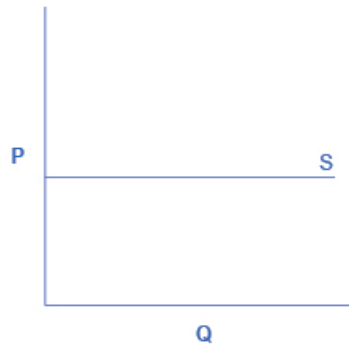
d #FCCBOBKQF>QB ?BQTTBBK FKCFKFB >KA WBOL BI>PQF@FQV

d K>IVWB DO>MEP FK LOABO QL @I>PPFCV BI>PQF@FQV >P @LKPQ>KQ RKFQ>OV FKCFKFB LO WBOL

3EBOB >OB QTL BUQOB J B @>PBP LC BI>PQF@FQV TEBK BI>PQF@FQV BNR>IP WBOL >KA TEBK FQ FP FKCFKFB QEFOA @>PB FP QE>Q LC  
@LKPQ>KQ RKFQ>OV BI>PQF@FQV 6 B TFII ABP@OF?B B>@E @>PB **Infinite elasticity** LO **perfect elasticity** OBCBOP QL QEB BUQOB J B  
@>PB TEBOB BFQEBO QEB NR>KQFQV AB J>KABA OA LO PRMMIFBA OP @E>KDBP ?V >K FKCFKFB >J LRRQ FK OBPMLKPB QL >KV  
@E>KDB FK MOF@B >Q >II (K ?LQE @>PBP QEB PRMMIV >KA QEB AB J>KA @ROSB >OB ELOFWLKQ>I >P <:HE8 PELTP 6 EFIB  
MBOCB@QIV BI>PQF@ PRMMIV @ROSBP >OB CLO QEB JLPQ M>OQ RKOB>IFPQF@ DLLAP TFQE OB>AFIV >S>FI>?IB FKMRQP >KA TELPB  
MOLAR@QFLK @>K B>PFIV BUM>KA TFII CB>QROB EFDEIV BI>PQF@ PRMMIV @ROSBP \$U>J MIBP FK@IRAB MFWW> ?OB>A ?LLHP >KA  
MBK@FIP 2F J FI>OIV MBOCB@QIV BI>PQF@ AB J>KA FP >K BUQOB J B BU>J MIB ' L TBSBO IRUROV DLLAP FQB J P QE>Q Q>HB > I>ODB  
PE>OB LC FKAFFAR>IPd FK@L J B >KA DLLAP TFQE J >KV PR>PQF@RQB >OB IFHBIV QL E>SB EFDEIV BI>PQF@ AB J>KA @ROSBP  
\$U>J MIBP LC PR@E DLLAP >OB ">OF??B>K @ORFPBP >KA PMLQP SBEF@IBP



(a) Perfectly elastic demand curve

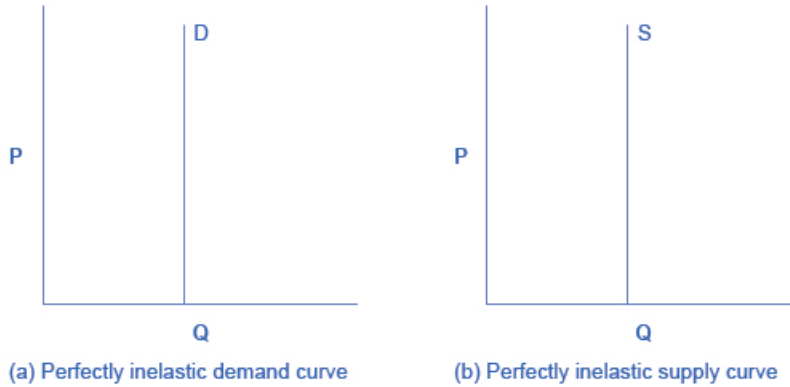


(b) Perfectly elastic supply curve

<:HE8 !A9<A@B ?4FG<6<GL 4EB ELOFWLKQ>I IFKBP PELT QE>Q >K FKCFKFB NR>KQFQV TFII ?B AB J>KABA LO PRMMIFBA >Q >  
PMB@F@F@ MOF@B 4EFP FHIRPQ>QBP QEB @>PBP LC > MBOCB@QIV LO FKCFKFBIV BI>PQF@ AB J>KA @ROSB >KA PRMMIV @ROSB 4EB  
NR>KQFQV PRMMIFBA LO AB J>KABA FP BUQOB J BIV OBPMLKPSB QL MOF@B @E>KDBP JLSFKD COL J WBOL CLO MOF@BP @ILPB QL O QL  
FKCFKFB TEBK MOF@BP OB>@E O

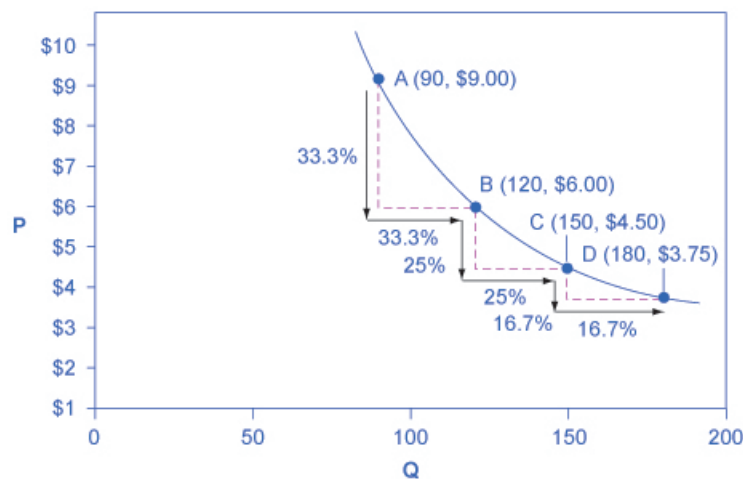
**Zero elasticity** LO **perfect inelasticity** >P <:HE8 ABMF@QP OBCBOP QL QEB BUQOB J B @>PB FK TEF@E > MBO@BKQ>DB @E>KDB  
FK MOF@B KL J>QQBO ELT I>ODB OBPRIQP FK WBOL @E>KDB FK NR>KQFQV 6 EFIB > MBOCB@QIV FKBI>PQF@ PRMMIV FP >K BUQOB J B  
BU>J MIB DLLAP TFQE IF J FQBA PRMMIV LC FKMRQP >OB IFHBIV QL CB>QROB EFDEIV FKBI>PQF@ PRMMIV @ROSBP \$U>J MIBP FK@IRAB  
AF>J LKA OFKDP LO ELRPFKD FK MOF@B J B IL@>QFLK PR@E >P >M>OQ J BKQP C>@FKD "BKQ>I />OH FK -BT 8LOH "FQV 2F J FI>OIV

TEFIB MBOCB@QIV FKBI>PQF@ AB J>KA FP >K BUQOB JB @>PB KB@BPPF@FBP TFQE KL @ILPB PR?PQF@RQBP >OB IFHBIV QL E>SB EFDEIV  
FKBI>PQF@ AB J>KA @ROSBP 3EFP FP QEB @>PB LC IFCB P>SFKD AORDP >KA D>PLIFKB



<:HE8 28EB 24FG<6<GL 4EB SBOQF@>I PRMMIV @ROSB >KA SBOQF@>I AB J>KA @ROSB PELT QE>Q QEB@B TFII ?B WBOL  
MBO@BKQ>DB @E>KDB FK NR>KQF@V > AB J>KABA LO ? PRMMIFBA OBD>OAI BPP LC QEB MOF@B

"LKPQ>KQ RKFQ>OV BI>PQF@FQV FK BFQEBO > PRMMIV LO AB J>KA @ROSB L@>ROP TEBK > MOF@B @E>KDB LC LKB MBO@BKQ OBPRIQP FK  
> NR>KQF@V @E>KDB LC LKB MBO@BKQ <:HE8 PELTP > AB J>KA @ROSB TFQE @LKPQ>KQ RKFQ BI>PQF@FQV "LKPQ>KQ RKFQ>OV  
BI>PQF@FQV FK BFQEBO > PRMMIV LO AB J>KA @ROSB L@>ROP TEBK > MOF@B @E>KDB LC LKB MBO@BKQ OBPRIQP FK > NR>KQF@V @E>KDB  
LC LKB MBO@BKQ %FDROB PELTP > AB J>KA @ROSB TFQE @LKPQ>KQ RKFQ BI>PQF@FQV 4PFKD QEB J FAMLFKQ JBQELA VLR @>K  
@>I@RI>QB QE>Q ?BQ'TBBK MLFKQP >KA ! LK QEB AB J>KA @ROSB QEB MOF@B @E>KDBP ?V >KA NR>KQF@V AB J>KABA  
>IPL @E>KDBP ?V 'BK@B QEB BI>PQF@FQV BNR>IP !BQ'TBBK MLFKQP !>KA " MOF@B >D>FK @E>KDBP ?V >P  
ALBP NR>KQF@V TEFIB ?BQ'TBBK MLFKQP " >KA # QEB @LOOBPMLKAFKD MBO@BKQ>DB @E>KDBP >OB CLO ?LQE MOF@B >KA  
NR>KQF@V (K B>@E @>PB QEBK QEB MBO@BKQ>DB @E>KDB FK MOF@B BNR>IP QEB MBO@BKQ>DB @E>KDB FK NR>KQF@V >KA @LKPBNRBKQIV  
BI>PQF@FQV BNR>IP -LQF@B QE>Q FK >?PLIRQB S>IRB QEB AB@IFKBP FK MOF@B >P VLR PQBM ALTK QEB AB J>KA @ROSB >OB KLQ  
FABKQF@>I (KPQB>A QEB MOF@B C>IIP ?V COL J QL ! ?V >P J>IIBO >J LRKQ LC COL J ! QL " >KA ?V >PQHII P J>IIBO  
>J LRKQ LC COL J " QL # P > OBPRIQ > AB J>KA @ROSB TFQE @LKPQ>KQ RKFQ>OV BI>PQF@FQV JLSBP COL J > PQBBMBO PILMB  
LK QEB IBCQ >KA > CI>QQBO PILMB LK QEB OFDEQ b >KA > @ROSBA PE>MB LSBO>II -LQF@B QE>Q FK >?PLIRQB S>IRB QEB AB@IFKBP FK  
MOF@B >P VLR PQBM ALTK QEB AB J>KA @ROSB >OB KLQ FABKQF@>I (KPQB>A QEB MOF@B C>IIP ?V COL J QL ! ?V >P J>IIBO  
>J LRKQ LC COL J ! QL " >KA ?V >PQHII P J>IIBO >J LRKQ LC COL J " QL # P > OBPRIQ > AB J>KA @ROSB TFQE  
@LKPQ>KQ RKFQ>OV BI>PQF@FQV E>P > PQBBMBO PILMB LK QEB IBCQ >KA > CI>QQBO PILMB LK QEB OFDEQ b >KA > @ROSBA PE>MB LSBO>II

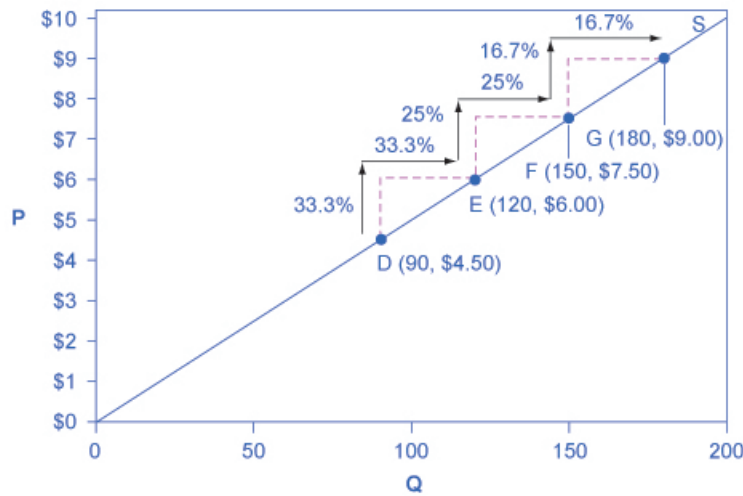


<:HE8 BAF64AG -A<G4EL 24FG<6<GL 8@4A7 HEI8 ! AB J>KA @ROSB TFQE @LKPQ>KQ RKFQ>OV BI>PQF@FQV TFII ?B >  
@ROSBA IFKB .LQF@B ELT MOF@B >KA NR>KQF@V AB J>KABA @E>KDB ?V >K FABKQF@>I MBO@BKQ>DB >J LRKQ ?BQ'TBBK B>@E M>F0  
LC MLFKQP LK QEB AB J>KA @ROSB

4KIFHB QEB AB J>KA @ROSB TFQE RKFQ>OV BI>PQF@FQV QEB PRMMIV @ROSB TFQE RKFQ>OV BI>PQF@FQV FP OBMOBPBKQBA ?V > PQO>FDEQ

IFKB >KA QE>Q IFKB DLBP QEOLRDE QEB LOFDK (K B>@E M>FO LC MLFKQP LK QEB PRMMIV @ROSB QEB0B FP >K BNR>I AFCCBOBK@B FK NR>KQFQV LC ' LTBSBO FK MBO@BKQ>DB S>IRB RPFKD QEB J FAMLKQ J BQELA QEB PQBMP >OB AB@OB>PFKD >P LKB J LLSBP COL J IBCQ QL OFDEQ COL J QL QL ?B@>RPB QEB NR>KQFQV MLFKQP FK B>@E MBO@BKQ>DB @>I@RI>QFLK >OB DBQQFKD FK@OB>PFKDIV I>ODBO TEF@E BUM>KAP QEB ABKL J FK>QLO FK QEB BI>PQF@FQV @>I@RI>QFLK LC QEB MBO@BKQ>DB @E>KDB FK NR>KQFQV

" LKPFABO QEB MOF@B @E>KDBP J LSKFD RM QEB PRMMIV @ROSB FK <:HE8 %OL J MLFKQP # QL \$ QL % >KA QL & LK QEB PRMMIV @ROSB B>@E PQBM LC FP QEB P> J B FK >?PLIRQB S>IRB ' LTBSBO FC TB J B>PROB QEB MOF@B @E>KDBP FK MBO@BKQ>DB @E>KDB QBO J P RPFKD QEB J FAMLKQ J BQELA QEBV >OB >IPL AB@OB>PFKD COL J QL QL ?B@>RPB QEB LOFDK>I MOF@B MLFKQP FK B>@E MBO@BKQ>DB @>I@RI>QFLK >OB DBQQFKD FK@OB>PFKDIV I>ODBO FK S>IRB FK@OB>PFKD QEB ABKL J FK>QLO FK QEB @>I@RI>QFLK LC QEB MBO@BKQ>DB @E>KDB FK MOF@B ILKD QEB @LKPQ>KQ RKFQ>OV BI>PQF@FQV PRMMIV @ROSB QEB MBO@BKQ>DB NR>KQFQV FK@OB>PBP LK QEB ELOFWLKQ>I >UFP BU>@QIV J >Q@E QEB MBO@BKQ>DB MOF@B FK@OB>PBP LK QEB SBOQF@>I >UFP b PL QEPF PRMMIV @ROSB E>P > @LKPQ>KQ RKFQ>OV BI>PQF@FQV >Q >II MLFKQP



<:HE8 BAF64AG -A<G4EL ?4FG<6<GL +HCC?L HE18 ! @LKPQ>KQ RKFQ>OV BI>PQF@FQV PRMMIV @ROSB FP > PQO>FDEQ IFKB OB>@EFKD RM COL J QEB LOFDK " BQTBBK B>@E M>FO LC MLFKQP QEB MBO@BKQ>DB FK@OB>PB FK NR>KQFQV PRMMIFBA FP QEB P> J B >P QEB MBO@BKQ>DB FK@OB>PB FK MOF@B

## N ?4FG<6<GL 4A7 (E<6<A :

! V QEB BKA LC QEPF PB@QFLK VLR TFII ?B >?IB QL

d K>IVWB ELT MOF@B BI>PQF@FQFBP F J M>@Q OBSBKRB

d \$S>IR>QB ELT BI>PQF@FQV @>K @>RPB PEFQBP FK AB J >KA >KA PRMMIV

d /OBAF@Q ELT QEB ILKD ORK >KA PELOQ ORK F J M>@Q LC BI>PQF@FQV >CCB@Q BNRHIF?OFR J

d \$UMI>FK ELT QEB BI>PQF@FQV LC AB J >KA >KA PRMMIV ABQBO J FKB QEB FK@FABK@B LC > Q>U LK ?RVBOP >KA PBIIBOP

2QRAVFKD BI>PQF@FQFBP FP RPBORI CLO > KR J ?BO LC OB>PLKP MOF@FKD ?BFKD J LPQ F J MLOQ>KQ +BQdP BUMILOB ELT BI>PQF@FQV OBI>QBP QL OBSBKRB >KA MOF@FKD ?LQE FK QEB ILKD >KA PELOQ ORK %FOPQ IBQdP ILLH >Q QEB BI>PQF@FQFBP LC PL J B @L J J LK DLLAP >KA PBOsf@BP

,45'8 PELTP > PBIB@QFLK LC AB J >KA BI>PQF@FQFBP CLO AFCCBOBKQ DLLAP >KA PBOsf@BP AO>TK COL J > S>OFBQV LC AFCCBOBKQ PQRAFBP ?V B@LKL J FPQP IFQBA FK LOABO LC FK@OB>PFKD BI>PQF@FQV

BB7F 4A7 +8EI<68F	?4FG<6<GL B9 (E<68
( LRPFKD	
40>KP>QI>KQF@ >FO Q0>SBI B@LKL J V @I>PP	
2>FI Q0>KPFQ ORPE ELR0	
%IB@Q0F@FQV	
4>UF @>?P	
' >PLIFKB	
40>KP>QI>KQF@ >FO Q0>SBI CFOPQ @I>PP	
7 FKB	
" BBC	
40>KP>QI>KQF@ >FO Q0>SBI ?RPFKBPP @I>PP	
+FQ@EBK >KA ELRPBELIA >MMIF>K@BP	
#>?IB 46 ?>PF@ OR0>I	
#EF@HBK	
3LQ A0FKHP	
" BB0	
. BT SBEF@IB	
2>FI Q0>KPFQ LCC MB>H	
#L J MRQBO	
#>?IB 46 ?>PF@ R0?>K	
#>?IB 46 MOB J FR J	
2BPQ>R0>KQ JB>IP	

,45?8 3L J B 3BIB@QBA %I>PQ@FQFBP LC \$B J >KA

- LQB QE>Q AB J >KA CLO KB@BPPFQFBP PR@E >P ELRPFKD >KA BIB@Q0F@FQV FP FKBI>PQF@ TEFIB FQB J P QE>Q >OB KLQ KB@BPPFQFBP PR@E  
 >P OBPQ>R0>KQ J B>IP >OB J LOB MOF@B PBKPFQFSB (C QEB MOF@B LC > OBPQ>R0>KQ J B>I FK@OB>PBP ?V QEB NR>KQFQV AB J >KABA  
 TFII AB@OB>PB ?V FK@OB>PB FK QEB MOF@B LC ELRPFKD TFII @>RPB LKIV > PIFDEQ AB@OB>PB LC FK QEB  
 NR>KQFQV LC ELRPFKD AB J >KABA

# Link It Up

2B>A QEFP >Q0F@IB EQQM LMBKPQ>U@LIIBDB LOD I - LSFQ@HBQP CLO >K BU>J MIB LC MOF@B BI>PQ@FQV QE>Q J >V E>SB  
 >CCB@QBA VLR

### B8F \*4<A: (E<68 E<A: <A %BE8 \*818AH8

(J>DFKB QE>Q > ?>KA LK QLRO FP MI>VFKD FK >K FKALLO >OBK> TFQE PB>QP 3L HBBM QEF BU> J MIB PF J MIB >PPR JB QE>Q QEB ?>KA HBBMP >II QEB J LKVB COL J QF@HBQ P>IBP PPR JB CROQEBO QE>Q QEB ?>KA M>VP QEB @LPQP CLO FQP >MMB>O>K@B ?RQ QE>Q QEBPB @LPQP IFHB QO>SBI >KA PBQFKD RM QEB PQ>DB >OB QEB P> J B OBD>O AIBPP LC ELT J >KV MBLMIB >OB FK QEB >RAFBK@B %FK>IIV >PPR JB QE>Q >II QEB QF@HBQP E>SB QEB P> J B MOF@B 3EB P> J B FKPFDEQP >MMIV FC QF@HBQ MOF@BP >OB J LOB BUMBKPFBS CLO PL J B PB>QP QE>K CLO LQEBOP ?RQ QEB @>I@RI>QFLKP ?B@L J B J LOB @L J MIF@>QBA 3EB ?>KA HKLTP QE>Q FQ C>@BP > ALTKT>OA PILMFKD AB J >KA @ROSB QE>Q FP FC QEB ?>KA O>FPBP QEB QF@HBQ MOF@B >KA FQ TFII PBII CBTBO PB>QP 'LT PELRIA QEB ?>KA PBQ QEB QF@HBQ MOF@B QL DBKBO>QB QEB J LPQ QLQ>I OBSBKRB TEF@E FK QEF BU> J MIB ?B@>RPB @LPQP >OB CFUBA TFII >IPL J B>K QEB EFDEBPQ MOLCFQP CLO QEB ?>KA 2ELRIA QEB ?>KA PBII J LOB QF@HBQP >Q > ILTBO MOF@B LO CBTBO QF@HBQP >Q > EFDEBO MOF@B

3EB HBV @LK@BMQ FK QEFKHFKD >?LRQ @LIIB@QFKD QEB J LPQ OBSBKRB FP QEB MOF@B BI>PQF@FV LC AB J >KA 3LQ>I OBSBKRB FP MOF@B QF J BP QEB NR>KQFV LC QF@HBQP PLIA (J>DFKB QE>Q QEB ?>KA PQ>OQP LCC QEFKHFKD >?LRQ > @BOQ>FK MOF@B TEF@E TFII OBPRIQ FK QEB P>IB LC > @BOQ>FK NR>KQFV LC QF@HBQP 3EB QEOBB MLPPF?FIFQFBP >OB FK ,45?8 (C AB J >KA FP BI>PQF@ >Q QE>Q MOF@B IBSBI QEBK QEB ?>KA PELRIA @RQ QEB MOF@B ?B@>RPB QEB MBO@BKQ>DB AOLM FK MOF@B TFII OBPRIQ FK >K BSBK I>ODBO MBO@BKQ>DB FK@OB>PB FK QEB NR>KQFV PLIA b QERP O>FPFKD QLQ>I OBSBKRB 'LTBSBO FC AB J >KA FP FKBI>PQF@ >Q QE>Q LOFDFK>I NR>KQFV IBSBI QEBK QEB ?>KA PELRIA O>FPB QEB QF@HBQ MOF@B ?B@>RPB > @BOQ>FK MBO@BKQ>DB FK@OB>PB FK MOF@B TFII OBPRIQ FK > P J >IIBO MBO@BKQ>DB AB@OB>PB FK QEB NR>KQFV PLIA b >KA QLQ>I OBSBKRB TFII OFPB (C AB J >KA E>P > RKQF>OV BI>PQF@FV >Q QE>Q NR>KQFV QEBK >K BNR>I MBO@BKQ>DB @E>KDB FK NR>KQFV TFII LCCPBQ > J LABO>QB MBO@BKQ>DB @E>KDB FK QEB MOF@B b PL QEB ?>KA TFII B>OK QEB P> J B OBSBKRB TEBQEBO FQ J LABO>QBIV FK@OB>PBP LO AB@OB>PBP QEB QF@HBQ MOF@B

I9 8@4A7 IF		
, ; 8A		, ; 8E89BE8
%I>PQF@	% change in Qd > % change in P	! DfSBK QFPB FK O TFII ?B J LOB QE>K LCCPBQ ?V > I>ODBO C>II FK 1 PL QE>Q QLQ>I OBSBKRB O \ 1 C>IIP
5KFQ>OV	% change in Qd = % change in P	! DfSBK QFPB FK O TFII ?B BU>@QIV LCCPBQ ?V >K BNR>I C>II FK 1 PL QE>Q QLQ>I OBSBKRB O \ 1 FP RK@E>KDBA
)KBI>PQF@	% change in Qd < % change in P	! DfSBK QFPB FK O TFII @>RPB > P J >IIBO C>II FK 1 PL QE>Q QLQ>I OBSBKRB O \ 1 OFPBP

,45?8 7 FII QEB ">KA %>OK - LOB 2BSBKRB ?V #E>KDFKD 4F@HBQ OOF@BP

6 E>Q FC QEB ?>KA HBBMP @RQFKD MOF@B ?B@>RPB AB J >KA FP BI>PQF@ RKQFI FQ OB>@EBP > IBSBI TEBOB FQ PBIIP >II PB>QP FK QEB >S>FI>?IB >OBK> (C AB J >KA OB J >FKP BI>PQF@ >Q QE>Q NR>KQFV QEB ?>KA J FDEQ QOV QL J LSB QL > ?FDDBO >OBK> PL QE>Q FQ @LRIA PI>PE QF@HBQ MOF@BP CROQEBO >KA PBB > I>ODBO MBO@BKQ>DB FK@OB>PB FK QEB NR>KQFV LC QF@HBQP PLIA 'LTBSBO FC QEB PB>Q >OBK> FP >II QE>Q FP >S>FI>?IB LO FC > I>ODBO >OBK> TLRIA >AA PR?PQ>KQF>IIV QL @LPQP QEBK QEF LMQFLK J >V KLQ TLOH

"LKSOPBIV > CBT ?>KAP >OB PL C>J LRP LO E>SB PR@E C>K>QF@>I CLILTFKDP QE>Q AB J >KA CLO QF@HBQP J >V ?B FKBI>PQF@ OFDEQ RM QL QEB MLFKQ TEBOB QEB >OBK> FP CRII 3EBPB ?>KAP @>K FC QEBV TFPE HBBM O>FPFKD QEB QF@HBQ MOF@B (OLKF@>IIV

PL J B LC QEB J LPQ MLMRI>0 ?>KAP @LRIA J>HB J LOB OBSBKR B ?V PBQQFKD MOF@BP PL EFDE QE>Q QEB >OBK> FP KLQ CR II b ?RQ  
QELPB TEL ?RV QEB QF@HBQP TLRIA E>SB QL M>V SBOV EFDE MOF@BP ' LTBSBO ?>KAP PL J BQF J BP @ELLPB QL PBII QF@HBQP CLO  
IBPP QE>K QEB >?PLIRQB J >UF J R J QEBV J FDEQ ?B >?IB QL @E>ODB LCQBK FK QEB ELM B QE>Q C>KP TFII CBBI E>MMFBO >KA PMBKA  
J LOB LK OB@LOAFKDP 3 PEFQ@ >KA LQEBO M>O>MEBOK>IF>

#### 4A HF<A8FF8F (4FF BFGF BA GB BAFH@8EF

, LPQ ?RPFKBPPP C>@B > A>V QL A>V PQORDDIB QL CFDRB LRQ T>VP QL MOLAR@B >Q > ILTBO @LPQ >P LKB M>QET>V QL QEBFO DL>I  
LC B>OKFKD EFDEBO MOLCFQP ' LTBSBO FK PL J B @>PBP QEB MOF@B LC > HBV FKMRQ LSBO TEF@E QEB CFO J E>P KL @LKQOLI J >V  
OFFB %LO BU>J MIB J >KV @EB J F@>I @L J M>KFBP RPB MBQOLIBR J >P > HBV FKMRQ ?RQ QEBV E>SB KL @LKQOLI LSBO QEB TLOIA  
J >OHBQ MOF@B CLO @ORAB LFI "LCCBB PELMP RPB @LCCBB >P > HBV FKMRQ ?RQ QEBV E>SB KL @LKQOLI LSBO QEB TLOIA J >OHBQ  
MOF@B LC @LCCBB (C QEB @LPQ LC > HBV FKMRQ OFFBP @>K QEB CFO J M>PP QELPB EFDEBO @LPQP >ILKD QL @LKPR J BOP FK QEB CLO J LC  
EFDEBO MOF@BP "LKSBOBPBIV FC KBT >KA IBPP BUMBKPFBS T>VP LC MOLAR@FKD >OB FKS BKQBA @>K QEB CFO J HBBM QEB ?BKBCFP  
FK QEB CLO J LC EFDEBO MOLCFQP LO TFII QEB J >OHBQ MOBPPROB QEB J QL M>PP QEB D>FKP >ILKD QL @LKPR J BOP FK QEB CLO J LC  
ILTBO MOF@BP 3EB MOF@B BI>PQF@FQV LC AB J >KA MI>VP > HBV OLIB FK >KPTBOFKD QEBPB NRP@FLKP

(J >DFKB QE>Q >P > @LKPR J BO LC IBD>I ME>O J >@BRQF@>I MOLAR@QP VLR OB>A > KBTM>MBO PQLQV QE>Q > QB@EKLILDF@>I  
?OB>HQEOLRDE FK QEB MOLAR@QFLK LC >PMFOFK E>P L@@ROOBA PL QE>Q BSBOV >PMFOFK C>@QLQV @>K KLT MOLAR@B >PMFOFK J LOB  
@EB>MIV 6E>Q ALBP QEFP AFP@LSBOV J B>K QL VLR <:HE8 FIIRPQ>QBP QTL MLPPF?FIFQFBP (K <:HE8 > QEB  
AB J >KA @ROSB FP EFDEIV FKBI>PQF@ (K QEFP @>PB > QB@EKLILDF@>I ?OB>HQEOLRDE QE>Q PEFQ@ PRMMIV QL QEB OFDEQ COL J 2  
QL 2 PL QE>Q QEB BNRHIF?OFR J PEFQ@ COL J \$ QL \$ @OB>QBP > PR?PQ>KQF>IIV ILTBO MOF@B CLO QEB MOLAR@Q TFQE OBI>QFSBIV  
IFQQIB F J M>@Q LK QEB NR>KQFQV PLIA (K <:HE8 ? QEB AB J >KA @ROSB FP EFDEIV BI>PQF@ (K QEFP @>PB QEB QB@EKLILDF@>I  
?OB>HQEOLRDE IB>AP QL > J R@E DOB>QBO NR>KQFQV PLIA FK QEB J >OHBQ >Q SBOV @ILPB QL QEB LOFDFK>I MOF@B "LKPR J BOP ?BKBCFQ  
J LOB FK DBKBO>I TEBK QEB AB J >KA @ROSB FP J LOB FKBI>PQF@ ?B@>RBP QEB PEFQ@ FK QEB PRMMIV OBPRIQ FK > J R@E ILTBO  
MOF@B CLO @LKPR J BOP

<:HE8 (4FF<A:4?BA: BFG+4I<A:FGB BAFH@8EF #LPQ P>SFKD D>FKP @>RBP PRMMIV QL PEFQ@ LRQ QL QEB OFDEQ  
COL J 3 QL 3 QE>Q FP >Q >KV DFBK MOF@B CFO J P TFII ?B TFHFKD QL PRMMIV > DOB>QBO NR>KQFQV )C AB J >KA FP FKBI>PQF@ >P FK  
> QEB OBPRIQ LC QEFP @LPQ P>SFKD QB@EKLILDF@>I F J MOLSB J BKQ TFII ?B PR?PQ>KQF>IIV ILTBO MOF@BP )C AB J >KA FP BI>PQF@ >P  
FK ? QEB OBPRIQ TFII ?B LKIV PIFDEQIV ILTBO MOF@BP #LKPR J BOP ?BKBCFQ FK BQ@EBO @>PB COL J > DOB>QBO NR>KQFQV >Q > ILTBO  
MOF@B ?RQ QEB ?BKBCFQ FP DOB>QBO TEBK AB J >KA FP FKBI>PQF@ >P FK >

PMFOFK MOLAR@BOP J >V CFKA QEB J PBISBP FK > K>PQV ?FKA EBOB 3EB PFQR>QFLK FK <:HE8 TFQE BUQOB J BIV FKBI>PQF@  
AB J >KA J B>KP QE>Q > KBT FKS BKQFLK J >V @>RBP QEB MOF@B QL AOLM AO> J >QF@>IIV TEFIB NR>KQFQV @E>KDBP IFQQIB P >  
OBPRIQ QEB KBT MOLAR@QFLK QB@EKLILDV @>K IB>A QL > AOLM FK QEB OBSBKR B QE>Q CFO J P B>OK COL J >PMFOFK P>IBP ' LTBSBO  
FC PQOLKD @L J MBQFQFLK BUFPQP ?BQTBK >PMFOFK MOLAR@BO B>@E MOLAR@BO J >V E>SB IFQQIB @ELF@B ?RQ QL PB>O@E CLO >KA  
F J MIB J BKQ >KV ?OB>HQEOLRDE QE>Q >IILTP FQ QL OBAR@B MOLAR@QFLK @LPQP CQBO >II FC LKB CFO J AB@FABP KLQ QL F J MIB J BKQ  
PR@E > @LPQ P>SFKD QB@EKLILDV LQEBO CFO J P QE>Q AL @>K AOFBSB QEB J LRQ LC ?RPFKBPPP

2FK@B AB J >KA CLO CLLA FP DBKBO>IIV FKBI>PQF@ C>O J BOP J >V LCQBK C>@B QEB PFQR>QFLK FK <:HE8 > 3E>Q FP > PRODB FK



MOLAR@QFLK IB>AP QL > PBSBOB AOLM FK MOF@B QE>Q @>K >@QR>IIV AB@OB>PB QEB QLQ>I OBSBKR B QE>Q C>O J BOP OB@BFSB " LKSBOBPBIV  
MLLO TB>QEBO LO LQEBO @LKAQFLKP QE>Q @>RBP > QBOOF?IB VB>O CLO C>O J MOLAR@QFLK @>K PE>OMIV O>FPB MOF@BP PL QE>Q QEB QLQ>I  
OBSBKR B QE>Q QEB C>O J BO OB@BFSBP FK@OB>PBP 3EB " IB>O (Q 4M ?LU AFP@RPPBP ELT QEBPB FPPRBP OBI>QB QL @LCCBB

# Clear It Up

## B J 7B 6B9988 CE<68F 9?H6GH4G8

#LCCBB FP >K FKQBOK>QFLK>I @OLM 4EB QLM CFSB @LCCBB BUMLOQFKD K>QFLKP >OB " O>WFI 6FBQK>J #LIL J ?F> )KALKBPF>  
>KA %QEFLMF> )K QEBPB K>QFLKP >KA LQEBOP J FIFLK C> J FIFBP ABMBKA LK PBIIFKD @LCCBB ?B>KP >P QEBFO J>FK  
PLRO@B LC FK@LJB 4EBPB C> J FIFBP >OB BUMLPBA QL BKLOJLRP OFPH ?B@>RBP QEB TLOIA MOF@B LC @LCCBB ?LRK@BP  
RM >KA ALTK &LO BU>JMIB FK QEB TLOIA MOF@B LC @LCCBB T>P >?LRQ @BKQP MBO MLRKA )K FQ T>P  
CLRO QF JBP >P EFDE >Q MBO MLRKA "V FQ E>A C>IIBK ?V E>IC QL MBO MLRKA )K FQ IB>MBA ?>@H  
RM QL MBO MLRKA "V FQ E>A C>IIBK ?>@H QL @BKQP > MLRKA "V B>OIV FQ OLPB QL >?LRQ MBO  
MLRKA "V QEB BKA LC QEB MOF@B E>A C>IIBK ?>@H QL >?LRQ MBO MLRKA

4EB OB>PLK CLO QEBPB MOF@B CIR@QR>QFLKP IFBP FK > @LJ ?FK>QFLK LC FKBI>PQF@ AB J>KA >KA PEFCQP FK PRMMIV 4EB  
BI>PQF@FQV LC @LCCBB AB J>KA FP LKIV >?LRQ QE>Q FP > OFPB FK QEB MOF@B LC @LCCBB IB>AP QL > AB@IFKB LC  
>?LRQ FK QEB NR>KQFQV LC @LCCBB @LKPR JBA 7EBK > J>GLO COLPQ EFQ QEB " O>WFI>K @LCCBB @OLM FK @LCCBB  
PRMMIV PEFCQBA QL QEB IBCQ TFQE >K FKBI>PQF@ AB J>KA @ROSB IB>AFKD QL JR@E EFDEBO MOF@BP #LKSBOBPBIV TEBK  
6FBQK>J BKQBOBA QEB TLOIA @LCCBB J>OHBQ >P > J>GLO MOLAR@BO FK QEB I>QB P QEB PRMMIV @ROSB PEFCQBA LRQ  
QL QEB OFDEQ 7 FQE > EFDEIV FKBI>PQF@ AB J>KA @ROSB @LCCBB MOF@BP CBII AO>J>QF@>IIV <:HE8 > FIIRPQO>QBP QEFP  
PFRQ>QFLK

\$I>PQF@FQV >IPL OBSB>IP TEBQEBO CFO J P @>K M>PP EFDEBO @LPQP QE>Q QEBV FK@RO LK QL @LKPR J BOP AAF@QFSB PR?PQ>K@BP CLO  
TEF@E AB J>KA FP FKBI>PQF@ >OB MOLAR@QP CLO TEF@E MOLAR@BOP @>K M>PP EFDEBO @LPQP LK QL @LKPR J BOP %LO BU>JMIB QEB  
AB J>KA CLO @FD>OBQQBP FP OBI>QFSBIV FKBI>PQF@ >J LKD OBDRI>O P J LHBOP TEL >OB PL JBTE>Q >AAF@QBA \$@LKL J F@ OBPB>O@E  
PRDDBPQP QE>Q FK@OB>PFKD @FD>OBQQB MOF@BP ?V IB>AP QL >?LRQ > OBAR@QFLK FK QEB NR>KQFQV LC @FD>OBQQBP QE>Q >ARIQP  
P J LHB PL QEB BI>PQF@FQV LC AB J>KA CLO @FD>OBQQBP FP (C PL@FBQV FK@OB>PBP Q>UBP LK @L J M>KFBP QE>Q MOLAR@B @FD>OBQQBP  
QEB OBPRIQ THII ?B >P FK <:HE8 > QE>Q QEB PRMMIV @ROSB PEFCQP COL J 2 QL 2 'LTBSBO >P QEB BNRIF?OFR J JLSBP  
COL J \$ QL \$ DLSBOK JBKQP J>FKIV M>PP >ILKD QEBPB Q>UBP QL @LKPR J BOP FK QEB CLO J LC EFDEBO MOF@BP 3EBPB EFDEBO  
>UBP LK @FD>OBQQBP THII O>FPB Q>U OBSBKR B CLO QEB DLSBOK JBKQ ?RQ QEBV THII KLQ JR@E >CCB@Q QEB NR>KQFQV LC P J LHFKD

(C QEB DL>I FP QL OBAR@B QEB NR>KQFQV LC @FD>OBQQBP AB J>KABA TB JRQP >@EFBSB FQ ?V PEFCQFKD QEP FKBI>PQF@ AB J>KA  
>?@H QL QEB IBCQ MBOE>MP TFQE MR?IF@ MOLDO>J P QL AFP@LRO>DB @FD>OBQQB RPB LO QL EBIM MBLMIB QL NREQ %LO BU>JMIB  
>KQF P J LHFKD >ASBOQFPFKD @>J M>FDKP E>SB PELTK PL JB >?FIFQV QL OBAR@B P J LHFKD 'LTBSBO FC @FD>OBQQB AB J>KA TBOB  
JLOB BI>PQF@ >P FK <:HE8 ? QEBK >K FK@OB>PB FK Q>UBP QE>Q PEFCQP PRMMIV COL J 2 QL 2 >KA BNRIF?OFR J COL J \$  
QL \$ TLRIA OBAR@B QEB NR>KQFQV LC @FD>OBQQBP P J LHBA PR?PQ>KQF>IIV 8LRQE P J LHFKD PBB J P QL ?B JLOB BI>PQF@ QE>K >ARIQ  
P J LHFKD b QE>Q FP QEB NR>KQFQV LC VLRQE P J LHFKD THII C>II ?V > DOB>QBO MBO@BKQ>DB QE>K QEB NR>KQFQV LC >ARIQ P J LHFKD  
FK OBPMLKPB QL > DFSBK MBO@BKQ>DB FK@OB>PB FK MOF@B

<:HE8 (4FF<A:4?BA: <:;8E BF@F GB BAFH@8EF (FDEBO @LP@P IFHB > EFDEBO Q>U LK @FD>OB@QB @L J M>KFBP CLO QEB BU> J MIB TB D>SB FK QEB QBUQ IB>A PRMMIV QL PEFCQ QL QEB IBCQ 4EFP PEFCQ FP FABK@F@>I FK > >KA ? (LTBSBO FK > TEBOB AB J>KA FP FKBI>P@F@ @L J M>KFBP I>@DIV @>K M>PP QEB @LPQ FK@QB>PB >ILKD QL @LKPR J BOP FK QEB CLO J LC EFDEBO MOF@BP TF@ELRQ J R@E LC > AB@IFKB FK BNRFF?@FR J NR>K@F@V )K ? AB J>KA FP BI>P@F@ PL QEB PEFCQ FK PRMMIV OBPRIQ MOF J>@FV FK > ILTBO BNRFF?@FR J NR>K@F@V #LKPR J BOP PRCCBO FK BF@EBO @>PB ?RQ FK > QEBV PRCCBO COL J M>VFKD > EFDEBO MOF@B CLO QEB P> J B NR>K@F@V TEFHB FK ? QEBV PRCCBO COL J ?RVFKD > ILTBO NR>K@F@V >KA MOBPR J>?IV KBB@FKD QL PEFCQ QEBFO @LKPR J M@FLK BIPBTEBOB

### ?4FG<6<GL 4A7 ,4K !A6<78A68

3EB BU> J MIB LC @FD>OB@QB Q>UBP AB J LKPQ>QBA QE>Q ?B@>RPB AB J>KA FP FKBI>P@F@ Q>UBP >OB KLQ BCCB@QFSB >Q OBAR@FKD QEB BNRFF?@FR J NR>K@F@V LC P J LHFKD >KA QEBV J>FKIV M>PP >ILKD QL @LKPR J BOP FK QEB CLO J LC EFDEBO MOF@BP 3EB >K>IVPFP LO J>KKBO LC ELT > Q>U ?ROABK FP AFSFABA ?B@TBBK @LKPR J BOP >KA MOLAR@BOP FP @>HBA **tax incidence** 3VMF@>IIV QEB Q>U FK@FABK@B LO ?ROABK C>HIP ?LQE LK QEB @LKPR J BOP >KA MOLAR@BOP LC QEB Q>UBA DLLA ' LTBSBO FC LKB T>KQP QL MOBAF@Q TEF@E DOLRM TFIH ?B>O J LPQ LC QEB ?ROABK >II LKB KBBAP QL AL FP BU> J FKQ QEB BI>P@F@F@V LC AB J>KA >KA PRMMIV (K QEB QL?>@L BU> J MIB QEB Q>U ?ROABK C>HIP LK QEB J LPQ FKBI>P@F@ PFAB LC QEB J >OHBQ

(C AB J>KA FP J LOB FKBI>P@F@ QE>K PRMMIV @LKPR J BOP ?B>O J LPQ LC QEB Q>U ?ROABK >KA FC PRMMIV FP J LOB FKBI>P@F@ QE>K AB J>KA PBIIBOP ?B>O J LPQ LC QEB Q>U ?ROABK

3EB FKQRF@FLK CLO QEF@ FP PF J MIB 6 EBK QEB AB J>KA FP FKBI>P@F@ @LKPR J BOP >OB KLQ SBOV OBPMLK@FSB QL MOF@B @E>KDBP >KA QEB NR>K@F@V AB J>KABA OBAR@BP LKIV J LABP@V TEBK QEB Q>U FP FKQ@LAR@BA (K QEB @>PB LC P J LHFKD QEB AB J>KA FP FKBI>P@F@ ?B@>RPB @LKPR J BOP >OB >AAF@QBA QL QEB MOLAR@Q 3EB DLSBOK J BKQ @>K QEBK M>PP QEB Q>U ?ROABK >ILKD QL @LKPR J BOP FK QEB CLO J LC EFDEBO MOF@BP TF@ELRQ J R@E LC > AB@IFKB FK QEB BNRFF?@FR J NR>K@F@V

2F J FI>OIV TEBK > DLSBOK J BKQ FKQ@LAR@BP > Q>U FK > J >OHBQ TF@E >K FKBI>P@F@ PRMMIV PR@E >P CLO BU> J MIB ?B>@ECOLKQ ELQ@BIP >KA PBIIBOP E>SB KL >IQBOK>QFSB QE>K QL >@BMQ ILTBO MOF@BP CLO QEBFO ?RPFKBPP Q>UBP AL KLQ DOB>QIV >CCB@Q QEB BNRFF?@FR J NR>K@F@V 3EB Q>U ?ROABK KLT M>PPBP LK QL QEB PBIIBOP (C QEB PRMMIV T>P BI>P@F@ >KA PBIIBOP E>A QEB MLPPF?F@F@V LC OBLQD>KFWFKD QEBFO ?RPFKBPPBP QL >SLFA PRMMIVFKD QEB Q>UBA DLLA QEB Q>U ?ROABK LK QEB PBIIBOP TLRIA ?B J R@E P J >IIBO 3EB Q>U TLRIA OBPRIQ FK > J R@E ILTBO NR>K@F@V PLIA FK@QB>A LC ILTBO MOF@BP OB@BFSBA <:HE8 FIIRPQ>QBP QEF@ OBI>QFLKPEFM ?B@TBBK QEB Q>U FK@FABK@B >KA BI>P@F@F@V LC AB J>KA >KA PRMMIV

<:HE8 24F@6<GL 4A7 ,4K !A6<78A68 ! K BU@FPB Q>U FK@QLAR@BP > TBADB ?B@TBBK QEB MOF@B M>FA ?V @LKPR J BOP O@ >KA QEB MOF@B OB@BFSBA ?V MOLAR@BOP OM 4EB SBO@F@>I AFP@>K@B ?B@TBBK O@ >KA OM FP QEB > J LRKQ LC QEB Q>U MBO RK@F@ OB FP QEB BNR@F@?@FR J MOF@B MOF@LO QL FK@QLAR@Q@FLK LC QEB Q>U > 7 EBK QEB AB J >KA FP J LOB BI>P@f@ Q@E>K PRMMIV QEB Q>U FK@FABK@B LK @LKPR J BOP O@ ^ OB FP ILTBO Q@E>K QEB Q>U FK@FABK@B LK MOLAR@BOP OB ^ OM ? 7 EBK QEB PRMMIV FP J LOB BI>P@f@ Q@E>K AB J >KA QEB Q>U FK@FABK@B LK @LKPR J BOP O@ ^ OB FP I>@DBO Q@E>K QEB Q>U FK@FABK@B LK MOLAR@BOP OB ^ OM 4EB J LOB BI>P@f@ QEB AB J >KA >KA PRMMIV @ROSBP QEB ILTBO QEB Q>U OBSBKR

(K <:HE8 > QEB PRMMIV FP FKBI>P@f@ >KA QEB AB J >KA FP BI>P@f@ PR@E >P FK QEB BU> J MIB LC ?B>@ECOLKQ ELQBIP 6 EFIB @LKPR J BOP J >V E>SB LQEB O S>@>Q@FLK @ELF@BP PBIIBOP @>KdQ B>P@FIV JLSB QEBFO ?RPFKBPPBP !V FK@QLAR@FKD > Q>U QEB DLSBOK J BKQ BPPBKQ>IIV @OB>QB P > TBADB ?B@TBBK QEB MOF@B M>FA ?V @LKPR J BOP /@ >KA QEB MOF@B OB@BFSBA ?V MOLAR@BOP /M (K LQEB O TLOAP LC QEB QLQ>I MOF@B M>FA ?V @LKPR J BOP M>OQ FP OBQ>FKBA ?V QEB PBIIBOP >KA M>OQ FP M>FA QL QEB DLSBOK J BKQ FK QEB CLO J LC > Q>U 3EB AFP@>K@B ?B@TBBK /@ >KA /M FP QEB Q>U O>QB 3EB KBT J >OHBQ MOF@B FP /@ ?RQ PBIIBOP OB@BFSB LKIV /M MBO RK@F@ PLIA >P QEBV M>V /@ /M QL QEB DLSBOK J BKQ 2FK@B TB @>K SFBT > Q>U >P O>FPFKD QEB @LPQP LC MOLAR@Q@FLK QEFP @LRIA >IPL ?B OMB@BPKQBA ?V > IBC@T>O@ PEF@C LC QEB PRMMIV @ROSB TEB@B QEB KBT PRMMIV @ROSB TLRIA FK@Q@B@BMQ QEB AB J >KA >Q QEB KBT NR>K@F@V OQ %LO PF J MIF@F@V <:HE8 L J FQP QEB PEF@C FK QEB PRMMIV @ROSB

3EB Q>U OBSBKR FP DFSBK ?V QEB PE>ABA >OB> TEF@E TB L?>FK ?V J RI@FMIVFKD QEB Q>U MBO RK@F@ ?V QEB QLQ>I NR>K@F@V PLIA OQ 3EB Q>U FK@FABK@B LK QEB @LKPR J BOP FP DFSBK ?V QEB AFCCB@B@B ?B@TBBK QEB MOF@B M>FA /@ >KA QEB FK@F@>I BNR@F@?@FR J MOF@B /B 3EB Q>U FK@FABK@B LK QEB PBIIBOP FP DFSBK ?V QEB AFCCB@B@B ?B@TBBK QEB FK@F@>I BNR@F@?@FR J MOF@B /B >KA QEB MOF@B QEBV OB@BFSB >C@BO QEB Q>U FP FK@QLAR@BA /M (K <:HE8 > QEB Q>U ?ROABK C>IIP AFP@M@L@Q@FLK>QBIV LK QEB PBIIBOP >KA > I>@DBO M@L@M@L@Q@FLK LC QEB Q>U OBSBKR QEB PE>ABA >OB> FP ARB QL QEB OB@P@RI@FKD ILTBO MOF@B OB@BFSBA ?V QEB PBIIBOP Q@E>K ?V QEB OB@P@RI@FKD EFDEBO MOF@BP M>FA ?V QEB ?RVBOP <:HE8 ? ABP@OF?BP QEB BU> J MIB LC QEB QL?>@L BU@FPB Q>U TEB@B QEB PRMMIV FP J LOB BI>P@f@ Q@E>K AB J >KA 3EB Q>U FK@FABK@B KL T C>IIP AFP@M@L@Q@FLK>QBIV LK @LKPR J BOP >P PELTK ?V QEB I>@DB AFCCB@B@B ?B@TBBK QEB MOF@B QEBV M>V /@ >KA QEB FK@F@>I BNR@F@?@FR J MOF@B /B 2BIBOP OB@BFSB > ILTBO MOF@B Q@E>K ?B@C@B QEB Q>U ?RQ QEFP AFCCB@B@B FP J R@E P J >IIBO Q@E>K QEB @E>KDB FK @LKPR J BOP MOF@B %@L J QEFP >K>IVPFP LKB @>K >IPL M@BAF@Q TEB@B@B > Q>U FP IFHBIV QL @OB>QB > I>@DB OBSBKR LO KLQ 3EB J LOB BI>P@f@ QEB AB J >KA @ROSB QEB J LOB IFHBIV Q@E>Q @LKPR J BOP TFII OBAR@B NR>K@F@V FKPQ>A LC M>VFKD EFDEBO MOF@BP 3EB J LOB BI>P@f@ QEB PRMMIV @ROSB QEB J LOB IFHBIV Q@E>Q PBIIBOP TFII OBAR@B QEB NR>K@F@V PLIA FKPQ>A LC Q>HF@K ILTBO MOF@BP (K > J >OHBQ TEB@B ?LQE QEB AB J >KA >KA PRMMIV >OB SBOV BI>P@f@ QEB F J M@L@P@FLK LC >K BU@FPB Q>U DBKBO>QB ILT OBSBKR

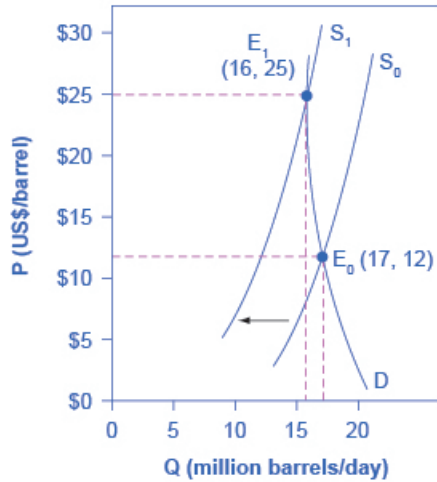
2L J B ?BIFBSB Q@E>Q BU@FPB Q>UBP EROQ J >FKIV QEB PMB@FCF@ FKARP@Q@FBP QEBV Q>@DBQ %LO BU> J MIB QEB J BAF@>I ABSF@B BU@FPB Q>U FK BCCB@Q PFK@B E>P ?BBK @LK@LSB@P@>I CLO FQ @>K ABI>V FKARP@Q@V M@L@C@F@>?F@F@V >KA QEB@B@C@B@B E> J MBO P@>OQ RMP >KA J BAF@>I FKKLS>@FLK ' L TBSBO TEB@B@B QEB Q>U ?ROABK C>IIP J LP@IV LK QEB J BAF@>I ABSF@B FKARP@Q@V LO LK QEB M>Q@B@K@P ABMBK@P PF J MIV LK QEB BI>P@f@F@V LC AB J >KA >KA PRMMIV

**\$BA: \*HA IF +; BEG \*HA !@C46G**

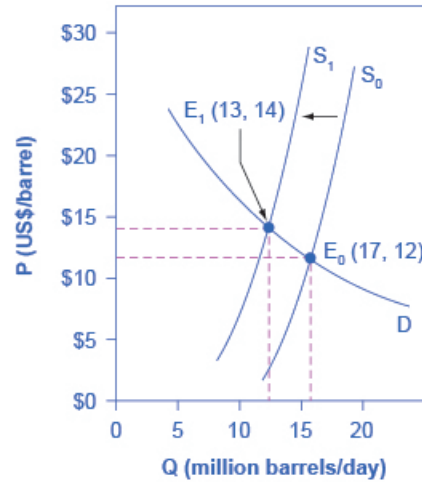
\$I>P@f@F@FBP >OB LC@B@K ILTBO FK QEB PELOQ ORK Q@E>K FK QEB ILKD ORK . K QEB AB J >KA PFAB LC QEB J >OHBQ FQ @>K PL J B@F J BP ?B AFCC@RIQ QL @E>KDB O A FK QEB PELOQ ORK ?RQ B>P@FB@B FK QEB ILKD ORK " LKPR J M@FLK LC BKBODV FP > @IB>O BU> J MIB (K QEB PELOQ ORK FQ FP KLQ B>PV CLO > M@B@PLK QL J >HB PR?P@>K@F@>I @E>KDB@B FK BKBODV @LKPR J M@FLK , >V?B VLR @>K @>O@LLI QL TLOH PL J B@F J BP LO >AGRP@V L@RO EL J B QEB O J LP@Q ?V > CBT ABD@B@B FC QEB @LP@ LC BKBODV OF@BP ?RQ Q@E>Q FP >?LRQ >II

'LTBSBO FK QEB ILKD ORK VLR @>K MRO@E>PB > @>0 QE>Q DBQP J LOB J FIBP QL QEB D>IILK @ELLPB > GL? QE>Q FP @ILPBO QL TEBOB VLR IFSB ?RV J LOB BKBODV BCCF@FBKQ EL J B >MMIF>K@BP LO FK PQ>II J LOB FKPRI>QLK FK VLR0 EL J B P > OBPRIQ QEB BI>P@F@FV LC AB J >KA CLO BKBODV FP PL J BTE>Q FKBI>P@F@ FK QEB PELOQ ORK ?RQ J R@E J LOB BI>P@F@ FK QEB ILKD ORK

<:HE8 FP >K BU>J MIB ?>PBA OLRDEIV LK EFPQL@>I BUMBOFBK@B CLO QEB OBPLKPFBSKBPP LC OA QL MOF@B @E>KDBP (K QEB MOF@B LC @ORAB LFI T>P MBO ?>00BI >KA QLQ>I @LKPR J MQFLK FK QEB 4 2 B@LKL J V T>P J FIIFLK ?>00BIP MBO A>V 3E>Q VB>0 QEB K>QLKP TEL TBOB J B J ?BOP LC QEB .OD>KFW>QLK LC /BQOLIBR J \$UMLQFKD "LRKQOFBP . / \$" @RQ LCC LFI BUMLOQP QL QEB 4KFQBA 2Q>QBP CLO PFU J LKQEP ?B@>RPB QEB 0>? J B J ?BOP LC . / \$" AFP>DOBBA TFQE QEB 4 2 PRMMLQ CLO (PO>BI . / \$" AFA KLQ ?OFKD BUMLOQP ?>@H QL QEBFO B>OIFBO IBSBIP RKQFI b > MLIF@V QE>Q TB @>K FKQBOMOBQ >P > PEFCQ LC QEB PRMMIV @ROSB QL QEB IBCQ FK QEB 4 2 MBQOLIBR J J >OHBQ <:HE8 > >KA <:HE8 ? PELT QEB P>J B LOFDFK>I BNRIF?OFR J MLFKQ >KA QEB P>J B FABKQF@>I PEFCQ LC > PRMMIV @ROSB QL QEB IBCQ COL J 2 QL 2



(a)



(b)

<:HE8 B J 4 + ;<@ <A +HCC?L 4A 9986G (E<68 BE )H4AG<GL 4EB FKQBOPB@QLK % ?BQTBBK AB J>KA @ROSB \$ >KA PRMMIV @ROSB 3 FP QEB P>J B FK ?LQE > >KA ? 4EB PEFCQ LC PRMMIV QL QEB IBCQ COL J 3 QL 3 FP FABKQF@>I FK ?LQE > >KA ? 4EB KBT BNRIF?OFR J % E>P > EFDEBO MOF@B >KA > ILTBO NR>KQFQV QE>K QEB LOFDFK>I BNRIF?OFR J % FK ?LQE > >KA ? (LTBSBO QEB PE>MB LC QEB AB J>KA @ROSB \$ FP AFCCBQBKQ FK > >KA ? ?BFKD J LOB BI>P@F@ FK ? QE>K FK > !P > OBPRIQ QEB PEFCQ FK PRMMIV @>K OBPRIQ B@QEBO FK > KBT BNRIF?OFR J TFQE > J R@E EFDEBO MOF@B >KA >K LKIV PIFDEQIV P J >IIBO NR>KQFQV >P FK > TFQE J LOB FKBI>P@F@ AB J>KA LO FK > KBT BNRIF?OFR J TFQE LKIV > P J >II FK@OB>PB FK MOF@B >KA > OBI>QFSBIV I>ODBO OBAR@QLK FK NR>KQFQV >P FK ? TFQE J LOB BI>P@F@ AB J>KA

<:HE8 > PELTP FKBI>P@F@ AB J>KA CLO LFI FK QEB PELOQ ORK PF J FI>0 QL QE>Q TEF@E BUFPQBA CLO QEB 4KFQBA 2Q>QBP FK (K <:HE8 > QEB KBT BNRIF?OFR J \$ L@>ROP >Q > MOF@B LC MBO ?>00BI OLRDEIV ALR?IB QEB MOF@B ?BCLOB QEB . / \$" PEL@H >KA >K BNRIF?OFR J NR>KQFQV LC J FIIFLK ?>00BIP MBO A>V <:HE8 ? PELTP TE>Q QEB LRQ@L J B TLRIA E>SB ?BBK FC QEB 4 2 AB J>KA CLO LFI E>A ?BBK J LOB BI>P@F@ > OBPRIQ J LOB IFHBIV LSBO QEB ILKD QBO J 3EFP >IQBOK>QFSB BNRIF?OFR J \$ TLRIA E>SB OBPRIQBA FK > P J >IIBO MOF@B FK@OB>PB QL MBO ?>00BI >KA I>ODBO OBAR@QLK FK BNRIF?OFR J NR>KQFQV QL J FIIFLK ?>00BIP MBO A>V (K CLO BU>J MIB 4 2 MBQOLIBR J @LKPR J MQFLK T>P J FIIFLK ?>00BIP >A>V TEF@E T>P ILTBO QE>K FK LO 4 2 MBQOLIBR J @LKPR J MQFLK T>P ALTK BSBK QELRDE QEB 4 2 B@LKL J V T>P >?LRQ LKB CLROQE I>ODBO FK QE>K FQ E>A ?BBK FK 3EB MOF J >OV OB>PLK CLO QEB ILTBO NR>KQFQV T>P QE>Q EFDEBO BKBODV MOF@BP PMROOBA @LKPBO>S>QLK BCCLQOP >KA >CQBO > AB@>AB LC EL J B FKPRI>QLK J LOB CRBI BCCF@FBKQ @>OP J LOB BCCF@FBKQ >MMIF>K@BP >KA J >@EFKBOV >KA LQEB0 CRBI @LKPBO>SFKD @ELF@BP QEB AB J>KA @ROSB CLO BKBODV E>A ?B@L J B J LOB BI>P@F@

. K QEB PRMMIV PFAB LC J >OHBQP MOLAR@BOP LC DLLAP >KA PBOSF@BP QVMF@>IIV CFKA FQ B>PFBO QL BUM>KA MOLAR@QLK FK QEB ILKD QBO J LC PBSBO>I VB>OP 0>QEBO QE>K FK QEB PELOQ ORK LC > CBT J LKQEP CQBO >II FK QEB PELOQ ORK FQ @>K ?B @LPQIV LO AFCCF@RIQ QL ?RFIA > KBT C>@QLQV EFOB J >KV KBT TLOHBOP LO LMBK KBT PQLOBP 'LTBSBO LSBO > CBT VB>OP >II LC QEBPB >OB MLPPF?IB

(K JLPQ J >OHBQP CLO DLLAP >KA PBOSF@BP MOF@BP ?LRK@B RM >KA ALTK J LOB QE>K NR>KQFQFBP FK QEB PELOQ ORK ?RQ NR>KQFQFBP LCQBK JLSB J LOB QE>K MOF@BP FK QEB ILKD ORK 3EB RKABOIVFKD OB>PLK CLO QEFP M>QQBOK FP QE>Q PRMMIV >KA AB J>KA >OB LCQBK FKBI>P@F@ FK QEB PELOQ ORK PL QE>Q PEFCQ FK B@QEBO AB J>KA LO PRMMIV @>K @>RPB > OBI>QFSBIV DOB>QBO

@E>KDB FK MOF@BP ' LTBSBO PFK@B PRMMIV >KA AB J >KA >OB J LOB BI>PQF@ FK QEB ILKD ORK QEB ILKD ORK J LSB J BKQP FK MOF@BP >OB J LOB J RQBA TEFIB NR>KQFQV >AGRPQP J LOB B>PFIV FK QEB ILKD ORK

## N ?4FG<6<GL <A E84F ' G ; 8E , ; 4A (E<68

! V QEB BKA LC QEF@PB@QFLK VLR TFII ?B >?IB QL

- d " >I@RI>QB QEB FK@L J B BI>PQF@FV LC AB J >KA >KA QEB @OLPP MOF@B BI>PQF@FV LC AB J >KA
- d " >I@RI>QB QEB BI>PQF@FV FK I->?LO >KA CFK>K@F>I @>MF>I J >OHBQP QEOLRDE >K RKABOPQ>KAFKD LC QEB BI>PQF@FV LC I->?LO PRMMIV >KA QEB BI>PQF@FV LC P>SFKDP
- d MMIV @LK@BMQP LC MOF@B BI>PQF@FV QL OB>I TLOIA PFQR>QFLKP

3EB ?>PF@ FAB> LC BI>PQF@FV b ELT > MBO@BKQ>DB @E>KDB FK LKB S>OF>?IB @>RPBP > MBO@BKQ>DB @E>KDB FK >KLQEBO S>OF>?IB b ALBP KLQ GRPQ >MMIV QL QEB OBPMLKPF@SBKBP NR>KQFQV PRMMIFBA >KA NR>KQFQV AB J >KABA QL @E>KDB FK QEB MOF@B LC > MOLAR@Q 1B@>II QE>Q NR>KQFQV AB J >KABA OA ABMBKAP LK FK@L J B Q>PQBP >KA MOBCBOBK@BP QEB MOF@BP LC OBI>QBA DLLAP >KA PL LK >P TBII >P MOF@B 2F J FI>OIV NR>KQFQV PRMMIFBA OP ABMBKAP LK C>@QLOP PR@E >P QEB @LPQ LC MOLAR@QFLK >P TBII >P MOF@B 6B @>K J B>PROB BI>PQF@FV CLO >KV ABQBO J FK>KQ LC NR>KQFQV PRMMIFBA >KA NR>KQFQV AB J >KABA KLQ GRPQ QEB MOF@B

## !A6B@8 ?4FG<6<GL B9 8@4A7

3EB FK@L J B BI>PQF@FV LC AB J >KA FP QEB MBO@BKQ>DB @E>KDB FK NR>KQFQV AB J >KABA AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK FK@L J B

$$\text{Income elasticity of demand} = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in income}}$$

%LO J LPQ MOLAR@QP J LPQ LC QEB QF J B QEB FK@L J B BI>PQF@FV LC AB J >KA FP MLPQFSB QE>Q FP > OFPB FK FK@L J B TFII @>RPB >K FK@OB>PB FK QEB NR>KQFQV AB J >KABA 3EFP M>QQBOK FP @L J J LK BKL RDE QE>Q TB OBCBO QL QEBPB DLLAP >P KLO J >I DLLAP ' LTBSBO CLO > CBT DLLAP >K FK@OB>PB FK FK@L J B J B>KP QE>Q LKB J FDEQ MRO@E>PB IBPP LC QEB DLLA %LO BU> J MIB QELPB TFQE > EFDEBO FK@L J B J FDEQ ?RV CBTBO E> J ?RODBOP ?B@>RPB QEBV >OB ?RVFKD J LOB PQB>H FKPQB>A LO QELPB TFQE > EFDEBO FK@L J B J FDEQ ?RV IBPP @E>M TFKB >KA J LOB F J MLOQBA ?BBO 6 EBK QEB FK@L J B BI>PQF@FV LC AB J >KA FP KBD>QFSB TB @>II QEB DLLA >K FKCB@FLO DLLA

6B FK@LAR@BA QEB @LK@BMQP LC KLO J >I >KA FKCB@FLO DLLAP FK 8@4A7 4A7 +HCC?L EFDEBO IBSBI LC FK@L J B @>RPBP > AB J >KA @ROSB QL PEFQ QL QEB OFDEQ CLO > KLO J >I DLLA TEF@E J B>KP QE>Q QEB FK@L J B BI>PQF@FV LC AB J >KA FP MLPQFSB ' LT C>O QEB AB J >KA PEFQ ABMBKAP LK QEB FK@L J B BI>PQF@FV LC AB J >KA EFDEBO FK@L J B BI>PQF@FV J B>KP > I>ODB PEFQ ' LTBSBO CLO >K FKCB@FLO DLLA QE>Q FP TEBK QEB FK@L J B BI>PQF@FV LC AB J >KA FP KBD>QFSB > EFDEBO IBSBI LC FK@L J B TLRIA @>RPB QEB AB J >KA @ROSB CLO QE>Q DLLA QL PEFQ QL QEB IBQ D>FK ELT J R@E FQ PEFQ ABMBKAP LK ELT I>ODB QEB KBD>QFSB FK@L J B BI>PQF@FV FP

## EBFF (E<68 ?4FG<6<GL B9 8@4A7

@E>KDB FK QEB MOF@B LC LKB DLLA @>K PEFQ QEB NR>KQFQV AB J >KABA CLO >KLQEBO DLLA (C QEB QTL DLLAP >OB @L J MIB J BKQP IFHB ?OB>A >KA MB>KRQ ?RQBO QEBK > AOLM FK QEB MOF@B LC LKB DLLA TFII IB>A QL >K FK@OB>PB FK QEB NR>KQFQV AB J >KABA LC QEB LQEBO DLLA ' LTBSBO FC QEB QTL DLLAP >OB PR?PQFQRQB IFHB MI>KB QF@HBQP >KA QO>FK QF@HBQP QEBK > AOLM FK QEB MOF@B LC LKB DLLA TFII @>RPB MBLMIB QL PR?PQFQRQB QL T>OA QE>Q DLLA >KA QL OBAR@B @LKPR J MQFLK LC QEB LQEBO DLLA " EB>MBO MI>KB QF@HBQP IB>A QL CBTBO QO>FK QF@HBQP >KA SF@B SBOP>

3EB **cross-price elasticity of demand** MRQP PL J B J B>Q LK QEB ?LKB LC QEBPB FAB>P 3EB QBO J e@OLPP MOF@Bf OBCBOP QL QEB FAB> QE>Q QEB MOF@B LC LKB DLLA FP >CCB@QFKD QEB NR>KQFQV AB J >KABA LC > AFCCBOBKQ DLLA 2MB@FCF@>IIV QEB @OLPP MOF@B BI>PQF@FV LC AB J >KA FP QEB MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV LC DLLA QE>Q FP AB J >KABA >P > OBPRIQ LC > MBO@BKQ>DB @E>KDB FK QEB MOF@B LC DLLA !

$$\text{Cross-price elasticity of demand} = \frac{\% \text{ change in } Q_d \text{ of good A}}{\% \text{ change in price of good B}}$$

2R?PQFQRQB DLLAP E>SB MLPQFSB @OLPP MOF@B BI>PQF@FQFBP LC AB J >KA FC DLLA FP > PR?PQFQRQB CLO DLLA ! IFHB @LCCBB >KA QB> QEBK > EFDEBO MOF@B CLO ! TFII J B>K > DOB>QBO NR>KQFQV @LKPR J BA LC " L J MIB J BKQ DLLAP E>SB KBD>QFSB @OLPP MOF@B BI>PQF@FQFBP FC DLLA FP > @L J MIB J BKQ CLO DLLA ! IFHB @LCCBB >KA PRD>O QEBK > EFDEBO MOF@B CLO ! TFII J B>K >

ILTB0 NR>KQFQV @LKPR J BA LC

**?4FG<6<GL <A \$45BE 4A7 <A4A6<4? 4C<G4? %4E>8GF**

3EB @LK@BMQ LC BI>PQF@FQV >MMIFBP QL >KV J>OHBQ KLQ GRPQ J>OHBQP CLO DLLAP >KA PB0SF@BP (K QEB I>?LO J>OHBQ CLO BU>J MIB QEB **wage elasticity of labor supply** b QE>Q FP QEB MBO@BKQ>DB @E>KDB FK ELROP TLOHBA AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK T>DBP b TFII OBCIB@Q QEB PE>MB LC QEB I>?LO PRMMIV @ROSB 2MB@FCF@>IIV

$$\text{Elasticity of labor supply} = \frac{\% \text{ change in quantity of labor supplied}}{\% \text{ change in wage}}$$

3EB T>DB BI>PQF@FQV LC I>?LO PRMMIV CLO QBBK>DB TLOHBOP FP DBKB0>IIV C>FOIV BI>PQF@ QE>Q FP > @B0Q>FK MBO@BKQ>DB @E>KDB FK T>DBP TFII IB>A QL > I>ODBO MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV LC ELROP TLOHBA "LKSBOBPBIV QEB T>DB BI>PQF@FQV LC I>?LO PRMMIV CLO >ARIQ TLOHBOP FK QEBFO QEFQFBP >KA CLOQFBP FP C>FOIV FKBI>PQF@ 6 EBK T>DBP J LSB RM LO ALTK ?V > @B0Q>FK MBO@BKQ>DB > J LRKQ QEB NR>KQFQV LC ELROP QE>Q >ARIQP FK QEBFO MOF J B B>OKFKD VB>OP >OB TFIIFKD QL PRMMIV @E>KDBP ?RQ ?V > IBPPBO MBO@BKQ>DB > J LRKQ

(K J>OHBQP CLO CFK>K@F>I @>MFQ>I QEB **elasticity of savings** b QE>Q FP QEB MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV LC P>SFKDP AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK FKQB0BPQ O>QB P TFII ABP@OF?B QEB PE>MB LC QEB PRMMIV @ROSB CLO CFK>K@F>I @>MFQ>I 3E>Q FP

$$\text{Elasticity of savings} = \frac{\% \text{ change in quantity of financial savings}}{\% \text{ change in interest rate}}$$

2L J BQF J BP I>TP >OB MOLMLPBA QE>Q PBBH QL FK@OB>PB QEB NR>KQFQV LC P>SFKDP ?V LCCB0FKD Q>U ?OB>HP PL QE>Q QEB OBQROK LK P>SFKDP FP EFDEBO 2R@E > MLIF@V TFII E>SB > @L J M>O>QFSBIV I>ODB F J M>@Q LK FK@OB>PFKD QEB NR>KQFQV P>SBA FC QEB PRMMIV @ROSB CLO CFK>K@F>I @>MFQ>I FP BI>PQF@ ?B@>RPB QEBK > DFSBK MBO@BKQ>DB FK@OB>PB FK QEB OBQROK QL P>SFKDP TFII @>RPB > EFDEBO MBO@BKQ>DB FK@OB>PB FK QEB NR>KQFQV LC P>SFKDP ' LTBSBO FC QEB PRMMIV @ROSB CLO CFK>K@F>I @>MFQ>I FP EFDEIV FKBI>PQF@ QEBK > MBO@BKQ>DB FK@OB>PB FK QEB OBQROK QL P>SFKDP TFII @>RPB LKIV > P J >II FK@OB>PB FK QEB NR>KQFQV LC P>SFKDP 3EB BSFABK@B LK QEB PRMMIV @ROSB LC CFK>K@F>I @>MFQ>I FP @LKQ0LSBOPF>I ?RQ >Q IB>PQ FK QEB PELOQ ORK QEB BI>PQF@FQV LC P>SFKDP TFQE OBPMB@Q QL QEB FKQB0BPQ O>QB >MMB>OP C>FOIV FKBI>PQF@

**KC4A7<A: 6;8 BA68CG B9 ?4FG<6<GL**

3EB BI>PQF@FQV @LK@BMQ ALBP KLQ BSBK KBBA QL OBI>QB QL > QVMF@>I PRMMIV LO AB J >KA @ROSB >Q >II %LO BU>J MIB F J >DFKB QE>Q VLR >OB PQRAVFKD TEBQEBO QEB (KQBOK>I 1BSBKRB 2B0SF@B PELRIA PMBKA J LOB J LKBV LK >RAVFKD Q>U OBQROK 6B @>K CO>J B QEB NRBPQFLK FK QBO J P LC QEB BI>PQF@FQV LC Q>U @LIIB@QLKP TFQE OBPMB@Q QL PMBKAFKD LK Q>U BKCL0@B J BKQ QE>Q FP TE>Q FP QEB MBO@BKQ>DB @E>KDB FK Q>U @LIIB@QLKP ABOFSBA COL J > DFSBK MBO@BKQ>DB @E>KDB FK PMBKAFKD LK Q>U BKCL0@B J BKQ

6 FQE >II LC QEB BI>PQF@FQV @LK@BMQ QE>Q TB E>SB GRPQ ABP@OF?BA PL J B LC TEF@E >OB FK **,45?8** QEB MLPPF?FIFQV LC @LKCRPFLK >OFPBP 6 EBK VLR EB>O QEB ME0>PBP eBI>PQF@FQV LC AB J >KA f LO eBI>PQF@FQV LC PRMMIV f QEBV OBCBO QL QEB BI>PQF@FQV TFQE OBPMB@Q QL MOF@B 2L J BQF J BP BFQEBO QL ?B BUQOB J BIV @IB>O LO ?B@>RPB B@LKL J FPQP >OB AFP@RPPFKD > TFAB S>OFBQV LC BI>PQF@FQVBP TB TFII @>II QEB BI>PQF@FQV LC AB J >KA LO QEB AB J >KA BI>PQF@FQV QEB MOF@B BI>PQF@FQV LC AB J >KA LO QEB eBI>PQF@FQV LC AB J >KA TFQE OBPMB@Q QL MOF@B f 2F J FI>OIV B@LKL J FPQP PL J BQF J BP RPB QEB QBO J BI>PQF@FQV LC PRMMIV LO QEB PRMMIV BI>PQF@FQV QL >SLFA >KV MLPPF?FIFQV LC @LKCRPFLK QEB MOF@B BI>PQF@FQV LC PRMMIV LO eQEB BI>PQF@FQV LC PRMMIV TFQE OBPMB@Q QL MOF@B f ' LTBSBO FK TE>QBSBO @LKQBUQ QEB FAB> LC BI>PQF@FQV >IT>VP OBCBOP QL MBO@BKQ>DB @E>KDB FK LKB S>OF>?IB >I J LPQ >IT>VP > MOF@B LO J LKBV S>OF>?IB >KA ELT FQ @>RPBP > MBO@BKQ>DB @E>KDB FK >KLQEBO S>OF>?IB QVMF@>IIV > NR>KQFQV S>OF>?IB LC PL J B HFKA

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$$\text{Income elasticity of demand} = \frac{\% \text{ change in } Q_d}{\% \text{ change in income}}$$

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$$\text{Cross-price elasticity of demand} = \frac{\% \text{ change in } Q_d \text{ of good A}}{\% \text{ change in price of good B}}$$


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**,45?8** &LO J RI>P CLO #>I@RI>QFKD %I>PQF@FQV

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$$\text{Wage elasticity of labor supply} = \frac{\% \text{ change in quantity of labor supplied}}{\% \text{ change in wage}}$$


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$$\text{Wage elasticity of labor demand} = \frac{\% \text{ change in quantity of labor demanded}}{\% \text{ change in wage}}$$


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$$\text{Interest rate elasticity of savings} = \frac{\% \text{ change in quantity of savings}}{\% \text{ change in interest rate}}$$


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$$\text{Interest rate elasticity of borrowing} = \frac{\% \text{ change in quantity of borrowing}}{\% \text{ change in interest rate}}$$


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,45?8 &L0 J RI>P CLO #>I@RI>QFKD %I>P@F@QV

# Bring it Home

, ;4G / <?? 8 BJ %H6;

(LT AFA QEB MOF@B FK@OB>PB FK BKA RM CLO . BQCIFU )Q E>P ?BBK > SBOV ?R J MV OFAB

"B@CLOB QEB MOF@B FK@OB>PB QEB@B TBOB >?LRQ J FIFLK 5 3 PR?P@OF?BOP !CQBO QEB MOF@B FK@OB>PB  
 FKCR@F>QBA 5 3 @LKPR J BOP @>K@BIBA QEBFO . BQCIFU PR?P@OF@M@FLKP AOLMMFKD QEB QLQ>I KR J ?BO LC PR?P@OF?BOP QL  
 J FIFLK &>PQ CLOT>QA QL \*RKB TEBK QEB@B TBOB J FIFLK PQOB>JFKD . BQCIFU PR?P@OF?BOP FK QEB  
 5K@QBA 3Q>QBP 4EFP T>P >K FK@OB>PB LC J FIFLK PR?P@OF?BOP PFK@B QEB MOF@B FK@OB>PB \_>K >SBO>DB MBO  
 NR>OQBO DOLTQE LC >?LRQ J FIFLK 4EFP DOLTQE FP IBPP QE>K QEB J FIFLK MBO NR>OQBO FK@OB>PBP . BQCIFU  
 BUMBOFBK@BA FK QEB CLROQE NR>OQBO LC >KA QEB CFOPQ NR>OQBO LC

\$ROFKD QEB CFOPQ VB>O >CQBO QEB MOF@B FK@OB>PB QEB CFO J aP PQL@H MOF@B > JB>PROB LC CRQROB BUMB@Q>QLKP CLO QEB  
 CFO J CBII COL J >?LRQ MBO PE>OB MBO PE>OB QL GRPQ RKABO "V QEB BKA LC ELTBSBO QEB PQL@H  
 MOF@B T>P >Q MBO PE>OB 4LA>V . BQCIFU E>P J LOB QE>K J FIFLK PR?P@OF?BOP J FIFLK PR?P@OF?BOP FK CFQV  
 @LRKQ@FBP

7E>Q E>MMBKBA / ?SFLRPV . BQCIFU @LJM>KV LCCF@F>IP RKABOQLLA QEB I>T LC AB J>KA #LJM>KV LCCF@F>IP  
 OBML@QBA TEBK >KKLRK@FKD QEB MOF@B FK@OB>PB QEFP @LRIA OBPRIQ FK QEB ILPP LC >?LRQ BUFP@FKD  
 PR?P@OF?BOP 5P@KD QEB BI>P@F@QV LC AB J>KA CLO J RI> FQ FP B>PV QL PBB @LJM>KV LCCF@F>IP BUMB@QBA >K FKBI>P@F@  
 OBPMLKPB

$$= \frac{-600,000 / [(24 \text{ million} + 24.6 \text{ million}) / 2]}{\$6 / [(\$10 + \$16) / 2]}$$

$$= \frac{-600,000 / 24.3 \text{ million}}{\$6 / \$13}$$

$$= \frac{-0.025}{0.46}$$

$$= -0.05$$

)K >AA@FLK . BQCIFU LCCF@F>IP E>A >K@F@FM>QBA QEB MOF@B FK@OB>PB TLRIA E>SB IFQQIB FJM>@Q LK >QQ>@QFKD KBT  
 @RPQL J BOP . BQCIFU >K@F@FM>QBA >AA@KD RM QL J FIFLK KBT PR?P@OF?BOP FK QEB QEFOA NR>OQBO LC )Q FP QORB  
 QEFP T>P PILTBO DOLTQE QE>K QEB CFO J E>A BUMBOFBK@BA \_>?LRQ J FIFLK MBO NR>OQBO

7EV T>P QEB BP@F J >QB LC @RPQL J BOP IB>SFKD PL C>O LCC )K QEB J LOB QE>K QTL AB@>ABP PFK@B . BQCIFU E>A ?BBK  
 CLRKABA QEB@B T>P >K FK@OB>PB FK QEB KR J ?BO LC @ILPB ?RQ KLQ MB@CB@Q PR?P@OF@R@BP #LKPR J BOP KLT E>A  
 @ELF@BP O>KDFKD COL J 6RAR ! J>WLK OOF JB (RIR >KA 2BA?LU QL OBQ>FI PQL@BP \*>F JB 7B@K J>K OBML@QBA FK  
*Macleans* QE>Q 2BA?LU HFLPHP >OB b> CFSB J FKRQB A@FSB CLO IBPP COL J MBO@BKQ LC ! J B@F@>KP >KA FQ PBB J P  
 QE>Q J >KV MBLMIB P@F@H CFKA > CFSB J FKRQB A@FSB J LOB @LKS@BK@FK QE>K IL>AFKD RM > J L@S@B LKIFKB c )Q PBB J P QE>Q  
 FK J >KV @LKPR J BOP P@F@H M@B@C@O@BA > MEVP@>I \$6\$ AFPH L@S@B P@OB>JFKD S@ABL

7E>Q J FPP@BMP AFA QEB . BQCIFU J >K>DB J BKQ J >HB )K >AA@FLK QL J F@RAD@FKD QEB BI>P@F@QV LC AB J >KA ?V C>FIFKD

QL >@LRKQ CLO @ILPB PR?P@f@R@BP FQ PBB J P QEBV J >V E>SB >IPL J F@RADBA @RPQL J BOP@ M@B@B@B@BP >KA Q>P@BP  
9BQ >P QEB MLMRI>@f@L@K f@K@B>PBP QEB M@B@B@B@B@B CLO P@B> J FKD SfABL J >V LSB@>HB MEVP@>I \$ 6 \$ AfPHP . B@CfU  
QEB PLR@B LC KR J B@LRP I>@B KfDE@ Q>IH PELT I>RDEP >KA @>?P fK J >V VB@ E>SB QEB I>P@ I>RDE



# # 1 , \*%+

6BAF64AG HA<G4EL 8?4FG<6<GL TEBK > DfSBK MBO@BKQ MOF@B @E>KDB FK MOF@B IB>AP QL >K BNR>I MBO@BKQ>DB @E>KDB FK NR>KQFQV AB J >KABA LO PRMMIFBA

6EBFF CE<68 8?4FG<6<GL B9 78@4A7 QEB MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV LC DLLA QE>Q FP AB J >KABA >P > OBPRIQ LC > MBO@BKQ>DB @E>KDB FK DLLA !

8?4FG<6 78@4A7 TEBK QEB BI>PQF@FQV LC AB J >KA FP DOB>QBO QE>K LKB FKAF@>QFKD > EFDE OBPMLKPFsBKBPP LC NR>KQFQV AB J >KABA LO PRMMIFBA QL @E>KDBP FK MOF@B

8?4FG<6 FHCC?L TEBK QEB BI>PQF@FQV LC BFQEBO PRMMIV FP DOB>QBO QE>K LKB FKAF@>QFKD > EFDE OBPMLKPFsBKBPP LC NR>KQFQV AB J >KABA LO PRMMIFBA QL @E>KDBP FK MOF@B

8?4FG<6<GL >K B@LKL J F@P @LK@BMQ QE>Q J B>PROBP OBPMLKPFsBKBPP LC LKB S>OF>?IB QL @E>KDBP FK >KLQEB S>OF>?IB

8?4FG<6<GL B9 F4I<A : F QEB MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV LC P>SFKDP AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK FKQBOBPQ O>QBP

<A8?4FG<6 78@4A7 TEBK QEB BI>PQF@FQV LC AB J >KA FP IBPP QE>K LKB FKAF@>QFKD QE>Q > MBO@BKQ FK@OB>PB FK MOF@B M>FA ?V QEB @LKPR J BO IB>AP QL IBPP QE>K > MBO@BKQ @E>KDB FK MRO@E>PBP >KA SF@B SBOP> QEFP FKAF@>QBP > ILT OBPMLKPFsBKBPP ?V @LKPR J BOP QL MOF@B @E>KDBP

<A8?4FG<6 FHCC?L TEBK QEB BI>PQF@FQV LC PRMMIV FP IBPP QE>K LKB FKAF@>QFKD QE>Q > MBO@BKQ FK@OB>PB FK MOF@B M>FA QL QEB CFO J TFII OBPRIQ FK > IBPP QE>K MBO@BKQ FK@OB>PB FK MOLAR@QFLK ?V QEB CFO J QEFP FKAF@>QBP > ILT OBPMLKPFsBKBPP LC QEB CFO J QL MOF@B FK@OB>PBP >KA SF@B SBOP> FC MOF@BP AOLM

<A9<A<G8 8?4FG<6<GL QEB BUQOB J BIV BI>PQF@ PFQR>QFLK LC AB J >KA LO PRMMIV TEBOB NR>KQFQV @E>KDBP ?V >K FKCFKQB > J LRKQ FK OBPMLKPB QL >KV @E>KDB FK MOF@B ELOFWLKQ>I FK >MMB>O>K@B

C8E986G 8?4FG<6<GL PBB FKCFKQB BI>PQF@FQV

C8E986G <A8?4FG<6<GL PBB WBOL BI>PQF@FQV

CE<68 8?4FG<6<GL QEB OBI>QFLKPEFM ?BQTBBK QEB MBO@BKQ @E>KDB FK MOF@B OBPRIFKD FK > @L00BPMLKAFKD MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV AB J >KABA LO PRMMIFBA

CE<68 8?4FG<6<GL B9 78@4A7 MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV demanded LC > DLLA LO PBOSF@B AFSFABA QEB MBO@BKQ>DB @E>KDB FK MOF@B

CE<68 8?4FG<6<GL B9 FHCC?L MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV supplied AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK MOF@B

G4K <A6<78A68 J >KKBO FK TEF@E QEB Q>U ?ROABK FP AFSFABA ?BQTBBK ?RVBOP >KA PBIIBOP

HA<G4EL 8?4FG<6<GL TEBK QEB @>I@RI>QBA BI>PQF@FQV FP BNR>I QL LKB FKAF@>QFKD QE>Q > @E>KDB FK QEB MOF@B LC QEB DLLA LO PBOSF@B OBPRIFQ FK > MOLMLQFLK>I @E>KDB FK QEB NR>KQFQV AB J >KABA LO PRMMIFBA

J4 : 8 8?4FG<6<GL B9 ?45BE FHCC?L QEB MBO@BKQ>DB @E>KDB FK ELROP TLOHBA AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK T>DBP

M8EB <A8?4FG<6<GL QEB EFDEIV FKBI>PQF@ @>PB LC AB J >KA LO PRMMIV FK TEF@E > MBO@BKQ>DB @E>KDB FK MOF@B KL J >QBO ELT I>ODB OBPRIFQ FK WBOL @E>KDB FK QEB NR>KQFQV SBOQF@>I FK >MMB>O>K@B

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## (E<68 ?4F@<6<GL B9 8@4A7 4A7 (E<68 ?4F@<6<GL B9 +HCC?L

/OF@B BI>PQF@FQV J B>PROBP QEB OBPMLKPFSSBKBP LC QEB NR>KQFQV AB J>KABA LO PRMMIFBA LC > DLLA QL > @E>KDB FK FQP MOF@B 6B @L J MRQB FQ >P QEB MBO@BKQ>DB @E>KDB FK NR>KQFQV AB J>KABA LO PRMMIFBA AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK MOF@B 6B @>K ABP@OF?B BI>PQF@FQV >P BI>PQF@ LO SBOV OBPMLKPFSSB RKFQ BI>PQF@ LO FKBI>PQF@ KLQ SBOV OBPMLKPFSSB \$I>PQF@ AB J>KA LO PRMMIV @ROSBP FKAF@>QB QE>Q NR>KQFQV AB J>KABA LO PRMMIFBA OBPMLKA QL MOF@B @E>KDBP FK > DOB>QBO QE>K MOLMLQ@FLK>I J>KKBO K FKBI>PQF@ AB J>KA LO PRMMIV @ROSBP LKB TEBOB > DFSBK MBO@BKQ>DB @E>KDB FK MOF@B TFII @>RBP > P J>IIBO MBO@BKQ>DB @E>KDB FK NR>KQFQV AB J>KABA LO PRMMIFBA RKFQ>OV BI>PQF@FQV J B>KP QE>Q > DFSBK MBO@BKQ>DB @E>KDB FK MOF@B IB>AP QL >K BNR>I MBO@BKQ>DB @E>KDB FK NR>KQFQV AB J>KABA LO PRMMIFBA

## (B?4E 4F8F B9 ?4F@<6<GL 4A7 BAF@4AG ?4F@<6<GL

(KCFKFB LO MBOCB@Q BI>PQF@FQV OBCBOP QL QEB BUQOB J B @>PB TEBOB BFQEBO QEB NR>KQFQV AB J>KABA LO PRMMIFBA @E>KDBP ?V >K FKCFKFB > J LRKQ FK OBPMLKPB QL >KV @E>KDB FK MOF@B >Q >II 9BOL BI>PQF@FQV OBCBOP QL QEB BUQOB J B @>PB FK TEF@E > MBO@BKQ>DB @E>KDB FK MOF@B KL J >QBO ELT I>ODB OBPRIQP FK WBOL @E>KDB FK NR>KQFQV " LKPQ>KQ RKFQ>OV BI>PQF@FQV FK BFQEBO > PRMMIV LO AB J>KA @ROSB OBCBOP QL > PFQR>QFLK TEBOB > MOF@B @E>KDB LC LKB MBO@BKQ OBPRIQP FK > NR>KQFQV @E>KDB LC LKB MBO@BKQ

## ?4F@<6<GL 4A7 (E<6<A :

(K QEB J>OHBQ CLO DLLAP >KA PBO SF@BP NR>KQFQV PRMMIFBA >KA NR>KQFQV AB J>KABA >OB LCQBK OBI>QFSBIV PILT QL OB>@Q QL @E>KDBP FK MOF@B FK QEB PELOQ ORK ?RQ OB>@Q J LOB PR?PQ>KQF>IIV FK QEB ILKD ORK P > OBPRIQ AB J>KA >KA PRMMIV LCQBK ?RQ KLQ >IT>VP QBKA QL ?B OBI>QFSBIV FKBI>PQF@ FK QEB PELOQ ORK >KA OBI>QFSBIV BI>PQF@ FK QEB ILKD ORK Q>U FK@FABK@B ABMBKAP LK QEB OBI>QFSB MOF@B BI>PQF@FQV LC PRMMIV >KA AB J>KA 6 EBK PRMMIV FP J LOB BI>PQF@ QE>K AB J>KA ?RVBOP ?B>O J LPQ LC QEB Q>U ?ROABK >KA TEBK AB J>KA FP J LOB BI>PQF@ QE>K PRMMIV MOLAR@BOP ?B>O J LPQ LC QEB @LPQ LC QEB Q>U 3>U OBSBKRFB FP I>ODBO QEB J LOB FKBI>PQF@ QEB AB J>KA >KA PRMMIV >OB

## ?4F@<6<GL <A E84F 'G ; 8E , ; 4A (E<68

\$I>PQF@FQV FP > DBKBO>I QBO J QE>Q OBCIB@QP OBPMLKPFSSBKBP (Q OBCBOP QL QEB @E>KDB LC LKB S>OF>?IB AFSFABA ?V QEB MBO@BKQ>DB @E>KDB LC > OBI>QBA S>OF>?IB QE>Q TB @>K >MMIV QL J >KV B@LKL J F@ @LKKB@QFLKP %LO FKPQ>K@B QEB FK@L J B BI>PQF@FQV LC AB J>KA FP QEB MBO@BKQ>DB @E>KDB FK NR>KQFQV AB J>KABA AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK FK@L J B 3EB @OLPP MOF@B BI>PQF@FQV LC AB J>KA FP QEB MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV AB J>KABA LC > DLLA AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK QEB MOF@B LC >KLQEBO DLLA \$I>PQF@FQV >MMIFBP FK I>?LO J >OHBQP >KA CFK>K@F>I @>MFQ>I J >OHBQP GRP >P FQ ALBP FK J >OHBQP CLO DLLAP >KA PBO SF@BP 3EB T>DB BI>PQF@FQV LC I>?LO PRMMIV FP QEB MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV LC ELROP PRMMIFBA AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK QEB T>DB 3EB BI>PQF@FQV LC P>SFKDP TFQE OBPMB@Q QL FKQBOBPQ O>QBP FP QEB MBO@BKQ>DB @E>KDB FK QEB NR>KQFQV LC P>SFKDP AFSFABA ?V QEB MBO@BKQ>DB @E>KDB FK FKQBOBPQ O>QBP

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%0L J QEB A>q> FK ,45?8 >?LRQ AB J >KA CLO P J >OQ MELKBP @>I@RI>QB QEB MOF@B BI>PqF@FqV LC AB J >KA COL J MLFKQ ! QL MLFKQ " MLFKQ # QL MLFKQ \$ >KA MLFKQ & QL MLFKQ ' " I>PPFCV QEB BI>PqF@FqV >q B>@E MLFKQ >P BI>PqF@ FKBI>PqF@ LO RKFQ BI>PqF@

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%0L J QEB A>q> FK ,45?8 >?LRQ PRMMIV LC >I>0 J @IL@HP @>I@RI>QB QEB MOF@B BI>PqF@FqV LC PRMMIV COL J MLFKQ ) QL MLFKQ \* MLFKQ + QL MLFKQ , >KA MLFKQ - QL MLFKQ / " I>PPFCV QEB BI>PqF@FqV >q B>@E MLFKQ >P BI>PqF@ FKBI>PqF@ LO RKFQ BI>PqF@

( B<AG	(E<68	) H4AG<GL +HCC?<87
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6 EV FP QEB AB J >KA @ROSB TFQE @LKPq>Kq RKFq>Ov BI>PqF@FqV @LK@>SB

6 EV FP QEB PRMMIV @ROSB TFQE @LKPq>Kq RKFq>Ov BI>PqF@FqV > PqQ>FDEq IFKB

3EB CBABO>I DLSBOK J BKQ AB@FABP QL OBNRFOB QE>q >RQL J L ?FIB J >KRC>@QROBOP FKPq>II KBT >KqF MLIIRqFLK BNRFM J BKQ QE>q @LPqP MBO @>0 4KABO TE>q @LKAqFLKP @>K @>0 J >HBOP M>PP >I J LPq >II LC QEFp @LPq >ILKD QL @>0 ?RVBOP 4KABO TE>q @LKAqFLKP @>K @>0 J >HBOP M>PP SBOV IFqQIB LC QEFp @LPq >ILKD QL @>0 ?RVBOP

2RMMLPB VLR >OB FK @E>ODB LC P>IBP >Q > ME>O J >@BRQF@>I @L J M>KV >KA VLR0 CFO J E>P > KBT AORD QE>Q @>RPBP ?>IA  
J BK QL DOLT T E>FO PPR J B QE>Q QEB @L J M>KV T>KQP QL B>OK >P J R@E OBSBKRB >P MLPPF?IB COL J QEFP AORD (C QEB BI>PQF@FQV  
LC AB J >KA CLO VLR0 @L J M>KV@P MOLAR@Q >Q QEB @ROOBKQ MOF@B FP TLRIA VLR >ASFPB QEB @L J M>KV QL O>FPB QEB MOF@B  
ILTBO QEB MOF@B LO QL HBBM QEB MOF@B QEB P> J B 6 E>Q FC QEB BI>PQF@FQV TBOB 6 E>Q FC FQ TBOB \$UMI>FK VLR0 >KPTBO

6 E>Q TLRIA QEB D>PLIFKB MOF@B BI>PQF@FQV LC PRMMIV J B>K QL 4 / 2 LO %BA\$U

3EB >SBO>DB >KKR>I FK@L J B OFPBP COL J QL >KA QEB NR>KQFQV LC ?OB>A @LKPR J BA FK > VB>O ?V QEB  
>SBO>DB MBOPLK C>IIP COL J IL>SBP QL IL>SBP 6 E>Q FP QEB FK@L J B BI>PQF@FQV LC ?OB>A @LKPR J MQFLK (P ?OB>A >  
KLO J >I LO >K FKCB0FLO DLLA

2RMMLPB QEB @OLPP MOF@B BI>PQF@FQV LC >MMIBP TFQE OBPMB@Q QL QEB MOF@B LC LO>KDBP FP >KA QEB MOF@B LC LO>KDBP  
C>IIP ?V 6 E>Q TFII E>MMBK QL QEB AB J >KA CLO >MMIBP

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6 E>Q FP QEB CLO J RI> CLO @>I@RI>QFKD BI>PQF@FQV

(C PRMMIV FP FKBI>PQF@ TFII PEFCQP FK AB J >KA E>SB >  
I>ODBO BCCB@Q LK BNRFFI?OFR J MOF@B LO LK NR>KQFQV

6 E>Q FP QEB MOF@B BI>PQF@FQV LC AB J >KA ">K VLR  
BUMI>FK FQ FK VLR0 LTK TLOAP

6 LRIA VLR RPR>IIV BUMB@Q BI>PQF@FQV LC AB J >KA LO  
PRMMIV QL ?B EFDEBO FK QEB PELOQ ORK LO FK QEB ILKD ORK  
6 EV

6 E>Q FP QEB MOF@B BI>PQF@FQV LC PRMMIV ">K VLR  
BUMI>FK FQ FK VLR0 LTK TLOAP

4KABO TEF@E @FO@R J PQ>K@BP ALBP QEB Q>U ?ROABK  
C>II BKQFOBIV LK @LKPR J BOP

#BP@OF?B QEB DBKBO>I >MMB>O>K@B LC > AB J >KA LO >  
PRMMIV @ROSB TFQE WBOI BI>PQF@FQV

6 E>Q FP QEB CLO J RI> CLO QEB FK@L J B BI>PQF@FQV LC  
AB J >KA

#BP@OF?B QEB DBKBO>I >MMB>O>K@B LC > AB J >KA LO >  
PRMMIV @ROSB TFQE FKCFKQB BI>PQF@FQV

6 E>Q FP QEB CLO J RI> CLO QEB @OLPP MOF@B BI>PQF@FQV LC  
AB J >KA

(C AB J >KA FP BI>PQF@ TFII PEFCQP FK PRMMIV E>SB >  
I>ODBO BCCB@Q LK BNRFFI?OFR J NR>KQFQV LO LK MOF@B

6 E>Q FP QEB CLO J RI> CLO QEB T>DB BI>PQF@FQV LC I>?LO  
PRMMIV

(C AB J >KA FP FKBI>PQF@ TFII PEFCQP FK PRMMIV E>SB >  
I>ODBO BCCB@Q LK BNRFFI?OFR J MOF@B LO LK NR>KQFQV

6 E>Q FP QEB CLO J RI> CLO BI>PQF@FQV LC P>SFKDP TFQE  
OBPMB@Q QL FKQBOBPQ O>QBP

(C PRMMIV FP BI>PQF@ TFII PEFCQP FK AB J >KA E>SB >  
I>ODBO BCCB@Q LK BNRFFI?OFR J NR>KQFQV LO LK MOF@B

\*!,! \$ , !&#!& ) - + ,!'&+

3O>KP>QI>KQF@ >FO QO>SBI FK ?RPFKBPP @I>PP E>P >K  
BPQF J >QBA BI>PQF@FQV LC AB J >KA LC TEFIB  
QO>KP>QI>KQF@ >FO QO>SBI FK B@LKL J V @I>PP E>P >K BPQF J >QBA  
MOF@B BI>PQF@FQV LC 6 EV AL VLR QEFKH QEFP FP QEB  
>PB

">K VLR QEFKH LC >K FKARPQOV LO MOLAR@Q TFQE  
KB>O FKCFKQB BI>PQF@FQV LC PRMMIV FK QEB PELOQ QBO J 3E>Q  
FP TE>Q FP >K FKARPQOV QE>Q @LRIA FK@OB>PB OP >I J LPQ  
TFQELRQ IF J FQ FK OBPM LKPB QL >K FK@OB>PB FK QEB MOF@B

6 E>Q FP QEB OBI>QFLKPEFM ?BQTBBK MOF@B BI>PQF@FQV  
>KA MLPPQFLK LK QEB AB J >KA @ROSB %LO BU> J MIB >P VLR  
J LSB RM QEB AB J >KA @ROSB QL EFDEBO MOF@BP >KA ILTBO  
NR>KQFQFBP TE>Q E>MMBK QL QEB J B>PROBA BI>PQF@FQV  
'LT TLRIA VLR BUMI>FK QE>Q

6 LRIA VLR BUMB@Q PRMMIV QL MI>V > J LOB PFDKFCF@>KQ  
OLIB FK ABQBO J FKFKD QEB MOF@B LC > ?>PF@ KB@BPPFQV IFHB  
CLLA LO > IRUROV IFHB MBOCR J B \$UMI>FK Hint 3EFKH  
>?LRQ ELT QEB MOF@B BI>PQF@FQV LC AB J >KA TFII AFCCBO  
>?BQTBBK KB@BPPFQFBP >KA IRUROFBP

@FQV E>P ?RFIQ > ?OFADB LSBO > OFSBO >KA FQ AB@FABP  
QL @E>ODB > QLII QL BSB0VLKB TEL @OLPPBP %LO LKB VB>0  
QEB @FQV @E>ODBP > S>OFBQV LC AFCCBOBKQ QLIIIP >KA OB@LOAP  
FKCLO J >QFLK LK ELT J >KV AOFBOP @OLPP QEB ?OFADB 3EB  
@FQV QERP D>QEBOP FKCLO J >QFLK >?LRQ BI>P@F@FQV LC AB J >KA  
(C QEB @FQV TFPEBP QL O>FPB >P JR@E OBSBKRB >P MLPPF?IB  
COL J QEB QLIIIP TEB0B TFII QEB @FQV AB@FAB QL @E>ODB > QLII  
FK QEB FKBI>P@F@ MLOQFLK LC QEB AB J >KA @ROSB QEB BI>P@F@  
MLOQFLK LC QEB AB J >KA @ROSB LO QEB RKFQ BI>P@F@ MLOQFLK  
\$UMI>FK

(K > J>OHBQ TEB0B QEB PRMMIV @ROSB FP MBOCB@QIV  
FKBI>P@F@ ELT ALBP >K BU@FPB Q>U >CCB@Q QEB MOF@B M>FA ?V  
@LKPR J BOP >KA QEB NR>K@FQV ?LRDEQ >KA PLIA

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3EB BNR>QFLK CLO > AB J >KA @ROSB FP / a 0  
6 E>Q FP QEB BI>P@F@FQV FK J LSFKD COL J > NR>K@FQV LC QL  
> NR>K@FQV LC

3EB BNR>QFLK CLO > AB J >KA @ROSB FP / 0 6 E>Q  
FP QEB BI>P@F@FQV LC AB J >KA >P MOF@B C>IIP COL J QL  
6 E>Q FP QEB BI>P@F@FQV LC AB J >KA >P QEB MOF@B C>IIP COL J  
QL 6 LRIA VLR BUMB@Q QEBPB >KPTBOP QL ?B QEB P> J B

3EB BNR>QFLK CLO > PRMMIV @ROSB FP / 0 6 E>Q FP  
QEB BI>P@F@FQV LC PRMMIV >P MOF@B OFPBP COL J QL 6 E>Q  
FP QEB BI>P@F@FQV LC PRMMIV >P QEB MOF@B OFPBP COL J QL  
6 LRIA VLR BUMB@Q QEBPB >KPTBOP QL ?B QEB P> J B

3EB BNR>QFLK CLO > PRMMIV @ROSB FP / 0 a  
6 E>Q FP QEB BI>P@F@FQV FK J LSFKD COL J > MOF@B LC QL >  
MOF@B LC

3EB PRMMIV LC M>FKQFKDP ?V +BLK>OAL #> 5FK@F  
TEL M>FKQBA QEB *Mona Lisa* >KA *The Last Supper* >KA  
AFBA FK FP EFDEIV FKBI>P@F@ 2HBQ@E > PRMMIV >KA  
AB J >KA AF>DO> J M>VFKD >Q@BKQFLK QL QEB >MMOLMOF>QB  
BI>P@F@FQVBP QL FIIRPQ>QB QE>Q AB J >KA CLO QEBPB M>FKQFKDP  
TFII ABQBO J FKB QEB MOF@B

\$@LKL JFPQP ABCFKB KLO J >I DLLAP >P E>SFKD >  
MLP@F@FQV FBK@L J B BI>P@F@FQV 6 B @>K AFSFAB KLO J >I DLLAP  
FKQL QTL QVMBP 3ELPB TELPB FK@L J B BI>P@F@FQV FP IBPP  
QE>K LKB >KA QELPB TELPB FK@L J B BI>P@F@FQV FP DOB>QBO  
QE>K LKB 3EFKH >?LRQ MOLAR@QP QE>Q TLRIA C>II FKQL B>@E  
>@QBDLOV ">K VLR @L J B RM TFQE > K> J B CLO B>@E  
>@QBDLOV

2RMLPB VLR @LRIA ?RV PELBP LKB >Q > QF J B O>QEB0  
QE>K FK M>FOP 6 E>Q AL VLR MOBAF@Q QEB @OLPP MOF@B  
BI>P@F@FQV CLO IBCQ PELBP >KA OFDEQ PELBP TLRIA ?B

2>V QE>Q > @BQ>FK PQ>AFR J CLO MOLCBPPFLK>I CLLQ?>II  
E>P PB>QP 6 E>Q FP QEB PE>MB LC QEB PRMMIV @ROSB  
CLO QF@HBQP QL CLLQ?>II D> J B P> QE>Q PQ>AFR J \$UMI>FK

6 EBK PL J BLKB@P HFAKBV C>FI QEB MBOPLK KBBAP QL  
E>SB J BAF@>I QOB>Q J BKQ TFQE > AF>IVPFP J >@EFKB RKIBPP  
LO RKQFI QEBV OB@BFSB > HFAKBV QO>KPMI>KQ LO QEBV TFII AFB  
2HBQ@E > PRMMIV >KA AB J >KA AF>DO> J M>VFKD >Q@BKQFLK  
QL QEB >MMOLMOF>QB BI>P@F@FQVBP QL FIIRPQ>QB QE>Q QEB PRMMIV  
LC PR@E AF>IVPFP J >@EFKBP TFII MOF J >OFIV ABQBO J FKB QEB  
MOF@B

PPR J B QE>Q QEB PRMMIV LC ILT PHFIIBA TLOHBOP  
FP C>FOIV BI>P@F@ ?RQ QEB B J MILVBOPd AB J >KA CLO PR@E  
TLOHBOP FP C>FOIV FKBI>P@F@ (C QEB MLIF@V DL>I FP QL BUM>KA  
B J MILV J BKQ CLO ILT PHFIIBA TLOHBOP FP FQ ?BQQBO QL CL@RP  
LK MLIF@V QLLIP QL PEFCQ QEB PRMMIV LC RKP@PHFIIBA I>?LO LO  
LK QLLIP QL PEFCQ QEB AB J >KA CLO RKP@PHFIIBA I>?LO 6 E>Q FC  
QEB MLIF@V DL>I FP QL O>FPB T>DBP CLO QEFP DOLRM \$UMI>FK  
VLR0 >KPTBOP TFQE PRMMIV >KA AB J >KA AF>DO> J P



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<:HEB ,;8 E84G 8CE8FF<BA !Q Qf JBP PR@E >P TEBK J>KV MBLMIB E>SfKD QOLR?IB J>HfKD BKAP JBBQ FQ FP B>PV  
QL QBII ELT QEB B@LKL J V FP ALFKD 4EFP MELQLDQ>ME PELTP MBLMIB IFKBA RM AROFKD QEB 'OB>Q \$BMOBPPFLK T>FQFKD CLQ  
OBIFBC @EB@HP !Q LQEBQ Qf JBP TEBK PL JB >OB ALFKD TBII >KA LQEBOP >OB KLQ FQ FP JLOB AFCCF@RIQ QL >P@BOQ>FK ELT QEB  
B@LKL J V LC > @LRKQOV FP ALFKD #OBAFQ J LAFcf@>QFLK LC TLOH ?V QEB 5 3 ,F?>OV LC #LKDQBPP 7 FHF JBAF> #LJ J LKP

## Bring it Home

BJ <F G;8 6BAB@L B<A: BJ B8F 'A8 ,8??

4EB P TBOB ?LLJ VB>OP CLO QEB 5 3 B@LKL J V "BDFKfKD FK QEB I>QB P COLJ QL B@LKL Jf@  
MBCCLOJ>K@B FK FK QEB 5 3 T>P MLLQ 7 E>Q @>RPBP QEB B@LKL J V QL BUM>KA LO @LKQ>@Q 7 EV AL ?RPFKBPPBP  
>FI TEBK QEBV >OB J>HfKD >II QEB OFDEQ AB@fPFLKP 7 EV AL TLOHBOP ILPB QEBFO GL?P TEBK QEBV >OB E>OATLOHfKD  
>KA MOLAR@fSB !OB ?>A B@LKL Jf@ Qf JBP >C>FIROB LC QEB J>OHBQ PVPQB J !OB QEBV >C>FIROB LC QEB DLSBOK J BKQ  
4EBPB >OB >II NRBPQFLKP LC J>@0LB@LKL Jf@P TEF@E TB TFII ?BDFK QL >AAOBPP FK QEFP @E>MqB0 7 B TFII KLQ ?B >?IB  
QL >KPTBO >II LC QEBPB NRBPQFLKP EBOB ?RQ TB TFII P>OQ TFQE QEB ?>PF@P (LT FP QEB B@LKL J V ALFKD (LT @>K  
TB QBII

4EB J>@0L B@LKL J V FK@IRABP >II ?RVFKD >KA PBIFKD >II MOLAR@fLK >KA @LKPR J MfLK BSBQVQEFKD QE>Q DLBP  
LK FK BSBQV J>OHBQ FK QEB B@LKL J V (LT @>K TB DBQ >E>KAIB LK QE>Q 4EB >KPTBO ?BDFK JLOB QE>K  
VB>OP >DL AROFKD QEB 'OB>Q \$BMOBPPFLK OOBPFABKQ &O>KHfK \$ 2LLPBSBQ >KA EFP B@LKL Jf@ >ASfPBOP HKBT  
QEFKDP TBOB ?>A ?RQ ELT @LRIA QEBV BUMOBPP >KA JB>PROB GRPQ ELT ?>A FQ T>P !K B@LKL Jf@ K>JBA 3fJ LK  
+RWKBQ TEL I>QBO TLK QEB .L?BI OOFWB CLO EFP TLOH @>JB RM TFQE >T>V QL QO>@H TE>Q QEB BKQFOB B@LKL J V FP  
MOLAR@fKD )K QEFP @E>MqB0 VLR TFII IB>OK ELT QEB DLSBOK J BKQ @LKPQOR@QP ' \$O ELT TB RPB FQ >KA TEV FQ FP PL  
FJ MLOQ>KQ

# !AGEB7H6G<BA GB G ; 8 %46EB86BAB@<6 ( 8EFC86G<I 8

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g , B>PROFKD QEB 2FWB LC QEB \$@LKL J V &0LPP #L J BPQF@ /OLAR@Q
- g AGRPQFKD - L J FK>I 5>IRBP QL 1B>I 5>IRBP
- g 30>@HFKD 1B>I &# / LSB0 3F J B
- g " L J M>OFKD &# / > J LKD " LRKQOFBP
- g ' L T 6BII &# / , B>PROBP QEB 6BII !BFKD LC 2L@FBQV

, >@0LB@LKL J F@P CL@RPBP LK QEB B@LKL J V >P > TELIB LO LK TELIB B@LKL J FBP >P QEBV FKQBO>@Q 6E>Q @>RPBP OB@BPPFLKP 6E>Q J>HBP RKB J MILV J BKQ PQ>V EFDE TEBK OB@BPPFLKP >OB PRMMLPBA QL ?B LSB0 6EV AL PL J B @LRKQOFBP DOLT C>PQBO QE>K LQEBOP 6EV AL PL J B @LRKQOFBP E>SB EFDEBO PQ>KA>OAP LC IFSFKD QE>K LQEBOP 3EBPB >OB >II NRBQFLKP QE>Q J>@0LB@LKL J F@P >AA0BPPBP , >@0LB@LKL J F@P FKSLISBP >AAFKD RM QEB B@LKL J F@ >@QFSFQV LC >II ELRPBELIAP >KA >II ?RPFKBPBP FK >II J>OHBQP QL L?Q>FK QEB LSB0>II AB J >KA >KA PRMMIV FK QEB B@LKL J V ' L T B S B O T E B K T B A L QE>Q PL J B QEFKD @ROFLRP E>MMBKP (Q FP KLQ RKRPR>I QE>Q TE>Q OBPRIQP >Q QEB J>@OL IBSBI FP AFCCBOBKQ COL J QEB PR J LC QEB J F@0LB@LKL J F@P M>OQP 6E>Q PBB J P PBKPF?IB COL J > J F@0LB@LKL J F@ MLFKQ LC SFBT @>K E>SB RKBUMB@QBA LO @LRKQBOMOLAR@QFSB OBPRIQP >Q QEB J>@0LB@LKL J F@ IBSBI ( J >DFKB QE>Q VLR >OB PFQFKD >Q >K BSBKQ TFQE > I>ODB >RAFBK@B IFHB > IFSB @LK@BOQ LO > ?>PHBQ?>II D>J B CBT MBLMIB AB@FAB QE>Q QEBV T>KQ > ?BQQBO SFBT >KA PL QEBV PQ>KA RM ' L T B S B O T E B K Q E B P B M B L M I B P Q > K A R M Q E B V ? I L @ H Q E B S F B T C L O L Q E B O M B L M I B > K A Q E B L Q E B O P K B B A Q L P Q > K A R M > P T B I I F C Q E B V T F P E Q L P B B \$ S B K Q R > I I V K B > O I V B S B O V L K B F P P Q > K A F K D R M > K A > P > O B P R I Q K L L K B @ > K P B B J R @ E ? B Q Q B O Q E > K ? B C L O B 3 E B O > Q F L K > I A B @ F P F L K L C P L J B F K A F S F A R > I P > Q Q E B J F @ O L I B S B I b Q L P Q > K A R M C L O > ? B Q Q B O S F B T b B K A B A R M > P P B I C A B C B > Q F K D > Q Q E B J > @ O L I B S B I 3 E F P F P K L Q J > @ 0 L B @ L K L J F @ P ? R Q F Q F P > K > M Q > K > I L D V

, >@0LB@LKL J F@P FP > O>QEB0 J>PPFSB PR?GB@Q ' L T >O B T B D L F K D Q L Q > @ H I B F Q < : H E 8 F I I R P Q > Q B P Q E B P Q O R @ Q R O B T B T F I I R P B 6 B T F I I P Q R A V J > @ 0 L B @ L K L J F @ P C O L J Q E O B B A F C C B O B K Q M B O P M B @ Q F S B P

- 6E>Q >OB QEB J>@0LB@LKL J F@ DL>IP , >@0LB@LKL J F@P >P > AFP@FMIFKB ALBP KLQ E>SB DL>IP ?RQ TB AL E>SB DL>IP CLO QEB J>@OL B@LKL J V
- 6E>Q >OB QEB CO> J B T L O H P B @ L K L J F P Q P @ > K R P B Q L > K > I V W B Q E B J > @ 0 L B @ L K L J V
- %FK>IIV TE>Q >OB QEB MLIF@V QLLIP DLSBOK J BKQP @>K RPB QL J >K>DB QEB J >@0LB@LKL J V

<:HE8 %46EB86BAB@<6 B4?F E4@8JBE> 4A7 (B\*6<8F 4EFP @E>OQ PEL TP TE>Q J>@0LB@LKL J F@P FP >?LRQ 4EB ?LU LK QEB IBQ FKAf@>QBP > @LKPBPBPRP LC TE>Q >OB QEB J LPQ F J MLQ>KQ DL>IP CLO QEB J>@OL B@LKL J V QEB J F A A I B ?LU IFPQP QEB CO> J B T L O H P B @ L K L J F P Q P R P B Q L > K > I V W B J > @ 0 L B @ L K L J F @ @ E > K D B P P R @ E > P F K C I > Q F L K L O O B @ B P P F L K > K A Q E B ?LU LK QEB OFDEQ FKAf@>QBP QEB QTL QLLIP QEB CBABO>I DLSBOK J BKQ RPBP QL FKCI RBK@B QEB J >@OL B@LKL J V

## B4?F

(K QEFKHKD >?LRQ QEB J >@0LB@LKL J V P LSB0>II EB>IQE FQ FP RPB CRI QL @LKPFABO QE0BB MOF J >OV DL>IP B@LKL J F@ DOLTQE ILT RKB J MILV J BKQ >KA ILT FKCI>QFLK

- d \$@LKL J F@ DOLTQE RIQF J >QBIV ABQBO J FKBP QEB MOBS>FIFKD PQ>KA>OA LC IFSFKD FK > @LRKQOV \$@LKL J F@P J B>PROB DOLTQE ?V QEB MBO@BKQ>DB @E>KDB FK OB>I FKCI>QFLK >AGRPQBA DOLPP AL J BPQF@ MOLAR@Q DOLTQE O>QB LC J LOB QE>K FP @LKPFABOBA DLLA
- d 4KB J MILV J BKQ >P J B>PROBA ?V QEB RKB J MILV J BKQ O>QB FP QEB MBO@BKQ>DB LC MBLMIB FK QEB I>?LO CLO@B TEL AL KLQ E>SB > GL? 6EBK MBLMIB I>@H GL?P QEB B@LKL J V FP T>PQFKD > MOB@FLRP OBPLRO@B I>?LO >KA QEB OBPRIQ FP



ILTBO DLLAP >KA PBOSF@BP MOLAR@BA 4KB J MILV J BKQ ELTBSBO FP J LOB QE>K > P>QFPQF@ b FQ OBMOPBKQP MBLMIBdP  
IFSIFELLAP 6 EFIB J B>PROBA RKB J MILV J BKQ FP RKIFHBIV QL BSBO ?B WBOL B@LKL J FPQP @LKPFABO > J B>PROBA  
RKB J MILV J BKQ 0>QB LC LO IBPP ILT DLLA

- d (KCI>QFLK FP > PRPQ>FKBA FK@QB>PB FK QEB LSBO>II IBSBI LC MOF@BP >KA FP J B>PROBA ?V QEB @LKPR J BO MOF@B FKABU (C  
J >KV MBLMIB C>@B > PFQR>QFLK TEBOB QEB MOF@BP QE>Q QEBV M>V CLO CLLA PEBIQBO >KA EB>IQE@OB >OB OFPKD J R@E  
C>PQBO QE>K QEB T>DBP QEBV OB@BFSB CLO QEBFO I>?L0 QEBOB THII ?B TFABPMOB>A RKE>MMFKBPP >P QEBFO PQ>KA>OA LC  
IFSFKD AB@IFKBP %L0 QE>Q OB>PLK ILT FKCI>QFLK b >K FKCI>QFLK 0>QB LC a b FP > J >GLO DL>I

### E4@8JBE>F

P VLR IB>OK FK QEB J F@OL M>OQ LC QEFP ?LLH MOFK@FM>I QLLIP QE>Q B@LKL J FPQP RPB >OB QEBLOFBP >KA J LABIP PBB  
/ 8?6B@8 GB 6BAB@<6F CLO J LOB LK QEFP (K J F@OLB@LKL J F@P TB RPBA QEB QEBLOFBP LC PRMMIV >KA AB J >KA (K  
J >@OLB@LKL J F@P TB RPB QEB QEBLOFBP LC >DDOBD>QB AB J >KA # >KA >DDOBD>QB PRMMIV 2 3EFP ?LLH MOBPBKQP QTL  
MBOPMB@QFSBP LK J >@OLB@LKL J F@P QEB -BL@I>PPF@>I MBOPMB@QFSB >KA QEB \*BVKBPF>K MBOPMB@QFSB B>@E LC TEF@E E>P FQP  
LTK SBOPFLK LC # >KA 2 !BQTTBBK QEB QTL MBOPMB@QFSBP VLR THII L?>FK > DLLA RKABOPQ>KAFKD LC TE>Q AOFSPB QEB  
J >@OLB@LKL J V

### (B?<6L ,BB?F

->QFLK>I DLSBOK J BKQP E>SB QTL QLLIP CLO FKCIRBK@FKD QEB J >@OLB@LKL J V 3EB CFOPQ FP J LKBQ>OV MLIF@V TEF@E FKSLISBP  
J >K>DFKD QEB J LKBV PRMMIV >KA FKQBOPQ 0>QBP 3EB PB@LKA FP CFP@>I MLIF@V TEF@E FKSLISBP @E>KDBP FK DLSBOK J BKQ  
PMBKAFKD MRO@E>PBP >KA Q>UBP

6B THII BUMI>FK B>@E LC QEB FQB J P FK <:HE8 FK ABQ>FI FK LKB LO J LOB LQEBO @E>MQBOP P VLR IB>OK QEBPB QEFKDP  
VLR THII AFP@LSBO QE>Q QEB DL>IP >KA QEB MLIF@V QLLIP >OB FK QEB KBTP >I J LPQ BSOV A>V

## N %84FHE<A: G; 8 +<M8 B9 G; 8 6BAB@L EBFF B@8FG<6 (EB7H6G

! V QEB BKA LC QEFP PB@QFLK VLR THII ?B >?IB QL

- d (ABKQFCV QEB @L J MLKBKQP LC &# / LK QEB AB J >KA PFAB >KA LK QEB PRMMIV PFAB
- d \$\$>IR>QB ELT B@LKL J FPQP J B>PROB DOLPP AL J BPQF@ MOLAR@Q &# /
- d "LKQ>PQ >KA @>I@RI>QB &# / KBQ BUMLOQP >KA KBQ K>QFLK>I MOLAR@Q

, >@OLB@LKL J F@P FP >K B J MFOF@>I PR>GB@Q PL QEB CFOPQ PQBM QLT>OA RKABOPQ>KAFKD FQ FP QL J B>PROB QEB B@LKL J V

' LT I>ODB FP QEB 4 2 B@LKL J V \$@LKL J FPQP QVMF@>IIV J B>PROB QEB PFWB LC > K>QFLKdP LSBO>II B@LKL J V ?V FQP **gross  
domestic product (GDP)** TEF@E FP QEB S>IRB LC >II CFK>I DLLAP >KA PBOSF@BP MOLAR@BA TFQEFK > @LRKQOV FK > DFSBK  
VB>0 , B>PROFKD &# / FKSLISBP @LRKQFKD QEB MOLAR@QFLK LC J FIIFLKP LC AFCCBOBKQ DLLAP >KA PBOSF@BP b P J >OQ MELKBP  
>@OP J RPF@ ALTKIL>AP @L J MRQBOP PQBBI ?>K>K>P @LIIBDB BAR@>QFLKP >KA >II LQEBO KBT DLLAP >KA PBOSF@BP QE>Q >  
@LRKQOV MOLAR@BA FK QEB @ROOBKQ VB>0 b >KA PR J J FKD QEB J FKQL > QLQ>I ALII>0 S>IRB 3EFP Q>PH FP PQ>FDEQCL0T>OA Q>HB  
QEB NR>KQFQV LC BSOVQEFKD MOLAR@BA J RIQFMIV FQ ?V QEB MOF@B >Q TEF@E B>@E MOLAR@Q PLIA >KA >AA RM QEB QLQ>I (K  
QEB 4 2 &# / QLQ>IBA QFIIFLK QEB I>ODBPQ &# / FK QEB TLOIA

\$>@E LC QEB J >OHBQ QO>KP>@QFLK QE>Q BKQBO FKQL &# / J RPQ FKSLISB ?LQE > ?RVBO >KA > PBIIBO 6B @>K J B>PROB >K  
B@LKL J V P &# / BFQEBO ?V QEB QLQ>I ALII>0 S>IRB LC TE>Q @LKPR J BOP MRO@E>PB FK QEB B@LKL J V LO ?V QEB QLQ>I ALII>0  
S>IRB LC TE>Q FP QEB @LRKQOV MOLAR@BP 3EBOB FP BSBK > QEFOA T>V >P TB THII BUMI>FK I>QBO

### ( %84FHE87 5L B@CBA8A@F B9 8@4A7

6 EL ?RVP >II LC QEFP MOLAR@QFLK 6B @>K AFSFAB QEFP AB J >KA FKQL CLRO J >FK M>OQP @LKPR J BO PMBKAFKD @LKPR J MQFLK  
?RPFKBPP PMBKAFKD FKSBPQ J BKQ DLSBOK J BKQ PMBKAFKD LK DLLAP >KA PBOSF@BP >KA PMBKAFKD LK KBQ BUMLOQP 2BB  
QEB CLIIITFKD "IB>0 (Q 4M CB>QROB QL RKABOPQ>KA TE>Q TB J B>K ?V FKSBPQ J BKQ ,45?8 PELTP ELT QEBPB CLRO  
@L J MLKBKQP >AABA RM QL QEB &# / FK <:HE8 > PELTP QEB IBSBIP LC @LKPR J MQFLK FKSBPQ J BKQ >KA  
DLSBOK J BKQ MRO@E>PBP LSBO QF J B BUMOBPPBA >P > MBO@BKQ>DB LC &# / TEFIB <:HE8 ? PELTP QEB IBSBIP LC BUMLOQP  
>KA F J MLOQP >P > MBO@BKQ>DB LC &# / LSBO QF J B CBT M>QQBOKP >?LRQ B>@E LC QEBPB @L J MLKBKQP >OB TLOQE KLQF@FKD  
,45?8 PELTP QEB @L J MLKBKQP LC &# / COL J QEB AB J >KA PFAB

B@CBA8AGF B9 ( BA G;8 8@4A7 +<78 <A GE<??<BAF B9 (8E68AG4: 8 B9 ,B64?		
#LKPR JM@FLK		
)KSBPQ JBKQ		
' LSB0K JBKQ		
%UMLQOP		
)JMLQOP	^	^
,B64? (		

,45?8 B@CBA8AGF B9 - + ( <A EB@ G;8 8@4A7 +<78 3LR0@B EQQM ?B> DLS F4>?IB FKABU=KFM> @C J

<:HEB (8E68AG4: 8 B9 B@CBA8AGF B9 - + ( BA G;8 8@4A7 +<78 #LKPR JM@FLK J>HBP RM LSB0 E>IC LC QEB AB J>KA PFAB @L J MLKBKQP LC QEB ' \$0 3LR0@B EQQM ?B> DLS F4>?IB FKABU=KFM> @C J

# Clear It Up

/ ;4G 7B8F G;8 JBE7 S<A I8FG@8AGT @84A

7E>Q AL B@LKLJFPQP JB>K ?V FKSBPQ JBKQ LO ?RPFKBPP PMBKAFKD )K @>I@RI>QFKD ' \$0 FKSBPQ JBKQ ALBP KLQ  
 0B@B0 QL MR0@E>PFKD PQL@HP >KA ?LKAP LO Q0>AFKD CFK>K@F>I >PPBQP )Q 0B@B0P QL MR0@E>PFKD KBT @>MFQ>I DLLAP QE>Q  
 FP KBT @L J JB0@F>I 0B>I BPQ>QB PR@E >P ?RFAFKDP C>@QL@FBP >KA PQL0BP >KA BNRFM JBKQ 0BP@FABKQF>I ELRPFKD  
 @LKPQR@QFLK >KA FKSBKQL@FBP )KSBKQL@FBP QE>Q J>KRC>@QROB0P MOLAR@B QEFV VB>0 >0B FK@IRABA FK QEFV VB>0aP  
 ' \$0 \_ BSBK FC QEBV >0B KLQ VBQ PLIA &0L J QEB >@@LRKQ>KQ@P MB0PMB@QFSB FQ FP >P FC QEB CF0 J FKSBPQBA FK FQP LTK  
 FKSBKQL@FBP " RPFKBPP FKSBPQ JBKQ FK T>P Q@FIIFLK >@L@AFKD QL QEB "ROB>R LC %@LKLJF@ !K>IVPFP

<:HE8 B@CBA8AGF B9 ( BA G;8 8@4A7 +<78 > #LKPR JMQFLK FP >?LRQ QTL QEF0AP LC ' \$0 >KA FQ E>P ?BBK LK > PIFDEQ RMT>0A Q0BKA LSBO QF JB "RPFKBPP FKSBPQ J BKQ ELSBOP >0LRKA LC ' \$0 ?RQ FQ CIR@QR>QBP J LOB QE>K @LKPR J MQFLK ' LSBOK J BKQ PMBKAFKD LK DLLAP >KA PBOSF@BP FP PIFDEQIV RKABO LC ' \$0 >KA E>P AB@FKBA J LABPQIV LSBO QF JB ? %UML0QP >0B >AABA QL QLQ>I AB J >KA CLO DLLAP >KA PBOSF@BP TEHB FJ ML0QP >0B PR?Q0>@QBA COL J (QLQ>I AB J >KA )C BUML0QP BU@BBA FJ ML0QP >P FK J LPQ LC QEB P >KA P FK QEB 5 3 B@LKL J V > Q0>AB PROMIRP BUFPQP )C FJ ML0QP BU@BBA BUML0QP >P FK 0B@BKQ VB>0P QEBK > Q0>AB ABCF@FQ BUFPQP 3LR0@B EQQM ?B> DLS F4>?IB FKABU=KFM> @C J

"LKPR J MQFLK BUMBKAFQROB ?V ELRPBELIAP FP QEB I>0DBPQ @L J MLKKBQ LC &# / >@LRKQFKD CLO >?LRQ QTL QEF0AP LC QEB &# / FK >KV VB>0 3EFP QBIP RP QE>Q @LKPR J BOPd PMBKAFKD AB@FPFLKP >0B > J >GLO A0FSBO LC QEB B@LKL J V ' LTBSBO @LKPR J BO PMBKAFKD FP > DBKQIB BIBME>KQ TEBK SFBTBA LSBO QF JB FQ ALBP KLQ GR J M >0LRKA QLL J R@E >KA E>P FK@0B>PBA J LABPQIV COL J >?LRQ LC &# / FK QEB P >KA P

(KSBPQ J BKQ BUMBKAFQROB 0BCBOP QL MRO@E>BPP LC MEVPF@>I MI>KQ >KA BNRFM J BKQ MQF J >0FIV ?V ?RPFKBPPBP (C 2Q>0?R@HP ?RHIAP > KBT PQL0B LO J >WLK ?RVP QL?LQP QEBV @LRKQ QEBPB BUMBKAFQROBP RKABO ?RPFKBPP FKSBPQ J BKQ (KSBPQ J BKQ AB J >KA FP C>0 P J >IIBO QE>K @LKPR J MQFLK AB J >KA QVMF@>IIV >@LRKQFKD CLO LKIV >?LRQ a LC &# / ?RQ FQ FP SBOV FJ ML0Q>KQ CLO QEB B@LKL J V ?B@>RPB QEFP FP TEB0B GL?P >0B @0B>QBA ' LTBSBO FQ CIR@QR>QBP J LOB KLQF@B>?IV QE>K @LKPR J MQFLK !RPFKBPP FKSBPQ J BKQ FP SLI>QFIB -BT QB@EKLILDV LO > KBT MOLAR@Q @>K PMRO ?RPFKBPP FKSBPQ J BKQ ?RQ QEBK @LKCFAKB@B @>K AOLM >KA ?RPFKBPP FKSBPQ J BKQ @>K MRII ?>@H PE>0MIV

(C VLR E>SB KLQF@BA >KV LC QEB FKCO>PQOR@QROB MOLGB@QP KBT ?0FADBP EFDET>VP >FOML0QP I>RK@EBA AROFKD QEB 0B@BPPFLK VLR E>SB PBBK ELT FJ ML0Q>KQ DLSBOK J BKQ PMBKAFKD @>K ?B CLO QEB B@LKL J V &LSBOK J BKQ BUMBKAFQROB FK QEB 4KFQBA 2Q>QBP FP @LBP QL LC &# / >KA FK@IRABP PMBKAFKD ?V >II QE0BB IBSBIP LC DLSBOK J BKQ CBABO>I PQ>QB >KA IL@>I 3EB LKIV M>0Q LC DLSBOK J BKQ PMBKAFKD @LRKQBA FK AB J >KA FP DLSBOK J BKQ MRQ@E>PBP LC DLLAP LO PBOSF@BP MOLAR@BA FK QEB B@LKL J V \$U>J MIBP FK@IRAB QEB DLSBOK J BKQ ?RVFKD > KBT CFDEQBO GBQ CLO QEB FO %LO@B CBABO>I DLSBOK J BKQ PMBKAFKD ?RFIAFKD > KBT EFDET>V PQ>QB DLSBOK J BKQ PMBKAFKD LO > KBT P@ELLI IL@>I DLSBOK J BKQ PMBKAFKD PFDKFCF@>KQ MLOQFLK LC DLSBOK J BKQ ?RADBQP @LKPFPQP LC Q0>KPCBO M>V J BKQP IFHB RKB J MILV J BKQ ?BKBCFP SBQBO>KdP ?BKBCFP >KA 2L@F>I 2B@ROFQV M>V J BKQP QL 0BQF0BBP 3EB DLSBOK J BKQ BU@IRABP QEBPB M>V J BKQP COL J &# / ?B@>RPB FQ ALBP KLQ 0B@BFSB > KBT DLLA LO PBOSF@B FK 0BQROK LO BU@E>KDB (KPQB>A QEBV >0B Q0>KPCBOP LC FK@L J B COL J Q>UM>VBOP QL LQEBOP (C VLR >0B @ROFLRP >?LRQ QEB >TBPL J B RKABO>HEKD LC >AAFKD RM &# / 0B>A QEB CLILTFKD "IB>0 (Q 4M CB>QROB

# Clear It Up

**BJ 7B FG4G<FG<6<4AF @84FHE8 (**

' LSBOK J BKQ B@LKL J FQP >Q QEB "ROB>R LC %@LKL J F@ !K>IVPFP "%! TFQEFK QEB 5 3 \$BM>0Q J BKQ LC #L J JB0@B MfB@B QLDBQEBO BPQF J >QBP LC ' \$0 COL J >S>0FBQV LC PLR0@BP / K@B BSB0V CFSB VB>0P FK QEB PB@LKA >KA PBSBKQE VB>0 LC B>@E AB@>AB QEB "ROB>R LC QEB #BKPRP @>00FBP

LRQ > ABQ>HIBA @BKPRP LC ?RPFKBPPBP QEOLRDELRLQ QEB 5KfQBA 3Q>QBP )K ?BQTBBK QEB #BKPRP "ROB>R @>00FBP LRQ > J LKQEIIV PROSBV LC OBQ>FI P>IBP 4EB DLSBOK J BKQ >A&RPPQ QEBPB CFDR0BP TfQE CLOBFDK QO>AB A>Q> QL >@LRKQ CLO BUMLOQP QE>Q >OB MOLAR@BA FK QEB 5KfQBA 3Q>QBP >KA PLIA >?0L>A >KA CLO FJ MLOQP QE>Q >OB MOLAR@BA >?0L>A >KA PLIA EB0B /K@B BSB0V QBK VB>0P QEB #BKPRP "ROB>R @LKAR@QP > @LJMOBEBKPFBS PROSBV LC ELRPFKD >KA OBPfABKQf>I CFK>K@B 4LDBQEBO QEBPB PLR0@BP MOLSfAB QEB J>fK ?>PFP CLO CFDR0FKD LRQ TE>Q FP MOLAR@BA CLO @LKPRJBOP

&LO FKSBPQJBKQ QEB #BKPRP "ROB>R @>00FBP LRQ > J LKQEIIV PROSBV LC @LKPQOR@QFLK >KA >K >KKR>I PROSBV LC BUMBKAfR0BP LK MEVPf@>I @>MFQ>I BNRfMJBKQ

&LO TE>Q QEB CBABO>I DLSBOK J BKQ MR0@E>PBP QEB Pq>QFPQf>KP OBIV LK QEB 5 3 \$BM>OQJBKQ LC QEB 40B>PROV !K >KKR>I #BKPRP LC 'LSBOKJBKQP D>QEBOP FKCL0J>QFLK LK Pq>QB >KA IL@>I DLSBOKJBKQP "B@>RPB QEB DLSBOKJBKQ PMBKAP >@LKPfABO>?IB >J LRKQ >Q >II IBSBIP EFOFKD MBLMIB QL MOLSfAB PBOSf@BP FQ >IPL QO>@HP >I>0DB MLQFLK LC PMBKAFKD QEOLRDE M>VOLII OB@LOAP QE>Q Pq>QB DLSBOKJBKQP >KA QEB 3L@f>I 3B@R0fQV !AJFKFPQO>QFLK @LIIB@Q

7fQE OBD>0A QL CLOBFDK QO>AB QEB #BKPRP "ROB>R @LJMFIBP > J LKQEIIV OB@LOA LC >II FJ MLOQ >KA BUMLOQ AL@RJBKQP !AAfQFLK>I PROSBVP @LSBO QO>KPMLQO>QFLK >KA QO>SBI >KA J>HB >A&RPPQJBKQP CLO CFK>K@f>I PBOSf@BP QE>Q >OB MOLAR@BA FK QEB 5KfQBA 3Q>QBP CLO CLOBFDK @RPQLJBOP

->KV LQEBO PLR0@BP @LKQO?RQB QL '\$0BPQfJ>QBP )KCL0J>QFLK LK BKB0DV @LJBP COLJ QEB 5 3 \$BM>OQJBKQ LC 40>KPMLQO>QFLK >KA \$BM>OQJBKQ LC %KB0DV 4EB !DBK@V CLO (B>IQE #>OB 2BPB>0@E >KA 1R>fQV @LIIB@QP FKCL0J>QFLK LK EB>IQE@>OB 3ROSBVP LC I>KAILOAP CFKA LRQ >?LRQ OBKQ>I FK@LJB 4EB \$BM>OQJBKQ LC !DOF@RIQROB @LIIB@QP Pq>QFPQf@P LK C>0JFKD

!II QEBPB ?fQP >KA MfB@BP LC FKCL0J>QFLK >00FSB FK AfCCB0BKQ CLOJ P >Q AfCCB0BKQ QfJB FKQBO>IP 4EB "%! JBIAP QEBJ QLDBQEBO QL MOLAR@B '\$0BPQfJ>QBP LK >NR>0QBOIV ?>PFP BSB0V QE0BB J LKQEP 4EB "%! QEBK >KKR>fWBP QEBPB KRJ?BOP ?V JRIQfMIVFKD ?V CLRO !P JLOB FKCL0J>QFLK @LJBP FK QEB "%! RMA>QBP >KA OBSfPBP QEBPB BPQfJ>QBP "%! OBIB>PBP QEB '\$0 b>AS>K@Bc BPQfJ>QB CLO >@BOQ>fK NR>0QBO LKB J LKQE >CQBO >NR>0QBO 4EB bM0BfJFK>0Vc BPQfJ>QB @LJBP LRQ LKB J LKQE >CQBO QE>Q 4EB "%! MR?IFPEBP QEB bCFK>Ic BPQfJ>QB LKB J LKQE I>QBO ?RQ FQ FP KLQ >@QR>IIV CFK>I )K \*RIV QEB "%! OBIB>PBP 0LRDEIV RMA>QBA BPQfJ>QBP CLO QEB MOBSfLRP @>IBKA>0 VB>0 4EBK LK@B BSB0V CFBS VB>0P >CQBO FQ E>P MOL@BPPBA >II QEB OBPRIQP LC QEB I>QBPQ ABQ>HIBA CFBS VB>0 ?RPFKBPP @BKPRP QEB "%! OBSfPBP >II LC QEB M>PQ '\$0BPQfJ>QBP >@L0AfKD QL QEB KBTBPQ JBQELAP >KA A>Q>DLfKD >II QEB T>V ?>@HQL

# Link It Up

6fPQ QEF TB?PQfB EQQM LMBKPQ>U@LIIBDB LOD I ?B>C>N QL OB>A &! 1P LK QEB "%! PqQB 9LR @>K BSBKBJ>FI VLRO LTK NRBQfLKP

6EBK QEFKfKD >?LRQ QEB ABJ>KA CLO ALJBPQf@>IIV MOLAR@BA DLLAP FK >DIL?>I B@LKLJV FQ FP FJ MLOQ>KQ QL @LRKQ PMBKAFKD LK BUMLOQP b ALJBPQf@>IIV MOLAR@BA DLLAP QE>Q >@LRKQOV PBIIP >?0L>A 2FJFI>0IV TB JRPQ >IPL PR?QO>@Q PMBKAFKD LK FJ MLOQP b DLLAP QE>Q >@LRKQOV MOLAR@BP FK LQEBO @LRKQOFPB QE>Q OBPfABKQP LC QEFQ @LRKQOV MRO@E>PB 3EB &# / KBQ BUMLOQ @LJMLKBKQ FP BNR>I QL QEB ALII>0 S>IRB LC BUMLOQP 7 JfKRP QEB ALII>0 S>IRB LC FJ MLOQP , 7 a , 6B @>II QEB D>M ?BQTBBK BUMLOQP >KA FJ MLOQP QEB **trade balance** (C >@LRKQOVdP BUMLOQP >OB I>0DBO QE>K FQ FJ MLOQP QEBK >@LRKQOV E>P > **trade surplus** (K QEB 4KfQBA 2Q>QBP BUMLOQP QVMF@>IIV BU@BBABA FJ MLOQP FK QEB P >KA P >P <:HEB ? PELTP

2FK@B QEB B>0IV P FJ MLOQP E>SB QVMF@>IIV BU@BBABA BUMLOQP >KA PL QEB 4KfQBA 2Q>QBP E>P BUMBOFBK@BA > **trade**

**deficit** FK J LPQ VB>OP 3EB QO>AB ABCF@FQ DOBT NRFQB I>ODB FK QEB I>QB P >KA FK QEB J FA P <:HEB ? >IPL  
 PELTP QE>Q F J MLOQP >KA BUMLOQP E>SB ?LQE OFPBK PR?PQ>KQF>IIV FK OB@BKQ AB@>ABP BSBK >CQB0 QEB AB@IFKBP AROFKD QEB &OB>Q  
 1B@BPPFLK ?BQTBBK >KA P TB KLQBA ?BCLOB FC BUMLOQP >KA F J MLOQP >OB BNR>I CLOBFDK QO>AB E>P KL BCCB@Q LK  
 QLQ>I &# / ' L TBSB0 BSBK FC BUMLOQP >KA F J MLOQP >OB ?>I>K@BA LSB0>II CLOBFDK QO>AB J FDEQ PQFII E>SB MLTBOCRI BCCB@QP  
 LK M>OQF@RI>0 FKARPQOFBP >KA TLOHBOP ?V @>RPFKD K>QLKP QL PEFCQ TLOHBOP >KA MEVPF@>I @>MFQ>I FKSBPQ J BKQ QLT>0A LKB  
 FKARPQOV O>QEB0 QE>K >KLQEB0

!>PBA LK QEBPB CLRO @L J MLKBKQP LC AB J >KA TB @>K J B>PROB &# / >P

$$GDP = Consumption + Investment + Government + Trade balance$$

$$GDP = C + I + G + (X - M)$$

4KABOPQ>KAFKD ELT QL J B>PROB &# / FP F J MLOQ>KQ CLO >K>IVWFKD @LKKB@QLKP FK QEB J @>OL B@LKL J V >KA CLO QEFKHKFD  
 >?LRQ J >@0LB@LKL J F@ MLIF@V QLLIP

( %84FHE87 5L / ; 4G <F (EB7H687

\$SBOVQEFKD QE>Q TB MRO@E>PB PL J B?LAV J RPQ CFOPQ MOLAR@B ,45?8 ?OB>HP ALTK TE>Q > @LRKQOV MOLAR@BP FKQL CFSB  
 @>QBDLOFBP **durable goods** **nondurable goods** **services** **structures** >KA QEB @E>KDB FK **inventories** !BCLOB DLFKD  
 FKQL ABQ>FI >?LRQ QEBPB @>QBDLOFBP KLQF@B QE>Q QLQ>I &# / J B>PROBA >@>LOAFKD QL TE>Q FP MOLAR@BA FP BU>@QIV QEB P> J B  
 >P QEB &# / J B>PROBA ?V ILLHFKD >Q QEB CFSB @L J MLKBKQP LC AB J >KA <:HEB MOLSFABP > SFPR>I OBM0BPBKQ>QLK LC  
 QEFP FKCL0 J >QLK

	B@CBA8AGF B9	( BA G ; 8 +HCC?L +<78 <A GE<??<BAF B9 7B??4EF	(8E68AG4 : 8 B9 ,BG4?
' LLAP			
\$R0>?IB DLLAP			
. LKAR0>?IB DLLAP			
3B0Sf@BP			
3Q0R@QROBP			
#E>KDB FK FKSBKQL@FBP			
,BG4? (			

,45?8 B@CBA8AGF B9 - + ( BA G ; 8 (EB7H6@BA +<78 3LR0@B EQQM ?B> DLS F4>?IB  
 FKABU=KFM> @C J

<:HE8 (8E68A64:8 B9 B@CBA8A6F B9 ( BA G;8 (EB7H6@BA +<78 3B0Sf@BP J>HB RM LSB0 MB0@BKQ LC QEB  
MOLAR@fFLK PfAB @L J MLKBKQP LC ' \$0 FK QEB 5KfQBA 3Q>QBP

2FK@B BSB0V J>0HBQ Q0>KP>@fFLK J RPQ E>SB ?LQE > ?RVB0 >KA > PBIIB0 &# / J RPQ ?B QEB P>JB TEBQEBO JB>PROBA ?V  
TE>Q FP AB J>KABA L0 ?V TE>Q FP MOLAR@BA <:HE8 PELTP QEBPB @L J MLKBKQP LC TE>Q FP MOLAR@BA BUMOBPPBA >P >  
MB0@BKQ>DB LC &# / PFK@B

<:HE8 ,LC8F B9 (EB7H6G<BA 3B0Sf@BP >0B QEB I>0DBPQ PFKDIB @L J MLKBKQ LC QLQ>I PRMMIV 0BMOBPBKQFKD LSBO  
MBO@BKQ LC ' \$O RM COL J >?LRQ MBOBKQ FK QEB B>0IV P \$R0>?IB >KA KLKARO>?IB DLLAP @LKPQFQRQB QEB  
J>KR<>@QROFKD PB@QLO >KA QEBV E>SB AB@IFKBA COL J MBO@BKQ LC ' \$O FK QL >?LRQ MBO@BKQ FK  
. LKARO>?IB DLLAP RPBA QL ?B I>0DBO QE>K ARO>?IB DLLAP ?RQ FK 0B@BKQ VB>0P KLKARO>?IB DLLAP E>SB ?BBK A0LMMFKD  
QL ?BILT QEB PE>0B LC ARO>?IB DLLAP TEF@E FP IBPP QE>K LC ' \$O 3QR@QROBP ELSBO >0LRKA LC ' \$O 7B AL  
KLQ PELT EB0B QEB @E>KDB FK FKS BKQL0FBP QEB CFK>I @L J MLKBKQ LC >DD0BD>QB PRMMIV )Q FP QVMF@>IIV IBPP QE>K LC ' \$O

(K QEFKHKFD >?LRQ TE>Q FP MOLAR@BA FK QEB B@LKL J V J >KV KLK B@LKL J FPQP F J J BAF>QBIV CL@RP LK PLIFA ILKD I>PQFKD  
DLLAP IFHB @>OP >KA @L J MRQBOP !V C>0 QEB I>0DBPQ M>0Q LC &# / ELTBSBO FP PBOSF@BP , LOBLSBO PBOSF@BP E>SB ?BBK >  
DOLTFKD PE>0B LC &# / LSBO QF J B ABQ>FIBA ?0B>HALTK LC QEB IB>AFKD PBOSF@B FKARPQOFBP TLRIA FK@IRAB EB>IQE@>0B  
BAR@>QLK >KA IBD>I >KA CFK>K@F>I PBOSF@BP (Q E>P ?BBK AB@>ABP PFK@B J LPQ LC QEB 4 2 B@LKL J V FKS LISBA J >HFKD  
PLIFA L?GB@QP (KPQB>A QEB J LPQ @L J J LK GL?P FK > J LABOK B@LKL J V FKS LISB > TLOHBO ILLHFKD >Q MFB@BP LC M>MBO LO >  
@L J MRQBO P@0BBK J BBQFKD TFQE @L TLOHBOP @RPQL J BOP LO PRMMIFBOP LO J >HFKD MELKB @>IIP

\$SBK TFQEFK QEB LSBO>II @>QBDLOV LC DLLAP ILKD I>PQFKD ARO>?IB DLLAP IFHB @>OP >KA 0BCOFDBO>QLOP >0B >?LRQ QEB P> J B  
PE>0B LC QEB B@LKL J V >P PELOQ IFSBA KLKARO>?IB DLLAP IFHB CLLA >KA @ILQEFKD 3EB @>QBDLOV LC PQOR@QROBP FK@IRABP  
BSBOVQEFKD COL J EL J BP QL LCCF@B ?RFIAFKDP PELMMFKD J >IIP >KA C>@QL0FBP (KSBKQL0FBP FP > P J >II @>QBDLOV QE>Q 0BCBOP  
QL QEB DLLAP QE>Q LKB ?RPFKPPP E>P MOLAR@BA ?RQ E>P KLQ VBQ PLIA QL @LKPR J BOP >KA >0B PQFII PFQFKD FK T>0BELRPBP >KA  
LK PEBISBP 3EB > J LRRQ LC FKS BKQL0FBP PFQFKD LK PEBISBP QBKAP QL AB@IFKB FC ?RPFKPPP FP ?BQQBO QE>K BUMB@QBA LO QL OFPB  
FC ?RPFKPPP FP TLOPB QE>K BUMB@QBA

ABG;8E / 4L GB %84FHE8 ( , ; 8 &4G<BA4? !A6B@8 CCEB46;

&# / FP > J B>PROB LC TE>Q FP MOLAR@BA FK > K>QLK 3EB MOF J >OV T>V &# / FP BPQF J >QBA FP TFQE QEB \$UMBKAFQROB  
MMOL>@E TB AFP@RPPBA >?LSB ?RQ QEB0B FP >KLQEB0 T>V \$SBOVQEFKD > CFO J MOLAR@BP TEBK PLIA ?B@L J BP OBSBKRPB  
QL QEB CFO J !RPFKPPP RPB OBSBKRPB QL M>V QEBFO ?FIIP 6>DBP >KA P>I>0FBP CLO I>?LO FKQB0BP >KA AFSFABKAP CLO @>MFQ>I  
0BKQ CLO I>KA MOLCFQ QL QEB BKQ0BMOBKBR0 BQ@ 2L >AAFKD RM >II QEB FK@L J B MOLAR@BA FK > VB>0 MOLSFABP > PB@LKA T>V  
LC J B>PROFKD &# / 3EFP FP TEV QEB QBO J P &# / >KA national income >0B PL J BQF J BP RPBA FKQB0@E>KDB>?IV 3EB QLQ>I

S>IRB LC > K>QFLKdP LRQMRQ FP BNR>I QL QEB QLQ>I S>IRB LC > K>QFLKdP FK@L J B

### , ; 8 (EB5?8@ B9 BH5?8 BHAG<A :

6B ABCFKB & # / >P QEB @R00BKQ S>IRB LC >II CFK>I DLLAP >KA PB0SF@BP MOLAR@BA FK > K>QFLK FK > VB>0 6 E>Q >0B CFK>I DLLAP 3EBV >0B DLLAP >Q QEB CROQEBPQ PQ>DB LC MOLAR@QFLK >Q QEB BKA LC > VB>0 2Q>QFPQF@F>KP TEL @>I@RI>QB & # / J RPQ >SLFA QEB J FPQ>HB LC **double counting** FK TEF@E QEBV @LRKQ LRQMRQ J LOB QE>K LK@B >P FQ QO>SBIP QEOLRDE QEB MOLAR@QFLK PQ>DBP %LO BU> J MIB F J >DFKB TE>Q TLRIA E>MMBK FC DLSBOK J BKQ PQ>QFPQF@F>KP CFOPQ @LRKQBA QEB S>IRB LC QFOBP QE>Q > QFOB J >KRC>@QROBO MOLAR@BP >KA QEBK @LRKQBA QEB S>IRB LC > KBT QOR@H QE>Q >K >RQL J >HBO PLIA QE>Q @LKQ>FKP QELPB QFOBP (K QEFP BU> J MIB QEB PQ>QFPQF@F>KP TLRIA E>SB @LRKQBA QEB S>IRB LC QEB QFOBP QTF@B ?B@>RPB QEB QOR@H P MOF@B FK@IRABP QEB S>IRB LC QEB QFOBP

3L >SLFA QEFP MOL?IB J TEF@E TLRIA LSBOPQ>QB QEB PFWB LC QEB B@LKL J V @LKPFABO>?IV DLSBOK J BKQ PQ>QFPQF@F>KP @LRKQ GRPQ QEB S>IRB LC **final goods and services** FK QEB @E>FK LC MOLAR@QFLK QE>Q >0B PLIA CLO @LKPR J MQFLK FKSBPQ J BKQ DLSBOK J BKQ >KA QO>AB MROMLPBP 2Q>QFPQF@F>KP BU@IRAB FKQBO J BAF>QB **intermediate goods** TEF@E >0B DLLAP QE>Q DL FKQL MOLAR@FKD LQEBO DLLAP COL J & # / @>I@RI>QFLK %OL J QEB BU> J MIB >?LSB QEBV TFII LKIV @LRKQ QEB %LOA QOR@H P S>IRB 3EB S>IRB LC TE>Q ?RPFKBPPBP MOLSAB QL LQEBO ?RPFKBPPBP FP @>MQROBA FK QEB CFK>I MOLAR@QP >Q QEB BKA LC QEB MOLAR@QFLK @E>FK

3EB @LK@BMQ LC & # / FP C>FOIV PQO>FDEQCL0T>0A FQ FP GRPQ QEB ALII>0 S>IRB LC >II CFK>I DLLAP >KA PB0SF@BP MOLAR@BA FK QEB B@LKL J V FK > VB>0 (K LRO AB@BKQ>IFWBA J >0HBQ LOFBKQBA B@LKL J V >@QR>IIV @>I@RI>QFKD QEB J LOB QE>K QOFIFLK ALII>0 4 2 & # / b >ILKD TFQE ELT FQ FP @E>KDFKD BSOV CBT J LKQEP b FP > CRII QF J B GL? CLO > ?OFD>AB LC DLSBOK J BKQ PQ>QFPQF@F>KP

/ ; 4G <F BHAG87 <A (	/ ; 4G <F ABG <A6?H787 <A (
#LKPR J MQFLK	)KQB0 J BAF>QB DLLAP
"RPFKBPP FKSBPQ J BKQ	40>KPCB0 M>V J BKQP >KA KLK J >0HBQ >@QFSQFBP
'LSBOK J BKQ PMBKA@FKD LK DLLAP >KA PB0SF@BP	5PBA DLLAP
. BQ BUMLQOP	)IIBD>I DLLAP

### ,45?8 BHAG<A : (

-LQF@B QEB FQB J P QE>Q >0B KLQ @LRKQBA FKQL & # / >P ,45?8 LRQIFKBP 3EB P>IBP LC RPBA DLLAP >0B KLQ FK@IRABA ?B@>RPB QEBV TBOB MOLAR@BA FK > MOBSFLRP VB>0 >KA >0B M>OQ LC QE>Q VB>0dP & # / 3EB BKQFOB RKABODOLRKA B@LKL J V LC PB0SF@BP M>FA eRKABO QEB Q>?IBf >KA FIIBD>I P>IBP PELRIA ?B @LRKQBA ?RQ FP KLQ ?B@>RPB FQ FP F J MLPPF?IB QL QO>@H QEBPB P>IBP (K %OFBAOF@E 2@EKBFABO P OB@BKQ PQRV LC PE>ALT B@LKL J FBP EB BPQF J >QBA QEB RKABODOLRKA B@LKL J V FK QEB 4KFQBA 2Q>QBP QL ?B LC & # / LO @ILPB QL QOFIFLK ALII>OP FK >ILKB 30>KPCB0 M>V J BKQP PR@E >P M>V J BKQ ?V QEB DLSBOK J BKQ QL FKAFS@FAR>IP >0B KLQ FK@IRABA ?B@>RPB QEBV AL KLQ OBM0BPBKQ MOLAR@QFLK IPL MOLAR@QFLK LC PL J B DLLAP b PR@E >P EL J B MOLAR@QFLK >P TEBK VLR J >HB VLRO ?OB>HC>PQ b FP KLQ @LRKQBA ?B@>RPB QEBPB DLLAP >0B KLQ PLIA FK QEB J >0HBQMI>@B

## Link It Up

6fPq QEFp TB?PFB EQQM LMBKP>U@LIIBDB LOD I RKABODOLRKAB@LK QL OB>A >?LRQ QEB b .BT 5KABODOLRKA %@LKL J V c



## 'G;8E / 4LF GB %84FHE8 G;8 6BAB@L

!BPFABP &# / QEB0B >0B PBSB0>I AFCCB0BKQ ?RQ @ILPBIV OBI>QBA T>VP LC JB>PROFKD QEB PFWB LC QEB B@LKL JV 6B JBKQFLKBA >?LSB QE>Q TB @>K QEFKH LC &# / >P QLQ>I MOLAR@QFLK >KA >P QLQ>I MRQ@E>PBP 6B @>K >IPL QEFKH LC FQ >P QLQ>I FK@L JB PFK@B >KVQEFKD LKB MOLAR@BP >KA PBIIP VFBIAP FK@L JB

. KB LC QEB @ILPBPQ @LRPFKP LC &# / FP QEB **gross national product (GNP)** &# / FK@IRABP LKIV TE>Q @LRKQOV MOLAR@BP TFQEFK FQP ?LOABOP &- / >AAP TE>Q AL JBPOF@ ?RPFKBPPPBP >KA I>?LO >?OL>A MOLAR@BP >KA PR?QO>@QP >KV M>V JBKQP QE>Q CLOBFDK I>?LO >KA ?RPFKBPPPBP IL@>QBA FK QEB 4KFQBA 2Q>QBP PBKA EL JB QL LQEBO @LRKQOFPB (K LQEBO TLOAP &- / FP ?>PBA JLOB LK TE>Q > @LRKQOV P @FQFWBKP >KA CFO J P MOLAR@B TEB0BSB0 QEBV >0B IL@>QBA >KA &# / FP ?>PBA LK TE>Q E>MMBKP TFQEFK > @B0Q>FK @LRKQV P DBLDO>MEF@ ?LRKA>OFBP %LO QEB 4KFQBA 2Q>QBP QEB D>M ?BQTB BK &# / >KA &- / FP OBI>QFSBIV PJ>II FK OB@BKQ VB>OP LKIV >?LRQ %LO PJ>II K>QFLKP TEF@E J >V E>SB > PR?PQ>KQF>I PE>0B LC QEBFO MLMRI>QFLK TLOHFKD >?OL>A >KA PBKAFKD J LKBV ?>@H EL JB QEB AFCCB0BK@B @>K ?B PR?PQ>KQF>I

6B @>I@RI>QB **net national product (NNP)** ?V Q>HFKD &- / >KA QEBK PR?QO>@QFKD QEB S>IRB LC ELT JR@E MEVPF@>I @>MFQ>I FP TLOK LRQ LO OBAR@BA FK S>IRB ?B@>RPB LC >DFKD LSBO QEB @LROPB LC > VB>0 3EB MOL@BPP ?V TEF@E @>MFQ>I >DBP >KA ILPBP S>IRB FP @>IIBA **depreciation** 6B @>K CROQEBO PR?AFSAB - - / FKQL **national income** TEF@E FK@IRABP >II FK@L JB QL ?RPFKBPPPBP >KA FKAFSAR>IP >KA MBOPLK>I FK@L JB TEF@E FK@IRABP LKIV FK@L JB QL MBLMIB

%LO MO>@QF@>I MROMLPBP FQ FP KLQ SFQ>I QL JB J LQFWB QEBPB ABCFKFQFLKP 'LTBSBO FQ FP F J MLQ>KQ QL ?B >T>0B QE>Q QEBPB AFCCB0BK@BP BUFPQ >KA QL HKLT TE>Q PQ>QFPQF@ VLR >0B BU>J FKFKD PL QE>Q VLR AL KLQ >@>FABKQ>IIV @L J M>0B P>V &# / FK LKB VB>0 LO CLO LKB @LRKQOV TFQE &- / LO - - / FK >KLQEBO VB>0 LO >KLQEBO @LRKQOV 3L DBQ >K FAB> LC ELT QEBPB @>I@RI>QFLKP TLOH CLILIT QEB PQBMP FK QEB CLILITFKD 6LOH (Q . RQ CB>QR0B

## Work It Out

4?6H?4G<A: ( &8G KCBEGF 4A7 &&(

">PBA LK QEB FK@L J >QFLK FK ,45?8

> 7 E>Q FP QEB S>IRB LC ' \$0

? 7 E>Q FP QEB S>IRB LC KBQ BUMLQOP

@ 7 E>Q FP QEB S>IRB LC . . 0

' LSB0K JBKQ MRQ@E>PBP	?FIIFLK
\$BMOB@F>QFLK	?FIIFLK
#LKPR JMQFLK	?FIIFLK
" RPFKBPP )KSBPQ JBKQ	?FIIFLK
%UMLQOP	?FIIFLK

,45?8

) J MLQ@P	?FIIFLK
)K@L J B 0B@BFMQP COL J 0BPQ LC QEB TLOIA	?FIIFLK
)K@L J B M>V J BKQP QL 0BPQ LC QEB TLOIA	?FIIFLK

,45?8

3QBM 4L @>I@RI>QB ' \$0 RPB QEB CLILTFKD CLO J RI>

$$\begin{aligned}
 \text{GDP} &= \text{Consumption} + \text{Investment} + \text{Government spending} + (\text{Exports} - \text{Imports}) \\
 &= C + I + G + (X - M) \\
 &= \$400 + \$60 + \$120 + (\$100 - \$120) \\
 &= \$560 \text{ billion}
 \end{aligned}$$

3QBM 4L @>I@RI>QB KBQ BUMLOQP PR?QO>@Q F J MLQ@P COL J BUMLOQP

$$\begin{aligned}
 \text{Net exports} &= X - M \\
 &= \$100 - \$120 \\
 &= -\$20 \text{ billion}
 \end{aligned}$$

3QBM 4L @>I@RI>QB . . 0 RPB QEB CLILTFKD CLO J RI>

$$\begin{aligned}
 \text{NNP} &= \text{GDP} + \text{Income receipts from the rest of the world} \\
 &\quad - \text{Income payments to the rest of the world} - \text{Depreciation} \\
 &= \$560 + \$10 - \$8 - \$40 \\
 &= \$522 \text{ billion}
 \end{aligned}$$

## N 7=HFG<A: &B@<A4? .4?H8F GB \*84? .4?H8F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

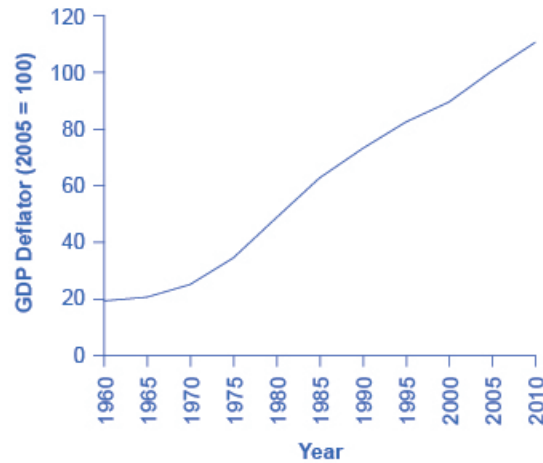
- d " LKQO>PQ KL J FK>I &# / >KA 0B>I &# /
- d \$UMI>FK &# / ABCI>QL0
- d ">I@RI>QB 0B>I &# / ?>PBA LK KL J FK>I &# / S>IRBP

6 EBK BU> J FKFKD B@LKL J F@ PQ>QFPQF@P QEB0B FP > @OR@F>I AFPQFK@QFLK TLOQE B J ME>PFWFKD 3EB AFPQFK@QFLK FP ?BQTBBK KL J FK>I >KA 0B>I J B>PROB J BKQP TEF@E 0BCBO QL TEBQEBO LO KLQ FKCI>QFLK E>P AFPQLOQBA > DFSBK PQ>QFPQF@ +LLHFKD >Q B@LKL J F@ PQ>QFPQF@P TFQELRQ @LKPFA0BFKD FKCI>QFLK FP IFHB ILLHFKD QEOLRDE > M>FO LC ?FKL@RI>OP >KA QOVFKD QL DRBPP ELT @ILPB PL J BQEFKD FP RKIBPP VLR HKLT ELT PQLKD QEB IBKPBP >0B VLR @>KKLQ DRBPP QEB AFPQ>K@B SBOV >@>RO>QBIV 2F J FI>OIV FC VLR AL KLQ HKLT QEB FKCI>QFLK 0>QB FQ FP AFCCF@RIQ QL CFDROB LRQ FC > OFPB FK &# / FP ARB J >FKIV QL > OFPB FK QEB LSBO>II IBSBI LC MOF@BP LO QL > OFPB FK NR>KQFQFBP LC DLLAP MOLAR@BA 3EB **nominal value** LC >KV B@LKL J F@ PQ>QFPQF@ J B>KP QE>Q TB J B>PROB QEB PQ>QFPQF@ FK QBO J P LC >@QR>I MOF@BP QE>Q BUFPQ >Q QEB QF J B 3EB **real value** 0BCBOP QL QEB P> J B PQ>QFPQF@ >CQBO FQ E>P ?BBK >AGRPQBA CLO FKCI>QFLK &BKBO>IIV FQ FP QEB 0B>I S>IRB QE>Q FP J LOB F J MLQ>KQ

### BAI8EG<A: &B@<A4? GB \*84? (

,45?8 PELTP 4 2 &# / >Q CFSB VB>0 FKQBOS>IP PFK@B FK KL J FK>I ALII>OP QE>Q FP &# / J B>PROBA RPFKD QEB >@QR>I J >0HBQ MOF@BP MOBS>FIFKD FK B>@E PQ>QBA VB>0 <:HE8 >IPL 0BCIB@QP QEFP A>Q> FK > D0>ME





<:HE8 - + ( 89?4GBE P - R@E IFHB KL JFK>I ' \$0 QEB ' \$0 ABCI>QL0 E>P OFPBK BUMLKBKQf>IIV COL J  
QE0LRDE 3LR0@B "% !

<:HE8 PELTP QE>Q QEB MOF@B IBSBI E>P OFPBK A0>J>QF@>IIV PFK@B 3EB MOF@B IBSBI FK T>P >I JLPQ PFU  
QF J BP EFDEBO QE>K FK QEB ABCI>QL0 CLO T>P SBOPRP > IBSBI LC FK "IB>0IV J R@E LC QEB DOLTQE  
FK KL J FK>I &# / T>P ARB QL FKCI>QFLK KLQ >K >@QR>I @E>KDB FK QEB NR>KQFQV LC DLLAP >KA PB0SF@BP MOLAR@BA FK LQEBO  
TLOAP KLQ FK OB>I &# / 1B@>II QE>Q KL J FK>I &# / @>K OFPB CLO QTL OB>PLKP >K FK@OB>PB FK LRQMRQ >KA LO >K FK@OB>PB FK  
MOF@BP 6 E>Q FP KBBABA FP QL BUQ0>@Q QEB FK@OB>PB FK MOF@BP COL J KL J FK>I &# / PL >P QL J B>PROB LKIV @E>KDBP FK LRQMRQ  
CQBO >II QEB ALII>OP RPBA QL J B>PROB KL J FK>I &# / FK >OB TLOQE J LOB QE>K QEB FKCI>QBA ALII>OP LC b >KA QEB  
MOF@B FKABU QBIIP BU>@QIV ELT J R@E J LOB 3EFP >AGRPQ J BKQ FP B>PV QL AL FC VLR RKABOPQ>KA QE>Q KL J FK>I J B>PROB J BKQP  
>OB FK S>IRB QBO J P TEBOB

$$\text{Value} = \text{Price} \times \text{Quantity}$$

or

$$\text{Nominal GDP} = \text{GDP Deflator} \times \text{Real GDP}$$

+B@dP ILLH >Q >K BU>J MIB >Q QEB J F@OL IBSBI 2RMMLPB QEB Q PEFOQ @L J M>KV "LLIPEFOQP PBIIP Q PEFOQP >Q > MOF@B LC  
B>@E

$$\begin{aligned} \text{Coolshirt's nominal revenue from sales} &= \text{Price} \times \text{Quantity} \\ &= \$9 \times 10 \\ &= \$90 \end{aligned}$$

3EBK

$$\begin{aligned} \text{Coolshirt's real income} &= \frac{\text{Nominal revenue}}{\text{Price}} \\ &= \frac{\$90}{\$9} \\ &= 10 \end{aligned}$$

(K LQEBO TLOAP TEBK TB @L J MRQB e0B>If J B>PROB J BKQP TB >OB QOVFKD QL L?Q>FK >@QR>I NR>KQFQFBP FK QEFP @>PB Q  
PEFOQP

6 FQE &# / FQ FP GRPQ > QFKV ?FQ J LOB @L J MIF@>QBA 6 B PQ>0Q TFQE QEB P> J B CLO J RI> >P >?LSB

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price Index}}$$

%LO OB>PLKP QE>Q TB TFII BUMI>FK FK J LOB ABQ>FI ?BILT J >QEB J >QF@>IIV > MOF@B FKABU FP > QTL AFDFQ AB@F J >I KR J ?BO IFHB  
LO LO !B@>RPB PL J B MBLMIB E>SB Q0LR?IB TLOHFKD TFQE AB@F J >IP TEBK QEB MOF@B FKABU FP MR?IFPEBA FQ  
E>P Q0>AFQFLK>IIV ?BBK J RIQFMIFBA ?V QL DBQ FKQBDBO KR J ?BOP IFHB LO 6 E>Q QEFP J B>KP FP QE>Q TEBK TB  
eABCI>QBf KL J FK>I CFDR0BP QL DBQ OB>I CFDR0BP ?V AFSFAFKD QEB KL J FK>I ?V QEB MOF@B FKABU 6 B >IPL KBBA QL OB J B J ?BO  
QL AFSFAB QEB MR?IFPEBA MOF@B FKABU ?V QL J >HB QEB J >QE TLOH 3ERP QEB CLO J RI> ?B@L J BP

#E>M@B0 X 4EB ->@0LB@LKLJf@ 0B0PMB@fSB

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price Index} / 100}$$

-LT 0B>A QEB CLILTFKD 6LOH (Q . RQ CB>QROB CLO JLOB MO>@QF@B @>I@RI>QFKD 0B>I & # /

# Work It Out



B@CHG<A: (

)Q FP MLPPF?IB QL RPB QEB A>Q> FK ,45?8 QL @L J MRQB OB>I ' \$0

3QBM ,LLH >Q ,45?8 QL PBB QE>Q FK KL J FK>I ' \$0 T>P ?FIIFLK >KA QEB MOF@B FKABU ' \$0  
 ABCI>QL0 T>P

3QBM 4L @>I@RI>QB QEB OB>I ' \$0 FK RPB QEB CLO J RI>

$$\begin{aligned} \text{Real GDP} &= \frac{\text{Nominal GDP}}{\text{Price Index} / 100} \\ &= \frac{\$543.3 \text{ billion}}{19 / 100} \\ &= \$2,859.5 \text{ billion} \end{aligned}$$

7 B@I AL QEFP FK QTL M>QQP QL J >HB FQ @IB>0 &FOPQ >A@RPQ QEB MOF@B FKABU AFS@ABA ?V 4EBK AFS@AB  
 FKQL KL J FK>I ' \$0 ?FIIFLK ?FIIFLK

3QBM 5PB QEB P>J B CLO J RI> QL @>I@RI>QB QEB OB>I ' \$0 FK

$$\begin{aligned} \text{Real GDP} &= \frac{\text{Nominal GDP}}{\text{Price Index} / 100} \\ &= \frac{\$743.7 \text{ billion}}{20.3 / 100} \\ &= \$3,663.5 \text{ billion} \end{aligned}$$

3QBM #LKQFKRB RPFKD QEFP CLO J RI> QL @>I@RI>QB >II LC QEB OB>I ' \$0 S>IRBP COL J QEOLRDE 4EB  
 @>I@RI>QFLKP >KA QEB OBPRIQP >OB FK ,45?8

184E	&B@<A4? ( 5<??<BAF B9 7B??4EF	( 89?4GBE	4?6H?4G<BAF	* 84? ( 5<??<BAF B9 7B??4EF

,45?8 BAI8EG<A: &B@<A4? GB \* 84? ( 3LR0@B "ROB>R LC %@LKLJF@ !K>IVPFP  
 TTT ?B> DLS

184E	&B@<A4? ( 5<??<BAF B9 7B??4EF	( 89?4GBE	4?6H?4G<BAF	* 84? ( 5<??<BAF B9 7B??4EF

,45?8 BAI8E@<A: &B@<A4? GB \* 84? ( 3LR0@B " ROB>R LC %@LKLJF@ !K>IVPF  
TTT ?B> DLS

4EB0B >0B > @LRMIB QEFKDP QL KLQf@B EB0B 7 EBKBSB0 VLR @L JMRQB > 0B>I PQ>QFPQf@ LKB VB>0 LO MB0FLA MI>VP  
> PMB@F>I OLIB )Q FP @>IIBA QEB ?>PB VB>0 LO ?>PB MB0FLA 4EB ?>PB VB>0 FP QEB VB>0 TELPB MOF@BP TB RPB  
QL @L JMRQB QEB 0B>I PQ>QFPQf@ 7 EBK TB @>I@RI>QB 0B>I ' \$0 CLO BU>J MIB TB Q>HB QEB NR>KQf@FBP LC DLLAP >KA  
PB0Sf@BP MOLAR@BA FK B>@E VB>0 CLO BU>J MIB LO >KA JRIQFMIV QEB J ?V QEBFO MOF@BP FK QEB ?>PB VB>0  
FK QEF@ @>PB PL TB DBQ > JB>PROB LC ' \$0 QE>Q RPB MOF@BP QE>Q AL KLQ @E>KDB COL J VB>0 QL VB>0 4E>Q  
FP TEV 0B>I ' \$0 FP I>?BIBA b#LKPQ>KQ \$LII>0Pc LO FK QEF BU>J MIB b \$LII>0P c TEF@E JB>KP QE>Q 0B>I ' \$0  
FP @LKPQQR@QBA RPFKD MOF@BP QE>Q BUFPQBA FK 7 EHB QEB BU>J MIB EB0B RPB >P QEB ?>PB VB>0 JLOB  
DBKB0>IIV VLR @>K RPB >KV VB>0 >P QEB ?>PB VB>0 4EB CLO JRI> FP

$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

2B>00>KDFKD QEB CLO JRI> >KA RPFKD QEB A>Q> COL J

$$\begin{aligned} \text{Real GDP} &= \frac{\text{Nominal GDP}}{\text{Price Index} / 100} \\ &= \frac{\$13,095.4 \text{ billion}}{100 / 100} \\ &= \$13,095.4 \text{ billion} \end{aligned}$$

#L JM>QFKD 0B>I ' \$0 >KA KLJFK>I ' \$0 CLO VLR PBB QEBV >0B QEB P> JB 4EFP FP KL >@>FABKQ )Q FP ?B@>RPB  
TB E>SB @ELPBK >P QEB b?>PB VB>0c FK QEF BU>J MIB 3FK@B QEB MOF@B FKABU FK QEB ?>PB VB>0 >IT>VP E>P >  
S>IRB LC ?V ABCfKf@FLK KLJFK>I >KA 0B>I ' \$0 >0B >IT>VP QEB P> JB FK QEB ?>PB VB>0

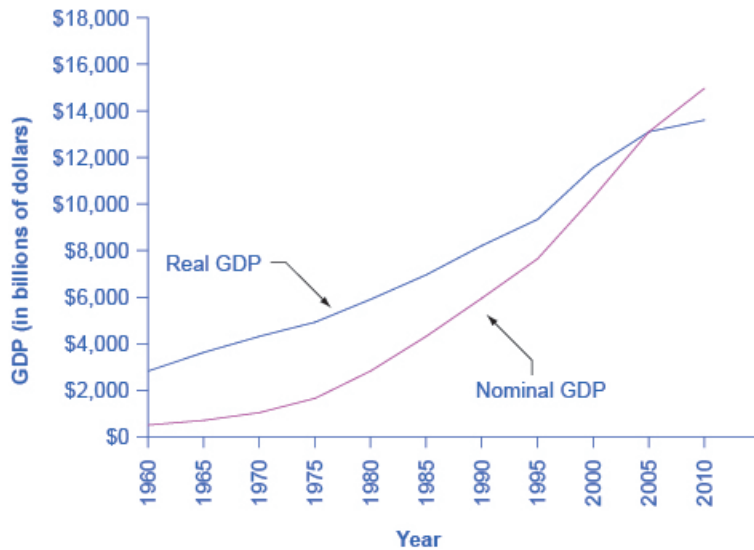
, LLH >Q QEB A>Q> CLO

$$\begin{aligned} \text{Real GDP} &= \frac{\text{Nominal GDP}}{\text{Price Index} / 100} \\ &= \frac{\$14,958.3 \text{ billion}}{110 / 100} \\ &= \$13,598.5 \text{ billion} \end{aligned}$$

5PB QEF@ A>Q> QL J>HB >KLQEB0 L?PB0S>QFLK !P ILKD >P FKCI>QFLK FP MLPf@FSB JB>KFKD MOF@BP FK@0B>PB LK  
>SBO>DB COL J VB>0 QL VB>0 0B>I ' \$0 PELRIA ?B IBPP QE>K KLJFK>I ' \$0 FK >KV VB>0 >CQBO QEB ?>PB VB>0 4EB  
0B>PLK CLO QEF@ PELRIA ?B @IB>0 4EB S>IRB LC KLJFK>I ' \$0 FP bFKCI>QBAC ?V FKCI>QFLK 3FJFI>0IV >P ILKD >P FKCI>QFLK  
FP MLPf@FSB 0B>I ' \$0 PELRIA ?B DOB>QBO QE>K KLJFK>I ' \$0 FK >KV VB>0 ?B@LOB QEB ?>PB VB>0

<:HE8 PELTP QEB 4 2 KLJFK>I >KA 0B>I &# / PFK@B !B@>RPB FP QEB ?>PB VB>0 QEB KLJFK>I >KA 0B>I  
S>IRBP >0B BU>@QIV QEB P> JB FK QE>Q VB>0 ' LTBSBO LSBO QF JB QEB OFPB FK KLJFK>I &# / ILLHP JR@E I>ODBO QE>K QEB  
OFPB FK 0B>I &# / QE>Q FP QEB KLJFK>I &# / IFKB OFPB JLOB PQBBMIV QE>K QEB 0B>I &# / IFKB ?B@>RPB QEB MOBPBK@B LC

FKCI>QFLK BPMB@F>IIV FK QEB P BU>DDBO>QBP QEB OFPB FK KL J FK>I &# /



<:HE8 - + &B@<A4? 4A7 \*84? ( P 4EB 0BA IFKB JB>PROBP 5 3 ' \$O FK KL J FK>I ALII>OP 4EB ?I>@H  
 IFKB JB>PROBP 5 3 ' \$O FK OB>I ALII>OP TEB0B >II ALII>O S>IRBP >OB @LKSBOQBA QL ALII>OP 3FK@B TB BUMOBPP OB>I  
 ' \$O FK ALII>OP QEB QTL IFKBP @OLPP FK (LTBSBO OB>I ' \$O THH >MMB>0 EFDEBO QE>K KL J FK>I ' \$O FK QEB  
 VB>OP ?B@>RBP ALII>OP TBOB TLOQE IBPP FK QE>K FK MOBSFLRP VB>OP #LKSBOBPBIV OB>I ' \$O THH >MMB>0  
 ILTBO FK QEB VB>OP >QB0 ?B@>RBP ALII>OP TBOB TLOQE J LOB FK QE>K FK I>QB0 VB>OP

+B@p OBQROK QL QEB NRBPQFLK QE>Q TB MLPBA LOFDK>IIV ' LT JR@E AFA &# / FK@OB>PB FK OB>I QBO J P 6 E>Q T>P QEB OB>I  
 &# / DOLTQE O>QB COL J QL 3L CFKA QEB OB>I DOLTQE O>QB TB >MMIV QEB CLO J RI> CLO MBO@BKQ>DB @E>KDB

$$\frac{2010 \text{ real GDP} - 1960 \text{ real GDP}}{1960 \text{ real GDP}} \times 100 = \% \text{ change}$$

$$\frac{13,598.5 - 2,859.5}{2,859.5} \times 100 = 376\%$$

(K LQEB0 TLOAP QEB 4 2 B@LKL J V E>P FK@OB>PBA OB>I MOLAR@QFLK LC DLLAP >KA PBO SF@BP ?V KB>OIV > C>@QL0 LC CLRO PFK@B  
 . C @LROPB QE>Q RKABOPQ>QBP QEB J >QBOF>I F J MOLSB J BKQ PFK@B FQ C>FIP QL @>MQROB F J MOLSB J BKQ FK QEB NR>IFV LC  
 MOLAR@QP >KA QEB FKSBKQFLK LC KBT MOLAR@QP

3EB0B FP > NRF@HBO T>V QL >KPTBO QEF NRBPQFLK >MMOLUF J >QBIV RPFKD >KLQEB0 J >QE QOF@H !B@>RBP

Nominal = Price × Quantity

% change in Nominal = % change in Price + % change in Quantity

OR

% change in Quantity = % change in Nominal – % change in Price

3EB0BCLOB OB>I &# / DOLTQE O>QB @E>KDB FK NR>KQFV BNR>IP QEB DOLTQE O>QB FK KL J FK>I &# / @E>KDB FK S>IRB  
 J FKRP QEB FKCI>QFLK O>QB @E>KDB FK MOF@B

- LQB QE>Q RPFKD QEF BNR>QFLK MOLSFABP >K >MMOLUF J >QFLK CLO P J >II @E>KDBP FK QEB IBSBIP %LO J LOB >@>R0>QB J B>PROBP  
 LKB PELRIA RPB QEB CFOPQ CLO J RI>

N ,E46><A: \* 84? ( B I 8E , <@8

- ! V QEB BKA LC QEF PB@QFLK VLR TFII ?B >?IB QL
- d \$UMI>FK OB@BPPFLKP ABMOBPPFLKP MB>HP >KA QOLRDEP
- d \$\$S>IR>QB QEB F J MLOQ>K@B LC QO>@HFKD OB>I &# / LSBO QF J B



6 EBK KBTP OBMLQOP FKAF@>QB QE>Q eQEB B@LKL J V DOBT FK QEB CFOPQ NR>Q@B0 f QEB OBMLQOP >OB OBCB00FKD QL QEB MBO@BKQ>DB @E>KDB FK OB>I &# / ! V @LKS BKQFLK DLSBOK J BKQP OBMLQO &# / DOLTQE FP >Q >K >KKR>IFWBA 0>QB 6 E>QBSBO QEB @>I@RI>QBA DOLTQE FK OB>I &# / T>P CLO QEB NR>Q@B0 TB J RIQFIV FQ ?V CLRO TEBK FQ FP OBMLQOBA >P FC QEB B@LKL J V TBOB DOLTFKD >Q QE>Q 0>QB CLO > CRII VB>0

<:HE8 - + ( P 2B>I ' \$0 FK QEB 5KQBA 3Q>QP FK FK ALII>OP T>P >?LRQ QOFIFLK ! Q@B0 >A@RPQFKD QL OB J LSB QEB BCCB@QP LC FKCI>QFLK QEFP OBM0BPBKQP > QLRDEIV CLIA FK@OB>PB FK QEB B@LKL J V@P MOLAR@QFLK LC DLLAP >KA PBO@FBP PFK@B QEB PQ>QO LC QEB QTBKQFBQE @BKQROV 3LR0@B ?B> DLS

<:HE8 PELTP QEB M>QQBOK LC 4 2 OB>I &# / PFK@B 2ELOQ QBO J AB@IFKBP E>SB OBDRI>OIV FKQBOORMQBA QEB DBKBO>IIV RMT>OA ILKD QBO J M>QE LC &# / 6 B @>II > PFDKFCF@>KQ AB@IFKB FK OB>I &# / > recession 6 B @>II >K BPMB@F>IIV IBKDQEV >KA ABBM OB@BPPFLK > depression 3EB PBSBOB AOLM FK &# / QE>Q L@@ROOBA AROFKD QEB P &OB>Q #BMOBPPFLK FP @IB>OIV SFPF?IB FK QEB CFDR0B >P FP QEB a &OB>Q 1B@BPPFLK

1B>I &# / FP F J ML0Q>KQ ?B@>RPB FQ FP EFDEIV @L00BI>QBA TFQE LQEB0 J B>PROBP LC B@LKL J F@ >@QFSFV IFHB B J MILV J BKQ >KA RKB J MILV J BKQ 6 EBK OB>I &# / OFPBP PL ALBP B J MILV J BKQ

3EB J LPQ PFDKFCF@>KQ ER J >K MOL?IB J >PPL@F>QBA TFQE OB@BPPFLK >KA QEBFO I>ODBO RDIFBO @LRPFK ABMOBPPFLK FP QE>Q > PILTALTK FK MOLAR@QFLK J B>KP QE>Q CFO J P KBBA QL I>V LCC LO CFOB PL J B LC QEBFO TLOHBOP +LPFKD > GL? F J MLPBP M>FKCRI CFK>K@F>I >KA MBOPLK>I @LPQ LK TLOHBOP >KA LCQBK LK QEBFO BUQBKABA C> J FIFBP >P TBII (K >AAFQFLK BSBK QELPB TEL HBBM QEBFO GL?P >OB IFHBIV QL CFKA QE>Q T>DB 0>FPBP >OB P@>KQV >Q ?BPQ b LO QEBFO B J MILVBOP J >V >PH QEB J QL Q>HB M>V @RQP

,45?8 IFPQP QEB M>QQBOK LC OB@BPPFLK >KA BUM>KPFLK FK QEB 4 2 B@LKL J V PFK@B 6 B @>II QEB EFDEBPQ MLFKQ LC QEB B@LKL J V ?BCL0B QEB OB@BPPFLK ?BDFKP QEB peak " LKSBOBPBIV QEB ILTBPQ MLFKQ LC >OB@BPPFLK ?BCL0B > OB@LSBOV ?BDFKP FP QEB trough 3ERP > OB@BPPFLK I>PQP COL J MB>H QL QOLRDE >KA >K B@LKL J F@ RMPQFKD ORKP COL J QOLRDE QL MB>H 6 B @>II QEB B@LKL J V P J LSB J BKQ COL J MB>H QL QOLRDE >KA QOLRDE QL MB>H QEB business cycle (Q FP FKQOFDRFKD QL KLQF@B QE>Q QEB QEOBB ILKDBPQ QOLRDE QL MB>H BUM>KPFLK LC QEB QTBKQFBQE @BKQROV E>SB E>MMBKBA PFK@B 3EB J LPQ OB@BKQ OB@BPPFLK PQ>QBA FK #B@B J ?B0 >KA BKABA CLO J >IIV FK )RKB 3EFP T>P QEB J LPQ PBSBOB OB@BPPFLK PFK@B QEB P &OB>Q #BMOBPPFLK 3EB LKDLFKD BUM>KPFLK PFK@B QEB )RKB QOLRDE TFII >IPL ?B NRFBQ ILKD @L J M>O>QFSBIV E>SFKD >IOB>AV OB>@EBA J LKQEP >Q QEB BKA LC

,EBH : ;	(84>	%BAG ; F B9	BAGE46@BA	%BAG ; F B9	KC4AF<BA
\$B@B J ?B0	3BMQB J ?B0				
! RDRPQ	- >V				
*RKB	*>KR>0V				
*>KR>0V	*>KR>0V				
\$B@B J ?B0	! RDRPQ				
- >0@E	*>KR>0V				
*RIV	- >V				
*RIV	/ @QL?B0				

,EBH : ;	(84>	%BAG ; F B9 BAGE46G<BA	%BAG ; F B9 KC4AF<BA
. LSB J ?B0	! RDRPQ		
->0@E	->V		
*RKB	&B?0R>0V		
/ @QL?B0	. LSB J ?B0		
/ @QL?B0	*RIV		
->V	! RDRPQ		
! MOFI	! MOFI		
&B?0R>0V	\$B@B J ?B0		
. LSB J ?B0	. LSB J ?B0		
->0@E	*>KR>0V		
*RIV	*RIV		
. LSB J ?B0	*RIV		
->0@E	->0@E		
. LSB J ?B0	\$B@B J ?B0		

,45?8 - + HF<A8FF L6?8F F<A68 3LR0@B EQM TTT K?B0 LOD @V@IBP J>FK EQ J I

MOFS>QB QEFKH Q>KH QEB ->QLK>I !ROB>R LC \$@LKL J F@ 1BPB>0@E - ! \$1 Q0>@HP ?RPFKBPP @V@IBP CLO QEB 4 2 B@LKL J V ' LTBSBO QEB BCCB@QP LC > PBSBOB OB@BPPFLK LCQBK IFKDBO >CQBO QEB LCCF@F>I BKAFKD A>QB >PPFDKBA ?V QEB - ! \$1

## N B@C4E<A: ( 4@BA: BHAGE<8F

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK ELT TB @>K RPB &# / QL @L J M>OB QEB B@LKL J F@ TBIC>OB LC AFCCBOBKQ K>QLFKP
- d ">I@RI>QB QEB @LKSBOPLK LC &# / QL > @L J J LK @ROOBK@V ?V RPKD BU@E>KDB O>QBP
- d ">I@RI>QB &# / MBO @>MFQ> RPKD MLMRI>QLK A>Q>

(Q FP @L J J LK QL RPB &# / >P > JB>PROB LC B@LKL J F@ TBIC>OB LO PQ>KA>0A LC IFSFKD FK > K>QLK 6 EBK @L J M>OFKD QEB &# / LC AFCCBOBKQ K>QLFKP CLO QEFP MROMLPB QTL FPPRPB F J J BAF>QBIV >OFPB %FOPQ TB JB>PROB > @LRKQOV P &# / FK FQP LTK @ROOBK@V QEB 4KFQBA 2Q>QBP RPB QEB 4 2 ALII>0 ">K>A> QEB ">K>AF>K ALII>0 J LPQ @LRKQOFBP LC 6BPQBOK \$ROLMB QEB BR0L )>M>K QEB VBK , BUFL QEB MBPL >KA PL LK 3ERP @L J M>OFKD &# / ?BQTBK QTL @LRKQOFBP OBNRF0BP @LKSBOQFKD QL > @L J J LK @ROOBK@V PB@LKA FPPRB FP QE>Q @LRKQOFBP E>SB SBOV AFCCBOBKQ KR J ?BOP LC MBLMIB %LO FKPQ>K@B QEB 4KFQBA 2Q>QBP E>P > J R@E I>ODBO B@LKL J V QE>K , BUFL LO ">K>A> ?RQ FQ >IPL E>P >I J LPQ QE0BB QF J BP >P J >KV MBLMIB >P , BUFL >KA KFKB QF J BP >P J >KV MBLMIB >P ">K>A> 3ERP FC TB >OB QOVFKD QL @L J M>OB PQ>KA>0AP LC IFSFKD >@OLPP @LRKQOFBP TB KBBA QL AFSFAB &# / ?V MLMRI>QLK

## BAI8EG<A: HEE8A6<8F J<G; K6;4A:8 \*4G8F

3L @L J M>OB QEB &# / LC @LRKQOFBP TFQE AFCCBOBKQ @ROOBK@FBP FQ FP KB@BPP>OV QL @LKSBOQ QL > e@L J J LK ABKL J FK>QLof RPKD >K **exchange rate** TEF@E FP QEB S>IRB LC LKB @ROOBK@V FK QBO J P LC >KLQEBO @ROOBK@V 6 B BUMOBPP BU@E>KDB O>QBP BFQEBO >P QEB RKFQP LC @LRKQOV dP @ROOBK@V QE>Q KBBA QL ?B QO>ABA CLO > PFKDIB RKFQ LC @LRKQOV !dP @ROOBK@V CLO BU>J MIB )>M>KBPB VBK MBO !OFQPE MLRKA LO >P QEB FKSBOPB CLO BU>J MIB !OFQPE MLRKAP MBO )>M>KBPB VBK 6 B @>K RPB QTL QVMBP LC BU@E>KDB O>QBP CLO QEFP MROMLPB J >0HBQ BU@E>KDB O>QBP >KA MR0@E>PFKD MLTBO M>OFQV / / /

BNRFS>IBKQ BU@E>KDB 0>QBP , >0HBQ BU@E>KDB 0>QBP S>OV LK > A>V QL A>V ?>PFP ABMBKAFKD LK PRMMIV >KA AB J>KA FK CLOBFDK BU@E>KDB J>0HBQP /// BNRFS>IBKQ BU@E>KDB 0>QBP MOLSFAB > ILKDB0 ORK J B>PROB LC QEB BU@E>KDB 0>QB %L0 QEFP OB>PLK B@LKL J FPQP QVMF@>IIV RPB /// BNRFS>IBKQ BU@E>KDB 0>QBP CLO &# / @0LPP @LRKQOV @L J M>0FPLKP 6B TFII AFP@RPP BU@E>KDB 0>QB FK J LOB ABQ>FI FK **K6;4A:8 \*4G8F 4A7 !A68EA4G<BA4? 4C<G4? ?BJF** 3EB CLILTFKD 6LOH (Q . RQ CB>QROB BUMI>FKP ELT QL @LKSBOQ &# / QL > @L J J LK @RO0BK@V

# Work It Out

**BA18EG<A: ( GB 4 B@@BA HEE8A6L**

5PFKD QEB BU@E>KDB 0>QB QL @LKSBOQ ' \$0 COL J LKB @RO0BK@V QL >KLQEB0 FP PQQ>FDECCLOT>0A 3>V QE>Q QEB Q>PH FP QL @L J M>0B "0>WFIaP ' \$0 FK LC QOFIHLK OB>IP TFQE QEB 5 3 ' \$0 LC QOFIHLK CLO QEB P>JB VB>0

3QBM \$BQB0 JFKB QEB BU@E>KDB 0>QB CLO QEB PMB@FCFBA VB>0 )K QEB BU@E>KDB 0>QB T>P OB>IP 4EBPB KR J ?B0P >0B OB>IFPQF@ ?RQ 0LRKABA LCC QL PF J MIFCV QEB @>I@RI>QFLKP

3QBM #LKSBOQ "0>WFIaP ' \$0 FKQL 5 3 ALII>0P

$$\begin{aligned} \text{Brazil's GDP in \$ U.S.} &= \frac{\text{Brazil's GDP in reals}}{\text{Exchange rate (reals/\$ U.S.)}} \\ &= \frac{4.8 \text{ trillion reals}}{2.230 \text{ reals per \$ U.S.}} \\ &= \$2.2 \text{ trillion} \end{aligned}$$

3QBM #L J M>0B QEFP S>IRB QL QEB ' \$0 FK QEB 5KFQBA 3Q>QBP FK QEB P>JB VB>0 4EB 5 3 ' \$0 T>P QOFIHLK FK TEF@E FP KB>0IV BFDEQ QF JBP QE>Q LC ' \$0 FK "0>WFI FK

3QBM 6fBT ,45?8 TEF@E PELTP QEB PFWB LC >KA S>0FBQV LC ' \$0P LC AFCCB0BKQ @LRKQFBP FK >II BUM0BPPBA FK 5 3 ALII>0P 7 B @>I@RI>QB B>@E RPFKD QEB MOL@BPP QE>Q TB BUMI>FKBA >?LSB

BHAGEL	( <A <??<BAF B9 B@8FG<6 HEE8A6L	B@8FG<6 HEE8A6L - + B??4EF (( ( DH<14?8AG	( <A 5<??<BAF B9 - + 7B??4EF
"0>WFI		OB>IP	
#>K>A>		ALII>0P	
#EFK>		VR>K	
%DVMQ		MLRKAP	
' B0 J>KV		BR0LP	
)KAF>		0RMBBP	
*>M>K		VBK	
- BUf@L		MBPLP	
3LRQE +LOB>		TLK	
5KFQBA +FKDAL J		MLRKAP	

,45?8 B@C4E<A: (F 6EBFF BHAGE<8F 3LR0@B EQQM TTT F J C LOD BUQBOK>I MR?P Q TBL TBLA>Q> FKABU >PMU

BHAGEL	( <A <??<BAF B9 B@8F?<6 HEE8A6L	B@8F?<6 HEE8A6L - + B??4EF (( ( DH<I4?8AG	( <A 5<??<BAF B9 - + 7B??4EF
5KfQBA 3Q>QBP		ALII>0P	

,45?8 B@C4E<A: (F 6EBFF BHAGE<8F 3LR0@B EQQM TTT FJC LOD BUQBOK>I  
MR?P CQ TBL TBLA>Q> FKABU >PMU

( (8E 4C<G4

3EB 4 2 B@LKL J V E>P QEB I>ODBPQ &# / FK QEB TLOIA ?V > @LKPFABO>?IB > J LRKQ 3EB 4KfQBA 2Q>QBP FP >IPL > MLMRILRP @LRKQOV FK C>@Q FQ FP QEB QEFOA I>ODBPQ @LRKQOV ?V MLMRI>QFLK FK QEB TLOIA >IQELRDE TBII ?BEFKA "EFK> >KA (KAF> (P QEB 4 2 B@LKL J V I>ODBO QE>K LQEBO @LRKQOFBP GRPQ ?B@>RPB QEB 4KfQBA 2Q>QBP E>P J LOB MBLMIB QE>K J LPQ LQEBO @LRKQOFBP LO ?B@>RPB QEB 4 2 B@LKL J V FP >@QR>IIV I>ODBO LK > MBO MBOPLK ?>PFP 6B @>K >KPTBO QEFF NRBPQFLK ?V @>I@RI>QFKD > @LRKQOVdP **GDP per capita** QE>Q FP QEB &# / AFSABA ?V QEB MLMRI>QFLK

$$\text{GDP per capita} = \text{GDP/population}$$

3EB PB@LKA @LIR J K LC ,45?8 IFPQP QEB &# / LC QEB P> J B PBIB@QFLK LC @LRKQOFBP QE>Q >MMB>OBA FK QEB MOBSFLRP ,E46><A: \*84? ( B18E ,<@8 >KA ,45?8 PELTFKD QEBFO &# / >P @LKSBOQBA FKQL 4 2 ALII>0P TEF@E FP QEB P> J B >P QEB I>PQ @LIR J K LC QEB MOBSFLRP Q>?IB 3EB QEFOA @LIR J K DFSBP QEB MLMRI>QFLK CLO B>@E @LRKQOV 3EB CLRQOE @LIR J K IFPQP QEB &# / MBO @>MFQ> 6B L?Q>FK &# / MBO @>MFQ> FK QTL PQBMP %FOPQ ?V J RIQFMIVFKD @LIR J K QTL &# / FK ?FIIFLKP LC ALII>0P ?V PL FQ E>P QEB P> J B RKFQP >P @LIR J K QE0BB /LMRI>QFLK FK J FIIFLKP 3EBK AFSAB QEB OBPRIQ &# / FK J FIIFLKP LC ALII>0P ?V @LIR J K QE0BB /LMRI>QFLK FK J FIIFLKP

BHAGEL	( <A 5<??<BAF B9 - + 7B??4EF	(BCH?4G<BA <A @<??<BAF	(8E 4C<G4 ( <A - + 7B??4EF
"0>WFI			
#>K>A>			
#EFK>			
%DVMQ			
' B0 J >KV			
)KAF>			
*>M>K			
- BUF@L			
3LRQE +LOB>			
5KfQBA +FKDAL J			
5KfQBA 3Q>QBP			

,45?8 ( (8E 4C<G4 3LR0@B EQQM TTT FJC LOD BUQBOK>I MR?P CQ TBL TBLA>Q>  
FKABU >PMU

-LQF@B QE>Q QEB O>KHFKD ?V &# / FP AFCCB0BKQ COL J QEB O>KHFKD ?V &# / MBO @>MFQ> (KAF> E>P > PL J BTE>Q I>ODBO &# / QE>K &B0 J >KV ?RQ LK > MBO @>MFQ> ?>PFP &B0 J >KV E>P J LOB QE>K QF J BP (KAF>dp PQ>KA>0A LC IFSFKD 6 FII "EFK> PLLK E>SB > ?BQQBO PQ>KA>0A LC IFSFKD QE>K QEB 4 2 1B>A QEB CLILTFKD "IB>0 (Q 4M CB>QROB QL CFKA LRQ

# Clear It Up

!F ;<A4 :B<A: GB FHEC4FF G;8 -A<G87 +G4G8F <A G8E@F B9 FG4A74E7 B9 ?<I<A:

!P ,45?8 PELTP #EFK> E>P QEB PB@LKA I>0DBPQ ' \$0 LC QEB @LRKQFBP QOFIFLK @LJM>0BA QL QEB 5KQBA 3Q>QBP QOFIFLK OBOE>MP FQ TFII PROM>PP QEB 5KQBA 3Q>QBP ?RQ MOL?>?IV KLQ >KV QF JB PLLK #EFK> E>P > JR@E I>ODBO MLMRI>QFLK PL QE>Q FK MBO @>MFQ> QBO JP FQP ' \$0 FP IBPP QE>K LKB CFQE QE>Q LC QEB 5KQBA 3Q>QBP @LJM>0BA QL 4EB #EFKBPB MBLMIB >OB POFII NRQB MLLO OBI>QFSB QL QEB 5KQBA 3Q>QBP >KA LQEB0 ABSBILMBA @LRKQFBP /KB @>SB>Q &L0 OB>PLKP TB TFII AFP@RPP PELQIV ' \$0 MBO @>MFQ> @>K DfSB RP LKIV >0LRDE FAB> LC QEB AFCCB0BK@BP FK IFSFKD PQ>KA>0AP @>0LPP @LRKQFBP

3EB TLOIA P EFDE FK@LJB K>QFLKP b FK@IRAFKD QEB 4KQBA 2Q>QBP ">K>A> QEB 6BPQBOK \$ROLMB>K @LRKQFBP >KA )>M>K b QVMF@>IIV E>SB &# / MBO @>MFQ> FK QEB O>KDB LC QL ,FAAIB FK@LJB @LRKQFBP TEF@E FK@IRAB JR@E LC +>QFK JBOF@> \$>PQBOK \$ROLMB >KA PL JB @LRKQFBP FK \$>PQ PF> E>SB &# / MBO @>MFQ> FK QEB O>KDB LC QL 3EB TLOIA P ILT FK@LJB @LRKQFBP J>KV LC QEB J IL@>QBA FK COF@> >KA PF> LCQBK E>SB &# / MBO @>MFQ> LC IBPP QE>K MBO VB>0

N BJ / 8?? ( %84FHE8F G;8 / 8?? 8<A: B9 +B6<8GL

!V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d #FP@RPP ELT MOLAR@QFSFQV FKIRBK@BP QEB PQ>KA>0A LC IFSFKD
- d \$UMI>FK QEB IF J FQ>QFLK LC &# / >P > JB>PROB LC QEB PQ>KA>0A LC IFSFKD
- d K>IVWB QEB OBI>QFLKPEFM ?BQTBBK &# / A>Q> >KA CIR@QR>QFLKPK FK QEB PQ>KA>0A LC IFSFKD

3EB IBSBI LC &# / MBO @>MFQ> @IB>0IV @>MQR0BP PL JB LC TE>Q TB JB>K ?V QEB ME0>PB ePQ>KA>0A LC IFSFKD f ,LPQ LC QEB J FDO>QFLK FK QEB TLOIA CLO BU>J MIB FKSLISBP MBLMIB TEL >OB J LSFKD COL J @LRKQFBP TFQE OBI>QFSBIV ILT &# / MBO @>MFQ> QL @LRKQFBP TFQE OBI>QFSBIV EFDE &# / MBO @>MFQ>

e2Q>KA>0A LC IFSFKDf FP > ?0L>ABO QBO J QE>K &# / 6 EFIB &# / CL@RPBP LK MOLAR@QFLK QE>Q FP ?LRDEQ >KA PLIA FK J >OHBQP **standard of living** FK@IRABP >II BIB JBKQP QE>Q >CCB@Q MBLMIBdP TBII ?BFKD TEBQEBO QEBV >OB ?LRDEQ >KA PLIA FK QEB J >OHBQ LO KLQ 3L FIIR J FK>QB QEB AFCCB0BK@B ?BQTBBK &# / >KA PQ>KA>0A LC IFSFKD FQ FP RPBCRI QL PMBII LRQ PL JB QEFKDP QE>Q &# / ALBP KLQ @LSBO QE>Q >OB @IB>0IV OBIBS>KQ QL PQ>KA>0A LC IFSFKD

\$<@<G4G<BAF B9 ( 4F 4 %84FHE8 B9 G;8 +G4A74E7 B9 \$<I<A:

6 EFIB &# / FK@IRABP PMBKAFKD LK OB@OB>QFLK >KA QO>SBI FQ ALBP KLQ @LSBO IBFPROB QF JB "IB>0IV ELTBSBO QEB0B FP > PR?PQ>KQF>I AFCCB0BK@B ?BQTBBK >K B@LKL JV QE>Q FP I>ODB ?B@>RPB MBLMIB TLOH ILKD ELROP >KA >K B@LKL JV QE>Q FP GRPQ >P I>ODB ?B@>RPB MBLMIB >OB J LOB MOLAR@QFSB TFQE QEBFO QF JB PL QEBV AL KLQ E>SB QL TLOH >P J >KV ELROP 3EB &# / MBO @>MFQ> LC QEB 4 2 B@LKL JV FP I>ODBO QE>K QEB &# / MBO @>MFQ> LC &B0 J >KV >P ,45?8 PELTBA ?RQ ALBP QE>Q MOLSB QE>Q QEB PQ>KA>0A LC IFSFKD FK QEB 4KQBA 2Q>QBP FP EFDEBO -LQ KB@BPP>OFIV PFK@B FQ FP >IPL QORB QE>Q QEB >SBO>DB 4 2 TLOHBO TLOHP PBSBO>I ERKA0BA ELROP J LOB MBO VB>0 J LOB QE>K QEB >SBO>DB &B0 J >K TLOHBO ">I@RI>QFKD &# / ALBP KLQ >@>LRKQ CLO QEB &B0 J >K TLOHBOdP BUQO> S>@>QFLK TBBHP

6 EFIB &# / FK@IRABP TE>Q > @LRKQOV PMBKAP LK BKSFOLK JBKQ>I MOLQB@QFLK EB>IQE@>OB >KA BAR@>QFLK FQ ALBP KLQ FK@IRAB >@QR>I IBSBIP LC BKSFOLK JBKQ>I @IB>KIFKBPP EB>IQE >KA IB>0KFKD &# / FK@IRABP QEB @LPQ LC ?RVFKD MLIIRQFLK @LKQOLI BNRFM JBKQ ?RQ FQ ALBP KLQ >AAOBPP TEBQEBO QEB >FO >KA T>QBO >OB >@QR>IIV @IB>KBO LO AFOQFBO &# / FK@IRABP PMBKAFKD LK JBAF@>I @>OB ?RQ ALBP KLQ >AAOBPP TEBQEBO IFCB BUMB@>K@V LO FKC>KQ J LQ>IFQV E>SB OFPBK LO C>IIBK 2F JFI>0IV FQ @LRKQV PMBKAFKD LK BAR@>QFLK ?RQ ALBP KLQ >AAOBPP AFOB@QIV ELT JR@E LC QEB MLMRI>QFLK @>K OB>A TOfQB

LO AL ?>PF@ J>QEB J>QF@P

&# / FK@IRABP MOLAR@QFLK QE>Q FP BU@E>KDBA FK QEB J>OHBQ ?RQ FQ ALBP KLQ @LSBO MOLAR@QFLK QE>Q FP KLQ BU@E>KDBA FK QEB J>OHBQ %LO BU>J MIB EF0FKD PL J BLKB QL J LT VLR0 I>TK L0 @IB>K VLR0 ELRPB FP M>0Q LC &# / ?RQ ALFKD QEBPB Q>PHP VLR0PBIC FP KLQ M>0Q LC &# / . KB 0B J>OH>?IB @E>KDB FK QEB 4 2 B@LKL J V FK 0B@BKQ AB@>ABP FP QEB D0LTQE FK TL J BKdP M>0QF@FM>QFLK FK QEB I>?LO CLO@B P LC LKIV >?LRQ LC TL J BK M>0QF@FM>QBA FK QEB M>FA I>?LO CLO@B ! V QEB PB@LKA AB@>AB LC QEB P KB>0IV LC TL J BK M>0QF@FM>QBA FK QEB M>FA I>?LO CLO@B >@L0AFKD QL QEB !ROB>R LC +>?LO 2Q>QFPQF@P P TL J BK >OB KLT FK QEB I>?LO CLO@B J>KV LC QEB PB0SF@BP QEBV RPBA QL MOLAR@B FK QEB KLK J>OHBQ B@LKL J V IFHB CLLA MOBMO>QFLK >KA @EFIA @>OB E>SB PEFQBA QL PL J B BUQBKQ FKQL QEB J>OHBQ B@LKL J V TEF@E J>HBP QEB &# / >MMB>O I>ODBO BSBK FC MBLMIB >@QR>IIV >OB KLQ @LKR J FKD J LOB PB0SF@BP

&# / E>P KLQEFKD QL P>V >?LRQ QEB IBSBI LC FKBNR>IFQV FK PL@FBQV &# / MBO @>MFQ> FP LKIV >K >SBO>DB 6 EBK &# / MBO @>MFQ> OFPBP ?V FQ @LRIA J B>K QE>Q &# / CLO BSOVLKB FK QEB PL@FBQV E>P OFPBK ?V LO QE>Q &# / LC PL J B D0LRMP E>P OFPBK ?V J LOB TEFIB QE>Q LC LQEBOP E>P OFPBK ?V IBPP b LO BSBK AB@IFKBA &# / >IPL E>P KLQEFKD FK M>0QF@RI>0 QL P>V >?LRQ QEB >J LRKQ LC S>OFBQV >S>FI>?IB (C >C> J FIV ?RVP IL>SBP LC ?OB>A FK >VB>0 &# / ALBP KLQ @>OB TEBQEBO QEBV >OB >II TEFQB ?OB>A LO TEBQEBO QEB C> J FIV @>K @ELLPB COL J TEB>Q OVB MR J MBOKF@HBI >KA J>KV LQEBOP b FQ GRPQ ILLHP >Q QEB QLQ>I >J LRKQ QEB C> J FIV PMBKAP LK ?OB>A

+FHBTFPB &# / E>P KLQEFKD J R@E QL P>V >?LRQ TE>Q QB@EKLILDV >KA MOLAR@QP >OB >S>FI>?IB 3EB PQ>KA>0A LC IFSFKD FK CLO BU>J MIB LO T>P KLQ >CCB@QBA LKIV ?V ELT J R@E J LKBV MBLMIB E>A b FQ T>P >IPL >CCB@QBA ?V TE>Q QEBV @LRIA ?RV -L J>QQBO ELT J R@E J LKBV VLR E>A FK VLR @LRIA KLQ ?RV >K F / ELKB LO >MBOPLK>I @L J MRQBO

(K @B0Q>FK @>PBP FQ FP KLQ @IB>0 QE>Q >FPB FK &# / FP BSBK >DLLA QEFKD (C >@FQV FP T0B@HBA ?V >EROOF@>KB >KA QEBK BUMBOFBK@BP >PRODB LC 0B?RFIAFKD @LKPQQR@QFLK >@QFSQV FQ TLRIA ?B MB@RIF>0 QL @I>F J QE>Q QEB EROOF@>KB T>P QEB0BCL0B B@LKL J F@>IIV ?BKBCF@F>I (C MBLMIB >OB IBA ?V >OFFPKD CB>0 LC @OF J B QL M>V CLO FKPQ>IIFKD ?>OP >KA ?RODI>0 >I>0 J P LK >II QEBFO TFKAL TP FQ FP E>0A QL ?BIFBSB QE>Q QEFP FK@OB>PB FK &# / E>P J >AB QEB J ?BQQBO LCC 2F J FI>0IV PL J B MBLMIB TLRIA >ODRB QE>Q P>IBP LC @B0Q>FK DLLAP IFHB MLOKLD0>MEV LO BUQB0 J BIV SFLIBKQ J LSFBP AL KLQ OBM0BPPKQ >D>FK QL PL@FBQVdP PQ>KA>0A LC IFSFKD

## B8F 4 \*<F8 <A ( ' I8EFG4G8 BE - A78EFG4G8 G ; 8 \*<F8 <A G ; 8 +G4A74E7 B9 \$<I<A:

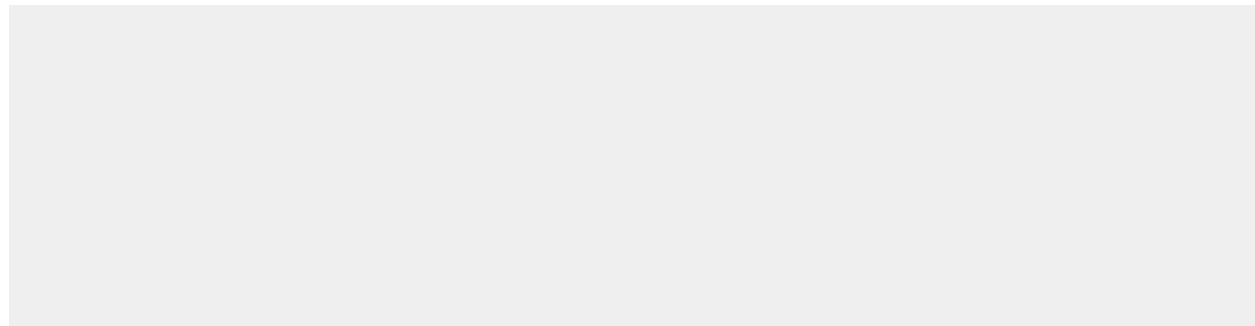
3EB C>@Q QE>Q &# / MBO @>MFQ> ALBP KLQ CRIIV @>MQROB QEB ?OL>ABO FAB> LC PQ>KA>0A LC IFSFKD E>P IBA QL >@LK@B0K QE>Q QEB FK@OB>PBP FK &# / LSBO QF J B >OB FIIRPLOV (Q FP QEBLOBQF@>IIV MLPPF?IB QE>Q TEFIB &# / FP OFFPKD QEB PQ>KA>0A LC IFSFKD @LRIA ?B C>IIFKD FC ER J >K EB>IQE BKSFOLK J BKQ>I @IB>KIFKBPP >KA LQEB0 C>@QLOP QE>Q >OB KLQ FK@IRABA FK &# / >OB TLOPBKFKD %LQQRK>QBIV QEFP CB>0 >MMB>OP QL ?B LSBOPQ>QBA

(K PL J B T>VP QEB OFPB FK &# / RKABOPQ>QBP QEB >@QR>I OFPB FK QEB PQ>KA>0A LC IFSFKD %LO BU>J MIB QEB QVMF@>I TLOHTBBH CLO > 4 2 TLOHBO E>P C>IIBK LSBO QEB I>PQ @BKQROV COL J >?LRQ ELROP MBO TBBH QL IBPP QE>K ELROP MBO TBBH +FCB BUMB@Q>K>V >KA EB>IQE E>SB OFPBK A0> J>QF@>IIV >KA PL E>P QEB >SBO>DB IBSBI LC BAR@>QFLK 2FK@B QEB >FO >KA T>QBO FK QEB 4KFQBA 2Q>QBP E>SB DBKBO>IIV ?BBK DBQQFKD @IB>KBO "L J M>KFBP E>SB ABSBILMBA KBT QB@EKLILDfBP CLO BKQBOQ>FK J BKQ QO>SBI FKCL0 J>QFLK >KA EB>IQE J R@E TFABO S>OFBQV LC ?>PF@ MOLAR@QP IFHB CLLA >KA @ILQEFKD FP >S>FI>?IB QLA>V QE>K PBSBO>I AB@>ABP >DL !B@>RBP &# / ALBP KLQ @>MQROB IBFPROB EB>IQE >@IB>KBO BKSFOLK J BKQ QEB MLPPF?FIFQFBP QE>Q KBT QB@EKLILDV @OB>QBP LO >K FK@OB>PB FK S>OFBQV QEB >@QR>I OFPB FK QEB PQ>KA>0A LC IFSFKD CLO J BOF@>KP FK OB@BKQ AB@>ABP E>P BU@BBABA QEB OFPB FK &# /

. K QEB LQEB0 PFAB @OF J B 0>QBP QO>CCF@ @LKDBPQFLK IBSBIP >KA FK@L J B FKBNR>IFQV >OB EFDEBO FK QEB 4KFQBA 2Q>QBP KLT QE>K QEBV TBOB FK QEB P , LOBLSBO >PR?PQ>KQF>I KR J ?BO LC PB0SF@BP QE>Q TL J BK MOF J >OFIV MOLSFABA FK QEB KLK J >OHBQ B@LKL J V >OB KLT M>0Q LC QEB J >OHBQ B@LKL J V QE>Q &# / @LRKQP !V FDKLOFKD QEBPB C>@QLOP &# / TLRIA QBKA QL LSBOPQ>QB QEB QORB OFPB FK QEB PQ>KA>0A LC IFSFKD



6FPQ QEFB TB?PFB EQM LMBKPQ>U@LIHDB LOD I >JA0B>JS>IRB QL 0B>A >?LRQ QEB !JBOF@>K \$0B>J >KA PQ>KA>0AP LC IFSFKD



### ( <F \*BH:; 5HG -F89H?

EFDE IBSBI LC &# / PELRIA KLQ ?B QEB LKIV DL>I LC J >@0LB@LKL J F@ MLIF@V LO DLSBOK J BKQ MLIF@V J LOB ?OL>AIV \$SBK QELRDE &# / ALBP KLQ J B>PROB QEB ?OL>ABO PQ>KA>OA LC IFSFKD TFQE >KV MOB@FPFLK FQ ALBP J B>PROB MOLAR@QFLK TBII >KA FQ ALBP FKAf@>QB TEBK > @LRKQOV FP J >QBOF>IIV ?BQQBO LO TLOPB LCC FK QBO J P LC GL?P >KA FK@L J BP (K J LPQ @LRKQOFBP > PFDKFCF@>KQIV EFDEBO &# / MBO @>MFQ> L@>ROP E>KA FK E>KA TFQE LQEBO F J MOLSB J BKQP FK BSBOVA>V IFCB >ILKD J >KV AF J BKPFKPF IFHB BAR@>QFLK EB>IQE >KA BKSFOLK J BKQ>I MOLQB@QFLK

- L PFKDIB KR J ?BO @>K @>M@ROB >II QEB BIB J BKQP LC > QBO J >P ?OL>A >P ePQ>KA>OA LC IFSFKD f - LKBQEBIBPP &# / MBO @>MFQ> FP > OB>PLK>?IB 0LRDE >KA OB>AV J B>PROB LC QEB PQ>KA>OA LC IFSFKD



### BJ <F G;8 6BAB@L B<A: BJ B8F 'A8 ,8??

4L ABQBO J FKB QEB PQ>QB LC QEB B@LKL JV LKB KBBAP QL BU> J FKB B@LKL J F@ FKAf@>QLOP PR@E >P ' \$O 4L @>I@RI>QB ' \$O FP NR@QB >K RKABOQ>HFKD )Q FP QEB ?OL>ABPQ J B>PROB LC > K>QFLK@P B@LKL J F@ >@QFSFQV >KA TB LT B > AB?Q QL 3F J LK +RWKBQP QEB @OB>QLO LC QEB J B>PROB J BKQ CLO QE>Q

4EB PEBBO PFWB LC QEB 5 3 B@LKL JV >P J B>PROBA ?V ' \$O FP ERDB\_>P LC QEB CLROQE NR>OQBO LC QOFIFLK TLOQE LC DLLAP >KA PBOSF@BP TBOB MOLAR@BA >KKR>IIV 2B>I ' \$O FK@LO J BA RP QE>Q QEB ^ OB@BPPFLK T>P PBSBQB >KA QE>Q QEB OB@LSBOV COL J QE>Q OB@BPPFLK E>P ?BBK PILT ?RQ QEB B@LKL JV FP F J MOLSFKD ' \$O MBO @>MFQ> D@SBP > 0LRDE BP@F J >QB LC > K>QFLK@P PQ>KA>OA LC IFSFKD 4EFP @E>M@BO FP QEB ?RHAFKD ?IL@H CLO LQEBO @E>M@BOP QE>Q BUMILOB J LOB B@LKL J F@ FKAf@>QLOP PR@E >P RKB J MILV J BKQ FKCI>QFLK LO FKQBOBPQ O>QBP >KA MBOE>MP J LOB F J MLQ>KQIV THII BUMI>FK ELT QEBV >OB OBI>QBA >KA TE>Q @>RPBP QEB J QL QFPB LO C>II

# # 1 , \*%+

5HF<A8FF 6L6?8 QEB B@LKL J V P OBI>QFSBIV PELOQ QBO J J LSB J BKQ FK >KA LRQ LC OB@BPPFLK

78CE86<4G<BA QEB MOL@BPP ?V TEF@E @>MQ>I >DBP LSB0 QF J B >KA QEB0BCL0B ILPBP FQP S>IRB

78CE8FF<BA >K BPMB@F>IIV IBKDQEV >KA ABBM AB@IFKB FK LRQMRQ

7BH5?8 6BHAG<A : > MLQBKQF>I J FPQ>HB QL >SLFA FK J B>PROFKD &# / FK TEF@E LRQMRQ FP @LRKQBA J LOB QE>K LK@B >P FQ  
Q0>SBIP QEOLRDE QEB PQ>DBP LC MOLAR@QFLK

7HE45?8 : BB7 ILKD I>PQFKD DLLA IFHB > @>0 LO > OBCOFDB0>QL0

8K6 ; 4A : 8 E4G8 QEB MOF@B LC LKB @ROOBK@V FK QBO J P LC >KLQEBO @ROOBK@V

9<A4? : BB7 4A7 F8E I<68 LRQMRQ RPBA AFOB@QIV CLO @LKPR J MQFLK FKSBPQ J BKQ DLSB0K J BKQ >KA Q0>AB MROMLPBP @LKQ0>PQ  
TFQE eFKQBO J BAF>QB DLLAf

( C8E 64C<G4 &# / AFSFABA ?V QEB MLMRI>QFLK

:EBFF 7B@8F<6 CEB7H6G ( QEB S>IRB LC QEB LRQMRQ LC >II DLLAP >KA PB0SF@BP MOLAR@BA TFQEFK > @LRKQOV FK > VB>0

:EBFF A4<BA4? CEB7H6G & ( FK@IRABP TE>Q FP MOLAR@BA AL J BPQF@>IIV >KA TE>Q FP MOLAR@BA ?V AL J BPQF@ I>?LO >KA  
?RPFKBPP >?0L>A FK > VB>0

<AG8E@87<4G8 : BB7 LRQMRQ MOLSFABA QL LQEBO ?RPFKBPPBP >Q >K FKQBO J BAF>QB PQ>DB LC MOLAR@QFLK KLQ CLO CFK>I RPB0P  
@LKQ0>PQ TFQE eCFK>I DLLA >KA PB0SF@Bf

<A18AGBEL DLLA QE>Q E>P ?BBK MOLAR@BA ?RQ KLQ VBQ ?BBK PLIA

A4G<BA4? <A6B@8 FK@IRABP >II FK@L J B B>OKBA T>DBP MOLCFQP OBKQ >KA MOLCFQ FK@L J B

A8G A4<BA4? CEB7H6G && ( &# / JFKRP ABMOB@F>QFLK

AB@<A4? I4?H8 QEB B@LKL J F@ PQ>QFPQF@ >@QR>IIV >KKLRK@BA >Q QE>Q QF J B KLQ >AGRPQBA CLO FKCI>QFLK @LKQ0>PQ TFQE OB>I S>IRB

ABA7HE45?8 : BB7 PELOQ IFSBA DLLA IFHB CLLA >KA @ILQEFKD

C84> AROFKD QEB ?RPFKBPP @V@IB QEB EFDEBPQ MLFKQ LC LRQMRQ ?BCL0B > OB@BPPFLK ?BDFKP

E84? I4?H8 >K B@LKL J F@ PQ>QFPQF@ >CQBO FQ E>P ?BBK >AGRPQBA CLO FKCI>QFLK @LKQ0>PQ TFQE KL J FK>I S>IRB

E868FF<BA > PFDKFCF@>KQ AB@IFKB FK K>QFLK>I LRQMRQ

F8E I<68 MOLAR@Q TEF@E FP FKQ>KDF?IB FK @LKQ0>PQ QL DLLAP PR@E >P BKQBOQ>FK J BKQ EB>IQE@>OB LO BAR@>QFLK

F64A74E7 B9 ?<I<A : >II BIB J BKQP QE>Q >CCB@Q MBLMIBdP E>MMFKBPP TEBQEBO MBLMIB ?RV LO PBII QEBPB BIB J BKQP FK QEB J >OHBQ  
LO KLQ

F6EH6GHE8 ?RFIAFKD RPBA >P OBPfABK@B C>@QL0V LCCF@B ?RFIAFKD OBQ>FI PQL0B LO CLO LQEBO MROMLPBP

GE478 54?4A68 D>M ?BQTBK BUMLOQP >KA F J MLOQP

GE478 789<6<G BUFPQP TEBK > K>QFLK P F J MLOQP BU@BBA FQP BUMLOQP >KA FQ @>I@RI>QBP QEB J >P F J MLOQP aBUMLOQP

GE478 FHEC?HF BUFPQP TEBK > K>QFLK P BUMLOQP BU@BBA FQP F J MLOQP >KA FQ @>I@RI>QBP QEB J >P BUMLOQP a F J MLOQP

GEBH : ; AROFKD QEB ?RPFKBPP @V@IB QEB ILTBPQ MLFKQ LC LRQMRQ FK > OB@BPPFLK ?BCL0B > OB@LSBOV ?BDFKP



# # 1 ' & ( , + & + - % % \* 1

%84FHE<A: G;8 +<M8 B9 G;8 6BAB@L EBFf B@8F<6 (EB7H6G

\$@LKL J FPQP DBKBO>IIV BUMOBPP QEB PFWB LC > K>QFLKdP B@LKL J V >P FQP DOLPP AL J BPQf@ MOLAR@Q &# / TEF@E J B>PROBP QEB S>IRB LC QEB LRQMRQ LC >II DLLAP >KA PBOsf@BP MOLAR@BA TFQEFK QEB @LRKQOV FK > VB>0 \$@LKL J FPQP J B>PROB &# / ?V Q>HFkd QEB NR>KQfQFBP LC >II DLLAP >KA PBOsf@BP MOLAR@BA J RIQFMIVFKD QEB J ?V QEBFO MOF@BP >KA PR J J FKD QEB QLQ>I 2FK@B &# / J B>PROBP TE>Q FP ?LRDEQ >KA PLIA FK QEB B@LKL J V TB @>K J B>PROB FQ BFQEBO ?V QEB PR J LC TE>Q FP MRO@E>PBA FK QEB B@LKL J V LO TE>Q FP MOLAR@BA

6B @>K AFSFAB AB J >KA FKQL @LKPR J MQLK FKSBPQ J BKQ DLSBOK J BKQ BUMLOQP >KA F J MLQQP 6B @>K AFSFAB TE>Q FP MOLAR@BA FK QEB B@LKL J V FKQL ARO>?IB DLLAP KLKARO>?IB DLLAP PBOsf@BP PQQR@QROBP >KA FKSbKQLOFBP 3L >SLFA ALR?IB @LRKQFKD &# / @LRKQP LKIV CFK>I LRQMRQ LC DLLAP >KA PBOsf@BP KLQ QEB MOLAR@QFLK LC FKQBO J BAF>QB DLLAP LO QEB S>IRB LC I>?LO FK QEB @E>FK LC MOLAR@QFLK

7>HF<A: &B@<A4? .4?H8F GB \*84? .4?H8F

3EB KL J FK>I S>IRB LC >K B@LKL J F@ P>QFPQf@ FP QEB @L J J LKIV >KKLRK@BA S>IRB 3EB OB>I S>IRB FP QEB S>IRB >CQBO >AGRPQFKD CLO @E>KDBP FK FKCI>QFLK 3L @LKSBOQ KL J FK>I B@LKL J F@ A>Q> COL J PBSBO>I AFCCBOBKQ VB>OP FKQL OB>I FKCI>QFLK >AGRPQBA A>Q> QEB P>QFQD MLFKQ FP QL @ELLPB > ?>PB VB>0 >?FQ>OFIV >KA QEBK RPB > MOF@B FKABU QL @LKSBOQ QEB J B>PROB J BKQP PL QE>Q B@LKL J FPQP J B>PROB QEB J FK QEB J LKBV MOBS>FIFKD FK QEB ?>PB VB>0

,E46><A: \*84? ( B I 8E ,<@8

. SBO QEB ILKD QBO J 4 2 OB>I &# / E>SB FK@OB>PBA A0> J >Qf@>IIV Q QEB P> J B Qf J B &# / E>P KLQ FK@OB>PBA QEB P> J B > J LRKQ B>@E VB>0 3EB PMBBAFKD RM >KA PILTFKD ALTK LC &# / DOLTQE OBMOPBKP QEB ?RPFKBPP @V@IB 6 EBK &# / AB@fKBP PFDKfCf@>KQIV > OB@BPPFLK L@>R0P ILKDBO >KA ABBMBO AB@fKB FP > ABMOBPPFLK 1B@BPPFLKP ?BDFK >Q QEB ?RPFKBPP @V@IB P MB>H >KA BKA >Q QEB QLRDE

B@C4E<A: ( 4@BA: BHAGE<8F

2FK@B TB J B>PROB &# / FK > @LRKQOVdP @ROOBK@V FK LOABO QL @L J M>OB AFCCBOBKQ @LRKQOVdP &# / P TB KBBA QL @LKSBOQ QEB J QL > @L J J LK @ROOBK@V . KB T>V QL AL QE>Q FP TFQE QEB BU@E>KDB 0>QB TEF@E FP QEB MOF@B LC LKB @LRKQOVdP @ROOBK@V FK QBO J P LC >KLQEBO . K@B TB BUMOBPP &# / P FK > @L J J LK @ROOBK@V TB @>K @L J M>OB B>@E @LRKQOVdP &# / MBO @>MFQ> ?V AFSFAFKD &# / ?V MLMRI>QFLK "LRKQOVdP TFQE I>ODB MLMRI>QFLK LCQBK E>SB I>ODB &# / P ?RQ &# / >ILKB @>K ?B > J FPIB>AFKD FKAf@>QLO LC > K>QFLK P TB>IQE ?BQQBO J B>PROB FP &# / MBO @>MFQ>

BJ / 8?? (%84FHE8F G;8 / 8?? 8<A: B9 +B6<8GL

&# / FP >K FKAf@>QLO LC > PL@FBQVdP P>KA>OA LC IFSFKD ?RQ FQ FP LKIV > OLRDE FKAf@>QLO &# / ALBP KLQ AFOB@QIV Q>HB >@>LRKQ LC IBFPROB BKSFOLK J BKQ>I NR>IFQV IBSBIP LC EB>IQE >KA BAR@>QFLK >@QFSFQFBP @LKAR@QBA LRQPFAB QEB J >OHBQ @E>KDBP FK FKBNR>IFQV LC FK@L J B FK@OB>PBP FK S>OFBQV FK@OB>PBP FK QB@EKLILDV LO QEB MLPFQFSB LO KBD>QFSB S>IRB QE>Q PL@FBQV J >V MI>@B LK @BOQ>FK QVMBP LC LRQMRQ

# + \$ # ) - +,!' & +

"LRKQOV E>P BUMLOQ P>IBP LC ?FIIFLK DLSBOK J BKQ MRO@E>PBP LC ?FIIFLK ?RPFKBPP FKSBPQ J BKQ FP ?FIIFLK F J MLQQP >OB ?FIIFLK >KA @LKPR J MQLK PMBKAFKD FP ?FIIFLK 6 E>Q FP QEB ALII>0 S>IRB LC &# /

6 EF@E LC QEB CLIIITFKD >OB FK@IRABA FK &# / >KA TEF@E >OB KLQ

> 3EB @LPQ LC ELPMFQ>I PQ>VP

? 3EB OFPB FK IFCB BUMB@>K@V LSBO Qf J B

@ "EFIA @>OB MOLSFABA ?V > IF@BKPBA A>V @>OB @BKQBO

A "EFIA @>OB MOLSFABA ?V > D0>KA J LQEBO

B RPBA @>0 P>IB

C KBT @>0 P>IB

D 3EB DOB>QBO S>OFBQV LC @EBBPB >S>FI>?IB FK PRMBO J >OHBQP

E 3EB FOLK QE>Q DLBP FKQL QEB PQBBI QE>Q DLBP FKQL > OBCOFD0>QL0 ?LRDEQ ?V > @LKPR J B0

4PFKD A>Q> COL J ,45?8 ELT J R@E LC QEB KL J FK>I &# / DOLTQE COL J QL T>P OB>I &# / >KA ELT J R@E T>P FKCI>QFLK

6 FQELRQ ILLHFKD >Q ,45?8 OBQR0K QL <:HE8 (C TB ABCFKB > OB@BPPFLK >P > PFDKFCF@>KQ AB@IFKB FK K>QFLK>I LRQMRQ @>K VLR FABKQFCV >KV MLPQ OB@BPPFLK P >AAFQFLK QL QEB OB@BPPFLK 3EFP OBNRF0BP > GRAD J BKQ @>II

@@LOAFKD QL ,45?8 ELT LCQBK E>SB OB@BPPFLK P L@>R00BA PFK@B QEB BKA LC 6 LOIA 6 >0 ((

@@LOAFKD QL ,45?8 ELT ILKD E>P QEB >SB0>DB OB@BPPFLK I>PQBA PFK@B QEB BKA LC 6 LOIA 6 >0 ((

@@LOAFKD QL ,45?8 ELT ILKD E>P QEB >SB0>DB BUM>KPFLK I>PQBA PFK@B QEB BKA LC 6 LOIA 6 >0 ((

(P FQ MLPPF?IB CLO &# / QL OFPB TEFIB >Q QEB P> J B QF J B MBO @>MFQ> &# / FP C>HFKD (P FQ MLPPF?IB CLO &# / QL C>II TEFIB MBO @>MFQ> &# / FP OFPFKD

3EB "BKQO>I COF@>K 1BMR?IF@ E>P > &# / LC J FIIFLK "% CO>K@P >KA > MLMRI>QFLK LC J FIIFLK 3EB BU@E>KDB O>QB FP "% CO>K@P MBO ALII>0 ">I@RI>QB QEB &# / MBO @>MFQ> LC "BKQO>I COF@>K 1BMR?IF@

\$UMI>FK ?OFBCIV TEBQEBO B>@E LC QEB CLIIILTFKD TLRIA @>RPB &# / QL LSB0PQ>QB LO RKAB0PQ>QB QEB ABD0BB LC @E>KDB FK QEB ?OL>A PQ>KA>0A LC IFSFKD

> 3EB BKSFOLK J BKQ ?B@L J BP AFOQFBO

? 3EB @OF J B O>QB AB@IFKBP

@ DOB>QBO S>0FBQV LC DLLAP ?B@L J B >S>FI>?IB QL @LKP R J BOP

A (KC>KQ J LQ>IFQV AB@IFKBP

\* .! / ) - + ,!' &+

6 E>Q >OB QEB J >FK @L J MLKBKQP LC J B>PROFKD &# / TFQE TE>Q FP AB J >KABA

' LT AL VLR @LKSBOQ > PBOFBP LC KL J FK>I B@LKL J F@ A>Q> LSBO QF J B QL OB>I QBO J P

6 E>Q >OB QEB J >FK @L J MLKBKQP LC J B>PROFKD &# / TFQE TE>Q FP MOLAR@BA

6 E>Q >OB QVMF@>I &# / M>QQBOKP CLO > EFDE FK@L J B B@LKL J V IFHB QEB 4KFQBA 2Q>QBP FK QEB ILKD ORK >KA QEB PELOQ ORK

6 LRIA VLR RPR>IIV BUMB@Q &# / >P J B>PROBA ?V TE>Q FP AB J >KABA QL ?B DOB>QBO QE>K &# / J B>PROBA ?V TE>Q FP PRMMIFBA LO QEB OBSBOP

6 E>Q >OB QEB QTL J >FK AFCCF@RIQFBP QE>Q >0FPB FK @L J M>0FKD AFCCB0BKQ @LRKQ0FBP P &# /

6 EV J RPQ VLR >SLFA ALR?IB @LRKQFKD TEBK J B>PROFKD &# /

+FPQ PL J B LC QEB OB>PLKP TEV B@LKL J FPQP PELRIA KLQ @LKP FABO &# / >K BCCB@QFSB J B>PROB LC QEB PQ>KA>0A LC IFSFKD FK > @LRKQOV

6 E>Q FP QEB AFCCB0BK@B ?BQTB BK > PBOFBP LC B@LKL J F@ A>Q> LSBO QF J B J B>PROBA FK KL J FK>I QBO J P SBOPRP QEB P> J B A>Q> PBOFBP LSBO QF J B J B>PROBA FK OB>I QBO J P

\*!,! \$ , !&#!& ) - + ,!' &+

4 2 J >@0LB@LKL J F@ A>Q> >OB > J LKD QEB ?BPQ FK QEB TLOIA &FSBK TE>Q VLR IB>0KBA FK QEB ?84E !G - C ' LT AL PQ>QFPQF@F>KP J B>PROB &# / ALBP QEF PROMOFBP VLR LO ALBP QEF PF J MIV OBCIB@Q QEB @L J MIBUFQV LC > J LABOK B@LKL J V

2ELRIA MBLMIB QVMF@>IIV M>V J LOB >QQBKQFLK QL QEBFO OB>I FK@L J B LO QEBFO KL J FK>I FK@L J B (C VLR @ELLPB QEB I>QBO TEV TLRIA QE>Q J >HB PBKBP FK QLA>VdP TLOIA 6 LRIA VLRO >KPTBO ?B QEB P> J B CLO QEB P

6 E>Q ALBP &# / KLQ QBII RP >?LRQ QEB B@LKL J V

6 EV AL VLR PRMMLPB QE>Q 4 2 &# / FP PL J R@E EFDEBO QLA>V QE>K LO VB>OP >DL

6 EV AL VLR QEFKH QE>Q &# / ALBP KLQ DOLT >Q > PQB>AV O>QB ?RQ O>QEBO PMBBAP RM >KA PILTP ALTK

"OLPP @LRKQOV @LJM>OFPLKP LC &# / MBO @>MFQ> QVMF@>IIV RPB MRQ@E>PFKD MLTBO M>OFQV BNRFS>IBKQ BU@E>KDB O>QBP TEF@E >OB > JB>PROB LC QEB ILKD ORK BNRHF?OFR J S>IRB LC >K BU@E>KDB O>QB (K C>@Q TB RPBA /// BNRFS>IBKQ BU@E>KDB O>QBP FK QEFP JLARIB 6 EV @LRIA RPFKD J>OHBQ BU@E>KDB O>QBP TEF@E PLJBQF JBP @E>KDB AO>J>QF@>IIV FK > PELOQ MBOFLA LC QFJB ?B JFPIB>AFKD

( \* ' \$ % +

+>PQ VB>O > PJ>II K>QFLK TFQE >?RKA>KQ CLOBPQ @RQ ALTK TLOQE LC QOBPP (Q QEBK QROKBA TLOQE LC QOBPP FKQL TLOQE LC IRJ ?BO (Q RPBA TLOQE LC QE>Q IRJ ?BO QL MOLAR@B TLOQE LC ?LLHPEBISBP PPRJFKD QEB @LRKQOV MOLAR@BP KL LQEBO LRQMRQ >KA QEBOB >OB KL LQEBO FKMQRQ RPBA FK MOLAR@FKD QOBPP IRJ ?BO >KA ?LLHPEBISBP TE>Q FP QEFP K>QFLK P &# / (K LQEBO TLOAP TE>Q FP QEB S>IRB LC QEB CFK>I DLLAP QEB K>QFLK MOLAR@BA FK@IRAFKD QOBPP IRJ ?BO >KA ?LLHPEBISBP

3EB eMOFJBF FKQBOBPQ O>QB FP QEB O>QB QE>Q ?>KHP @E>ODB QEBFO ?BPQ @RPQLJ BOP !>PBA LK QEB KLJFK>I FKQBOBPQ O>QBP >KA FKCI>QFLK O>QBP FK ,45?8 FK TEF@E LC QEB VB>OP TLRIA FQ E>SB ?BBK ?BPQ QL ?B > IBKABO !>PBA LK QEB KLJFK>I FKQBOBPQ O>QBP >KA FKCI>QFLK O>QBP FK ,45?8 FK TEF@E LC QEB VB>OP DFSBK TLRIA FQ E>SB ?BBK ?BPQ QL ?B > ?LOOLTBO

184E	(E<@8 !AG8E8FG *4G8	!A9?4G<BA *4G8

,45?8

6 EV JFDEQ MBO @>MFQ> &# / ?B LKIV >K FJ MBOCB@Q JB>PROB LC > @LRKQOV@P PQ>KA>OA LC IFSFKD

'LT JFDEQ VLR JB>PROB > eDOBBkf &# /

JLQD>DB IL>K FP > IL>K QE>Q > MBOPLK J>HBP QL MRQ@E>PB > ELRPB ,45?8 MOLSFABP > IFPQ LC QEB JLQD>DB FKQBOBPQ O>QB CLO PBSBO>I AFCCBOBKQ VB>OP >KA QEB O>QB LC FKCI>QFLK CLO B>@E LC QELPB VB>OP (K TEF@E VB>OP TLRIA FQ E>SB ?BBK ?BQQBO QL ?B > MBOPLK ?LOOLTFKD J LKBV COLJ > ?>KH QL ?RV > ELJB (K TEF@E VB>OP TLRIA FQ E>SB ?BBK ?BQQBO QL ?B > ?>KH IBKAFKD J LKBV

184E	%BEG : 4 : 8 !AG8E8FG *4G8	!A9?4G<BA *4G8

,45?8

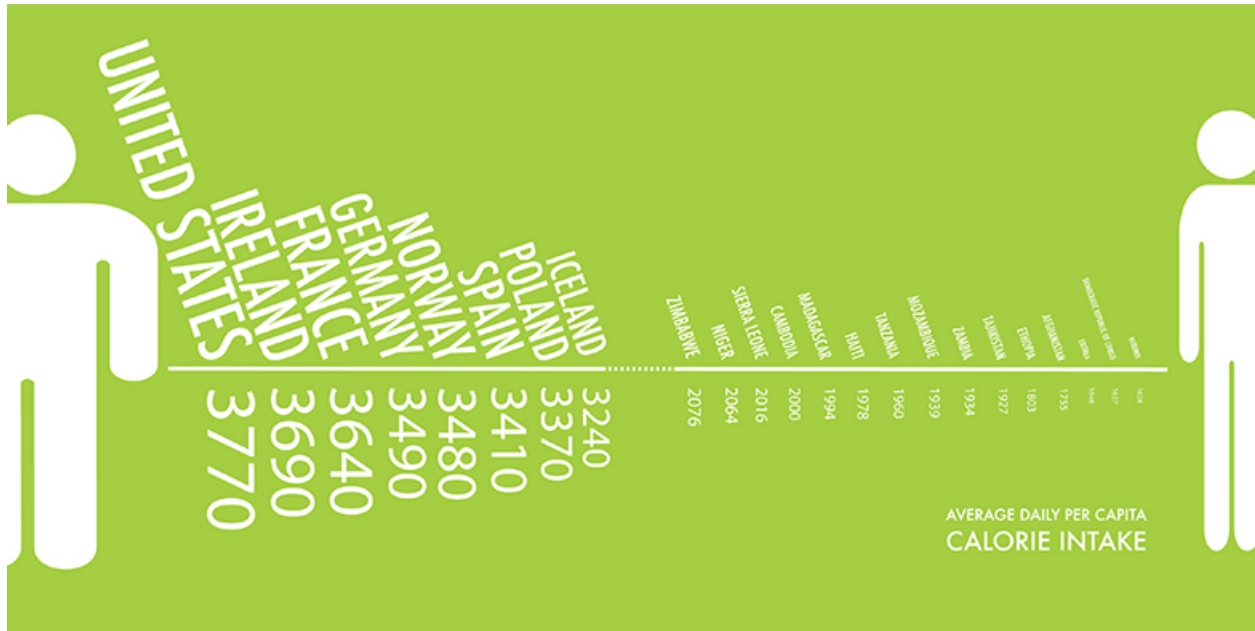
\$QEFLMF> E>P > &# / LC ?FIIFLK JB>PROBA FK 4 2 ALII>OP >KA > MLMRI>QFLK LC JFIIFLK "LPQ> 1F@> E>P > &# / LC ?FIIFLK JB>PROBA FK 4 2 ALII>OP >KA > MLMRI>QFLK LC JFIIFLK ">I@RI>QB QEB MBO @>MFQ> &# / CLO B>@E @LRKQOV >KA FABKQFCV TEF@E LKB FP EFDEBO

(K #BKJ>OH E>A > &# / LC ?FIIFLK JB>PROBA FK 4 2 ALII>OP >KA > MLMRI>QFLK LC JFIIFLK (K #BKJ>OH E>A > &# / LC ?FIIFLK JB>PROBA FK 4 2 ALII>OP >KA > MLMRI>QFLK LC JFIIFLK !V TE>Q MBO@BKQ>DB AFA #BKJ>OH@P &# / MBO @>MFQ> OFPB ?BQTBBK >KA

3EB "WB@E 1BMR?IF@ E>P > &# / LC ?FIIFLK HLORKV 3EB BU@E>KDB O>QB FP HLORKV 4 2 ALII>O 3EB "WB@E MLMRI>QFLK FP JFIIFLK 6 E>Q FP QEB &# / MBO @>MFQ> LC QEB "WB@E 1BMR?IF@ BUMOBPPBA FK 4 2 ALII>OP



# N 6BAB@<6 EB JG ;



<:HEB 18E4:8 4?L 4?BE<8 BAFH@C@<BA . LQ LKIV E>P QEB KR J ?BO LC @>ILOFBP QE>Q MBLMIB @LKPR J B MBO A>V  
 FK@OB>PBA PL E>P QEB >J LRKQ LC CLLA @>ILOFBP QE>Q MBLMIB >OB >?IB QL >CCLOA ?>PBA LK QEBFO TLOHFKD T>DBP #OBAFQ  
 J LAFQ@>QFLK LC TLOH ?V ,>ROBK ->KKFKD &F@HO #OB>QFSB #L J J LKP

## Bring it Home

### 4?BE<8F 4A7 6BAB@<6 EB JG ;

/ K >SBO>DB ER J>KP KBBA >?LRQ @>ILOFBP > A>V QL PROFSB ABMBKAFKD LK EBFDEQ TBFDEQ >KA DBKABO  
 4EB B@LKL JFPQ "O>A \$B , LKD BPQF J >QBP QE>Q QEB >SBO>DB TLOHBO FK QEB B>OIV P B>OKBA T>DBP QE>Q @LRIA  
 >CCLOA EFJ CLLA @>ILOFBP 4EFP TLOHBO IFSBA FK 7BPQBOK %ROLMB 4TL ERKA OBA VB>OP I>QBO QE>Q P>JB  
 TLOHBO @LRIA >CCLOA CLLA @>ILOFBP (LTBSBO ?BQTBBK >KA GRPQ > QF JB PM>K LC GRPQ VB>OP  
 B@LKL JF@ DOLTQE T>P PL O>MFA QE>Q TBPQBOK %ROLMB>K TLOHBOP @LRIA MRQ@E>PB CLLA @>ILOFBP > A>V "V  
 > ILT PHHIBA TLOHBO FK >K >CIRBKQ 7BPQBOK %ROLMB>K . LQOE ! JBOF@>K @LRKQOV @LRIA >CCLOA QL MRQ@E>PB  
 JFIHLK CLLA @>ILOFBP MBO A>V

7 E>Q @>RPBA PR@E > O>MFA QFPB FK IFSKD PQ>KA>OAP ?BQTBBK >KA >KA QEBOB>CQBO 7 EV FP FQ QE>Q  
 J>KV @LRKQOFPB BPMB@>IIV QELPB FK 7BPQBOK %ROLMB . LQOE ! JBOF@> >KA M>OQP LC %>PQ !PF@ @>K CBBA QEBFO  
 MLMRI>QFLKP JLOB QE>K >ABNR>QBIV TEHIB LQEBOP @>KKLQ 7B THH ILLH >Q QEBPB >KA LQEBO NRBPF LKP >P TB  
 BU>JFKB ILKD ORK B@LKL JF@ DOLTQE

### !AGEB7H6G<BA GB 6BAB@<6 EB JG ;

(K QEFP @E>MQBO VLR TFH IB>OK >?LRQ

- g 3EB 1BI>QFSBIV 1B@BKQ OOF>I LC \$@LKL JF@ &OLTQE
- g +>?LO /OLAR@QFSFQV >KA \$@LKL JF@ &OLTQE
- g "L J MLKBKQP LC \$@LKL JF@ &OLTQE

g \$@LKLJF@ "LKSBOBDBK@B

\$SBOV @LRKQOV TLOOFBP >?LRQ B@LKLJF@ DOLTQE (K QEB 4KFQBA 2Q>QBP >KA LQEB EFDE FK@LJB @LRKQOFBP QEB NRBPFQFK FP TEBQEB B@LKLJF@ DOLTQE @LKQFKRBP QL MOLSFA B QEB P> JB OB J>OH>?IB D>FKP FK LRO PQ>KA>OA LC IFSFKD >P FQ AFA AROFKD QEB QTBFQFBQE @BKQROV , B>KTEFIB @>K JFAAIB FK@LJB @LRKQOFBP IFHB !O>WFI \$DVMQ LO /LI>KA @>Q@E RM QL QEB EFDEBO FK@LJB @LRKQOFBP LO JRPQ QEBV OB J>FK FK QEB PB@LKA QFBO LC MBO @>MFQ> FK@LJB . C QEB TLOIA@P MLMRI>QFLK LC OLRDEIV ?FIIFLK MBLMIB >?LRQ ?FIIFLK >OB P@O>MFKD ?V LK FK@LJB QEQ> >SBO>DB IBPP QE>K MBO A>V KLQ QE>Q AFCCOBKQ COL J QEB PQ>KA>OA LC IFSFKD VB>OP >DL ">K QEB TLOIA@P MLLQ ?B IFCQBA COL J QEBFO CB>OCRI MLSBOQV P QEB -L?BI I>ROB>QB FK B@LKLJF@P 1L?BOQ \$ +R@>P )O LK@B KLQBA e3EB @LKPBNRBK@BP CLO ER J>K TBIC>OB FKSLISBA FK NRBPFQFKP IFHB QEBPB >OB PF J MIV PQ>DDBOFKD . K@B LKB PQ>OQP QL QEFKH >?LRQ QEB J FQ FP E>OA QL QEFKH >?LRQ >KVQEFKD BIPB f

#O> J>QF@ F J MOLSBJ BKQP FK > K>QFLK@P PQ>KA>OA LC IFSFKD >OB MLPPF?IB CQBO QEB \*LOB>K 6>O FK QEB I>QB P QEB 1BMR?IF@ LC \*LOB> LCQBK @>IIBA 2LRQE \*LOB> T>P LKB LC QEB MLLQBPQ B@LKLJFBP FK QEB TLOIA , LPQ 2LRQE \*LOB>KP TLOHBA FK MB>P>KQ >DOF@RIQROB @>LOAFKD QL QEB !OFQPE B@LKLJFPQ KDRP , >AAFPLK TEL ABSLQBA IFCB@P TLOH QL JB>PROFKD &# / >KA MLMRI>QFLK FK QEB TLOIA B@LKLJV &# / MBO @>MFQ> FK FKQBOK>QFLK>I ALII>OP T>P MBO VB>O %OL J QEB P QL QEB B>OIV QTBFQV CFOPQ @BKQROV > QF JB MBOFLA TBII TFQEFK QEB IFCBQF JB >KA JB J LOV LC J>KV >ARIQP QEB 2LRQE \*LOB>K B@LKLJV DOBT O>MFAIV . SBO QEBPB CLRO AB@>ABP &# / MBO @>MFQ> FK@OB>PBA ?V J LOB QE>K MBO VB>O @>LOAFKD QL QEB 6LOIA !>KH &# / CLO 2LRQE \*LOB> KLT BU@BBAP FK KL J FK>I QBO J P MI>@FKD FQ CFO J IV > J LKD EFDE FK@LJB @LRKQOFBP IFHB (Q>IV -BT 9B>I>KA >KA (PO>BI , B>PROBA ?V QLQ>I &# / FK 2LRQE \*LOB> FP QEB BIBSBKQE I>ODBPQ B@LKLJV FK QEB TLOIA %LO > K>QFLK LC J FIIFLK MBLMIB QEFQ QO>KPCLQ J >QFLK FP BUQO>LOAFK>OV

2LRQE \*LOB> FP > PQ>KALRQ BU>J MIB ?RQ FQ FP KLQ QEB LKIV @>PB LC O>MFA >KA PRPQ>FKBA B@LKLJF@ DOLTQE . QEBQ \$>PQ PF>K K>QFLK IFHB 3E>FI>KA >KA (KALKBPF> E>SB PBBK SBOV O>MFA DOLTQE >P TBII "EFK> E>P DOLT K BKLO J LRPV PFK@B FQ BK>@QBA J >OHBQ LOFBKQBA B@LKLJF@ OBCLQ J P >OLRKA &# / MBO @>MFQ> FK EFDE FK@LJB B@LKLJFBP IFHB QEB 4KFQBA 2Q>QBP >IPL E>P DOLT K AO> J>QF@>IIV >I?BFQ LSBO > ILKDBO QF JB CO>JB 2FK@B QEB "FSFI 6>O QEB 4 2 B@LKLJV E>P QO>KPCLQ J BA COL J > MOF J >OFIV ORO>I >KA >DOF@RIQRO>I B@LKLJV QL >K B@LKLJV ?>PBA LK PBO SF@BP J >KRC>@QROFKD >KA QB@EKLILDV

## N , ; 8 \* 8?4G<I8?L \* 868AG EE<I4? B9 6BAB@<6 EB JG;

! V QEB BKA LC QEFQ PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB @LKAQFLKP QE>Q E>SB >IIL TBA CLO J LABOK B@LKLJF@ DOLTQE FK QEB I>PQ QTL @BKQROFBP
- d K>IVWB QEB FKCIRBK@B LC MR?IF@ MLIF@FBP LK >K B@LKLJV P ILKD ORK B@LKLJF@ DOLTQE

+BQ@P ?BDFK TFQE > ?OFBC LSBOSFBT LC PMB@Q>@RI>O B@LKLJF@ DOLTQE M>QQBOKP >OLRKA QEB TLOIA FK QEB I>PQ QTL @BKQROFBP 6B @L J J LKIV OBCHO QL QEFQ >P QEB MBOFLA LC **modern economic growth** +>QBO FK QEB @E>M@BO TB TFII AFP@RPP ILTBO B@LKLJF@ DOLTQE O>QBP >KA PL JB HBV FKDOBAFBKQP CLO B@LKLJF@ MOLDOBP 1>MFA >KA PRPQ>FKBA B@LKLJF@ DOLTQE FP > OBI>QFSBIV OB@BKQ BUMBOFBK@B CLO QEB ER J >K O>@B !BCLOB QEB I>PQ QTL @BKQROFBP >IQELRDE ORIBOP KL?IBP >KA @LKNRBOLOP @LRIA >CCLQA PL JB BUQO>S>D>K@BP >KA >IQELRDE B@LKLJFBP OLPB >?LSB QEB PR?PFPQBK@B IBSBI QEB >SBO>DB MBOPLK@P PQ>KA>OA LC IFSFKD E>A KLQ @E>KDBA JR@E CLO @BKQROFBP

/OLDOBPFFSB MLTBOCRI B@LKLJF@ >KA FKPQFQRQFLK>I @E>KDBP PQ>OQBA QL E>SB > PFDKFCF@>KQ BCCB@Q FK QEB I>QB BFDEQBBKQE >KA B>OIV KEKBQBBKQE @BKQROFBP @>LOAFKD QL QEB #RQ@E B@LKLJF@ EFPQLOF>K )>K +RFQBK S>K 9>KABK PI>SBOV ?>PBA PL@FBQFBP C>SLO>?IB AB J LDO>MEF@P DIL?>I QO>AFKD OLRQBP >KA PQ>KA>OAFWBA QO>AFKD FKPQFQRQFLK QE>Q PMOB>A TFQE AFCCOBKQ B J MFOBP PBQ QEB PQ>DB CLO QEB (KARPQF>I 1BSLIRQFLK QL PR@>BBA 3EB **Industrial Revolution** OBCEBOP QL QEB TFABPMOB>A RPB LC MLTBO AOFBKB J>@EFKBOV >KA QEB B@LKLJF@ >KA PL@F>I @E>KDBP QE>Q OBPRIQBA FK QEB CFOPQ E>IC LC QEB P (KDBKFLRP J>@EFKBP b QEB PQB> J BKDFKB QEB MLTBO ILL J >KA QEB PQB> J IL@L J LQFSB b MBOCLO J BA Q>PHP QE>Q LQEBOTFBP TLRIA E>SB Q>HBK S>PQ KR J ?BOP LC TLOHBOP QL AL 3EB (KARPQF>I 1BSLIRQFLK ?BD>K FK &OB>Q !OFQ>FK >KA PLLK PMOB>A QL QEB 4KFQBA 2Q>QBP &B0 J >KV >KA LQEB @LRKQOFBP

3EB GL?P CLO LOAFK>OV MBLMIB TLOHFKD TFQE QEBPB J>@EFKBP TBOB LCQBK AFOQV >KA A>KDBOLRP ?V J LABOK PQ>KA>OAP ?RQ QEB >IQBOK>QFSB GL?P LC QE>Q QF JB FK MB>P>KQ >DOF@RIQROB >KA P J >II SHI>DB FKARPQOV TBOB LCQBK AFOQV >KA A>KDBOLRP QLL 3EB KBT GL?P LC QEB (KARPQF>I 1BSLIRQFLK QVMF@>IIV LCCBOBA EFDEBO M>V >KA > @E>K@B CLO PL@F>I J L?FIFQV PBIC OBFKCLQ@FKD @V@IB ?BD>K -BT FKSBBQFLKP >KA FKSBBPQ J BKQP DBKBO>QBA MOLCFQP QEB MOLCFQP MOLSFABA CRKAP CLO J LOB KBT FKSBBPQ J BKQ >KA FKSBBQFLKP >KA QEB FKSBBPQ J BKQP >KA FKSBBQFLKP MOLSFABA LMMLOQRKQFBP CLO CROQEBO MOLCFQP 2ILTIV >

DOLRM LC K>QLK>I B@LKLJFBP FK \$ROLMB >KA -LQOE JBOF@> BJBODBA COLJ @BKQROFBP LC PIRDDFPEKBPP FKQL > MBOFLA  
LC O>MFA JLABOK DOLTQE #ROFKD QEB I>PQ QTL @BKQROFBP QEB >SBO>DB &#/ DOLTQE O>QB MBO @>MFQ> FK QEB IB>AFKD  
FKARPQF>IFWBA @LRKQFBP E>P ?BBK >?LRQ MBO VB>O 6E>Q TBOB QF JBP IFHB ?BCLQB QEBK 1B>A QEB CLILTFKD "IB>O (Q  
4M CB>QROB CLO QEB >KPTBO

# Clear It Up

## / ;4G J8E8 86BAB@<6 6BA7<G<BAF ?<>8 589BE8

!KDRP ->AAfPLK >NR>KQF>QFSB B@LKLJF@ EFPQLQF>K IBA QEB JLPQ PVPQB J>QF@ FKNRFOV FKQL K>QLK>I FK@LJBP  
?BCLQB %@LKLJFPQP OB@BKQIV E>SB OBCFKBA >KA RPBA EFP JBQELAP QL @LJMFIB '\$O MBO @>MFQ> BPQF J>QBP  
COLJ VB>O # % QL ,45?8 FP >K FJMLQ>KQ @LRKQBOMLFKQ QL JLPQ LC QEB K>OO>QFSB FK QEF@ E>MQBO )Q  
PELTP QE>Q K>QLK>P @>K AB@IFKB >P TBII >P OFPB !TFAB >OO>V LC CLO@BP PR@E >P BMFAB JF@P K>QRO>I >KA TB>QEB  
OBI>QBA AF>PQBOP QEB FK>?HFQV QL DLSBOK I>ODB BJMFQBP >KA QEB OB J>OH>?IV PILT M>@B LC QB@EKLILDF@>I >KA  
FKPQFQRQFLK>I MOLDQBPP BUMI>FK AB@IFKBP FK FK@LJB )KPQFQRQFLK >OB QEB QO>AFQFLK >KA I>TP ?V TEF@E MBLMIB FK >  
@LJ JRKQV >DOBB QL ?BE>SB >KA DLSBOK QEB JPBISBP 3R@E FKPQFQRQFLK FK@IRAB J>OO>DB OBIFDLKB BAR@>QFLK  
>KA I>TP LC DLSBOK>K@B )KPQFQRQFLK>I MOLDQBPP FP QEB ABSBILMJBKQ >KA @LAFQF@>QFLK LC QEBPB FKPQFQRQFLK QL  
OBFKCLQ@B PL@F>I LOABO >KA QERP B@LKLJF@ DOLTQE

/KB BU>J MIB LC PR@E >K FKPQFQRQFLK FP QEB ->DK> #>OQ> 'OB>Q #E>OQBO TEF@E QEB %KDIFPE KL?IBP CLO@BA +FKD  
\*LEK QL PFDK FK 4EB ->DK> #>OQ> @LAFQFBA QEB MOFK@FMIBP LC ARB MOL@BPP TEBQB?V >COBB J>K @LRIA  
KLQ ?B MBK>IFWBA RKIBPP EFP MBBOP E>A J>AB > I>TCRI GRADJBKQ >D>FKPQ EFJ 4EB 5KRQBA 3Q>QBP FK FQP LTK  
@LKPQFQRQFLK I>QBO >ALMQBA QEF@ @LK@BMQ 4EFP PL@F>I LOABO J>V E>SB @LKQF?RQBA QL %KDI>KA@P '\$O MBO @>MFQ> FK  
TEF@E T>P PB@LKA QL QE>Q LC KLOQEBOK )Q>IV

)K PRAVFKD B@LKLJF@ DOLTQE > @LRKQV@P FKPQFQRQFLK>I CO>JBTLQH MI>VP > @OQF@>I OLIB ,45?8 >IPL PELTP  
OBI>QFSB DIL?>I BNR>IFQV CLO >I JLPQ VB>OP !QBO QEF@ TB ?BDFK QL PBB PFDKFCF@>KQ AFQBODBK@B FK FK@LJB KLQ  
FK QEB Q>?IB

184E	&BEG ; 8EA !G4?L	+C4<A	A :?4A7	B??4A7	LM4AG<H@	!E4D	:LCG	"4C4A

,45?8 ( (8E 4C<G4 FG<@4G8F <A HEE8AG !AG8EA4G<BA4? B??4EF 9EB@ GB  
3LR0@B "LIQ >KA S>K :>KABK b4EB &FOPQ 5MA>QB LC QEB ->AAfPLK OOLGB@Q 2B %PQF J>QFKD  
'OLTQE "BCLQB c

!KLQEBQ C>P@FK>QFKD >KA RKABOQBMLQBA C>@Q FP QEB EFDE IBSBIP LC FK@LJB @LJM>OBA QL LQEBOP >Q QE>Q QFJB  
>Q>FKBA ?V (QEB )PI>JF@ %J MFOB !??>PFA #>IFME>QB\_ TEF@E T>P CLRKABA FK MOBPBKQ A>V )O>N FK # % !Q FQP  
EBFDEQ QEB BJ MFOB PM>KKBA I>ODB OBDLKP LC QEB -FAAIB %>PQ .LQOE !COF@> >KA 3M>FK RKQF FQP DO>AR>I AB@IFKB  
LSBO VB>OP

3EB (KARPQF>I 1BSLIRQFLK IBA QL FK@OB>PFKD FKBNR>IFQV > J LKD K>QFLKP 2L J B B@LKL J FBP QLLH LCC TEBOB>P LQEBOP IFHB  
J>KV LC QELPB FK COF@> LO PF> OB J>FKBA @ILPB QL > PR?PFPQBK@B PQ>KA>OA LC IFSFKD &BKBO>I @>I@RI>QFLKP PELT QE>Q  
QEB @LRKQOFBP LC QEB TLOIA TFQE QEB J LPQ ABSBILMBA B@LKL J FBP E>A LK >SBO>DB QF J BP QEB &# / MBO @>MFQ> LC  
QEB TLOIA@P MLLQBPQ B@LKL J FBP FK ! V QEB J LPQ ABSBILMBA B@LKL J FBP E>A QF J BP QEB &# / MBO @>MFQ> LC  
QEB MLLQBPQ B@LKL J FBP

' LTBBSO ?V QEB J FAAIB LC QEB Q'TBKQFBQE @BKQROV PL J B @LRKQOFBP E>A PELTK QE>Q @>Q@EFKD RM T>P MLPPF?IB )>M>KdP  
B@LKL J F@ DOLTQE QLLH LCC FK QEB P >KA P TFQE > DOLTQE O>QB LC OB>I &# / MBO @>MFQ> >SBO>DFKD MBO VB>O  
AROFKD QELPB AB@>ABP "BOQ>FK @LRKQOFBP FK +>QFK J Bof@> BUMBOFBK@BA > ?LL J FK B@LKL J F@ DOLTQE FK QEB P >P  
TBII (K !O>WFI CLO BU> J MIB &# / MBO @>MFQ> BUM>KABA ?V >K >SBO>DB >KKR>I O>QB LC COL J QL (K  
QEB P PL J B \$>PQ PF>K B@LKL J FBP FK@IRAFKD 2LRQE \*LOB> 3E>FI>KA >KA 3>FT>K P>T O>MFA DOLTQE (K QEBPB  
@LRKQOFBP DOLTQE O>QB LC QL MBO VB>O FK &# / MBO @>MFQ> TBQB KLQ RK@L J J LK , LOB OB@BKQIV "EFK> TFQE  
FQP MLMRI>QFLK LC KB>OIV ?FIIFLK MBLMIB DOBT >Q > MBO @>MFQ> O>QB MBO VB>O COL J FKQL QEB P (KAF> TFQE  
> MLMRI>QFLK LC ?FIIFLK E>P PELTK MOL J FPFKD PFDKP LC B@LKL J F@ DOLTQE TFQE DOLTQE FK &# / MBO @>MFQ> LC >?LRQ  
MBO VB>O AROFKD QEB P >KA @IF J ?FKD QLT>OA QL MBO VB>O FK QEB P

# Link It Up

6FPQ QEFB TB?PFB EQM LMBKPQ>U@LIIBDB LOD I >P>ABS?>KH QL OB>A >?LRQ QEB !PF>K \$BSBILMJ BKQ ">KH

3EBPB T>SBP LC @>Q@E RM B@LKL J F@ DOLTQE E>SB KLQ OB>@EBA >II PELOBP (K @BOQ>FK COF@>K @LRKQOFBP IFHB -FDBO  
3>KW>KF> >KA 2RA>K CLO BU> J MIB &# / MBO @>MFQ> >Q QEB PQ>OQ LC QEB P T>P PQFII IBPP QE>K KLQ J R@E EFDEBO  
QE>K FQ T>P FK QEB KFKBQBBKQE @BKQROV >KA CLO @BKQROFBP ?BCLQB QE>Q (K QEB @LKBQU LC QEB LSBQ>II PFR>QFLK LC ILT FK@L J B  
MBLMIB >OLRKA QEB TLOIA QEB DLLA B@LKL J F@ KBTP COL J "EFK> MLMRI>QFLK ?FIIFLK >KA (KAF> MLMRI>QFLK  
?FIIFLK FP KLKBQEBIBPP >PQLRKAFKD >KA EB>OQBKFKD

\$@LKL J F@ DOLTQE FK QEB I>PQ QTL @BKQROFBP E>P J >AB > PQFHEKD @E>KDB FK QEB ER J >K @LKAQFLK 1F@E>OA \$>PQBOIFK >K  
B@LKL J FPQ >Q QEB 4KFSBOPFV LC 2LRQEBOK ">IFCLOKF> TOLQB FK

! V J >KV J B>PROBP > OBSLIRQFLK FK QEB ER J >K @LKAQFLK FP PTBBMFKD QEB TLOIA , LPQ MBLMIB QLA>V >OB  
?BQBO CBA @ILQEBA >KA ELRPBA QE>K QEBFO MOBAB@BPLOP QTL @BKQROFBP >DL 3EBV >OB EB>IQEFBO IFSB ILKDDB  
>KA >OB ?BQBO BAR@>QBA 6L J BKdP IFSBP >OB IBPP @BKQBOBA LK OBMOLAR@QFLK >KA MLIFQ@>I AB J L@>@V E>P  
D>FKBA >CLLQELIA IQELRDE 6BPQBOK \$ROLMB >KA FQP LCCPELLQ E>SB ?BBK QEB IB>ABOP LC QEFB >AS>K@B J LPQ  
LC QEB IBPP ABSBILMBA K>QFLKP E>SB GLFKBA FK AROFKD QEB QE @BKQROV TFQE QEB KBTIV B J BODFKD K>QFLKP LC  
PR? 2>E>O>K COF@> QEB I>QBPQ QL M>OQF@FM>QB IQELRDE QEB MF@QROB FP KLQ LKB LC RKF'SBOP>I MOLDOBPP FQ FP QEB  
DOB>QBPQ >AS>K@B FK QEB ER J >K @LKAQFLK LC QEB TLOIA@P MLMRI>QFLK BSBO >@EFBSBA FK PR@E > ?OFB PM>K LC  
QF J B

## \*H?8 B9 \$4J 4A7 6BAB@<6 EBJG;

\$@LKL J F@ DOLTQE ABMBKAP LK J >KV C>@QLOP \*BV > J LKD QELPB C>@QLOP FP >AEOBK@B QL QEB **rule of law** >KA MOLQB@QFLK  
LC MOLMBOQV OFDEQP >KA **contractual rights** ?V > @LRKQOV@P DLSBOK J BKQ PL QE>Q J >OHBQP @>K TLOH BCCB@QFSBIV >KA  
BCCF@FBKQIV +>TP JRPQ ?B @IB>O MR?IF@ C>FO BKCLQ@BA >KA BNR>IIV >MMIF@>?IB QL >II J B J ?BOP LC PL@FBQV /OLMBOQV  
OFDEQP >P VLR JFDEQ OB@>II COL J **AI<EBA@8A64? (EBG86G<BA 4A7 &8:4G<18 KG8EA4?<G8F ;GGC 6AK BE:**  
**6BAG8AG @ ?4G8FG** >OB QEB OFDEQP LC KFAFSAR>IP >KA CFO J P QL LTK MOLMBOQV >KA RPB FQ >P QEBV PBB CFQ (C VLR  
E>SB VLR E>SB QEB OFDEQ QL RPB QE>Q J LKBV TEBQEBO VLR PMBKA FQ IBKA FQ LO HBBM FQ FK >G>O (Q FP VLRO MOLMBOQV  
3EB ABCFKFQFLK LC MOLMBOQV FK@IRABP MEVPF@>I MOLMBOQV >P TBII >P QEB OFDEQ QL VLRO QO>FKFKD >KA BUMBOFBK@B BPMB@F>IIV



PFK@B VLRO QO>FKFKD FP TE>Q ABQBO J FKBP VLRO IFSBIFELLA 4PFKD QEFP MOLMBOQV FK@IRABP QEB OFDEQ QL BKQBO FKQL @LKKO>@P TFQE LQEBBO M>OQFBP TFQE VLRO MOLMBOQV (KAFSFAR>IP LO CFO J P J RPQ LTK QEB MOLMBOQV QL BKQBO FKQL > @LKKO>@Q

"LKQO>@QR>I OFDEQP QEBK >OB ?>PBA LK MOLMBOQV OFDEQP >KA QEBV >IILT FKAFSFAR>IP QL BKQBO FKQL >DOBB J BKQP TFQE LQEBOP OBD>OAFKD QEB RPB LC QEBFO MOLMBOQV MOLSFASKD OB@LROBP QEOLRDE QEB IBD>I PVPQB J FK QEB BSBKQ LC KLK@L J MIF>K@B . KB BU> J MIB FP QEB B J MILV J BKQ >DOBB J BKQ > PHFIIBA PRODBLK LMBO>QP LK >K HII MBOPLK >KA BUMB@QP M>V J BKQ %>FIROB QL M>V TLRJA @LKPQF@RQB MOLMBOQV QEBQC ?V QEB M>QFBKQ 3EB QEBQC FP MOLMBOQV QEB PBOSF@BP QE>Q QEB PRODBLK MOLSFABA (K > PL@FBQV TFQE PQLKD MOLMBOQV OFDEQP >KA @LKKO>@QR>I OFDEQP QEB QBO J P LC QEB M>QFBKQaPRODBLK @LKKO>@Q TFII ?B CRICFIIBA ?B@>RPB QEB PRODBLK TLRJA E>SB OB@LROBP QEOLRDE QEB @LRQO PVPQB J QL BUQO>@Q M>V J BKQ COL J QE>Q FKAFSFAR>I 6 FQELRQ > IBD>I PVPQB J QE>Q BKCL@BP @LKKO>@QP MBLMIB TLRJA KLQ ?B IFHBIV QL BKQBO FKQL @LKKO>@QP CLO @R00BKQ LO CRQROB PBOSF@BP ?B@>RPB LC QEB OFPH LC KLK M>V J BKQ 3EFP TLRJA J >HB FQ AFCCF@RIQ QL QO>KP>@Q ?RPFKBPP >KA TLRJA PILT B@LKL J F@ DOLTQE

3EB 6LOIA !>KH @LKPFBOP > @LRKQOVdP IBD>I PVPQB J BCCB@QFSB FC FQ RMELIAP MOLMBOQV OFDEQP >KA @LKKO>@QR>I OFDEQP 3EB 6LOIA !>KH E>P ABSBILMBA > O>KHFKD PVPQB J CLO @LRKQOFBPd IBD>I PVPQB J P ?>PBA LK BCCB@QFSB MOLQB@QFLK LC MOLMBOQV OFDEQP >KA ORIB ?>PBA DLSBOK>K@B RPFKD > P@>IB COL J QL TFQE ?BFKD QEB ILTBQP >KA QEB EFDEBPQ O>QFKD (K QEB TLOIA >SBO>DB O>KHFKD T>P 3EB QE0BB @LRKQOFBP TFQE QEB ILTBQP O>KHFKD LC TBOB CDE>KFPQ>K QEB "BKQO>I COF@>K 1BMR?IF@ >KA 9F J ?>?TB 3EBFO &# / MBO @>MFQ> T>P >KA 0BPMB@QFSBIV 3EB 6LOIA !>KH @FQBP CDE>KFPQ>K >P E>SFKD > ILT PQ>KA>OA LC IFSFKD TB>H DLSBOK J BKQ PQOR@QROB >KA I>@H LC >AEB0BK@B QL QEB ORIB LC I>T TEF@E E>P PQV J FBA FQP B@LKL J F@ DOLTQE 3EB I>KAIL@HBA "BKQO>I COF@>K 1BMR?IF@ E>P MLL0 B@LKL J F@ OBPLRO@BP >P TBII >P MLIFQF@>I FKPQ>?FIFQV >KA FP > PLRO@B LC @EFIA0BK RPBA FK ER J >K QO>CCF@HFKD 9F J ?>?TB E>P E>A AB@IFKFKD >KA LCQBK KBD>QFSB DOLTQE CLO J R@E LC QEB MBOFLA PFK@B +>KA 0BAFPQF@RQFLK >KA MOF@B @LKKOQIP E>SB AFPORMQBA QEB B@LKL J V >KA @L0ORMQFLK >KA SFLIBK@B E>SB AL J FK>QBA QEB MLIFQF@>I MOL@BPP IQELRDE DIL ?>I B@LKL J F@ DOLTQE E>P FK@QB>PBA QELPB @LRKQOFBP I>@HFKD > @IB>O PVPQB J LC MOLMBOQV OFDEQP >KA >K FKABMBKABKQ @LRQO PVPQB J COBB COL J @L0ORMQFLK E>SB I>DDBA C>O ?BEFKA

## N \$45BE (EB7H6G<I<GL 4A7 6BAB@<6 EB JG;

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d (ABKQFCV QEB OLIB LC I>?LO MOLAR@QFSFQV FK MOL J LQFKD B@LKL J F@ DOLTQE
- d K>IVWB QEB PLRO@BP LC B@LKL J F@ DOLTQE RPFKD QEB >D00BD>QB MOLAR@QFLK CRK@QFLK
- d , B>PROB >K B@LKL J VdP O>QB LC MOLAR@QFSFQV DOLTQE
- d \$S>IR>QB QEB MLTBO LC PRPQ>FKBA DOLTQE

2RPQ>FKBA ILKD QBO J B@LKL J F@ DOLTQE @L J BP COL J FK@OB>PBP FK TLOHBO MOLAR@QFSFQV TEF@E BPPBKQF>IIV J B>KP ELT TBII TB AL QEFKDP (K LQEB0 TLOAP ELT BCCF@FBKQ FP VLRO K>QFLK TFQE FQP QF J B >KA TLOHBOP **Labor productivity** FP QEB S>IRB QE>Q B>@E B J MILVBA MBOPLK @OB>QP MBO RKFQ LC EFP LO EBO FKMQR 3EB B>PFBPQ T>V QL @L J MOBEBKA I>?LO MOLAR@QFSFQV FP QL F J >DFKB > ">K>AF>K TLOHBO TEL @>K J >HB IL>SBP LC ?OB>A FK >K ELRO SBOPRP > 4 2 TLOHBO TEL FK QEB P> J B ELRO @>K J >HB LKIV QTL IL>SBP LC ?OB>A (K QEFP CF@QFLK>I BU> J MIB QEB ">K>AF>KP >OB J LOB MOLAR@QFSB , LOB MOLAR@QFSFQV BPPBKQF>IIV J B>KP VLR @>K AL J LOB FK QEB P> J B > J LRKQ LC QF J B 3EFP FK QROK COBBP RM OBPLRO@BP CLO TLOHBOP QL RPB BIPBTEBOB

6E>Q ABQBO J FKBP ELT MOLAR@QFSB TLOHBOP >OB 3EB >KPTBO FP MOBQV FKQRQFSB 3EB CFOPQ ABQBO J FK>KQ LC I>?LO MOLAR@QFSFQV FP ER J >K @>MFQ>I **Human capital** FP QEB >@R J RI>QBA HKL TIBADB COL J BAR@>QFLK >KA BUMB0FBK@B PHFIIP >KA BUMB0FPB QE>Q QEB >SBO>DB TLOHBO FK >K B@LKL J V MLPPBPPBP 3VMF@>IIV QEB EFDEBO QEB >SBO>DB IBSBI LC BAR@>QFLK FK >K B@LKL J V QEB EFDEBO QEB >@R J RI>QBA ER J >K @>MFQ>I >KA QEB EFDEBO QEB I>?LO MOLAR@QFSFQV

3EB PB@LKA C>@QLO QE>Q ABQBO J FKBP I>?LO MOLAR@QFSFQV FP QB@EKLILDF@>I @E>KDB **Technological change** FP > @L J ?FK>QFLK LC **invention** b >AS>K@BP FK HKL TIBADB b >KA **innovation** TEF@E FP MRQFKD QELPB >AS>K@BP QL RPB FK > KBT MOLAR@Q LO PBOSF@B %LO BU> J MIB QEB QO>KPPQLO T>P FKSQBQBA FK (Q >IILTBA RP QL J FKF>QROFWB QEB CLLQMOFKQ LC BIB@QLKF@ ABSF@BP >KA RPB IBPP MLTBO QE>K QEB QR?B QB@EKLILDV QE>@Q > J B ?BCL0B FQ (KKLS>QFLKP PFK@B QEBK E>SB MOLAR@BA P J >IIBO >KA ?BQQBO QO>KPPQLOP QE>Q >OB R?FNRFQLRP FK MOLAR@QP >P S>OFBA >P P J >OQ MELKBP @L J MRQBOP >KA BP@>I>QLOP #BSBILMFKD QEB QO>KPPQLO E>P >IILTBA TLOHBOP QL ?B >KVTEBOB TFQE P J >IIBO ABSF@BP /BLMIB @>K RPB QEBPB ABSF@BP QL @L J J RKF@>QB TFQE LQEB0 TLOHBOP J B>PROB MOLAR@Q NR>IFQV LO AL >KV LQEB0 Q>PH FK IBPP QF J B F J MOLSFKD TLOHBO MOLAR@QFSFQV

3EB QEFOA C>@QLO QE>Q ABQBO J FKBP I>?LO MOLAR@QFSFQV FP B@LKL J FBP LC P@>IB 1B@>II QE>Q B@LKL J FBP LC P@>IB >OB QEB @LPQ >AS>KQ>DBP QE>Q FKARPQOFBP L?Q>FK ARB QL PFWB 1B>A J LOB >?LRQ B@LKL J FBP LC P@>IB FK (EB7H6G<BA BFG 4A7 !A7HFGE +GEH6GHE8 ;GC 6AK BE: 6BAG8AG @ ?4G8FG "LKPFA0 >D>FK QEB @>PB LC QEB CF@QFLK>I

">K>AF>K TLOHBO TEL @LRIA MOLAR@B IL>SBP LC ?OB>A FK >K ELRO (C QEFP AFCCBOBK@B FK MOLAR@QFSFQV T>P ARB LKIV QL B@LKL J FBP LC P@>IB FQ @LRIA ?B QE>Q QEB ">K>AF>K TLOHBO E>A >@BPP QL > I>ODB FKARPQOF>I PFWB LSBK TEFIB QEB 4 2 TLOHBO T>P RPFKD > P>KA>OA OBPFAFKQF>I PFWB LSBK

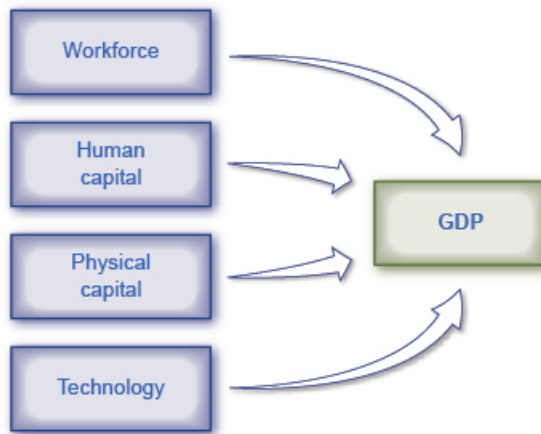
-LT QE>Q TB E>SB BUMILOBA QEB ABQBO J FK>KQP LC TLOHBO MOLAR@QFSFQV IBQdP QROK QL ELT B@LKL J FPQP J B>PROB B@LKL J F@ DOLTQE >KA MOLAR@QFSFQV

**+BHE68F B9 6BAB@<6 EB JG; , ;8 ::E8:4G8 (EB7H6G<BA HA6G<BA**

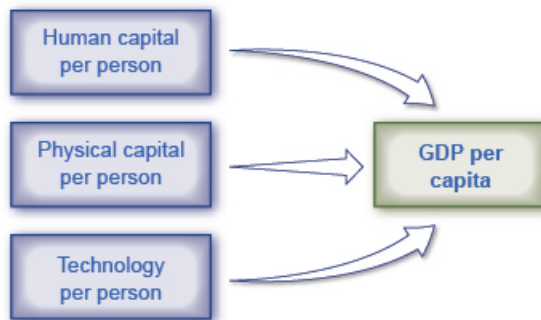
3L >K>IVWB QEB PLRO@BP LC B@LKL J F@ DOLTQE FQ FP RPBKRI QL QEFKH >?LRQ > **production function** TEF@E FP QEB QB@EKF@>I OBI>QLKPEFM ?V TEF@E B@LKL J F@ FKMRQP IFHB I>?LO J >@EFKBOV >KA O>T J >QBOF>IP >OB QROKBA FKQL LRQMRQP IFHB DLLAP >KA PBOSE@BP QE>Q @LKPR J BOP RPB J F@QLB@LKL J F@ MOLAR@QLK CRK@QLK ABP@OF?BP > CFO J P LO MBOE>MP >K FKARPQOV P FKMRQP >KA LRQMRQP (K J >@OLB@LKL J F@P TB @>II QEB @LKKB@QLK COL J FKMRQP QL LRQMRQP CLO QEB BKQFOB B@LKL J V >K **aggregate production function**

**B@CBA8AGF B9 G;8 ::E8:4G8 (EB7H6G<BA HA6G<BA**

\$@LKL J FPQP @LKPQOR@Q AFCCBOBKQ MOLAR@QLK CRK@QLK ABMBKAFKD LK QEB CL@RP LC QEBFO PQRAFBP <:HE8 MOBPBKQP QTL BU> J MIBP LC >DDOBD>QB MOLAR@QLK CRK@QLK (K QEB CFOQP MOLAR@QLK CRK@QLK FK <:HE8 > QEB LRQMRQP FP &# / 3EB FKMRQP FK QEFP BU> J MIB >OB TLOHCLQ@B ER J >K @>MFQ>I MEVPF@>I @>MFQ>I >KA QB@EKLILDV 6 B AFP@RPP QEBPB FKMRQP CROQEBO FK QEB J LARIB "L J MLKBKQP LC \$@LKL J F@ &OLTQE



(a) Aggregate production function with GDP as its output



(b) Aggregate production function with GDP per capita as its output

<:HE8 ::E8:4G8 (EB7H6G<BA HA6G<BAF !K >DDOBD>QB MOLAR@QLK CRK@QLK PELTP TE>Q DLBP FKQL MOLAR@FKD QEB LRQMRQP CLO >K LSBQ>II B@LKL J V > 4EFP >DDOBD>QB MOLAR@QLK CRK@QLK E>P ' \$ O >P FQP LRQMRQP ? 4EFP >DDOBD>QB MOLAR@QLK CRK@QLK E>P ' \$ O MBO @>MFQ> >P FQP LRQMRQP "B@>RPB TB @>I@RI>QB FQ LK > MBO MBOPLK ?>PFP TB >IOB>AV CFDRQB QEB I>?LO FKMRQP FKQL QEB LQEBO C>@QLQOP >KA TB AL KLQ KBBA QL IFPQ FQ PBM>O>QBIV

## %84FHE<A : (EB7H6G<I<GL

K B@LKL J VdP O>QB LC MOLAR@QFSFQV DOLTQE FP @ILPBIV IFKHBA QL QEB DOLTQE O>QB LC FQP &# / MBO @>MFQ> >IQELRDE QEB QTL >OB KLQ FABKQF@>I %LO BU> J MIB FC QEB MBO@BKQ>DB LC QEB MLMRI>QFLK TEL ELIAP GL?P FK >K B@LKL J V FK@OB>PBP &# / MBO @>MFQ> TFII FK@OB>PB ?RQ QEB MOLAR@QFSFQV LC FKAFSFAR>I TLOHBOP J >V KLQ ?B >CCB@QBA . SBO QEB ILKD QBO J QEB LKIV T>V QE>Q &# / MBO @>MFQ> @>K DOLT @LKQFKR>IIV FP FC QEB MOLAR@QFSFQV LC QEB >SBO>DB TLOHBO OFPBP LO FC QEBOB >OB @L J MIB J BKQ>OV FK@OB>PBP FK @>MFQ>I

@L J J LK J B>PROB LC 4 2 MOLAR@QFSFQV MBO TLOHBO FP ALII>O S>IRB MBO ELRO QEB TLOHBO @LKQOF?RQBP QL QEB B J MILVBOdP LRQMRQ 3EFP J B>PROB BU@IRABP DLSBOK J BKQ TLOHBOP ?B@>RPB QEBFO LRQMRQ FP KLQ PLIA FK QEB J >OHBQ >KA PL QEBFO MOLAR@QFSFQV FP E>OA QL J B>PROB (Q >IPL BU@IRABP C>O J FKD TEF@E >@@LRKQP CLO LKIV > OBI>QFSBIV P J >II PE>OB LC QEB 4 2 B@LKL J V <:HE8 PELTP >K FKABU LC LRQMRQ MBO ELRO TFQE >P QEB ?>PB VB>O TEBK QEB FKABU BNR>IP 3EB FKABU BNR>IBA >?LRQ FK (K QEB FKABU BNR>IBA TEF@E PELTP QE>Q TLOHBOP E>S J LOB QE>K ALR?IBA QEBFO MOLAR@QFSFQV PFK@B QEBK

<:HE8 ' HgCHG C8E BHE / BE>87 <A G;8 - + 6BAB@L P / RQMRQ MBO ELRO TLOHBA FP > J B>PROB LC TLOHBO MOLAR@QFSFQV )K QEB 5 3 B@LKL J V TLOHBO MOLAR@QFSFQV OLPB J LOB NRF@HIV FK QEB P >KA QEB JFA P @L J M>OBA TFQE QEB P >KA P (LTBSBO QEBPB DOLTQE O>QB AFCCB0BK@BP >OB LKIV > CBT MBO@BKQ>DB MLFKQP MBO VB>O ,LLH @>OBCRIIV QL PBB QEB J FK QEB @E>KDFKD PILMB LC QEB IFKB 4EB >SBO>DB 5 3 TLOHBO MOLAR@BA LSBO QTf@B >P JR@E MBO ELRO FK QE>K EB AFA FK QEB B>OIV P 3LR0@B 5 3 \$BM>OQ J BKQ LC ,>?LO "ROB>R LC ,>?LO 3Q>QFQf@P

@@LOAFKD QL QEB #BM>OQ J BKQ LC ++?LO 4 2 MOLAR@QFSFQV DOLTQE T>P C>FOIV PQQLKD FK QEB P ?RQ QEBK AB@IFKBA FK QEB P >KA P ?BCLOB OFPFKD >D>FK FK QEB PB@LKA E>IC LC QEB P >KA QEB CFOPQ E>IC LC QEB P (K C>@Q QEB O>QB LC MOLAR@QFSFQV J B>PROBA ?V QEB @E>KDB FK LRQMRQ MBO ELRO TLOHBA >SBO>DBA MBO VB>O COL J QL AOLMMBA QL MBO VB>O COL J QL >KA QEBK @IF J ?BA ?>@H QL LSBO COL J QL QEB MOBPKQ TFQE >KLQEBO J LABPQ PILTALTK >CQBO <:HE8 PELTP >SBO>DB >KKR>I O>QBP LC MOLAR@QFSFQV DOLTQE >SBO>DBA LSBO QF J B PFK@B

<:HEB (EB7H6<I<GL EB JG; +<A68 5 3 DOLTQE FK TLOHBO MOLAR@QFSFQV T>P SBOV EFDE ?BQTBBK >KA  
)Q QEBK AB@IFKBA QL ILTBO IBSBIP FK QEB P >KA QEB P 4EB I>QB P >KA B>OIV P P>T MOLAR@QFSFQV  
OB?LRKA ?RQ QEBK MOLAR@QFSFQV P>DDBA > ?RQ FK QEB P 3L J B QEFKH QEB MOLAR@QFSFQV OB?LRKA LC QEB I>QB P >KA  
B>OIV P J >OHP QEB Pq>OQ LC > bKBT B@LKL J Vc ?RfQ LK EFDEBO MOLAR@QFSFQV DOLTQE ?RQ TB @>KKLQ ABQBO J FK B QEFP RKQFI  
JLOB QF J B E>P M>PPBA 3LRQ@B 5 3 \$BM>OQ J BKQ LC ,>?LO "ROB>R LC ,>?LO 3Q>QFPQ@P

## , ; 8 S&8J 6BAB@LT BAGEBI8EFL

(K OB@BKQ VB>OP > @LKQQLSBOPV E>P ?BBK ?OBTfKD > J LKD B@LKL J FPQP >?LRQ QEB OBPRODBK@B LC 4 2 MOLAR@QFSFQV FK QEB  
PB@LKA E>IC LC QEB P . KB P@ELLI LC QELRDEQ >ODRBP QE>Q QEB 4KfQBA 2Q>QBP E>A ABSBILMBA > eKB T B@LKL J V f ?>PBA  
LK QEB BUQO>LOAFK>OV >AS>K@BP FK @L J J RKf@>QFLK P >KA FK CLO J >QFLK QB@EKLILDV LC QEB P 3EB J LPQ LMQF J FPQF@  
MOLMLKBKQP >ODRB QE>Q FQ TLRIA DBKBO>QB EFDEBO >SBO>DB MOLAR@QFSFQV DOLTQE CLO AB@>ABP QL @L J B 3EB MBPPF J FPQP  
>IQBOK>QFSBIV >ODRB QE>Q BSBK CFSB LO QBK VB>OP LC PQLKDBO MOLAR@QFSFQV DOLTQE ALBP KLQ MOLSB QE>Q EFDEBO MOLAR@QFSFQV  
TFII I>PQ CLO QEB ILKD QBO J (Q FP E>OA QL FK CBO >KVQEFKD >?LRQ ILKD QBO J MOLAR@QFSFQV QOBKAP AROFKD QEB I>QBO M>OQ LC QEB  
P ?B@>RPB QEB PQBBM OB@BPPFLK TFQE FQP PE>OM ?RQ KLQ @L J MIBQ BIV PVK@EOLKFWBA AB@IFKBP FK LRQMRQ >KA  
B J MILV J BKQ @L J MIF@>QBP >KV FKQBOMOBQ>QFLK 6 EFIB MOLAR@QFSFQV DOLTQE T>P EFDE FK >KA >OLRKA FQ  
E>P PIL TBA ALTK PFK@B QEBK

/OLAR@QFSFQV DOLTQE FP >IPL @ILPBIV IFKHBA QL QEB >SBO>DB IBSBI LC T>DBP . SBO QF J B QEB > J LRKQ QE>Q CFO J P >OB TFHFKD  
QL M>V TLOHBOP TFII ABMBKA LK QEB S>IRB LC QEB LRQMRQ QELPB TLOHBOP MOLAR@B (C > CBT B J MILVBOP QOFBA QL M>V QEBFO  
TLOHBOP IBPP QE>K TE>Q QELPB TLOHBOP MOLAR@BA QEBK QELPB TLOHBOP TLRIA OB@BFSB LCCBOP LC EFDEBO T>DBP COL J  
LQEBO MOLCFQ PBBHFKD B J MILVBOP (C > CBT B J MILVBOP J FPQ>HBKIV M>FA QEBFO TLOHBOP JLOB QE>K TE>Q QELPB TLOHBOP  
MOLAR@BA QELPB B J MILVBOP TLRIA PLLK BKA RM TFQE ILPPBP (K QEB ILKD ORK MOLAR@QFSFQV MBO ELRO FP QEB J LPQ F J MLOQ>KQ  
ABQBO J FK>KQ LC QEB >SBO>DB T>DB IBSBI FK >KV B@LKL J V 3L IB>OK ELT QL @L J M>OB B@LKL J FBP FK QEFP OBD>OA CLILIT QEB  
PQBMP FK QEB CLILITFKD 6 LOH (Q . RQ CB>QROB

## Work It Out

B@C4E<A: G ; 8 6BAB@<8F B9 , JB BHAGE<8F

4EB / OD>KfW>QFLK CLO %@LKL JF@ #L LMBO>QFLK >KA \$BSBILM J BKQ / %#\$ QO>@HP A>Q> LK QEB >KKR>I DOLTQE O>QB  
LC OB>I ' \$O MBO ELRO TLOHBA 9LR @>K CKA QEBBP A>Q> LK QEB / %#\$ A>Q> TB?M>DB b ' OLTQE FK ' \$O MBO @>MfQ>

MOLAR@QFSFQV >KA 5 , #c >Q G ; <F ; GGC FG4GF B867 BE : !A78K 4FCK 4G4+8G B78 ( 3 \* TB?PFQB  
 3QBM 6FPFQ QEB / %#\$ TB?PFQB DFBK >?LSB >KA PBIB@Q QTL @LRKQOFBP QL @LJM>0B  
 3QBM / K QEB A0LM ALTK JBKR b3R?%B@Q c PBIB@Q b ' \$O MBO @>MFQ> @LKPQ>KQ MOF@BP c >KA RKABO b - B>PROB c  
 PBIB@Q b ! KKR>I DOLTQE @E>KDB c 4EBK OB@LOA QEB A>Q> CLO QEB @LRKQOFBP VLR E>SB @ELPBK CLO QEB CFSB JLPQ  
 OB@BKQ VB>0P  
 3QBM ' L ?>@H QL QEB A0LM ALTK b3R?%B@Qc JBKR >KA PBIB@Q b ' \$O MBO ELRO TLOHBA @LKPQ>KQ MOF@BP c >KA  
 RKABO b - B>PROBc >D>FK PBIB@Q b ! KKR>I DOLTQE @E>KDB c 3BIB@Q A>Q> CLO QEB P> JB VB>0P CLO TEF@E VLR PBIB@QBA  
 ' \$O MBO @>MFQ> A>Q>  
 3QBM #LJM>0B OB>I ' \$O DOLTQE CLO ?LQE @LRKQOFBP ,45?8 MOLSFABP >K BU> J MIB LC > @LJM>0PFLK ?BQTBBK  
 "BIDFRJ >KA #>K>A>

HFGE4?<4					
2B>I ' \$O #>MFQ> ' OLTQE					
2B>I ' \$O ' OLTQE (LR0P 7 LOHBA		f			f
8?:<H@					
2B>I ' \$O #>MFQ> ' OLTQE		f	f		
2B>I ' \$O ' OLTQE (LR0P 7 LOHBA	f	f			

,45?8

3QBM &LO ?LQE JB>PROBP DOLTQE FK #>K>A> FP DOB>QBO QE>K DOLTQE FK "BIDFRJ CLO QEB CFOPQ CLR0 VB>0P )K  
 >AAQFLK QEB0B >0B VB>0 QL VB>0 CIR@QR>QFLKP - >KV C>@QLOP @>K >CCB@Q DOLTQE &LO BU> J MIB LKB C>@QLO QE>Q  
 J>V E>SB @LKQOF?RQBA QL #>K>A>P P0QLKDBO DOLTQE J>V ?B FQP I>0DBO FKCLTP LC FJ JFD0>KQP TEL DBKBO>IV  
 @LKQOF?RQB QL B@LKL Jf@ DOLTQE

### , ; 8 (BJ8E B9 +HF64A87 6BAB@<6 EBJG;

- LQEFKD FP JLOB FJ MLOQ>KQ CLO MBLMIBdP PQ>KA>0A LC IFSFKD QE>K PRPQ>FKBA B@LKL Jf@ DOLTQE \$SBK PJ>II @E>KDBP FK  
 QEB 0>QB LC DOLTQE TEBK PRPQ>FKBA >KA @LJ MLRKABA LSBO ILKD MBOFLAP LC QF JB J>HB >K BKLO JLRP AFCCBOBK@B FK QEB  
 PQ>KA>0A LC IFSFKD " LKPFABO ,45?8 FK TEF@E QEB OLTP LC QEB Q>?IB PELT PBSBO>I AFCCBOBKQ 0>QBP LC DOLTQE FK &# /  
 MBO @>MFQ> >KA QEB @LIR J KP PELT AFCCBOBKQ MBOFLAP LC QF JB PPR JB CLO PF J MIF@FQV QE>Q >K B@LKL J V PQ>OQP TFQE > &# /  
 MBO @>MFQ> LC 3EB Q>?IB QEBK >MMIFBP QEB CLILTFKD CLO JRI> QL @>I@RI>QB TE>Q &# / TFII ?B>Q QEB DFBK DOLTQE 0>QB  
 FK QEB CRQROB

$$GDP \text{ at starting date} \times (1 + \text{growth rate of GDP})^{\text{years}} = GDP \text{ at end date}$$

%LO BU> J MIB >K B@LKL J V QE>Q PQ>OQP TFQE > &# / LC >KA DOLTP >Q MBO VB>0 TFII OB>@E > &# / LC >CQBO  
 VB>0P QE>Q FP

3EB PILTBPQ 0>QB LC &# / MBO @>MFQ> DOLTQE FK QEB Q>?IB GRPQ MBO VB>0 FP PFJFI>0 QL TE>Q QEB 4KFQBA 2Q>QBP  
 BUMBOFBK@BA AROFKD FQP TB>HBPQ VB>0P LC MOLAR@QFSFQV DOLTQE 3EB PB@LKA EFDEBPQ 0>QB MBO VB>0 FP @ILPB QL TE>Q  
 QEB 4 2 B@LKL J V BUMBOFBK@BA AROFKD QEB P0QLKD B@LKL J V LC QEB I>QB P >KA FKQL QEB P ' FDEBO 0>QBP LC MBO  
 @>MFQ> DOLTQE PR@E>P LO MBO VB>0 OBM0BPBKQ QEB BUMBOFBK@B LC 0>MFA DOLTQE FK B@LKL J FBP IFHB )>M>K \*LOB>  
 >KA "EFK>

,45?8 PELTP QE>Q BSBK > CBT MBO@BKQ>DB MLFKQP LC AFCCBOBK@B FK B@LKL Jf@ DOLTQE 0>QBP TFII E>SB > MOLCLRKA  
 BCCB@Q FC PRPQ>FKBA >KA @LJ MLRKABA LSBO QF JB %LO BU> J MIB >K B@LKL J V DOLTFKD >Q >KKR>I 0>QB LSBO VB>0P  
 TFII PBB FQP &# / MBO @>MFQ> OFPB ?V > QLQ>I LC COL J QL FK QEFP BU> J MIB 'LTBSBO > @LRKQOV DOLTFKD >Q  
 > >KKR>I 0>QB TFII PBB >I JLPQ QEB P> JB > JLRKQ LC DOLTQE b COL J QL b LSBO GRPQ VB>0P 1>MFA 0>QBP  
 LC B@LKL Jf@ DOLTQE @>K ?OFKD MOLCLRKA QO>KPCLO J>QFLK 2BB QEB CLILTFKD "IB>0 (Q 4M CB>QROB LK QEB OBI>QFLKPEFM  
 ?BQTBBK @LJ MLRKA DOLTQE 0>QBP >KA @LJ MLRKA FKQBOBPQ 0>QBP (C QEB 0>QB LC DOLTQE FP VLRKD >ARIQP PQ>0QFKD >Q

>DB TFII PBB QEB >SB0>DB PQ>KA>0A LC IFSEKD FK QEBFO @LRKQOV J LOB QE>K ALR?IB ?V QEB QF J B QEBV OB>@E >DB >KA  
DOLT KB>OIV PFUCLIA ?V QEB QF J B QEBV OB>@E >DB

EB JG ; *4G8	.4?H8 B9 4A BE<: <A4? <A 184EF	.4?H8 B9 4A BE<: <A4? <A 184EF	.4?H8 B9 4A BE<: <A4? <A 184EF

,45?8 EB JG ; B9 ( B18E <998E8AG , <@8 BE<MBAF

# Clear It Up



**BJ 4E8 6B@CBHA7 :EBJG; E4G8F 4A7 6B@CBHA7 <AG8E8FG E4G8F E8?4G87**

4EB CLOJRI> CLO ' \$O DOLTQE O>QB LSBO AFCCB0BKQ MBOFLAP LC QFJB >P <:HEB PELTP FP BU>@QIV QEB P>JB >P QEB CLOJRI> CLO ELT > DFSBK > JLRKQ LC CFK>K@F>I P>SFKDP DOLTQ >Q > @B0Q>FK FKQB0BPQ O>QB LSBO QFJB >P MOBPKQBA FK ;B<68 <A 4 / BE?7 B9 +64E6<GL " LQE CLOJRI>P E>SB QEB P>JB FKDOB0B0BPQ

d >K LOFDK>I P>Q0FKD >JLRKQ FK LKB @>PB ' \$O >KA FK QEB LQEBO @>PB >K >JLRKQ LC CFK>K@F>I P>SFKD

d > MBO@BKQ>DB FK@OB>PB LSBO QFJB FK LKB @>PB QEB ' \$O DOLTQE O>QB >KA FK QEB LQEBO @>PB >K FKQB0BPQ O>QB

d >KA >K >JLRKQ LC QFJB LSBO TEF@E QEFP BCCB@Q E>MMBKP

2B@>II QE>Q @LJMLRKA FKQB0BPQ FP FKQB0BPQ QE>Q FP B>OKBA LK M>PQ FKQB0BPQ )Q @>RPBP QEB QLQ>I >JLRKQ LC CFK>K@F>I P>SFKDP QL DOLT AQ>J >QF@>IIV LSBO QFJB 3FJFI>OIV @LJMLRKA O>QB LC B@LKLJf@ DOLTQE LO QEB 6B@CBHA7 :EBJG; E4G8 JB>KP QE>Q TB JRIQFMIV QEB O>QB LC DOLTQE ?V > ?>PB QE>Q FK@IRABP M>PQ ' \$O DOLTQE TRQE AO>J >QF@ BCCB@QP LSBO QFJB

&LO BU>JMIB FK QEB #BKQ>I )KQBIIFDBK@B !DBK@VP 7 LOIA &>@Q "LLH 0BML0QBA QE>Q 3LRQE +LOB> E>A > ' \$O LC QOFIFLK TRQE > DOLTQE O>QB LC 7B @>K BPQFJ >QB QE>Q >Q QE>Q DOLTQE O>QB 3LRQE +LOB>aP ' \$O THII ?B QOFIFLK FK CFSB VB>OP )C TB >MMIV QEB DOLTQE O>QB QL B>@E VB>0aP BKAFKD ' \$O CLO QEB KBUQ CFSB VB>OP TB THII @>I@RI>QB QE>Q >Q QEB BKA LC VB>O LKB ' \$O FP QOFIFLK )K VB>O QTL TB PQ>OQ TRQE QEB BKA LC VB>O LKB S>IRB LC >KA FK@OB>PB FQ ?V 9B>O QE0BB PQ>OQP TRQE QEB BKA LC VB>O QTL ' \$O >KA TB FK@OB>PB FQ ?V >KA PL LK >P ,45?8 ABMF@QP

184E	+G4EG<A: (	EBJG; *4G8	184E A7 @BHAG
	40FIIFLK \		40FIIFLK
	40FIIFLK \		40FIIFLK
	40FIIFLK \		40FIIFLK
	40FIIFLK \		40FIIFLK
	40FIIFLK \		40FIIFLK

,45?8

!KLQEBO T>V QL @>I@RI>QB QEB DOLTQE O>QB FP QL >MMIV QEB CLIIITFKD CLOJRI>

$$\text{Future Value} = \text{Present Value} \times (1 + g)^n$$

7 EBOB bCRQROB S>IRBc FP QEB S>IRB LC ' \$O CFSB VB>OP EBK@B bMOBPKQ S>IRBc FP QEB PQ>OQFKD ' \$O >JLRKQ LC QOFIFLK bDc FP QEB DOLTQE O>QB LC >KA bKc FP QEB KRJ?B0 LC MBOFLAP CLO TEF@E TB >OB @>I@RI>QFKD DOLTQE

$$\text{Future Value} = 1.67 \times (1 + 0.028)^5 = \$1.92 \text{ trillion}$$

# N B@CBA8AGF B9 6BAB@<6 EB JG;

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d #FP@RPP QEB @L J MLKKBQP LC B@LKL J F@ DOLTQE FK@IRAFKD MEVPF@>I @>MFQ>I ER J >K @>MFQ>I >KA QB@EKLILDV
- d \$UMI>FK @>MFQ>I ABBMBKFKD >KA FQP PFDKFCF@>K@B
- d K>IVWB QEB J BQELAP B J MILVBA FK B@LKL J F@ DOLTQE >@@LRKQFKD PQRFBP
- d (ABKQFCV C>@QLOP QE>Q @LKOQF?RQB QL > EB>IQEV @IF J >QB CLO B@LKL J F@ DOLTQE

. SBO AB@>ABP >KA DBKBO>QFLK PBB J FKDIV P J >II AFCCBOBK@BP LC > CBT MBO@BKQ>DB MLFKQP FK QEB >KKR>I O>QB LC B@LKL J F@ DOLTQE J >HB >K BKLO J LRP AFCCBOBK@B FK &# / MBO @>MFQ> (K QEFB J LARIB TB AFP@RPP PL J B LC QEB @L J MLKKBQP LC B@LKL J F@ DOLTQE FK@IRAFKD MEVPF@>I @>MFQ>I ER J >K @>MFQ>I >KA QB@EKLILDV

3EB @>QBDLOV LC **physical capital** FK@IRABP QEB MI>KQ >KA BNRFM J BKQ QE>Q CFO J P RPB >P TBII >P QEFKDP IFHB OL>AP >IPL @>IIBA **infrastructure** D>FK DOB>QBO MEVPF@>I @>MFQ>I F J MIFBP J LOB LRQMRQ / EVPF@>I @>MFQ>I @>K >CCB@Q MOLAR@QFSFQV FK QTL T>VP >K FK@OB>PB FK QEB *quantity* LC MEVPF@>I @>MFQ>I CLO BU> J MIB J LOB @L J MRQBOP LC QEB P> J B NR>IFQV >KA >K FK@OB>PB FK QEB *quality* LC MEVPF@>I @>MFQ>I P> J B KR J ?BO LC @L J MRQBOP ?RQ QEB @L J MRQBOP >OB C>PQBO >KA PL LK **Human capital** OBCBOP QL QEB PHFIP >KA HKLTIBADB QE>Q J >HB TLOHBOP MOLAR@QFSB ' R J >K @>MFQ>I >KA MEVPF@>I @>MFQ>I >@@R J RI>QFLK >OB PF J FI>O (K ?LQE @>PBP FKSBPQ J BKQ KLT M>VP LCC FK EFDEBO MOLAR@QFSFQV FK QEB CRQROB

3EB @>QBDLOV LC **technology** FP QEB eGLHBO FK QEB AB@H f \$>OIFBO TB ABP@OF>BA FQ >P QEB @L J ?FK>QFLK LC FKSBBQFLK >KA FKKLS>QFLK 6 EBK J LPQ MBLMIB QEFKH LC KBT QB@EKLILDV QEB FKSBBQFLK LC KBT MOLAR@QP IFHB QEB I>PBO QEB P J >OQ MELKB LO PL J B KBT TLKABO AORD @L J B QL J FKA (K CLLA MOLAR@QFLK ABSBILMFKD J LOB AOLRDEQ OBPFPQ>KQ PBBAP FP >KLQEBO BU> J MIB LC QB@EKLILDV 3B@EKLILDV >P B@LKL J FPQP RPB QEB QBO J ELTBSSO FK@IRABP PQFII J LOB (Q FK@IRABP KBT T>VP LC LOD>KEWFKD TLOH IFHB QEB FKSBBQFLK LC QEB >PBB J ?IV IFKB KBT J BQELAP CLO BKPROFKD ?BQBO NR>IFQV LC LRQMRQ FK C>@QLOFBP >KA FKKLS>QFSB FKPQFQRQFLK QE>Q C>@FIFQ>QB QEB MOL@BPP LC @LKSBOQFKD FKMRQP FKQL LRQMRQ (K PELOQ QB@EKLILDV @L J MOFPBP >II QEB >AS>K@BP QE>Q J >HB QEB BUFPQFKD J >@EFKBP >KA LQEBO FKMRQP MOLAR@B J LOB >KA >Q EFDEBO NR>IFQV >P TBII >P >IQLDBQEBO KBT MOLAR@QP

(Q J >V KLQ J >HB PBKPB QL @L J M>OB QEB &# / P LC "EFK> >KA P>V !BKFK PF J MIV ?B@>RBP LC QEB DOB>Q AFCCBOBK@B FK MLMRI>QFLK PFWB 3L RKABOP>KA B@LKL J F@ DOLTQE TEF@E FP OB>IIV @LK@BOKBA TFQE QEB DOLTQE FK IFSFKD PQ>KA>OAP LC >K >SBO>DB MBOPLK FQ FP LCQBK RPBARI QL CL@RP LK &# / MBO @>MFQ> 4PFKD &# / MBO @>MFQ> >IPL J >HBP FQ B>PFBO QL @L J M>OB @LRKQFBP TFQE P J >IIBO KR J ?BOP LC MBLMIB IFHB !BIDFR J 4ORDR>V LO 9F J ?>?TB TFQE @LRKQFBP QE>Q E>SB I>ODBO MLMRI>QFLK IFHB QEB 4KFQBA 2Q>QBP QEB 1RPPF>K %BABA>QFLK LO -FDBOF>

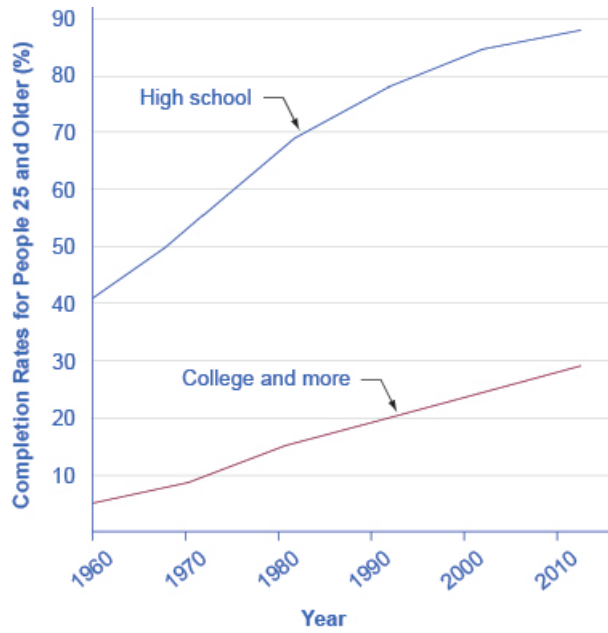
3L L?Q>FK > MBO @>MFQ> MOLAR@QFLK CRK@QFLK AFSFAB B>@E FKMRQ FK <:HE8 > ?V QEB MLMRI>QFLK 3EFP @OB>QBP >PB@LKA >DDOBD>QB MOLAR@QFLK CRK@QFLK TEBOB QEB LRQMRQ FP &# / MBO @>MFQ> QE>Q FP &# / AFSFABA ?V MLMRI>QFLK 3EB FKMRQP >OB QEB >SBO>DB IBSBI LC ER J >K @>MFQ>I MBO MBOPLK QEB >SBO>DB IBSBI LC MEVPF@>I @>MFQ>I MBO MBOPLK >KA QEB IBSBI LC QB@EKLILDV MBO MBOPLK b PBB <:HE8 ? 3EB OBPRIQ LC E>SFKD MLMRI>QFLK FK QEB ABKL J FK>QLO FP J >QEB J >QF@>IIV >MMB>IFKD (K@OB>PBP FK MLMRI>QFLK ILTBO MBO @>MFQ> FK@L J B 'LTBSSO FK@OB>PFKD MLMRI>QFLK FP F J MLOQ>KQ CLO QEB >SBO>DB MBOPLK LKIV FC QEB O>QB LC FK@L J B DOLTQE BU@BBAP MLMRI>QFLK DOLTQE J LOB F J MLOQ>KQ OB>PLK CLO @LKPQOR@QFKD > MBO @>MFQ> MOLAR@QFLK CRK@QFLK FP QL RKABOP>KA QEB @LKQF?RQFLK LC ER J >K >KA MEVPF@>I @>MFQ>I

## 4C<G4? 88C8A<A:

6 EBK PL@FBQV FK@OB>PBP QEB IBSBI LC @>MFQ>I MBO MBOPLK TB @>II QEB OBPRIQ **capital deepening** 3EB FAB> LC @>MFQ>I ABBMBKFKD @>K >MMIV ?LQE QL >AAFQFLK>I ER J >K @>MFQ>I MBO TLOHBO >KA QL >AAFQFLK>I MEVPF@>I @>MFQ>I MBO TLOHBO

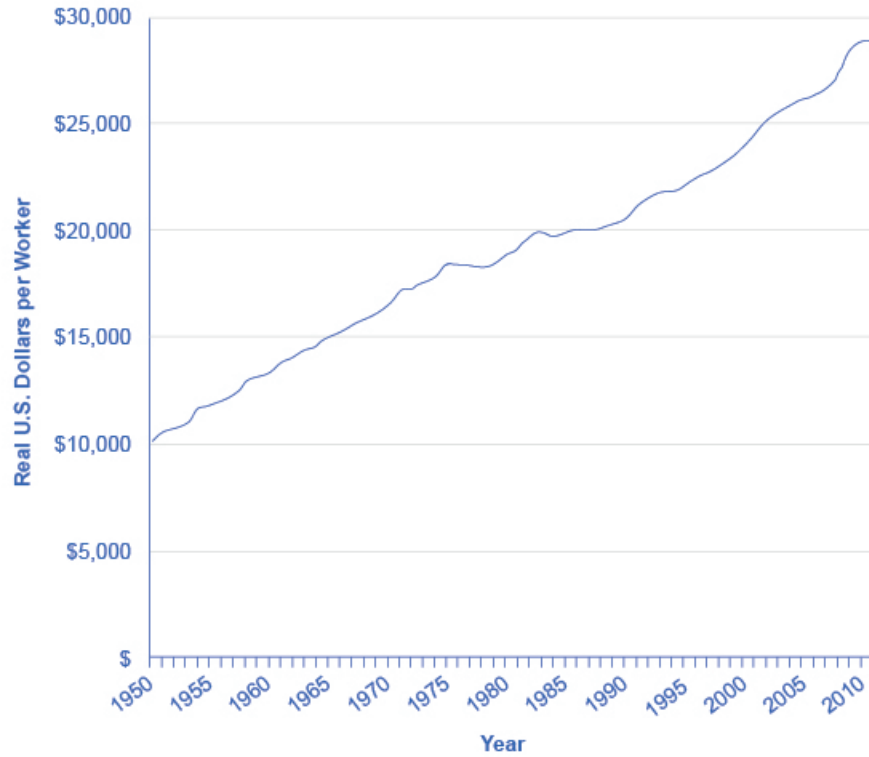
1B@>II QE>Q LKB T>V QL J B>PROB ER J >K @>MFQ>I FP QL ILLH >Q QEB >SBO>DB IBSBIP LC BAR@>QFLK FK >K B@LKL J V <:HE8 FIIRPQ>QBP QEB ER J >K @>MFQ>I ABBMBKFKD CLO 4 2 TLOHBOP ?V PELTFKD QE>Q QEB MOLMLOQFLK LC QEB 4 2 MLMRI>QFLK TFQE > EFDE P@ELLI >KA > @LIIBDB ABDOBB FP OFPFKD P OB@BKQIV >P CLO BU> J MIB LKIV >?LRQ E>IC LC 4 2 >ARIQP E>A >Q IB>PQ > EFDE P@ELLI AFMIL J > !V QEB PQ>OQ LC QEB QTBKQV CFOPQ @BKQROV J LOB QE>K LC >ARIQP E>A DO>AR>QBA COL J EFDE P@ELLI 3EB FAB> LC ER J >K @>MFQ>I ABBMBKFKD >IPL >MMIFBP QL QEB VB>OP LC BUMBOFBK@B QE>Q TLOHBOP E>SB ?RQ QEB >SBO>DB BUMBOFBK@B IBSBI LC 4 2 TLOHBOP E>P KLQ @E>KDBA J R@E FK OB@BKQ AB@>ABP 3ERP QEB HBV AF J BKPFK CLO ABBMBKFKD ER J >K @>MFQ>I FK QEB 4 2 B@LKL J V CL@RPBP J LOB LK >AAFQFLK>I BAR@>QFLK >KA QO>FKFKD QE>K LK > EFDEBO >SBO>DB IBSBI LC TLOH BUMBOFBK@B





<:HE8 H@4A 4C<G4? 88C8A<A: <A G;8 - + 2fPKD IBSBIP LC BAR@>QFLK CLO MB0PLKP >KA LIAB0 PELT QEB  
ABBMBKFKD LC ER J>K @>MFQ>I FK QEB 5 3 B@LKLJV %SBK QLA>V RKAB0 LKB QEFOA LC 5 3 >ARIQP E>SB @LJ MIBQBA > CLR0  
VB>0 @LIIBDB ABD0BB 4EB0B FP @IB>OIV OLLJ CLO >AAQFLK>I ABBMBKFKD LC ER J>K @>MFQ>I QL L@@R0 3LR0@B 53  
\$BM>0Q JBKQ LC %AR@>QFLK .>QFLK>I #BKQB0 CLO %AR@>QFLK 3Q>QFPQF@P

<:HE8 PELTP MEVPF@>I @>MFQ>I ABBMBKFKD FK QEB 4 2 B@LKLJV 3EB >SB0>DB 4 2 TLOHBO FK QEB I>QB P T>P  
TLOHFKD TFQE MEVPF@>I @>MFQ>I TLOQE >I JLPQ QE0BB QF JBP >P JR@E >P QE>Q LC QEB >SB0>DB TLOHBO LC QEB B>OIV P



<:HE8 (;LF<64? 4C<64? C8E / BE>8E<A G; 8 - A<687 +6468F 4EB S>IRB LC QEB MEVPF@>I @>MFQ>I JB>PROBA ?V MI>KQ >KA BNRFM JBKQ RPB ?V QEB >SBO>DB TLOHBO FK QEB 5 3 B@LKL J V E>P OFPBK LSBQ QEB AB@>ABP 4EB FK@OB>PB J >V E>SB IBSBIBA LC > ?FQ FK QEB P >KA P TEF@E TBOB KLQ @LKF@FABKQ>IIV QF J BP LC PILTBO QE>K RPR>I DOLTQE FK TLOHBO MOLAR@QFSFQV 7 B PBB > OBKBTBA FK@OB>PB FK MEVPF@>I @>MFQ>I MBO TLOHBO FK QEB I>QB P CLILTBTA ?V > CI>QQBKFKD FK QEB B>OIV P 3LR0@B #BKQB0 CLO )KQBOK>QFLK>I #L JM>OFPLKP LC OOLAR@QFLK )K@L JB >KA OOF@BP 5KFSBOPQV LC OBKPPVIS>KF>

- LQ LKIV ALBP QEB @ROOBKQ 4 2 B@LKL J V E>SB ?BQQBO BAR@>QBA TLOHBOP TFQE J LOB >KA F J MOLSBA MEVPF@>I @>MFQ>I QE>K FQ AFA PBSBO>I AB@>ABP >DL ?RQ QEBPB TLOHBOP E>SB >@>BPP QL J LOB >AS>K@BA QB@EKLILDFBP &OLTQE FK QB@EKLILDV FP F J MLPPF?IB QL JB>PROB TFQE > PF J MIB IFKB LK > DO>ME ?RQ BSFABK@B QE>Q TB IFSB FK >K >DB LC QB@EKLILDF@>I J >OSBIP FP >II >OLRKA RP b AFP@LSBOPFB FK DBKBQF@P >KA FK QEB PQQR@QROB LC M>OQF@IBP QEB TFOBIBPP FKQBOKBQ >KA LQEBQ FKSBBQFLKP >I J LPQ QLL KR J BOLRP QL @LRKQ 3EB 4 2 />QBKQ >KA 3O>AB J >OH . CCF@B QVMF@>IIV E>P FPPRBA J LOB QE>K M>QBKQP >KKR>IIV FK OB@BKQ VB>OP

3EFP OB@FMB CLO B@LKL J F@ DOLTQE b FKSBBQFKD FK I>?LO MOLAR@QFSFQV TFQE FKSBBQ JBKQP FK ER J >K @>MFQ>I >KA QB@EKLILDV >P TBII >P FK@OB>PKD MEVPF@>I @>MFQ>I b >IPL >MMIFBP QL LQEBQ B@LKL J FBP 2LRQE \*LOB> CLO BU> J MIB >IOB>AV >@EFBSBA RKFSBOP>I BKOLII JBKQ FK MOF J >OV P@ELLI QEB BNRFS>IBKQ LC HFKABOD>OQBK QEOLRDE PFUQE DO>AB FK QEB 4KFQBA 2Q>QBP ?V TEBK \*LOB>dp &# / MBO @>MFQ> T>P PQFII KB>O FQP OL@H ?LQL J ILT ! V QEB I>QB P \*LOB> E>A >@EFBSBA >I J LPQ RKFSBOP>I PB@LKA>OV P@ELLI BAR@>QFLK QEB BNRFS>IBKQ LC > EFDE P@ELLI BAR@>QFLK FK QEB 4KFQBA 2Q>QBP 6FQE OBD>OA QL MEVPF@>I @>MFQ>I \*LOB>dp O>QBP LC FKSBBQ JBKQ E>A ?BBK >?LRQ LC &# / >Q QEB PQ>OQ LC QEB P ?RQ ALR?IBA QL a LC &# / ?V QEB I>QB P >KA B>OIV P 6FQE OBD>OA QL QB@EKLILDV 2LRQE \*LOB>K PQRABKQP TBKQ QL RKFSBOPQFBP >KA @LIIBDBP >OLRKA QEB TLOIA QL L?>FK P@FBKQFCF@ >KA QB@EKFE@>I QO>FKFKD >KA 2LRQE \*LOB>K CFO J P OB>@EBA LRQ QL PQRV >KA CLO J M>OQKBOPEFMP TFQE CFO J P QE>Q @LRIA LCCBO QEB J QB@EKLILDF@>I FKPFDQ 3EBPB C>@QLOP @L J ?FKBA QL CLPQBO 2LRQE \*LOB>dp EFDE O>QB LC B@LKL J F@ DOLTQE

**EBJG; 66BHAG<A: +GH7<8F**

2FK@B QEB I>QB P B@LKL J FPQP E>SB @LKR@QBA DOLTQE >@>LRKQFKD PQRAFP QL ABQBO J FKB QEB BUQBKQ QL TEF@E MEVPF@>I >KA ER J >K @>MFQ>I ABBMBKFKD >KA QB@EKLILDV E>SB @LKOQF?RQBA QL DOLTQE 3EB RPR>I >MMOL>@E RPB >K >DDOBD>QB MOLAR@QFLK CRK@QFLK QL BPQF J >QB ELT J R@E LC MBO @>MFQ> B@LKL J F@ DOLTQE @>K ?B >QQF?RQBA QL DOLTQE FK MEVPF@>I @>MFQ>I >KA ER J >K @>MFQ>I 6B @>K JB>PROB QEBPB QTL FKMRRP >Q IB>PQ OLRDEIV 3EB M>OQ LC DOLTQE QE>Q FP RKBUMI>FKBA ?V JB>PROBA FKMRQP @>IIBA QEB OBPFAF>I FP QEBK >QQF?RQBA QL DOLTQE FK QB@EKLILDV 3EB BU>@Q KR J BOF@>I BPQF J >QB AFCCBO COL J PQRV QL PQRV >KA COL J @LRKQOV QL @LRKQOV ABBMBKFKD LK ELT OBPB>O@EBOP JB>PROBA QEBPB QEOBB J >FK

C>@QLOP >KA LSBO TE>q QF J B ELOFWLKP %LO PQRAF BP LC QEB 4 2 B@LKL J V QE0BB IBPPLKP @L J J LKIV B J BODB COL J DOLTQE  
>@@LRKQFKD PQRAF BP

%FOPQ QB@EKLILDV FP QVMF@>IIV QEB J LPQ F J MLOQ>KQ @LKLQF?RQLO QL 4 2 B@LKL J F@ DOLTQE &OLTQE FK ER J >K @>MFQ>I >KA  
MEVPF@>I @>MFQ>I LCQBK BUMI>FKP LKIV E>IC LO IBPP QE>K E>IC LC QEB B@LKL J F@ DOLTQE QE>Q L@>ROP -BT T>VP LC ALFKD  
QEFKDP >OB QOB J BKALRPV F J MLOQ>KQ

2B@LKA TEFIB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I FP BPPBKQF>I QL DOLTQE FK I>?LO MOLAR@QFSFV >KA &# / MBO @>MFQ> ?RFIAFKD  
ER J >K @>MFQ>I FP >Q IB>PQ >P F J MLOQ>KQ \$@LKL J F@ DOLTQE FP KLQ GRPQ > J >QBO LC J LOB J >@EFKBP >KA ?RFIAFKDP .KB  
SFSFA BU> J MIB LC QEB MLTBO LC ER J >K @>MFQ>I >KA QB@EKLILDf@>I HKL TIBADB L@>ROOBA FK \$ROLMB FK QEB VB>OP >CQBO 6 LOIA  
6 >0 (( a #ROFKD QEB T>O > I>ODB PE>OB LC \$ROLMBdP MEVPF@>I @>MFQ>I PR@E >P C>@QLOFBP OL>AP >KA SBEF@IBP  
T>P ABPQOLVBA \$ROLMB >IPL ILPQ >K LSBOTEBI J FKD > J LRRQ LC ER J >K @>MFQ>I FK QEB CLO J LC J FHFLKP LC J BK TL J BK  
>KA @EFIAOBK TEL AFBA AROFKD QEB T>O 'LTBSBO QEB MLTBOCRI @L J ?FK>QLK LC PHFIIBA TLOHBOP >KA QB@EKLILDf@>I  
HKL TIBADB TLOHFKD TFQEFK > J >OHBQ LOFBKQBA B@LKL J F@ CO> J BTLOH OB?RFIQ \$ROLMBdP MOLAR@QFSB @>M>@FQV QL >K BSBK  
EFDEBO IBSBI TFQEFK IBPP QE>K QTL AB@>ABP

QEFOA IBPPLK FP QE>Q QEBPB QE0BB C>@QLOP LC ER J >K @>MFQ>I MEVPF@>I @>MFQ>I >KA QB@EKLILDV TLOH QLDBQEBO 6 LOHBOP  
TFQE > EFDEBO IBSBI LC BAR@>QLK >KA PHFIIP >OB LCQBK ?BQQBO >Q @L J FKD RM TFQE KBT QB@EKLILDf@>I FKKLS>QLKP 3EBPB  
QB@EKLILDf@>I FKKLS>QLKP >OB LCQBK FAB>P QE>Q @>KKLQ FK@OB>PB MOLAR@QLK RKQFI QEBV ?B@L J B >M>OQ LC KBT FKSBPQ J BKQ  
FK MEVPF@>I @>MFQ>I -BT J >@EFKBP QE>Q B J ?LAV QB@EKLILDf@>I FKKLS>QLKP LCQBK OBNRFOB >AAFQFLK>I QO>FKFKD TEF@E  
?RFIAP TLOHBO PHFIIP CROQEBO (C QEB OB@FMB CLO B@LKL J F@ DOLTQE FP QL PR@@BBA >K B@LKL J V KBBAP >II QEB FKDOBAFBKQP  
LC QEB >DDOBD>QB MOLAR@QLK CRK@QLK 2BB QEB CLILTFKD "IB>O (Q 4M CB>QROB CLO >K BU> J MIB LC ELT ER J >K @>MFQ>I  
MEVPF@>I @>MFQ>I >KA QB@EKLILDV @>K @L J ?FKB QL PFDKFCF@>KQIV F J M>@Q IFSBP

# Clear It Up

**BJ 7B :<E?FR 87H64G<BA 4A7 86BAB@<6 :EB JG; E8?4G8 <A ?BJ  
<A6B@8 6BHAGE<8F**

JK QEB B>OIV P @>@LQAFKD QL QEB 7 LOIA ">KH >?LRQ JFHILK @EFIAOBK ?BQTBBK QEB >DBP LC >KA  
TBOB KLQ FK P@ELLI \_>KA >?LRQ QTL QEFQAP LC QEB J TBOB DFOIP JK !CDE>KFPQ>K CLO BU> J MIB QEB IFQBO>@V O>QB CLO  
QELPB >DBA CLO QEB MBOFLA T>P CLO J >IBP >KA LKIV CLO CB J >IBP JK "BKFK FK 7BPQ  
!COF@> FQ T>P CLO J >IBP >KA CLO CB J >IBP JK .FDBO> !COF@>aP J LPQ MLMRILRP @LRKQOV FQ T>P CLO  
J >IBP >KA MBO@BKQ CLO CB J >IBP

7 EBKBSBO >KV @EHA ALBP KLQ OB@BFSB > ?>PF@ BAR@>QLK FQ FP ?LQE > ER J >K >KA >K B@LKL J F@ ILPP JK ILT  
FK@L J B @LRKQFBP T>DBP QVMF@>IIV FK@OB>PB ?V >K >SBO>DB LC QL TFQE B>@E >AAFQFLK>I VB>O LC BAR@>QLK  
4EB0B FP ELTBSBO PL J B FKQOFDRFKD BSfABK@B QE>Q EBIMFKD DFOIP FK ILT FK@L J B @LRKQFBP QL @ILPB QEB BAR@>QLK  
D>M TFQE ?LVP J >V ?B BPMB@f>IIV F J MLOQ>KQ ?B@>RBP LC QEB PL@f>I OLIB QE>Q J >KV LC QEB DFOIP TFII MI>V >P  
J LQEBOP >KA EL J B J >HBOP

'FOIP FK ILT FK@L J B @LRKQFBP TEL OB@BFSB J LOB BAR@>QLK QBKA QL DOLT RM QL E>SB CBTBO EB>IQEFBO ?BQQBO  
BAR@>QBA @EFIAOBK 4EBFO @EFIAOBK >OB J LOB IFHBIV QL ?B ?BQQBO KLRQFPEBA >KA QL OB@BFSB ?>PF@ EB>IQE @>OB IFHB  
F J J RKFV>QLKP %@LKL J F@ OBPB>O@E LK TL J BK FK ILT FK@L J B B@LKL J FBP ?>@HP RM QEBPB CFKAKDP 7 EBK  
TL J BK L?>FK LKB >AAFQFLK>I VB>O LC P@ELLIFKD >P > DOLRM QEBV TFII LK >SBO>DB E>SB LKB IBPP @EHA 7 EBK  
TL J BK L?>FK LKB >AAFQFLK>I VB>O LC P@ELLIFKD LK >SBO>DB LKB QL QTL CBTBO TL J BK COL J QE>Q DOLRM TFII  
AFB FK @EHA?FOQE 7 EBK > TL J >K PQ>VP FK P@ELLI >K >AAFQFLK>I VB>O QE>Q C>@QLO >ILKB J B >KP QE>Q LK >SBO>DB  
B>@E LC EBO @EFIAOBK TFII PMBKA >K >AAFQFLK>I E>IC VB>O FK P@ELLI %AR@>QLK CLO DFOIP FP > DLLA FKSBPQ J BKQ  
?B@>RBP FQ FP >K FKSBPQ J BKQ FK B@LKL J F@ DOLTQE TFQE ?BKBCFP ?BVLKA QEB @ROOBKQ DBKBQ>QLK

**84?G;L ?@4G8 9BE 6BAB@<6 EB JG;**

6 EFIB MEVPF@>I >KA ER J >K @>MFQ>I ABBMBKFKD >KA ?BQQBO QB@EKLILDV >OB F J MLOQ>KQ BNR>IIV F J MLOQ>KQ QL >K >QLKdP  
TBII ?BFKD FP QEB @IF J >QB LO PVPQB J TFQEFK TEF@E QEBPB FKMRQP >OB @RIQFS>QBA !LQE QEB QVMB LC J >OHBQ B@LKL J V >KA >  
IBD>I PVPQB J QE>Q DLSBOKP >KA PRPQ>FKP MOLMBOVQ OFDEQP >KA @LKLQ>@QR>I OFDEQP >OB F J MLOQ>KQ @LKLQF?RQLOP QL > EB>IQEV  
B@LKL J F@ @IF J >QB

EB>IQEV B@LKLJF@ @IFJ>QB RPR>IIV FKSLSBP PLJB PLOQ LC J>OHBQ LOFBKQ>QFLK >Q QEB JF@OLB@LKLJF@ FKAFFAR>I  
LO CFOJ AB@FPFLK J>HFKD IBSBI ,>OHBQP QE>Q >IILT MBOPLK>I >KA ?RPFKBPB OBT>OAP >KA FK@BKQFSBP CLO FK@OB>PKD  
ERJ>K >KA MEVPF@>I @>MFQ>I BK@LRO>DB LSB@II J>@OLB@LKLJF@ DOLTQE %LO BU>J MIB TEBK TLOHBOP M>OQF@FM>QB FK >  
@LJ MBQFQFSB >KA TBII CRK@QFLKFKD I>?LO J>OHBQ QEBV E>SB >K FK@BKQFSB QL >@NRFOB >AAFQFLK>I ERJ>K @>MFQ>I ?B@>RPB  
>AAFQFLK>I BAR@>QFLK >KA PHFIIP TFII M>V LCC FK EFDEBO T>DBP %FOJPE>SB >K FK@BKQFSB QL FKSBPQ FK MEVPF@>I @>MFQ>I  
>KA FK QO>FKFKD TLOHBOP ?B@>RPB QEBV BUMB@Q QL B>OK EFDEBO MOLCFQP CLO QEBFO PE>OBELIABOP !LQE FKAFFAR>IP >KA CFOJP  
ILLH CLO KBT QB@EKLILDFBP ?B@>RPB BSBK PJ>II FKSBKQFLKP @>K J>HB TLOH B>PFBO LO IB>A QL MOLAR@Q FJ MOLSBJBKQ  
"LIIB@QFSBIV PR@E FKAFFAR>I >KA ?RPFKBPB AB@FPFLK J>AB TFQEFK > J>OHBQ PQOR@QROB >AA RM QL J>@OLB@LKLJF@ DOLTQE  
, R@E LC QEB O>MFA DOLTQE PFK@B QEB I>QB KFKBQBBQE @BKQROV E>P @LJB COLJ E>OKBPPFKD QEB MLTBO LC @LJ MBQFQFSB  
J>OHBQP QL >IIL@>QB OBLR@BP 3EFP J>OHBQ LOFBKQ>QFLK QVMF@>IIV OB>@EBP ?BVLKA K>QFLK>I ?LOABOP >KA FK@IRABP  
LMBKKBPP QL FKQBOK>QFLK>I QO>AB

DBKBO>I LOFBKQ>QFLK QLT>OA J>OHBQP ALBP KLQ ORIB LRQ FJ MLQ>KQ OLIBP CLO DLSBOKJBKQ 3EBOB >OB QFJBPTEBK J>OHBQP  
C>FI QL >IIL@>QB @>MFQ>I LO QB@EKLILDV FK > J>KKBO QE>Q MOLSFABP QEB DOB>QBP ?BKBCFQ CLO PL@FBQV >P > TELIB 3EB  
DLSBOKJBKQP OLIBFP QL @LQOB@Q QEBPB C>FIROBP (K >AAFQFLK DLSBOKJBKQ @>K DRFAB LO KFCIRBK@B J>OHBQP QLT>OA @BQ>FK  
LRQ@LJBPT 3EB CLIILTFKD BU>J MIBP EFDEIFDEQ PLJB FJ MLQ>KQ >OB>P QE>Q DLSBOKJBKQP >OLRKA QEB TLOIA E>SB @ELPBK  
QL FKSBPQ FK QL C>@FIFQ>QB @>MFQ>I ABBMBKFKD >KA QB@EKLILDV

- d \$AR@>QFLK 3EB #>KFPE DLSBOKJBKQ OBNRFOBP >II @EFIAOBK RKABO QL >QQBKA P@ELLI 3EBV @>K @ELLPB QL >QQBKA  
> MR?IF@ P@ELLI *Folkeskole* LO > MOFS>QB P@ELLI 2QRABQP AL KLQ M>V QRFQFLK QL >QQBKA *Folkeskole* 3EFOQBBK  
MBO@BKQ LC MOFJ >OV PB@LKA>OV BIBJBKQ>OV EFDE P@ELLI FP MOFS>QB >KA QEB DLSBOKJBKQ PRMMIFBP SLR@EBOP QL  
@FQFWBKP TEL @ELLPB MOFS>QB P@ELLI
- d 2>SFKDP >KA (KSBPQJBKQ (K QEB 4KFQBA 2Q>QBP >P FK LQEBQ @LRKQOFPB QEB DLSBOKJBKQ Q>UBP D>FKP COLJ MOFS>QB  
FKSBPQJBKQ +LT @>MFQ>I D>FKP Q>UBP BK@LRO>DB FKSBPQJBKQ >KA PL >IPL B@LKLJF@ DOLTQE
- d (KCO>PQOR@QROB 3EB )>M>KBPB DLSBOKJBKQ FK QEB JFA P RKABOQLLH PFDKFCF@>KQ FKCO>PQOR@QROB MOLGB@QP QL  
FJ MOLSB OL>AP >KA MR?IF@ TLOHP 3EFP FK QROK FK@OB>PBA QEB PQL@H LC MEVPF@>I @>MFQ>I >KA RIQFJ >QBIV B@LKLJF@  
DOLTQE
- d 2MB@F>I \$@LKLJF@ 9LKB 3EB FPI>KALC ,>ROFQFRP FP LKB LC QEB CBT COF@>K K>QFLKP QL BK@LRO>DB FKQBOK>QFLK>I  
QO>AB FK DLSBOKJBKQ PRMMLQ@BA **special economic zones (SEZ)** 3EBPB >OB >OB>P LC QEB @LRKQOV RPR>IIV  
TFQE >@BPP QL > MLQ TEBOB >J LKD LQEBQ ?BKBCFQP QEB DLSBOKJBKQ ALBP KLQ Q>U QO>AB P > OBPRIQ LC FQP  
2\$9 ,>ROFQFRP E>P BKGLVBA >?LSB >SBO>DB B@LKLJF@ DOLTQE PFK@B QEB P %OBB QO>AB ALBP KLQ E>SB QL  
L@@RO FK >K 2\$9 ELTBSBO &LSBOKJBKQP @>K BK@LRO>DB FKQBOK>QFLK>I QO>AB >@OLPP QEB ?L>OA LO PROOBKABO QL  
MOLQB@QFLKFPJ
- d 2@FBKQFCF@ 1BPB>O@E 3EB \$ROLMB>K 4KFLK E>P PQQLKD MOLDO>J P QL FKSBPQ FK P@FBKQFCF@ OBPB>O@E 3EB OBPB>O@EBOP  
?O>E>J &>O@\_> >KA /FB00B ,LEKBA ABJLKPQ>QB QE>Q CFOJP TEF@E OBB@FSBA PRMMLQ COLJ QEB RPQOF>K  
DLSBOKJBKQ >@QR>IIV FK@OB>PBA QEBFO OBPB>O@E FKQBKPQV >KA E>A JLOB P>IBP &LSBOKJBKQP @>K PRMMLQ P@FBKQFCF@  
OBPB>O@E >KA QB@EKF@>I QO>FKFKD QE>Q EBIMP QL @OB>QB >KA PMOB>A KBT QB@EKLILDFBP &LSBOKJBKQP @>K >IPL  
MOLSFAB >IBD>I BKSFOLKJBKQ QE>Q MOLQB@QP QEB >?FIFQV LC FKSQBQLQOP QL MOLCFQ COLJ QEBFO FKSBKQFLKP

3EBOB >OB J>KV JLOB T>VP FK TEF@E QEB DLSBOKJBKQ @>K MI>V >K >@QFSB OLIB FK MOLJLQFKD B@LKLJF@ DOLTQE 6B  
BUMILOB QEB J FK LQEBQ @E>MQBOP >KA FK M>OQF@RI>O FK %46EB86BAB@<6 (B?6L EBHA7G ; 8 / BE?7 EB>IQEV @IFJ>QB  
CLO DOLTQE FK &# / MBO @>MFQ> >KA I>?LO MOLAR@QFSQV FK@IRABP ERJ>K @>MFQ>I ABBMBKFKD MEVPF@>I @>MFQ>I ABBMBKFKD  
>KA QB@EKLILDF@>I D>FKP LMBO>QFKD FK > J>OHBQ LOFBKQBA B@LKLJV TFQE PRMMLQ@FSB DLSBOKJBKQ MLIF@FBP

## N 6BAB@<6 BAI8E:8A68

!V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK B@LKLJF@ @LKSBDDBK@B
- d K>IVWB S>OFLRP >ODR JBKQP CLO >KA >D>FKPQ B@LKLJF@ @LKSBDDBK@B
- d \$S>IR>QB QEB PMBBA LC B@LKLJF@ @LKSBDDBK@B ?BQTBBK EFDE FK@LJB @LRKQOFPB >KA QEB OBPQ LC QEB TLOIA

2LJBILT FK@LJB >KA JFAAIB FK@LJB B@LKLJFBP >OLRKA QEB TLOIA E>SB PELTK >M>Q@BOK LC **convergence** FK TEF@E  
QEBFO B@LKLJFBP DOLT C>PQBO QE>K QELPB LC EFDE FK@LJB @LRKQOFPB &# / FK@OB>PBA ?V >K >SBO>DB O>QB LC MBO VB>O  
FK QEB P >KA MBO VB>O COLJ QL FK QEB EFDE FK@LJB @LRKQOFPB LC QEB TLOIA TEF@E FK@IRAB QEB

4KFQBA 2Q>QBP ">K>A> QEB \$ROLMB>K 4KFLK @LRKQOFBP )>M>K RPQ>IF> >KA -BT 9B>I>KA

**,45?8** IFPQP @LRKQOFBP QE>Q ?BILKD QL >K FKCL0J>I eC>PQ DOLTQE @IR? f 3EBPB @LRKQOFBP >SBO>DBA &# / DOLTQE >CQBO >AGRPQFKD CLO FKCI>QFLK LC >Q IB>PQ MBO VB>0 FK ?LQE QEB QFJB MBOFLAP COL J QL >KA COL J QL 2FK@B B@LKLJF@ DOLTQE FK QEBPB @LRKQOFBP E>P BU@BBABA QEB >SBO>DB LC QEB TLOIAdP EFDE FK@LJB B@LKLJFBP QEBPB @LRKQOFBP J>V @LKSBOdB TFQE QEB EFDE FK@LJB @LRKQOFBP 3EB PB@LKA M>0Q LC **,45?8** IFPQP QEB ePILT DOLTQE @IR? f TEF@E @LKPFPQ LC @LRKQOFBP QE>Q >SBO>DBA &# / DOLTQE LC MBO VB>0 LO IBPP >CQBO >AGRPQFKD CLO FKCI>QFLK AROFKD QEB P>JB QFJB MBOFLAP 3EB CFK>I MLOQFLK LC **,45?8** PELTP &# / DOLTQE 0>QBP CLO QEB @LRKQOFBP LC QEB TLOIA AFSFABA ?V FK@LJB

BHAGEL	18E4:8 EB JG; *4G8 B9 *84? ( P	18E4:8 EB JG; *4G8 B9 *84? ( P
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*Fast Growth Club (5% or more per year in both time periods)*

#>J?LAF>		
#EFK>		
)KAF>		
)0BI>KA		
*LOA>K		
,>LP		
- LW>J?FNRB		
3RA>K		
5D>KA>		
6fBQK>J		

*Slow Growth Club (2% or less per year in both time periods)*

#BKQ0>I !COF@>K 2BMR?IF@		
&0>K@B		
' B0J>KV		
' RfKB> "fPP>R		
(>fQf	^	
)Q>IV		
*>J>f@>		
*>M>K		
3TFQWB0I>KA		
5KFQBA 3Q>QBP CLO 0BCB0BK@B		

**,45?8** 6BAB@<6 EB JG; 4EBHA7G;8 / BE?7 3LR0@B EQQM A>Q>?>KH TLOIA?>KH LOD A>Q> SFBTP S>Qf>?IB3BIB@QFLK PBIB@QS>Qf>?IBP >PMU PLR0@B TLOIA ABSBILMJ BKQ FKAf@>QL0P @=R

BHAGEL	18E4:8 EB JG; *4G8 B9 *84? ( P	( 18E4:8 EB JG; *4G8 B9 *84? ( P
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World Overview

( FDE FK@L J B		
, LT FK@L J B		
- FAAIB FK@L J B		

,45?8 6BAB@<6 EB JG; 4EBHA7 G; 8 / BE?7 3LR0@B EQM A>Q>?>KH TLOIA?>KH L0D A>Q> SFBTP S>Q>?IB3BIB@QFLK PBIB@Q>S>O>?IBP >PMU PLR0@B TLOIA ABSBILM J BKQ FKAf@>QL0P @=R

\$>@E LC QEB @LRKQFBP FK ,45?8 E>P FQP LTK RKFNRB PQLOV LC FKSBPQ J BKQP FK ER J>K >KA MEVPF@>I @>MFQ>I QB@EKLILDF@>I D>FKP J >OHBQ CLO@BP DLSBOK J BKQ MLIF@FBP >KA BSBK IR@HV BSBKQP ?RQ >K LSBO>II M>QQBOK LC @LKSBOBDBK@B FP @IB>O 3EB ILT FK@L J B @LRKQFBP E>SB &# / DOLTQE QE>Q FP C>PQBO QE>K QE>Q LC QEB J FAAIB FK@L J B @LRKQFBP TEF@E FK QROK E>SB &# / DOLTQE QE>Q FP C>PQBO QE>K QE>Q LC QEB EFDE FK@L J B @LRKQFBP 3TL MOL J FKBKQ J B J ?BOP LC QEB C>PQ DOLTQE @IR? >OB "EFK> >KA (KAF> TEF@E ?BQTBKQ QEB J E>SB KB>OIV LC QEB TLOIAdP MLMRI>QFLK 2L J B MOL J FKBKQ J B J ?BOP LC QEB PILT DOLTQE @IR? >OB EFDE FK@L J B @LRKQFBP IFHB %O>K@B &BO J >KV (Q>IV >KA )>M>K

6 FII QEFP M>QQBOK LC B@LKL J F@ @LKSBOBDBK@B MBOPFPQ FKQL QEB CRQROB 3EFP FP > @LKQQLSBOFP>I NRBPFQFK > J LKD B@LKL J FPQP QE>Q TB TFII @LKPFABO ?V ILLHFKD >Q PL J B LC QEB J >FK >ODR J BKQP LK ?LQE PFABP

E:H@8AGF 4IBE<A: BA18E:8A68

2BSBO>I >ODR J BKQP PRDDBPQ QE>Q ILT FK@L J B @LRKQFBP JFDEQ E>SB >K >AS>KQ>DB FK >@EFBSFKD DOB>QBO TLOHBO MOLAR@QFSFQV >KA B@LKL J F@ DOLTQE FK QEB CRQROB

CFOPQ >ODR J BKQ FP ?>PBA LK AF J FKFPEFKD J >ODFK>I OBQROKP \$SBK QELRDE ABBMBKFKD ER J >K >KA MEVPF@>I @>MFQ>I TFII QBKA QL FK@OB>PB &# / MBO @>MFQ> QEB I>T LC AF J FKFPEFKD OBQROKP PRDDBPQ QE>Q >P >K B@LKL J V @LKQFKRBP QL FK@OB>PB FQP ER J >K >KA MEVPF@>I @>MFQ>I QEB J >ODFK>I D>FKP QL B@LKL J F@ DOLTQE TFII AF J FKFPE %LO BU> J MIB O>FPFKD QEB >SBO>DB BAR@>QFLK IBSBI LC QEB MLMRI>QFLK ?V QTL VB>OP COL J > QBKQE DO>AB IBSBI QL > EFDE P@ELLI AFMIL J > TEFIB ELIAFKD >II LQEBO FKMQRQ @LKPQ>KQ TLRIA MOLAR@B > @BOQ>FK FK@OB>PB FK LRQMRQ K >AAFQFLK>I QTL VB>O FK@OB>PB PL QE>Q QEB >SBO>DB MBOPLK E>A > QTL VB>O @LIHDB ABDORB TLRIA FK@OB>PB LRQMRQ CROQEBO ?RQ QEB J >ODFK>I D>FK TLRIA ?B P J >IIBO 8BQ >KLQEBO >AAFQFLK>I QTL VB>O FK@OB>PB FK QEB IBSBI LC BAR@>QFLK PL QE>Q QEB >SBO>DB MBOPLK TLRIA E>SB > CLR0 VB>O @LIHDB ?>@EBILOdP ABDORB TLRIA FK@OB>PB LRQMRQ PQFII CROQEBO ?RQ QEB J >ODFK>I FK@OB>PB TLRIA >D>FK ?B P J >IIBO PF J FI>O IBPPLK ELIAP CLO MEVPF@>I @>MFQ>I (C QEB NR>KQFV LC MEVPF@>I @>MFQ>I >S>FI>?IB QL QEB >SBO>DB TLOHBO FK@OB>PBP ?V P>V QL >D>FK TEFIB ELIAFKD >II LQEBO FKMQRQ @LKPQ>KQ FQ TFII FK@OB>PB QEB IBSBI LC LRQMRQ K >AAFQFLK>I FK@OB>PB COL J QL TFII FK@OB>PB LRQMRQ CROQEBO ?RQ QEB J >ODFK>I FK@OB>PB TFII ?B P J >IIBO

+LT FK@L J B @LRKQFBP IFHB "EFK> >KA (KAF> QBKA QL E>SB ILTBO IBSBIP LC ER J >K @>MFQ>I >KA MEVPF@>I @>MFQ>I PL >K FKSBPQ J BKQ FK @>MFQ>I ABBMBKFKD PELRIA E>SB > I>ODBO J >ODFK>I BCCB@Q FK QEBPB @LRKQFBP QE>K FK EFDE FK@L J B @LRKQFBP TEBOB IBSBIP LC ER J >K >KA MEVPF@>I @>MFQ>I >OB >IOB>AV OBI>QFSBIV EFDE #F J FKFPEFKD OBQROKP F J MIFBP QE>Q ILT FK@L J B B@LKL J FBP @LRIA @LKSBOBDB QL QEB IBSBIP QE>Q QEB EFDE FK@L J B @LRKQFBP >@EFBSB

PB@LKA >ODR J BKQ FP QE>Q ILT FK@L J B @LRKQFBP J >V CFKA FQ B>PFBO QL F J MOLSB QEBFO QB@EKLILDFBP QE>K EFDE FK@L J B @LRKQFBP ' FDE FK@L J B @LRKQFBP J RPQ @LKQFKR>IIV FKS BKQ KBT QB@EKLILDFBP TEBOB>P ILT FK@L J B @LRKQFBP @>K LCQBK CFKA T>VP LC >MMIVFKD QB@EKLILDV QE>Q E>P >IOB>AV ?BBK FKS BKQBA >KA FP TBII RKABOPQLLA 3EB B@LKL J FPQ IBU>KABO &BOP@EBKHOLK a D>SB QEFP MEBKL J BKLK > J B J L0>?IB K> J B eQEB >AS>KQ>DBP LC ?>@HT>0AKBPP f . C @LROPB EB AFA KLQ IFQBO>IIV J B>K QE>Q FQ FP >K >AS>KQ>DB QL E>SB > ILTBO PQ>KA>OA LC IFSFKD ' B T>P MLFKQFKD LRQ QE>Q > @LRKQOV QE>Q FP ?BEFKA E>P PL J B BUQO> MLQBKF>I CLO @>Q@EFKD RM

%FK>IIV LMQF J FPQP >ODRB QE>Q J >KV @LRKQFBP E>SB L?PBOSBA QEB BUMBOFBK@B LC QELPB QE>Q E>SB DOLT K J LOB NRF@HIV >KA E>SB IB>OKBA COL J FQ , LOBLSBO LK@B QEB MBLMIB LC > @LRKQOV ?BDFK QL BGLV QEB ?BKBCFP LC > EFDEBO PQ>KA>OA LC IFSFKD QEBV J >V ?B J LOB IFHBIV QL ?RFIA >KA PRMMLQ QEB J >OHBQ COFBKAIV FKPQFQRQFLKP QE>Q TFII EBIM MOLSFAB QEFP PQ>KA>OA LC IFSFKD

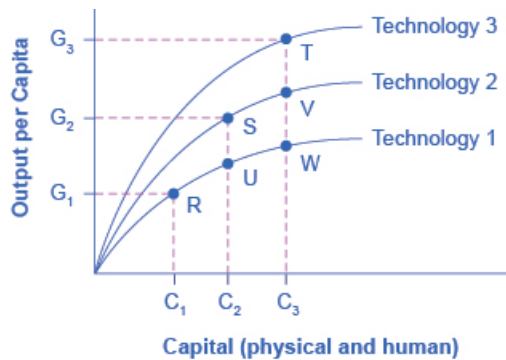
# Link It Up

6fBT QEFp SfABL EQM LMBKp>U@LIIBDB L0D I QBAE>KP0LPfKD Ql IB>0K >?LRQ B@LKL J F@ D0LTQE >@0LPP QEB TL0IA

## E:H@8AGF ; ; 4G BA18E:8A68 !F A8<G;8E !A8I<G45?8 ABE \$<>8?L

(C QEB B@LKL J V P D0LTQE ABMBKABA LKIV LK QEB ABBMBKFKD LC ER J >K @>MFQ>I >KA MEVPF@>I @>MFQ>I QEBK TB TLRIA BUMB@Q QE>Q B@LKL J V P D0LTQE 0>QB QL PILT ALTK LSB0 QEB ILKD ORK ?B@>RPB LC AF J FKPFPEFKD J >ODFK>I 0BQR0KP ' LTBSB0 QEB0B FP >KLQEB0 @QR@F>I C>@QL0 FK QEB >DD0BD>QB M0LAR@QFLK CRK@QFLK QB@EKLILDV

#BSBILMFKD KBT QB@EKLILDV @>K M0LSFAB > T>V CLO >K B@LKL J V QL PFABPQBM QEB AF J FKPFPEFKD J >ODFK>I 0BQR0KP LC @>MFQ>I ABBMBKFKD <:HE8 PELTP ELT 3EB CFDR0B P ELOFWLKQ>I >UFP JB>PROBP QEB >J LRKQ LC @>MFQ>I ABBMBKFKD TEF@E LK QEFP CFDR0B FP >K LSB0>II JB>PROB QE>Q FK@IRABP ABBMBKFKD LC ?LQE MEVPF@>I >KA ER J >K @>MFQ>I 3EB >J LRKQ LC ER J >K >KA MEVPF@>I @>MFQ>I MBO TLOHBO FK@0B>PBP >P VLR JLSB COL J IBCQ QL OFDEQ COL J " QL " QL " 3EB AF>D0>J P SBOQF@>I >UFP JB>PROBP MBO @>MFQ> LRQMRQ 2Q>0Q ?V @LKPFA0FKD QEB ILTBPQ IFKB FK QEFP AF>D0>J I>?BIBA 3B@EKLILDV ILKD QEFP >DD0BD>QB M0LAR@QFLK CRK@QFLK QEB IBSBI LC QB@EKLILDV FP EBIA @LKPQ>KQ PL QEB IFKB PELTP LKIV QEB 0BI>QFLKPEFM ?BQTBBK @>MFQ>I ABBMBKFKD >KA LRQMRQ P @>MFQ>I ABBMBK COL J " QL " QL " >KA QEB B@LKL J V JLSBP COL J 1 QL 4 QL 6 MBO @>MFQ> LRQMRQ ALBP FK@0B>PB b ?RQ QEB T>V FK TEF@E QEB IFKB PQ>0QP LRQ PQBBMBO LK QEB IBCQ ?RQ QEBK CI>QQBKP >P FQ JLSBP QL QEB OFDEQ PELTP QEB AF J FKPFPEFKD J >ODFK>I 0BQR0KP >P >AAFQ>I J >ODFK>I >J LRKQ LC @>MFQ>I ABBMBKFKD FK@0B>PB LRQMRQ ?V BSBO P J >IIB0 >J LRKQ 3EB PE>MB LC QEB >DD0BD>QB M0LAR@QFLK IFKB 3B@EKLILDV PELTP QE>Q QEB >?FIFV LC @>MFQ>I ABBMBKFKD ?V FQPBC QL DBKBO>QB PRPQ>FKBA B@LKL J F@ D0LTQE FP IF J FQBA PFK@B AF J FKPFPEFKD 0BQR0KP TFII BSBKQR>IIV PBQ FK



<:HE8 4C<4? 88C8A<A: 4A7 &8J .86;AB?B:L )J>DFKB QE>Q QEB B@LKL J V PQ>0QP >Q MLFKQ 2 TQE QEB IBSBI LC MEVPF@>I >KA ER J >K @>MFQ>I # >KA QEB LRQMRQ MBO @>MFQ> >Q ' )C QEB B@LKL J V 0BIFBP LKIV LK @>MFQ>I ABBMBKFKD TEF@E 0B J >FKFKD >Q QEB QB@EKLILDV IBSBI PELTK ?V QEB 4B@EKLILDV IFKB QEBK FQ TLRIA C>@B AF J FKPFPEFKD J >ODFK>I 0BQR0KP >P FQ JLSBA COL J MLFKQ 2 QL MLFKQ 5 QL MLFKQ 7 (LTBSB0 KLT F J >DFKB QE>Q @>MFQ>I ABBMBKFKD FP @L J ?FKBA TQE F J M0LSB J BKQP FK QB@EKLILDV 4EBK >P @>MFQ>I ABBMBK COL J # QL # QB@EKLILDV F J M0LSBP COL J 4B@EKLILDV QL 4B@EKLILDV >KA QEB B@LKL J V JLSBP COL J 2 QL 3 3F J FI>0IV >P @>MFQ>I ABBMBK COL J # QL # QB@EKLILDV FK@0B>PBP COL J 4B@EKLILDV QL 4B@EKLILDV >KA QEB B@LKL J V JLSBP COL J 3 QL 4 7 QE F J M0LSB J BKQP FK QB@EKLILDV QEB0B FP KL ILKDB0 >KV 0B>PLK QE>Q B@LKL J F@ D0LTQE JRPQ KB@BPP>0HIV PILT ALTK

-LT ?0FKD F J M0LSB J BKQP FK QB@EKLILDV FKQL QEB MF@QROB (J M0LSBA QB@EKLILDV JB>KP QE>Q TFE > DFSBK PBQ LC FKMRQ JLOB LRQMRQ FP MLPPF?IB 3EB M0LAR@QFLK CRK@QFLK I>?BIBA 3B@EKLILDV FK QEB CFDR0B FP ?>PBA LK LKB IBSBI LC QB@EKLILDV ?RQ 3B@EKLILDV FP ?>PBA LK >K F J M0LSBA IBSBI LC QB@EKLILDV PL CLO BSBOV IBSBI LC @>MFQ>I ABBMBKFKD LK

QEB ELOFWLKQ>I >UFP FQ MOLAR@BP > EFDEBO IBSBI LC LRQMRQ LK QEB SBOQF@>I >UFP (K QROK MOLAR@QFLK CRK@QFLK 3B@EKLILDV  
OBMOBPBKQP > PQFII EFDEBO IBSBI LC QB@EKLILDV PL QE>Q CLO BSOV IBSBI LC FKMRQP LK QEB ELOFWLKQ>I >UFP FQ MOLAR@BP >  
EFDEBO IBSBI LC LRQMRQ LK QEB SBOQF@>I >UFP QE>K BFQEBO LC QEB LQEBO QTL >DDOBD>QB MOLAR@QFLK CRK@QFLK

, LPQ EB>IQEV DOLTFKD B@LKL JFB >OB ABBMBKFKD QEBFO ER J>K >KA MEVPF@>I @>MFQ>I >KA FK@OB>PKD QB@EKLILDV >Q QEB  
P> J B QF J B P > OBPRIQ QEB B@LKL J V @>K J LSB COL J > @ELF@B IFHB MLFKQ 1 LK QEB 3B@EKLILDV >DDOBD>QB MOLAR@QFLK  
IFKB QL > MLFKQ IFHB 2 LK 3B@EKLILDV >KA > MLFKQ IFHB 3 LK QEB PQFII EFDEBO >DDOBD>QB MOLAR@QFLK IFKB 3B@EKLILDV  
6 FQE QEB @L J ?FK>QFLK LC QB@EKLILDV >KA @>MFQ>I ABBMBKFKD QEB OFPB FK &# / MBO @>MFQ> FK EFDE FK@L J B @LRKQFBP ALBP  
KLQ KBBA QL C>AB >T>V ?B@>RPB LC AF J FKFPFKD OBQROK 3EB D>FKP COL J QB@EKLILDV @>K LCCPBQ QEB AF J FKFPFKD OBQROK  
FKSLISBA TFQE @>MFQ>I ABBMBKFKD

6 FII QB@EKLILDV@>I F J MOLSB J BKQP QEB J PBISBP ORK FKQL AF J FKFPFKD OBQROK LSBO QF J B 3E>Q FP TFII FQ ?B@L J B  
@LKQFKR>IIV E>OABO >KA J LOB @LPQIV QL AFP@LSBO KBT QB@EKLILDV@>I F J MOLSB J BKQP /BOE>MP PL J BA>V ?RQ >Q IB>PQ LSBO  
QEB I>PQ QTL @BKQROFBP PFK@B QEB ?BDFKFKD LC QEB (KARPQF>I 1BSLIRQFLK F J MOLSB J BKQP FK QB@EKLILDV E>SB KLQ ORK FKQL  
AF J FKFPFKD J >ODFK>I OBQROK , LABOK FKSBBKQFLK IFHB QEB FKQBOKBQ LO AFP@LSBOFBP FK DBKBQF@P LO J >QBOF>IP P@FBK@B AL  
KLQ PBB J QL MOLSFAB P J >IIBO D>FKP QL LRQMRQ QE>K B>OIFBO FKSBBKQFLK IFHB QEB PQB>J BKDFKB LO QEB O>FIOLA . KB OB>PLK  
QE>Q QB@EKLILDV@>I FAB>P AL KLQ PBB J QL ORK FKQL AF J FKFPFKD OBQROK FP QE>Q TB LCQBK @>K >MMIV TFABIV QEB FAB>P LC KBT  
QB@EKLILDV >Q > J >ODFK>I @LPQ QE>Q FP SBOV ILT LO BSBK WBOL PMB@FCF@ TLOHBO LO DOLRM LC TLOHBOP J RPQ RPB > PMB@FCF@  
>AAFQFLK>I J >@EFKB LO >K >AAFQFLK>I VB>O LC BAR@>QFLK , >KV TLOHBOP >@OLPP QEB B@LKL J V @>K RPB > KBT QB@EKLILDV  
LO FKSBBKQFLK >Q SBOV ILT J >ODFK>I @LPQ

3EB >ODR J BKQ QE>Q FQ FP B>PFBO CLO > ILT FK@L J B @LRKQOV QL @LMV >KA >A>MQ BUFPQFKD QB@EKLILDV QE>K FQ FP CLO >  
EFDE FK@L J B @LRKQOV QL FKSBBKQ KBT QB@EKLILDV FP KLQ KB@BPP>OFIV QORB BFQEBO 6 EBK FQ @L J BP QL >A>MQFKD >KA RPKD  
KBT QB@EKLILDV > PL@FBQV@P MBOCLO J >K@B FP KLQ KB@BPP>OFIV DR>O>KQBBA ?RQ FP QEB OBPRIQ LC TEBQEBO QEB @LRKQOV P  
B@LKL J F@ BAR@>QFLK>I >KA MR?IF@ MLIF@V FKPQFQRFLK >OB PRMMLQFSB (K QEBLOV MBOE>MP ILT FK@L J B @LRKQFBP E>SB  
J >KV LMMLOQRKQFBP QL @LMV >KA >A>MQ QB@EKLILDV ?RQ FC QEBV I>@H QEB >MMOLMOF>QB PRMMLQFSB B@LKL J F@ FKCO>PQOR>QROB  
>KA FKPQFQRFLK QEB QEBLOBQF@>I MLPPF?FIFV QE>Q ?>@HT>OAKBPP J FDEQ E>SB @BOQ>FK >AS>KQ>DBP FP LC IFQIB MO>@QF@>I  
OBIBS>K@B

# Link It Up

6fPfq QEFp TB?PfqB EqQm LMBKpQ>U@LIIBDB L0D I )Kaf>MlSB0QV Ql OB>A J LOB >?LRQ B@LKL JF@ DOLTQE FK )Kaf>

## , ; 8 +?B JA8FF B9 BA I8E : 8A68

IQELRDE B@LKL JF@ @LKSBOBKB@B ?BQTBKB QEB EFDE FK@L J B @LRKQFBP >KA QEB OBPQ LC QEB TLOIA PBB J P MLPPF?IB >KA  
BSBK IFHBIV FQ TFII MOL@BBA PILTIV "LKPFABO CLO BU>J MIB > @LRKQOV QE>Q PQ>OQP LCC TFQE > &# / MBO @>MFQ> LC  
TEF@E TLRIA OLRDEIV OBMOBPBKQ > QVMF@>I EFDE FK@L J B @LRKQOV QLA>V >KA >KLQEBO @LRKQOV QE>Q PQ>OQP LRQ >Q  
TEF@E FP OLRDEIV QEB IBSBI FK ILT FK@L J B ?RQ KLQ F J MLSBOFPEBA @LRKQFBP IFHB (KALKBPF> &R>QB J >I> LO \$DVMQ 2>V  
QE>Q QEB OF@E @LRKQOV @ERDP >ILKD >Q > >KKR>I DOLTQE O>QB LC &# / MBO @>MFQ> TEFIB QEB MLL0BO @LRKQOV DOLTQ >Q QEB  
>DDOBBPFSB O>QB LC MBO VB>O CQBO VB>OP &# / MBO @>MFQ> FK QEB OF@E @LRKQOV TFII ?B QE>Q FP  
TEFIB FK QEB MLL0 @LRKQOV FQ TFII ?B QE>Q FP "LKSBOBKB@B E>P L@>ROOBA 3EB  
OF@E @LRKQOV RPBA QL ?B QF J BP >P TB>IQEV >P QEB MLL0 LKB >KA KLT FQ FP LKIV >?LRQ QF J BP >P TB>IQEV \$SBK >CQBO  
@LKP@RQFSB VB>OP LC SBOV O>MFA DOLTQE ELTBSBO MBLMB FK QEB ILT FK@L J B @LRKQOV >OB PQFII IFHBIV QL CBBI NRFQ  
MLLO @L J M>OBA QL MBLMB FK QEB OF@E @LRKQOV , LOBSBO >P QEB MLL0 @LRKQOV @>Q@EBP RM FQ LMMLOQRKQFBP CLO @>Q@E RM  
DOLTQE >OB OBAR@BA >KA FQP DOLTQE O>QB J >V PILT ALTK PL J BTE>Q



3EB PILTKBPP LC @LKSBOBKB@B FIIRPQO>QBP >D>FK QE>Q P J >II AFCCBOBK@BP FK >KKR>I O>QBP LC B@LKL J F@ DOLTQE ?B@L J B ERDB  
AFCCBOBK@BP LSBO QF J B 3EB EFDE FK@L J B @LRKQFBP E>SB ?BBK ?RFIAFKD RM QEBFO >AS>KQ>DB FK PQ>KA>OA LC IFSFKD LSBO  
AB@>ABP b J LOB QE>K > @BKQROV FK PL J B @>PBP \$SBK FK >K LMQF J FPQF@ P@BK>OFL FQ TFII Q>HB AB@>ABP CLO QEB ILT FK@L J B  
@LRKQFBP LC QEB TLOIA QL @>Q@E RM PFDKFCF@>KQIV

# Bring it Home

## 4?BE<8F 4A7 6BAB@<6 EB JG;

7 B >K QBII QEB PQLOV LC J LABOK B@LKL J F@ DOLTQE ?V ILLHFKD >Q @>ILOFB @LKPR J M@FLK LSBO QF J B 4EB AO>J >QF@  
OFPB FK FK@L J BP >IILTBA QEB >SBO>DB MBOPLK QL B>Q ?BQQBO >KA @LKPR J B J LOB @>ILOFBP (LT AFA QEBPB FK@L J BP  
FK@OB>PB 4EB KBL@I>PPF@>I DOLTQE @LKPBP RPB QEB >DDOBD>QB MOLAR@QFLK CRK@QFLK QL PRDDBPQ QE>Q QEB  
MBOFLA LC J LABOK B@LKL J F@ DOLTQE @>J B >?LRQ ?B@>RPB LC FK@OB>PBP FK FKMRQP PR@E >P QB@EKLILDV >KA  
MEVPF@>I >KA ER J >K @>MFQ>I !IPL F J MLQ>KQ T>P QEB T>V FK TEF@E QB@EKLILDV@>I MOLDOBPP @L J ?FKBA TFQE  
MEVPF@>I >KA ER J >K @>MFQ>I ABBMBKFKD QL @OB>QB DOLTQE >KA @LKSBOBKB@B 4EB FPPRB LC AFPQF?RQFLK LC FK@L J B  
KLQTFQEPQ>KAFKD FQ FP @IB>O QE>Q QEB >SBO>DB TLOHBO @>K >CCLOA J LOB @>ILOFBP FK QE>K FK

!PFAB COL J FK@OB>PBP FK FK@L J B QEBOB FP >KLQEBO OB>PLK TEV QEB >SBO>DB MBOPLK @>K >CCLOA J LOB CLLA  
- LABOK >DOF@RIQROB E>P >IILTBA J >KV @LRKQFBP QL MOLAR@B J LOB CLLA QE>K QEBV KBBA \$BPMFQB E>SFKD J LOB  
QE>K BKL RDE CLLA ELTBSBO J >KV DLSBOK J BKQP >KA J RIQF@QBO>I >DBK@FBP E>SB KLQ PLISBA QEB CLLA AFPQF?RQFLK  
MOL?IB J )K C>@Q CLLA PELQ>DBP C>JFKB LO DBKB0>I CLLA FKPB@ROFQV >OB @>RPBA J LOB LQCBK ?V QEB C>FIROB  
LC DLSBOK J BKQ J >@OLB@LKL J F@ MLIF@V >@@LOAFKD QL QEB . L?BI OOFWB TFKKFKD B@LKL J FPQ ! J >QV> 3BK 3BK  
E>P @L KAR@QBA BUQBKPSB OBPB>O@E FKQL FPPRBP LC FKBNR>IFQV MLSBOQV >KA QEB OLIB LC DLSBOK J BKQ FK F J MOLSFKD  
PQ>KA>OAP LC IFSFKD - >@OLB@LKL J F@ MLIF@FBP QE>Q PQQFSB QLT>OA PQ>?IB FKCI>QFLK CRII B J MILV J BKQ BAR@>QFLK LC  
TL J BK >KA MBBPBO>QFLK LC MOLMBOQV OFDEQP >OB J LOB IFHBIV QL BIF J FK>QB PQ>OS>QFLK >KA MOLSFAB CLO > J LOB BSBK  
AFPQF?RQFLK LC CLLA

"B@>RPB TB E>SB J LOB CLLA MBO @>MFQ> DIL?>I CLLA MOF@BP E>SB AB@OB>PBA PFK@B 4EB MOF@BP LC PL J B  
CLLAP ELTBSBO E>SB AB@OB>PBA J LOB QE>K QEB MOF@BP LC LQEBOP &LO BU>J MIB OBPB>O@EBOP COL J QEB 5KFSBOPQV  
LC 7>PEFKDQLK E>SB PELTK QE>Q FK QEB 5KQBA 3Q>QBP @>ILOFBP COL J WR@EFKF >KA IBQQR@B >OB QF J BP J LOB  
BUMBKPSB QE>K @>ILOFBP COL J LFI ?RQBO >KA PRD>O 2BPB>O@E COL J @LRKQFBP IFHB )KAF> #EFK> >KA QEB 5KQBA  
3Q>QBP PRDDBPQ QE>Q >P FK@L J BP OFPB FKAFSAR>IP T>KQ J LOB @>ILOFBP COL J C>QP >KA MOLQBFK >KA CBTBO COL J  
>O?LEVAO>QBP 4EP E>P SBOV FKQBOBPQFKD F J MIF@>QFLKP CLO DIL?>I CLLA MOLAR@QFLK L?BPFQV >KA BKSFLK J BKQ>I  
@LKPBNRBK@BP !CCIRBKQ RO?>K )KAF> E>P >K L?BPFQV MOL?IB J JR@E IFHB J >KV M>OQP LC QEB 5KQBA 3Q>QBP 4EB  
CLO@BP LC @LKSBOBKB@B >OB >Q TLOH

# # 1 , \*%+

4: :E8:4G8 CEB7H6G<BA 9HA6G<BA QEB MOL@BPP TEBOB?V >K B@LKL J V >P > TELIB QROKP B@LKL J F@ FKMRQP PR@E >P ER J >K @>MFQ>I MEVVPF@>I @>MFQ>I >KA QEB@EKLILDV FKQL LRQMRQ J B>PROBA >P &# / MBO @>MFQ>

64C<G4? 788C8A<A: >K FK@OB>PB ?V PL@FBQV FK QEB >SBO>DB IBSBI LC MEVVPF@>I >KA LO ER J >K @>MFQ>I MBO MBOPLK

6B@CBHA7 :EB JG; E4G8 QEB O>QB LC DOLTQE TEBK J RIQFMIFBA ?V > ?>PB QE>Q FK@IRABP M>PQ &# / DOLTQE

6BAGE46GH4? E<: ;GF QEB OFDEQP LC FKAFSFAR>IP QL BKQBO FKQL >DOBB J BKQP TFQE LQEBOP OBD>OAFKD QEB RPB LC QEBFO MOLMBOQV MOLSAFAKD OB@LROBP QEOLRDE QEB IBD>I PVPQB J FK QEB BSBKQ LC KLK@L J MIF>K@B

6BA18E: 8A68 M>QQBOK FK TEF@E B@LKL J FBP TFQE ILT MBO @>MFQ> FK@L J BP DOLT C>PQBO QE>K B@LKL J FBP TFQE EFDE MBO @>MFQ> FK@L J BP

;H@4A 64C<G4? QEB >@R J RI>QBA PHFIIP >KA BAR@>QFLK LC TLOHBOP

IA7HFGE<4? \*8IB?HG<BA QEB TFABPMOB>A RPB LC MLTBO AOFBOK J >@EFKBOV >KA QEB B@LKL J F@ >KA PL@F>I @E>KDBP QE>Q L@@ROOBA FK QEB CFOPQ E>IC LC QEB P

<A9E4FGEH6GHE8 > @L J MLKBKQ LC MEVVPF@>I @>MFQ>I PR@E >P OL>AP >KA O>FI PVPQB J P

<AAB14G<BA MRQQFKD >AS>K@BP FK HKLTIBADB QL RPB FK > KBT MOLAR@Q LO PBO SF@B

<A18AG<BA >AS>K@BP FK HKLTIBADB

?45BE CEB7H6G<I <GL QEB S>IRB LC TE>Q FP MOLAR@BA MBO TLOHBO LO MBO ELRO TLOHBA PL J BQF J BP @>IIBA TLOHBO MOLAR@QFSFQV

@B78EA 86BAB@<6 :EB JG; QEB MBOFLA LC O>MFA B@LKL J F@ DOLTQE COL J LKT>OA

C; LF<64? 64C<G4? QEB MI>KQ >KA BNRFM J BKQ QE>Q CFO J P RPB FK MOLAR@QFLK QEFP FK@IRABP FKCO>PQOR@QROB

CEB7H6G<BA 9HA6G<BA QEB MOL@BPP TEBOB?V > CFO J QROKP B@LKL J F@ FKMRQP IFHB I>?LO J >@EFKBOV >KA O>T J >QBOF>IP FKQL LRQMRQP IFHB DLLAP >KA PBO SF@BP QE>Q @LKPR J BOP RPB

EH?8 B9 ?4J QEB MOL@BPP LC BK>@QFKD I>TP QE>Q MOLQB@Q FKAFSFAR>I >KA BKQFQV OFDEQP QL RPB QEBFO MOLMBOQV >P QEBV PBB CFQ +>TP J RPQ ?B @IB>O MR?IF@ C>FO >KA BKCL@BA >KA >MMIF@>?IB QL >II J B J ?BOP LC PL@FBQV

FC86<4? 86BAB@<6 MBA8 + 2 >OB> LC > @LRKQOV RPR>IIV TFQE >@BPP QL > MLQO TEBOB > J LKD LQEBO ?BKBCFP QEB DL SBOK J BKQ ALBP KLQ >U QO>AB

G86; AB?B: <64? 6; 4A: 8 > @L J ?FK>QFLK LC FKS BKQFLK b >AS>K@BP FK HKLTIBADB b >KA FKKLS>QFLK

G86; AB?B: L >II QEB T>VP FK TEF@E BUFPQFKD FKMRQP MOLAR@B J LOB LO EFDEBO NR>IFQV >P TBII >P AFCCOBKQ >KA >IQLDBQEBO KBT MOLAR@QP

# # 1 ' & ( , + & + - % % \* 1

, ; 8 \* 8?4G<18?L \*868AG EE<14? B9 6BAB@<6 EB JG;

2FK@B QEB B>OIV KFKBQBBKQE @BKQROV QEBOB E>P ?BBK > PMB@Q>@RI>O MOL@BPP LC ILKD ORK B@LKL J F@ DOLTQE AROFKD TEF@E QEB TLOIA@P IB>AFKD B@LKL J FBP b J LPQIV QELPB FK 6BPQBOK \$RO LMB >KA - LOQE J BOF@> b BUM>KABA &# / MBO @>MFQ> >Q >K >SBO>DB O>QB LC >?LRQ MBO VB>O (K QEB I>PQ E>IC @BKQROV @LRKQOFBP IFHB )>M>K 2LRQE \*LOB> >KA "EFK> E>SB PELTK QEB MLQBKQF>I QL @>Q@E RM 3EB (KARPQOF>I 1BSLIRQFLK C>@FIFQ>QBA QEB BUQBKPFBS MOL@BPP LC B@LKL J F@ DOLTQE QE>Q B@LKL J FPQP LCQBK OBCBO QL >P J LABOK B@LKL J F@ DOLTQE 3EFP FK@OB>PBA TLOHBO MOLAR@QFSFQV >KA QO>AB >P TBII >P QEB

ABSILM J BKQ LC DLSBOK>K@B >KA J >OHBQ FKPQFQRQLKP

**\$45BE (EB7H6<I<GL 4A7 6BAB@<6 EB JG;**

6B @>K J B>PROB MOLAR@QFSFQV QEB S>IRB LC TE>Q FP MOLAR@BA MBO TLOHBO LO MBO ELRO TLOHBA >P QEB IBSBI LC &# / MBO TLOHBO LO &# / MBO ELRO 3EB 4KFQBA 2Q>QBP BUMBOFBK@BA >MOLAR@QFSFQV PILTAL TK ?BQTBBK >KA 2FK@B QEBK 4 2 MOLAR@QFSFQV E>P OB?LRKABA CLO QEB J LPQ M>OQ ?RQ >KKR>I DOLTQE FK MOLAR@QFSFQV FK QEB KLKC>0 J ?RPFKBPP PB@QL0 E>P ?BBK IBPP QE>K LKB MBO@BKQ B>@E VB>0 ?BQTBBK >KA (Q FP KLQ @IB>0 TE>Q MOLAR@QFSFQV DOLTQE THII ?B FK QEB @L J FKD VB>OP 3EB 0>QB LC MOLAR@QFSFQV DOLTQE FP QEB MOF J >OV ABQBO J FK>KQ LC >K B@LKL J VdP 0>QB LC ILKD QBO J B@LKL J F@ DOLTQE >KA EFDEBO T>DBP . SBO AB@>ABP >KA DBKBO>QLKP PBB J FKDIV P J >II AFCCBOBK@BP LC > CBT MBO@BKQ>DB MLFKQP FK QEB >KKR>I 0>QB LC B@LKL J F@ DOLTQE J >HB >K BKLO J LRP AFCCBOBK@B FK &# / MBO @>MFQ> K >DDOBD>QB MOLAR@QFLK CRK@QFLK PMB@FCFBP ELT @BOQ>FK FKMROP FK QEB B@LKL J V IFHB ER J >K @>MFQ>I MEVPF@>I @>MFQ>I >KA QB@EKLILDV IB>A QL QEB LRQMRQ J B>PROBA >P &# / MBO @>MFQ>

"L J MLRKA FKQBOBPQ >KA @L J MLRKA DOLTQE 0>QBP ?BE>SB FK QEB P> J B T>V >P MOLAR@QFSFQV 0>QBP 2BB J FKDIV P J >II @E>KDBP FK MBO@BKQ>DB MLFKQP @>K E>SB ?FD F J M>@QP LK FK@L J B LSO QF J B

**B@CBA8A&F B9 6BAB@<6 EB JG;**

. SBO AB@>ABP >KA DBKBO>QLKP PBB J FKDIV P J >II AFCCBOBK@BP LC > CBT MBO@BKQ>DB MLFKQP FK QEB >KKR>I 0>QB LC B@LKL J F@ DOLTQE J >HB >K BKLO J LRP AFCCBOBK@B FK &# / MBO @>MFQ> ">MFQ>I ABBMBKFKD OBCBOP QL >K FK@OB>PB FK QEB > J LRKQ LC @>MFQ>I MBO TLOHBO BFQEBO ER J >K @>MFQ>I MBO TLOHBO FK QEB CLO J LC EFDEBO BAR@>QLK LO PHFIIP LO MEVPF@>I @>MFQ>I MBO TLOHBO 3B@EKLILDV FK FQP B@LKL J F@ J B>KFKD OBCBOP ?OL>AIV QL >II KBT J BQELAP LC MOLAR@QFLK TEF@E FK@IRABP J >GLO P@FBKQFCF@ FKSBBKQLKP ?RQ >IPL P J >II FKSBBKQLKP >KA BSBK ?BQQBO CLO J P LC J >K>DB J BKQ LO LQEBO QVMBP LC FKPQFQRQLKP EB>IQEV @IF J >QB CLO DOLTQE FK &# / MBO @>MFQ> @LKPFPQ LC F J MOLSB J BKQP FK ER J >K @>MFQ>I MEVPF@>I @>MFQ>I >KA QB@EKLILDV FK > J >OHBQ LOFBKQBA BKSFOLK J BKQ TFQE PRMMLQFSB MR?IF@ MLIF@FBP >KA FKPQFQRQLKP

**6BAB@<6 BA18E:8A68**

6 EBK @LRKQOFBP TFQE ILTBO &# / IBSBIP MBO @>MFQ> @>Q@E RM QL @LRKQOFBP TFQE EFDEBO &# / IBSBIP MBO @>MFQ> TB @>II QEB MOL@BPP @LKSBOBK@B "LKSBOBK@B @>K L@>RO BSBK TEBK ?LQE EFDE >KA ILT FK@L J B @LRKQOFBP FK@OB>PB FKSBBP J BKQ FK MEVPF@>I >KA ER J >K @>MFQ>I TFQE QEB L?GB@QFSB LC DOLTFKD &# / 3EFP FP ?B@>RPB QEB F J M>@Q LC KBT FKSBBP J BKQ FK MEVPF@>I >KA ER J >K @>MFQ>I LK > ILT FK@L J B @LRKQOV J >V OBPRIQ FK ERDB D>FKP >P KBT PHFIIP LO BNRFM J BKQ @L J ?FKB TFQE QEB I>?LO CLO@B (K EFDEBO FK@L J B @LRKQOFBP ELTBSBO > IBSBI LC FKSBBP J BKQ BNR>I QL QE>Q LC QEB ILT FK@L J B @LRKQOV FP KLQ IFHBIV QL E>SB >P ?FD >K F J M>@Q ?B@>RPB QEB J LOB ABSILMBA @LRKQOV J LPQ IFHBIV >IOB>AV E>P EFDE IBSBIP LC @>MFQ>I FKSBBP J BKQ 3EBOBCL0B QEB J >ODFK>I D>FK COL J QEFP >AAF@FLK>I FKSBBP J BKQ QBKAP QL ?B PR@>BPPFSBIV IBPP >KA IBPP ' FDEBO FK@L J B @LRKQOFBP >OB J LOB IFHBIV QL E>SB AF J FKPFKFD OBQROKQ QL QEBFO FKSBBP J BKQP >KA J RPQ @LQFKR>IIV FKSBBK KBT QB@EKLILDVFBP 3EFP >IILTP ILTBO FK@L J B B@LKL J FBP QL E>SB > @E>K@B CLO @LKSBOBKQ DOLTQE ' LTBSSBO J >KV EFDE FK@L J B B@LKL J FBP E>SB ABSILMBA B@LKL J F@ >KA MLIF@>I FKPQFQRQLKP QE>Q MOLSFAB > EB>IQEV B@LKL J F@ @IF J >QB CLO >K LKDLFKD PQOB> J LC QB@EKLILDV@>I FKKLS>QLKP "LKQFKRLRP QB@EKLILDV@>I FKKLS>QLK @>K @LRKQBO?>I>K@B AF J FKPFKFD OBQROKQ QL FKSBBP J BKQP FK ER J >K >KA MEVPF@>I @>MFQ>I

**+ \$ # ) - +,!' &+**

\$UMI>FK TE>Q QEB (KARPQF>I 1BSLIRQLK T>P >KA TEB0B FQ ?BD>K

\$UMI>FK QEB AFCCBOBK@B ?BQTBBK MOLMBOQV OFDEQP >KA @LKQ>@QR>I OFDEQP 6 EV AL QEBV J >QBO QL B@LKL J F@ DOLTQE

OB QEB0B LQEBO T>VP FK TEF@E TB @>K J B>PROB MOLAR@QFSFQV ?BPFABP QEB > J LRKQ MOLAR@BA MBO ELRO LC TLOH

PPR J B QEB0B >OB QTL @LRKQOFBP 2LRQE \*LOB> >KA QEB 4KFQBA 2Q>QBP 2LRQE \*LOB> DOLTP >Q >KA QEB 4KFQBA 2Q>QBP DOLTP >Q %LO QEB P>HB LC PF J MIF@FQV >PPR J B QEBV ?LQE PQ>OQ COL J QEB P> J B CF@QLK>I FK@L J B IBSBI 6 E>Q TFII QEB FK@L J BP LC QEB 4KFQBA 2Q>QBP >KA 2LRQE \*LOB> ?B FK VB>OP !V ELT J >KV J RIQFMIBP TFII B>@E @LRKQOVdP FK@L J B DOLT FK VB>OP

6 E>Q AL QEB DOLTQE >@LRKQFKD PQRAFBP @LK@IRAB >OB QEB ABQBO J FK>KQP LC DOLTQE 6 EF@E FP J LOB F J MLOQ>KQ QEB ABQBO J FK>KQP LO ELT QEBV >OB @L J ?FKBA

6 E>Q MLIF@FBP @>K QEB DLSBOK J BKQ LC > COBB J >OHBQ B@LKL J V F J MIB J BKQ QL PQF J RI>QB B@LKL J F@ DOLTQE

+FPQ QEB >OB>P TEBOB DLSBOK J BKQ MLIF@V @>K EBIM B@LKL J F@ DOLTQE

4PB >K BU> J MIB QL BUMI>FK TEV >C@BO MBOFLAP LC O>MFA DOLTQE > ILT FK@L J B @LRKQOV QE>Q E>P KLQ @>RDEQ RM QL > EFDE FK@L J B @LRKQOV J >V CBBI MLL0

6 LRIA QEB CLIILTFKD BSBKQP RPR>IIV IB>A QL @>MFQ>I ABBMBKFKD 6 EV LO TEV KLQ

> TB>H B@LKL J V FK TEF@E ?RPFKBPPBP ?B@L J B OBIR@Q>KQ QL J >HB ILKD QBO J FKSBPQ J BKQP FK MEVPF@>I @>MFQ>I

? OFPB FK FKQBOK>QFLK>I QO>AB

@ QOBKA FK TEF@E J >KV J LOB >ARIQP M>OQF@FM>QB FK @LQKFKRFDK BAR@>QFLK @LROPBP QEOLRDE QEBFO B J MILVBOP >KA >Q @LIIBDBP >KA RKFSBOPPFQBP

6 E>Q >OB QEB e>AS>KQ>DBP LC ?>@HT>0AKBPPf CLO B@LKL J F@ DOLTQE

6 LRIA VLR BUMB@Q @>MFQ>I ABBMBKFKD QL OBPRIQ FK AF J FKFEPEBA OBQROKP 6 EV LO TEV KLQ 6 LRIA VLR BUMB@Q F J MOLSB J BKQP FK QB@EKLILDV QL OBPRIQ FK AF J FKFEPEBA OBQROKP 6 EV LO TEV KLQ

6 EV ALBP MOLAR@QFSFQV DOLTQE FK EFDE FK@L J B B@LKL J FBP KLQ PILT ALTK >P FQ ORKP FKQL AF J FKFEPEKD OBQROKP COL J >AAQFLK>I FKSBPQ J BKQP FK MEVPF@>I @>MFQ>I >KA ER J >K @>MFQ>I #LBP QEFP PELT LKB >OB> TEBOB QEB QEBLOV LC AF J FKFEPEKD OBQROKP C>FIP QL >MMIV 6 EV LO TEV KLQ

\* .! / ) - + ,!' &+

'LT AFA QEB (KARPOF>I 1BSLIRQFLK FK@OB>PB QEB B@LKL J F@ DOLTQE O>QB >KA FK@L J B IBSBIP FK QEB 4KFQBA 2Q>QBP

'LT JR@E PELRIA > K>QFLK ?B @LK@BOKBA FC FQP O>QB LC B@LKL J F@ DOLTQE FP GRPQ PILTBO QE>K LQEB0 K>QFLKP

'LT FP &# / MBO @>MFQ> @>I@RI>QBA AFCCBOKQIV COL J I>?LO MOLAR@QFSFQV

'LT AL D>FKP FK I>?LO MOLAR@QFSFQV IB>A QL D>FKP FK &# / MBO @>MFQ>

6 E>Q FP >K >DDOBD>QB MOLAR@QFLK CRK@QFLK

\*!,! \$ , !&#!& ) - + ,!' &+

. SBO QEB M>PQ VB>OP J >KV @LRKQOFBP E>SB BUMBOFBK@BA >K >KKR>I DOLTQE O>QB FK OB>I &# / MBO @>MFQ> DOB>QBO QE>K QE>Q LC QEB 4KFQBA 2Q>QBP 2L J B BU> J MIBP >OB "EFK> )>M>K 2LRQE \*LOB> >KA 3>FT>K #LBP QE>Q J B>K QEB 4KFQBA 2Q>QBP FP OBDOBPPFKD OBI>QFSB QL LQEB0 @LRKQOFBP #LBP QE>Q J B>K QEBPB @LRKQOFBP THII BSBKQR>IIV LSOB>HB QEB 4KFQBA 2Q>QBP FK QBO J P LC QEB DOLTQE O>QB LC OB>I &# / MBO @>MFQ> \$UMI>FK

\$45BE (EB7H6G<I<GL 4A7 6BAB@<6 EB JG ; LRQIFKBA QEB ILDF@ LC ELT FK@OB>PBA MOLAR@QFSFQV FP >PPL@F>QBA TFQE FK@OB>PBA T>DBP #BQ>FI > PFQR>QFLK TEBOB QEFP FP KLQ QEB @>PB >KA BUMI>FK TEV FQ FP KLQ

6 E>Q FP @>MFQ>I ABBMBKFKD

6 E>Q AL B@LKL J FPQP J B>K TEBK QEBV OBCBO QL F J MOLSB J BKQP FK QB@EKLILDV

%LO > EFDE FK@L J B B@LKL J V IFHB QEB 4KFQBA 2Q>QBP TE>Q >DDOBD>QB MOLAR@QFLK CRK@QFLK BIB J BKQP >OB J LPQ F J MLOQ>KQ FK ?OFKDFKD >?LRQ DOLTQE FK &# / MBO @>MFQ> 6 E>Q >?LRQ > J FAAIB FK@L J B @LRKQOV PR@E >P !O>WFI ILT FK@L J B @LRKQOV PR@E >P - FDBO

+FPQ PL J B >ODR J BKQP CLO >KA >D>FKP QEB IFHBIFELLA LC @LKSBOBKB@B

"E>KDB FK I>?LO MOLAR@QFSFQV FP LKB LC QEB J LPQ T>Q@EBA FKQBOK>QFLK>I PQ>QFPQF@P LC DOLTQE 5FPQ QEB 2Q +LRFP %BABO>I 1BPBOSB TB?PFP> >KA CFKA QEB A>Q> PB@QFLK EQQM OBPB>O@E PQILRFP CBA LOD %FKA FKQBOK>QFLK>I @L J M>OFPLKP LC I>?LO MOLAR@QFSFQV IFPQBA RKABO QEB %1\$# \$@LKL J F@ A>Q>?>PB &OLTQE 1>QB LC 3LQ>I ++?LO /OLAR@QFSFQV >KA @L J M>OB QTL @LRKQOFBP FK QEB OB@BKQ M>PQ 2Q>QB TE>Q VLR QEFKH QEB OB>PLKP CLO AFCCBOK@BP FK I>?LO MOLAR@QFSFQV @LRIA ?B

1BCBO ?>@H QL QEB /BE> !G 'HG >?LRQ "L J M>OFKD QEB \$@LKL J FBP LC 3TL "LRKQOFBP >KA BU> J FKB QEB A>Q> CLO QEB QTL @LRKQOFBP VLR @ELPB 'LT >OB QEBV PF J FI>O 'LT >OB QEBV AFCCBOKQ

\$AR@>QFLK PBB J P QL ?B F J MLOQ>KQ CLO ER J >K @>MFQ>I  
ABBMBKFKD P MBLMIB ?B@L J B ?BQQBO BAR@>QBA >KA J LOB  
HKL TIBADB>?IB >OB QEBOB IF J FQP QL ELT J R@E >AAFQFLK>I  
?BKBCFQ J LOB BAR@>QFLK @>K MOLSfAB 6 EV LO TEV KLQ

#BP@OF?B PL J B LC QEB MLIFQF@>I >KA PL@F>I QO>ABLCCP  
QE>Q J FDEQ L@RO TEBK > IBPP ABSBILMBA @LRKQOV >ALMQP  
> PQQ>QBDV QL MOL J LQB I>?LO CLO@B M>OQF@FM>QFLK >KA  
B@LKL J F@ DOLTQE SF> FKSBPQ J BKQ FK DFOIPd BAR@>QFLK

6 EV FP FKSBPQFKD FK DFOIPd BAR@>QFLK ?BKBCF@F>I CLO  
DOLTQE

( \* ' \$ %+

K B@LKL J V Pq>OQP LCC TFQE > &# / MBO @>MFQ> LC  
' LT I>ODB TFII QEB &# / MBO @>MFQ> ?B FC FQ DOLTP  
>Q >K >KKR>I O>QB LC CLO VB>OP CLO VB>OP  
CLO VB>OP CLO VB>OP

K B@LKL J V Pq>OQP LCC TFQE > &# / MBO @>MFQ> LC  
BROLP ' LT I>ODB TFII QEB &# / MBO @>MFQ> ?B FC FQ  
DOLTP >Q >K >KKR>I O>QB LC CLO VB>OP CLO  
VB>OP CLO VB>OP

' LT FP QEB @LK@BMQ LC QB@EKLILDV >P ABCFKBA TFQE  
QEB >DDOBD>QB MOLAR@QFLK CRK@QFLK AFCCBOBKQ COL J LRO  
BSBOVA>V RPB LC QEB TLOA

6 E>Q PLOQP LC MLIF@FBP @>K DLSBOK J BKQP F J MIB J BKQ  
QL BK@LRO>DB @LKSBOBDBK@B

P QB@EKLILDF@>I @E>KDB J >HBP RP J LOB PBABKQ>OV  
>KA CLLA @LPQP FK@OB>PB L?BPFQV FP IFHBIV 6 E>Q C>@QLOP  
AL VLR QEFKH J >V IF J FQ L?BPFQV

2>V QE>Q QEB >SBO>DB TLOHBO FK ">K>A> E>P >  
MOLAR@QFSFQV IBSBI LC MBO ELRO TEFIB QEB >SBO>DB  
TLOHBO FK QEB 4KFQBA \*FKDAL J E>P > MOLAR@QFSFQV IBSBI  
LC MBO ELRO ?LQE JB>PROBA FK 4 2 ALII>OP .SBO  
QEB KBUQ CFSB VB>OP P>V QE>Q TLOHBO MOLAR@QFSFQV FK  
">K>A> DOLTP >Q MBO VB>O TEFIB TLOHBO MOLAR@QFSFQV  
FK QEB 4 \* DOLTP MBO VB>O CQBO CFSB VB>OP TEL TFII  
E>SB QEB EFDEBO MOLAR@QFSFQV IBSBI >KA ?V ELT J R@E

2>V QE>Q QEB >SBO>DB TLOHBO FK QEB 4 2 B@LKL J V  
FP BFDEQ QF J BP >P MOLAR@QFSB >P >K >SBO>DB TLOHBO FK  
, BUf@L (C QEB MOLAR@QFSFQV LC 4 2 TLOHBOP DOLTP >Q  
CLO VB>OP >KA QEB MOLAR@QFSFQV LC , BUf@LdP TLOHBOP  
DOLTP >Q CLO VB>OP TEF@E @LRKQOV TFII E>SB  
EFDEBO TLOHBO MOLAR@QFSFQV >Q QE>Q MLFKQ



# N - A8@C?BL@8AG



<:HEB 'HG B9 HF<A8FF "LOABOP T>P LKB LC QEB J>KV @LJM>KFBP RK>?IB QL OB@LSBO COL J QEB B@LKL J F@ OB@BPPFLK #OBAFJ J LAFcf@>QLK LC TLOH ?V ,RfP 6fii> ABI #>JML &f@HO #OB>QFSB #LJ J LKP

## Bring it Home

- A8@C?BL@8AG 4A7 G;8 E84G \*868FF<BA

.B>OIV BfDEQ JfHfLK 5 3 GL?P TBOB ILPQ >P > @LKPBNRBK@B LC QEB 'OB>Q 2B@BPPFLK TEF@E I>PQBA COL J \$B@BJ?BO QL \*RKB !Q QEB LRQPBQ LC QEB OB@BPPFLK QEB RKB J MILV J BKQ O>QB T>P 4EB O>QB ?BD>K QfPKD PBSBO>I J LKQEP >CQBO QEB OB@BPPFLK ?BD>K >KA FQ MB>HBA >Q FK /@QL?BO PBSBO>I J LKQEP >CQBO QEB OB@BPPFLK BKABA >@@LOAFKD QL QEB "ROB>R LC ,>?LO 3Q>QfPQf@P " , 3 4EB GL? ILPP OBMObPBKQBA > ERDB KR J ?BO LC MLPQFLKP DLKB 3R?PBNRBKQIV QEB OB@LSBOV T>P QBMfA #LJM>KFBP >AABA PL JB MLPQFLKP ?RQ >P LC PR J JB0 CLRO VB>OP >CQBO QEB BKA LC QEB OB@BPPFLK RKB J MILV J BKQ T>P >?LRQ TBII >?LSB QEB MOB OB@BPPFLK O>QB %J MILV J BKQ ?BD>K FK@OB>PfkD >Q QEB LRQPBQ LC >KA OB>@EBA fQP MOB OB@BPPFLK IBSBI FK JFA (LTBSBO ?B@>RPB LC MLMRI>QLK >KA I>?LO CLO@B DOLTQE QEB RKB J MILV J BKQ O>QB >Q QE>Q MLFKQ T>P PqfH PIFDEQIV >?LSB 4EB B@LKL J V LKIV OBQROKBA QL >K RKB J MILV J BKQ O>QB LC FK 3BMQB J ?BO >KA FQ E>P OB J >fkBA >Q LO PIFDEQIV ?BILT QE>Q IBSBI Pfk@B QEBK RM QEOLRDE \*>KR>OV

4EFP ?OFBC LSOBSfBT LC RKB J MILV J BKQ AROFKD >KA >CQBO QEB 'OB>Q 2B@BPPFLK EfDEIFDEQP > CBT FJ MLQO>KQ MLFKQP &fOPQ RKB J MILV J BKQ fP > I>DDFKD fKAF@>QLO LC ?RPFKBPP >@QFSQV )Q AFAKq ?BDFK QL FK@OB>PB RKQfI > CBT J LKQEP >CQBO QEB LKPBQ LC QEB OB@BPPFLK >KA FQ AFAKq ?BDFK QL AB@fKB RKQfI PBSBO>I J LKQEP >CQBO QEB OB@LSBOV 3B@LKA QEB AB@fKB FK QEB RKB J MILV J BKQ O>QB T>P NRQfB PILT TQfE QEB MOB OB@BPPFLK RKB J MILV J BKQ O>QB LKIV OB>@EfKD > EfDEBO IBSBI QE>K PfU VB>OP >CQBO QEB OB@BPPFLK BKABA 4EFP OBcIB@QP > @LJ ?fK>QLK LC PILT FK@OB>PB FK QEB KR J ?BO LC GL?P >KA LKDLFKD FK@OB>PBP FK QEB PFWB LC QEB MLMRI>QLK >KA QEB I>?LO CLO@B

)Q QROKP LRQ QE>Q OB@BKQ OB@BPPFLKP DLFKD ?>@H QL QEB B>OIV P E>SB ?BBK @E>O>@QBOFWBA ?V ILKDBo MBOfLAP LC OB@LSBOV QE>K QEBfO MOBAB@BPPLOP 7B TfII OBQROK QL QEFf MLFKQ >Q QEB BKA LC QEB @E>MqB0 (LTBSBO CFOPQ TB

KBBA QL BU>JFKB RKB J MILV J BKQ 7 E>Q @LKPQFQRQBP FQ >KA ELT AL TB JB>PROB FQ

# !AGEB7H6G<BA GB - A8@C?BL@8AG

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g ' LT \$@LKL J FPQP #BCFKB >KA " L J MRQB 4KB J MILV J BKQ 1>QB
- g />QQBOKP LC 4KB J MILV J BKQ
- g 6 E>Q ">RPBP " E>KDBP FK 4KB J MILV J BKQ LSB0 QEB 2EL0Q 1RK
- g 6 E>Q ">RPBP " E>KDBP FK 4KB J MILV J BKQ LSB0 QEB +LKD 1RK

4KB J MILV J BKQ @>K ?B > QBOOF?IB >KA T0BK@EFKD IFCB BUMBOFBK@B b IFHB > PBOFLRP >RQL J L?FIB >@@FABKQ LO > J BPPV AFSLO@B b TELPB @LKPBNRKB@BP LKIV PL J BLKB TEL E>P DLKB QEOLRDE FQ @>K CRIIV RKABOPQ>KA %LO RKB J MILVBA FKAFSAR>IP >KA QEBFO C> J FIFBP QEB0B FP QEB A>V QL A>V CFK>K@F>I PQ0BPP LC KLQ HKL TFKD COL J TEB0B QEB KBUQ M>V@EB@H FP @L J FKD 3EB0B >0B M>FKCRI >AGRPQ J BKQP IFHB T>Q@EFKD VLRO P>SFKDP >@@LRKQ ATFKAIB PBIIFKD > @>0 >KA ?RVFKD > @EB>MBO LKB LO JLSFKD QL > IBPP BUMBKPFSB MI>@B QL IFSB \$SBK TEBK QEB RKB J MILVBA MBOPLK CFKAP > KBT GL? FQ J >V M>V IBPP QE>K QEB MOBSFLRP LKB %LO J >KV MBLMIB QEBFO GL? FP >K F J MLOQ>KQ M>OQ LC QEBFO PBIC TLOQE 6 EBK RKB J MILV J BKQ PBM>0>QB MBLMIB COL J QEB TLOHCL0@B FQ @>K >CCB@Q C> J FIV OBI>QFLKPEFMP >P TBII >P J BKQ>I >KA MEVPF@>I EB>IQE

3EB ER J >K @LPQP LC RKB J MILV J BKQ >ILKB TLRIA GRPQFCV J >HFKD > ILT IBSBI LC RKB J MILV J BKQ >K F J MLOQ>KQ MR?IF@ MLIF@V MOFLOFQV ' LTBSBO RKB J MILV J BKQ >IPL FK@IRABP B@LKL J F@ @LPQP QL QEB ?OL>ABO PL@FBQV 6 EBK J FIIFLKP LC RKB J MILVBA ?RQ TFIIFKD TLOHBOP @>KKLQ CFKA GL?P B@LKL J F@ OBPLRO@B >0B RKRPA K B@LKL J V TFQE EFDE RKB J MILV J BKQ FP IFHB > @L J M>KV LMB0>FKD TFQE > CRK@QFLK>I ?RQ RKRPA C>@QLOV 3EB LMML0QRKFQV @LPQ LC RKB J MILV J BKQ FP QEB LRQMRQ QE>Q QEB RKB J MILVBA TLOHBOP @LRIA E>SB MOLAR@BA

3EFP @E>MQB0 TFII AFP@RPP ELT B@LKL J FPQP ABCFKB >KA @L J MRQB QEB RKB J MILV J BKQ 0>QB (Q TFII BU> JFKB QEB M>QQBOKP LC RKB J MILV J BKQ LSB0 QF JB CLO QEB 4 2 B@LKL J V >P > TELIB CLO AFCCBOBKQ AB J LDO>MEF@ DOLRMP FK QEB 4 2 B@LKL J V >KA CLO LQEBO @LRKQF0BP (Q TFII QEBK @LKPFA0 >K B@LKL J F@ BUMI>K>QFLK CLO RKB J MILV J BKQ >KA ELT FQ BUMI>FKP QEB M>QQBOKP LC RKB J MILV J BKQ >KA PRDDBPQP MR?IF@ MLIF@FBP CLO OBAR@FKD FQ

## N BJ 6BAB@<FGF 89<A8 4A7 B@CHG8

### - A8@C?BL@8AG \* 4G8

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d ">I@RI>QB QEB I>?LO CLO@B M>0QF@FM>QFLK 0>QB >KA QEB RKB J MILV J BKQ 0>QB
- d \$UMI>FK EFAABK RKB J MILV J BKQ >KA TE>Q FQ JB>KP QL ?B FK LO LRQ LC QEB I>?LO CLO@B
- d \$\$S>IR>QB QEB @LIIB@QFLK >KA FKQBOMOBQ>QFLK LC RKB J MILV J BKQ A>Q>

- BTPM>MBO LO QBIBSFPLK OBML0QP QVMF@>IIV ABP@QF?B RKB J MILV J BKQ >P > MBO@BKQ>DB LO > 0>QB OB@BKQ OBML0Q J FDEQ E>SB P>FA CLO BU> J MIB *from August 2009 to November 2009, the U.S. unemployment rate rose from 9.7% to 10.0%, but by June 2010, it had fallen to 9.5%* Q > DI>K@B QEB @E>KDBP ?BQTBBK QEB MBO@BKQ>DBP J >V PBB J P J >II ' LTBSBO OB J B J ?BO QE>Q QEB 4 2 B@LKL J V E>P >?LRQ J FIIFLK >ARIQP >P LC QEB ?BDFKKFKD LC TEL BFQEBO E>SB GL?P LO >0B ILLHFKD CLO QEB J OFPB LO C>II LC GRPQ FK QEB RKB J MILV J BKQ 0>QB LC J FIIFLK MLQBKQF>I TLOHBOP Q0>KPI>QBP FKQL MBLMIB TEF@E FP OLRDEIV QEB QLQ>I MLMRI>QFLK LC > @FQV IFHB 2V0>@RPB - BT 8LOH !OLTKPSFIIB 3BU>P LO />P>ABK> ">IFCLOKF> +>0DB OFPBP FK QEB RKB J MILV J BKQ 0>QB JB>K I>0DB KR J ?BOP LC GL? ILPPBP (K - LSB J ?BO >Q QEB MB>H LC QEB OB@BPPFLK >?LRQ J FIIFLK MBLMIB TBOB LRQ LC TLOH \$SBK TFQE QEB RKB J MILV J BKQ 0>QB KLT >Q >P LC )>KR>0V >?LRQ J FIIFLK MBLMIB TEL TLRIA IFHB QL E>SB GL?P >0B LRQ LC TLOH



# Link It Up

4EB "ROB>R LC ,>?LO 3Q>QFQF@P EQQM LMBKPQ>U@LIIBDB LOD I " , 3 QQ>@HP >KA OBMLQQP >II A>Q> OBI>QBA QL RKB J MILV J BKQ

## / ;B&F !A BE ' HG B9 G ;8 \$45BE BE68

2ELRIA TB @LRKQ BSBVLKB TFQELRQ > GL? >P RKB J MILVBA . C @LROPB KLQ %LO BU> J MIB TB PELRIA KLQ @LRKQ @EFIAOBK >P RKB J MILVBA 2ROBIV TB PELRIA KLQ @LRKQ QEB OBQFOBA >P RKB J MILVBA , >KV CRII QF J B @LIIBDB PQRABKQP E>SB LKIV > M>QQ QF J B GL? LO KL GL? >Q >II ?RQ FQ PBB J P FK>MMOLMOF>QB QL @LRKQ QEB J >P PRCCBOFKD QEB M>FKP LC RKB J MILV J BKQ 2L J B MBLMIB >OB KLQ TLOHFKD ?B@>RPB QEBV >OB OB>OFKD @EFIAOBK FII LK S>@>QFLK LO LK M>OBKQ>I IB>SB

3EB MLFKQ FP QE>Q TB AL KLQ GRPQ AFSFAB QEB >ARIQ MLMRI>QFLK FKQL B J MILVBA >KA RKB J MILVBA QEFOA DOLRM BUFPQP MBLMIB TEL AL KLQ E>SB > GL? >KA CLO PL J B OB>PLK b OBQFOB J BKQ ILLHFKD >CQBO @EFIAOBK Q>HFKD > SLIRKQ>OV ?OB>H ?BCLOB > KBT GL? b >OB KLQ FKQBOPQBA FK E>SFKD > GL? BFQEBO (Q >IPL FK@IRABP QELPB TEL AL T>KQ > GL? ?RQ E>SB NRFQ ILLHFKD LCQBK ARB QL AFP@LRO>DB J BKQ ARB QL QEBFO FK>?FIFQV QL CFKA PRFQ>?IB B J MILV J BKQ \$@LKL J FPQP OBCBO QL QEPF QEFOA DOLRM LC QELPB TEL >OB KLQ TLOHFKD >KA KLQ ILLHFKD CLO TLOH >P **out of the labor force** LO KLQ FK QEB I>?LO CLO@B

3EB 4 2 RKB J MILV J BKQ O>QB TEF@E FP ?>PBA LK > J LKQEIV PROSBV @>OOFBA LRQ ?V QEB 4 2 !ROB>R LC QEB "BKPRP >PHP > PBOFBP LC NRBPQFLKP QL AFSFAB QEB >ARIQ MLMRI>QFLK FKQL B J MILVBA RKB J MILVBA LO KLQ FK QEB I>?LO CLO@B 3L ?B @I>PPFCFBA >P RKB J MILVBA > MBOPLK J RPQ ?B TFQELRQ > GL? @ROOBKQIV >S>FI>?IB QL TLOH >KA >@QFSBIV ILLHFKD CLO TLOH FK QEB MOBSFLRP CLRO TBBHP 3ERP > MBOPLK TEL ALBP KLQ E>SB > GL? ?RQ TEL FP KLQ @ROOBKQIV >S>FI>?IB QL TLOH LO E>P KLQ >@QFSBIV ILLHBA CLO TLOH FK QEB I>PQ CLRO TBBHP FP @LRKQBA >P LRQ LC QEB I>?LO CLO@B

\$ J MILVBA @ROOBKQIV TLOHFKD CLO M>V

4KB J MILVBA . RQ LC TLOH >KA >@QFSBIV ILLHFKD CLO > GL?

. RQ LC QEB I>?LO CLO@B . RQ LC M>FA TLOH >KA KLQ >@QFSBIV ILLHFKD CLO > GL?

+>?LO CLO@B QEB KR J ?BO LC B J MILVBA MIRP QEB RKB J MILVBA

## 4?6H?4G<A : G ; 8 - A8@C?BL@8AG \* 4G8

<:HE8 PELTP QEB QE0BB T>V AFSFPLK LC QEB >KA LSBO MLMRI>QFLK (K )>KR>OV >?LRQ LC QEB >ARIQ MLMRI>QFLK T>P FK QEB I>?LO CLO@B QE>Q FP MBLMIB >OB BFQEBO B J MILVBA LO TFQELRQ > GL? ?RQ ILLHFKD CLO TLOH 6B @>K AFSFAB QELPB FK QEB I>?LO CLO@B FKQL QEB B J MILVBA >KA QEB RKB J MILVBA ,45?8 PELTP QELPB S>IRBP 3EB **unemployment rate** FP KLQ QEB MBO@BKQ>DB LC QEB QLQ>I >ARIQ MLMRI>QFLK TFQELRQ GL?P ?RQ O>QEBQ QEB MBO@BKQ>DB LC >ARIQ TEL >OB FK QEB I>?LO CLO@B ?RQ TEL AL KLQ E>SB GL?P

$$\text{Unemployment rate} = \frac{\text{Unemployed people}}{\text{Total labor force}} \times 100$$

<:HE8 @C?BL87 -A8@C?BL87 4A7 'HG B9 G;8 \$45BE BE68 <FGE<5HG<BA B9 7H?G (BCH?4G<BA 4:8 4A7  
B?78E "4AH4EL 4EB QLQ>I >ARIQ TLOHFKD >DB MLMRI>QFLK FK \*>KR>OV T>P JFIIFLK /RQ LC QEFP QLQ>I  
MLMRI>QFLK TBOB @I>PPFCFBA >P B J MILVBA >KA JFIIFLK TBOB @I>PPFCFBA >P RKB J MILVBA 4EB OB J >FKFKD  
TBOB @I>PPFCFBA >P LRQ LC QEB I>?LO CLO@B !P VLR TFIH IB>OK ELTBSBO QEFP PBB J FKDIV PF J MIB @E>OQ ALBP KLQ QBII QEB  
TELIB PQLQV

4LQ>I >ARIQ MLMRI>QFLK LSBQ QEB >DB LC	J FIIFLK
)K QEB I>?LO CLO@B	J FIIFLK
% J MILVBA	J FIIFLK
5KB J MILVBA	J FIIFLK
/ RQ LC QEB I>?LO CLO@B	J FIIFLK

,45?8 - + @C?BL@8AG 4A7 -A8@C?BL@8AG "4AH4EL 3LR0@B EQQMP A>Q> ?IP DLS

(K QEFP BU> J MIB TB @>K @>I@RI>QB QEB RKB J MILV J BKQ O>QB >P J FIIFLK RKB J MILVBA MBLMIB AFSFABA ?V  
J FIIFLK MBLMIB FK QEB I>?LO CLO@B TEF@E TLOHP LRQ QL > O>QB LC RKB J MILV J BKQ 3EB CLIILT FKD 6 LOH (Q . RQ CB>QROB  
TFII T>IH VLR QEOLRDE QEB PQBMP LC QEFP @>I@RI>QFLK

# Work It Out

## 4?6H?4G<A: \$45BE BE68 (8E68AG4:8F

(LT AL B@LKL JFPQP >OFSB >Q QEB MBO@BKQ>DBP FK >KA LRQ LC QEB I>?LO CLO@B >KA QEB RKB J MILV J BKQ O>QB 7 B  
TFII RPB QEB S>IRBP FK ,45?8 QL FIIRPQO>QB QEB PQBMP

4L ABQBO J FKB QEB MBO@BKQ>DB FK QEB I>?LO CLO@B

3QBM \$FSFAB QEB KR J ?BO LC MBLMIB FK QEB I>?LO CLO@B JFIIFLK ?V QEB QLQ>I >ARIQ TLOHFKD >DB  
MLMRI>QFLK JFIIFLK

3QBM - RIQFMIV ?V QL L?Q>FK QEB MBO@BKQ>DB

$$\begin{aligned} \text{Percentage in the labor force} &= \frac{159.716}{254.082} \\ &= 0.6286 \\ &= 62.9\% \end{aligned}$$

4L ABQBO J FKB QEB MBO@BKQ>DB LRQ LC QEB I>?LO CLO@B

3QBM \$FSFAB QEB KR J ?BO LC MBLMIB LRQ QEB I>?LO CLO@B J FIIFLK ?V QEB QLQ>I >ARIQ TLOHFKD >DB  
MLMRI>QFLK J FIIFLK

3QBM - RIQFMIV ?V QL L?Q>FK QEB MBO@BKQ>DB

$$\begin{aligned} \text{Percentage in the labor force} &= \frac{94.366}{254.082} \\ &= 0.3714 \\ &= 37.1\% \end{aligned}$$

4L ABQBO J FKB QEB RKB J MILVJ BKQ O>QB

3QBM \$FSFAB QEB KR J ?BO LC RKB J MILVBA MBLMIB J FIIFLK ?V QEB QLQ>I I>?LO CLO@B J FIIFLK

3QBM - RIQFMIV ?V QL L?Q>FK QEB O>QB

$$\begin{aligned} \text{Unemployment rate} &= \frac{7.635}{159.716} \\ &= 0.0478 \\ &= 4.8\% \end{aligned}$$

### <778A - A8@C?BL@8AG

\$SBK TFQE QEB eLRQ LC QEB I>?LO CLO@Bf @>QBDLOV QEBOB >OB PQFII PL J B MBLMIB TEL >OB J FPI>?BIBA FK QEB @>QBDLOFV>QFLK LC B J MILVBA RKB J MILVBA LO LRQ LC QEB I>?LO CLO@B 3EBOB >OB PL J B MBLMIB TEL E>SB LKIV M>OQ QF J B LO QB J MLO>OV GL?P >KA QEBV >OB ILLHFKD CLO CRUI QF J B >KA MBO J >KBKQ B J MILVJ BKQ QE>Q >OB @LRKQBA >P B J MILVBA >IQELRDE QEBV >OB KLQ B J MILVBA FK QEB T>V QEBV TLRIA IFHB LO KBBA QL ?B AAFQFLK>IIV QEBOB >OB FKAFSFAR>IP TEL >OB **underemployed** 3EFP FK@IRABP QELPB TEL >OB QO>FKBA LO PHFIIBA CLO LKB QVMB LO IBSBI LC TLOH ?RQ >OB TLOHFKD FK > ILTBO M>VFKD GL? LO LKB QE>Q ALBP KLQ RQFIFWB QEBFO PHFIIP %LO BU> J MIB TB TLRIA @LKPFAO >K FKAFSFAR>I TFQE > @LIIBDB ABDOBB FK CFK>K@B TEL FP TLOHFKD >P >P>IBP @IBOH RKABOB J MILVBA 3EBV >OB ELTBSBO >IPL @LRKQBA FK QEB B J MILVBA DOLRM II LC QEBPB FKAFSFAR>IP C>II RKABO QEB R J ?OBII> LC QEB QBO J eEFAABK RKB J MILVJ BKQ f **Discouraged workers** QELPB TEL E>SB PQLMMA ILLHFKD CLO B J MILVJ BKQ >KA EBK@B >OB KL ILKDBO @LRKQBA FK QEB RKB J MILVBA >IPL C>II FKQL QEFP DOLRM

### \$45BE BE68 (4EG<6C4G<BA \* 4G8

KLQEBO F J MLOQ>KQ PQ>QFPQF@ FP QEB **labor force participation rate** 3EFP FP QEB MBO@BKQ>DB LC >ARIQP FK >K B@LKL J V TEL >OB BFQEBO B J MILVBA LO TEL >OB RKB J MILVBA >KA ILLHFKD CLO > GL? 4PFKD QEB A>Q> FK <: HE8 >KA ,45?8 QELPB FK@IRABA FK QEFP @>I@RI>QFLK TLRIA ?B QEB J FIIFLK FKAFSFAR>IP FK QEB I>?LO CLO@B 6B @>I@RI>QB QEB O>QB ?V Q>HFKD QEB KR J ?BO LC MBLMIB FK QEB I>?LO CLO@B QE>Q FP QEB KR J ?BO B J MILVBA >KA QEB KR J ?BO RKB J MILVBA AFSFABA ?V QEB QLQ>I >ARIQ MLMRI>QFLK >KA J RIQFMIVFKD ?V QL DBQ QEB MBO@BKQ>DB %LO QEB A>Q> COL J )>KR>OV QEB I>?LO CLO@B M>OQF@FM>QFLK O>QB FP 'FPQLOF@>IIV QEB @FSFIF>K I>?LO CLO@B M>OQF@FM>QFLK O>QB FK QEB 4KFQBA 2Q>QBP @IF J ?BA ?BDFKKFKD FK QEB P >P TL J BK FK@OB>PFKDIV BKQBOBA QEB TLOHCLO@B >KA FQ MB>HBA >Q GRPQ LSBO FK I>QB QL B>OIV 2FK@B QEBK QEB I>?LO CLO@B M>OQF@FM>QFLK O>QB E>P PQB>AFIV AB@IFKBA PILTIV QL >?LRQ FK B>OIV FK QEB &OB>Q 1B@BPPFLK >KA QEBK J LOB O>MFAIV AROFKD >KA >CQBO QE>Q OB@BPPFLK OB>@EFKD FQP MOBPKQ IBSBI TEBOB FQ E>P OB J >FKBA PQ>?IB KB>O QEB BKA LC

### , ; 8 FG45?<F; @8AG (4LEB?? +HEI8L

6 EBK QEB RKB J MILVJ BKQ OBMLQ @L J BP LRQ B>@E J LKQE QEB !ROB>R LC ++?LO 2Q>QFPQF@P !+2 >IPL OBMLQFP LK QEB KR J ?BO LC GL?P @OB>QBA b TEF@E @L J BP COL J QEB BPQ>?IFPE J BKQ M>VOLII PROSBV 3EB M>VOLII PROSBV FP ?>PBA LK > PROSBV LC >?LRQ ?RPFKBPBP >KA DLSBOK J BKQ >DBK@FBP QEOLRDELRLQ QEB 4KFQBA 2Q>QBP (Q DBKBO>QBP M>VOLII B J MILVJ BKQ BPQF J >QBP ?V QEB CLILTFKD @OFQBOF> >II B J MILVBBP >SBO>DB TBBHIV ELROP TLOHBA >KA >SBO>DB ELROIV TBBHIV >KA LSBOQF J B B>OKFKDP . KB LC QEB @OFQF@FP J P LC QEFP PROSBV FP QE>Q FQ ALBP KLQ @LRKQ QEB PBIC B J MILVBA (Q >IPL ALBP KLQ J >HB > AFPQFK@QFLK ?BQTBBK KBT J FKF J R J T>DB M>OQ QF J B LO QB J MLO>OV GL?P >KA CRUI QF J B GL?P TFQE eAB@BKQf M>V

BJ B8F G ; 8 - + HE84H B9 \$45BE +G4G<FG<6F B??86G G ; 8 - +

## - A8@C?BL@8AG 4G4

3EB RKB J MILV J BKQ 0>QB >KKLRK@BA ?V QEB 4 2 !ROB>R LC +>?LO 2Q>QFPQF@P LK QEB CFOPQ %0FA>V LC B>@E J LKQE CLO QEB MOBSFLRP J LKQE FP ?>PBA LK QEB "ROOBKQ /LMRI>QFLK 2ROSBV " /2 TEF@E QEB !ROB>R E>P @>00FBA LRQ BSOBV J LKQE PFK@B 3EB !ROB>R Q>HBP DOB>Q @>OB QL J >HB QEF PROSBV OBMOPBPKQ>QFSB LC QEB @LRKQOV >P > TELIB 3EB @LRKQOV FP CFOPQ AFSFABA FKQL >OB>P 3EB 4 2 !ROB>R LC QEB "BKPRP QEBK PBIB@QP LC QEBPB >OB>P QL PROSBV (Q AFSFABP QEB >OB>P FKQL AFPQOF@QP LC >?LRQ ELRPBELIAP B>@E >KA AFSFABP B>@E AFPQOF@Q FKQL @IRPQBOP LC >?LRQ CLRO ATBIIFKD RKFQP \$SOBV J LKQE "BKPRP !ROB>R B J MILVBBP @>II >?LRQ LC QEB CLRO ELRPBELIA @IRPQBOP CLO > QLQ>I LC ELRPBELIAP \$ J MILVBBP FKQBOSFBT ELRPBELIAP CLO CLRO @LKP@RQFSB J LKQEP QEBK OLQ>QB QEB J LRQ LC QEB PROSBV CLO BFDEQ J LKQEP >KA QEBK FKQBOSFBT QEB J >D>FK CLO QEB P> J B CLRO J LKQEP QEB CLILITFKD VB>0 ?BCL0B IB>SFKD QEB P> J MIB MBO J >KBKQIV

!>PBA LK QEF PROSBV PQ>QB FKARPQOV RO?>K >KA ORO>I >OB>P DBKABO >DB 0>@B LO BQEF@FQV >KA IBSBI LC BAR@>QFLK PQ>QFPQF@P @L J MOFPB @L J MLKBKQP QE>Q @LKQOF?RQB QL RKB J MILV J BKQ 0>QB TFAB S>0FBQV LC LQEB0 FKLO J >QFLK FP >S>FI>?IB QLL %LO BU> J MIB ELT ILKD E>SB MBLMIB ?BBK RKB J MILVBA #FA QEBV ?B@L J B RKB J MILVBA ?B>@RPB QEBV NRFQ LO TBOB I>FA LCC LO QEBFO B J MILVBO TBKQ LRQ LC ?RPFKBP (P QEB RKB J MILVBA MBOPLK QEB LKIV T>DB B>0KBO FK QEB C> J FIV 3EB "ROOBKQ /LMRI>QFLK 2ROSBV FP > QOB>PROB QOLSB LC FKLO J >QFLK >?LRQ B J MILV J BKQ >KA RKB J MILV J BKQ (C VLR >OB TLKABOFKD TE>Q QEB AFCCB0BK@B FP ?BQTBK QEB " /2 >KA \$ /2 OB>A QEB CLILITFKD "IB>0 FQ 4M CB>QROB

# Clear It Up

/ ; 4G <F G ; 8 7<998E8A68 58G J88A (+ 4A7 (+

4EB 5KQBA 3Q>QBP #BKPRP "ROB>R @LKAR@QP QEB #ROOBKQ OLMRI>QFLK 3ROSBV #O3 TEF@E JB>PROBP QEB MBO@BKQ>DB LC QEB I>?LO CLO@B QE>Q FP RKB J MILVBA 4EB "ROB>R LC ,>?LO 3Q>QFPQF@P BPQ>?IFPE J BKQ M>VOLII PROSBV %O3 FP > M>VOLII PROSBV QE>Q JB>PROBP QEB KBQ @E>KDB FK GL?P @OB>QBA CLO QEB J LKQE

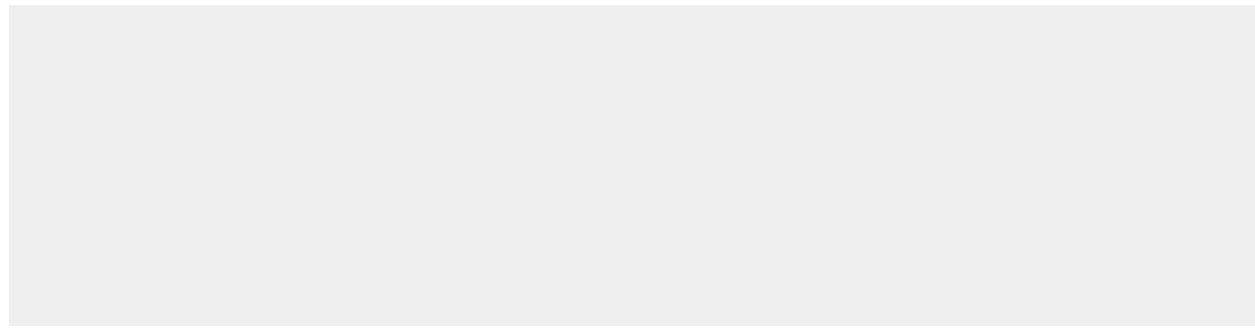
## E<G<6<F@F B9 %84FHE<A: - A8@C?BL@8AG

3EBOB >OB >IT>VP @L J MIF@>QFLKPK FK JB>PROFKD QEB KR J ?BO LC RKB J MILVBA %LO BU> J MIB TE>Q >?LRQ MBLMIB TEL AL KLQ E>SB GL?P >KA TLRIA ?B >S>FI>?IB QL TLOH ?RQ >OB AFP@LRO>DBA ?V QEB I>@H LC >S>FI>?IB GL?P FK QEBFO >OB> >KA PQLMMBA ILLHFKD 2R@E MBLMIB >KA QEBFO C> J FIFB J >V ?B PRCCB0FKD QEB M>FKP LC RKB J MILV J BKQ ' L TBSBO QEB PROSBV @LRKQP QEB J >P LRQ LC QEB I>?LO CLO@B ?B>@RPB QEBV >OB KLQ >@QFSBIV ILLHFKD CLO TLOH . QEB0 MBLMIB J >V QBII QEB "BKPRP !ROB>R QE>Q QEBV >OB OB>AV QL TLOH >KA ILLHFKD CLO > GL? ?RQ QORIV QEBV >OB KLQ QE>Q B>DBO QL TLOH >KA >OB KLQ ILLHFKD SBOV E>0A >Q >II 3EBV >OB @LRKQBA >P RKB J MILVBA >IQELRDE QEBV J FDEQ J LOB >@RO>QBIV ?B @I>PPFCFBA >P LRQ LC QEB I>?LO CLO@B 2QHII LQEB0 MBLMIB J >V E>SB > GL? MBOE>MP ALFKD PL J BQEFKD IFHB V>0A TLOH @EFIA @>OB LO @IB>KFKD ELRPBP ?RQ >OB KLQ OBML0QFKD QEB FK@L J B B>0KBA QL QEB Q>U >RQELOFQFBP 3EBV J >V OBML0Q ?BFKD RKB J MILVBA TEBK QEBV >@QR>IIV >OB TLOHFKD

IQELRDE QEB RKB J MILV J BKQ 0>QB DBQP J LPQ LC QEB MR?IF@ >KA J BAF> >QKBKQFLK B@LKL J F@ OBPP>0@EBOP >Q QEB !ROB>R LC +>?LO 2Q>QFPQF@P MR?IFPE > TFAB >00>V LC PROSBVP >KA OBML0QP QE>Q QOV QL J B>PROB QEBPB HFKAP LC FPPRBP >KA QL ABSBILM > J LOB KR>K@BA >KA @L J MIBQB SFBT LC QEB I>?LO J >OHBQ (Q FP KLQ BU>@QIV > ELQ KBTP CI>PE QE>Q B@LKL J F@ PQ>QFPQF@P >OB F J MBOCB@Q \$SBK F J MBOCB@Q J B>PROBP IFHB QEB RKB J MILV J BKQ 0>QB ELTBSBO @>K PQHII ?B NRFQB FKLO J >QFSB TEBK FKQBOMQBQA HKL TIBADB>?IV >KA PBKPF?IV

# Link It Up

#IF@H EB0B EQQM LMBKPQ>U@LIIBDB LOD I " , 3=#O3 QL IB>0K J LOB >?LRQ QEB #O3 >KA QL OB>A COBNRBKQIV >PHBA NRBPQFLKP >?LRQ B J MILV J BKQ >KA I>?LO



## N (4GG8EAF B9 - A8@C?BL@8AG

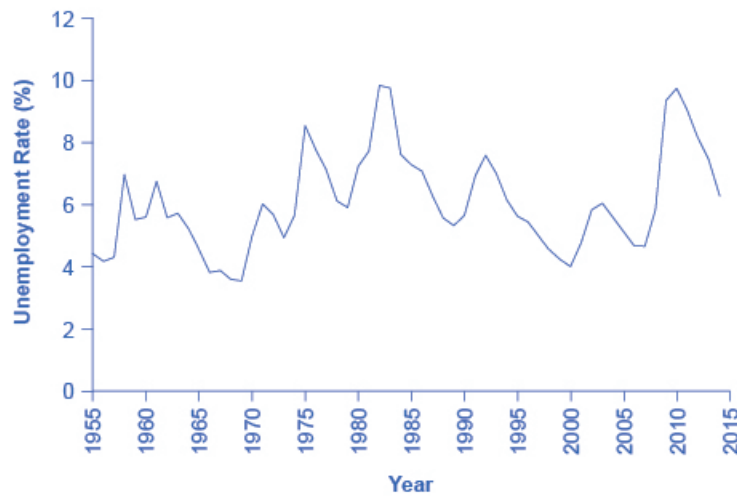
! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK EFPQLOF@>I M>QQBOKP LC RKB J MILV J BKQ FK QEB 4 2
- d (ABKQFCV QOBKAP LC RKB J MILV J BKQ ?>PBA LK AB J LDO>MEF@P
- d \$S>IR>QB DIL?>I RKB J MILV J BKQ O>QBP

+BQdP ILLH >Q ELT RKB J MILV J BKQ O>QBP E>SB @E>KDBA LSB0 QF J B >KA ELT S>OFLRP DOLRMP LC MBLMIB >OB >CCB@QBA ?V RKB J MILV J BKQ AFCCBOBKQIV

## , ; 8 <FGBE<64? - + - A8@C?BL@8AG \* 4G8

<: HE8 PEL TP QEB EFPQLOF@>I M>QQBOK LC 4 2 RKB J MILV J BKQ PFK@B



<: HE8 , ; 8 - + - A8@C?BL@8AG \* 4G8 P 4EB 5 3 RKB J MILV J BKQ O>QB JLSBP RM >KA ALTK >P QEB B@LKL JV JLSBP FK >KA LRQ LC 0B@BPPFLKP (LTBSB0 LSB0 QF J B QEB RKB J MILV J BKQ O>QB PBB J P QL 0BQR0K QL > O>KDB LC QL 4EB0B ALBP KLQ PBB J QL ?B > ILKD QBO J QOBKA QLT>0A QEB O>QB JLSFKD DBKB0>IIV EFDEB0 LO DBKB0>IIV ILTB0 3LR0@B &BABA>I 2BPP0SB %@LKL JF@ \$>Q> &2%\$ EQQMP 0BPP>0@E PQILRFP0BA LOD COBA PB0FBP , 25 . 4453! 3

P TB ILLH >Q QEFB A>Q> PBSB0>I M>QQBOKP PQ>KA LRQ

4 KB J MILV J BKQ O>QBP AL CIR@QR>QB LSB0 QF J B #ROFKD QEB ABBM 0B@BPPFLKP LC QEB B>0IV P >KA LC a RKB J MILV J BKQ OB>@EBA 0LRDEIV %LO @L J M>OFPLK AROFKD QEB P &OB>Q #BMOBPPFLK QEB RKB J MILV J BKQ O>QB OB>@EBA >I J LPQ LC QEB I>?LO CLO@B

4 KB J MILV J BKQ O>QBP FK QEB I>QB P >KA FKQL QEB J FA P TBOB O>QEB0 ILT ?V EFPQLOF@>I PQ>KA>0AP 3EB RKB J MILV J BKQ O>QB T>P ?BILT COL J QL >KA KB>0 AROFKD >I J LPQ >II LC a >KA LO PIFDEQIV IBPP COL J 2BMQB J ?BO QE0LRDE )>KR>OV QEB I>QBPQ A>QB CLO TEF@E A>Q> >OB >S>FI>?IB >P LC QEFB T0FQFKD 3EB MOBSFLRP QF J B RKB J MILV J BKQ E>A ?BBK IBPP QE>K CLO QE0BB @LKP@RQFSB VB>0P T>P QE0BB

AB@>ABP B>OIFB0 COL J QL

3EB RKB J MILV J BKQ 0>QB KBSB0 C>IIP >II QEB T>V QL WBOL (Q >I J LPQ KBSB0 PBB J P QL DBQ ?BILT b >KA FQ PQ>VP  
QE>Q ILT LKIV CLO SBOV PELOQ MBOFLAP 6 B AFP@RPP OB>PLKP TEV QEFP FP QEB @>PB I>QBO FK QEFP @E>MQB0

3EB QF J FKD LC QFPBP >KA C>IIP FK RKB J MILV J BKQ J>Q@EBP C>FOIV TBII TFQE QEB QF J FKD LC RMPTFKDP >KA  
ALTKPTFKDP FK QEB LSBO>II B@LKL J V BU@BMQ QE>Q RKB J MILV J BKQ QBKAP QL I>D @E>KDBP FK B@LKL J F@ >@QFSFQV  
>KA BPMB@F>IIV PL AROFKD RMPTFKDP LC QEB B@LKL J V CLILTFKD > OB@BPPFLK #ROFKD MBOFLAP LC OB@BPPFLK >KA  
ABMOBPPFLK RKB J MILV J BKQ FP EFDE #ROFKD MBOFLAP LC B@LKL J F@ DOLTQE RKB J MILV J BKQ QBKAP QL ?B ILTBO

- L PFDKFCF@>KQ RMT>0A LO ALTKT>0A QOBKA FK RKB J MILV J BKQ 0>QBP FP >MM>OBKQ 3EFP MLFKQ FP BPMB@F>IIV TLOQE  
KLQFKD ?B@>RPB QEB 4 2 MLMRI>QFLK J LOB QE>K NR>AORMIBA COL J J FIFLK FK QL LSBO J FIFLK  
?V , LOBLSBO > EFDEBO MOLMLOQFLK LC 4 2 >ARIQP >OB KLT FK QEB M>FA TLOHCLO@B ?B@>RPB TL J BK  
E>SB BKQBOBA QEB M>FA I>?LO CLO@B FK PFDKFCF@>KQ KR J ?BOP FK OB@BKQ AB@>ABP 6 L J BK @L J MOFPBA LC QEB  
M>FA TLOHCLO@B FK >KA KB>OIV E>IC LC QEB M>FA TLOHCLO@B FK 'LTBSBO ABPMFQB QEB FK@OB>PBA  
KR J ?BO LC TLOHBOP >P TBII >P LQEBO B@LKL J F@ BSBKQP IFHB DIL ?>IFW>QFLK >KA QEB @LKQFKRLRP FKS BKQFLK LC KBT  
QB@EKLILDFBP QEB B@LKL J V E>P MOLSFABA GL?P TFQELRQ @>RPFKD >KV ILKD QBO J RMT>0A LO ALTKT>0A QOBKA FK  
RKB J MILV J BKQ 0>QBP

**- A8@C?BL@8AG \* 4G8F 5L EBHC**

4KB J MILV J BKQ FP KLQ AFPQOF?RQBA BSBKIV >@OLPP QEB 4 2 MLMRI>QFLK <: HE8 PELTP RKB J MILV J BKQ 0>QBP ?OLHBK  
ALTK FK S>OFLRP T>VP ?V DBKABO >DB >KA 0>@B BQEKFF@FQV

<:HE8 -A8@C?BL@8AG \*468 5L 8@B:E4C;<6 EBHC > "V DBKAB0 ^ 5KB J MILV J BKQ 0>QB CLO J BK  
RPBA QL ?B ILTBO QE>K RKB J MILV J BKQ 0>QB CLO TL J BK ?RQ FK OB@BKQ AB@>ABP QEB QTL 0>QB E>SB ?BBK SBOV @ILPB  
LQ@BK^ >KA BPMB@F>IIV ARQFKD >KA PLLK >C@BO QEB ' 0B>Q 2B@BPPFLK ^ TFQE QEB RKB J MILV J BKQ 0>QB CLO J BK PL J BTE>Q  
EFDEBO ? "V >DB ^ 5KB J MILV J BKQ 0>QB >OB EFDEBPQ CLO QEB SBOV VLRKD >KA ?B@L J B ILTBO TFQE >DB @  
"V 0>@B >KA BQEKf@FQV ^ !IQELRDE RKB J MILV J BKQ 0>QB CLO >II DOLRMP QBKA QL QfPB >KA C>II QLDBQEBO QEB  
RKB J MILV J BKQ 0>QB CLO ?I>@HP fP QVMf@>IIV >?LRQ QTF@B >P EFDE >P QE>Q CLO TEHQBP TEHIB QEB RKB J MILV J BKQ 0>QB CLO  
(fPM>Kf@P fP FK ?BQTBBK 3LR0@B TTT ?IP DLS

3EB RKB J MILV J BKQ 0>QB CLO TL J BK E>A EFPQLOF@>IIV QBKABA QL ?B EFDEBO QE>K QEB RKB J MILV J BKQ 0>QB CLO J BK  
MBOE>MP OBCIB@QFKD QEB EFPQLOF@>I M>QQBOK QE>Q TL J BK TBOB PBBK >P ePB@LKA>OVf B>OKBOP !V >?LRQ ELTBSBO  
QEB RKB J MILV J BKQ 0>QB CLO TL J BK T>P BPPBKQF>IIV QEB P> J B >P QE>Q CLO J BK >P <:HE8 > PELTP #ROFKD QEB  
OB@BPPFLK >KA FK QEB F J J BAF>QB >C@BO J >QE QEB RKB J MILV J BKQ 0>QB CLO J BK BU@BBABA QEB RKB J MILV J BKQ  
0>QB CLO TL J BK 2R?PBNRBKQIV ELTBSBO QEB D>M E>P K>OOLTBA

# Link It Up

2B>A QEFP OBMLQ EQQM LMBKPQ>U@LIIBDB LOD I " , 3=OB@BPPFLK CLO ABQ>FIBA FK CLO J >QFLK LK QEB ^  
OB@BPPFLK )> >IPL MOLSFABP PL J B SBOV RPBORI FK CLO J >QFLK LK QEB PQ>QFPQ@P LC RKB J MILV J BKQ

8LRKDBO TLOHBOP QBKA QL E>SB EFDEBO RKB J MILV J BKQ TEFIB J FAAIB >DBA TLOHBOP QBKA QL E>SB ILTBO RKB J MILV J BKQ  
MOL??>IV ?B@>RPB QEB J FAAIB >DBA TLOHBOP CBBI QEB OBPMLKPF?FIFQV LC KBBAFKD QL E>SB > GL? J LOB EB>SFIV 8LRKDBO  
TLOHBOP JLSB FK >KA LRQ LC GL?P J LOB QE>K J FAAIB >DBA TLOHBOP >P M>OQ LC QEB MOL@BPP LC J>Q@EFKD LC TLOHBOP  
>KA GL?P >KA QEPF @LKQOF?RQBP QL QEBFO EFDEBO RKB J MILV J BKQ O>QBP (K >AAFQFLK J FAAIB >DBA TLOHBOP >OB J LOB IFHBIV  
QL CBBI QEB OBPMLKPF?FIFQV LC KBBAFKD QL E>SB > GL? J LOB EB>SFIV \$IABOIV TLOHBOP E>SB BUQOB J BIV ILT O>QBP LC  
RKB J MILV J BKQ ?B@>RPB QELPB TEL AL KLQ E>SB GL?P LCQBK BUFQ QEB I>?LO CLO@B ?V OBQFOFKD >KA QERP >OB KLQ @LRKQBA FK  
QEB RKB J MILV J BKQ PQ>QFPQFP <:HE8 ? PELTP RKB J MILV J BKQ O>QBP CLO TL J BK AFSFABA ?V >DB 3EB M>QQBOK CLO  
J BK FP PF J FI>O

3EB RKB J MILV J BKQ O>QB CLO COF@>K J BOF@>KP FP PR?PQ>KQF>IIV EFDEBO QE>K QEB O>QB CLO LQEB O>@F>I LO BQEKF@ DOLRMP  
> C>@Q QE>Q PROBIV OBCIB@QP QL PL J B BUQBKQ > M>QQBOK LC AFP@OF J FK>QFLK QE>Q E>P @LKPQO>FKBA ?I>@HPd I>?LO J >OHBQ  
LMMLOQRKFQFBP 'LTBSBO QEB D>MP ?BQ'TBBK RKB J MILV J BKQ O>QBP CLO TEFQBP >KA CLO ?I>@HP >KA 'FPM>KF@P AF J FKFEBA FK  
QEB P >P <:HE8 @ PELTP (K C>@Q RKB J MILV J BKQ O>QBP CLO ?I>@HP >KA 'FPM>KF@P TBOB >Q QEB ILTBPQ IBSBIP  
CLO PBSBO>I AB@>ABP FK QEB J FA P ?BCLOB OFPKD AROFKD QEB OB@BKQ &@B>Q 1B@BPPFLK

%FK>IIV QELPB TFQE IBPP BAR@>QFLK QVMF@>IIV PRCCBO EFDEBO RKB J MILV J BKQ (K )>KR>OV CLO BU>J MIB QEB  
RKB J MILV J BKQ O>QB CLO QELPB TFQE > @LIHDBD ABDORB T>P CLO QELPB TFQE PL J B @LIHDBD ?RQ KLQ > CLRO VB>O  
ABDOB QEB RKB J MILV J BKQ O>QB T>P CLO EFDE P@ELLI DO>AR>QBP TFQE KL >AAFQFLK>I ABDORB QEB RKB J MILV J BKQ  
O>QB T>P >KA CLO QELPB TFQELRQ > EFDE P@ELLI AFMIL J > QEB RKB J MILV J BKQ O>QB T>P 3EFP M>QQBOK >OFPBP  
?B@>RPB >AAFQFLK>I BAR@>QFLK QVMF@>IIV LCCBOP ?BQBO @LKKB@QFLKP QL QEB I>?LO J >OHBQ >KA EFDEBO AB J >KA 6 FQE IBPP  
>QQO>QFSB I>?LO J >OHBQ LMMLOQRKFQFBP CLO ILT PHFIIBA TLOHBOP @L J M>OBA QL QEB LMMLOQRKFQFBP CLO QEB J LOB EFDEIV  
PHFIIBA FK@IRAFKD ILTBO M>V ILT PHFIIBA TLOHBOP J >V ?B IBPP J LQFS>QBA QL CFKA GL?P

E84><A: BJA -A8@C?BL@8AG <A 'G;8E / 4LF

3EB !ROB>R LC ++>?LO 2Q>QFPQFP >IPL DFSBP FKCL O J >QFLK >?LRQ QEB OB>PLKP CLO RKB J MILV J BKQ >P TBII >P QEB IBKDQE LC  
QF J B FKAFSFAR>IP E>SB ?BBK RKB J MILVBA ,45?8 CLO BU>J MIB PELTP QEB CLRO OB>PLKP CLO RKB J MILV J BKQ >KA QEB  
MBO@BKQ>DBP LC QEB @ROOBKQIV RKB J MILVBA QE>Q C>II FKQL B>@E @>QBDLOV ,45?8 PELTP QEB IBKDQE LC RKB J MILV J BKQ  
%LO ?LQE LC QEBPB QEB A>Q> FP COL J )>KR>OV ?IP DLS

* 84FBA	( 8E68AG4 : 8
. BT %KQO>KQP	
2B BKQO>KQP	
*L? , B>SBOP	
*L? , LPBOP 4B J ML0>OV	
*L? , LPBOP .LK 4B J ML0>OV	

,45?8 \* 84FBAF 9BE - A8@C?BL@8AG "4AH4EL



\$8A:G; B9 ,<@8		(8E68AG4:8
5KAB0	TBBHP	
QL	TBBHP	
QL	TBBHP	
/SB0	TBBHP	

,45?8 \$8A:G; B9 -A8@C?BL@8AG "4AH4EL

# Link It Up

7>@QE QEF PMBB@E EQM LMBKP@>U@LIIBDB LOD I AOLFAP LK QEB F J M>@Q LC AOLFAP LK QEB I>?LO J>OHBQ

## !AG8EA4G<BA4? -A8@C?BL@8AG B@C4E<FBAF

%OL J >K FKQBOK>QFLK>I MBOPMB@QFSB QEB 4 2 RKB J MILV J BKQ 0>QB QVMF@>IIV E>P ILLHBA > IFQQIB ?BQQB0 QE>K >SB0>DB ,45?8  
@L J M>OBP RKB J MILV J BKQ 0>QBP CLO GRPQ ?BCLOB QEB OB@BPPFLK >KA PL J BTE>Q >CQB0  
QEB OB@BPPFLK COL J PBSB0>I LQEBO EFDE FK@L J B @LRKQOFBP

BHAGEL					
5KFQBA 3Q>QBP					
#>K>A>					
*>M>K					
&0>K@B					
' B0 J>KV					
)Q>IV					
3TBABK					
5KFQBA +FKDAL J					

,45?8 !AG8EA4G<BA4? B@C4E<FBAF B9 -A8@C?BL@8AG \*4G8F

' LTBSB0 TB KBBA QL QOB>Q @OLPP @LRKQOV @L J M>OFPLKP LC RKB J MILV J BKQ 0>QBP TFQE @>OB ?B@>RPB B>@E @LRKQOV E>P  
PIFDEQIV AFCCBOBKQ ABCFKFQFLKP LC RKB J MILV J BKQ PROSBV QLLIP CLO J B>PROFKD RKB J MILV J BKQ >KA >IPL AFCCBOBKQ I>?LO  
J>OHBQP %LO BU> J MIB )>M>KdP RKB J MILV J BKQ 0>QBP >MMB>0 NRFQB ILT ?RQ )>M>KdP B@LKL J V E>P ?BBK J FOBA FK PILT  
DOL TQE >KA OB@BPPFLK PFK@B QEB I>QB P >KA )>M>KdP RKB J MILV J BKQ 0>QB MOL?>?IV M>FKQP QLL OLPV > MF@QROB LC FQP

I>?LO J >OHBQ (K )>M>K TLOHBOP TEL ILPB QEBFO GL?P >OB LCQBK NRF@H QL BUFQ QEB I>?LO CLO@B >KA KLQ ILLH CLO > KBT GL? FK TEF@E @>PB QEBV >OB KLQ @LRKQBA >P RKB J MILVBA (K >AAFQLK )>M>KBPB CFO J P >OB LCQBK NRFQB OBIR@Q>KQ QL CFOB TLOHBOP >KA PL CFO J P E>SB PR?PQ>KQF>I KR J ?BOP LC TLOHBOP TEL >OB LK OBAR@BA ELROP LO LCCF@F>IIV B J MILVBA ?RQ ALFKD SBOV IFQQIB 6B @>K SFBT QEF )>M>KBPB M>QQBOK >P >K RKRPR>I J BQELA CLO PL@FBQV QL MOLSFAB PRMMLQ CLO QEB RKB J MILVBA Q>QEBO QE>K > PFDK LC > EB>IQEV B@LKL J V

# Link It Up

7 B EB>0 >?LRQ QEB #EFKBPB B@LKL J V FK QEB KBTP >II QEB Qf J B 4EB S>IRB LC QEB #EFKBPB VR>K FK @L J M>OPLK QL QEB 5 3 ALII>0 FP IFHBIV QL ?B M>OQ LC QEB KfDEQIV ?RPFKBPP OBMLQ PL TEV FP QEB #EFKBPB B@LKL J V KLQ FK@IRABA FK QEFP AF@RPPFLK LC FKQBOK>QLK>I RKB J MILV J BKQ 4EB I>@H LC OBIF>?IB PQ>QFP@P FP QEB OB>PLK 4EFP >OQf@IB EQM LMBKQ>U@LIHDB LOD I #EFK>% J MILV J BKQ BUMI>FKP TEV

"L J M>OFKD RKB J MILV J BKQ O>QP FK QEB 4KfQBA 2Q>QBP >KA LQEBO EFDE FK@L J B B@LKL J FBP TFQE RKB J MILV J BKQ O>QP FK +>QFK J BOF@> COF@> \$>PQBOK \$RQMB >KA PF> FP SBOV AFCCF@RIQ . KB OB>PLK FP QE>Q QEB PQ>QFP@>I >DBK@FBP FK J >KV MLLQBO @LRKQFBP I>@H QEB OBPLRO@BP >KA QB@EKf@>I @>M>?FIFQFBP LC QEB 4 2 !ROB>R LC QEB "BKPRP ' LTBSSO > J LOB AFCCF@RIQ MOL?IB J TFQE FKQBOK>QLK>I @L J M>OPLK FP QE>Q FK J >KV ILT FK@L J B @LRKQFBP J LPQ TLOHBOP >OB KLQ FKSLISBA FK QEB I>?LO J >OHBQ QEOLRDE >K B J MILVBO TEL M>VP QEB J OBDRI>OIV (KPB>A TLOHBOP FK QEBPB @LRKQFBP >OB BKD>DBA FK PELOQ QBO J TLOH PR?PFPQBK@B >@QFSQFBP >KA ?>OQBO , LOBLSBO QEB BCCB@Q LC RKB J MILV J BKQ FP SBOV AFCCBOBKQ FK EFDE FK@L J B >KA ILT FK@L J B @LRKQFBP 4KB J MILVBA TLOHBOP FK QEB ABSBILMBA B@LKL J FBP E>SB >@BPP QL S>OFLRP DLSBOK J BKQ MOLDO> J P IFHB RKB J MILV J BKQ FKPRO>K@B TBIC>OB >KA CLLA PQ> J MP 2R@E MOLDO> J P J >V ?>OBIV BUFPQ FK MLLQBO @LRKQFBP IQELRDE RKB J MILV J BKQ FP > PBOFLRP MOL?IB J FK J >KV ILT FK@L J B @LRKQFBP FQ J >KFCBPQ FQPBIC FK > AFCCBOBKQ T>V QE>K FK EFDE FK@L J B @LRKQFBP

N / ;4G 4HF8F ;4A:8F <A -A8@C?BL@8AG B I 8E G ; 8  
+ ; BEG \* HA

- ! V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL
- d K>IVWB @V@IF@>I RKB J MILV J BKQ
- d \$UMI>FK QEB OBI>QLKPEFM ?BQTBBK PQF@HV T>DBP >KA B J MILV J BKQ RPFKD S>OFLRP B@LKL J F@ >ODR J BKQP
- d MMIV PRMMIV >KA AB J >KA J LABIP QL RKB J MILV J BKQ >KA T>DBP

6 B E>SB PBBK QE>Q RKB J MILV J BKQ S>OFBP >@OLPP Qf J BP >KA MI>@BP 6 E>Q @>RPBP @E>KDBP FK RKB J MILV J BKQ 3 EBOB >OB AFCCBOBKQ >KPTBOP FK QEB PELOQ ORK >KA FK QEB ILKD ORK +BQ P ILLH >Q QEB PELOQ ORK CFOPQ

## L6?<64? -A8@C?BL@8AG

+BQdP J >HB QEB MI>RPF?IB >PPR J MQFLK QE>Q FK QEB PELOQ ORK COL J >CBT J LKQEP QL >CBT VB>OP QEB NR>KQFQV LC ELROP QE>Q QEB >SBO>DB MBOPLK FP TFIIFKD QL TLOH CLO > DfSBK T>DB ALBP KLQ @E>KDB J R@E PL QEB I>?LO PRMMIV @ROSB ALBP KLQ PEFQ J R@E (K >AAFQLK J >HB QEB PQ>KA>OA ceteris paribus >PPR J MQFLK QE>Q QEBOB FP KL PR?PQ>KQF>I PELOQ QBO J @E>KDB FK QEB >DB PQOR@QROB LC QEB I>?LO CLO@B FKPFQQRQLK >KA I>TP >CCB@QFKD QEB I>?LO J >OHBQ LO LQEBO MLPPF?IV OBIBS>KQ C>@QLQ

. KB MOF J >OV ABQBO J FK>KQ LC QEB AB J >KA CLO I>?LO COL J CFO J P FP ELT QEBV MBQ@BFSB QEB PQ>QB LC QEB J >@OL B@LKL J V (C CFO J P ?BIFBSB QE>Q ?RPFKBPP FP BUM>KAFKD QEBK >Q >KV DfSBK T>DB QEBV TFII ABPFOB QL EFOB > DOB>QBO NR>KQFQV LC I>?LO >KA

QEB I>?LO AB J >KA @ROSB PEFCQP QL QEB OFDEQ " LKS BOPBIV FC CFO J P MBO@BFSB QE>Q QEB B@LKL J V FP PILTFKD ALTK LO BKQBOFKD > OB@BPPFLK QEBK QEBV TFII TFPE QL EFOB > ILTBO NR>KQFV LC I>?LO >Q >KV DFBK T>DB >KA QEB I>?LO AB J >KA @ROSB TFII PEFCQ QL QEB IBCQ \$@LKL J FPQP @>II QEB S>OF>QLK FK RKB J MILV J BKQ QE>Q QEB B@LKL J V @>RPBP J LSKFD COL J BUM>KPFLK QL OB@BPPFLK LO COL J OB@BPPFLK QL BUM>KPFLK F B QEB ?RPFKBPP @V@IB **cyclical unemployment**

%LO J QEB Pq>KAMLFKQ LC QEB PRMMIV >KA AB J >KA J LABI LC @L J MBQFQFSB >KA CIBUF?IB I>?LO J >OHBQ RKB J MILV J BKQ OBMOBPBKQP PL J BQEFKD LC > MRWWIB (K > PRMMIV >KA AB J >KA J LABI LC > I>?LO J >OHBQ >P <:HEB FIIRPQ>QBP QEB I>?LO J >OHBQ PELRIA J LSB QL T>OA >K BNRIF?OFR J T>DB >KA NR>KQFV Q QEB BNRIF?OFR J T>DB 6 B QEB BNRIF?OFR J NR>KQFV O B LC I>?LO PRMMIFBA ?V TLOHBOP PELRIA ?B BNR>I QL QEB NR>KQFV LC I>?LO AB J >KABA ?V B J MILVBOP

<:HEB , ; 8 - A8@C?BL@8A6 4A7 DH<?5E<H@ <A G ; 8 \$45BE %4E>8G )K > I>?LO J >OHBQ TFQE CIBUF?IB T>DBP QEB BNRIF?OFR J TFII L@RO >Q T>DB 7 B >KA NR>KQFV 1 B TEBQB QEB KR J ?BO LC MBLMIB TEL T>KQ GL?P PELTK ?V 3 BNR>IP QEB KR J ?BO LC GL?P >S>FI>?IB PELTK ?V \$

. KB MLPPF?FIFV CLO RKB J MILV J BKQ FP QE>Q MBLMIB TEL >OB RKB J MILVBA >OB QELPB TEL >OB KLQ TFIFKD QL TLOH >Q QEB @ROOBKQ BNRIF?OFR J T>DB P>V >K ELRO ?RQ TLRIA ?B TFIFKD QL TLOH >Q > EFDEBO T>DB IFHB MBO ELRO 3EB J LKQEV " ROOBKQ /LMRI>QLK 2ROSbv TLRIA @LRKQ QEBPB MBLMIB >P RKB J MILVBA ?B@>RPB QEBV P>V QEBV >OB OB>AV >KA ILLHFKD CLO TLOH >Q MBO ELRO 'LTBSBO COL J >K B@LKL J FPQDP MBOPMB@QFSB QEBPB MBLMIB >OB @ELLPFKD QL ?B RKB J MILVBA

/OL??>IV > CBT MBLMIB >OB RKB J MILVBA ?B@>RPB LC RKOB>IFPQF@ BUMB@>QLKP >?LRQ T>DBP ?RQ QEBV AL KLQ OBMOBPBKQ QEB J >GLOFV LC QEB RKB J MILVBA (KQB>A RKB J MILVBA MBLMIB LCQBK E>SB COFBKAP LO >@NR>FKQ>K@BP LC PF J FI>O PHFII IBSBIP TEL >OB B J MILVBA >KA QEB RKB J MILVBA TLRIA ?B TFIFKD QL TLOH >Q QEB GL?P >KA T>DBP PF J FI>O QL TE>Q QELPB MBLMIB >OB OB>BFSFKD 'LTBSBO QEB B J MILVBOP LC QEBFO COFBKAP >KA >@NR>FKQ>K@BP AL KLQ PBB J QL ?B EFOFKD (K LQEBO TLOAP QEBPB MBLMIB >OB FKSLIRKQ>OFIV RKB J MILVBA 6 E>Q @>RPBP FKSLIRKQ>OV RKB J MILV J BKQ

/ ; L / 4:8F %<: ; G 8 +G<6>L BJAJ4E7

(C > I>?LO J >OHBQ J LABI TFQE CIBUF?IB T>DBP ALBP KLQ ABP@OF?B RKB J MILV J BKQ SBOV TBII b ?B@>RPB FQ MOBAF@QP QE>Q >KVLKB TFIFKD QL TLOH >Q QEB DLFKD T>DB @>K >IT>VP CFKA > GL? b QEBK FQ J >V MOLSB RPBCRI QL @LKPFABO B@LKL J F@ J LABIP FK TEF@E T>DBP >OB KLQ CIBUF?IB LO >AGRPQ LKIV SBOV PILTIV (K M>OQF@RI>O BSBK QELRDE T>DB FK@OB>PBP J >V L@RO TFQE OBI>QFSB B>PB T>DB AB@OB>PBP >OB CBT >KA C>O ?BQTBBK

. KB PBQ LC OB>PLKP TEV T>DBP J >V ?B ePQF@HV ALTKT>OA f >P B@LKL J FPQP MRQ FQ FKSLISBP B@LKL J F@ I>TP >KA FKPFQRFQFLKP %LO ILT PHFIIBA TLOHBOP OB>BFSFKD J FKF J R J T>DB FQ FP FIIBD>I QL OBAR@B QEBFO T>DBP %LO RKFLK TLOHBOP LMBO>QFKD RKABO > J RIQFVB>O @LKQ>@Q TFQE > @L J M>KV T>DB @RQP J FDEQ SFLI>QB QEB @LKQ>@Q >KA @OB>QB > I>?LO AFPMRQB LO > PQQFHB 'LTBSBO J FKF J R J T>DBP >KA RKFLK @LKQ>@Q >OB KLQ > PRCCF@FBKQ OB>PLK TEV T>DBP TLRIA ?B PqF@HV ALTKT>OA CLO QEB 4 2 B@LKL J V >P > TELIB CQB >II LRQ LC QEB J FIIFLK LO PL B J MILVBA TLOHBOP FK QEB 4 2 B@LKL J V LKIV >?LRQ J FIIFLK b IBPP QE>K LC QEB QL>I b AL KLQ OB>BFSB @L J MBKP>QLK >?LSB QEB J FKF J R J T>DB 2 F J FI>OIV I>?LO RKFLK OBMOBPBKQ LKIV >?LRQ LC J BOF@>K T>DB >KA P>I>OV TLOHBOP (K LQEBO EFDE FK@L J B @LRKQOFBP J LOB TLOHBOP J >V E>SB QEBFO T>DBP ABQBO J FKBA ?V RKFLK LO QEB J FKF J R J T>DB J >V ?B PBQ >Q > IBSBI QE>Q >MMIFBP QL > I>ODBO PE>OB LC TLOHBOP 'LTBSBO CLO QEB 4KQBA 2Q>QBP QEBPB QTL C>@QLOP @L J ?FKBA >CCB@Q LKIV >?LRQ LO IBPP LC QEB I>?LO CLO@B

\$@LKL J FPQP ILLHFKD CLO OB>PLKP TEV T>DBP J FDEQ ?B PQF@HV ALTKT>OAP E>SB CL@RPBA LK C>@QLOP QE>Q J >V @E>O>@QBOFWB J LPQ I>?LO OBI>QLKPEFMP FK QEB B@LKL J V KLQ GRPQ > CBT , >KV E>SB MOLMLPBA > KR J ?BO LC AFCCBOBKQ QEBLOFBP ?RQ QEBV PE>OB > @L J J LK QLKB

. KB >ODR J BKQ FP QE>Q BSBK B J MILVBPP TEL >OB KLQ RKFLK J B J ?BOP LCQBK TLOH RKABO >K **implicit contract** TEF@E FP QE>Q QEB B J MILVBO TFII QOV QL HBBM T>DBP COL J C>IIFKD TEBK QEB B@LKL J V FP TB>H LO QEB ?RPFKBPP FP E>SFKD QQLR?IB >KA QEB B J MILVBB TFII KLQ BUMB@Q ERDB P>I>OV FK@OB>PBP TEBK QEB B@LKL J V LO QEB ?RPFKBPP FP PQQLKD 3EFP T>DB PBQQFKD ?BE>SFLQ >@QP IFHB > CLO J LC FKPRO>K@B QEB B J MILVBB E>P PL J B MOLQB@QFLK >D>FKPQ T>DB AB@IFKBP FK ?>A QF J BP ?RQ M>VP CLO QE>Q MOLQB@QFLK TFQE ILTBO T>DBP FK DLLA QF J BP " IB>OIV QEFP PLOQ LC F J MIF@FQ @LKO>@Q J B>KP QE>Q CFO J P TFII ?B EBPQ>KQ QL @RQ T>DBP IBPQ TLOHBOP CBI ?BQ>VBA >KA TLOH IBPP E>OA LO BSBK IB>SB QEB CFO J

**Efficiency wage theory** >ODRBP QE>Q TLOHBOP MOLAR@QFSFQV ABMBKAP LK QEBFO M>V >KA PL B J MILVBOP TFII LCQBK CFKA FQ TLOQETEFIB QL M>V QEBFO B J MILVBPP PL J B TE>Q J LOB QE>K J >OHBQ @LKAFQFLKP J FDEQ AF@Q>QB . KB OB>PLK FP QE>Q B J MILVBPP TEL OB@BFSB ?BQQBO M>V QE>K LQEBOP TFII ?B J LOB MOLAR@QFSB ?B@>RPB QEBV OB@LDKFWB QE>Q FC QEBV TBOB QL ILPB QEBFO @ROOBKQ GL?P QEBV TLRIA PRCCBO > AB@IFKB FK P>I>OV P > OBPRIQ QEBV >OB J LQFS>QBA QL TLOH E>OABO >KA QL PQ>V TFQE QEB @ROOBKQ B J MILVBO (K >AAFQFLK B J MILVBOP HKLT QE>Q FP @LPQIV >KA QF J B @LKPR J FKD QL EFOB >KA QO>FK KBT B J MILVBPP PL QEBV TLRIA MOBCBO QL M>V TLOHBOP > IFQQIB BUQO> KLT O>QEBQ QE>K QL ILPB QEB J >KA E>SB QL EFOB >KA QO>FK KBT TLOHBOP 3ERP ?V >SLFAFKD T>DB @RQP QEB B J MILVBO J FKJ FWPB @LPQ LC QO>FKFKD >KA EFOFKD KBT TLOHBOP >KA OB>MP QEB ?BKBCFQP LC TBII J LQFS>QBA B J MILVBPP

**3EB adverse selection of wage cuts argument** MLFKQP LRQ QE>Q FC >K B J MILVBO OB>@QP QL MLLQ ?RPFKBPP @LKAFQFLKP ?V OBAR@FKD T>DBP CLO >II TLOHBOP QEBK QEB ?BPQ TLOHBOP QELPB TFQE QEB ?BPQ B J MILV J BKQ >IQBOK>QFSBP >Q LQEBQ CFO J P >OB QEB J LPQ IFHBIV QL IB>SB 3EB IB>PQ >QQO>@QFSB TLOHBOP TFQE CBTBO B J MILV J BKQ >IQBOK>QFSBP >OB J LOB IFHBIV QL PQ>V " LKPBNRBKQIV CFO J P >OB J LOB IFHBIV QL @ELLPB TEF@E TLOHBOP PELRIA ABM>OQ QEOLRDE I>VLCCP >KA CFOFKDP O>QEBQ QE>K QOF J J FKD T>DBP >@OLPP QEB ?L>OA 2L J BQF J BP @L J M>KFBP QE>Q >OB BUMBOFBK@FKD AFCCF@RIQ QF J BP @>K MBOPR>AB TLOHBOP QL Q>HB > M>V @RQ CLO QEB PELOQ QBO J >KA PQFII OBQ>FK J LPQ LC QEB CFO J dP TLOHBOP ' LTBSBO FQ FP C>O J LOB QVMF@>I CLO @L J M>KFBP QL I>V LCC PL J B TLOHBOP O>QEBQ QE>K QL @RQ T>DBP CLO BSBQVLKB

**3EB insider-outsider model** LC QEB I>?LO CLO@B FK PF J MIB QBO J P >ODRBP QE>Q QELPB >IOB>AV TLOHFKD CLO CFO J P >OB eFKPFABOP f TEFIB KBT B J MILVBPP >Q IB>PQ CLO > QF J B >OB eLRQPFABOP f CFO J ABMBKAP LK FQP FKPFABOP QL HBBM QEB LOD>KFW>QFLK ORKKFKD P J LLQEIV QL ?B C> J FIF>O TFQE OLRQFKB MOL@BAROBP >KA QL QO>FK KBT B J MILVBPP ' LTBSBO @RQFKD T>DBP TFII >IFBK>QB QEB FKPFABOP >KA A> J >DB QEB CFO J dP MOLAR@QFSFQV >KA MOLPMB@QP

%FK>IIV QEB **relative wage coordination argument** MLFKQP LRQ QE>Q BSBK FC J LPQ TLOHBOP TBOB EVMLQEBQF@>IIV TFHFKD QL PBB > AB@IFKB FK QEBFO LTK T>DBP FK ?>A B@LKL J F@ QF J BP >P ILKD >P BSBQVLKB BIPB >IPL BUMBOFBK@BP PR@E > AB@IFKB QEBOB FP KL L ?SFLRP T>V CLO > AB@BKQO>IFWBA B@LKL J V QL F J MIB J BKQ PR@E > MI>K (KPQB>A TLOHBOP @LKCOLKQBA TFQE QEB MLPPF?FIFQV LC > T>DB @RQ TFII TLOOV QE>Q LQEBQ TLOHBOP TFII KLQ E>SB PR@E > T>DB @RQ >KA PL > T>DB @RQ J B>KP ?BFKD TLOPB LCC ?LQE FK >?PLIRQB QBO J P >KA OBI>QFSB QL LQEBOP P > OBPRIQ TLOHBOP CFDEQ E>OA >D>FKPQ T>DB @RQP

**3EBPB QEBLOFBP LC TEV T>DBP QBKA KLQ QL J LSB ALTKT>OA AFCCBO FK QEBFO ILDF@ >KA QEBFO F J MIF@>QFLKP >KA CFDRQFKD LRQ QEB PQQBKQEP >KA TB>HKBPPBP LC B>@E QEBLOV FP >K LKDLFKD PR?GB@Q LC OBPB>O@E >KA @LKQOLSBOPV > J LKD B@LKL J FPQP II QBKA QL F J MIV QE>Q T>DBP TFII AB@IFKB LKIV SBOV PILTIV FC >Q >II BSBK TEBK QEB B@LKL J V LO > ?RPFKBPP FP E>SFKD QLRDE QF J BP 6 EBK T>DBP >OB FKCIUF?IB >KA RKIFHBIV QL C>II QEBK BFQEBO PELOQ ORK LO ILKD ORK RKB J MILV J BKQ @>K OBPRIQ <: HE8 FIIRPQO>QBP QEFP**

<:HE8 +G<6>L / 4:8F<A G;8 \$45BE %4E>8G "B@>RPB QEB T>DB O>QB FP PQR@H >Q 7 >?LSB QEB BNRHF?OFR J QEB KR J ?B0 LC QELPB TEL T>KQ GL?P 1P FP D0B>QBO QE>K QEB KR J ?B0 LC GL? LMBKFKDP 1A 4EB 0BPRIQ FP RKB J MILV JBKQ PELTK ?V QEB ?O>@HBQ FK QEB CFDR0B

<:HE8 PELTP QEB FKQBO>@QFLK ?BQTBBK PEFCQP FK I>?LO AB J >KA >KA T>DBP QE>Q >OB PQF@HV ALTKT>0A <:HE8 > FIIRPQO>QBP QEB PFQR>QFLK FK TEF@E QEB AB J >KA CLO I>?LO PEFCQP QL QEB OFDEQ COL J # QL # (K QEFP @>PB QEB BNRHF?OFR J T>DB OFPBP COL J 6 QL 6 >KA QEB BNRHF?OFR J NR>KQFQV LC I>?LO EFOBA FK@OB>PBP COL J 0 QL 0 (Q ALBP KLQ ER0Q B J MILVBB J LO>IB >Q >II CLO T>DBP QL OFPB

<:HE8 ? PELTP QEB PFQR>QFLK FK TEF@E QEB AB J >KA CLO I>?LO PEFCQP QL QEB IBCQ COL J # QL # >P FQ TLRIA QBKA QL AL FK > OB@BPPFLK !B@>RPB T>DBP >OB PQF@HV ALTKT>0A QEBV AL KLQ >AGRPQ QLT>0A TE>Q TLRIA E>SB ?BBK QEB KBT BNRHF?OFR J T>DB 6 >Q IB>PQ KLQ FK QEB PELOQ ORK (KPQB>A >CQBO QEB PEFCQ FK QEB I>?LO AB J >KA @ROSB QEB P>JB NR>KQFQV LC TLOHBOP FP TFIIFKD QL TLOH >Q QE>Q T>DB >P ?BCLOB ELTBSBO QEB NR>KQFQV LC TLOHBOP AB J >KABA >Q QE>Q T>DB E>P AB@IFKBA COL J QEB LOFDFK>I BNRHF?OFR J 0 QL 0 3EB D>M ?BQTBBK QEB LOFDFK>I BNRHF?OFR J NR>KQFQV 0 >KA QEB KBT NR>KQFQV AB J >KABA LC I>?LO 0 OBM0BPBKQP TLOHBOP TEL TLRIA ?B TFIIFKD QL TLOH >Q QEB DLFKD T>DB ?RQ @>KKLQ CFKA GL?P 3EB D>M OBM0BPBKQP QEB B@LKL J F@ J B>KFKD LC RKB J MILV JBKQ

<:HE8 \*<F<A: / 4:8 4A7 \$BJ -A8@C?BL@8AG / ;8E8 IF G;8 -A8@C?BL@8AG <A +HCC?L 4A7 8@4A7 > )K > I>?LO J >OHBQ TEB0B T>DBP >OB >?IB QL OFPB >K FK@OB>PB FK QEB AB J >KA CLO I>?LO COL J \$ QL \$ IB>AP QL >K FK@OB>PB FK BNRHF?OFR J NR>KQFQV LC I>?LO EFOBA COL J 1 QL 1 >KA > OFPB FK QEB BNRHF?OFR J T>DB COL J 7 QL 7 ? )K > I>?LO J >OHBQ TEB0B T>DBP AL KLQ AB@IFKB >C>II FK QEB AB J >KA CLO I>?LO COL J \$ QL \$ IB>AP QL > AB@IFKB FK QEB NR>KQFQV LC I>?LO AB J >KABA >Q QEB LOFDFK>I T>DB 7 COL J 1 QL 1 4EBPB TLOHBOP TFI T>KQ QL TLOH >Q QEB MOBS>FIIFKD T>DB 7 ?RQ TFI KLQ ?B >?IB QL CFKA GL?P

3EFP >K>IVPPF EBIMP QL BUMI>FK QEB @LKKB@QFLK QE>Q TB KLQBA B>OIFB0 QE>Q RKB J MILV J BKQ QBKAP QL OFPB FK OB@BPPFLKP >KA QL AB@IFKB AROFKD BUM>KPFLKP 3EB LSBO>II P>Q>B LC QEB B@LKL J V PEFCQP QEB I>?LO AB J >KA @ROSB >KA @L J ?FKBA TFQE T>DBP QE>Q >OB PQF@HV ALTKT>OAP RKB J MILV J BKQ @E>KDBP 3EB OFPB FK RKB J MILV J BKQ QE>Q L@@ROP ?B@>RPB LC > OB@BPPFLK FP @V@IF@>I RKB J MILV J BKQ

# Link It Up

4EB 3Q , LRFp &BABO>I 2BPB0SB ">KH FP QEB ?BPQ 0BPLR0@B CL0 J>@0LB@LKL J F@ Qf JB PBOFBP A>Q> HKLTK >P QEB &BABO>I 2BPB0SB %@LKL J F@ \$>Q> &2%\$ &2%\$ EQM LMBKP>U@LIIBDB LOD I &2%\$=B J MILV J BKQ MOLSFABP @L J MIBQB A>Q> PBQP LK S>OFLRP JB>PROBP LC QEB RKB J MILV J BKQ 0>QB >P TBII >P QEB J LKQEIV "ROB>R LC ,>?LO 3Q>QFPQ@P 0BML0Q LK QEB 0BPRIQP LC QEB ELRPBELIA >KA B J MILV J BKQ PROSBVP

N / ;4G 4HF8F ;4A:8F <A -A8@C?BL@8AG BI8E G;8  
\$BA: \*HA

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK COF@QFLK>I >KA PQOR@QRO>I RKB J MILV J BKQ
- d PPBPP OBI>QFLKPEFMP ?BQTBBK QEB K>QRO>I 0>QB LC B J MILV J BKQ >KA MLQBKF>I OB>I &# / MOLAR@QFSFQV >KA MR?IF@ MLIF@V
- d (ABKQFCV OB@BKQ M>QQBOKP FK QEB K>QRO>I 0>QB LC B J MILV J BKQ
- d /OLMLPB T>VP QL @L J ?>Q RKB J MILV J BKQ

"V@IF@>I RKB J MILV J BKQ BUMI>FKP TEV RKB J MILV J BKQ OFPBP AROFKD > OB@BPPFLK >KA C>IIP AROFKD >K B@LKL J F@ BUM>KPFLK ?RQ TE>Q BUMI>FKP QEB OB J >FKFKD IBSBI LC RKB J MILV J BKQ BSBK FK DLLA B@LKL J F@ QF J BP 6 EV FP QEB RKB J MILV J BKQ 0>QB KBSBO WBOL \$SBK TEBK QEB 4 2 B@LKL J V FP DOLTFKD PQQLKDIV QEB RKB J MILV J BKQ 0>QB LKIV 0>OBIV AFMP >P ILT >P , LOBLSBO QEB AFP@RPPFLK B>OIFB0 FK QEFP @E>MQB0 MLFKQBA LRQ QE>Q RKB J MILV J BKQ 0>QB FK J >KV \$ROLMB>K @LRKQOFBP IFHB (Q>IV %0>K@B >KA &B0 J >KV E>SB LCQBK ?BBK OB J >OH>?IV EFDE >Q S>OFLRP QF J BP FK QEB I>PQ CBT AB@>ABP 6 EV ALBP PL J B IBSBI LC RKB J MILV J BKQ MBOPFP BSBK TEBK B@LKL J FBP >OB DOLTFKD PQQLKDIV 6 EV >OB RKB J MILV J BKQ 0>QB @LKQFKR>IIV EFDEBO FK @BQ>FK B@LKL J FBP QEOLRDE DLLA B@LKL J F@ VB>OP >KA ?>A \$@LKL J FQP E>SB > QBO J QL ABP@OF?B QEB OB J >FKFKD IBSBI LC RKB J MILV J BKQ QE>Q L@@ROP BSBK TEBK QEB B@LKL J V FP EB>IQEV QEBV @>II FQ QEB **natural rate of unemployment**

, ;8 \$BA: \*HA , ;8 &4GHE4? \*4G8 B9 -A8@C?BL@8AG

3EB K>QRO>I 0>QB LC RKB J MILV J BKQ FP KLQ eK>QRO>If FK QEB PBKPB QE>Q T>QBO COBBWBP >Q ABD0BBP %>EOBKEBFQ L0 ?LFIP >Q ABD0BBP %>EOBKEBFQ (Q FP KLQ > MEVFP@>I >KA RK@E>KDFKD I>T LC K>QROB (KPQB>A FQ FP LKIV QEB eK>QRO>If 0>QB ?B@>RPB FQ FP QEB RKB J MILV J BKQ 0>QB QE>Q TLRIA 0BPRIQ COL J QEB @L J ?FK>QFLK LC B@LKL J F@ PL@F>I >KA MLIFQF@>I C>@QLOP QE>Q BUFPQ >Q > QF J B b >PPR J FKD QEB B@LKL J V T>P KBFQEBO ?LL J FKD KLO FK OB@BPPFLK 3EBPB CLO@BP FK@IRAB QEB RPR>I M>QQBOK LC @L J M>KFBP BUM>KAFKD >KA @LKQ@>QFKD QEBFO TLOHCLO@BP FK > AVK> J F@ B@LKL J V PL@F>I >KA B@LKL J F@ CLO@BP QE>Q >CCB@Q QEB I>?LO J >OHBQ LO MR?IF@ MLIF@FBP QE>Q >CCB@Q BFQEBO QEB B>DB0KBPP LC MBLMIB QL TLOH LO QEB TFIIFKDKBPP LC ?RPFKBPPBP QL EFOB +BQ@P AFP@RPP QEBPB C>@QLOP FK J LOB ABQ>FI

### E<6<BA4? - A8@C?BL@8AG

(K > J>OHBQ B@LKL J V PL J B @L J M>KFBP >OB >IT>VP DLFKD ?OLHB CLO > S>OFBQV LC OB>PLKP LIA QB@EKLILDV MLLQ J >K>DB J BKQ DLLA J >K>DB J BKQ QE>Q E>MMBKBA QL J >HB ?>A AB@FPFLKP PEFCQP FK Q>PQBP LC @LKPR J BOP PL QE>Q IBPP LC QEB CFO J dP MOLAR@Q FP ABPFOBA > I>ODB @RPQL J BO TEL TBKQ ?OLHB LO QLRDE AL J BPQF@ LO CLOBFDK @L J MBQFQLOP "LKSBOBPBV LQEBQ @L J M>KFBP TFII ?B ALFKD SBOV TBII CLO GRPQ QEB LMMLPFQB OB>PLKP >KA ILLHFKD QL EFOB J LOB B J MILVBPP (K > MBOCB@Q TLOIA >II LC QELPB TEL ILPQ GL?P TLRIA F J J BAF>QBIV CFKA KBT LKBP ' LTBSBO FK QEB OB>I TLOIA BSBK FC QEB KR J ?BO LC GL? PBBHBOP FP BNR>I QL QEB KR J ?BO LC GL? S>@>K@FBP FQ Q>HBP QF J B QL CFKA LRQ >?LRQ KBT GL?P QL FKQBOSFBT >KA CFDRQB LRQ FC QEB KBT GL? FP > DLLA J >Q@E LO MBOE>MP QL PBII > ELRPB >KA ?RV >KLQEBQ FK MOLUF J FQV QL > KBT GL? \$@LKL J FPQP @>II QEB RKB J MILV J BKQ QE>Q L@>ROP FK QEB J B>KQF J B >P TLOHBOP J LSB ?BQTB BK GL?P **frictional unemployment** %OF@QFLK>I RKB J MILV J BKQ FP KLQ FKEBOBKIV > ?>A QEFKD (Q Q>HBP QF J B LK M>OQ LC ?LQE QEB B J MILVBO >KA QEB FKAFSFAR>I QL J >Q@E QELPB ILLHFKD CLO B J MILV J BKQ TFQE QEB @LQOB@Q GL? LMBKFKDP %LO FKAFSFAR>IP >KA @L J M>KFBP QL ?B PR@>BPCCI >KA MOLAR@QFSB VLR T>KQ MBLMIB QL CFKA QEB GL? CLO TEF@E QEBV >OB ?BPQ PRFQBA KLQ GRPQ QEB CFOPQ GL? LCCBOBA

(K QEB J FA P ?BCLQB QEB a OB@BPPFLK FQ T>P QORB QE>Q >?LRQ LC 4 2 TLOHBOP P>T QEBFO GL?P AFP>MMB>O FK >KV QEOBB J LKQE MBOFLA ' LTBSBO FK MBOFLAP LC B@LKL J F@ DOLTQE QEBPB ABPQOLVBA GL?P >OB @LRKQBO>I>K@BA CLO QEB B@LKL J V >P > TELIB ?V > I>ODBO KR J ?BO LC GL?P @OB>QBA (K CLO BU> J MIB QEBQB TBOB QVMF@>IIV >?LRQ J FIIFLK RKB J MILVBA MBLMIB >Q >KV DFSBK QF J B FK QEB 4 2 B@LKL J V \$SBK QELRDE >?LRQ QTL QEFOAP LC QELPB RKB J MILVBA MBLMIB CLRKA > GL? FK TBBHP LO CBTBO QEB RKB J MILV J BKQ O>QB AFA KLQ @E>KDB J R@E AROFKD QEB VB>O ?B@>RPB QELPB TEL CLRKA KBT GL?P TBOB I>ODBIV LCCPBQ ?V LQEBOP TEL ILPQ GL?P

. C @LROPB FQ TLRIA ?B MBOCBO>?IB FC MBLMIB TEL TBOB ILPFKD GL?P @LRIA F J J BAF>QBIV >KA B>PFIV J LSB FKQL KBTIV @OB>QBA GL?P ?RQ FK QEB OB>I TLOIA QE>Q FP KLQ MLPPF?IB 2L J BLKB TEL FP I>FA LCC ?V > QBUQFIB J FII FK 2LRQE ">OLIFK> @>KKLQ QROK >OLRKA >KA F J J BAF>QBIV P>OQ TLOHFKD CLO > QBUQFIB J FII FK ">IFCLOKf> (KPQB>A QEB >AGRPQ J BKQ MOL@BPP E>MMBKP FK OFMMIBP 2L J B MBLMIB CFKA KBT GL?P KB>O QEBFO LIA LKBP TEFIB LQEBOP CFKA QE>Q QEBV J RPQ J LSB QL KBT IL@>QFLK 2L J B MBLMIB @>K AL > SBOV PF J FI>O GL? TFQE > AFCCBOBKQ @L J M>KV TEFIB LQEBOP J RPQ P>OQ KBT @>OBBO M>QEP 2L J B MBLMIB J >V ?B KB>O OBQFOB J BKQ >KA AB@FAB QL ILLH LKIV CLO M>OQ QF J B TLOH TEFIB LQEBOP T>KQ >K B J MILVBO QE>Q LCCBOB > ILKD QBO J @>OBBO M>QE 3EB COF@QFLK>I RKB J MILV J BKQ QE>Q OBPRIQP COL J MBLMIB J LSFKD ?BQTB BK GL?P FK > AVK> J F@ B@LKL J V J >V >@>LRKQ CLO LKB QL QTL MBO@BKQ>DB MLFKQP LC QLQ>I RKB J MILV J BKQ

3EB IBSBI LC COF@QFLK>I RKB J MILV J BKQ TFII ABMBKA LK ELT B>PV FQ FP CLO TLOHBOP QL IB>OK >?LRQ >IQBOK>QFSB GL?P TEF@E J >V OBCIB@Q QEB B>PB LC @L J J RKF@>QFLK >?LRQ GL? MOLPMB@QP FK QEB B@LKL J V 3EB BUQBKQ LC COF@QFLK>I RKB J MILV J BKQ TFII >IPL ABMBKA QL PL J B BUQBKQ LK ELT TFIIFKD MBLMIB >OB QL J LSB QL KBT >OB>P QL CFKA GL?P b TEF@E FK QROK J >V ABMBKA LK EFPQLQV >KA @RIQRQB

%OF@QFLK>I RKB J MILV J BKQ >KA QEB K>QRO>I O>QB LC RKB J MILV J BKQ >IPL PBB J QL ABMBKA LK QEB >DB AFPQF?RQFLK LC QEB MLMRI>QFLK <:HE8 ? PELTBA QE>Q RKB J MILV J BKQ O>QB >OB QVMF@>IIV ILTBO CLO MBLMIB ?BQTB BK a VB>OP LC >DB LO >DBA >KA LSBO QE>K QEBV >OB CLO QELPB TEL >OB VLRKDDBO e/OF J B >DB TLOHBOP f >P QELPB FK QEB a >DB ?O>HBQ >OB PL J BQF J BP @>IIBA >OB QVMF@>IIV >Q > MI>@B FK QEBFO IFSBP TEBK QEBV T>KQ QL E>SB > GL? >KA FK@L J B >OOFSEKD >Q >II QF J BP (K >AAFQFLK LIABO TLOHBOP TEL ILPB GL?P J >V MBOCBO QL LMQ CLO OBQFOB J BKQ !V @LKQO>PQ FQ FP IFHBIV QE>Q > OBI>QFSBIV EFDE MOLMLQFLK LC QELPB TEL >OB RKABO TFII ?B QOVFKD LRQ GL?P >KA IFCB LMQFLK >KA QEFP IB>AP QL DOB>QBO GL? J L?FIFQV >KA EBK@B EFDEBO COF@QFLK>I RKB J MILV J BKQ 3ERP > PL@FBQV TFQE > OBI>QFSBIV EFDE MOLMLQFLK LC VLRKD TLOHBOP IFHB QEB 4 2 ?BDFKKFKD FK QEB J FA P TEBK !>?V !LL J BOP ?BD>K BKQBOFKD QEB I>?LO J >OHBQ TFII QBKA QL E>SB > EFDEBO RKB J MILV J BKQ O>QB QE>K > PL@FBQV TFQE > EFDEBO MOLMLQFLK LC FQP TLOHBOP FK LIABO >DBP

### +GEH6GHE4? - A8@C?BL@8AG

KLQEBQ C>@QLO QE>Q FKCIRBK@BP QEB K>QRO>I O>QB LC RKB J MILV J BKQ FP QEB > J LRKQ LC **structural unemployment** 3EB PQQR@QRO>IIV RKB J MILVBA >OB FKAFSFAR>IP TEL E>SB KL GL?P ?B@>RPB QEBV I>@H PHFIIP S>IRBA ?V QEB I>?LO J >OHBQ BFQEBQ ?B@>RPB AB J >KA E>P PEFCQBA >T>V COL J QEB PHFIIP QEBV AL E>SB LO ?B@>RPB QEBV KBSBO IB>OKBA >KV PHFIIP K BU> J MIB LC QEB CLO J BO TLRIA ?B QEB RKB J MILV J BKQ > J LKD >BOLPM>@B BKDFKBOP >CQBO QEB 4 2 PM>@B MOLDO> J ALTKPFWA FK QEB P K BU> J MIB LC QEB I>QQBO TLRIA ?B EFDE P@ELLI AOLMLRQP

2L J B MBLMIB TLOOV QE>Q QB@EKLILDV @>RPBP PQQR@QRO>I RKB J MILV J BKQ (K QEB M>PQ KBT QB@EKLILDFBP E>SB MRQ ILTBO PHFIIBA B J MILVBPP LRQ LC TLOH ?RQ >Q QEB P> J B QF J B QEBV @OB>QB AB J >KA CLO EFDEBO PHFIIBA TLOHBOP QL RPB QEB KBT QB@EKLILDFBP \$AR@>QFLK PBB J P QL ?B QEB HBV FK J FKJ J FWFKD QEB > J LRKQ LC PQQR@QRO>I RKB J MILV J BKQ (KAFSFAR>IP TEL E>SB ABDQBBP @>K ?B OBQO>FKBA FC QEBV ?B@L J B PQQR@QRO>IIV RKB J MILVBA %LO MBLMIB TFQE KL PHFIIP >KA IFQIB BAR@>QFLK QE>Q LMQFLK FP J LOB IF J FQBA

### &4GHE4? - A8@C?BL@8AG 4A7 ( B68AG<4? \* 84? (

3EB K>QR0>I RKB J MILV J BKQ 0>QB FP OBI>QBA QL QTL LQEBO F J ML0Q>KQ @LK@BMQP CRII B J MILV J BKQ >KA MLQBKQF>I OB>I &# / \$@LKL J FPQP @LKPFABO QEB B@LKL J V QL ?B >Q CRII B J MILV J BKQ TEBK QEB >@QR>I RKB J MILV J BKQ 0>QB FP BNR>I QL QEB K>QR0>I RKB J MILV J BKQ 0>QB 6 EBK QEB B@LKL J V FP >Q CRII B J MILV J BKQ OB>I &# / FP BNR>I QL MLQBKQF>I OB>I &# / !V @LKQ>PQ TEBK QEB B@LKL J V FP ?BILT CRII B J MILV J BKQ QEB RKB J MILV J BKQ 0>QB FP DOB>QBO QE>K QEB K>QR0>I RKB J MILV J BKQ 0>QB >KA OB>I &# / FP IBPP QE>K MLQBKQF>I %FK>IIV TEBK QEB B@LKL J V FP >?LSB CRII B J MILV J BKQ QEBK QEB RKB J MILV J BKQ 0>QB FP IBPP QE>K QEB K>QR0>I RKB J MILV J BKQ 0>QB >KA OB>I &# / FP DOB>QBO QE>K MLQBKQF>I . MBO>QFKD >?LSB MLQBKQF>I FP LKIV MLPPF?IB CLO > PELOQ TEFIB PFK@B FQ FP >K>ILDRLP QL >II TLOHBOP TLOHFKD LSBOQF J B

### ( EB7H6G<I <GL + ; <9GF 4A7 G ; 8 &4GHE4? \* 4G8 B9 - A8@C?BL@8AG

4KBUMB@QBA PEFCQP FK MOLAR@QFSFQV @>K E>SB > ML T'BOCRI BCCB@Q LK QEB K>QR0>I 0>QB LC RKB J MILV J BKQ . SBO QF J B TLOHBOP MOLAR@QFSFQV ABQBO J FKBP QEB IBSBI LC T>DBP FK >K B@LKL J V CQBO >II FC > ?RPFKBPP M>FA TLOHBOP J LOB QE>K @LRIA ?B GRPQFCFA ?V QEBFO MOLAR@QFSFQV QEB ?RPFKBPP TFII RIQF J >QBIV ILPB J LKBV >KA DL ?>KHORMQ " LKSBOPBIV FC > ?RPFKBPP QOFBP QL M>V TLOHBOP IBPP QE>K QEBFO MOLAR@QFSFQV QEBK FK > @L J MBQFQFSB I>?LO J >OHBQ LQEBO ?RPFKBPP TFII CFKA FQ TLOQE TEFIB QL EFOB >T>V QELPB TLOHBOP >KA M>V QEB J J LOB

' LTBSBO >AGRPQ J BKQP LC T>DBP QL MOLAR@QFSFQV IBSBIP TFII KLQ E>MMBK NRF@HIV LO P J LLQEIV \$ J MILVBOP QVMF@>IIV OBSFBT T>DBP LKIV LK@B LO QTf@B > VB>0 (K J >KV J LABOK GL?P FQ FP AFCCF@RIQ QL J B>PROB MOLAR@QFSFQV >Q QEB FKAFSAR>I IBSBI %LO BU> J MIB ELT MOB@FPBIV TLRJA LKB J B>PROB QEB NR>KQFQV MOLAR@BA ?V >K >@LRKQ>KQ TEL FP LKB LC J >KV MBLMIB TLOHFKD FK QEB Q>U ABM>OQ J BKQ LC > I>ODB @LOML0>QFLK ! B@>RPB MOLAR@QFSFQV FP AFCCF@RIQ QL L?PBOSB B J MILVBOP LCQBK ABQBO J FKB T>DB FK@OB>PBP ?>PBA LK OB@BKQ BUMB@FBK@B TFQE MOLAR@QFSFQV (C MOLAR@QFSFQV E>P ?BBK OFPKD >Q P>V MBO VB>0 QEBK T>DBP OFPB >Q QE>Q IBSBI >P TBII ' LTBSBO TEBK MOLAR@QFSFQV @E>KDBP RKBUMB@QBAIV FQ @>K >CCB@Q QEB K>QR0>I 0>QB LC RKB J MILV J BKQ CLO > QF J B

3EB 4 2 B@LKL J V FK QEB P >KA P MOLSFABP QTL SFSFA BU> J MIBP LC QEFP MOL@BPP (K QEB P MOLAR@QFSFQV DOLTQE PILTBA ALTK RKBUMB@QBAIV >P TB AFP@RPPBA FK 6BAB@<6 EB JG ; %LO BU> J MIB LRQMRQ MBO ELRO LC 4 2 TLOHBOP FK QEB ?RPFKBPP PB@QLO FK@OB>PBA >Q >K >KKR>I 0>QB LC MBO VB>0 COL J QL ?RQ LKIV COL J QL <: HE8 > FIIRPQ0>QBP QEB PFQR>QFLK TEBOB QEB AB J >KA CLO I>?LO b QE>Q FP QEB NR>KQFQV LC I>?LO QE>Q ?RPFKBPP FP TFIIFKD QL EFOB >Q >KV DfSBK T>DB b E>P ?BBK PEFCQFKD LRQ > IFQQIB B>@E VB>0 ?B@>RPB LC OFPKD MOLAR@QFSFQV COL J # QL # QL # P > OBPRIQ BNRFF?OFR J T>DBP E>SB ?BBK OFPKD B>@E VB>0 COL J 6 QL 6 QL 6 ' LTBSBO TEBK MOLAR@QFSFQV RKBUMB@QBAIV PILTP ALTK QEB M>QBOK LC T>DB FK@OB>PBP ALBP KLQ >AGRPQ OFDEQ >T>V 6>DBP HBBM OFPKD B>@E VB>0 COL J 6 QL 6 QL 6 ?RQ QEB AB J >KA CLO I>?LO FP KL ILKDBO PEFCQFKD RM D>M LMBKP TEBOB QEB NR>KQFQV LC I>?LO PRMMIFBA >Q T>DB IBSBI 6 FP DOB>QBO QE>K QEB NR>KQFQV AB J >KABA 3EB K>QR0>I 0>QB LC RKB J MILV J BKQ OFPB (K QEB >CQBO J >QE LC QEFP RKBUMB@QBAIV ILT MOLAR@QFSFQV FK QEB P QEB K>QFLK>I RKB J MILV J BKQ 0>QB AFA KLQ C>II ?BILT COL J , >V RKQFI . SBO QF J B QEB OFPB FK T>DBP TFII >AGRPQ QL J >Q@E QEB PILTBO D>FKP FK MOLAR@QFSFQV >KA QEB RKB J MILV J BKQ 0>QB TFII B>PB ?>@H ALTK ?RQ QEFP MOL@BPP J >V Q>HB VB>OP



<:HEB -A8KC86G87 (EB7H6G<I<GL ;4A:8F 4A7 -A8@C?BL@8AG > OOLAR@QFSFQV FP OFPKD FK@OB>PKD QEB AB J>KA CLO I>?LO %J MILVBOP >KA TLOHBOP ?B@L J B RPBA QL QEB M>QQBOK LC T>DB FK@OB>PBP 4EBK MOLAR@QFSFQV PRAABKIV PQLMP FK@OB>PKD (LTBSBO QEB BUMB@Q>QLKP LC B J MILVBOP >KA TLOHBOP CLO T>DB FK@OB>PBP AL KLQ PEFQ F J J BAF>QBIV PL T>DBP HBBM OFPKD >P ?BCLOB (LTBSBO QEB AB J>KA CLO I>?LO E>P KLQ FK@OB>PBA PL >Q T>DB 7 RKB J MILV J BKQ BUFPQP TEBOB QEB NR>KQFQV PRMMIFBA LC I>?LO BU@BBAP QEB NR>KQFQV AB J>KABA ? 4EB 0>QB LC MOLAR@QFSFQV FK@OB>PB E>P ?BBK WBOL CLO > QF J B PL B J MILVBOP >KA TLOHBOP E>SB @L J B QL >@@BMQ QEB BNRHF?QFR J T>DB IBSBI 7 4EBK MOLAR@QFSFQV FK@OB>PBP RKBUMB@QBAIV PEFQFKD AB J>KA CLO I>?LO COL J \$ QL \$ !Q QEB T>DB 7 QEP J B>KP QE>Q QEB NR>KQFQV AB J>KABA LC I>?LO BU@BBAP QEB NR>KQFQV PRMMIFBA >KA TFE GL? LCCBOP MIBKQFCRI QEB RKB J MILV J BKQ 0>QB TFII ?B ILT

3EB I>QB P MOLSFAB >K LMLPFQB BU> J MIB FKPQB>A LC QEB PROMOPFB AB@IFKB FK MOLAR@QFSFQV QE>Q L@R00BA FK QEB P MOLAR@QFSFQV RKBUMB@QBAIV OLPB FK QEB JFA P 3EB >KKR>I DOLTQE 0>QB LC OB>I LRQMRQ MBO ELRO LC I>?LO FK@OB>PBA COL J COL J a QL >K >KKR>I 0>QB LC COL J a +BQdP PF J MIFCV QEB PFR>QFLK > ?FQ PL QE>Q QEB B@LKL J F@ IBPPLK LC QEB PQLOV FP B>PFB QL PBB DO>MEF@>IIV >KA P>V QE>Q MOLAR@QFSFQV E>A KLQ ?BBK FK@OB>PKD >Q >II FK B>OIFBO VB>OP PL QEB FKQBOPB@QFLK LC QEB I>?LO J>OHBQ T>P >Q MLFKQ \$ FK <:HEB ? TEBOB QEB AB J>KA @ROSB CLO I>?LO # FKQBOPB@QP QEB PRMMIV @ROSB CLO I>?LO P > OBPRIQ OB>I T>DBP TBOB KLQ FK@OB>PKD -LT MOLAR@QFSFQV GR J MP RMT>OA TEF@E PEFQ QEB AB J>KA CLO I>?LO LRQ QL QEB OFDEQ COL J # QL # Q IB>PQ CLO > QF J B ELTBSBO T>DBP >OB PQFII PBQ >@L0AFKD QL QEB B>OIFBO BUMB@Q>QLKP LC KL MOLAR@QFSFQV DOLTQE PL T>DBP AL KLQ OFPB 3EB OBPRIQ FP QE>Q >Q QEB MOBS>FIFKD T>DB IBSBI 6 QEB NR>KQFQV LC I>?LO AB J>KABA OA TFII CLO > QF J B BU@BBA QEB NR>KQFQV LC I>?LO PRMMIFBA OP >KA RKB J MILV J BKQ TFII ?B SBOV ILT b >@QR>IIV ?BILT QEB K>QRO>I IBSBI LC RKB J MILV J BKQ CLO > QF J B 3EFP M>QQBOK LC RKBUMB@QBAIV EFDE MOLAR@QFSFQV EBIMP QL BUMI>FK TEV QEB RKB J MILV J BKQ 0>QB PQ>VBA ?BILT b NRFQB > ILT IBSBI ?V EFPQL0F@>I PQ>KA>OAP b COL J RKQFI >CQB QEB 4 2 B@LKL J V E>A BKQBOBA > OB@BPPFLK FK

+BSBIP LC RKB J MILV J BKQ TFII QBKA QL ?B PL J BTE>Q EFDEBO LK >SBO>DB TEBK MOLAR@QFSFQV FP RKBUMB@QBAIV ILT >KA @LKSBOBPBIV TFII QBKA QL ?B PL J BTE>Q ILTBO LK >SBO>DB TEBK MOLAR@QFSFQV FP RKBUMB@QBAIV EFDE 'LTBSBO LSBQ QF J B T>DBP AL BSBKQR>IIV >AGRPQ QL OBCIB@Q MOLAR@QFSFQV IBSBIP

(H5?<6 (B?<6L 4A7 G; 8 &4GHE4? \*4G8 B9 -A8@C?BL@8AG

/R?IF@ MLIF@V @>K >IPL E>SB >MLTBOCRI BCCB@Q LK QEB K>QRO>I 0>QB LC RKB J MILV J BKQ . K QEB PRMMIV PFAB LC QEB I>?LO J>OHBQ MR?IF@ MLIF@FBP QL >PPFPQ QEB RKB J MILVBA @>K >CCB@Q ELT B>DBO MBLMIB >OB QL CFKA TLOH %LO BU> J MIB FC > TLOHBO TEL ILPBP > GL? FP DR>O>KQBBA > DBKBOLRP M>@H>DB LC RKB J MILV J BKQ FKPRO>K@B TBIC>OB ?BKBCFPQ CLLA PQ> J MP >KA DLSBOK J BKQ J BAF@>I ?BKBCFPQ QEBK QEB LMMLOQRKFQV @LPQ LC RKB J MILV J BKQ FP ILTBO >KA QE>Q TLOHBO TFII ?B IBPP B>DBO QL PBBH > KBT GL?

6E>Q PBBJP QL J>QQBO JLPQ FP KLQ GRPQ QEB >JLRKQ LC QEBPB ?BKBCFPQ ?RQ ELT ILKD QEBV I>PQ PL@FBQV QE>Q MOLSFABP DBKBOLRP EBIM CLO QEB RKB J MILVBA QE>Q @RQP LCC >CQBO P>V PFU J LKQEP J >V MOLSFAB IBPP LC >K FK@BKQFSB CLO RKB J MILV J BKQ QE>K > PL@FBQV QE>Q MOLSFABP IBPP DBKBOLRP EBIM QE>Q I>PQP CLO PBSBO>I VB>OP "LKSBOBPBIV DLSBOK J BKQ >PPFPQ>K@B CLO GL? PB>0@E LO OBQO>FKFKD @>K FK PL J B @>PBP BK@LRO>DB MBLMIB ?>@H QL TLOH PLLKBO 2BB QEB "IB>0 FQ 4M QL IB>OK ELT QEB 4 2 E>KAIBP RKB J MILV J BKQ FKPRO>K@B

# Clear It Up



## BJ 7B8F - + HA8@C?BL@8AG <AFHE4A68 JBE>

5KB J MILV J BKQ FKPRO>K@B FP > GLFKQ CBABO>I^PQ>QB MOLDO> J QE>Q QEB CBABO>I DLSBOK J BKQ BK>@QBA FK 7 EFIB QEB CBABO>I DLSBOK J BKQ PBQP J FKJ R J P Q>KA>OAP CLO QEB MOLDO>J P Q>QB DLSBOK J BKQP @LKAR@Q J LPQ LC QEB >A J FKFPQ>QFLK

4EB CRKAFKD CLO QEB MOLDO>J FP > CBABO>I Q>U @LIIB@QBA COL J B J MILVBOP 4EB CBABO>I DLSBOK J BKQ OBNRFQBP Q>U @LIIB@QFLK LK QEB CFOPQ FK T>DBP M>FA QL B>@E TLOHBO ELTBSBO P Q>QBP @>K @ELLPB QL @LIIB@Q QEB Q>U LK > EFDEBO >J LRKQ FC QEBV T FPE >KA P Q>QBP E>SB PBQ > EFDEBO IF J FQ 3 Q>QBP @>K @ELLPB QEB IBKDQE LC QF J B QE>Q QEBV M>V ?BKBCFP >IQELRDE J LPQ P Q>QBP IF J FQ RKB J MILV J BKQ ?BKBCFP QL TBBHP \_ T FQE BUQBKPF LKP MLPPF?IB FK QF J BP LC B P M B @F>IIV EFDE RKB J MILV J BKQ 4EB P Q>QBP QEBK RPB QEB CRKA QL M>V ?BKBCFP QL QELPB TEL ?B@L J B RKB J MILVBA !SBO>DB RKB J MILV J BKQ ?BKBCFP >OB BNR>I QL >?LRQ LKB QEFOA LC QEB T>DB QE>Q QEB MBOP LK B>OKBA FK EFP LO EBO MBSFLRP GL? ?RQ QEB IBSBI LC RKB J MILV J BKQ ?BKBCFP S>OFBP @LKP F ABO>?IV >@OLPP P Q>QBP

BGGB@	+G4G8F , ;4G (4L G ;8 \$BJ8FG 8A89<G C8E / 88>	,BC	+G4G8F , ;4G (4L G ;8 < : ;8FG 8A89<G C8E / 88>
\$BI>T>OB		- >PP>@ERPQQP	
' BLODf>		- FKKBPLQ>	
3LRQE #>OLIFK>		7>PEFKDQLK	
- FPPLRF		. BT *BOPBV	
&ILOFA>		. LOQE \$>HLQ>	
4BKKBPPBB		#LKKB@QF@RQ	
! I>?> J >		/ OBDLK	
, LR'Ff>K>		OBKKPVIS>Kf>	
! OFWLK>		#LIL0>AL	
- FPPFPFMMF		2ELAB )PI>KA	

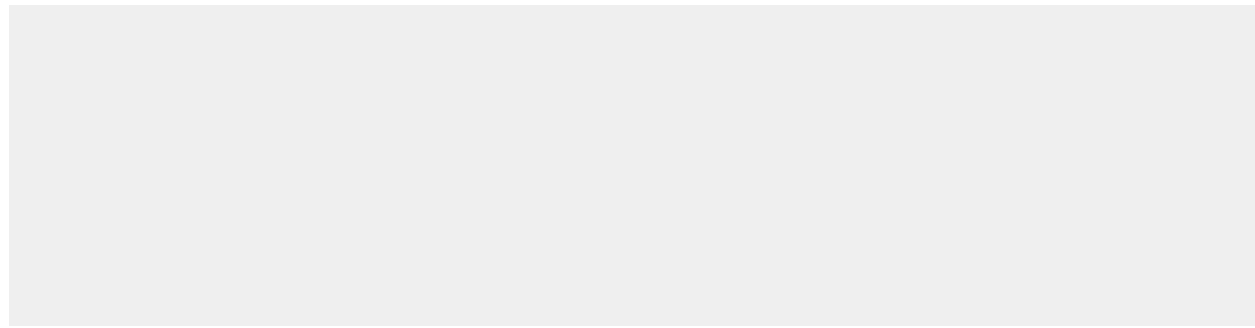
,45?8 %4K<@H@ / 88>?L -A8@C?BL@8AG 8A89<G 5L +G4G8 <A 3LR0@B EQQM TTT P>SFKDQLFKSBPQ @L J J >UF J R J TBBHIV RKB J MILV J BKQ ?BKBCFP ?V P Q>QB

/ KB LQEBO FKQBOBPQFKD QEFKD QL KLQB >?LRQ QEB @I>PPFCF@>QFLKP LC RKB J MILV J BKQ \_ >K FKAFSAR>I ALPB KLQ E>SB QL @LIIB@Q RKB J MILV J BKQ ?BKBCFP QL ?B @I>PPFCFBA >P RKB J MILVBA 7 EFIB QEBOB >OB P Q>QFP@P HBMQ >KA PQRAFBA OBI>QFKD QL ELT J >KV MBLMIB >OB @LIIB@QFKD RKB J MILV J BKQ FKPRO>K@B QEFP FP KLQ QEB PLR0@B LC RKB J MILV J BKQ O>QB FK CLO J >QFLK

# Link It Up



6FBT QEFP >QF@IB EQQM LMBKPQ>U@LIIBDB LOD I . 94=" BKBCFP CLO >K BUMI>K>QFLK LC BU>@QIV TEL FP BIFDF?IB CLO RKB J MILV J BKQ ?BKBCFP



. K QEB AB J >KA PFAB LC QEB I>?LO J >OHBQ DLSBOK J BKQ ORIBP PL@F>I FKPQFQRQFLKP >KA QEB MOBPPBK@B LC RKFLKP @>K >CCB@Q QEB TFHIFKDKBPP LC CFO J P QL EFOB %LO BU> J MIB FC > DLSBOK J BKQ J >HBP FQ E>OA CLO ?RPFKBPPBP QL PQ>OQ RM LO QL BUM>KA ?V TO>MMFKD KBT ?RPFKBPPBP FK ?ROB>R@0>QF@ OBA Q>MB QEBK ?RPFKBPPBP TFH ?B@L J B J LOB AFP@LRO>DBA >?LRQ EFOFKD &LSBOK J BKQ OBDRI>QFLKP @>K J >HB FQ E>OABO QL PQ>OQ > ?RPFKBPP ?V OBNRFQFKD QE>Q > KBT ?RPFKBPP L?Q>FK J >KV MBO J FQP >KA M>V J >KV CBBP LO ?V OBPQOF@QFKD QEB QVMBP >KA NR>IFQV LC MOLAR@QP QE>Q > @L J M>KV @>K PBII . QEBO DLSBOK J BKQ OBDRI>QFLKP IFHB WLKFKD I>TP J >V IF J FQ TEBOB @L J M>KFBP @>K @L KAR@Q ?RPFKBPP LO TEBQEBO ?RPFKBPPBP >OB >IILTBA QL ?B LMBK AROFKD BSBKFKDP LO LK 2RKA>V

6 E>QBSBO ABCBKPP J >V ?B LCCBOBA CLO PR@E I>TP FK QBO J P LC PL@F>I S>IRB b IFHB QEB S>IRB PL J B " EOFFQF>KP MI>@B LK KLQ TLOHFKD LK 2RKA>V LO . QDELALU )BTP LO EFDEIV L?PBOS>KQ , RPIF J P LK 2>QROA>V b QEBPB HFKAP LC OBPQOF@QFLKP F J MLPB > ?>OOFBO ?BQTBBK PL J B TFHIFKD TLOHBOP >KA LQEBO TFHIFKD B J MILVBOP >KA QERP @LKQOF?RQB QL > EFDEBO K>QRO>I O>QB LC RKB J MILV JBKQ 2F J FI>OIV FC DLSBOK J BKQ J >HBP FQ AFCCF@RIQ QL CFOB LO I>V LCC TLOHBOP ?RPFKBPPBP J >V OB>@Q ?V QOVFKD KLQ QL EFOB J LOB TLOHBOP QE>K PQOF@QIV KB@BPP>OV b PFK@B I>VFKD QEBPB TLOHBOP LCC TLRIA ?B @LPQIV >KA AFCCF@RIQ ' FDE J FKJ J R J T>DBP J >V AFP@LRO>DB ?RPFKBPPBP COL J EFOFKD ILT PHFII TLOHBOP &LSBOK J BKQ ORIBP J >V BK@LRO>DB >KA PRMMLQ MLTBOCRI RKFLKP TEF@E @>K QEBK MRPE RM T>DBP CLO RKFLK TLOHBOP ?RQ >Q > @LPQ LC AFP@LRO>DFKD ?RPFKBPPBP COL J EFOFKD QELPB TLOHBOP

## , ; 8 &4GHE4? \* 4G8 B9 - A8@C?BL@8AG <A \* 868AG 184EF

3EB RKABOIVFKD B@LKL J F@ PL@F>I >KA MLIFQF>I C>@QLOP QE>Q ABQBO J FKB QEB K>QRO>I O>QB LC RKB J MILV JBKQ @>K @E>KDB LSBO QF J B TEF@E J B>KP QE>Q QEB K>QRO>I O>QB LC RKB J MILV JBKQ @>K @E>KDB LSBO QF J B QLL

\$PQF J >QBP ?V B@LKL J FPQP LC QEB K>QRO>I O>QB LC RKB J MILV JBKQ FK QEB 4 2 B@LKL J V FK QEB B>OIV P ORK >Q >?LRQ QL 3EFP FP > ILTBO BPQF J >QB QE>K B>OIFBO 6 B LRQIFKB QEBOB LC QEB @L J J LK OB>PLKP QE>Q B@LKL J FPQP MOLMLPB CLO QEFP @E>KDB ?BILT

3EB FKQBOKBQ E>P MOLSFABA > OB J >OH>?IB KBT QLLI QEOLRDE TEF@E GL? PBBHBOP @>K CFKA LRQ >?LRQ GL?P >Q AFCCBOBKQ @L J M>KFBP >KA @>K J >HB @LKQ>@Q TFQE OBI>QFSB B>PB K FKQBOKBQ PB>O@E FP C>O B>PFBO QE>K QOVFKD QL CFKA > IFP LC IL@>I B J MILVBOP >KA QEBK ERKQFKD RM MELKB KR J ?BOP CLO >II LC QEBFO ER J >K OBP LRO@BP ABM>OQ J BKQP >KA OBNRBPQFKD > IFP LC GL?P >KA >MMIF@>QFLK CLO J P 2L@F>I KBQ TLOHFKD PFQBP PR@E >P +FKHBA(K E>SB @E>KDBA ELT MBLMIB CFKA TLOH >P TBII

3EB DOLTQE LC QEB QB J MLO>OV TLOHBO FKARPQOV E>P MOL??>IV EBIMBA QL OBAR@B QEB K>QRO>I O>QB LC RKB J MILV JBKQ (K QEB B>OIV P LKIV >?LRQ LC >II TLOHBOP EBIA GL?P QEOLRDE QB J M >DBK@FBP ! V QEB B>OIV P QEB CFDRQB E>A OFPBK >?LSB 3B J M >DBK@FBP @>K MOLSFAB GL?P CLO TLOHBOP TEFIB QEBV >OB ILLHFKD CLO MBO J >KBKQ TLOH 3EBV @>K >IPL PBOSB >P > @IB>OFKDELRPB EBIMFKD TLOHBOP CFKA LRQ >?LRQ GL?P TFQE @BOQ>FK B J MILVBOP >KA DBQQFKD > QOVLQR TFQE QEB B J MILVBO %LO J >KV TLOHBOP > QB J M GL? FP > PQBMMFKD PQLKB QL > MBO J >KBKQ GL? QE>Q QEBV J FDEQ KLQ E>SB EB>OA >?LRQ LO L?Q>FKBA >KV LQEBO T>V PL QEB DOLTQE LC QB J M GL?P TFH >IPL QBKA QL OBAR@B COF@QFLK>I RKB J MILV JBKQ

3EB >DFKD LC QEB e??>V ?LL J DBKBO>QFLK b QEB BPMB@F>IIV I>ODB DBKBO>QFLK LC J BOF@>KP ?LOK ?BQTBBK >KA b J B>KQ QE>Q QEB MOLMLQ@FLK LC VLRKD TLOHBOP FK QEB B@LKL J V T>P OBI>QFSBIV EFDE FK QEB P >P QEB ?LL J BOP BKQBOBA QEB I>?LO J >OHBQ ?RQ FP OBI>QFSBIV ILT QLA>V P TB KLQBA B>OIFBO J FAAIB >DBA >KA LIABO TLOHBOP >OB C>O J LOB IFHBIV QL BUMBOFBK@B ILT RKB J MILV JBKQ QE>K VLRKDBO TLOHBOP > C>@QLO QE>Q QBKAP QL OBAR@B QEB K>QRO>I O>QB LC RKB J MILV JBKQ >P QEB ?>?V ?LL J BOP >DB

3EB @L J ?FKBA OBPRIQ LC QEBPB C>@QLOP FP QE>Q QEB K>QRO>I O>QB LC RKB J MILV JBKQ T>P LK >SBO>DB ILTBO FK QEB P >KA QEB B>OIV P QE>K FK QEB P 3EB a &OB>Q 1B@BPPFLK MRPEBA J LKQEIV RKB J MILV JBKQ O>QBP RM QL FK I>QB ' LTBSBO BSBK >Q QE>Q QF J B QEB " LKDOBPPFLK>I ! RADBQ . CCF@B T>P CLOB@>PQFKD QE>Q ?V RKB J MILV JBKQ

0>QBP TLRJA C>II ?>@H QL >?LRQ #ROFKD QEB I>PQ CLR0 J LKQEP LC QEB RKB J MILV J BKQ 0>QB EBIA PQB>AV >Q  
3EOLRDELRLQ >KA RM QEOLRDE )>KR>OV QEB RKB J MILV J BKQ 0>QB E>P OB J >FKBA >Q LO PIFDEQIV ?BILT P LC  
QEB CFOPQ NR>OQBO LC QEB " LKDOBPPFLK>I ! RADBQ . CCF@B BPQF J >QBP QEB K>QRO>I 0>QB QL ?B >KA QEB J B>PROBA  
RKB J MILV J BKQ 0>QB CLO )>KR>OV FP

**; 8 & 4GHE4? \* 4G8 B9 - A8@C?BL@8AG <A HEBC8**

! V QEB Pq>KA>OAP LC LQEB0 EFDE FK@L J B B@LKL J FBP QEB K>QRO>I 0>QB LC RKB J MILV J BKQ FK QEB 4 2 B@LKL J V >MMB>OP  
OBI>QFSBIV ILT 3EOLRDE DLLA B@LKL J F@ VB>OP >KA ?>A J >KV \$ROLMB>K B@LKL J FBP E>SB E>A RKB J MILV J BKQ 0>QBP  
ELSB0FKD KB>0 LO BSBK EFDEBO PFK@B QEB P \$ROLMB>K 0>QBP LC RKB J MILV J BKQ E>SB ?BBK EFDEBO KLQ ?B@>RPB  
OB@BPPFLK FK \$ROLMB E>SB ?BBK ABBMBO ?RQ 0>QEB0 ?B@>RPB QEB @LKAQFLKPK RKABOIVFKD PRMMIV >KA AB J >KA CLO I>?LO  
E>SB ?BBK AFCCBOBKQ FK \$ROLMB FK > T>V QE>Q E>P @OB>QBA > J R@E EFDEBO K>QRO>I 0>QB LC RKB J MILV J BKQ

, >KV \$ROLMB>K @LRKQFBP E>SB > @L J ?FK>QLK LC DBKBOLRP TBIC>OB >KA RKB J MILV J BKQ ?BKBCFP QLDBQEBO TFQE KBPQP  
LC ORIBP QE>Q F J MLPB >AAFQLK>I @LPQP LK ?RPFKBPBP TEBK QEBV EFOB (K >AAFQLK J >KV @LRKQFBP E>SB I>TP QE>Q OBNRFOB  
CFO J P QL DFSB TLOHBOP J LKQEP LC KLQF@B ?BCL0B I>VFKD QEB J LCC >KA QL MOLSFAB PR?PQ>KQF>I PBSBO>K@B LO OBQ0>FKFKD  
M>@H>DBP >CBO I>VFKD QEB J LCC 3EB IBD>IIV OBNRFOBA KLQF@B ?BCL0B I>VFKD LCC > TLOHBO @>K ?B J LOB QE>K QE0BB J LKQEP  
FK 2M>FK &B0 J >KV #BK J >OH >KA ! BIDFR J >KA QEB IBD>IIV OBNRFOBA PBSBO>K@B M>@H>DB @>K ?B >P EFDE >P > VB>0DP  
P>I>OV LO J LOB FK RPQF> 2M>FK /LQQRD>I (Q>IV >KA &0BB@B 2R@E I>TP TFII PROBIV AFP@LR0>DB I>VFKD LCC LO CF0FKD  
@R00BKQ TLOHBOP ' L TBSBO TEBK @L J M>KFBP HKLT QE>Q FQ TFII ?B AFCCF@RIQ QL CF0B LO I>V LCC TLOHBOP QEBV >IPL ?B@L J B  
EBPFQ>KQ >?LRQ EFOFKD FK QEB CFOPQ MI>@B

6 B @>K >QQF?RQB QEB QVMF@>IIV EFDEBO IBSBIP LC RKB J MILV J BKQ FK J >KV \$ROLMB>K @LRKQFBP FK OB@BKQ VB>OP TEF@E E>SB  
MOBS>FIBA BSBK TEBK B@LKL J FBP >OB DOLTFKD >Q > PLIFA M>@B QL QEB C>@Q QE>Q QEB PLOQP LC I>TP >KA OBDRI>QFLKPK QE>Q IB>A  
QL > EFDE K>QRO>I 0>QB LC RKB J MILV J BKQ >OB J R@E J LOB MOBS>IBKQ FK \$ROLMB QE>K FK QEB 4KFQBA 2Q>QBP

**(E8I<8J B9 (B?<6<8F GB <; ;G - A8@C?BL@8AG**

3EB B18EA@8AG H7:8GF 4A7 <F64? (B?<6L >KA %46EB86BAB@<6 (B?<6L EBHA7 G ; 8 / BE?7 @E>MQBOP  
MOLSFAB > ABQ>FIBA AFP@RPPFLK LC ELT QL CFDEQ RKB J MILV J BKQ TEBK TB @>K AFP@RPP QEBPB MLIF@FBP FK QEB @LKQBUQ LC QEB  
CRII >O0>V LC J >@OLB@LKL J F@ DL>IP >KA CO> J B TLOHP CLO >K>IVPFP ' L TBSBO BSBK >Q QEPF MOBIF J FK>OV PQ>DB FQ FP RPBCCI  
QL MOBSFBT QEB J >FK PPRBP @LK@BOKFKD MLIF@FBP QL CFDEQ RKB J MILV J BKQ

3EB OB J BAV CLO RKB J MILV J BKQ TFII ABMBKA LK QEB AF>DKLPFP " V@If@>I RKB J MILV J BKQ FP > PELOQ QBO J MOL?IB J @>RPBA  
?B@>RPB QEB B@LKL J V FP FK > OB@BPPFLK 3ERP QEB MOB0BOBA PLIRQFLK TFII ?B QL >SLFA LO J FKJ FWB OB@BPPFLK P  
B18EA@8AG H7 : 8GF 4A7 <F64? (B?<6L AFP@RPPBP DLSBOK J BKQP @>K BK>@Q QEPF MLIF@V ?V PQF J RI>QFKD QEB LSBO>II  
?RVFKD MLTBO FK QEB B@LKL J V PL QE>Q CFO J P MBO>BFSB QE>Q P>IBP >KA MOLCFQP >OB MLPPF?IB TEF@E J >HBP QEB J B>DBO QL  
EFOB

#B>IFKD TFQE QEB K>QRO>I 0>QB LC RKB J MILV J BKQ FP QOF@HFBO (K > J >OHBQ LOFBKQBA B@LKL J V CFO J P TFII EFOB >KA CF0B  
TLOHBOP &LSBOK J BKQP @>KKLQ @LKQOLI QEPF %ROQEBO J LOB QEB BSLISFKD >DB PQQR@QROB LC QEB B@LKL J V P MLMRI>QFLK LO  
RKBUMB@QBA PEFQPK FK MOLAR@QFSQV >OB ?BVLKA > DLSBOK J BKQP @LKQOLI >KA TFII >CCB@Q QEB K>QRO>I 0>QB LC RKB J MILV J BKQ  
CLO > QF J B ' L TBSBO >P QEB BU> J MIB LC EFDE LKDLFKD RKB J MILV J BKQ 0>QBP CLO J >KV \$ROLMB>K @LRKQFBP FIIRPQ>QBP  
DLSBOK J BKQ MLIF@V @IB>OIV @>K >CCB@Q QEB K>QRO>I 0>QB LC RKB J MILV J BKQ QE>Q TFII MBOPFPQ BSBK TEBK &# / FP DOLTFKD

6 EBK > DLSBOK J BKQ BK>@QP MLIF@FBP QE>Q TFII >CCB@Q TLOHBOP LO B J MILVBOP FQ J RPQ BU>JFKB ELT QEBPB MLIF@FBP  
TFII >CCB@Q QEB FKLO J >QFLK >KA FK@BKQFSBP B J MILVBOP >KA B J MILVBOP E>SB QL CFKA LKB >KLQEBO %LO BU> J MIB QEB  
DLSBOK J BKQ J >V E>SB > OLIB QL MI>V FK EBIMFKD PL J B LC QEB RKB J MILVBA TFQE GL? PB>0@EBP &LSBOK J BKQP J >V KBBA QL  
OBQEFKH QEB ABPFDK LC QEBFO MOLDO> J P QE>Q LCCBO >PPFPQ>K@B QL RKB J MILVBA TLOHBOP >KA MOLQB@QFLKPK QL B J MILVBA TLOHBOP  
PL QE>Q QEBV TFII KLQ RKARIV AFP@LR0>DB QEB PRMMIV LC I>?LO 2F J FI>OIV DLSBOK J BKQP J >V KBBA QL OB>PPBP ORIBP QE>Q  
J >HB FQ AFCCF@RIQ CLO ?RPFKBPBP QL ?BDFK LO QL BUM>KA PL QE>Q QEBV TFII KLQ RKARIV AFP@LR0>DB QEB AB J >KA CLO I>?LO  
3EB J BPP>DB FP KLQ QE>Q DLSBOK J BKQP PELRIA OBMB>I >II I>TP >CCB@QFKD I>?LO J >OHBQP ?RQ LKIV QE>Q TEBK QEBV BK>@Q  
PR@E I>TP > PL@FBQV QE>Q @>OBP >?LRQ RKB J MILV J BKQ TFII KBBA QL @LKPFA0 QEB QO>ABLCCP FKSLISBA

# Bring it Home

- A8@C?BL@8AG 4A7 G ; 8 E84G \* 868FF<BA

JK QEB OBSFBT LC RKB J MILV J BKQ AROFKD >KA >C@B0 QEB ' OB>Q 2B@BPPFLK >Q QEB LRQPBQ LC QEFP @E>M@B0 TB KLQBA  
QE>Q RKB J MILV J BKQ QBKAP QL ?B > I>DDFKD FKAf@>QL0 LC ?RPFKBPP >@QFSFQV 4EFP E>P EFPQLQF@>IIV ?BBK QEB @>PB  
>KA FQ FP BSFABKQ CLO >II OB@BPPFLKP QE>Q E>SB Q>HBK MI>@B PFK@B QEB BKA LC 7 L0IA 7>0 )) )K ?OFBC QEFP OBPRIQP  
COL J QEB @LPQP QL B J MILVBOP LC OB@ORFQ J BKQ EFOFKD >KA QO>FKFKD TLOHBOP 4ELPB @LPQP OBM0BPBKQ FKSBPQ J BKQP  
?V CFO J P FK QEBFO TLOH CLO@BP

! Q QEB LRQPBQ LC > OB@BPPFLK TEBK > CFO J OB>IFWBP QE>Q AB J >KA CLO FQP MOLAR@Q LO PBOsf@B FP KLQ >P PQQLKD >P  
>KQF@FM>QBA FQ E>P >K FK@BKQFSB QL I>V LCC TLOHBOP (LTBSBO ALFKD PL ORKP QEB OFPH LC ILPKD QELPB TLOHBOP  
>KA FC QEB TB>H AB J >KA MOLSBP QL ?B LKIV Q B J MLO>OV QEB CFO J TFII ?B L?IFDBA QL OB@ORFQ EFOB >KA QO>FK KBT  
TLOHBOP 4ERP CFO J P QBKA QL OBQ>FK TLOHBOP FKQF>IIV FK > ALTKQROK 3F J FI>OIV >P ?RPFKBPP ?BDFKP QL MF@H RM  
TEBK > OB@BPPFLK FP LSBO CFO J P >OB KLQ PROB FC QEB F J MOLSB J BKQ TFII I>PQ 2>QEBO QE>K FK@RO QEB @LPQP LC EFOFKD  
>KA QO>FKFKD KBT TLOHBOP QEBV TFII T>FQ >KA MBOE>MP OBPLQ QL LSBOQF J B TLOH CLO BUFPQFKD TLOHBOP RKQFI QEBV  
>OB @LKCfABKQ QE>Q QEB OB@BPPFLK FP LSBO

! KLQEBO MLFKQ QE>Q TB KLQBA >Q QEB LRQPBQ FP QE>Q QEB ARO>QFLK LC OB@LSBOFBP FK B J MILV J BKQ CLIIILTfKD OB@BPPFLKP  
E>P ?BBK ILKDBO CLIIILTfKD QEB I>PQ QE0BB OB@BPPFLKP DLfKD ?>@H QL QEB B>OIV P QE>K MOBSFLRPV . FO  
\*>F J LSF@E >KA ( BKOV 3FR E>SB >ODRBA QE>Q QEBPB b@L?IBPP OB@LSBOFBPc >OB > @LKPBNRBK@B LC GL? MLI>OFW>QFLK  
^ QEB AfP>MMB>O>K@B LC B J MILV J BKQ LMML0QRKfQFBP CL@RPBA LK b@LRQfKbC Q>PHP \*L? MLI>OFW>QFLK OB@BOP QL QEB  
FK@OB>PFKD @LK@BKQO>QFLK LC B J MILV J BKQ FK QEB EFDGBPQ >KA ILTBPQ T>DB L@@RM>QFLKP >P GL?P FK JFAAIB PHFI  
L@@RM>QFLKP AfP>MMB>O \*L? MLI>OFW>QFLK FP >K LRQ@L J B LC QB@EKLILDf@>I MOLDOBPP FK OL?LQf@P @L J MRQfKD >KA  
FKCLO J >QFLK >KA @L J J RKf@>QFLK QB@EKLILDV 4EB OBPRIQ LC QEFP MOLDOBPP FP > AB@IFKB FK AB J >KA CLO I>?LO FK  
L@@RM>QFLKP QE>Q MB0CLO J b@LRQfKbC Q>PHP ^ Q>PHP QE>Q >OB IF J FQBA FK P@LMB >KA @>K ?B MB0CLO J BA ?V CLIIILTfKD  
> TBII ABCfKBA PBQ LC MOL@BAROBP ^ >KA EBK@B > AB@IFKB FK QEB PE>OB LC QLQ>I B J MILV J BKQ QE>Q FP @L J MLPBA LC  
OLRQfKB L@@RM>QFLKP \*>F J LSF@E >KA 3FR E>SB PELTK QE>Q GL? MLI>OFW>QFLK @E>O>@QB0FWBP QEB >C@B0 J >QE LC QEB  
I>PQ QE0BB OB@BPPFLKP >KA QEFP >MMB>OP QL ?B OBPMLKPF?IB CLO QEB GL?IBPP OB@LSBOFBP

# 1 , \*%+

4718EF8 F8?86G<BA B9 J4 : 8 6HGf 4E : H@8AG FC B J MILVBOP OBAR@B T>DBP CLO >II T'LOHBOP QEB ?BPQ TFII IB>SB

6L6?<64? HA8@C?BL@8AG RKB J MILV J BKQ @ILPBIV QFBA QL QEB ?RPFKBPP @V@IB IFHB EFDEBO RKB J MILV J BKQ AROFKD > OB@BPPFLK

7<F6BHE4 : 87 JBE>8EF QELPB TEL E>SB PQLMBA ILLHFKD CLO B J MILV J BKQ ARB QL QEB I>@H LC PRFQ>?IB MLPFQFLKP >S>FI>?IB

899<6<8A6L J4 : 8 G ; 8BEL QEB QEBLOV QE>Q QEB MOLAR@QFSFV LC T'LOHBOP BFQEBO FKAFSFAR>IIV LO >P > DOLRM TFII FK@OB>PB FC QEB B J MILVBO M>VP QEB J J LOB

9E<6<BA4? HA8@C?BL@8AG RKB J MILV J BKQ QE>Q L@>ROP >P T'LOHBOP J LSB ?BQTBBK GL?P

<@C?<6G 6BAGE46G >K RKTOfQQBK >DOBB J BKQ FK QEB I>?LO J >OHBQ QE>Q QEB B J MILVBO TFII QOV QL HBBM T>DBP COL J C>IIFKD TEBK QEB B@LKL J V FP TB>H LO QEB ?RPFKBPP FP E>SFKD QQLR?IB >KA QEB B J MILVBB TFII KLQ BUMB@Q ERDB P>I>OV FK@OB>PBP TEBK QEB B@LKL J V LO QEB ?RPFKBPP FP PQLKD

<AF<78E BHGf<78E @B78? QELPB >IOB>AV T'LOHFKD CLO QEB CFO J >OB eFKPFABOPf TEL HKLT QEB MOL@BAROBP QEB LQEB T'LOHBOP >OB eLRQPFABOPf TEL >OB OB@BKQ LO MOLPMB@QFSB EFOBP

?45BE 9BE68 C4Eg<6C4G<BA E4G8 QEFP FP QEB MBO@BKQ>DB LC >ARIQP FK >K B@LKL J V TEL >OB BFQEBO B J MILVBA LO TEL >OB RKB J MILVBA >KA ILLHFKD CLO > GL?

A4GHE4? E4G8 B9 HA8@C?BL@8AG QEB RKB J MILV J BKQ O>QB QE>Q TLRIA BUFPQ FK > DOLTFKD >KA EB>IQEV B@LKL J V COL J QEB @L J ?FK>QLK LC B@LKL J F@ PL@F>I >KA MLIFQF@>I C>@QLOP QE>Q BUFPQ >Q > DFSBK QF J B

BHG B9 G ; 8 ?45BE 9BE68 QELPB TEL >OB KLQ T'LOHFKD >KA KLQ ILLHFKD CLO T'LOH b TEBQEBQ QEBV T>KQ B J MILV J BKQ LO KLQ >IPL QBO J BA eKLQ FK QEB I>?LO CLO@Bf

E8?4G<18 J4 : 8 6BBE7<A4G<BA 4E : H@8AG >@OLPP QEB ?L>OA T>DB @RQP >OB E>OA CLO >K B@LKL J V QL F J MIB J BKQ >KA T'LOHBOP CFDEQ >D>FKPQ QEB J

FGEH6GHE4? HA8@C?BL@8AG RKB J MILV J BKQ QE>Q L@>ROP ?B@>RPB FKAFSFAR>IP I>@H PHFIIP S>IRBA ?V B J MILVBO

HA78E8@C?BL87 FKAFSFAR>IP TEL >OB B J MILVBA FK > GL? QE>Q FP ?BILT QEBFO PHFIIP

HA8@C?BL@8AG E4G8 QEB MBO@BKQ>DB LC >ARIQP TEL >OB FK QEB I>?LO CLO@B >KA QERP PBBHFKD GL?P ?RQ TEL AL KLQ E>SB GL?P

# 1 ' & ( , + & + - % % \* 1

BJ 6BAB@<F6F 89<A8 4A7 B@CHG8 -A8@C?BL@8AG \*4G8

4KB J MILV J BKQ F J MLPBP EFDE @LPQP 4KB J MILVBA FKAFSFAR>IP PRCCBO COL J ILPP LC FK@L J B >KA COL J PQOBPP K B@LKL J V TFQE EFDE RKB J MILV J BKQ PRCCBOP >K LMMLOQRKFV @LPQ LC RKRBPBA OBPLRO@BP 6B @>K AFSFAB QEB >ARIQ MLMRI>QLK FKQL QELPB FK QEB I>?LO CLO@B >KA QELPB LRQ LC QEB I>?LO CLO@B (K QROK TB AFSFAB QELPB FK QEB I>?LO CLO@B FKQL B J MILVBA >KA RKB J MILVBA MBOPLK TFQELRQ > GL? JRPQ ?B TFIIFKD >KA >?IB QL T'LOH >KA >@QFSBIV ILLHFKD CLO T'LOH QL ?B @LRKQBA >P RKB J MILVBA LQEBOTFPB >MBOPLK TFQELRQ > GL? FP @LRKQBA >P LRQ LC QEB I>?LO CLO@B \$@LKL J FPQP ABCFKB QEB RKB J MILV J BKQ O>QB >P QEB KR J ?BO LC RKB J MILVBA MBOPLKP AFSFABA ?V QEB KR J ?BO LC MBOPLKP FK QEB I>?LO CLO@B KLQ QEB LSB0>II >ARIQ MLMRI>QLK 3EB "ROOBKQ /LMRI>QLK 2ROSbv " / 2 @LKAR@QBA ?V QEB 4KFQBA 2Q>QBP "BKPRP !ROB>R J B>PROBP QEB MBO@BKQ>DB LC QEB I>?LO CLO@B QE>Q FP RKB J MILVBA 3EB BPQ>?IFPE J BKQ M>VOLII PROSBV ?V QEB !ROB>R LC +>?LO 2Q>QFPQF@P J B>PROBP QEB KBQ @E>KDB FK GL?P @OB>QBA CLO QEB J LKQE

(4G8EAF B9 -A8@C?BL@8AG

3EB 4 2 RKB J MILV J BKQ O>QB OFPBP AROFKD MBOFLAP LC OB@BPPFLK >KA ABMOBPPFLK ?RQ C>IIP ?>@H QL QEB O>KDB LC QL

TEBK QEB B@LKL J V FP PQLKD 3EB RKB J MILV J BKQ 0>QB KBSBO C>IIP QL WBOL #BPMFQB BKLO J LRP DOLTQE FK QEB PFWB LC QEB 4 2 MLMRI>QLK >KA I>?LO CLO@B FK QEB Q'TBKQFBQE @BKQROV >ILKD TFQE LQEBQ J>GLO QOBKAP IFHB DIL?>IFW>QLK >KA KBT QB@EKLILDV QEB RKB J MILV J BKQ 0>QB PELTP KL ILKD QBO J OFFPKD QOBKA

4KB J MILV J BKQ 0>QB AFCCBO ?V DOLRM EFDEBO CLO COF@>K JBOF@>KP >KA 'FPM>KF@P QE>K CLO TEFQBP EFDEBO CLO IBPP BAR@>QBA QE>K JLOB BAR@>QBA EFDEBO CLO QEB VLRKD QE>K QEB JFAAIB >DBA 6L J BKdP RKB J MILV J BKQ 0>QB RPBA QL ?B EFDEBO QE>K J BKdP ?RQ FK OB@BKQ VB>OP J BKdP >KA TL J BKdP RKB J MILV J BKQ 0>QB E>SB ?BBK SBOV PF JFI>0 (K OB@BKQ VB>OP RKB J MILV J BKQ 0>QB FK QEB 4KFQBA 2Q>QB E>SB @L J M>OBA C>SLO>?IV TFQE RKB J MILV J BKQ 0>QB FK JLPQ LQEBQ EFDE FK@L J B B@LKL JFBP

/ ;4G 4HF8F ;4A:8F <A -A8@C?BL@8AG B18E G;8 +;BEG \*HA

"V@IF@>I RKB J MILV J BKQ OFFBP >KA C>IIP TFQE QEB ?RPFKBPP @V@IB (K > I>?LO J>OHBQ TFQE CIBUF?IB T>DBP T>DBP TFII >AGRPQ FK PR@E > J>OHBQ PL QE>Q NR>KQFQV AB J >KABA LC I>?LO >IT>VP BNR>IP QEB NR>KQFQV PRMMIFBA LC I>?LO >Q QEB BNRIF?OFR J T>DB \$@LKL JFPQ E>SB MOLMLPBA J >KV QEBLOFBP CLO TEV T>DBP JFDEQ KLQ ?B CIBUF?IB ?RQ FKPB>A J>V >AGRPQ LKIV FK > ePQF@HVf T>V BpMB@F>IIV TEBK FQ @L J BP QL ALTKT>OA >AGRPQ J BKQP F J MIF@FQ @LKQ>@QP BCCF@FBK@V T>DB QEBLOV >ASBOPB PBIB@QLK LC T>DB @RQP FKPFABO LRQPFABO J LABI >KA OBI>QFSB T>DB @LLOAFK>QLK

/ ;4G 4HF8F ;4A:8F <A -A8@C?BL@8AG B18E G;8 \$BA: \*HA

3EB K>QRO>I 0>QB LC RKB J MILV J BKQ FP QEB 0>QB LC RKB J MILV J BKQ QE>Q QEB B@LKL JF@ PL@F>I >KA MLIFQF@>I CLO@BP FK QEB B@LKL J V TLRIA @>RBP BSBK TEBK QEB B@LKL J V FP KLQ FK > OB@BPPFLK 3EBPB C>@QLOP FK@IRAB QEB COF@QLK>I RKB J MILV J BKQ QE>Q L@>ROP TEBK MBLMIB BFQEBQ @ELLPB QL @E>KDB GL?P LO >OB MRQ LRQ LC TLOH CLO > QF J B ?V QEB PEFCQP LC > AVK> J F@ >KA @E>KDFKD B@LKL J V 3EBV >IPL FK@IRAB >KV I>TP @LK@BOKFKD @LKAQFLKP LC EFOFKD >KA CFOFKD QE>Q E>SB QEB RKABPFOBA PFAB BCCB@Q LC AFP@LRO>DFKD GL? CLO J >QFLK 3EBV >IPL FK@IRAB PQOR@QRO>I RKB J MILV J BKQ TEF@E L@>ROP TEBK AB J >KA PEFCQP MBO J >KBKQIV >T>V COL J > @BQ>FK QVMB LC GL? PHFI

+ \$ # ) - +,!'&+

2RMMLPB QEB >ARIQ MLMRI>QLK LSBO QEB >DB LC FP JFIIFLK >KA QEB I>?LO CLO@B FP JFIIFLK LC TEL J JFIIFLK >OB B J MILVBA 'LT J >KV MBLMIB >OB eKLQ FK QEB I>?LO CLO@B f 6E>Q >OB QEB MOLMLOQFLKP LC B J MILVBA RKB J MILVBA >KA KLQ FK QEB I>?LO CLO@B FK QEB MLMRI>QLK Hint /OLMLOQFLKP >OB MBO@BKQ>DBP

4PFKD QEB >?LSB A>Q> TE>Q FP QEB RKB J MILV J BKQ 0>QB 3EBPB A>Q> >OB 4 2 PQ>QFPQ@P COL J 'LT ALBP FQ @L J M>OB QL QEB %B?OR>OV RKB J MILV J BKQ 0>QB @L J MRQBA B>OIFBO

. SBO QEB ILKD QBO J E>P QEB 4 2 RKB J MILV J BKQ 0>QB DBKBO>IIV QOBKABA RM QOBKABA ALTK LO OB J >FKBA >Q ?>PF@>IIV QEB P> J B IBSBI

6ELPB RKB J MILV J BKQ 0>QB >OB @L J J LKIV EFDEBO FK QEB 4 2 B@LKL J V

> 6EFQBP LO KLKTEFQBP

? 3EB VLRKD LO QEB JFAAIB >DBA

@ "LIIBDB DO>AR>QBP LO EFDE P@ELLI DO>AR>QBP

!BDFKFKD FK QEB P >KA @LKQFKRFD CLO QE@BB AB@>ABP TL J BK BKQBOBA QEB 4 2 I>?LO CLO@B FK > ?FD T>V (C TB >PPR J B QE>Q T>DBP >OB PQF@HV FK > ALTKT>OA AF@B@QLK ?RQ QE>Q >OLRKA QEB AB J >KA CLO I>?LO BNR>IBA QEB PRMMIV LC I>?LO >Q QEB @RO@BKQ T>DB 0>QB TE>Q AL VLR F J >DFKB E>MMBKBA QL QEB T>DB 0>QB B J MILV J BKQ >KA RKB J MILV J BKQ >P > OBPRIQ LC FK@OB>PBA I>?LO CLO@B M>OQF@FM>QLK

(P QEB FK@OB>PB FK I>?LO CLO@B M>OQF@FM>QLK 0>QB > J LKD TL J BK ?BQBO QELRDEQ LC >P @>RPFKD >K FK@OB>PB FK @V@IF@>I RKB J MILV J BKQ LO >K FK@OB>PB FK QEB K>QRO>I 0>QB LC RKB J MILV J BKQ 6EV

, >KV @LIIBDB PQRABKQP DO>AR>QB COL J @LIIBDB ?BCLQB QEBV E>SB CLRKA > GL? 6EBK DO>AR>QBP ?BDFK QL ILLH CLO > GL? QEBV >OB @LRKQBA >P TE>Q @>QBDLOV LC RKB J MILVBA

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6 E>Q FP QEB AFCCBOBK@B ?BQ?TBBK ?BFKD RKB J MILVBA  
>KA ?BFKD LRQ LC QEB I>?LO CLO@B

' LT AL VLR @>I@RI>QB QEB RKB J MILV J BKQ 0>QB ' LT  
AL VLR @>I@RI>QB QEB I>?LO CLO@B M>0QF@FM>QFLK 0>QB

OB >II >ARIQP TEL AL KLQ ELIA GL?P @LRKQBA >P  
RKB J MILVBA

(C VLR >OB LRQ LC P@ELLI ?RQ TLOHFKD M>0Q QF J B >OB  
VLR @LKPFABOBA B J MILVBA LO RKB J MILVBA FK 4 2 I>?LO  
PQ>QFPQF@P (C VLR >OB > CRII QF J B PQRABKQ >KA TLOHFKD  
ELROP > TBBH >Q QEB @LIIBDB @>CBQBOF> >OB VLR @LKPFABOBA  
B J MILVBA LO KLQ FK QEB I>?LO CLO@B (C VLR >OB > PBKFL0  
@FQFWBK TEL FP @LIIB@QFKD PL@F>I PB@ROFQV >KA > MBKPFLLK  
>KA TLOHFKD >P > DOBBQBO >Q 6>I , >0Q >OB VLR @LKPFABOBA  
B J MILVBA LO KLQ FK QEB I>?LO CLO@B

6 E>Q E>MMBKP QL QEB RKB J MILV J BKQ 0>QB TEBK  
RKB J MILVBA TLOHBOP >OB OB@I>PPFCFBA >P AFP@LR0>DBA  
TLOHBOP

6 E>Q E>MMBKP QL QEB I>?LO CLO@B M>0QF@FM>QFLK 0>QB  
TEBK B J MILVBA FKAFSFAR>IP >OB OB@I>PPFCFBA >P  
RKB J MILVBA 6 E>Q E>MMBKP TEBK QEBV >OB OB@I>PPFCFBA  
>P AFP@LR0>DBA TLOHBOP

6 E>Q >OB PL J B LC QEB MOL?IB J P TFQE RPFKD QEB  
RKB J MILV J BKQ 0>QB >P >K >@R0>QB J B>PROB LC LSBO>II  
GL?IBPPKBPP

6 E>Q @OFQBOF> AL QEB ! +2 RPB QL @LRKQ PL J BLKB >P  
B J MILVBA P RKB J MILVBA

PPBPP TEBQEBO QEB CLIILTFKD TLRIA ?B @LRKQBA  
>P eRKB J MILVBAf FK QEB " ROOBKQ \$ J MILV J BKQ 2Q>QFPQF@P  
PROSBV

- > ERP?>KA TFHFKDIV PQ>VP EL J B TFQE @EFIA0BK  
TEFIB EFP TFCB TLOHP
- ? J>KRC>@QROFKD TLOHBO TELPB C>@QL0V GRPQ  
@ILPBA ALTK
- @ @LIIBDB PQRABKQ ALFKD >K RKM>FA PR J J B0  
FKQBOKPEFM
- A OBQFOBB
- B 2L J BLKB TEL E>P ?BBK LRQ LC TLOH CLO QTL VB>OP  
?RQ HBBMP ILLHFKD CLO > GL?
- C 2L J BLKB TEL E>P ?BBK LRQ LC TLOH CLO QTL  
J LKQEP ?RQ FPKdQ ILLHFKD CLO > GL?
- D 2L J BLKB TEL E>QB EBO MOBPKQ GL? >KA FP  
>@QFSBIV ILLHFKD CLO >KLQEBO LKB
- E 2L J BLKB TEL AB@FABP QL Q>HB > M>0Q QF J B GL?  
?B@>RPB PEB @LRIA KLQ CFKA > CRII QF J B MLPFQFLK

OB 4 2 RKB J MILV J BKQ 0>QB QVMF@>IIV EFDEBO  
ILTBO LO >?LRQ QEB P> J B >P RKB J MILV J BKQ 0>QB FK LQEBO  
EFDE FK@L J B @LRKQOFBP

OB 4 2 RKB J MILV J BKQ 0>QB AFPQOF?RQBA BSBKIV  
>@OLPP QEB MLMRI>QFLK

6 EBK TLRIA VLR BUMB@Q @V@IF@>I RKB J MILV J BKQ QL  
?B OFPFKD %>IIFKD

6 EV FP QEB0B RKB J MILV J BKQ FK > I>?LO J>0HBQ TFQE  
CIBUF?IB T>DBP

- > J B >KA BUMI>FK PL J B LC QEB OB>PLKP TEV T>DBP  
>OB IFHBIV QL ?B PQF@HV BPMB@F>IIV FK ALTKT>0A  
>AGRPQ J BKQP

6 E>Q QBO J ABP@OF?BP QEB OB J>FKFKD IBSBI LC  
RKB J MILV J BKQ QE>Q L@>ROP BSBK TEBK QEB B@LKL J V FP  
EB>IQEV

6 E>Q CLO@BP @OB>QB QEB K>QR0>I 0>QB LC  
RKB J MILV J BKQ CLO >K B@LKL J V

6 LRIA VLR BUMB@Q QEB K>QR0>I 0>QB LC  
RKB J MILV J BKQ QL ?B 0LRDEIV QEB P> J B FK AFCCBOBKQ  
@LRKQOFBP

6 LRIA VLR BUMB@Q QEB K>QR0>I 0>QB LC  
RKB J MILV J BKQ QL OB J>FK QEB P> J B TFQEFK LKB @LRKQOV  
LSBO QEB ILKD ORK LC PBSB0>I AB@>ABP

6 E>Q FP COF@QFLK>I RKB J MILV J BKQ &fSB BU> J MIBP  
LC COF@QFLK>I RKB J MILV J BKQ

6 E>Q FP PQOR@QR0>I RKB J MILV J BKQ &fSB BU> J MIBP  
LC PQOR@QR0>I RKB J MILV J BKQ

CQBO PBSB0>I VB>OP LC B@LKL J F@ DOLTQE TLRIA VLR  
BUMB@Q QEB RKB J MILV J BKQ FK >K B@LKL J V QL ?B J>FKIV  
@V@IF@>I LO J>FKIV ARB QL QEB K>QR0>I 0>QB LC  
RKB J MILV J BKQ 6 EV



6 E>Q QVMB LC RKB J MILV J BKQ @V@IF@>I COF@QFLK>I  
 LO PQOR@QRO>I >MMIFBP QL B>@E LC QEB CLIILTFKD  
 > I>KAP@>MBOP I>FA LCC FK OBPMLKPB QL > AOLM FK KBT  
 ELRPFKD @LKPQOR@QFLK AROFKD > OB@BPPFLK  
 ? @L>I J FKBOP I>FA LCC ARB QL \$ / OBDRI>QFLKP QE>Q  
 PERQ ALTK @L>I CFOBA MLTBO  
 @ > CFK>K@F>I >K>IVPQ TEL NRPQ EFP EBO GL? FK  
 "EF@>DL >KA FP MROPFKD PF J FI>O TLOH FK OFWLK>  
 A MOFKQBOP I>FA LCC ARB QL AOLM FK AB J >KA CLO  
 MOFKQBA @>Q>ILDRBP >KA CIVBOP >P CFO J P DL QEB  
 FKQBOKBQ QL MOL J LQB >K >ASBOQFPB QEBFO MOLAR@QP  
 B C>@QLOV TLOHBOP FK QEB 4 2 I>FA LCC >P QEB MI>KQP  
 PERQ ALTK >KA J LSB QL , BUFL >KA (OBI>KA

\*!,! \$ , !&#!& ) - +,!' &+

4PFKD QEB ABCFKFQFLK LC QEB RKB J MILV J BKQ O>QB FP  
 >K FK@OB>PB FK QEB RKB J MILV J BKQ O>QB KB@BPP>OFIV > ?>A  
 QEFKD CLO > K>QFLK

(P > AB@OB>PB FK QEB RKB J MILV J BKQ O>QB KB@BPP>OFIV  
 > DLLA QEFKD CLO > K>QFLK \$UMI>FK

(C J >KV TLOHBOP ?B@L J B AFP@LRO>DBA COL J ILLHFKD  
 CLO GL?P BUMI>FK ELT QEB KR J ?BO LC GL?P @LRIA AB@IFKB  
 ?RQ QEB RKB J MILV J BKQ O>QB @LRIA C>II >Q QEB P> J B QF J B

6LRIA VLR BUMB@Q EFAABK RKB J MILV J BKQ QL ?B  
 EFDEBO ILTBO LO >?LRQ QEB P>J B TEBK QEB  
 RKB J MILV J BKQ O>QB FP EFDE P>V SBOPRP ILT P>V  
 \$UMI>FK

(P QEB EFDEBO RKB J MILV J BKQ O>QBP CLO J FKLOFQV  
 TLOHBOP KB@BPP>OFIV >K FKAFF@>QFLK LC AFP@OF J FK>QFLK  
 6 E>Q @LRIA ?B PL J B LQEBO OB>PLKP CLO QEB EFDEBO  
 RKB J MILV J BKQ O>QB

6 EFIB RKB J MILV J BKQ FP EFDEIV KBD>QFSBIV  
 @L00BI>QBA TFQE QEB IBSBI LC B@LKL J F@ >@QFSFQV FK QEB OB>I  
 TLOIA FQ OBPMLKAP TFQE > I>D (K LQEBO TLOAP CFO J P AL  
 KLQ F J J BAF>QBIV I>V LCC TLOHBOP FK OBPMLKPB QL > P>IBP  
 AB@IFKB 3EBV T>FQ > TEFIB ?BCLOB OBPMLKAFKD 2F J FI>OIV  
 CFO J P AL KLQ F J J BAF>QBIV EFOB TLOHBOP TEBK P>IBP MF@H  
 RM 6 E>Q AL VLR QEFKH >@@LRKQP CLO QEB I>D FK OBPMLKPB  
 QF J B

6 EV AL VLR QEFKH QE>Q RKB J MILV J BKQ O>QBP >OB  
 ILTBO CLO FKAFFAR>IP TFQE J LOB BAR@>QFLK

#L VLR QEFKH FQ FP O>QFLK>I CLO TLOHBOP QL MOBCBO  
 PQF@HV T>DBP QL T>DB @RQP TEBK QEB @LKPBNRBK@B LC  
 PQF@HV T>DBP FP RKB J MILV J BKQ CLO PL J B TLOHBOP 6 EV  
 LO TEV KLQ 'LT AL QEB OB>PLKP CLO PQF@HV T>DBP  
 BUMI>FKBA FK QEFP PB@QFLK >MMIV QL VLRO >ODR J BKQ

4KABO TE>Q @LKAFFQFLK TLRIA > AB@OB>PB FK  
 RKB J MILV J BKQ ?B ?>A CLO QEB B@LKL J V

4KABO TE>Q @LKAFFQFLK TLRIA >K FK@OB>PB FK QEB  
 RKB J MILV J BKQ O>QB ?B > MLPFQFSB PFDK

P QEB ?>?V ?LL J DBKBO>QFLK OBQFOBP QEB O>QFL LC  
 OBQFOBBP QL TLOHBOP TFII FK@OB>PB KLQF@B>?IV 'LT TFII  
 QEFP >CCB@Q QEB 2L@F>I 2B@ROFQV MOLDO>J 'LT TFII QEFP  
 >CCB@Q QEB P>KA>0A LC IFSFKD LC QEB >SBO>DB J BOF@>K

4KB J MILV J BKQ O>QBP E>SB ?BBK EFDEBO FK J >KV  
 \$ROLMB>K @LRKQOFPB FK OB@BKQ AB@>ABP QE>K FK QEB 4KFQBA  
 2Q>QBP (P QEB J >FK OB>PLK CLO QEFP ILKD QBO J AFCCBOBK@B  
 FK RKB J MILV J BKQ O>QBP J LOB IFHBIV QL ?B @V@IF@>I  
 RKB J MILV J BKQ LO QEB K>QRO>I O>QB LC RKB J MILV J BKQ  
 \$UMI>FK ?QFBCIV

(P FQ ABPFO>?IB QL MROPRB > DL>I LC WBOL  
 RKB J MILV J BKQ 6 EV LO TEV KLQ

(P FQ ABPFO>?IB QL BIF J FK>QB K>QRO>I RKB J MILV J BKQ  
 6 EV LO TEV KLQ *Hint* 3EFKH >?LRQ TE>Q LRO B@LKL J V  
 TLRIA ILLH IFHB QLA>V >KA TE>Q >PPR J MQFLKP TLRIA E>SB  
 QL ?B J B QL E>SB > WBOL O>QB LC K>QRO>I RKB J MILV J BKQ

3EB 4 2 RKB J MILV J BKQ O>QB FK@OB>PBA COL J  
 FK )RIV QL ?V )RKB 6 FQELRQ PQRAVFKD  
 QEB PR?GB@Q FK >KV ABQ>FI TLRIA VLR BUMB@Q QE>Q > @E>KDB  
 LC QEFP HFKA FP J LOB IFHBIV QL ?B ARB QL @V@IF@>I  
 RKB J MILV J BKQ LO > @E>KDB FK QEB K>QRO>I O>QB LC  
 RKB J MILV J BKQ 6 EV

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@LRKQOV TFQE > MLMRI>QFLK LC BFDEQ J FIIFLK >ARIQ  
E>P CFSB J FIIFLK B J MILVBA RKB J MILVBA >KA  
QEB OBPQ LC QEB >ARIQ MLMRI>QFLK FP LRQ LC QEB I>?LO CLO@B  
6 E>QdP QEB RKB J MILV JBKQ 0>QB 6 E>Q PE>OB LC  
MLMRI>QFLK FP FK QEB I>?LO CLO@B 2HBQ@E > MFB @E>OQ QE>Q  
AFSFABP QEB >ARIQ MLMRI>QFLK FKQL QEBPB QE0BB DOLRMP

DLSBOK JBKQ M>PPBP > C> J FIV COFBKAIV I>T QE>Q  
KL @L J M>KFBP @>K E>SB BSBKFKD KFDEQQF J B LO TBBHBKA  
ELROP PL QE>Q BSB0VLKB @>K ?B EL J B TFQE QEBFO C> J FIFBP  
AROFKD QEBPB QF J BP K>IVWB QEB BCCB@Q LC QEFP I>T RPFKD  
> AB J >KA >KA PRMMIV AF>DO> J CLO QEB I>?LO J >0HBQ CFOPQ  
>PPR J FKD QE>Q T>DBP >OB CIBUF?IB >KA QEBK >PPR J FKD QE>Q  
T>DBP >OB PQF@HV ALTKT>0A

P QEB ?>?V ?LL J BO DBKBO>QFLK OBQFOBP TE>Q PELRIA  
E>MMBK QL T>DBP >KA B J MILV JBKQ "">K VLR PELT QEFP  
DO>MEF@>IIV

# N !A9?4G<BA



<:HE8 <: H6>F A 2<@545J8 4EFP ?FII T>P TLOQE ?FIIFLK :FJ??>TB>K ALII>OP TEBK FPPRBA FK 4EB0B  
 TB0B BSBK ?FIIP FPPRBA TFQE > C>@B S>IRB LC QOFIIFLK :FJ??>TB>K ALII>OP 4EB ?FIIP E>A  
 TOFQQBK LK QEB J 5KCLQQRK>QBIV QEBV TB0B >I J LPQ TLOQEIBPP ! Q LKB MLFKQ :FJ??>TB>K ALII>OP TB0B  
 BNR>I QL LKB 5 3 ALII>O %SBKQR>IIV QEB @LRKQOV >?>KALKBA FQP LTK @R00BK@V >KA >IILTBA MBLMIB QL RPB CLOBFDK  
 @R00BK@V CLO MRO@E>PBP #0BAFQ J LAFcf@>QLK LC TLOH ?V 3>J>KQE> ->OU &IF@HO #0B>QFSB #LJ J LKP

## Bring it Home

%<??<BA \$B49 B9 E847

JC VLR TB0B ?LOK TFQEFK QEB I>PQ QE0BB AB@>ABP FK QEB 5KRQBA 3Q>QBP #>K>A> LO J>KV LQEBO @LRKQOFBP FK QEB  
 ABSBILMBA TLOIA VLR MOL??>IV E>SB KL OB>I BUMBOFBK@B TFQE > EFDE O>QB LC FKCI>QLK )KCI>QLK FP TEBK J LPQ  
 MOF@BP FK >K BKQFOB B@LKL JV >OB OFFPKD (LTBSBO QEB0B FP >K BUQOB JB CLO J LC FKCI>QLK @>IIBA EVMBOFKCI>QLK  
 4EFP L@R00BA FK ' BO J>KV ?BQTBBK >KA >KA JLOB OB@BKQIV FK :FJ??>TB ?BQTBBK >KA  
 JK .LSBJ ?BO :FJ??>TB E>A >K FKCI>QLK O>QB LC ?FIIFLK MBO@BKQ )K @LKQO>PQ FK QEB 5KRQBA  
 3Q>QBP E>A >K >SBO>DB >KKR>I O>QB LC FKCI>QLK LC

:FJ??>TB@P FKCI>QLK O>QB T>P PL EFDE FQ FP AFCCF@RIQ QL @L J MOBEBKA PL IBQ@P MRQ FQ FKQL @LKQBUQ )Q FP BNRFS>IBKQ QL  
 MOF@B FK@OB>PBP LC MBO A>V 4EFP JB>KP QE>Q COL J LKB A>V QL QEB KBUQ MOF@BP BPPBKQF>IIV ALR?IB 7 E>Q FP  
 IFCB IFHB FK >K B@LKL JV >CCIF@QBA TFQE EVMBOFKCI>QLK - LPQ LC VLR OB>AFKD QEFP TFII E>SB KBSBO BUMBOFBK@BA QEFP  
 MEBKL JBKLB 4EB DLSBOK JBKQ >AGRPQBA MOF@BP CLO @L J J LAFQFBP FK :FJ??>TB>K ALII>OP PBSBO>I QF J BP *each  
 day* 4EB0B T>P KL ABPFOB QL ELIA LK QL @R00BK@V PFK@B FQ ILPQ S>IRB ?V QEB J FKRQB 4EB MBLMIB QEB0B PMBKQ >  
 DOB>Q AB>I LC QF J B DBQQFKD CFA LC >KV @>PE QEBV >@NRFOBA ?V MRO@E>PKD TE>QBSBO CLLA LO LQEBO @L J J LAFQFBP QEBV  
 @LRIA CKA ! Q LKB MLFKQ > IL>C LC ?OB>A @LPQ JFIIFLK :FJ??>TB>K ALII>OP 4B>@EBOP P>I>OFBP TB0B FK QEB  
 QOFIIFLKP > J LKQE ELTBSBO QEFP T>P BNRFS>IBKQ QL LKIV LKB 5 3 ALII>O > A>V ! Q FQP EBFDEQ FQ QLLH  
 :FJ??>TB>K ALII>OP QL MRO@E>PB LKB 5 3 ALII>O

'LSBOK JBKQ >DBK@FBP E>A KL J LKBV QL M>V QEBFO TLOH0P PL QEBV PQ>OQBA MOFKQKD J LKBV QL M>V QEBFO ?FIIP  
 O>QEBO QE>K O>FPFKD >UBP 2FPFKD MOF@BP @>RPBA QEB DLSBOK JBKQ QL BK>@Q MOF@B @LKLQIP LK MOFS>QB ?RPFKBPBP  
 TEF@E IBA QL PELQ>DBP >KA QEB B J BODBK@B LC ?>@H J >OHQFP )K QEB @LRKQOV >?>KALKBA FQP @R00BK@V >KA  
 >IILTBA MBLMIB QL RPB CLOBFDK @R00BK@FBP CLO MRO@E>PBP

(LT ALBP QEF E>MMBK (LT @>K ?LQE DLSBOK J BKQ >KA QEB B@LKL J V C>FI QL CRK@QFLK >Q QEB J LPQ ?>PF@ IBSBI "B@LOB TB @LKP@ABO QEBPB BU@QB J B @>PBP LC EVMB@FKCI>QFLK IB@P CFOPQ ILLH >Q FKCI>QFLK F@PBC

# !AGEB7H6G<BA GB !A9?4G<BA

(K QEF @E>MQBO VLR TFII IB>OK >?LRQ

- g 30>@HFKD (KCI>QFLK
- g 'LT QL , B>PROB "E>KDBP FK QEB "LPQ LC +FSFKD
- g 'LT QEB 4 2 >KA . QEBO "LRK@QFBP \$UMBOFBK@B (KCI>QFLK
- g 3EB "LKCRPFLK . SBO (KCI>QFLK
- g (KABUFD >KA (QP +F J FQ>QFLKP

**Inflation** FP > DBKBO>I >KA LKDLFKD OFPB FK QEB IBSBI LC MOF@BP FK >K BKQFOB B@LKL J V (KCI>QFLK ALBP KLQ OBCBO QL > @E>KDB FK OBI>QFSB MOF@BP OBI>QFSB MOF@B @E>KDB L@>ROP TEBK VLR PBB QE>Q QEB MOF@B LC QRFQFLK E>P OFPBK ?RQ QEB MOF@B LC I>MQLMP E>P C>IIBK (KCI>QFLK LK QEB LQEB E>KA J B>KP QE>Q QEBOP FP MOBPPROB CLO MOF@BP QL OFPB FK J LPQ J >OHBQP FK QEB B@LKL J V (K >AAQFLK MOF@B FK@OB>PBP FK QEB PRMMIV >KA AB J >KA J LABI TBOB LKB QF J B BSBKQP OBMOPBPKQFKD > PEFCQ COL J > MOBSFLRP BNRIF?OFR J QL > KBT LKB (KCI>QFLK F J MIFBP >K LKDLFKD OFPB FK MOF@BP (C FKCI>QFLK E>MMBKBA CLO LKB VB>O >KA QEBK PQLMMA QEBK FQ TLRIA KLQ ?B FKCI>QFLK >KV J LOB

3EFP @E>MQBO ?BDFK ?V PEL TFKD ELT QL @L J ?FKB MOF@BP LC FKAFS@>I DLLAP >KA PBOF@BP QL @OB>QB > J B>PROB LC LSBO>II FKCI>QFLK (Q AFP@RPPBP QEB EFP@LOF@>I >KA OB@BKQ BUMBOFBK@B LC FKCI>QFLK ?LQE FK QEB 4KQBA 2Q>QBP >KA FK LQEB @LRK@QFBP >OLRKA QEB TLOIA . QEBO @E>MQBOP E>SB PL J BQF J BP FK@IRABA > KLQB RKABO >K BUEF?FQ LO > M>OBKQEBQF@>I OB J FKABO FK QEB QBUQ P>VFKD QE>Q QEB KR J ?BOP E>SB ?BBK >AGRPQBA CLO FKCI>QFLK (K QEF @E>MQBO FQ FP QF J B QL PELT ELT QL RPB FKCI>QFLK PQ>QFPQF@P QL >AGRPQ LQEB B@LKL J F@ S>OF>?IBP PL QE>Q VLR @>K QBII ELT J R@E LC CLO BU> J MIB TB @>K >QQF?RQB QEB OFPB FK &# / LSBO AFCCBOKQ MBOFLAP LC QF J B QL >K >@QR>I FK@OB>PB FK QEB MOLAR@QFLK LC DLLAP >KA PBOF@BP >KA ELT J R@E TB PELRIA >QQF?RQB QL QEB C>@Q QE>Q MOF@BP CLO J LPQ FQB J P E>SB OFPBK

(KCI>QFLK E>P @LKPBNRBK@BP CLO MBLMIB >KA CFO J P QEOLRDELQ QEB B@LKL J V FK QEBFO OLIBP >P IBKABOP >KA ?LOOLTBOPT >DB B>OKBOP Q>UM>VBOP >KA @LKPR J BOP 3EB @E>MQBO @LK@IRABP TFQE > AFP@RPPFLK LC PL J B F J MB@CB@QFLK >KA ?F>PBP FK QEB FKCI>QFLK PQ>QFPQF@P >KA > MOBSFBT LC MLIF@FBP CLO CFDEQFKD FKCI>QFLK QE>Q TB TFII AFP@RPP FK LQEB @E>MQBOP

# N ,E46><A : !A9?4G<BA

! V QEB BKA LC QEF PB@QFLK VLR TFII ?B >?IB QL

- d ">I@RI>QB QEB >KKR>I O>QB LC FKCI>QFLK
- d \$UMI>FK >KA RPB FKABU KR J ?BOP >KA ??>PB VB>OP TEBK PF J MIFCVFKD QEB QLQ>I NR>KQFV PMBKQ LSBO > VB>O CLO MOLAR@QP
- d ">I@RI>QB FKCI>QFLK O>QBP RPFKD FKABU KR J ?BOP

#FKKBO Q>?IB @LKSBO>QFLK TEBOP VLR J FDEQ E>SB EB>OA >?LRQ FKCI>QFLK RPR>IIV BKQ>FI OB J FKFP@FKD >?LRQ TEBK eBSBOVQEFKD PBB J BA QL @LPQ PL J R@E IBPP 8LR RPBA QL ?B >?IB QL ?RV QE@BB D>IILKP LC D>PLIFKB CLO > ALII>O >KA QEBK DL PBB >K >C@BOKLLK J LSF@ CLO >KLQEBO ALII>O f ,45?8 @L J M>OBP PL J B MOF@BP LC @L J J LK DLLAP FK >KA . C @LROBP QEB >SBO>DB MOF@BP FK QEF Q>?IB J >V KLQ OBCB@Q QEB MOF@BP TEBOP VLR IFSB 3EB @LPQ LC IFSFKD FK -BT 8LOH "FQV FP J R@E EFDEBO QE>K FK 'LRPQLK 3BU>P CLO BU> J MIB (K >AAQFLK @BO>FK MOLAR@QP E>SB BSLISBA LSBO OB@BKQ AB@>ABP KBT @>O FK IL>ABA TFQE >KQFMLIIRQFLK BNRFM J BKQ P>CBQV DB>O @L J MRQBOFWBA BKDFKB @LKQOLIP >KA J >KV LQEBO QB@EKLILDF@>I >AS>K@BP FP > J LOB >AS>K@BA J @EFKB >KA J LOB CRBI BCCF@FBKQ QE>K VLRO QVMF@>I P @>O 'LTBSBO MRQ ABQ>FIP IFHB QEBPB QL LKB PFAB CLO QEB J L J BKQ >KA ILLH >Q QEB LSBO>II M>QQBOK 3EB MOF J >OV OB>PLK ?BEFKA QEB MOF@B OFPB FK ,45?8 b >KA >II QEB MOF@B FK@OB>PBP CLO QEB LQEBO MOLAR@QP FK QEB B@LKL J V b FP KLQ PMB@FCF@ QL QEB J >OHBQ CLO ELRPFKD LO @>OP LO D>PLIFKB LO J LSF@ QF@HQB (KPQB>A FQ FP M>OQ LC > DBKBO>I OFPB FK QEB IBSBI LC >II MOF@BP Q QEB ?BDFKFKD LC E>A >?LRQ QEB P> J B MRO@E>PFKD MLTBO FK LSBO>II QBO J P LC DLLAP >KA PBOF@BP >P @BKQP AFA FK

?B@>RPB LC QEB > J LRKQ LC FKCI>QLK QE>Q E>P L@@R00BA LSBO QE>Q QF J B MBOFLA

!G8@F		
OLRKA LC D0LRKA ?BBC		
OLRKA LC ?RQQB0		
- LSFB QF@HBQ		
3>IBP MOF@B LC KBT EL J B JBAF>K		
. BT @>0		
' >IILK LC D>PLIFKB		
! SB0>DB ELR0IV T>DB CLO > J >KRC>@QROFKD TLOHBO		
OB0 @>MFQ> ' \$0		

,4578 (E<68 B@C4E:FBAF 4A7 3LR0@BP 3BB @E>MQB0 2BCB0BK@BP >Q BKA LC ?LLH

, LOBLSBO QEB MLTBO LC FKCI>QLK ALBP KLQ >CCB@Q GRPQ DLLAP >KA PB0SF@BP ?RQ T>DBP >KA FK@L J B IBSBIP QLL 3EB PB@LKA QL I>PQ OLT LC ,4578 PELTP QE>Q QEB >SB0>DB ELR0IV T>DB CLO > J >KRC>@QROFKD TLOHBO FK@OB>PBA KB>OIV PFU CLIA COL J QL 3EB >SB0>DB TLOHBO FK FP ?BQQBO BAR@>QBA >KA J LOB MOLAR@QFSB QE>K QEB >SB0>DB TLOHBO FK b ?RQ KLQ PFU QF J BP J LOB MOLAR@QFSB /BO @>MFQ> &# / FK@OB>PBA PR?PQ>KQF>IIV COL J QL ?RQ FP QEB >SB0>DB MBOPLK FK QEB 4 2 B@LKL J V OB>IIV J LOB QE>K BIBSBK QF J BP ?BQQBO LCC FK GRPQ VB>OP -LQ IFHBIV

J LABOK B@LKL J V E>P J FIIFLKP LC DLLAP >KA PB0SF@BP TELPB MOF@BP >OB @LKQFKR>IIV NRFSB0FKD FK QEB ?OBBWBP LC PRMMIV >KA AB J >KA ' LT @>K >II LC QEBPB PEFCQP FK MOF@B >QQQF?RQB QL > PFKDIB FKCI>QLK O>QB P TFQE J >KV MOL?IB J P FK B@LKL J F@ J B>PROB J BKQ QEB @LK@BMQR>I >KPTBO FP OB>PLK>IV PQ>FDEQCL0T>0A \$@LKL J FPQP @L J ?FKB MOF@BP LC > S>QFBQV LC DLLAP >KA PB0SF@BP FKQL > PFKDIB MOF@B IBSBI 3EB FKCI>QLK O>QB FP PF J MIV QEB MBO@BKQ>DB @E>KDB FK QEB MOF@B IBSBI MMIVFKD QEB @LK@BMQ ELTBSBO FKSLSIBP PL J B MO>@QF@>I AFCCF@RIQFBP

, ; 8 (E<68 B9 4 4F>8G B9 BB7F

3L @>I@RI>QB QEB MOF@B IBSBI B@LKL J FPQP ?BDFK TFQE QEB @LK@BMQ LC > **basket of goods and services** @LKPFPQFKD LC QEB AFCCB0BKQ FQB J P FKAFFAR>IP ?RPFKBPPBP LO LOD>KFW>QLKP QVMF@>IIV ?RV 3EB KBUQ PQBM FP QL ILLH >Q ELT QEB MOF@BP LC QELPB FQB J P @E>KDB LSBO QF J B (K QEFKFKD >?LRQ ELT QL @L J ?FKB FKAFFAR>I MOF@BP FKQL >K LSBO>II MOF@B IBSBI J >KV MBLMIB CFKA QE>Q QEBFO CFOPQ F J MRIPB FP QL @>I@RI>QB QEB >SB0>DB LC QEB MOF@BP 2R@E > @>I@RI>QLK ELTBSBO @LRIA B>PFIV ?B J FPIB>AFKD ?B@>RPB PL J B MOLAR@QP J >QQBO J LOB QE>K LQEBOB

"E>KDBP FK QEB MOF@BP LC DLLAP CLO TEF@E MBLMIB PMBKA > I>ODBO PE>OB LC QEBFO FK@L J BP TFII J >QQBO J LOB QE>K @E>KDBP FK QEB MOF@BP LC DLLAP CLO TEF@E MBLMIB PMBKA > P J >IIBO PE>OB LC QEBFO FK@L J BP %LO BU>J MIB >K FK@OB>PB LC FK QEB OBKQ>I O>QB LK ELRPFKD J >QQBOP J LOB QL J LPQ MBLMIB QE>K TEBQEBO QEB MOF@B LC @>OOLQP OFPBP ?V 3L @LKPQOR@Q >K LSBO>II J B>PROB LC QEB MOF@B IBSBI B@LKL J FPQP @L J MRQB > TBFDEQBA >SB0>DB LC QEB MOF@BP LC QEB FQB J P FK QEB ?>PHBQ TEBOB QEB TBFDEQP >OB ?>PBA LK QEB >@QR>I NR>KQFQFBP LC DLLAP >KA PB0SF@BP MBLMIB ?RV 3EB CLILTFKD 6LOH ( . RQ CB>QROB T>IHP VLR QEOLRDE QEB PQBMP LC @>I@RI>QFKD QEB >KKR>I O>QB LC FKCI>QLK ?>PBA LK > CBT MOLAR@QP

# Work It Out

4?6H?4G<A: 4A AAH4? \*4G8 B9 !A9?4G<BA

#LKPFABO QEB PF J MIB ?>PHBQ LC DLLAP TFQE LKIV QE0BB FQB J P OBM0BPBKQBA FK ,4578 3>V QE>Q FK >KV DFSBK J LKQE > @LIIBDB PQRABKQ PMBKAP J LKBV LK E>J ?RODBOP LKB ?LQQIB LC >PMFOFK >KA CFSB J LSFBP 4EB Q>?IB MOLSFABP MOF@BP CLO QEBPB FQB J P LSBO CLRO VB>OP QEOLRDE B>@E QF J B MBOFLA OA OOF@BP LC PL J B DLLAP FK QEB ?>PHBQ J >V OFPB TEHIB LQEBOB C>II )K QEFB BU>J MIB QEB MOF@B LC >PMFOFK ALBP KLQ @E>KDB LSBO QEB CLRO VB>OP TEHIB J LSFBP FK@OB>PB FK MOF@B >KA E>J ?RODBOP ?LRK@B RM >KA ALTK 4EB Q>?IB PELTP QEB @LPQ LC ?RVFKD QEB

DfSBK ?>PHBQ LC DLLAP >Q QEB MOF@BP MOBS>FfKD >Q QE>Q Qf J B

!G8@F	4@5HE : 8E	FC<E<A	%B I<8F	,B64?	!A9?4G<BA * 4G8
1QV		?LQQIB			
OA OOf@B					
OA ! J LRKQ 3MBKQ					
OA OOf@B					
OA ! J LRKQ 3MBKQ					
OA OOf@B					
OA ! J LRKQ 3MBKQ					
OA OOf@B					
OA ! J LRKQ 3MBKQ					

,45?8 B??8 : 8 +GH78AGRF 4F>8G B9 BB7F

4L @>I@RI>QB QEB >KKR>I O>QB LC FKCI>QLK FK QEF BU> J MIB

3QBM &fKA QEB MBO@BKQ>DB @E>KDB FK QEB @LPQ LC MRO@E>PfkD QEB LSBO>II ?>PHBQ LC DLLAP ?BQTBBK QEB Qf J B MBOFLAP 4EB DBKBO>I BNR>QLK CL0 MBO@BKQ>DB @E>KDBP ?BQTBBK QTL VB>OP TEBQEBO FK QEB @LKQBUQ LC FKCI>QLK L0 FK >KV LQEBO @>I@RI>QLK FP

$$\frac{(\text{Level in new year} - \text{Level in previous year})}{\text{Level in previous year}} \times 100 = \text{Percentage change}$$

3QBM &0L J MBOFLA QL MBOFLA QEB QLQ>I @LPQ LC MRO@E>PfkD QEB ?>PHBQ LC DLLAP FK ,45?8 QFPBP COL J QL 4EB0BCL0B QEB MBO@BKQ>DB @E>KDB LSBO QEF Qf J B \_ QEB FKCI>QLK O>QB \_ FP

$$\frac{(106.50 - 100)}{100.0} = 0.065 = 6.5\%$$

3QBM &0L J MBOFLA QL MBOFLA QEB LSBO>II @E>KDB FK QEB @LPQ LC MRO@E>PfkD QEB ?>PHBQ QFPBP COL J QL 4ERP QEB FKCI>QLK O>QB LSBO QEF Qf J B >D>FK @>I@RI>QBA ?V QEB MBO@BKQ>DB @E>KDB FP >MMOLUF J >QIV

$$\frac{(107 - 106.50)}{106.50} = 0.0047 = 0.47\%$$

3QBM &0L J MBOFLA QL MBOFLA QEB LSBO>II @LPQ QFPBP COL J QL 4EB FKCI>QLK O>QB FP QERP

$$\frac{(117.50 - 107)}{107} = 0.098 = 9.8\%$$

4EFP @>I@RI>QLK LC QEB @E>KDB FK QEB QLQ>I @LPQ LC MRO@E>PfkD > ?>PHBQ LC DLLAP >@LRKQP CL0 ELT JR@E > PQRABKQ PMBKAP LK B>@E DLLA (> J ?RODBOP >OB QEB ILTBPQ MOF@BA DLLA FK QEF BU> J MIB >KA >PMFOFK FP QEB EFDEBPQ MOF@BA )C >K FKAFSfAR>I ?RVP > DOB>QBO NR>KQfQV LC > ILT MOF@B DLLA QEBK fQ J >HBP PBKPB QE>Q @E>KDBP FK QEB MOF@B LC QE>Q DLLA PELRIA E>SB > I>ODBO F J M>@Q LK QEB ?RVfKD MLTBO LC QE>Q MBOPLKaP J LKBV 4EB I>ODBO F J M>@Q LC E> J ?RODBOP PELTP RM FK QEB b> J LRKQ PMBKQc OLT TEB0B FK >II Qf J B MBOFLAP E> J ?RODBOP >OB QEB I>ODBPQ fQB J TRQEFK QEB > J LRKQ PMBKQ OLT

## !A78K &H@58EF

3EB KR J BOF@>I OBPRIQ LC > @>I@RI>QLK ?>PBA LK > ?>PHBQ LC DLLAP @>K DBQ > IFQQIB J BPPV 3EB PF J MfCFBA BU> J MIB FK ,45?8 E>P LKIV QE0BB DLLAP >KA QEB MOF@BP >OB FK BSBK ALII>OP KLQ KR J ?BOP IFHB @BKQP L0 (C QEB IFPQ LC MOLAR@QP TB0B JR@E ILKDBO >KA TB RPBA J LOB OB>IFPQf@ MOF@BP QEB QLQ>I NR>KQfQV PMBKQ LSBO > VB>O J FDEQ ?B PL J B

J BPPV ILLHFKD KR J ?BO IFHB LO

3L PF J MFCV QEB Q>PH LC FKQBOMOBQFKD QEB MOF@B IBSBIP CLO J LOB OB>IFPQF@ >KA @L J MIBU ?>PHBQP LC DLLAP B@LKL J FPQP QVMF@>IIV OBMLOQ QEB MOF@B IBSBI FK B>@E MBOFLA >P >K **index number** 0>QEBO QE>K >P QEB ALII>0 > J LRKQ CLO ?RVFKD QEB ?>PHBQ LC DLLAP \$@LKL J FPQP @OB>QB MOF@B FKAF@BP QL @>I@RI>QB >K LSO>II >SBO>DB @E>KDB FK OBI>QFSB MOF@BP LSO QF J B 3L @LKSBOQ QEB J LKBV PMBKQ LK QEB ?>PHBQ QL >K FKABU KR J ?BO B@LKL J FPQP >0?FQO>OFIV @ELLPB LKB VB>0 QL ?B QEB **base year** LO PQ>0QFKD MLFKQ COL J TEF@E TB J B>PROB @E>KDBP FK MOF@BP 3EB ?>PB VB>0 ?V ABCFKF@FLK E>P >K FKABU KR J ?BO BNR>I QL 3EFP PLRKAP @L J MIF@>QBA ?RQ FQ FP OB>IIV > PF J MIB J >QE QOF@H (K QEB BU> J MIB >?LSB P>V QE>Q TB @ELLPB QF J B MBOFLA >P QEB ?>PB VB>0 2FK@B QEB QLQ>I > J LRKQ LC PMBKAFKD FK QE>Q VB>0 FP TB AFSFAB QE>Q > J LRKQ ?V FQPBIC >KA J RIQFMIV ?V D>FK QEFP FP ?B@>RPB QEB FKABU KR J ?BO FK QEB ?>PB VB>0 *always* E>P QL E>SB > S>IRB LC 3EBK QL CFDR0B LRQ QEB S>IRBP LC QEB FKABU KR J ?BO CLO QEB LQEBO VB>0P TB AFSFAB QEB ALII>0 > J LRKQ CLO QEB LQEBO VB>0P ?V >P TBII -LQB >IPL QE>Q QEB ALII>0 PFDKP @>K@BI LRQ PL QE>Q FKABU KR J ?BOP E>SB KL RKFQP

**,45?8** PELTP @>I@RI>QLKP CLO QEB LQEBO S>IRBP LC QEB FKABU KR J ?BO ?>PBA LK QEB BU> J MIB FK **,45?8** !B@>RPB TB @>I@RI>QB QEB FKABU KR J ?BOP PL QE>Q QEBV >OB FK BU>@QIV QEB P> J B MOLML0QFLK >P QEB QLQ>I ALII>0 @LPQ LC MRO@E>PKD QEB ?>PHBQ LC DLLAP TB @>K @>I@RI>QB QEB FKCI>QLK 0>QB ?>PBA LK QEB FKABU KR J ?BOP RPKD QEB MBO@BKQ>DB @E>KDB CLO J RI> 3ERP QEB FKCI>QLK 0>QB COL J MBOFLA QL MBOFLA TLRIA ?B

$$\frac{(99.5 - 93.4)}{93.4} = 0.065 = 6.5\%$$

3EFP FP QEB P> J B >KPTBO QE>Q TB ABOFSBA TEBK J B>PROFKD FKCI>QLK ?>PBA LK QEB ALII>0 @LPQ LC QEB ?>PHBQ LC DLLAP CLO QEB P> J B QF J B MBOFLA

	,B64? +C8A7<A :	!A78K &H@58E	!A9?4G<BA *4G8 +<A68 (E8I<BHF (8E<B7
(8E<B7		$\frac{100}{1.07} = 93.4$	
(8E<B7		$\frac{106.50}{1.07} = 99.5$	$\frac{(99.5 - 93.4)}{93.4} = 0.065 = 6.5\%$
(8E<B7		$\frac{107}{1.07} = 100.0$	$\frac{100 - 99.5}{99.5} = 0.005 = 0.5\%$
(8E<B7		$\frac{117.50}{1.07} = 109.8$	$\frac{109.8 - 100}{100} = 0.098 = 9.8\%$

**,45?8** 4?6H?4G<A : !A78K &H@58EF / ;8A (8E<B7 <F G;8 4F8 184E

(C QEB FKCI>QLK 0>QB FP QEB P> J B TEBQEBO FQ FP ?>PBA LK ALII>0 S>IRBP LO FKABU KR J ?BOP QEBK TEV ?LQEBO TFQE QEB FKABU KR J ?BOP 3EB >AS>KQ>DB FP QE>Q FKABUFKD >IIL TP B>PFBO BVB?>IIFKD LC QEB FKCI>QLK KR J ?BOP (C VLR DI>K@B >Q QTL FKABU KR J ?BOP IFHB >KA VLR HKLT >RQL J >QF@>IIV QE>Q QEB 0>QB LC FKCI>QLK ?BQTBK QEB QTL VB>0P FP >?LRQ ?RQ KLQ NRFQB BU>@QIV BNR>I QL !V @LQO>PQ F J >DFKB QE>Q TB BUMOBPP QEB MOF@B IBSBIP FK >?PLIRQB ALII>0P LC > I>ODB ?>PHBQ LC DLLAP PL QE>Q TEBK VLR ILLHBA >Q QEB A>Q> QEB KR J ?BOP TBOB >KA , LPQ MBLMIB CFKA FQ AFCCF@RIQ QL BVB?>II QELPB HFAP LC KR J ?BOP >KA P>V QE>Q FQ FP > @E>KDB LC >?LRQ 'LTBSBO QEB QTL KR J ?BOP BUMOBPPBA FK >?PLIRQB ALII>0P >OB BU>@QIV FK QEB P> J B MOLML0QFLK LC QL >P QEB MOBSFLRP BU> J MIB (C VLRd0B TLKAB0FKD TEV PF J MIB PR?QO>@QLK LC QEB FKABU KR J ?BOP TLRIAKdQ TLOH 0B>A QEB CLILTFKD "IB>0 (Q 4M CB>QROB

# Clear It Up

/ ;L 7B LBH ABG =HFG FH5GE46G <A78K AH@58EF

! TLOA LC T>0KFKD 7EBK > MOF@B FKABU JLSBP COL J P>V QL QEB 0>QB LC FKCI>QLK FP KLQ *exactly* 2B JBJ ?BO QEB FKCI>QLK 0>QB FP KLQ ABOFSBA ?V PR?QO>@QFKD QEB FKABU KR J ?BOP ?RQ 0>QEBO QEOLRDE QEB MBO@BKQ>DB @E>KDB @>I@RI>QLK 7B @>I@RI>QB QEB MOB@FPB FKCI>QLK 0>QB >P QEB MOF@B FKABU JLSBP COL J QL

>P U ^ U 7 EBK QEB ?>PB VB>0 FP C>FOIV @ILPB QL > NRF@H  
PR?QO>@QLK FP KLQ > QBOOF?IB PELOO@RQ QL @>I@RI>QFKD QEB FKCI>QLK O>QB \_ ?RQ TEBK MOB@FPFLK J>QQBOP ALTK QL QEBQEP  
LC > MBO@BKQ PR?QO>@QFKD TFII KLQ DfSB QEB OFDEQ >KPTBO

3TL CFK>I MLFKQP >?LRQ FKABU KR J ?BOP >OB TLOQE OB J B J ?BOFKD %FOPQ FKABU KR J ?BOP E>SB KL ALII>0 PFDKP LO LQEBO  
RKFQP >Q>@EBA QL QEB J IQELRDE TB @>K RPB FKABU KR J ?BOP QL @>I@RI>QB > MBO@BKQ>DB FKCI>QLK O>QB QEB FKABU KR J ?BOP  
QEB J PBISBP AL KLQ E>SB MBO@BKQ>DB PFDKP (KABU KR J ?BOP GRPQ J FOOLO QEB MOLMLQFLKP QE>Q TB CFKA FK LQEBO A>Q> 3EBV  
QO>KPCLO J QEB LQEBO A>Q> PL QE>Q FQ FP B>PFBO QL TLOH TFQE QEB A>Q>

2B@LKA QEB @ELF@B LC > ?>PB VB>0 CLO QEB FKABU KR J ?BO b QE>Q FP QEB VB>0 QE>Q FP >RQL J >QF@>IIV PBQ BNR>I QL b FP  
>0?FQO>OV 6B @ELLPB FQ >P > PQ>OQFKD MLFKQ COL J TEF@E TB @>K QO>@H @E>KDBP FK MOF@BP (K QEB LCCF@F>I FKCI>QLK PQ>QFPQF@P  
FQ FP @L J J LK QL RPB LKB ?>PB VB>0 CLO > CBT VB>OP >KA QEBK QL RMA>QB FQ PL QE>Q QEB ?>PB VB>0 LC FP OBI>QFSBIV @ILPB  
QL QEB MOBPKQ ' L TBSBO >KV ?>PB VB>0 QE>Q TB @ELLPB CLO QEB FKABU KR J ?BOP TFII OBPRIQ FK BU>@QIV QEB P> J B FKCI>QLK  
O>QB 3L PBB QEFP FK QEB MOBSFLRP BU> J MIB F J >DFKB QE>Q MBOFLA FP QEB ?>PB VB>0 TEBK QLQ>I PMBKAFKD T>P >KA  
TB >PPFDK FQ >K FKABU KR J ?BO LC Q > DI>K@B VLR @>K PBB QE>Q QEB FKABU KR J ?BOP TLRIA KL T BU>@QIV J >Q@E QEB  
ALII>0 CFDRBP >KA QEB FKCI>QLK O>QB FK QEB CFOPQ MBOFLA TLRIA ?B

- LT QE>Q TB PBB ELT FKABUP TLOH QL QO>@H FKCI>QLK QEB KBUQ J LARIB TFII PELT RP ELT B@LKL J FPQP J B>PROB QEB @LPQ  
LC IFSFKD

# Link It Up

7>Q@E QEFP SfABL EQM LMBKPQ>U@LIIBDB LOD I \$R@H=4>IBP COL J QEB @>OQLLK Duck Tales QL SFBT > JKF IBPPLK  
LK FKCI>QLK

## N BJ GB %84FHE8 ;4A:8F <A G;8 BFG B9 \$<I<A:

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d 4PB QEB "LKPR J BO /OF@B (KABU " / ( QL @>I@RI>QB 4 2 FKCI>QLK O>QB
- d (ABKQFCV PBSBO>I T>VP QEB !ROB>R LC ++?LO 2Q>QFPQF@P >SLFAP ?F>PBP FK QEB "LKPR J BO /OF@B (KABU " / (
- d #FCCBOBKQF>QB > J LKD QEB "LKPR J BO /OF@B (KABU " / ( QEB /OLAR@BO /OF@B (KABU // ( QEB  
(KQBOK>QLK>I /OF@B (KABU QEB \$ J MILV J BKQ "LPQ (KABU >KA QEB &# / ABCI>QLO

3EB J LPQ @L J J LKIV @FQBA J B>PROB LC FKCI>QLK FK QEB 4KFQBA 2Q>QBP FP QEB **Consumer Price Index (CPI)** &LSBOK J BKQ  
PQ>QFPQF@F>KP >Q QEB 4 2 !ROB>R LC ++?LO 2Q>QFPQF@P @>I@RI>QB QEB " / ( ?>PBA LK QEB MOF@BP FK > CFUBA ?>PHBQ LC DLLAP  
>KA PBOSF@BP QE>Q OBMOBPKQ QEB MRO@E>PBP LC QEB >SBO>DB C> J FIV LC CLRO (K OB@BKQ VB>OP QEB PQ>QFPQF@F>KP E>SB M>FA  
@LKPFABO>?IB >QBKQLK QL > PR?QIB MOL?IB J QE>Q QEB @E>KDB FK QEB QLQ>I @LPQ LC ?RVFKD > CFUBA ?>PHBQ LC DLLAP >KA  
PBOSF@BP LSBO QF J B FP @LK@BMQR>IIV KLQ NRFQB QEB P> J B >P QEB @E>KDB FK QEB @LPQ LC IFSFKD ?B@>RPB QEB @LPQ LC IFSFKD  
OBMOBPKQ ELT J R@E FQ @LPQ CLO > MBOPLK QL CBBI QE>Q EFP LO EBO @LKPR J MQLK MOLSFABP >K BNR>I IBSBI LC P>QFPC>@QLK LO  
RQFQV

3L RKABOPQ>KA QEB AFPQFK@QLK F J >DFKB QE>Q LSBO QEB M>PQ VB>OP QEB @LPQ LC MRO@E>PFKD > CFUBA ?>PHBQ LC DLLAP  
FK@OB>PBA ?V >KA VLRO P>I>OV >IPL FK@OB>PBA ?V ' >P VLRO MBOPLK>I PQ>KA>OA LC IFSFKD EBIA @LKPQ>KQ (C VLR



AL KLQ KB@BPP>OFIV MRO@E>PB >K FABKQF@>I CFUBA ?>PHBQ LC DLLAP BSBOV VB>O QEBK >K FKCI>QFLK @>I@RI>QFLK ?>PBA LK QEB @LPQ LC > CFUBA ?>PHBQ LC DLLAP J >V ?B > J FPIB>AFKD J B>PROB LC ELT VLRO @LPQ LC IFSFKD E>P @E>KDBA 3TL MOL?IB J P >OFPB EBOB PR?PQFQRQFLK ?F>P >KA NR>IFQV KBT DLLAP ?F>P

6 EBK QEB MOF@B LC > DLLA OFPBP @LKPR J BOP QBKA QL MRO@E>PB IBPP LC FQ >KA QL PBBH LRQ PR?PQFQRQB FKPQB>A "LKSBOPBIV >P QEB MOF@B LC > DLLA C>IIP MBLMIB TFII QBKA QL MRO@E>PB J LOB LC FQ 3EFP M>QQBOK F J MIFBP QE>Q DLLAP TFQE DBKBO>IIV OFPFKD MOF@BP PELRIA QBKA LSBO QF J B QL ?B@L J B IBPP F J MLOQ>KQ FK QEB LSBO>II ?>PHBQ LC DLLAP RPBA QL @>I@RI>QB FKCI>QFLK TEFIB DLLAP TFQE C>IIFKD MOF@BP PELRIA QBKA QL ?B@L J B J LOB F J MLOQ>KQ "LKPFBABO >P >K BU>J MIB > OFPB FK QEB MOF@B LC MB>@EBP ?V MBO MLRKA (C @LKPR J BOP TBOB RQBOIV FKCIUF?IB FK QEBFO AB J >KA CLO MB>@EBP QEFP TLRIA IB>A QL > ?FD OFPB FK QEB MOF@B LC CLLA CLO @LKPR J BOP IQBOK>QFSBIV F J >DFKB QE>Q MBLMIB >OB RQBOIV FKAFCBBOBKQ QL TEBQEBO QEBV E>SB MB>@EBP LO LQEBO QVMBP LC CORFQ -LT FC MB>@E MOF@BP OFPB MBLMIB @L J MIBQIV PTFQ@E QL LQEBO CORFQ @ELF@BP >KA QEB >SBO>DB MOF@B LC CLLA ALBP KLQ @E>KDB >Q >II CFUBA >KA RK@E>KDFKD ?>PHBQ LC DLLAP >PPR J BP QE>Q @LKPR J BOP >OB IL@HBA FKQL ?RVFKD BU>@QIV QEB P> J B DLLAP OBD>OAIAPP LC MOF@B @E>KDBP b KLQ > SBOV IFHBIV >PPR J MQFLK 3ERP **substitution bias** b QEB OFPB FK QEB MOF@B LC > CFUBA ?>PHBQ LC DLLAP LSBO QF J B b QBKAP QL LSBOQ>QB QEB OFPB FK > @LKPR J BOP QORB @LPQ LC IFSFKD ?B@>RPB FQ ALBP KLQ Q>HB FKQL >@LRKQ QE>Q QEB MBOPLK @>K PR?PQFQRQB >T>V COL J DLLAP TELPB OBI>QFSB MOF@BP E>SB OFPBK

3EB LQEBO J >GLO MOL?IB J FK RPFKD > CFUBA ?>PHBQ LC DLLAP >P QEB ?>PFP CLO @>I@RI>QFKD FKCI>QFLK FP ELT QL AB>I TFQE QEB >OFS>I LC F J MOLSBA SBOPLK LC LIABO DLLAP LO >IQLDBQEBO KBT DLLAP "LKPFBABO QEB MOL?IB J QE>Q >OFPBP FC > @BOB>I FP F J MOLSBA ?V >AAFKD BPPBKQF>I SFQ> J FKP >KA J FKBO>IP b >KA >IPL FC > ?LU LC QEB @BOB>I @LPQP J LOB (Q TLRIA @IB>OIV ?B J FPIB>AFKD QL @LRKQ QEB BKQFOB OBPRIQFKD EFDEBO MOF@B >P FKCI>QFLK ?B@>RPB QEB KBT MOF@B OBCIB@QP > EFDEBO NR>IFQV LO >Q IB>PQ AFCCBOBKQ MOLAR@Q (AB>IIV LKB TLRIA IFHB QL HKLT ELT J R@E LC QEB EFDEBO MOF@B FP ARB QL QEB NR>IFQV @E>KDB >KA ELT J R@E LC FQ FP GRPQ > EFDEBO MOF@B 3EB !ROB>R LC +>?LO 2Q>QFPQF@P TEF@E FP OBPMLKPF?IB CLO @L J MRQFKD QEB "LKPR J BO /OF@B (KABU J RPQ AB>I TFQE QEBPB AFCCF@RIQFBP FK >AGRPQFKD CLO NR>IFQV @E>KDBP

# Link It Up

6FPFQ QEFP TB?PFB EQM LMBKP>U LOD I &LOAP QL SFBT > IFPQ LC &LOA @>O MOF@BP ?BQTTBBK >KA #LKPFBABO ELT QEBPB MOF@BP @L J M>OB QL QLA>VaP J LABIP )P QEB MOLAR@Q QLA>V LC > AFCCBOBKQ NR>IFQV

6B @>K QEFKH LC > KBT MOLAR@Q >P >K BUQOB J B F J MOLSBA BKQ FK NR>IFQV b COL J PL J BQEFKD QE>Q AFA KLQ BUFPQ QL PL J BQEFKD QE>Q ALBP 'LTBSBO QEB ?>PHBQ LC DLLAP QE>Q T>P CFUBA FK QEB M>PQ L?SFLRPV ALBP KLQ FK@IRAB KBT DLLAP @OB>QBA PFK@B QEBK 3EB ?>PHBQ LC DLLAP >KA PBOBF@BP FK QEB "LKPR J BO /OF@B (KABU " / ( FP OBSFPBA >KA RMA>QBA LSBO QF J B >KA PL KBT MOLAR@Q >OB DO>AR>IIV FK@IRABA 'LTBSBO QEB MOL@BPP Q>HBP PL J B QF J B %LO BU>J MIB OLL J >FO @LKAQFLKBOP TBOB TFABIV PLIA FK QEB B>OIV P ?RQ TBOB KLQ FKQOLAR@BA FKQL QEB ?>PHBQ LC DLLAP ?BEFKA QEB "LKPR J BO /OF@B (KABU RKQFI 3EB 5 " 1 >KA MBOPLK>I @L J MRQBO TBOB >S>FI>?IB FK QEB I>QB P >KA TFABIV PLIA ?V QEB B>OIV P ?RQ AFA KLQ BKQBO QEB " / ( ?>PHBQ LC DLLAP RKQFI !V QEBOB TBOB J LOB QE>K J FIIFLK @BIIRI>O MELKB PR?P@OF?BOP FK QEB 4KFQBA 2Q>QB b ?RQ @BII MELKBP TBOB KLQ VBQ M>OQ LC QEB " / ( ?>PHBQ LC DLLAP 3EB M>O>AB LC FKSBBQFLKP E>P @LKQFKRBA TFQE QEB " / ( FKBSFQ>?IV I>DDFKD > CBT VB>OP ?BEFKA

3EB >OFS>I LC KBT DLLAP @OB>QB MOL?IB J P TFQE OBPMB@Q QL QEB >@R0>@V LC J B>PROFKD FKCI>QFLK 3EB OB>PLK MBLMIB ?RV KBT DLLAP MOBPR J >?IV FP QE>Q QEB KBT DLLAP LCCBO ?BQQO S>IRB CLO J LKBV QE>K BUFPQFKD DLLAP 3ERP FC QEB MOF@B FKABU IB>SBP LRQ KBT DLLAP FQ LSBOILLHP LKB LC QEB T>VP FK TEF@E QEB @LPQ LC IFSFKD FP F J MOLSFKD (K >AAQFLK QEB MOF@B LC > KBT DLLA FP LCQBK EFDEBO TEBK FQ FP CFOPQ FKQOLAR@BA >KA QEBK AB@IFKBP LSBO QF J B (C QEB KBT DLLA FP KLQ FK@IRABA FK QEB " / ( CLO PL J B VB>OP RKQFI FQP MOF@B FP >IOB>AV ILTBO QEB " / ( J >V J FPP @LRKQFKD QEFP MOF@B AB@IFKB >IQLDBQEBO 3>HFKD QEBPB >ODR J BKQP QLDBQEBO QEB **quality/new goods bias** J B>KP QE>Q QEB OFPB FK QEB MOF@B LC > CFUBA ?>PHBQ LC DLLAP LSBO QF J B QBKAP QL LSBOQ>QB QEB OFPB FK > @LKPR J BOP QORB @LPQ LC IFSFKD ?B@>RPB FQ ALBP KLQ >@LRKQ

CLO ELT F J MOLSB J BKQP FK QEB NR>IFQV LC BUFPQFKD DLLAP LO QEB FKSBBQFLK LC KBT DLLAP F J MOLSBP QEB PQ>KA>OA LC IFSFKD 3EB CLILTFKD " IB>0 (Q 4M CB>QROB FP > J RPQ OB>A LK ELT PQ>QFPQF@F>KP @L J MOFPB >KA @>I@RI>QB QEB " / (

# Clear It Up



**BJ 7B - + :BI8EA@8AG FG4G<FG<6<4AF @84FHE8 G;8 BAFH@8E (E<68 !A78K**

7EBK QEB 5 3 "ROB>R LC ,>?LO 3Q>QFPQF@P " ,3 @>I@RI>QB QEB #LKPR JBO OOF@B )KABU QEB CFOPQ Q>PH FP QL AB@FAB LK > ?>PHBQ LC DLLAP QE>Q FP OBMOBPBKQ>QFSB LC QEB MRQ@E>PBP LC QEB >SBO>DB ELRPBELIA 7B AL QEFP ?V RPFKD QEB #LKPR JBO %UMBKAFQROB 3ROSbv > K>QFLK>I PROSBV LC >?LRQ ELRPBELIAP TEF@E MOLSFABP ABQ>FIBA FKCLQ J>QFLK LK PMBKAFKD E>?FQP 3Q>QFPQF@F>KP AFSFAB @LKPR JBO BUMBKAFQROBP FKQL BFDEQ J>GLO DOLRMP PBBK ?BILT TEF@E FK QROK QEBV AFSFAB FKQL JLOB QE>K FKAfSfAR>I FQBJ @>QBDLOFBP 4EB " ,3 @R00BKQIV RPBP ^ >P QEB ?>PB MBOFLA

&LO B>@E LC QEB FKAfSfAR>I BUMBKAFQROB FQBJP QEB " ,3 @ELLBPB PBSBO>I ERKA0BA SBOV PMB@FCF@ BU>J MIBP LC QE>Q FQBJ >KA ILLHP >Q QEB MOF@BP LC QELPB BU>J MIBP )K CFDRQFKD LRQ QEB b?0B>HC>PQ @BOB>lc FQBJ RKABO QEB LSB0>II @>QBDLOV LC bCLLAP >KA ?BSBO>DBP c QEB " ,3 MF@HP PBSBO>I ERKA0BA BU>J MIBP LC ?0B>HC>PQ @BOB>I / KB BU>J MIB JFDEQ ?B QEB MOF@B LC > LW ?LU LC > M>OQF@RI>0 ?0>KA LC @BOB>I PLIA >Q > M>OQF@RI>0 PQL0B 4EB " ,3 PQ>QFPQF@>IIV PBIB@QP PMB@FCF@ MOLAR@QP >KA PFWBP >KA PQL0BP QL OBCIB@Q TE>Q MBLMIB ?RV >KA TEB0B QEBV PELM 4EB ?>PHBQ LC DLLAP FK QEB #LKPR JBO OOF@B )KABU QERP @LKPFPQP LC >?LRQ MOLAR@QP QE>Q FP PBSBO>I ERKA0BA PMB@FCF@ MOLAR@QP FK LSB0 ?0L>A FQBJ @>QBDLOFBP 3Q>QFPQF@F>KP QLQ>QB >?LRQ LKB NR>OQBO LC QEBPB PMB@FCF@ MOLAR@QP LC QEB P>J MIB B>@E VB>0 >KA OBMi>@B QEB J TFQE > AfccBOBKQ PBQ LC MOLAR@QP

4EB KBQU P@BM FP QL @LIIB@Q A>Q> LK MOF@BP \$>Q> @LIIB@QLOP SFPFQ LO @>II >?LRQ PQL0BP FK R0?>K >0B>P >II LSB0 QEB 5KfQBA 3Q>QBP BSBOV J LKQE QL @LIIB@Q MOF@BP LK QEBPB PMB@FCF@ MOLAR@QP 4EB " ,3 >IPL @LKAR@QP > PROSBV LC I>KAILQAP LO QBK>KQP QL @LIIB@Q FKCLQ J>QFLK >?LRQ OBKQP

3Q>QFPQF@F>KP QEBK @>I@RI>QB QEB #LKPR JBO OOF@B )KABU ?V Q>HFKD QEB MOF@BP LC FKAfSfAR>I MOLAR@QP >KA @L J ?FKFKD QEB J RPFKD TBfDEQP PBB <:HE8 ABQBO J FKBA ?V QEB NR>KQfQFBP LC QEBPB MOLAR@QP QE>Q MBLMIB ?RV >KA >IILTfKD CLO C>@QLQIP IFHB PR?PQfQRQFLK ?BQTBBK DLLAP >KA NR>IFQV F J MOLSB J BKQP FKQL MOF@B FKAf@BP CLO QEB LO PL LSB0>II FQBJP 4EBK QEB PQ>QFPQF@F>KP @L J ?FKB QEB MOF@B FKAf@BP CLO QEB FQBJP FKQL >K LSB0>II #LKPR JBO OOF@B )KABU !@@L0AfKD QEB #LKPR JBO OOF@B )KABU TB?PQfB QEB0B >0B BFDEQ @>QBDLOFBP QE>Q A>Q> @LIIB@QLOP RPB

, ;8 < : ;G %4=BE 4G8 :BE<8F <A G ;8 BAFH@8E (E<68 !A78K

&LLA >KA ?BSBO>DBP ?0B>HC>PQ @BOB>I J FHH @LCCBB @Ef@HBK TFKB CRII PBOSf@B JB>IP >KA PK>@HP (LRPFKD OBKQBOaP @LQP LC ELRPFKD EL J BLTKBOaP @LQP LC ELRPFKD CRBI LFI ?BAOLL J CROKfQROB !MM>0BI JBKaP PEFQOP >KA PTB>QBOP TLJBKaP AOBPPBP @BTBIOV 40>KPMLQ>QFLK KBT SBEf@IBP >FOIFKB C>OBP D>PLIFKB J LQLO SBEf@IB FKPRO>K@B -BAf>I @>0B MOBP@OFMQFLK AORDP >KA JBAf@>I PRMMIFBP MEVPF@F>KPa PBOSf@BP BVBDI>PPBP >KA BVB @>0B ELPMFQ>I PBOSf@BP 2B@0B>QFLK QBISFPFLKP @>?IB QBISFPFLK MBQP >KA MBQ MOLAR@QP PMLQOP BNRfM J BKQ >A J FPPFLKP %AR@>QFLK >KA @L J JRKf@>QFLK @LIIBDB QRfQFLK MLPQ>DB QBIMELKB PBOSf@BP @L J MRQBO PLQOT>0B >KA >@BPPLQFBP /QEBO DLLAP >KA PBOSf@BP QL?>@L >KA PJLHFKD MOLAR@QP E>FO@RQP >KA LQEBO MB0PLK>I PBOSf@BP CRKBO>I BUMBKBPB

<:HE8 ,;8 / 8< ;&A: B9 (! B@CBA8AGF / C QEB BfDEQ @>QBDLofBP RPBA QL DBKB0>QB QEB #LKPR JB0  
OOf@B )KABU ELRPFKD fP QEB EfDEBPQ >Q 4EB KBUQ EfDEBPQ @>QBDLOV CLLA >KA ?BSB0>DB >Q fP IBPP  
QE>K E>IC QEB PFWB LC ELRPFKD / QEB0 DLLAP >KA PBOF@BP >KA >MM>QBI >QB QEB ILTBPQ >Q >KA  
QBPMB@fSBIV 3LR0@B TTT ?IP DLS @MF

## ,;8 (! 4A7 BE8 !A9?4G<BA !A78K

( J >DFKB FC VLR TBOB AOfSFKD > @L J M>KV QOR@H >@OLPP QEB @LRKQOV VLR MOL??>?IV TLRIA @>OB >?LRQ QEFKDP IFHB QEB MOF@BP  
LC >S>FI>?IB OL>APFAB CLLA >KA J LQBI OLL J P >P TBII >P QEB QOR@HdP LMB0>QFKD @LKAFQFLK ' LTBBS0 QEB J >K>DBO LC QEB  
CFO J J FDEQ E>SB AFCCBOBKQ MOFLOfQFBP ' B TLRIA @>OB J LPQIV >?LRQ QEB QOR@HdP LK QF J B MBOCLO J >K@B >KA J R@E IBPP PL  
>?LRQ QEB CLLA VLR TBOB B>QFKD >KA QEB MI>@BP VLR TBOB PQ>VFKD (K LQEB0 TLOAP QEB @L J M>KV J >K>DBO TLRIA ?B  
M>VFKD >QQBKQFLK QL QEB CFO J P MOLAR@QFLK TEFIB FDKLOfKD QO>KPFQLOV BIB J BKQP QE>Q F J M>@QBA VLR ?RQ AFA KLQ >CCB@Q QEB  
@L J M>KVdP ?LQQL J IFKB

(K > PBKPB > PF J FI>O PFQR>QFLK L@@ROP TFQE OBD>OA QL J B>PROBP LC FKCI>QFLK P TBdSB IB>OKBA " / ( J B>PROBP MOF@BP >P  
QEBV >CCB@Q BSBOVA>V ELRPBELIA PMBKAFKD \$@LKL J FPQP QVMF@IIV @>I@RI>QB > **core inflation index** ?V Q>HEKD QEB " / ( >KA  
BU@IRAFKD SLI>QFIB B@LKL J F@ S>OF>?IBP (K QEFP T>V B@LKL J FPQP E>SB > ?BQQBO PBKPB LC QEB RKABOIVFKD QOBKAP FK MOF@BP  
QE>Q >CCB@Q QEB @LPQ LC IFSFKD

\$U> J MIBP LC BU@IRABA S>OF>?IBP FK@IRAB BKBODV >KA CLLA MOF@BP TEF@E @>K GR J M >OLRKA COL J J LKQE QL J LKQE ?B>RBP  
LC QEB TB>QEB0 @@LOAFKD QL >K >Qf@IB ?V \*BKQ !BOKE>OA AROFKD ' ROOF@>KB \*>QfK> FK > HBV PRMMIV MLFKQ CLO  
QEB K>QFLKdP D>PLIFKB T>P KB>OIV HKL@HBA LRQ &>P MOF@BP NRF@HIV PELQ RM >@OLPP QEB K>QFLK FK PL J B MI>@BP ?V RM QL  
@BKQP > D>IILK FK LKB A>V 3EFP T>P KLQ QEB @>RBP LC >K B@LKL J F@ MLIF@V ?RQ O>QEB0 > PELOQ IFSBA BSBKQ RKQFI QEB  
MR J MP TBOB OBPQLOBA FK QEB OBDfLK (K QEFP @>PB QEB " / ( QE>Q J LKQE TLRIA OBDfPQBO QEB @E>KDB >P > @LPQ LC IFSFKD BSBKQ  
QL ELRPBELIAP ?RQ QEB @LOB FKCI>QFLK FKABU TLRIA OB J >FK RK@E>KDBA P > OBPRIQ QEB %BABO>I 1BPBOSBdP AB@FPFLKP  
LK FKQBOBPQ O>QBP TLRIA KLQ ?B FKCI@RKB@BA 2F J FI>OIV AOLRDEQP @>K @>RBP TLOIA TFAB PMFHBP FK CLLA MOF@BP QE>Q FC  
QB J MLO>OV AL KLQ >CCB@Q QEB K>QFLKdP B@LKL J F@ @>M>?FIFV

P CLO J B0 " E>FO J >K LC QEB %BABO>I 1BPBOSB !BK !BOK>KHB KLQBA FK >?LRQ QEB @LOB FKCI>QFLK FKABU e(Q MOLSfAB P  
> ?BQQBO DRFAB QL J LKBQ>OV MLIF@V QE>K QEB LQEB0 FKAf@BP PFK@B FQ J B>PROBP QEB J LOB MBOPFPQBKQ RKABOIVFKD FKCI>QFLK  
O>QEB0 QE>K QO>KPFQLOV FKCI@RKB@BP LK QEB MOF@B IBSBI f !BOK>KHB >IPL KLQBA QE>Q FQ EBIMP @L J J RKF@>QB QE>Q QEB %BABO>I  
1BPBOSB ALBP KLQ KBBA QL OBPMLKA QL BSOV FKCI>QFLK>OV PEL@H PFK@B PL J B MOF@B @E>KDBP >OB QO>KPFQLOV >KA KLQ M>OQ LC  
> PQOR@QRO>I @E>KDB FK QEB B@LKL J V

(K PR J ?LQE QEB " / ( >KA QEB @LOB FKCI>QFLK FKABU >OB F J MLOQ>KQ ?RQ PBOF@BP AFCCBOBKQ >RAF@BP 3EB " / ( EBIMP  
ELRPBELIAP RKABOPQ>KA QEBFO LSBO>II @LPQ LC IFSFKD COL J J LKQE QL J LKQE TEFIB QEB @LOB FKCI>QFLK FKABU FP > MOBCBOOBA  
D>RDB COL J TEF@E QL J >HB F J MLOQ>KQ DLSBOK J BKQ MLIF@V @E>KDBP

(E46G<64? +B?HG<BAF 9BE G ; 8 +H5FG<GHG<BA 4A7 G ; 8 )H4?<GL &8J BB7F <4F8F

!V QEB B>OIV P QEB !ROB>R LC +>?LO 2Q>QFPQ@P T>P RPFKD >IQBOK>QFSB J>QEB J>QF@>I J BQELAP CLO @>I@RI>QFKD QEB "LKPR J BO /OF@B (KABU J LOB @L J MIF@>QBA QE>K GRPQ >AAFKD RM QEB @LPQ LC > CFUBA ?>PHBQ LC DLLAP QL >IILT CLO PL J B PR>PQFQRQFLK ?BQTTBBK DLLAP (Q T>P >IPL RMA>QFKD QEB ?>PHBQ LC DLLAP ?BEFKA QEB " / ( J LOB COBNRBKQIV PL QE>FQ @LRIA FK@IRAB KBT >KA F J MOLLSBA DLLAP J LOB O>MFAIV %LO @BOQ>FK MOLAR@QP QEB !+2 T>P @>OOVFKD LRQ PQRAFBP QL QOV QL J B>PROB QEB NR>IFV F J MOLSB J BKQ %LO BU> J MIB TFQE @L J MRQBOP >K B@LKL J F@ PQRAV @>K QOV QL >AGRPQ CLO @E>KDBP FK PMBBA J B J LOV P@OBBK PFWB >KA LQEBO MOLAR@Q @E>O>@QBQFPQ@P >KA QEBK @>I@RI>QB QEB @E>KDB FK MOF@B >CQBO >@>LRRKQFKD CLO QEBPB MOLAR@Q @E>KDBP 'LTBSBO QEBPB >AGRPQ J BKQP >OB FKBSFQ?IV F J MBOCB@Q >KA BU>@QIV ELT QL J >HB QEBPB >AGRPQ J BKQP FP LCQBK > PLR@>B LC @LKQQLSBOPV > J LKD MOLCBPPFLK>I B@LKL J FPQP

!V QEB B>OIV P QEB PR>PQFQRQFLK ?F>P >KA NR>IFV KBT DLLAP ?F>P E>A ?BBK PL J BTE>Q OBAR@BA PL QE>Q PFK@B QEBK QEB OFPB FK QEB " / ( MOL?>?IV LSBOPQ>QP QEB QORB OFPB FK FKCI>QFLK ?V LKIV >?LRQ MBO VB>O . SBO LKB LO > CBT VB>OP QEFP FP KLQ J R@E . SBO > MBOFLA LC > AB@>AB LO QTL BSBK E>IC LC > MBO@BKQ MBO VB>O @L J MLRKAP QL > J LOB PFDKFCF@>KQ > J LRRQ (K >AAFQFLK QEB " / ( QO>@HP MOF@BP COL J MEVPF@>I IL@>QFLK >KA KLQ >Q LKIFKB PFQBP IFHB J >WLK TEBOB MOF@BP @>K ?B ILTBO

6 EBK J B>PROFKD FKCI>QFLK >KA LQEBO B@LKL J F@ PQ>QFPQ@P QLL > QO>ABLCC >OFPBP ?BQTTBBK PF J MIF@FV >KA FKQBOMOBQ>QFLK (C TB @>I@RI>QB QEB FKCI>QFLK O>QB TFQE > ?>PHBQ LC DLLAP QE>Q FP CFUBA >KA RK@E>KDFKD QEBK QEB @>I@RI>QFLK LC >K FKCI>QFLK O>QB FP PQ>FDEQ CLO T>OA ?RQ QEB MOL?IB J P LC PR>PQFQRQFLK ?F>P >KA NR>IFV KBT DLLAP ?F>P THII >OFPB 'LTBSBO TEBK QEB ?>PHBQ LC DLLAP FP >IILTBA QL PEFCQ >KA BSLISB QL OBCIB@Q PR>PQFQRQFLK QL T>OA ILTBO OBI>QFSB MOF@BP NR>IFV F J MOLSB J BKQP >KA KBT DLLAP QEB QB@EKF@>I ABQ>FIP LC @>I@RI>QFKD QEB FKCI>QFLK O>QB DOLT J LOB @L J MIBU

77G<BA4? (E<68 !A7<68F ( (! ( 89?4GBE 4A7 %BE8

3EB ?>PHBQ LC DLLAP ?BEFKA QEB "LKPR J BO /OF@B (KABU OBMOPBPKQ >K >SBO>DB EVMLQEBQF@>I 4 2 ELRPBELIA P @LKPR J MQFLK TEF@E FP QL P>V QE>Q FQ ALBP KLQ BU>@QIV @>MQROB >KVLKBdP MBOPLK>I BUMBOFBK@B 6 EBK QEB Q>PH FP QL @>I@RI>QB >K >SBO>DB IBSBI LC FKCI>QFLK QEFP >MMOL>@E TLOHP CFKB 6 E>Q FC ELTBSBO VLR >OB @LKB@BOKBA >?LRQ FKCI>QFLK BUMBOFBK@BA ?V > @BOQ>FK DOLRM IFHB QEB BIABOIV LO QEB MLLQ LO PFKDIB M>OBKQ C> J FIFBP TFQE @EFIAOBK LO ' FPM>KF@ J BOF@>KP (K PMB@FCF@ PFQR>QFLK > MOF@B FKABU ?>PBA LK QEB ?RVFKD MLTBO LC QEB >SBO>DB @LKPR J BO J >V KLQ CBBI NRPQB OFDEQ

3EFP MOL?IB J E>P > PQ>FDEQ CLO T>OA PLIRQFLK (C QEB "LKPR J BO /OF@B (KABU ALBP KLQ PBOB QEB ABPFOBA MRQMLP QEBK FKSBKQ >KLQEBO FKABU ?>PBA LK > ?>PHBQ LC DLLAP >MMOLMOF>QB CLO QEB DOLRM LC FKQBOPQ 3EB !ROB>R LC +>?LO 2Q>QFPQ@P MR>IFPEBP > KR J ?BO LC BUMBOF J BKQ>I MOF@B FKAF@BP PL J B CLO M>OQF@RI>O DOLRMP IFHB QEB BIABOIV LO QEB MLLQ PL J B CLO AFCCBOBKQ DBLDO>MEF@ >OB>P >KA PL J B CLO @BOQ>FK ?OL>A @>QBDLOFBP LC DLLAP IFHB CLLA LO ELRPFKD

3EB !+2 >IPL @>I@RI>QBP PBSBO>I MOF@B FKAF@BP QE>Q >OB KLQ ?>PBA LK ?>PHBQ LC @LKPR J BO DLLAP %LO BU> J MIB QEB **Producer Price Index (PPI)** FP ?>PBA LK MOF@BP M>FA CLO PRMMIFBP >KA FKMRQP ?V MOLAR@BOP LC DLLAP >KA PBOF@BP 6 B @>K ?OB>H FQ ALTK FKQL MOF@B FKAF@BP CLO AFCCBOBKQ FKARPQOFPB @L J J LAFQFBP >KA PQ>DBP LC MOL@BPPFKD IFHB CFKFPBBA DLLAP FKQBO J BAF>QB DLLAP LO @ORAB J >QBOF>IP CLO CROQEBO MOL@BPPFKD 3EBOB FP >K **International Price Index** ?>PBA LK QEB MOF@BP LC J B@E>KAFPB QE>Q FP BUMLOQBA LO F J MLOQBA K **Employment Cost Index** J B>PROBP T>DB FKCI>QFLK FK QEB I>?LO J >OHBQ 3EB **GDP deflator** TEF@E QEB !ROB>R LC \$@LKL J F@ K>IVPPF J B>PROBP FP > MOF@B FKABU QE>Q FK@IRABP >II QEB &# / @L J MLKBKQP QE>Q FP @LKPR J MQFLK MIRP FKSBPQ J BKQ MIRP DLSBOK J BKQ MIRP BUMLOQP J FKRP F J MLOQP 4 KIFHB QEB " / ( FQP ?>PHBQ >OB KLQ CFUBA ?RQ OB @>I@RI>QB TE>Q QE>Q VB>OdP &# / TLRIA E>SB ?BBK TLOQE RPFKD QEB ?>PB VB>OdP MOF@BP , (3 P ! FIFLK /OF@BP /OLGB@Q FP > J LOB OB@BKQ >IQBOK>QFSB >QB J MQ QL J B>PROB MOF@BP B@LKL J FPQP @LIIB@Q A>Q> LKIFKB COL J OBQ>FIBOP >KA QEBK MRQ QEB J FKQL >K FKABU QE>Q QEBV @L J M>OB QL QEB " / ( 2LRO@B EQQM ?MM J FQ BAR RP>

6 E>QdP QEB ?BPQ J B>PROB LC FKCI>QFLK (C LKB FP @LKB@BOKBA TFQE QEB J LPQ >@>RO>QB J B>PROB LC FKCI>QFLK LKB PELRIA RPB QEB &# / ABCI>QLO >P FQ MF@HP RM QEB MOF@BP LC DLLAP >KA PBOF@BP MOLAR@BA 'LTBSBO FQ FP KLQ > DLLA J B>PROB LC QEB @LPQ LC IFSFKD >P FQ FK@IRABP MOF@BP LC J >KV MOLAR@QP KLQ MRO@E>PBA ?V ELRPBELIA P CLO BU> J MIB >FO@O>CQ CFOB BKDFKBP C>@QLOV ?RFIAFKDP LCCF@B @L J MIBUBP >KA ?RIIALWBOP (C LKB T>KQP QEB J LPQ >@>RO>QB J B>PROB LC FKCI>QFLK >P FQ F J M>@QP ELRPBELIA P LKB PELRIA RPB QEB " / ( >P FQ LKIV MF@HP RM MOF@BP LC MOLAR@QP MRO@E>PBA ?V ELRPBELIA P 3E>Q FP TEV B@LKL J FPQP PL J BQF J BP OBCBO QL QEB " / ( >P QEB @LPQ LC IFSFKD FKABU P QEB !ROB>R LC +>?LO 2Q>QFPQ@P PQ>QBP LK FQP TB>PFQB e3EB c?BPQd J B>PROB LC FKCI>QFLK CLO > DFSBK >MMIF@>QFLK ABMBKAP LK QEB FKQBKABA RPB LC QEB A>Q> f

# N BJ G;8 - + 4A7 'G;8E BHAGE<8F KC8E<8A68 !A9?4G<BA

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

d (ABKQFCV M>QQBOKP LC FKCI>QLK CLO QEB 4KFQBA 2Q>QBP RPFKD A>Q> COL J QEB " LKPR J BO /OF@B (KABU

d (ABKQFCV M>QQBOKP LC FKCI>QLK LK >K FKQBOK>QLK>I IBSBI

(K QEB I>PQ QE0BB AB@>ABP FKCI>QLK E>P ?BBK OBI>QFSBIV ILT FK QEB 4 2 B@LKL J V TFQE QEB " LKPR J BO /OF@B (KABU  
QVMF@>IIV OFPFKD QL MBO VB>0 +LLHFKD ?>@H LSBO QEB QTBKQFBQE @BKQROV QEBOB E>SB ?BBK PBSBO>I MBOFLAP TEBOB  
FKCI>QLK @>RPBA QEB MOF@B IBSBI QL OFPB >Q ALR?IB AFDQ 0>QBP ?RQ KLQEFKD E>P @L J B @ILPB QL EVMBOFKCI>QLK

## <FGBE<64? !A9?4G<BA <A G;8 - + 6BAB@L

<:HE8 > PELTP QEB IBSBI LC MOF@BP FK QEB " LKPR J BO /OF@B (KABU PQQBQ@EFKD ?>@H QL (K QEFP @>PB QEB ?>PB  
VB>OP TEBK QEB " / ( FP ABCFKBA >P >OB PBQ CLO QEB >SBO>DB IBSBI LC MOF@BP QE>Q BUFPQBA COL J QL <:HE8  
? PELTP QEB >KKR>I MBO@BKQ>DB @E>KDBP FK QEB " / ( LSBO QF J B TEF@E FP QEB FKCI>QLK 0>QB

<:HE8 - + (E<68 \$818? 4A7 !A9?4G<BA \*4G8F F<A68 ' 0>ME > PELTP QEB QOBKAP FK QEB 5 3 MOF@B IBSBI COL J  
 QEB VB>0 QL )K QEB DO>ME PQ>QPP LRQ @ILPB QL QFPBP QL >OLRKA FK PQ>VP >OLRKA LO  
 RKQFI QEBK C>IIP QL LO RKQFI )Q DO>AR>IIV FK@OB>PBP RKQFI >?LRQ QEBK FK@OB>PBP J LOB 0>MFAIV  
 QEOLRDE QEB OB J>FKABO LC QEB P >KA ?BVLKA TRQE MBOFLAF@ AFMP RKQFI TEBK FQ OB>@EBA >OLRKA ' 0>ME ?  
 PELTP QEB QOBKAP FK 5 3 FKCI>QLK 0>QBP COL J QEB VB>0 QL )K QEB DO>ME PQ>QPP LRQ TRQE FKCI>QLK >Q  
 >I J LPQ GR J MP QL >?LRQ FK AOLMP AO>PQF@>IIV QL @ILPB QL ^ FK DLBP RM >KA ALTK MBOFLAF@>IIV  
 TRQE MB>HP FK QEB P >KA QEB P RKQFI PBQQIFKD QL >OLRKA FK

3EB CFOPQ TTL T>SBP LC FKCI>QLK >OB B>PV QL @E>0>@QBOFWB FK EFPQLof@>I QBO J P QEBV >OB OFDEQ >CQBO 6 LOIA 6 >0 (>KA 6 LOIA  
 6 >0 (( ' LTBSBO QEBOB >OB >IPL QTL MBOFLAP LC PBSBOB KBD>QFSB FKCI>QLK b @>IIBA **deflation** b FK QEB B>OIV AB@>ABP LC  
 QEB QTBKQFBQE @BKQROV LKB CLIIILTFKD QEB ABBM OB@BPPFLK LC >KA QEB LQEBO AROFKD QEB P &OB>Q #BMOBPPFLK  
 LC QEB P 2FK@B FKCI>QLK FP > QF J B TEBK QEB ?RVFKD MLTBO LC J LKBV FK QBO J P LC DLLAP >KA PBOSF@BP FP OBAR@BA  
 ABCI>QLK THH ?B > QF J B TEBK QEB ?RVFKD MLTBO LC J LKBV FK QBO J P LC DLLAP >KA PBOSF@BP FK@OB>PBP %LO QEB MBOFLA  
 COL J QL >?LRQ QEB J >GLO FKCI>QLK >KA ABCI>QLK KB>OIV ?>I>K@BA B>@E LQEBO LRQ PL QEB >SBO>DB >KKR>I  
 0>QB LC FKCI>QLK LSBQ QEBPB VB>OP T>P LKIV >?LRQ MBO VB>0 QEFOA T>SB LC J LOB PBSBOB FKCI>QLK >OOFsBA FK QEB

P >KA ABM>0QBA FK QEB B>0IV P

# Link It Up

6fPfq QEFp TB?PqB EQM LMBKp>U L0D I #O)=@>I@RI>QL0 QL RPB >K FKCI>QLK @>I@RI>QL0 >KA AFP@LSBO ELT MOF@BP  
E>SB @E>KDBA FK QEB I>PQ VB>0P

3F J BP LC OB@BPPFLK L0 ABMOBPPFLK LCQBK PBB J QL ?B QF J BP TEBK QEB FKCI>QLK 0>QB FP ILTBO >P FK QEB OB@BPPFLK LC  
a QEB &0B>Q #BMOBPPFLK QEB OB@BPPFLK LC a >KA QEB &0B>Q 1B@BPPFLK FK a 3EBOB TBOB  
> CBT J LKQEP FK QE>Q TBOB ABCI>QLK>0V ?RQ KLQ >Q >K >KKR>I 0>QB ' FDE IBSBIP LC RKB J MILV J BKQ QVMF@>IIV  
>@L J M>KV OB@BPPFLK >KA QEB QLQ>I AB J >KA CLO DLLAP C>IIP MRIIFKD QEB MOF@B IBSBI ALTK "LKSBOBPBIV QEB 0>QB LC  
FKCI>QLK LCQBK ?RQ KLQ >IT>VP PBB J P QL PQ>0Q J LSFKD RM TEBK QEB B@LKL J V FP DOLTFKD SBOV PQOLKDIV IFHB OFDEQ >CQBO  
T>0QF J B LO AROFKD QEB P 3EB CO> J BTLOHP CLO J >@OLB@LKL J F@ >K>IVPPF QE>Q TB ABSBILMBA FK LQEB0 @E>MQBOP TFII  
BUMI>FK TEV OB@BPPFLK LCQBK >@L J M>KFBP EFDEBO RKB J MILV J BKQ >KA ILTBO FKCI>QLK TEFIB 0>MFA B@LKL J F@ DOLTQE  
LCQBK ?0FKDP ILTBO RKB J MILV J BKQ ?RQ EFDEBO FKCI>QLK

## !A9?4G<BA 4EBHA7 G; 8 / BE?7

OLRKA QEB OBPQ LC QEB TLOIA QEB M>QQBOK LC FKCI>QLK E>P ?BBK SBOV J FUBA <:HE8 PEL TP FKCI>QLK 0>QBP LSBO QEB  
I>PQ PBSBO>I AB@>ABP , >KV FKARPQOF>IFWBA @LRKQOFBP KLQ GRPQ QEB 4KFQBA 2Q>QBP E>A OBI>QFSBIV EFDE FKCI>QLK 0>QBP FK  
QEB P %LO BU> J MIB FK )>M>KdP FKCI>QLK 0>QB T>P LSBO >KA QEB FKCI>QLK 0>QB CLO QEB 4KFQBA \*FKDAL J  
T>P >I J LPQ (K QEB P FKCI>QLK 0>QBP @> J B ALTK FK QEB 4KFQBA 2Q>QBP >KA FK \$R0LMB >KA E>SB I>0DBIV PQ>VBA  
ALTK

<:HE8 BHAGE<8F J<G; \*8?4G<18?L \$BJ !A9?4G<BA \*4G8F P 4EFP @E>0Q PELTP QEB >KKR>I MBO@BKQ>DB  
@E>KDB FK @LKPR JBO MOF@BP @LJM>0BA TFQE QEB M0BSfLRP VB>0:P @LKPR JBO MOF@BP FK QEB 5KFQBA 3Q>QBP QEB 5KFQBA  
+FKDALJ \*>M>K >KA 'B0J>KV

"LRKQOFBP TFQE @LKQOLIIBA B@LKL JFBP FK QEB P IFHB QEB 2LSFBQ 4KFLK >KA "EFK> EFPQLOF@>IIV E>A SBOV ILT 0>QBP  
LC JB>PROBA FKCI>QLK b ?B@>RPB MOF@BP TBOB CLO?FAABK QL OFPB ?V I>T BU@BMQ CLO QEB @>PBP TEBOB QEB DLSBOK JBKQ  
ABB JBA > MOF@B FK@OB>PB QL ?B ARB QL NR>IFQV F J MOLSB JBKQP ' LTBSBO QEBPB @LRKQOFBP >IPL E>A MBOMBQR>I PELOQ>DBP LC  
DLLAP PFK@B CLO?FAAFKD MOF@BP QL OFPB >@QP IFHB > MOF@B @BFIFKD >KA @OB>QBP > PQR>QLK TEBOB NR>KQFV AB J>KABA LCQBK  
BU@BBAP NR>KQFV PRMMIFBA P 1RPPF> >KA "EFK> J>AB > QO>KPFQFLK QLT>0A J LOB J >0HBQ LOFBKQBA B@LKL JFBP QEBV >IPL  
BUMBOFBK@BA LRQ?ROPQ LC FKCI>QLK >IQELRDE TB PELRIA OBD>0A QEB PQ>QFPQF@P CLO QEBPB B@LKL JFBP >P PL JBTE>Q PE>HFBO  
(KCI>QLK FK "EFK> >SBO>DBA >?LRQ MBO VB>0 CLO JR@E LC QEB P >KA B>OIV P >IQELRDE FQ E>P AOLMMBA  
LCC PFK@B QEBK 1RPPF> BUMBOFBK@BA **hyperinflation** b >K LRQ?ROPQ LC EFDE FKCI>QLK b LC MBO VB>0 FK QEB B>OIV  
P >IQELRDE ?V 1RPPF>@P @LKPR JBO MOF@B FKCI>QLK E>A AFMMBA ?BILT MBO VB>0 >P <:HE8 PELTP  
3EB @ILPBPQ QEB 4KFQBA 2Q>QBP E>P BSO OB>@EBA EVMBOFKCI>QLK T>P AROFKD QEB a "FSFI 6>0 FK QEB "LKCABO>QB  
PQ>QBP



#E>MqB0 X)KCl>FLK

<:HE8 BHAGE<8F J<G; \*8?4G<18?L <:; !A9?4G<BA \*4G8F P 4EBPB @E>QQP PELT QEB MBO@BKQ>DB @E>KDB
FK @LKPJR JB MOF@BP @LJ M>OBA TFQE QEB MOBSFLRP VB>OaP @LKPJR JB MOF@BP FK "O>WFI #EFK> >KA 2RPPf> > /C QEBPB
"O>WFI >KA 2RPPf> BUMBOFBK@BA SBOV EFDE FKCI>QLK >Q PL JB MLFKQ ?BQTBBK QEB I>QB P >KA I>QB P ? 4ELRDE
KLQ >P EFDE #EFK> >IPL E>A EFDE FKCI>QLK O>QB FK QEB JFA P %SBK QELRDE QEBFO FKCI>QLK O>QB E>SB @LJB ALTK
LSBO QEB I>PQ QTL AB@>ABP PBSBO>I LC QEBPB @LRKQOFBP @LKQFKRB QL PBB PFDKFCF@>KQ FKCI>QLK O>QB 3LR0@BP
EQQM TTT FKCI>QLK BR FKCI>QLK O>QB EQM OBPB>0@E PQLRfPCBA LOD COBA PBOFBP &O#O)4 / 4 , : ' " 2 !
EQM OBPB>0@E PQLRfPCBA LOD COBA PBOFBP # ( . #O) ! , , - . - %) EQM OBPB>0@E PQLRfPCBA LOD COBA PBOFBP
&O#O)4 / 4 , : ' 2 5 3

, >KV @LRKQOFBP FK +>QFK JBOF@> BUMBOFBK@BA O>DFKD FKCI>QLK AROFKD QEB P >KA B>OIV P TFQE FKCI>QLK O>QB
LCQBK TBII >?LSB MBO VB>0 (K CLO BU> J MIB ?LQE ! O>WFI >KA ODBKQFK> P>T FKCI>QLK @IFJ ?>?LSB
"BOQ>FK @LRKQOFBP FK COF@> BUMBOFBK@BA BUQOB J BIV EFDE O>QB LC FKCI>QLK PL JBQF JBP ?LOABOFKD LK EVMBOFKCI>QLK FK
QEB P - FDBOF> QEB J LPQ MLMRILRP @LRKQOV FK COF@> E>A >K FKCI>QLK O>QB LC FK

(K QEB B>OIV P QEB MOL?IB J LC FKCI>QLK >MMB>OP QL E>SB AF J FKPEBA CLO J LPQ @LRKQOFBP >Q IB>PQ FK @LJ M>OFPLK QL
QEB TLOPQ QF JBP LC OB@BKQ AB@>ABP P TB KLQBA FK QEFP B>OIFBO ! OFKD FQ ' L JB CB>QROB FK OB@BKQ VB>OP QEB TLOIADP TLOPQ
BU> J MIB LC EVMBOFKCI>QLK T>P FK 9F J ?>?TB TEBOB >Q LKB MLFKQ QEB DLSBOK J BKQ T>P FPPRFKD ?FIIP TFQE > C>@B S>IRB
LC QOFIIFLK FK 9F J ?>?TB>K ALII>OP b QE>Q FP QEB ?FIIP E>A TOFQQBK LK QEB COLKQ ?RQ TBOB
>I J LPQ TLOQEIBPP (K J >KV @LRKQOFBP QEB J B J LOV LC ALR?IB AFDFQ QOFMIB AFDFQ >KA BSBK NR>AORMIB AFDFQ FKCI>QLK FP
KLQ SBOV C>O FK QEB M>PQ

## N , ; 8 BA9HF<BA ' I 8E !A9?4G<BA

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK ELT FKCI>QLK @>K @>RPB OBAFPQF?RQFLKP LC MRO@E>PFKD MLTBO
- d (ABKQFCV T>VP FKCI>QLK @>K ?IRO QEB MBO@BMQFLK LC PRMMIV >KA AB J >KA
- d \$UMI>FK QEB B@LKL J F@ ?BKBCFP >KA @E>IIBKDBP LC FKCI>QLK

\$@LKL J FPQ RPR>IIV LMMLPB EFDE FKCI>QLK ?RQ QEBV LMMLPB FQ FK > JFIABO T>V QE>K J >KV KLK B@LKL J FPQ 1L?BOQ
2EFHIBO LKB LC dP -L?BI /OFWB TFKKBOP FK B@LKL J F@P @>OOFBA LRQ PBSBO>I PROSBVP AROFKD QEB P >?LRQ >QQFQABP
QLT>OA FKCI>QLK .KB LC EFP NRBPQLKP >PHBA e#L VLR >DOBB QE>Q MOBSBKQFKD EFDE FKCI>QLK FP >K F J MLOQ>KQ K>QLK>I
MOFLOFQV >P F J MLOQ>KQ >P MOBSBKQFKD AORD >?RPB LO MOBSBKQFKD ABQBOFLO>QLK FK QEB NR>IFQV LC LRO P@ELLIP f KPTBOP
TBOB LK >P @>IB LC a TEBOB JB>KQ e%RIIV >DOBBf >KA JB>KQ e" L J MIBQIV AFP>DOBB f %LO QEB 4 2 MLMRI>QLK >P
> TELIB >KPTBOBA e%RIIV >DOBBf QE>Q MOBSBKQFKD EFDE FKCI>QLK T>P > EFDEIV F J MLOQ>KQ K>QLK>I MOFLOFQV >KA GRPQ
P>FA e" L J MIBQIV AFP>DOBB f ' LTBSBO > J LKD MOLCBPPFLK>I B@LKL J FPQ LKIV >KPTBOBA e%RIIV >DOBB f TEFIB
QEB P> J B MBO@BKQ>DB LC >KPTBOBA e" L J MIBQIV AFP>DOBB f

## , ; 8 \$4A7 B9 HAAL %BA8L

6 E>Q >OB QEB B@LKL J F@ MOL?IB J P @>RPBA ?V FKCI>QLK >KA TEV AL B@LKL J FPQ LCQBK OBD>OA QEB J TFQE IBPP @LK@BOK
QE>K QEB DBKBO>I MR?IF@ " LKPFABO > SBOV PELOQ PQL0V e3EB +>KA LC %RKKV , LKBV f

. KB J LOKFKD BSOVLKB FK QEB +>KA LC %RKKV , LKBV >T>HBKBA QL CFKA QE>Q BSOVQEFKD ABKL J FK>QBA FK J LKBV E>A
FK@OB>PBA ?V 3EB @E>KDB T>P @LJ MIBQIV RKBUMB@QBA \$SBOV MOF@BK BSBOV PQL0B T>P EFDEBO />V@EB@HP
TBOB EFDEBO (KQBOBPQ O>QB TBOB EFDEBO 3EB >JLRQ LC J LKBV BSOVTEBOB COLJ T>IIBQP QL P>SFKDP
>@LRKQP T>P I>ODBO 3EFP LSBOKFDEQ FKCI>QLK LC MOF@BP J>AB KBTMP>MBO EB>AIFKBP BSOVTEBOB FK QEB +>KA
LC %RKKV , LKBV ' LTBSBO QEB EB>AIFKBP NRF@HIV AFP>MMB>OBA >P MBLMIB OB>IFWBA QE>Q FK QBO J P LC TE>Q QEBV @LRIA
>@QR>IIV ?RV TFQE QEBFO FK@LJ BP QEFP FKCI>QLK E>A KL B@LKL J F@ F J M>@Q \$SBOVLKBdP M>V @LRIA PQFII ?RV BU>@QIV QEB
P> J B PBQ LC DLLAP >P FQ AFA ?BCL0B \$SBOVLKBdP P>SFKDP TBOB PQFII PRCCF@FBKQ QL ?RV BU>@QIV QEB P> J B @>O S>@>QLK LO
OBQFOB J BKQ QE>Q QEBV @LRIA E>SB ?LRDEQ ?BCL0B \$NR>I IBSBIP LC FKCI>QLK FK >II T>DBP >KA MOF@BP BKABA RM KLQ J >QOBFKD
JR@E >Q >II

6 EBK QEB MBLMIB FK 1L?BOQ 2EFHIB0dP PROSBVP BUMI>FKBA QEBFO @LK@BOK >?LRQ FKCI>QLK LKB QVMF@>I OB>PLK T>P QE>Q QEBV
CB>OBA QE>Q >P MOF@BP OLPB QEBV TLRIA KLQ ?B >?IB QL >CCL0A QL ?RV >P JR@E (K LQEB0 TLOAP MBLMIB TBOB TLOOFBA
?B@>RPB QEBV AFA KLQ IFSB FK > MI>@B IFHB QEB +>KA LC %RKKV , LKBV TEBOB >II MOF@BP >KA T>DBP OLPB PF J RIQ>KBLRPV
(KPQB>A MBLMIB IFSB EBOB LK /I>KBQ \$>OQE TEBOB MOF@BP J FDEQ OFPB TEFIB T>DBP AL KLQ OFPB >Q >II LO TEBOB T>DBP OFPB
J LOB PILTIV QE>K MOF@BP

\$@LKL J FPQ KLQB QE>Q LSBO J LPQ MBOFLAP QEB FKCI>QLK IBSBI FK MOF@BP FP OLRDEIV PF J FI>O QL QEB FKCI>QLK IBSBI FK T>DBP >KA PL QEBV OB>PLK QE>Q LK >SBO>DB LSBO QF J B MBLMIBdP B@LKL J F@ PQ>QRP FP KLQ DOB>QIV @E>KDBA ?V FKCI>QLK (C >II MOF@BP T>DBP >KA FKQBOBPQ O>QBP >AGRPQBA >RQL J >QF@>IIV >KA F J J BAF>QBIV TFQE FKCI>QLK >P FK QEB +>KA LC %RKKV , LKBV QEBK KL LKBdP MRO@E>PFKD MLTBO MOLCFQP LO OB>I IL>K M>V J BKQP TLRIA @E>KDB 'LTBSBO FC LQEBO B@LKL J F@ S>QF>?IBP AL KLQ JLSB BU>@QIV FK PVK@ TFQE FKCI>QLK LO FC QEBV >AGRPQ CLO FKCI>QLK LKIV >CQBO > QF J B I>D QEBK FKCI>QLK @>K @>RPB QE0BB QVMBP LC MOL?IB J P RKFKQBKABA OBAFPQF?RQFLKP LC MRO@E>PFKD MLTBO ?IRO0BA MOF@B PFDK>IP >KA AFCCF@RIQFBP FK ILKD QBO J MI>KKFKD

-A<AG8A787 \*87<FGE<5HG<BAF B9 (HE6;4F<A: (BJ8E

(KCI>QLK @>K @>RPB OBAFPQF?RQFLKP LC MRO@E>PFKD MLTBO QE>Q EROQ PL J B >KA EBIM LQEBOP /BLMIB TEL >OB EROQ ?V FKCI>QLK FK@IRAB QELPB TEL >OB ELIAFKD @LKPFA0>?IB @>PE TEBQEBO FQ FP FK > P>CB ABMLPFQ ?LU LO FK > @>0A?L>0A ?LU RKABO QEB ?BA 6 EBK FKCI>QLK E>MMBKP QEB ?RVFKD MLTBO LC @>PE AF J FKPEBP 'LTBSBO @>PE FP LKIV >K BU>J MIB LC > J LOB DBKBO>I MOL?IB J >KVLKB TEL E>P CFK>K@F>I >PPBP FKSBPQBA FK > T>V QE>Q QEB KL J FK>I OBQROK ALBP KLQ HBBM RM TFQE FKCI>QLK TFII QBKA QL PRCCBO COL J FKCI>QLK %LO BU>J MIB FC > MBOPLK E>P J LKBV FK > ?>KH >@@LRKQ QE>Q M>VP FKQBOBPQ ?RQ FKCI>QLK OFPBP QL QEBK QEB OB>I O>QB LC OBQROK CLO QEB J LKBV FKSBPQBA FK QE>Q ?>KH >@@LRKQ FP KBD>QFSB

3EB MOL?IB J LC > DLLA ILLHFKD KL J FK>I FKQBOBPQ O>QB QO>KPCLO J FKD FKQL >K RDIV ILLHFKD OB>I FKQBOBPQ O>QB @>K ?B TLOPBKBA ?V Q>UBP 3EB 4 2 FK@L J B Q>U FP @E>ODBA LK QEB KL J FK>I FKQBOBPQ OB@BFSBA FK ALII>O QBO J P TFQELRQ >K >AGRPQ J BKQ CLO FKCI>QLK 3ERP QEB DLSBOK J BKQ Q>UBP > MBOPLK TEL FKSBPQP >KA OB@BFSBP > KL J FK>I O>QB LC FKQBOBPQ LK QEB OB@BFSBA b KL J >QQBO TEBQEBO QEB FKCI>QLK O>QB FP LO (C FKCI>QLK FP QEBK QEB OB>I FKQBOBPQ O>QB FP >KA >II FP > D>FK FK ?RVFKD MLTBO 'LTBSBO FC FKCI>QLK FP QEBK QEB OB>I FKQBOBPQ O>QB FP WBOL >KA QEB MBOPLK E>A KL OB>I D>FK b ?RQ LTBP FK@L J B Q>U LK QEB KL J FK>I D>FK >KVT>V (C FKCI>QLK FP QEBK QEB OB>I FKQBOBPQ O>QB FP negative >KA QEB MBOPLK FP >@QR>IIV C>IIFKD ?BEFKA FK ?RVFKD MLTBO ?RQ TLRIA PQFII LTB Q>UBP LK QEB FK KL J FK>I D>FKP

(KCI>QLK @>K @>RPB RKFKQBKABA OBAFPQF?RQFLKP CLO T>DB B>OKBOP QLL 6>DBP AL QVMF@>IIV @OBBM RM TFQE FKCI>QLK LSBO QF J B BSBKQR>IIV 3EB I>PQ OLT LC ,45?8 >Q QEB PQ>OQ LC QEPF @E>M@B0 PELTBA QE>Q QEB >SBO>DB ELROIV T>DB FK J >KRC>@QROFKD FK QEB 4 2 B@LKL J V FK@OB>PBA COL J FK QL FK TEF@E FP >K FK@OB>PB ?V > C>@QLO LC J LOB QE>K PFU . SBO QE>Q QF J B MBOFLA QEB "LKPR J BO /OF@B (KABU FK@OB>PBA ?V >K >I J LPQ FABKQF@>I > J LRKQ 'LTBSBO FK@OB>PBP FK T>DBP J >V I>D ?BEFKA FKCI>QLK CLO > VB>O LO QTL PFK@B T>DB >AGRPQ J BKQP >OB LCQBK PL J BTE>Q PQF@HV >KA L@>RO LKIV LK@B LO QTF@B > VB>O , LOBLSBO QEB BUQBKQ QL TEF@E T>DBP HBBM RM TFQE FKCI>QLK @OB>QBP FKPB@ROFQV CLO TLOHBOP >KA J >V FKSLISB M>FKCRI MOLILKDBA @LKCIF@QP ?BQTBK B J MILVBOP >KA B J MILVBOP (C QEB DLSBOK J BKQ >AGRPQP J FKF J R J T>DB CLO FKCI>QLK LKIV FKCOBNRBKQIV J FKF J R J T>DB TLOHBOP >OB ILPFKD MRO@E>PFKD MLTBO COL J QEBFO KL J FK>I T>DBP >P <:HE8 PELTP

<:HEB - + %<A<@H@ / 4:8 4A7 !A9?4G<BA !CQBO >A&RPQFKD CLO FKCI>QFLK QEB CBABO>I JFKFJR J T>DB AOLMMBA J LOB  
QE>K MBO@BKQ COL J QL BSBK QELRDE QEB KL J FK>I CFDR0B @f J ?BA COL J QL MBO ELRO )K@OB>PBP  
FK QEB J FKfJR J T>DB FK ?BQTBBK >KA HBMQ QEB AB@fKB COL J ?BfKD TLOPB\_ >P FQ TLRIA E>SB ?BBK FC QEB  
T>DB E>A OB J >fKBA QEB P> J B >P FQ AfA COL J QEOLRDE 3fK@B QEB OB>I JFKfJR J T>DB E>P @LKQfKRBA QL  
AB@fKB 3LRO@BP EQQM TTT ALI DLS TEA JfKT>DB @E>OQ EQ J EQQM A>q> ?IP DLS @Df ?fK PROSBV J LPQ @R

. KB PFW>?IB DOLRM LC MBLMIB E>P LCQBK OB@BFSBA > I>ODB PE>OB LC QEBFO FK@L J B FK > CLO J QE>Q ALBP KLQ FK@OB>PB LSBO QF J B  
OBQFOBBP TEL OB@BFSB > MOFS>QB @L J M>KV MBKPFK , LPQ MBKPFK E>SB QO>AfQFLK>IIV ?BBK PBQ >P > CFUBA KL J FK>I ALII>O  
> J LRKQ MBO VB>O >Q OBQFOB J BKQ %LO QEFB OB>PLK B@LKL J FPQP @>II MBKPFK eABCFKBA ?BKBCfQpf MI>KP \$SBK FC FKCI>QFLK FP  
ILT QEB @L J ?FK>QFLK LC FKCI>QFLK >KA > CFUBA FK@L J B @>K @OB>QB > PR?PQ>KQf>I MOL?IB J LSBO QF J B MBOPLK TEL OBQFOBP  
LK > CFUBA FK@L J B >Q >DB TFII CFKA QE>Q ILPFKD GRPQ QL LC ?RVFKD MLTBO MBO VB>O QL FKCI>QFLK @L J MLRKAP QL >  
@LKPfABO>?IB ILPP LC ?RVFKD MLTBO >CQBO > AB@>AB LO QTL

%LQQRK>QBIV MBKPFK >KA LQEBO ABCFKBA ?BKBCfQP OBQFOB J BKQ MI>KP >OB FK@OB>PFKDIV O>OB OBMI>@BA FKPQB>A ?V eABCFKBA  
@LKQf?RQFLKf MI>KP PRQE >P H P >KA ? P (K QEBPB MI>KP QEB B J MILVBO @LKQf?RQBP > CFUBA > J LRKQ QL QEB  
TLOHBOdP OBQFOB J BKQ >@@LRKQ LK > OBDRI>O ??>PFP RPR>IIV BSBOV M>V @EB@H 3EB B J MILVBB LCQBK @LKQf?RQBP >P TBII  
3EB TLOHBO FKSBPQ QEBPB CRKAP FK > TFAB O>KDB LC FKSBPQ J BKQ SBEf@IBP 3EBPB MI>KP >OB Q>U ABCBOOBA >KA QEBV >OB  
MLQO>?IB PL QE>Q FC QEB FKAFSFAR>I Q>HBP > GL? TFQE > AfCCBOBK B J MILVBO QEBFO H @L J BP TFQE QEB J 3L QEB BUQBKQ  
QE>Q QEB FKSBPQ J BKQ J >AB DBKBO>QB OB>I O>QB LC OBQROK OBQFOBBP AL KLQ PRCCBO COL J QEB FKCI>QFLK @LPQ LC QO>AfQFLK>I  
MBKPFKBOBOP

' L'TBSBO LOAFK>OV MBLMIB @>K PL J BQf J BP ?BKBCfQ COL J QEB RKFKQBKABA OBAFPQf?RQFLK LC FKCI>QFLK " LKPfABO PL J BLKB  
TEL ?LOOLTP QL ?RV > @>O >Q > CFUBA FKQBOBPQ O>QB LC (C FKCI>QFLK FP >Q QEB Qf J B QEB IL>K FP J >AB QEBK  
EB LO PEB J RPQ OBM>V QEB IL>K >Q > OB>I FKQBOBPQ O>QB LC ' L'TBSBO FC FKCI>QFLK OFPBP QL QEBK QEB OB>I FKQBOBPQ O>QB  
LK QEB IL>K FP WBOL (K QEFB @>PB QEB ?LOOLTBOdP ?BKBCfQ COL J FKCI>QFLK FP QEB IBKABOdP ILPP ?LOOLTBO M>VfKD > CFUBA  
FKQBOBPQ O>QB TEL ?BKBCfQ COL J FKCI>QFLK FP GRPQ QEB CIFM PfAB LC >K FKSBPQLO OB@BfSKD > CFUBA FKQBOBPQ O>QB TEL PRCCBO

COL J FKCI>QLK 3EB IBPPLK FP QE>Q TEBK FKQBOBPQ O>QB >OB CFUBA OFPBP FK QEB O>QB LC FKCI>QLK QBKA QL MBK>IFWB PRMMIFBOP LC CFK>K@F>I @>MFQ>I TEL OB@BFSB OBM>V J BKQ FK ALII>OP QE>Q >OB TLOQE IBPP ?B@>RPB LC FKCI>QLK TEFIB AB J >KABOP LC CFK>K@F>I @>MFQ>I BKA RM ?BQQBO LCC ?B@>RPB QEBV @>K OBM>V QEBFO IL>KP FK ALII>OP QE>Q >OB TLOQE IBPP QE>K LOFDK>IIV BUMB@QBA

3EB RKFQKBKABA OBAFPQOF?RQFLPK LC ?RVFKD MLTBO QE>Q FKCI>QLK @>RPBP J >V E>SB > ?OL>ABO BCCB@Q LK PL@FBQV J BOF@>dP TFABPMOB>A >@>BMQ>K@B LC J >OHBQ CLO@BP OBPQP LK > MBO@BMQFLK QE>Q MBLMIBdP >@QLKP E>SB > OB>PLK>?IB @LKKB@QLK QL J >OHBQ LRQ@L J BP 6 EBK FKCI>QLK @>RPBP > OBQFOBB TEL ?RRIQ RM > MBKPFK LO FKSBPQBA >Q > CFUBA FKQBOBPQ O>QB QL PRCCBO ELTBSBO TEFIB PL J BLKB TEL ?LLOLTBA >Q > CFUBA FKQBOBPQ O>QB ?BKBCFQ COL J FKCI>QLK FQ FP E>OA QL ?BIFBSB QE>Q QEFP LRQ@L J B T>P ABPPOSBA FK >KV T>V 2F J FI>OIV TEBK EL J BLTKBOP ?BKBCFQ COL J FKCI>QLK ?B@>RPB QEB MOF@B LC QEBFO EL J BP OFPBP TEFIB OBKQOB PRCCBO ?B@>RPB QEBV >OB M>VFKD EFDEBO OBKQ FQ FP E>OA QL PBB >KV RPBCKI FK@BKQFSB BCCB@QP . KB LC QEB OB>PLKP QE>Q QEB DBKBO>I MR?IF@ AFPIHBP FKCI>QLK FP > PBKPB QE>Q FQ J >HBP B@LKL J F@ OBT>OAP >KA MBK>IQFBP J LOB >O?FQO>OV b >KA QEBOBCLOB IFHBIV QL ?B MBO@BFSBA >P RKC>FO a BSBK A>KDBOLRP >P QEB KBUQ " IB>O (Q 4M CB>QROB PELTP

# Clear It Up

IF G ; 8E8 4 6BAA86G<BA 58G J 88A 8E@4A ; LC8E<A9?4G<BA 4A7 <G?8ERF E<F8 GB CB J 8E

' BO J >KV PRCCBOBA >K FKQKBKP EVMBOFKCI>QLK LC FQP @R00BK@V QEB - >OH FK QEB VB>OP >QBO 7 LOIA 7 >O ) TEBK QEB 7 BF J >O 2BMR?IF@ FK ' BO J >KV OBPLQBA QL MOFKQFKD J LKBV QL M>V FQP ?HIP >KA QEB LKPBQ LC QEB ' OB>Q \$BMOBPPFLK @OB>QBA QEB PL@F>I QRO J LFI QE>Q ! ALIC ( FQIBO T>P >?IB QL Q>HB >AS>KQ>DB LC FK EFP OFPB QL MLTBO 3EFIBO ABP@OF?BA QEB @LKKB@QLK QEFP T>V FK > . >QLK>I " ROB>R LC %@LKL J F@ 2BPB>Q@E 7 LOHFKD O>MBO

! C>@Q QE>Q FP MOL??>IV IFQIB HKLTK QL VLRKD MBLMIB QLA>V BSBK FK ' BO J >KV FP QE>Q QEB CFK>I @LII>MPB LC QEB - >OH FK QEB QF J B TEBK QEB - >OHAP FKCI>QLK OB>@EBA >PQQLKL J F@>I IBSBIP FKCI>QLK LC FK .LSBJ?BO >ILKB CLO >K >KKR>I O>QB QE>Q J LKQE LC \ @> J B FK QEB P>J B J LKQE >P AFA ( FQIBOaP " BBO (>II ORQP@E EFP . >WF O>QQVaP >O J BA >QQB J MQ QL LSBOQEOLT QEB ' BO J >K DLSBK J BKQ 4EFP C>FIBA MRQP@E OBPRQBA FK ( FQIBOaP F J MOFPLK J BKQ >Q TEF@E QF J B EB TOLQB EFP ?LLH *Mein Kampf* PBQQFKD CLOQE >K FKPMFO>QLK>I MI>K CLO ' BO J >KVaP CRQROB PRDDBPQFKD MI>KP CLO T LOIA AL J FK>QLK

- LPQ MBLMIB FK ' BO J >KV QLA>V MOL??>IV AL KLQ @IB>OIV OB J B J ?BO QEBPB BSBKQP QEFP I>@H LC >QQBKQLK QL FQ J >V ?B ?B@>RPB FQP J B J LOV FP ?IROOBA ?V QEB J LOB AO>J >QF@ BSBKQP QE>Q PR@BBABA FQ QEB . >WF PBRWROB LC MLTBO >KA 7 LOIA 7 >O )) ( LTBSBO QL PL J BLKB IFSFKD QEOLRDE QEBPB EFPQLQF>I BSBKQP FK PBNRBK@B ;QEB MRQP@E< J >V E>SB ?BBK OB J B J ?BOBA >P SFSFA BSfABK@B LC QEB MLQBKQF>I BCCB@QP LC FKCI>QLK

## ?HEE87 (E<68 +< : A4?F

/OF@BP >OB QEB J BPPBKDBOP FK > J >OHBQ B@LKL J V @LKSbVFKD FKLO J >QLK >?LRQ @LKAfQLKP LC AB J >KA >KA PRMMIV (KCI>QLK ?IROP QELPB MOF@B J BPP>DBP (KCI>QLK J B>KP QE>Q TB MBO@BFSB MOF@B PFDK>IP J LOB S>DRBIV IFHB > O>AFL MOLDO> J OB@BFSBA TFQE @LKPfABO>?IB PQ>QF@ (C QEB PQ>QF@ ?B@L J BP PBSBOB FQ FP E>OA QL QBII TE>Q FP E>MMBKFKD

(K (PO>BI TEBK FKCI>QLK >@>BIBO>QBA QL >K >KKR>I O>QB LC FK PL J B PQLOBP PQLMMA MLPQFKD MOF@BP AFOB@QIV LK FQB J P PFK@B QEBV TLRIA E>SB E>A QL MRQ KBT I>?BIP LK QEB FQB J P LO PEBISBP BSOV CBT A>VP QL OBCIB@Q FKCI>QLK (KPQB>A > PELMMBO GRPQ QLH FQB J P COL J > PEBIC >KA TBKQ RM QL QEB @EB@HLRQ OBDFPQBO QL CFKA LRQ QEB MOF@B CLO QE>Q A>V . ?SFLRPV QEFP PFQR>QLK J >HBP @L J M>OFKD MOF@BP >KA PELMMFKD CLO QEB ?BPQ AB>I O>QEBO AFCCF@RIQ 6 EBK QEB IBSBIP >KA @E>KDBP LC MOF@BP ?B@L J B RK@BOQ>FK ?RPFKBPBP >KA FKAfSFAR>IP CFKA FQ E>OABO QL OB>@Q QL B@LKL J F@ PFDK>IP (K > TLOIA TEBOB FKCI>QLK FP >Q > EFDE O>QB ?RQ ?LRK@FKD RM >KA ALTK QL PL J B BUQBKQ ALBP > EFDEBO MOF@B LC > DLLA J B>K QE>Q FKCI>QLK E>P OFPBK LO QE>Q PRMMIV LC QE>Q DLLA E>P AB@OB>PBA LO QE>Q AB J >KA CLO QE>Q DLLA E>P FK@OB>PBA 2ELRIA > ?RVBO LC QEB DLLA Q>HB QEB EFDEBO MOF@BP >P >K B@LKL J F@ EFKQ QL PQ>OQ PR?PQQRQFKD LQEBO MOLAR@QP b LO E>SB QEB MOF@BP LC QEB PR?PQQRQBP OFPBK ?V >K BNR>I > J LRKQ 2ELRIA > PBIIBO LC QEB DLLA Q>HB > EFDEBO MOF@B >P > OB>PLK QL FK@OB>PB MOLAR@QLK b LO FP QEB EFDEBO MOF@B LKIV > PFDK LC > DBKBO>I FKCI>QLK FK TEF@E QEB MOF@BP LC >II FKMROP QL MOLAR@QLK >OB OFPFDK >P TBII 3EB QORB PQLOV TFII MOBPR J >?IV ?B@L J B @IB>O LSBO QF J B ?RQ >Q > DFSBK J L J BKQ TEL @>K P>V

' FDE >KA S>OF>?IB FKCI>QFLK J B>KP QE>Q QEB FK@BKQFSBP FK QEB B@LKL J V QL >AGRPQ FK OBPM LKPB QL @E>KDBP FK MOF@BP >OB TB>HBO , >OHBQP TFII >AGRPQ QL T>OA QEBFO BNRIF?OFR J MOF@BP >KA NR>KQFQFBP J LOB BOO>QF@>IIV >KA PILTIV >KA J >KV FKAFS FAR>I J >OHBQP TFII BUMBOFBK@B > DOB>QBO @E>K@B LC PROMIRBPB >KA PELOQ>DBP

(EB5?8@F B9 \$BA: ,8E@ (?4AA<A:

(KCI>QFLK @>K J >HB ILKD QBO J MI>KKFKD AFCCF@RIQ (K AFP@RPPFKD RKFKQBKABA OBAFPQF?RQFLKP TB @LKPFABOBA QEB @>PB LC PL J BLKB QOVFKD QL MI>K CLO OBQFOB J BKQ TFQE > MBKPFLK QE>Q FP CFUBA FK KL J FK>I QBO J P >KA > EFDE O>QB LC FKCI>QFLK 2F J FI>O MOL?IB J P >OFPB CLO >II MBLMIB QOVFKD QL P>SB CLO OBQFOB J BKQ ?B@>RPB QEBV J RPQ @LKPFABO TE>Q QEBFO J LKVB TFII OB>IIV ?RV PBSBO>I AB@>ABP FK QEB CRQROB TEBK TB @>KKLQ HKLT QEB O>QB LC CRQROB FKCI>QFLK

(KCI>QFLK BPMB@F>IIV >Q J LABO>QB LO EFDE IBSBIP TFII MLPB PR?PQ>KQF>I MI>KKFKD MOL?IB J P CLO ?RPFKBPPP QLL CFO J @>K J >HB J LKBV COL J FKCI>QFLK b CLO BU> J MIB ?V M>VFKD ?FIIP >KA T>DBP >P I>QB >P MLPPF?IB PL QE>Q FQ @>K M>V FK FKCI>QBA ALII>OP TEFIB @LIIB@QFKD OBSBKRBP >P PLLK >P MLPPF?IB CFO J @>K >IPL PRCCBO ILPPBP COL J FKCI>QFLK >P FK QEB @>PB LC > OBQ>FI ?RPFKBPPP QE>Q DBQP PQR@H ELIAFKD QLL J R@E @>PE LKIV QL PBB FKCI>QFLK BOLAFKD QEB S>IRB LC QE>Q @>PE ' LTBSBO TEBK > ?RPFKBPPP PMBKAP FQP QF J B CL@RPFKD LK ELT QL MOLCFQ ?V FKCI>QFLK LO >Q IB>PQ ELT QL >SLFA PRCCBOFKD COL J FQ >K FKBSFQ>?IB QO>ABLCC PQOFHBP IBPP QF J B FP PMBKQ LK F J MOLSFKD MOLAR@QP >KA PBOSF@BP LO LK CFDRQFKD LRQ ELT QL J >HB BUFPQFKD MOLAR@QP >KA PBOSF@BP J LOB @EB>MIV K B@LKL J V TFQE EFDE FKCI>QFLK OBT>OAP ?RPFKBPPP QE>Q E>SB CLRKA @IBSBO T>VP LC MOLCFQFKD COL J FKCI>QFLK TEF@E >OB KLQ KB@BPP>OFIV QEB ?RPFKBPPP QE>Q BU@BI >Q MOLAR@QFSFQV FKKLS>QFLK LO NR>IFQV LC PBOSF@B

(K QEB PELOQ QBO J ILT LO J LABO>QB IBSBIP LC FKCI>QFLK J >V KLQ MLPB >K LSBOTEBI J FKD AFCCF@RIQV CLO ?RPFKBPPP MI>KKFKD ?B@>RPB @LPPQ LC ALFKD ?RPFKBPPP >KA P>IBP OBSBKRBP J >V OFPB >Q PF J FI>O O>QBP (C ELTBSBO FKCI>QFLK S>OFBP PR?PQ>KQF>IIV LSBO QEB PELOQ LO J BAFR J QBO J QEBK FQ J >V J >HB PBKPB CLO ?RPFKBPPP QL PQF@H QL PELOQBO QBO J PQO>QBDQFBP 3EB BSFABK@B >P QL TEBQEB OBI>QFSBIV ILT O>QBP LC FKCI>QFLK OBAR@B MOLAR@QFSFQV FP @LKLQLSBOPF>I > J LKD B@LKL J FPQP 3EBOB FP PL J B BSFABK@B QE>Q FC FKCI>QFLK @>K ?B EBIA QL J LABO>QB IBSBIP LC IBPP QE>K MBO VB>O FQ KBBA KLQ MOBSBKQ > K>QFLKdP OB>I B@LKL J V COL J DOLTFKD >Q > EB>IQEV M>@B %LO PL J B @LRKQFBP QE>Q E>SB BUMBOFBK@BA EVMBOFKCI>QFLK LC PBSBO>I QELRP>KA MBO@BKQ MBO VB>O >K >KKR>I FKCI>QFLK O>QB LC a J >V CBBI ?>PF@>IIV QEB P> J B >P WBOL ' LTBSBO PBSBO>I B@LKL J FPQP E>SB MLFKQBA QL QEB PRDDBPQFSB C>@Q QE>Q TEBK 4 2 FKCI>QFLK EB>QBA RM FK QEB B>OIV P b QL b 4 2 DOLTQE FK MOLAR@QFSFQV PILTBA ALTK >KA TEBK FKCI>QFLK PILTBA ALTK FK QEB P MOLAR@QFSFQV BADBA RM >D>FK KLQ ILKD QEBOB>CQBO >P <:HE8 PELTP

<:HE8 - + !A9?4G<BA \*4G8 4A7 - + \$45BE (EB7H6G<I<GL P / SBO QEB I>PQ PBSBO>I AB@>ABP FK QEB 5KQBA 3Q>QBP QEBOB E>SB ?BBK QF J BP TEBK OFPKD FKCI>QFLK O>QBP E>SB ?BBK @ILPBIV CLILTBA ?V ILTBO MOLAR@QFSFQV O>QBP >KA ILTBO FKCI>QFLK O>QBP E>SB @L00BPMLKABA QL FK@OB>PKD MOLAR@QFSFQV O>QBP !P QEB DO>ME PELTP ELTBSBO QEF@L00BI>QFLK ALBP KLQ >IT>VP BUFPQ

AL 8A89<GF B9 !A9?4G<BA

IQELRDE QEB B@LKL J F@ BCCB@QP LC FKCI>QFLK >OB MOF J >OFIV KBD>QFSB Q'TL @LRKQBOS>FIFKD MLFKQP >OB TLOQE KLQFKD %FOPQ

QEB F J M>@Q LC FKCI>QFLK TFII AFCCBO @LKPFABO>?IV >@@LOAFKD QL TEBQEBO FQ FP @OBBMFKD RM PILTIV >Q QL MBO VB>0 D>IILMFKD >ILKD >Q QL MBO VB>0 LO 0>@FKD QL QEB MLFKQ LC EVMBOFKCI>QFLK >Q P>V MBO J LKQE ' VMBOFKCI>QFLK @>K OFM >K B@LKL J V >KA > PL@FBQV >M>OQ K >KKR>I FKCI>QFLK 0>QB LC LO ELTBSBO FP > ILKD T>V COL J > K>QFLK>I @OFPPF +LT FKCI>QFLK FP >IPL ?BQQBO QE>K ABCI>QFLK TEF@E L@>ROP TFQE PBSBOB OB@BPPFLKP

2B@LKA B@LKL J FPQP PL J BQF J BP >ODRB QE>Q J LABO>QB FKCI>QFLK J >V EBIM QEB B@LKL J V ?V J >HFKD T>DBP FK I>?LO J >OHBQP J LOB CIBUF?IB 3EB AFP@RPPFLK FK -A8@C'BL@8AG MLFKQBA LRQ QE>Q T>DBP QBKA QL ?B PQF@HV FK QEBFO ALTKT>OA J LSB J BKQP >KA QE>Q RKB J MILV J BKQ @>K OBPRIQ IFQIB FKCI>QFLK @LRIA KF??IB >T>V >Q OB>I T>DBP >KA QERP EBIM OB>I T>DBP QL AB@IFKB FC KB@BPP>OV (K QEPF T>V BSBK FC > J LABO>QB LO EFDE 0>QB LC FKCI>QFLK J >V >Q >P P>KA FK QEB DB>OP LC QEB B@LKL J V MBOE>MP > ILT 0>QB LC FKCI>QFLK PBOBSP >P LFI CLO QEB DB>OP LC QEB I>?LO J >OHBQ 3EFP >ODR J BKQ FP @LKQOLSBOPF>I CRII >K>IVPPF TLRIA E>SB QL >@>LRKQ CLO >II QEB BCCB@QP LC FKCI>QFLK (Q ALBP ELTBSBO LCCBO >KLQEBO OB>PLK QL ?BIFBSB QE>Q >II QEFKDP @LKPFABOBA SBOV ILT 0>QB LC FKCI>QFLK J >V KLQ ?B BPMB@F>IIV E>O J CRI

## N !A78K<A : 4A7 !GF \$<@<G4G<BAF

! V QEB BKA LC QEPF PB@QFLK VLR TFII ?B >?IB QL

d \$UMI>FK QEB OBI>QFLKPEFM ?BQ'TBBK FKABUFKD >KA FKCI>QFLK

d (ABKQFCV QE0BB T>VP QEB DLSBOK J BKQ @>K @LKQOLI FKCI>QFLK QEOLRDE J >@OLB@LKL J F@ MLIF@V

6 EBK > MOF@B T>DB LO FKQBOBPQ 0>QB FP >AGRPQBA >RQL J >QF@>IIV TFQE FKCI>QFLK B@LKL J FPQP RPB QEB QBO J indexed K FKABUBA M>V J BKQ FK@OB>PBP >@@LOAFKD QL QEB FKABU KR J ?BO QE>Q J B>PROBP FKCI>QFLK 3ELPB FK MOFS>QB J >OHBQP >KA DLSBOK J BKQ MOLDO> J P L?PBOB > TFAB 0>KDB LC FKABUFKD >O>KDB J BKQP 2FK@B QEB KBD>QFSB BCCB@QP LC FKCI>QFLK ABMBKA FK I>ODB M>OQ LK E>SFKD FKCI>QFLK RKBUMB@QBAIV >CCB@Q LKB M>OQ LC QEB B@LKL J V ?RQ KLQ >KLQEBO b P>V FK@OB>PFKD QEB MOF@BP QE>Q MBLMIB M>V ?RQ KLQ QEB T>DBP QE>Q TLOHBOP OB@BFSB b FKABUFKD TFII Q>HB PL J B LC QEB PQFKD LRQ LC FKCI>QFLK

## !A78K<A : <A (E<I4G8 %4E>8GF

(K QEB P >KA P I>?LO RKFLKP @L J J LKIV KBDLQF>QBA T>DB @LKQO>@QP QE>Q E>A cost-of-living adjustments (COLAs) TEF@E DR>O>KQBBA QE>Q QEBFO T>DBP TLRIA HBBM RM TFQE FKCI>QFLK 3EBPB @LKQO>@QP TBOB PL J BQF J BP T'OFQIBK >P CLO BU> J MIB " . + MIRP 3ERP FC FKCI>QFLK T>P QEB T>DB FK@OB>PB TLRIA >RQL J >QF@>IIV ?B ?RQ FC FKCI>QFLK OLBP QL QEB T>DB FK@OB>PB TLRIA >RQL J >QF@>IIV ?B " . + P >OB > CLO J LC FKABUFKD >MMIFBA QL T>DBP

+L>KP LCQIBK E>SB ?RFIQ FK FKCI>QFLK >AGRPQ J BKQP QLL PL QE>Q FC QEB FKCI>QFLK 0>QB OFPBP ?V QTL MBO@BKQ>DB MLFKQP QEBK QEB FKQBOBPQ 0>QB QE>Q >CFK>K@F>I FKPFQFQFLK @E>ODBP LK QEB IL>K OFPBP ?V QTL MBO@BKQ>DB MLFKQP >P TBII K adjustable-rate mortgage (ARM) FP > QVMB LC IL>K QE>Q LKB @>K RPB QL MRO@E>PB > EL J B FK TEF@E QEB FKQBOBPQ 0>QB S>OFBP TFQE QEB 0>QB LC FKCI>QFLK . CQBK > ?LOOLTBO TFII ?B >?IB OB@BFSB > ILTBO FKQBOBPQ 0>QB FC ?LOOLTFKD TFQE >K 1 , @L J M>OBA QL > CFUBA 0>QB IL>K 3EB OB>PLK FP QE>Q TFQE >K 1 , QEB IBKABO FP MOLQB@QBA >D>FKPQ QEB OFPH QE>Q EFDEBO FKCI>QFLK TFII OBAR@B QEB OB>I IL>K M>V J BKQP >KA PL QEB OFPH MOB J FR J M>OQ LC QEB FKQBOBPQ 0>QB @>K ?B @LOOBPMLKAFKDIV ILTBO

KR J ?BO LC LKDLFKD LO ILKD QBO J ?RPFKBPP @LKQO>@QP >IPL E>SB MOLSFPFLKP QE>Q MOF@BP TFII >AGRPQ >RQL J >QF@>IIV >@@LOAFKD QL FKCI>QFLK 2BIIBOP IFHB PR@E @LKQO>@QP ?B@>RPB QEBV >OB KLQ IL@HBA FKQL > ILT KL J FK>I PBIIFKD MOF@B FC FKCI>QFLK QROKP LRQ EFDEBO QE>K BUMB@QBA !RVBOP IFHB PR@E @LKQO>@QP ?B@>RPB QEBV >OB KLQ IL@HBA FKQL > EFDE ?RVFKD MOF@B FC FKCI>QFLK QROKP LRQ QL ?B ILTBO QE>K BUMB@QBA @LKQO>@QP TFQE >RQL J >QF@ >AGRPQ J BKQP CLO FKCI>QFLK FK BCCB@Q >DOBBP LK > OB>I MOF@B CLO QEB ?LOOLTBO QL M>V 0>QEBO QE>K > KL J FK>I MOF@B

## !A78K<A : <A B18EA@8AG (EB:E4@F

, >KV DLSBOK J BKQ MOLDO> J P >OB FKABUBA QL FKCI>QFLK 3EB 4 2 FK@L J B Q>U @LAB FP ABPFDKBA PL QE>Q >P > MBOPLKdP FK@L J B OFPBP >?LSB @BO>FK IBSBIP QEB Q>U 0>QB LK QEB J >ODFK>I FK@L J B B>OKBA OFPBP >P TBII 3E>Q FP TE>Q QEB BUMOBPPFLK e J LSB FKQL > EFDEBO Q>U ?O>@HBQf J B>KP %LO BU> J MIB >@@LOAFKD QL QEB ??PF@ Q>U Q?>IBP COL J QEB (KQBOK>I 1BSBKRB 2BOSF@B FK > PFKDIB MBOPLK LTBA LC >II Q>U>?IB FK@L J B COL J QL LC >II FK@L J B COL J QL LC >II Q>U>?IB FK@L J B COL J QL LC >II Q>U>?IB FK@L J B COL J QL LC >II Q>U>?IB FK@L J B COL J QL >KA LC >II FK@L J B COL J >KA >?LSB

! B@>RPB LC QEB J >KV @L J MIBU MOLSFPFLKP FK QEB OBPQ LC QEB Q>U @LAB FQ FP AFCCF@RIQ QL ABQBO J FKB BU>@QIV QEB Q>UBP >K FKAFSAR>I LTBP QEB DLSBOK J BKQ ?>PBA LK QEBPB KR J ?BOP ?RQ QEB KR J ?BOP FIIRPQO>QB QEB ??PF@ QEB J B QE>Q Q>U 0>QB OFPBP >P QEB J >ODFK>I ALII>O LC FK@L J B OFPBP 4KQFI QEB I>QB P FC KL J FK>I T>DBP FK@OB>PBA >ILKD TFQE FKCI>QFLK MBLMIB TBOB J LSBA FKQL EFDEBO Q>U ?O>@HBQP >KA LTBA > EFDEBO MOLMLQFLK LC QEBFO FK@L J B FK Q>UBP BSBK QELRDE QEBFO OB>I

FK@L J B E>A KLQ OFPBK (K QEB DLSBOK J BKQ BIF J FK>QBA QEFP e?>@HBQ @OBBMf - LT QEB FK@L J B IBSBIP TEBOB EFDEBO Q>U O>QB HF@H FK >OB FKABUBA QL OFPB >RQL J >QF@>IIV TFQE FKCI>QFLK

3EB 2L@F>I 2B@ROFQV MOLDO>J LCCBOP QTL BU>J MIBP LC FKABUFKD 2FK@B QEB M>PP>DB LC QEB 2L@F>I 2B@ROFQV (KABUFKD @Q LC QEB IBSBI LC 2L@F>I 2B@ROFQV ?BKBCFPQ FK@OB>PBP B>@E VB>O >ILKD TFQE QEB "LKPR J BO /OF@B (KABU IPL 2L@F>I 2B@ROFQV FP CRKABA ?V M>VOLII Q>UBP TEF@E QEB DLSBOK J BKQ F J MLPBP LK QEB FK@L J B B>OKBA RM QL > @BOQ>FK > J LRKQ b FK 3EB DLSBOK J BKQ >AGRPQ QEFP IBSBI LC FK@L J B RMT>OA B>@E VB>O >@LOAFKD QL QEB O>QB LC FKCI>QFLK PL QE>Q >K FKABUBA FK@OB>PB FK QEB 2L@F>I 2B@ROFQV Q>U ?>PB >@L J M>KFBP QEB FKABUBA OFPB FK QEB ?BKBCFP IBSBI

P VBQ >KLQEBU BU>J MIB LC > DLSBOK J BKQ MOLDO>J >CCB@QBA ?V FKABUFKD FK QEB 4 2 DLSBOK J BKQ ?BD>K LCCBOFKD FKABUBA ?LKAP !LKAP >OB J B>KP ?V TEF@E QEB 4 2 DLSBOK J BKQ >KA J >KV MOFS>QB PB@QLO @L J M>KFBP >P TBII ?LOOLT P J LKVB QE>Q FP FKSBPQLOP ?RV QEB ?LKAP >KA QEBK QEB DLSBOK J BKQ OBM>VP QEB J LKVB TFQE FKQBOBPQ 30>AFQFLK>IIV DLSBOK J BKQ ?LKAP E>SB M>FA > CFUBA O>QB LC FKQBOBPQ 3EFP MLIF@V D>SB > DLSBOK J BKQ QE>Q E>A ?LOOLTBA >K FK@BKQFSB QL BK@LRO>DB FKCI>QFLK ?B@>RBP FQ @LRIA QEBK OBM>V FQ M>PQ ?LOOLTFKD FK FKCI>QBA ALII>OP >Q > ILTBO OB>I FKQBOBPQ O>QB ' L TBSBO FKABUBA ?LKAP MOL J FPB QL M>V > @BOQ>FK OB>I O>QB LC FKQBOBPQ >?LSB TE>QBSBO FKCI>QFLK O>QB L@>ROP (K QEB @>PB LC > OBQFOBB QOVFKD QL MI>K CLO QEB ILKD QBO J >KA T LLOOFA >?LRQ QEB OFPH LC FKCI>QFLK CLO BU>J MIB FKABUBA ?LKAP QE>Q DR>O>KQBB > O>QB LC OBQROK EFDEBO QE>K FKCI>QFLK b KL J >QBO QEB IBSBI LC FKCI>QFLK b @>K ? B > SBOV @L J CLOQFKD FKSBPQ J BKQ

%< : ; G !A78K<A : \* 87H68 BA68EA B I 8E !A9?4G<BA

(KABUFKD J >V PBB J IFHB >K L ?SFLRPV RPBRI PQBM CQBO >II TEBK FKAFSFA>IP CFO J P >KA DLSBOK J BKQ MOLDO>J P >OB FKABUBA >D>FKPQ FKCI>QFLK QEBK MBLMIB @>K TLOOV IBPP >?LRQ >O?FQO>OV OBAFPQF?RQFLKP >KA LQEBO BCCB@QP LC FKCI>QFLK

' L TBSBO PL J B LC QEB CFBO@BPQ LMMLKBKQP LC FKCI>QFLK BUMOBPP DO>SB @LK@BOK >?LRQ FKABUFKD 3EBV MLFKQ LRQ QE>Q FKABUFKD FP >IT>VP M>OQF>I - LQ BSOV B J MILVBO THII MOLSFA " . + P CLO TLOHBOP - LQ >II @L J M>KFBP @>K >PPR J B QE>Q @LPQP >KA OBSBKRBP THII OFPB FK IL@HPQBM TFQE QEB DBKBO>I O>QB LC FKCI>QFLK - LQ >II FKQBOBPQ O>QB CLO ?LOOLTBO >KA P>SBOP THII @E>KDB QL J >Q@E FKCI>QFLK BU>@QIV ' L TBSBO >P M>OQF>I FKCI>QFLK FKABUFKD PMOB>AP QEB MLIF@F>I LMMLPFQFLK QL FKCI>QFLK J >V AF J FKPE CQBO >II LIABO MBLMIB TELPB 2L@F>I 2B@ROFQV ?BKBCFP >OB MOLQB@QBA >D>FKPQ FKCI>QFLK LO ?>KHP QE>Q E>SB IL>KBA QEBFO J LKVB TFQE >AGRPQ>?IB O>QB IL>KP KL ILKDBO E>SB >P J R@E OB>PLK QL @>OB TEBQEBO FKCI>QFLK EB>QP RM (K > TLOIA TEBOB PL J B MBLMIB >OB FKABUBA >D>FKPQ FKCI>QFLK >KA PL J B >OB KLQ CFK>K@F>IIV P>SSV ?RPFKBPPBP >KA FKSBPQLOP J >V PBBH LRQ T>VP QL ?B MOLQB@QBA >D>FKPQ FKCI>QFLK TEFIB QEB CFK>K@F>IIV RKPLMEFPQF@>QBA >KA P J >II ?RPFKBPPBP J >V PRCCBO COL J FQ J LPQ

(E8I<8J B9 (B?6L <F6HFF<BAF B9 !A9?4G<BA

3EFP @E>MQBO E>P CL@RPBA LK ELT B@LKL J FPQP J B>PROB FKCI>QFLK EFPQLOF@>I BUMBOFBK@B TFQE FKCI>QFLK ELT QL >AGRPQ KL J FK>I S>OF>?IBP FKQL OB>I LKBP ELT FKCI>QFLK >CCB@QP QEB B@LKL J V >KA ELT FKABUFKD TLOHP 6 B E>SB ?>OBIV EFKQBA >Q QEB @>RPBP LC FKCI>QFLK >KA TB E>SB KLQ >AAOBPPBA DLSBOK J BKQ MLIF@FBP QL AB>I TFQE FKCI>QFLK 6 B THII BU>J FKQ QEBPB FPPRBP FK ABMQE FK LQEBO @E>MQBOP ' L TBSBO FQ FP RPBRI QL LCCBO > MOBSFBT EBOB

6 B @>K PR J RM QEB @>RPB LC FKCI>QFLK FK LKB MEO>PB 3LL J >KV ALII>OP @E>PFKD QLL CBT DLLAP 3EB DOB>Q PRODBP LC FKCI>QFLK B>OIV FK QEB QTBKQFBQE @BKQROV @>J B >CQBO T>OP TEF@E >OB > QF J B TEBK DLSBOK J BKQ PMBKAFKD FP SBOV EFDE ?RQ @LKPR J BOP E>SB IFQIB QL ?RV ?B@>RPB MOLAR@QFLK FP DLFKD QL QEB T>O BCCLQ &LSBOK J BKQ >IPL @L J J LKIV F J MLPB MOF@B @LKQOLIP AROFKD T>OQF J B CQBO QEB T>O QEB MOF@B @LKQOLIP BKA >KA MBKQ RM ?RVFKD MLTBO PRODBP CLOQE AOFSEFKD RM FKCI>QFLK . QEBOTFPB FC QLL CBT ALII>OP >OB @E>PFKD QLL J >KV DLLAP QEBK FKCI>QFLK THII AB@IFKB LO BSBK QROK FKQL ABCI>QFLK 3EBOBCLOB TB QVMF@>IIV >PPL@F>QB PILTALTKP FK B@LKL J F@ >@QFSFQV >P FK J >GLO OB@BPPFLKP >KA QEB &OB>Q #BMOBPPFLK TFQE > OBAR@QFLK FK FKCI>QFLK LO BSBK LRQOFDEQ ABCI>QFLK

3EB MLIF@V F J MIF@>QFLKP >OB @IB>O (C TB >OB QL >SLFA FKCI>QFLK QEB > J LRKQ LC MRO@E>PFKD MLTBO FK QEB B@LKL J V J RPQ DOLT >Q OLRDEIV QEB P>J B O>QB >P QEB MOLAR@QFLK LC DLLAP , >@OLB@LKL J F@ MLIF@FBP QE>Q QEB DLSBOK J BKQ @>K RPB QL >CCB@Q QEB > J LRKQ LC MRO@E>PFKD MLTBO b QEOLRDE Q>UBP PMBKAFKD >KA OBDRI>QFLK LC FKQBOBPQ O>QB >KA @OBAFQ b @>K QERP @>RPB FKCI>QFLK QL OFPB LO OBAR@B FKCI>QFLK QL ILTBO IBSBIP



# Bring it Home

%<??<BA \$B49 B9 E847

! P TB TFII IB>OK FK %BA8L 4A7 4A>A: QEB BUFPQBK@B LC J LKBV MOLSfABP BKLO JLRP ?BKBCfQP QL >K B@LKL J V  
 JK > OB>I PBKPB J LKBV FP QEB IR?QF@>QFLK QE>Q BKE>K@BP QEB TLOHFKDP LC J>OHBQP - LKBV J>HBP QO>KP>@QFLKP  
 B>PFBO )Q >IIL TP MBLMIB QL CFKA B JMILVJBKQ MOLAR@FKD LKB MOLAR@Q QEBK RPB QEB J LKBV B>OKBA QL MRQ@E>PB  
 QEB LQEBO MOLAR@QP QEBV KBBA QL IFSB (LTBSBO QLL JR@E J LKBV FK @FO@RI>QFLK @>K IB>A QL FKCI>QFLK %UQOB JB  
 @>PBP LC DLSBOK JBKQP OB@HIBPPIV MOFKQFKD J LKBV IB>A QL EVMBOFKCI>QFLK )KCI>QFLK OBAR@BP QEB S>IRB LC J LKBV  
 (VMBOFKCI>QFLK ?B@>RPB J LKBV ILPBP S>IRB PL NRF@HIV RIQF J>QBIV OBPRIQP FK MBLMIB KL ILKDBO RPFKD J LKBV  
 4EB B@LKL J V OBSBQP QL ?>OQBO LO FQ >ALMQP >KLQEBO @LRKQOV@P J LOB PQ>?IB @RQOBK@V IFHB 5 3 ALII>OP )K QEB  
 JB>KQF JB QEB B@LKL J V IFQB>IIV C>IIP >M>OQ >P MBLMIB IB>SB GL?P >KA CBKA CLO QEB JPBISBP ?B@>RPB FQ FP KLQ  
 TLOQE QEB QF JB QL TLOH CLO J LKBV QE>Q TFII ?B TLOQEIBPP FK > CBT A>VP

/ KIV K>QFLK>I DLSBOK JBKQP E>SB QEB MLTBO QL @>RPB EVMBOFKCI>QFLK (VMBOFKCI>QFLK QVMF@>IIV E>MMBKP TEBK  
 DLSBOK JBKQ C>@BP BUQO>LQAFK>OV AB J>KAP CLO PMBKAFKD TEF@E FQ @>KKLQ CFK>K@B ?V Q>UBP LO ?LQOLTFKD 4EB  
 LKIV LMQFLK FP QL MOFKQ J LKBV \_ J LOB >KA J LOB LC FQ 7 FQE J LOB J LKBV FK @FO@RI>QFLK @E>PFKD QEB P> JB >JLRKQ  
 LO BSBK CBTBO DLLAP >KA PBOSf@BP QEB LKIV OBPRIQ FP FK@OB>PFKDIV EfDEBO MOF@BP RKQFI QEB B@LKL J V >KA LO QEB  
 DLSBOK JBKQ @LII>MPBP 4EFP FP TEV B@LKL J FPQP >OB DBKBO>IIV T>OV LC IBQFKD FKCI>QFLK PMFO>I LRQ LC @LKKQLI

# 1 , \*%+

47-HF64578 E468 @BEG : 4 : 8 \*% > IL>K > ?LOOLTBO RPBP QL MRO@E>PB > EL J B FK TEF@E QEB FKQBOPQ 0>QB S>OFBP TFQE J >OHBQ FKQBOPQ 0>QBP

54F8 L84E >0?FQ0>0V VB>0 TELPB S>IRB >P >K FKABU KR J ?BO B@LKL J FPQP ABCFKB >P FKCI>QLK COL J QEB ?>PB VB>0 QL LQEBO VB>0P @>K B>PFIV ?B PBBK ?V @L J M>OFKD QEB FKABU KR J ?BO FK QEB LQEBO VB>0 QL QEB FKABU KR J ?BO FK QEB ?>PB VB>0 b CLO BU> J MIB PL FC QEB FKABU KR J ?BO CLO > VB>0 FP QEBK QEBOB E>P ?BBK BU>@QIV FKCI>QLK ?BQTBK QE>Q VB>0 >KA QEB ?>PB VB>0

54F>8G B9 : BB7F 4A7 F8E I<68F > EVMLQEBQF@>I DOLRM LC AFCCBOBKQ FQB J P TFQE PMB@FCFBA NR>KQFQFB LC B>@E LKB J B>KQ QL OBMOPBPKQ > eQVMF@>If PBQ LC @LKPR J BO MRO@E>PBP RPBA >P > ?>PFP CLO @>I@RI>QFKD EL T QEB MOF@B IBSBI @E>KDBP LSBO QF J B

BAFH@8E (E<68 !A78K (! > J B>PROB LC FKCI>QLK QE>Q 4 2 DLSBOK J BKQ PQ>QFPQF@F>KP @>I@RI>QB ?>PBA LK QEB MOF@B IBSBI COL J > CFUBA ?>PHBQ LC DLLAP >KA PBOSF@BP QE>Q OBMOPBPKQF QEB >SBO>DB @LKPR J BO P MRO@E>PBP

6BE8 <A9?4G<BA <A78K > J B>PROB LC FKCI>QLK QVMF@>IIV @>I@RI>QBA ?V Q>HFKD QEB " / ( >KA BU@IRAFKD SLI>QFIB B@LKL J F@ S>OF>?IBP PR@E >P CLLA >KA BKBODV MOF@BP QL ?BQQBO J B>PROB QEB RKABOIVFKD >KA MBOPFPQBKQ QOBKA FK ILKD QBO J MOF@BP

6BFG B9 ?<I<A: 47-HF6@8AGF '\$ F > @LKQ0>@QR>I MOLSFPFLK QE>Q T>DB FK@OB>PBP TFII HBBM RM TFQE FKCI>QLK

789?4G<BA KBD>QFSB FKCI>QLK J LPQ MOF@BP FK QEB B@LKL J V >OB C>IIFKD

@C?BL@8AG BFG !A78K > J B>PROB LC FKCI>QLK ?>PBA LK T>DBP M>FA FK QEB I>?LO J >OHBQ

( 789?4GBE > J B>PROB LC FKCI>QLK ?>PBA LK QEB MOF@BP LC >II QEB &# / @L J MLKKBKQ

; LC8E<A9?4G<BA >K LRQ?ROPQ LC EFDE FKCI>QLK QE>Q LCQBK L@>ROP >IQELRDE KLQ BU@TRPFSBIV TEBK B@LKL J FBP PEFCQ COL J > @LKQQLIIBA B@LKL J V QL > J >OHBQ LOFBKQBA B@LKL J V

<A78K AH@58E > RKFQ COBB KR J ?BO ABOFSBA COL J QEB MOF@B IBSBI LSBO > KR J ?BO LC VB>0P TEF@E J >HBP @L J MRQFKD FKCI>QLK 0>QBP B>PFBO PFK@B QEB FKABU KR J ?BO E>P S>IRBP >OLRKA

<A78K87 > MOF@B T>DB LO FKQBOPQ 0>QB FP >AGRPQBA >RQL J >QF@>IIV CLO FKCI>QLK

<A9?4G<BA > DBKB0>I >KA LKDLFKD OFPB FK MOF@B IBSBIP FK >K B@LKL J V

!AG8EA4G<BA? (E<68 !A78K > J B>PROB LC FKCI>QLK ?>PBA LK QEB MOF@BP LC J BO@E>KAFPB QE>Q FP BUMLOQBA LO F J MLOQBA

(EB7H68E (E<68 !A78K ( (! > J B>PROB LC FKCI>QLK ?>PBA LK MOF@BP M>FA CLO PRMMIFBP >KA FKMRQP ?V MOLAR@BOP LC DLLAP >KA PBOSF@BP

DH4?GL A8J : BB7F 5<4F FKCI>QLK @>I@RI>QBA RPFKD > CFUBA ?>PHBQ LC DLLAP LSBO QF J B QBKAP QL LSBOPQ>QB QEB QORB OFPB FK @LPQ LC IFSFKD ?B@>RPB FQ ALBP KLQ >@>LRKQ CLO F J MOLSB J BKQP FK QEB NR>IFQV LC BUFPQFKD DLLAP LO QEB FKSQBQLK LC KBT DLLAP

FH5FG<GHG<BA 5<4F >K FKCI>QLK 0>QB @>I@RI>QBA RPFKD > CFUBA ?>PHBQ LC DLLAP LSBO QF J B QBKAP QL LSBOPQ>QB QEB QORB OFPB FK QEB @LPQ LC IFSFKD ?B@>RPB FQ ALBP KLQ Q>HB FKQL >@>LRKQ QE>Q QEB MBOPLK @>K PR?PQFQRQB >T>V COL J DLLAP TELPB MOF@BP OFPB @LKPFABO>?IV

# 1 ' & ( , + & + - % % \* 1

,E46><A: !A9?4G<BA

\$@LKL J FPQP J B>PROB QEB MOF@B IBSBI ?V RPFKD > ?>PHBQ LC DLLAP >KA PBOSF@BP >KA @>I@RI>QFKD EL T QEB QLQ>I @LPQ LC

?RVFKD QE>Q ?>PHBQ LC DLLAP TFII FK@OB>PB LSBO QF J B \$@LKL J FPQP LCQBK BUMOBPP QEB MOF@B IBSBI FK QBO J P LC FKABU  
KR J ?BOP TEF@E QO>KPCLQ J QEB @LPQ LC ?RVFKD QEB ?>PHBQ LC DLLAP >KA PBOSF@BP FKQL > PBOFBP LC KR J ?BOP FK QEB P> J B  
MOLMLQFLK QL B>@E LQEBO ?RQ TFQE >K >O?FQO>OV ?>PB VB>O LC 6 B J B>PROB QEB FKCI>FLK O>QB >P QEB MBO@BKQ>DB @E>KDB  
?BQTBBK MOF@B IBSBIP LO FKABU KR J ?BOP LSBO QF J B

**BJ GB %84FHE8 ;4A:8F <A G;8 BF6 B9 \$<I<A:**

, B>PROFKD MOF@B IBSBIP TFQE > CFUBA ?>PHBQ LC DLLAP TFII >IT>VP E>SB QTL MOL?IB J P QEB PR?PQFQRQFLK ?F>P ?V TEF@E  
> CFUBA ?>PHBQ LC DLLAP ALBP KLQ >IILT CLO ?RVFKD J LOB LC TE>Q ?B@L J BP OBI>QFSBIV IBPP BUMBKPF@SB >KA IBPP LC TE>Q  
?B@L J BP OBI>QFSBIV J LOB BUMBKPF@SB >KA QEB NR>IFQV KBT DLLAP ?F>P ?V TEF@E > CFUBA ?>PHBQ @>KKLQ >@>LRKQ CLO  
F J MOLSB J BKQP FK NR>IFQV >KA QEB >ASBKQ LC KBT DLLAP 3EBPB MOL?IB J P @>K ?B OBAR@BA FK ABDQBB b CLO BU> J MIB ?V  
>IILT FKD QEB ?>PHBQ LC DLLAP QL BSLISB LSBO QF J B b ?RQ TB @>KKLQ QLQ>IIV BIF J FK>QB QEB J 3EB J LPQ @L J J LKIV @FQBA  
J B>PROB LC FKCI>FLK FP QEB "LKPR J BO /OF@B (KABU " / ( TEF@E FP ?>PBA LK > ?>PHBQ LC DLLAP OBMOBPBKQFKD TE>Q  
QEB QVMF@>I @LKPR J BO ?RVP 3EB "LOB (KCI>FLK (KABU CROQEBO ?OB>HP ALTK QEB " / ( ?V BU@IRAFKD SLI>QFIB B@LKL J F@  
@L J J LAFQFBP 2BSBO>I MOF@B FKAF@BP >OB KLQ ?>PBA LK ?>PHBQ LC @LKPR J BO DLLAP 3EB &# / ABCI>QLQ FP ?>PBA LK >II  
&# / @L J MLKKBQP 3EB /OLAR@BO /OF@B (KABU FP ?>PBA LK MOF@BP LC PRMMIFBP >KA FKMRQP ?LRDEQ ?V MOLAR@BOP LC DLLAP  
>KA PBOSF@BP K \$ J MILV J BKQ "LPQ (KABU J B>PROBP T>DB FKCI>FLK FK QEB I>?LO J >OHBQ K (KQBOK>QFLK>I /OF@B (KABU  
FP ?>PBA LK QEB MOF@BP LC J BO@E>KAFPB QE>Q FP BUMLOQBA LO F J MLOQBA

**BJ G;8 - + 4A7 'G;8E BHAGE<8F KC8E<8A68 !A9?4G<BA**

(K QEB 4 2 B@LKL J V QEB >KKR>I FKCI>FLK O>QB FK QEB I>PQ QTL AB@>ABP E>P QVMF@>IIV ?BBK >OLRKA QL 3EB MBOFLAP  
LC EFDDEBPQ FKCI>FLK FK QEB 4KQBA 2Q>QBP FK QEB QTBKQFBQE @BKQROV L@@ROOBA AROFKD QEB VB>OP >CQBO 6 LOIA 6 >OP ( >KA ((  
>KA FK QEB P 3EB MBOFLA LC ILTBPQ FKCI>FLK b >@QR>IIV TFQE ABCI>FLK b T>P QEB P &O>B>Q #BMOBPPFLK

**, ;8 BA9HF<BA ' I8E !A9?4G<BA**

4KBUMB@QBA FKCI>FLK TFII QBKA QL EROQ QELPB TELPB J LKBV OB@BFSBA FK QBO J P LC T>DBP >KA FKQBOBPQ M>V J BKQP ALBP  
KLQ OFPB TFQE FKCI>FLK (K @LKQO>PQ FKCI>FLK @>K EBIM QELPB TEL LTB J LKBV QE>Q QEBV @>K M>V FK IBPP S>IR>?IB FKCI>QBA  
ALII>OP +LT O>QBP LC FKCI>FLK E>SB OBI>QFSBIV IFQIB B@LKL J F@ F J M>@Q LSBO QEB PELOQ QBO J . SBO QEB J BAFR J >KA QEB  
ILKD QBO J BSBK ILT O>QBP LC FKCI>FLK @>K @L J MIF@>QB CRQROB MI>KKFKD ' FDE O>QBP LC FKCI>FLK @>K J RAAIB MOF@B PFDK>IP  
FK QEB PELOQ QBO J >KA MOBSBKQ J >OHBQ CLO@BP COL J LMBO>QFKD BCCF@FBKQIV >KA @>K S>PQIV @L J MIF@>QB ILKD QBO J P>SFKDP  
>KA FKSBPQ J BKQ AB@FPFLKP

**!A78K<A: 4A7 !GF \$<@<G4G<BAF**

M>V J BKQ FP FKABUBA FC FQ FP >RQL J >QF@>IIV >AGRPQBA CLO FKCI>FLK \$U> J MIBP LC FKABUFKD FK QEB MOFS>QB PB@QLQ  
FK@IRAB T>DB @LKQO>@QP TFQE @LPQ LC IFSFKD >AGRPQ J BKQP " . + P >KA IL>K >DOBB J BKQP IFHB >AGRPQ>?IB O>QB J LQQD>DBP  
1 , P \$U> J MIBP LC FKABUFKD FK QEB MR?IF@ PB@QLQ FK@IRAB Q>U ?O>@HBQP >KA 2L@F>I 2B@ROFQV M>V J BKQP

+ \$ # ) - + , ! ' & +

,45?8 PEL TP QEB CORFQ MOF@BP QE>Q QEB QVMF@>I @LIIBDB PQRABKQ MRO@E>PBA COL J QL 6 E>Q FP QEB > J LRKQ  
PMBKQ B>@E VB>O LK QEB e?>PHBQf LC CORFQ TFQE QEB NR>KQFQFBP PEL TK FK @LIR J K

!G8@F	)GL	(E<68	@BHAG +C8AG	(E<68	@BHAG +C8AG	(E<68	@BHAG +C8AG	(E<68	@BHAG +C8AG
! MMIBP									
">K>K>P									
' 0>MBP									
2>PM?B00FBP									
4LQ>I									

,45?8

" LKPQR@Q QEB MOF@B FKABU CLO > eCORFQ ?>PHBQf FK B>@E VB>O RPFKD >P QEB ?>PB VB>O

" L J MRQB QEB FKCI>QFLK 0>QB CLO CORFQ MOF@BP COL J QL

\$AK> FP IFSFKD FK > OBQFOB J BKQ EL J B TEBOB J LPQ LC EBO KBBAP >OB Q>HBK @>OB LC ?RQ PEB E>P PL J B AFP@OBQFLK>OV  
PMBKAFKD !>PBA LK QEB ?>PHBQ LC DLLAP FK ,45?8 ?V TE>Q MB0@BKQ>DB ALBP \$AK>@P @LPQ LC IFSFKD FK@OB>PB ?BQTB BK  
QF J B >KA QF J B

!G8@F	)H4AG<GL	,<@8 (E<68	,<@8 (E<68
' FCQP CLO D0>KA@EHA0BK			
OFWW> ABIFSB0V			
" ILRPBP			
6>@>QFLK QOFMP			

,45?8

BJ GB %84FHE8 ;4A:8F <A G;8 BFG B9 \$<I<A: FKQOLAR@BA > KR J ?BO LC AFCCB0BKQ MOF@B FKAF@BP 6 EF@E  
MOF@B FKABU TLRIA ?B ?BPQ QL RPB QL >AGRPQ VLRO M>V@EB@H CLO FKCI>QFLK

3EB "LKPR J BO /OF@B (KABU FP PR?GB@Q QL QEB PR?PQFQRQFLK ?F>P >KA QEB NR>IFQV KBT DLLAP ?F>P OB QEB /OLAR@BO  
/OF@B (KABU >KA QEB &# / #BCI>QLO >IPL PR?GB@Q QL QEBPB ?F>PBP 6 EV LO TEV KLQ

&L QL QEFP J85F<G8 ;GGC J J J @84FHE<A: JBEG; 6B@ CCB J8EHF CLO QEB /RO@E>PFKD /LTBO ">I@RI>QLO >Q  
, B>PROFKD 6 LOQE @L J ' LT J R@E J LKBV TLRIA FQ Q>HB QLA>V QL MRO@E>PB TE>Q LKB ALII>O TLRIA E>SB ?LRDEQ FK QEB  
VB>O LC VLRO ?FOQE

(C FKCI>QFLK OFPBP RKBUMB@QBAIV ?V TLRIA > PQ>QB DLSBOK J BKQ QE>Q E>A OB@BKQIV ?LOOLTBA J LKBV QL M>V CLO >  
KBT EFDET>V ?BKBCFQ LO ILPB

' LT PELRIA >K FK@OB>PB FK FKCI>QFLK >CCB@Q QEB FKQB0BPQ 0>QB LK >K >AGRPQ>?IB 0>QB J L0QD>DB

CFUBA O>QB J LQD>DB E>P QEB P> J B FKQBOBPQ O>QB LSBO QEB IFCB LC QEB IL>K TEBQEBO QEB J LQD>DB FP CLO LO VB>OP !V @LKQO>PQ >K >AGRPQ>?IB O>QB J LQD>DB @E>KDBP TFQE J >OHBQ FKQBOBPQ O>QB LSBO QEB IFCB LC QEB J LQD>DB (C FKCI>QLK C>IIP RKBUMB@QBAIV ?V TE>Q TLRIA IFHBIV E>MMBK QL > EL J BLTKBO TFQE >K >AGRPQ>?IB O>QB J LQD>DB

\* .! / ) - + ,!'&+

'LT AL B@LKL J FPQP RPB > ?>PHBQ LC DLLAP >KA PBOSF@BP QL J B>PROB QEB MOF@B IBSBI

6 EV AL B@LKL J FPQP RPB FKABU KR J ?BOP QL J B>PROB QEB MOF@B IBSBI O>QEBO QE>K ALII>O S>IRB LC DLLAP

6 E>Q FP QEB AFCCBOBK@B ?BQTBBK QEB MOF@B IBSBI >KA QEB O>QB LC FKCI>QLK

6 EV ALBP ePR?PQFQRQFLK ?F>Pf >OFPB FC TB @>I@RI>QB QEB FKCI>QLK O>QB ?>PBA LK > CFUBA ?>PHBQ LC DLLAP

6 EV ALBP QEB eNR>IFQV KBT DLLAP ?F>Pf >OFPB FC TB @>I@RI>QB QEB FKCI>QLK O>QB ?>PBA LK > CFUBA ?>PHBQ LC DLLAP

\*!,! \$ , !&#!& ) - + ,!'&+

(KCI>QLK O>QB IFHB J LPQ PQ>QFPQF@P >OB F J MBOCB@Q J B>PROBP " >K VLR FABKQFCV PL J B T>VP QE>Q QEB FKCI>QLK O>QB CLO CORFQ ALBP KLQ MBOCB@QIV @>MQROB QEB OFPKD MOF@B LC CORFQ

&FSBK QEB CBABO>I ?RADBQ ABCF@FQ FK OB@BKQ VB>OP PL J B B@LKL J FPQP E>SB >ODRBA QE>Q ?V >AGRPQFKD 2L@F>I 2B@ROFQV M>V J BKQP CLO FKCI>QLK RPFKD QEB " / ( 2L@F>I 2B@ROFQV FP LSBOM>VFKD OB@FMFBKQP 6 E>Q FP QEBFO >ODR J BKQ >KA AL VLR >DOBB LO AFP>DOBB TFQE FQ

6 EV FP QEB &# / ABCI>QLO KLQ >K >@>RO>QB J B>PROB LC FKCI>QLK >P FQ F J M>@QP > ELRPBELIA

(J >DFKB QE>Q QEB DLSBOK J BKQ PQ>QFPQF@F>KP TEL @>I@RI>QB QEB FKCI>QLK O>QB E>SB ?BBK RMA>QFKD QEB ?>PF@ ?>PHBQ LC DLLAP LK@B BSOV VB>OP ?RQ KLT QEBV AB@FAB QL RMA>QB FQ BSOV CFSB VB>OP 'LT TFIH QEF@ @E>KDB >CCB@Q QEB >J LRKQ LC PR?PQFQRQFLK ?F>P >KA NR>IFQV KBT DLLAP ?F>P

#BP@OF?B > PFQR>QLK BFQEBO > DLSBOK J BKQ MLIF@V PFQR>QLK >K B@LKL J F@ MOL?IB J LO > MOFS>QB PB@QLO PFQR>QLK TEBOB RPFKD QEB " / ( QL @LKSBOQ COL J KL J FK>I QL OB>I TLRIA ?B J LOB >MMOLMOF>QB QE>K RPFKD QEB &# / ABCI>QLO

6 E>Q E>P ?BBK > QVMF@>I O>KDB LC FKCI>QLK FK QEB 4 2 B@LKL J V FK QEB I>PQ AB@>AB LO PL

. SBO QEB I>PQ @BKQROV AROFKD TE>Q MBOFLAP T>P QEB 4 2 FKCI>QLK O>QB EFDEBPQ >KA ILTBPQ

6 E>Q FP ABCI>QLK

(ABKQFCV PBSBO>I M>OQFBP IFHBIV QL ?B EBIMBA >KA EROQ ?V FKCI>QLK

6 E>Q FP FKABUFKD

- > J B PBSBO>I CLO J P LC FKABUFKD FK QEB MOFS>QB >KA MR?IF@ PB@QLO

#BP@OF?B > PFQR>QLK BFQEBO > DLSBOK J BKQ MLIF@V PFQR>QLK >K B@LKL J F@ MOL?IB J LO > MOFS>QB PB@QLO PFQR>QLK TEBOB RPFKD QEB &# / ABCI>QLO QL @LKSBOQ COL J KL J FK>I QL OB>I TLRIA ?B J LOB >MMOLMOF>QB QE>K RPFKD QEB " / (

6 EV AL VLR QEFKH QEB 4 2 BUMBOFBK@B TFQE FKCI>QLK LSBO QEB I>PQ VB>OP E>P ?BBK PL J R@E J FIABO QE>K FK J >KV LQEBO @LRKQF@BP

(C LSBO QF J B T>DBP >KA P>I>OFPB LK >SBO>DB OFPB >Q IB>PQ >P C>PQ >P FKCI>QLK TEV AL MBLMIB T'LOOV >?LRQ ELT FKCI>QLK >CCB@QP FK@L J BP

6 EL FK >K B@LKL J V FP QEB ?FD TFKKBO COL J FKCI>QLK

(C > DLSBOK J BKQ D>FKP COL J RKBUMB@QBA FKCI>QLK TEBK FQ ?LOOLTP TEV TLRIA FQ @ELLPB QL LCCBO FKABUBA ?LKAP

#L VLR QEFKH MBOCB@Q FKABUFKD FP MLPPF?IB 6 EV LO TEV KLQ

( \* ' \$ %+

3EB FKABU KR J ?BO OBM0BPBKQFKD QEB MOF@B IBSBI  
@E>KDBP COL J QL FK LKB VB>0 >KA QEBK COL J  
QL QEB KBUQ VB>0 2FK@B QEB FKABU KR J ?BO FK@OB>PBP  
?V CFSB B>@E VB>0 FP CFSB QEB FKCI>QFLK 0>QB B>@E VB>0  
(P QEB FKCI>QFLK 0>QB QEB P> J B B>@E VB>0 \$UMI>FK VLRO  
>KPTBO

3EB QLQ>I MOF@B LC MRO@E>PFKD > ?>PHBQ LC DLLAP FK  
QEB 4KFQBA \*FKDAL J LSB0 CLRO VB>OP FP VB>0 Z  
VB>0 Z VB>0 Z >KA VB>0 Z  
">I@RI>QB QTL MOF@B FKAF@BP LKB RPFKD VB>0 >P QEB ?>PB  
VB>0 PBQ BNR>I QL >KA QEB LQEB0 RPFKD VB>0 >P QEB  
?>PB VB>0 PBQ BNR>I QL 3EBK @>I@RI>QB QEB FKCI>QFLK  
0>QB ?>PBA LK QEB CFOPQ MOF@B FKABU (C VLR E>A RPBA QEB  
LQEB0 MOF@B FKABU TLRJA VLR DBQ > AFCCBOBKQ FKCI>QFLK  
0>QB (C VLR >OB RKPROB AL QEB @>I@RI>QFLK >KA CFKA LRQ

6FQEFK LO MBO@BKQ>DB MLFKQP TE>Q E>P QEB 4 2  
FKCI>QFLK 0>QB ?BBK AROFKD QEB I>PQ VB>OP #0>T >  
DO>ME QL PELT QEB A>Q>

(C FKCI>QFLK OFPBP RKBUMB@QBAIV ?V FKAF@>QB CLO  
B>@E LC QEB CLIILTFKD TEBQEBO QEB B@LKL J F@ >@QL0 FP  
EBIMBA EROQ LO RK>CCB@QBA

> RKFLK J B J ?BO TFQE > " . + T>DB @LKQ0>@Q  
? 2L J BLKB TFQE > I>ODB PQ>PE LC @>PE FK > P>CB  
ABMLPFQ ?LU

@ ?>KH IBKAFKD J LKBV >Q > CFUBA 0>QB LC FKQB0BPQ  
A MBOPLK TEL FP KLQ ARB QL OB@BFSB > M>V 0>FPB CLO  
>KLQEB0 J LKQEP

1LP>IFB QEB 1BQFOBB HKLTTP QE>Q TEBK PEB OBQFOBP FK  
VB>OP EBO @L J M>KV TFII DFSB EBO > LKB QF J B M>V J BKQ  
LC ' LTBSBO FC QEB FKCI>QFLK 0>QB FP MBO VB>0  
ELT J R@E ?RVFKD MLTBO TFII QE>Q E>SB TEBK  
J B>PROBA FK QLA>VdP ALII>OP Hint 2Q>OQ ?V @>I@RI>QFKD  
QEB OFPB FK QEB MOF@B IBSBI LSB0 QEB VB>OP

N , ; 8 !AG8EA4G<BA4? , E478  
4A7 4C<G4? ?B J F

<:HE8 / BE?7 B9 %BA8L 7 B >OB >II M>OQ LC QEB DIL?>I CFK>K@F>I PVPQBJ TEF@E FK@IRABP J >KV AFCCB0BKQ  
@R00BK@fBP #0BAFQ J LAFcf@>qFLK LC TLOH ?V BM3LP AB &f@H0 #0B>qfSB #L J J LKP

# Bring it Home

%BE8 G ; 4A %88GF G ; 8 L8 <A G ; 8 BA : B

( LT JR@E AL VLR FKQBO>@Q TFQE QEB DIL?>I CFK>K@F>I PVPQBJ \$L VLR QEFKH KLQ JR@E 4EFKH >D>FK 3RMMLPB  
VLR Q>HB LRQ > PQRABKQ IL>K LO VLR ABMLPFQ J LKBV FKQL VLR0 ?>KH >@@LRKQ 9LR QRPQ >CCB@QBA AL JBPQf@ P>SFKDP  
>KA ?L00LTFKD . LT P>V VLR >OB >Q QEB J>II >KA ?RV QTL 4 PEFQFP bJ>AB FK #EFK> c >KA I>QBO @LKQf?RQB QL >  
@E>QFV QE>Q EBIMP OBCRDBBP 7 E>Q FP QEB F J M>@Q 9LR >CCB@QBA ELT JR@E J LKBV CIL TP FKQL >KA LRQ LC QEB 5KfQBA  
3Q>QBP )C VLR LMBK >K )2 ! P>SFKDP >@@LRKQ >KA MRQ J LKBV FK >K FKQBOK>qFLK>I JRQR>I CRKA VLR >OB FKSLISBA FK  
QEB CILT LC J LKBV LSB0PB>P 7 EFB VLRO FKSLISB J BKQ J >V KLQ PBB J >P FKQIRBKQf>I >P QE>Q LC PL J BLKB IFHB QEB  
MOBPFABKQ TEL @>K FK@OB>PB LO AB@OB>PB CLOBfDK >fA >KA QEB0B?V E>SB > ERDB F J M>@Q LK J LKBV CIL TP FK >KA  
LRQ LC QEB @LRKQOV VLR AL FKQBO>@Q TFQE QEB DIL?>I CFK>K@F>I PVPQBJ LK > A>FIV ?>PFP

4EB ?>I>K@B LC M>VJBKQP \_> QB0J VLR TFII JBBQ PLLK\_ PBBJP IFHB > ERDB QLMF@ ?RQ LK@B VLR IB>OK QEB  
PMB@fCF@ @L J MLKBKQP LC QO>AB >KA J LKBV FQ >II J>HBP PBKPB !ILKD QEB T>V VLR J>V E>SB QL DfSB RM PL JB  
@L J J LK J fPRKAB0PQ>KAFKDP >?LRQ QO>AB >KA >KPTBO PL JB NRBPF LKP )C > @LRKQOV FP ORKKFKD > QO>AB ABCf@FQ FP  
QE>Q ?>A )P > QO>AB PROMIRP DLLA &LO BU>J MIB ILLH >Q QEB \$B JL@0>Qf@ 2BMR?f@ LC QEB #LKDL LCQBK OBCB00BA  
QL >P b#LKDLc > I>ODB @LRKQOV FK #BKQO>I !COF@> )K FQ O>K > QO>AB PROMIRP LC ?fIFLK PL FQ J RPQ ?B ALfKD  
TBII OFDEQ )K @LKQO>PQ QEB QO>AB ABCf@FQ FK QEB 5KfQBA 3Q>QBP T>P ?fIFLK FK \$L QEBPB CFDR0BP PRDDBPQ  
QE>Q QEB 5KfQBA 3Q>QBP B@LKL JV FP MB0CLO J FKD TLOPB QE>K QEB #LKDLIBPB B@LKL JV . LQ KB@BPP>QFIV 4EB 5 3  
QO>AB ABCf@FQ QBKAP QL TLOPBK >P QEB B@LKL JV Pq0BKDQEBK )K @LKQO>PQ EFDE MLSB0QV O>QBP FK QEB #LKDL MB0PFPQ  
>KA QEBPB O>QBP >OB KLQ DLfKD ALTK BSBK TRQE QEB MLPFQfSB QO>AB ?>I>K@B #IB>0IV FQ FP J LOB @L J MIF@>QBA QE>K

PF J MIV >PPBQFKD QE>Q ORKKFKD > QO>AB ABCF@FQ FP ?>A CLO QEB B@LKL J V 9LR TFII IB>OK J LOB >?LRQ QEBPB FPPRBP  
>KA LQEBOP FK QEFP @E>MQB0

# !AGEB7H6G<BA GB !AG8EA4G<BA4? ,E478 4A7 4C<G4? ?B JF

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g , B>PROFKD 30>AB !>I>K@BP
- g 30>AB !>I>K@BP FK ' FPQLOF@>I >KA (KQBOK>QFLK>I " LKQBUQ
- g 30>AB !>I>K@BP >KA %ILTP LC %FK>K@F>I ">MQ>I
- g 3EB ->QFLK>I 2>SFKD >KA (KSBPQ J BKQ (ABKQFQV
- g 3EB /OLP >KA " LKP LC 30>AB #BCF@FQP >KA 2ROMIRPBP
- g 3EB #FCCOBK@B ?BQTBBK +BSBI LC 30>AB >KA QEB 30>AB !>I>K@B

3EB **balance of trade** LO QO>AB ?>I>K@B FP >KV D>M ?BQTBBK >K>QFLK@P ALII>O S>IRB LC FQP BUMLOQP LO TE>Q FQP MOLAR@BOP  
PBII >?OL>A >KA >K>QFLK@P ALII>O S>IRB LC F J MLOQP LO QEB CLOBFDK J >AB MOLAR@QP >KA PBOSF@BP QE>Q ELRPBELIAP >KA  
?RPFKBPPBP MRO@E>PB 1B@>II COL J , ; 8 %46EB86BAB@<6 (8EFC86G<18 QE>Q FC BUMLOQP BU@BBA F J MLOQP QEB B@LKL J V  
E>P > QO>AB PROMIRP (C F J MLOQP BU@BBA BUMLOQP QEB B@LKL J V E>P > QO>AB ABCF@FQ (C BUMLOQP >KA F J MLOQP >OB BNR>I QEBK  
QO>AB FP ?>I>K@BA ?RQ TE>Q E>MMBKP TEBK QO>AB FP LRQ LC ?>I>K@B >KA I>ODB QO>AB PROMIRPBP LO ABCF@FQP BUFPQ

&B0 J >KV CLO BU> J MIB E>P E>A PR?PQ>KQF>I QO>AB PROMIRPBP FK OB@BKQ AB@>ABP FK TEF@E BUMLOQP E>SB DOB>QIV BU@BBABA  
F J MLOQP @>LOAFKD QL QEB " BKQO>I (KQBIIFDBK@B DBK@V@P 3EB 6 LOIA %>@Q?LLH FK &B0 J >KV O>K > QO>AB PROMIRP  
LC ?FIIFLK (K @LKKQ>PQ QEB 4 2 B@LKL J V FK OB@BKQ AB@>ABP E>P BUMBOFBK@BA I>ODB QO>AB ABCF@FQP FK TEF@E F J MLOQP  
E>SB @LKPFABO>IV BU@BBABA BUMLOQP (K CLO BU> J MIB 4 2 F J MLOQP BU@BBABA BUMLOQP ?V ?FIIFLK

PBOFBP LC CFK>K@F>I @OFFBP QOFDDBOBA ?V RK?>I>K@BA QO>AB @>K IB>A B@LKL J FBP FKQL ABBM OB@BPPFLK 3EBPB @OFFBP ?BDFK  
TFQE I>ODB QO>AB ABCF@FQP Q PL J B MLFKQ CLOBFDK FKSBPQLQOP ?B@L J B MBPPF J FPQF@ >?LRQ QEB B@LKL J V >KA J LSB QEBFO  
J LKBV QL LQEB @LRKQOFBP 3EB B@LKL J V QEBK AOLMP FKQL ABBM OB@BPPFLK TFQE OB>I &# / LCQBK C>IIFKD RM QL LO  
J LOB FK > PKDIB VB>O 3EFP E>MMBKBA QL , BU@L FK TEBK QEBFO &# / CBII KR J ?BO LC @LRKQOFBP FK \$>PQ  
PF> b 3E>FI>KA 2LRQE \*LOB> , >I>VPF> >KA (KALKBP> b PR@R J ?BA QL QEB P> J B B@LKL J F@ FIIKBPP FK a  
@>IIBA QEB PF>K %FK>K@F>I " OFFP (K QEB I>QB P >KA FKQL QEB B>OIV P 1RPPF> >KA ODBKQFK> E>A QEB FABKQF@>I  
BUMBOFBK@B 6 E>Q >OB QEB @LKKB@QFLK ?BQTBBK F J ?>I>K@BP LC QO>AB FK DLLAP >KA PBOSF@BP >KA QEB CILTP LC FKQBOK>QFLK>I  
CFK>K@F>I @>MQ>I QE>Q PBQ LCC QEBPB B@LKL J F@ >S>I>K@EBP

6B TFII PQ>OQ ?V BU> J FKFKD QEB ?>I>K@B LC QO>AB FK J LOB ABQ>FI ?V ILLHFKD >Q PL J B M>QBOKP LC QO>AB ?>I>K@BP FK QEB  
4KFQBA 2Q>QBP >KA >OLRKA QEB TLOIA 3EBK TB TFII BU> J FKB QEB FKQF J >QB @LKKB@QFLK ?BQTBBK FKQBOK>QFLK>I CILTP LC  
DLLAP >KA PBOSF@BP >KA FKQBOK>QFLK>I CILTP LC CFK>K@F>I @>MQ>I TEF@E QL B@LKL J FPQP >OB OB>IIV GRPQ TTL PFABP LC QEB  
P> J B @LKF /BLMIB LCQBK >PPR J B QE>Q QO>AB PROMIRPBP IFHB QELPB FK &B0 J >KV J RPQ ?B > MLPPQFSB PFDK CLO >K B@LKL J V  
TEFIB QO>AB ABCF@FQP IFHB QELPB FK QEB 4KFQBA 2Q>QBP J RPQ ?B E>O J CRI P FQ QROKP LRQ ?LQE QO>AB PROMIRPBP >KA ABCF@FQP  
>K ?B BFQEBO DLLA LO ?>A 6B TFII PBB TEV FK QEFP @E>MQB0

## N %84FHE<A : ,E478 4?4A68F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK J B@E>KAFP QO>AB ?>I>K@B @ROOBKQ >@LRKQ ?>I>K@B >KA RKF>QB0>I QO>KPCBOP
- d (ABKQFCV @L J MLKBKQP LC QEB 4 2 @ROOBKQ >@LRKQ ?>I>K@B
- d ">I@RI>QB QEB J B@E>KAFP QO>AB ?>I>K@B >KA @ROOBKQ >@LRKQ ?>I>K@B RPFKD F J MLOQ >KA BUMLOQ A>Q> CLO  
> @LRKQOV

CBT AB@>ABP >DL FQ T>P @L J J LK QL QO>@H QEB PLIFA LO MEVPF@>I FQB J P QE>Q MI>KBP QO>FKP >KA QOR@HP QO>KPMLOQBA  
?BQTBBK @LRKQOFBP >P > T>V LC J B>PROFKD QEB ?>I>K@B LC QO>AB \$@LKL J FPQP @>II QEFP J B>PROB J BKQ FP @>IIBA QEB



**merchandise trade balance** (K J LPQ EFDE FK@L J B B@LKL J FBP FK@IRAFKD QEB 4 KFQBA 2Q>QBP DLLAP @L J MOFPB IBPP QE>K E>IC LC > @LRKQOVdP QLQ>I MOLAR@QFLK TEFIB PBOF@BP @L J MOFPB J LOB QE>K E>IC 3EB I>PQ QTL AB@>ABP E>SB PBBK > PRODB FK FK@BOK>QFLK>I QO>AB FK PBOF@BP MLTBOBA ?V QB@EKLILDF@>I >AS>K@BP FK QBIB@L J J RKF@>QFLK >KA @L J MRQBOP QE>Q E>SB J >AB FQ MLPPF?IB QL BUMLOQ LO F J MLQ @RPQL J BO PBOF@BP CFK>K@B I>T >ASBOQFPFKD J >K>DB J BKQ @LKPRIQFKD PLCCQ>OB @LKPQR@QFLK BKDFKBBOFKD >KA MOLAR@Q ABPFDK , LPQ DIL?>I QO>AB PQFII Q>HBP QEB CLO J LC DLLAP Q>QEBQ QE>K PBOF@BP >KA QEB DLSBOK J BKQ >KKLRK@BP >KA QEB J BAF> MOL J FKBKQIV OBMLQ QEB J BO@E>KAFPB QO>AB ?>I>K@B . IA E>?FPQ >OB E>OA QL ?OB>H \$@LKL J FPQP ELTBSBO QVMF@>IIV OBIV LK ?OL>ABO J B>PROBP PR@E >P QEB ?>I>K@B LC QO>AB LO QEB **current account balance** TEF@E FK@IRABP LQEBQ FK@BOK>QFLK>I CILTP LC FK@L J B >KA CLOBFDK >FA

**B@CBA8AGF B9 G ; 8 - + HEE8AG 66BHAG 4?4A68**

,45?8 ?OB>HP ALTK QEB CLRO J >FK @L J MLKBKQP LC QEB 4 2 @ROOBKQ >@LRKQ ?>I>K@B CLO QEB I>PQ NR>Q@BO LC PB>PLK>IIV >AGRPQBA 3EB CFOPQ IFKB PELTP QEB J BO@E>KAFPB QO>AB ?>I>K@B QE>Q FP BUMLOQP >KA F J MLQ@P LC DLLAP !B@>RBP F J MLQ@P BU@BBA BUMLOQP QEB QO>AB ?>I>K@B FK QEB CFK>I @LIR J K FP KBD>QFSB PELTFKD > J BO@E>KAFPB QO>AB ABCF@FQ 6 B @>K BUMI>FK ELT QEB DLSBOK J BKQ @LIIB@Q QEFP QO>AB FKLO J >QFLK FK QEB CLILTFKD "IB>O (Q 4M CB>QROB

	.4?H8 B9 KCBEF @BA8L 9?BJ<A : <AGB G ; 8 - A<G87 +G4G8F	.4?H8 B9 !@CBEF @BA8L 9?BJ<A : BHG B9 G ; 8 - A<G87 +G4G8F	4?4A68
' LLAP			^
3B0Sf@BP			
)K@L J B OB@BFMQP >KA M>V J BKQP			
5 KFI>QBO>I QO>KPCBOP			^
HEE8AG 466BHAG 54?4A68			^

,45?8 **B@CBA8AGF B9 G ; 8 - + HEE8AG 66BHAG 4?4A68 9BE <A 5<?<BAF**



**BJ 7B8F G ; 8 - + :BI8EA@8AG 6B??86G GE478 FG4G<FG<6F**

\$L KLQ @LKCPRB QEB ?>I>K@B LC QO>AB TEF@E QO>@HP F J MLQ@P >KA BUMLOQP TRQE QEB @ROOBKQ >@LRKQ ?>I>K@B TEF@E FK@IRABP KLQ GRPQ BUMLOQP >KA F J MLQ@P ?RQ >IPL FK@L J B COL J FKSBPQ J BKQ >KA QO>KPCBOP

4EB "ROB>R LC %@LKL J F@ !K>IVPFP "% ! TRQEFK QEB 5 3 \$BM>OQ J BKQ LC #L J J BO@B @L J MHBP PQ>QFPQ@P LK QEB ?>I>K@B LC QO>AB RPFKD > S>QFBQV LC AFCCBOKQ PLR@BP - BO@E>KAFPB F J MLQ@BOP >KA BUMLOQBOP J RPQ CFIB J LKQEV AL@R J BKQP TRQE QEB #BKPRP "ROB>R TEF@E MOLSfABP QEB ?>P@ A>Q> CLO QO>@HFKD QO>AB 4L J B>PROB FK@BOK>QFLK>I QO>AB FK PBOF@BP \_ TEF@E @>K E>MMBK LSBO > QBIMELKB IFKB LO @L J MRQBO KBQTLQH TRQELRQ PEFMMFKD >KV MEVPF@>I DLLAP \_ QEB "% ! @>OOFBP LRQ > PBQ LC PROSBVP !KLQEBQ PBQ LC "% ! PROSBVP QO>@HP FKSBPQ J BKQ CILTP >KA QEBQB >OB BSBK PMB@FCF@ PROSBVP QL @LIIB@Q QO>SBI FKLO J >QFLK COL J 5 3 OBPfABKQP SFPfQFKD #>K>A> >KA - BUf@L &LO J B>PROFKD RKF@>QBO>I QO>KPCBOP QEB "% ! E>P >@BPP QL LCCF@>I 5 3 DLSBOK J BKQ PMBKAfKD LK >FA >KA QEBK >IPL @>OOFBP LRQ > PROSBV LC @E>QFQ>?IB LOD>KFW>QFLK QE>Q J >HB CLOBFDK ALK>QFLK

4EB "% ! QEBK @OLPP @EB@HP QEFP FKLO J >QFLK LK FK@BOK>QFLK>I CILTP LC DLLAP >KA @>M@>I >D>FKPQ LQEBQ >S>FI>?IB A>Q> &LO BU>J MIB QEB #BKPRP "ROB>R >IPL @LIIB@Q A>Q> COL J QEB PEFMMFKD FKARPQOV TEF@E FQ @>K RPB QL @EB@H QEB A>Q> LK QO>AB FK DLLAP !II @L J M>KFBP FKSLSIBA FK FK@BOK>QFLK>I CILTP LC @>M@>I \_ FK@IRAFKD ?>KHP

>KA @L J M>KFBP J>HFkd CFK>K@F>I FKSBPQ J BKQP IFHB P@L@HP \_ J RPQ CFIB OBMLQ@P TEF@E QEB 5 3 \$BM>O@ JBKQ LC QEB 40B>PROV RI@J >Q@BIV @EB@HP 4EB "%! >IPL @>K @@LPP @EB@H FK@L@J>@FLK LK CLOBFDK Q@>AB ?V ILLHFKD >Q A>Q> @LIIB@QBA ?V L@EBO @LRK@F@BP LK QEB@O CLOBFDK Q@>AB T@E QEB 5K@QBA 3Q>QBP >KA >IPL >Q QEB A>Q> @LIIB@QBA ?V S>@FLRP FK@BOK>@FLK>I L@D>K@W>@FLK 4>HB QEB@BP A>Q> PLR@@BP P@O @>@BCRIIV >KA VLR E>SB QEB 5 3 ?>I>K@B LC Q@>AB P@>@F@P@P - R@E LC QEB P@>@F@P@P Q@>Q TB @@QB FK Q@FP @E>M@B0 @L J B @L J QEB@P PLR@@BP

3EB PB@LKA @LT LC ,45?8 M@LSF@BP A>Q> LK Q@>AB FK P@B@S@F@BP 'BOB QEB 4 2 B@LKL J V FP ORK@FKD > PROMIRP IQELRDE QEB IBSBI LC Q@>AB FK P@B@S@F@BP FP P@FII OBI>@FSBIV P J >II @L J M>OBA QL Q@>AB FK DLLAP QEB F J MLOQ>K@B LC P@B@S@F@BP E>P BUM>KABA PR?P@>K@F>IIV L@B@O QEB I>P@ CBT AB@>ABP %LO BU>J MIB 4 2 BUMLO@P LC P@B@S@F@BP T@B@B BNR>I QL >?LRQ LKB E>IC LC 4 2 BUMLO@P LC DLLAP FK @L J M>OBA QL LKB C@C@E FK

3EB Q@FOA @L J M@LKBKQ LC QEB @R@O@B@KQ >@L@R@KQ ?>I>K@B I>?BIBA eFK@L J B M>V J BKQP f OBC@P@ QL J LKBV Q@>Q 4 2 CFK>K@F>I FKS@P@L@P O@B@F@S@BA LK QEB@O CLOBFDK FKS@P@Q J BKQP J LKBV CIL T@FKD FK@L QEB 4K@QBA 2Q>QBP >KA M>V J BKQP QL CLOBFDK FKS@P@L@P TEL E>A FKS@P@QBA QEB@O CRK@P EBOB J LKBV CIL T@FKD LRQ LC QEB 4K@QBA 2Q>QBP 3EB O@>PLK CLO FK@IR@FKD Q@FP J LKBV LK CLOBFDK FKS@P@Q J BKQ FK QEB L@B@O>II J B>P@R@B LC Q@>AB >ILKD T@E DLLAP >KA P@B@S@F@BP FP Q@>Q @L J >K B@LKL J F@ M@P@M@B@Q@F@S@B FK@L J B FP GRP@ >P J R@E >K B@LKL J F@ Q@>K@P>@FLK >P @>@ TEB>Q L@ LFI PEFM J BKQP F@ FP GRP@ Q@>AB Q@>Q FP E>M@B@K@FKD FK QEB CFK>K@F>I @>M@F@>I J >OHBQ

3EB CFK>I @>Q@B@L@V LC QEB @R@O@B@KQ >@L@R@KQ ?>I>K@B FP **unilateral transfers** TEF@E >O@ M>V J BKQP Q@>Q DL@B@K J BKQ M@F@S>Q@B @E>@F@Q@F@P L@ FK@F@S@F@R@I@P J >HB FK TEF@E QEBV P@B@K J LKBV >?@L>A T@F@ELRQ O@B@F@S@F@K@D >KV A@F@B@Q@ DLLA L@ P@B@S@F@B \$@LKL J F@ L@ J FIF@>O@V >P@F@P@>K@B @L J QEB 4 2 DL@B@K J BKQ QL L@E@B@O @LRK@Q@F@BP C@F@P FK@L Q@FP @>Q@B@L@V >P ALBP P@M@K@F@K@D >?@L>A ?V @E>@F@Q@F@P QL >A@O@B@P@P M@L@S@B@Q@V L@ PL@F@>I FK@B@NR@I@F@Q@F@P 6EBK >K FK@F@S@F@R@I@ FK QEB 4K@QBA 2Q>QBP P@B@K@P J LKBV L@S@P@B@P>P >P FP QEB @>P@B T@F@E PL J B F J J F@D@>K@P F@ FP >IPL @LRK@QBA FK Q@FP @>Q@B@L@V 3EB @R@O@B@KQ >@L@R@KQ ?>I>K@B Q@B@>Q@P QEB@P@P R@K@F@>Q@B@>I M>V J BKQP IFHB F J MLOQ ?B@>R@P@ QEBV >IPL FK@L@S@B >P@Q@B@ J LC M>V J BKQP I@>S@FKD QEB @LRK@Q@V %LO QEB 4 2 B@LKL J V R@K@F@>Q@B@>I Q@>K@P@C@B@P >O@B >I J L@P@ >I@T@>V@P K@B@D@>Q@F@S@B 3EFP M@>Q@B@K@ EL T@B@S@B@O ALBP KLQ >I@T@>V@P ELIA (K CLO BU>J MIB TEBK QEB 4K@QBA 2Q>QBP IBA >K FK@Q@B@K@>@FLK>I @L>I@F@Q@FLK >D>F@K@P@ 2>A@>J 'RPP@F@K@P (O>N FK QEB &R@I@C 6>O J >KV L@E@B@O K>@FLK@P >D@O@B@B@ Q@>Q QEBV TLRIA J >HB M>V J BKQP QL QEB 4K@QBA 2Q>QBP QL L@C@P@B@Q QEB 4 2 T>O BUMB@K@P@P 3E@P@B M>V J BKQP T@B@B I>O@D@B@ BKL@R@DE Q@>Q FK QEB L@S@B@O>II 4 2 ?>I>K@B LK R@K@F@>Q@B@>I Q@>K@P@C@B@P T>P >M@L@P@F@F@S@B ?FIF@L@K

3EB CL@I@L T@FKD 6L@H (Q . R@Q C@B>Q@R@O@B P@Q@B@M@P VLR Q@E@L@R@DE QEB M@L@B@P@P LC R@P@FKD QEB S>I@R@B@P CLO DLLAP P@B@S@F@BP >KA FK@L J B M>V J BKQP QL @>I@R@I>Q@B QEB J B@E>K@F@P@B ?>I>K@B >KA QEB @R@O@B@KQ >@L@R@KQ ?>I>K@B

# Work It Out

4?6H?4G<A: G;8 %8E6;4A7<F8 4?4A68 4A7 G;8 HEE8AG 66BHAG 4?4A68

	KCBEGF <A 5<?<BAF	!@CBEGF <A 5<?<BAF	4?4A68
' LLAP			
3B@S@F@BP			
)K@L J B M>V J BKQP			
5K@F@>Q@B@>I Q@>K@P@C@B@P			
#R@O@B@KQ >@L@R@KQ ?>I>K@B			

,45?8 4?6H?4G<A: %8E6;4A7<F8 4?4A68 4A7 HEE8AG 66BHAG 4?4A68

5PB QEB FK@L@J >@FLK D@S@B@K ?BILT QL CFII FK ,45?8 >KA QEBK @>I@R@I>Q@B  
 d 4EB J B@E>K@F@P@B ?>I>K@B  
 d 4EB @R@O@B@KQ >@L@R@KQ ?>I>K@B

+KLTK FKLOJ >qFLK

d 5KFI>qB0>I q0>KPCB0P

d %UML0QP FK DLLAP

d %UML0QP FK PB0SF@BP

d )JML0QP FK DLLAP

d )JML0QP FK PB0SF@BP

d )K@LJB 0B@BfSBA ?V 5 3 FKSBPqL0P LK CLOBFDK PqL@HP >KA ?LKAP

d )K@LJB 0B@BfSBA ?V CLOBFDK FKSBPqL0P LK 5 3 >PPBqP

3qBM &L@RP LK DLLAP >KA PB0SF@BP CF0Pq %KqB0 QEB ALII>0 >JLRKq LC BUML0QP LC ?LQE DLLAP >KA PB0SF@BP RKAB0 QEB %UML0q @LIRJK

3qBM %KqB0 FJML0QP LC DLLAP >KA PB0SF@BP RKAB0 QEB )JML0q @LIRJK

3qBM 5KAB0 QEB %UML0q @LIRJK >KA FK QEB 0LT CLO )K@LJB M>VJBKqP BKqB0 QEB CFK>K@F>I CILTP LC J LKBV @LJFKD ?>@H QL QEB 5KfQBA 3q>qBP 5 3 FKSBPqL0P >0B B>0KfKD QEFf FK@LJB COLJ >?0L>A

3qBM 5KAB0 QEB )JML0q @LIRJK >KA FK QEB 0LT CLO )K@LJB M>VJBKqP BKqB0 QEB CFK>K@F>I CILTP LC J LKBV DLfKD LRq LC QEB 5KfQBA 3q>qBP QL CLOBFDK FKSBPqL0P &LOBFDK FKSBPqL0P >0B B>0KfKD QEFf J LKBV LK 5 3 >PPBqP IFHB PqL@HP

3qBM 5KFI>qB0>I q0>KPCB0P >0B J LKBV CILTFKD LRq LC QEB 5KfQBA 3q>qBP FK QEB CLOJ LC CLO BU>J MIB JHFq>0V >FA CLOBFDK >FA >KA DIL?>I @E>0fQfBP "B@>RPB QEB J LKBV IB>SBP QEB @LRKq0V BKqB0 Fq RKAB0 )JML0QP >KA FK QEB CFK>I @LIRJK >P TBII >P >KBD>qFSB

3qBM #>I@RI>qB QEB q0>AB ?>I>K@B ?V PR?q0>@qFKD FJML0QP COLJ BUML0QP FK ?LQE DLLAP >KA PB0SF@BP %KqB0 QEFf FK QEB CFK>I ">I>K@B @LIRJK 4EFP @>K ?B MLPqfFSB LO KBD>qFSB

3qBM 3R?q0>@q QEB FK@LJB M>VJBKqP CILTFKD LRq LC QEB @LRKq0V RKAB0 )JML0QP COLJ QEB J LKBV @LJFKD ?>@H QL QEB 5KfQBA 3q>qBP RKAB0 %UML0QP >KA BKqB0 QEFf >JLRKq RKAB0 QEB ">I>K@B @LIRJK

3qBM %KqB0 RKFI>qB0>I q0>KPCB0P >P >KBD>qFSB >JLRKq RKAB0 QEB ">I>K@B @LIRJK

3qBM 4EB JB0@E>KAFPB q0>AB ?>I>K@B FP QEB AfCCB0BK@B ?BqTBBK BUML0QP LC DLLAP >KA FJML0QP LC DLLAP \_ QEB CF0Pq KRJ ?B0 RKAB0 ">I>K@B

3qBM .LT PRJ RMLVRO @LIRJKP CLO %UML0QP )JML0QP >KA ">I>K@B 4EB CFK>I ?>I>K@B KRJ ?B0 FP QEB @R00BKq >@@LRKq ?>I>K@B

4EB JB0@E>KAFPB ?>I>K@B LC q0>AB FP QEB AfCCB0BK@B ?BqTBBK BUML0QP >KA FJML0QP )K QEFf @>PB Fq FP BNR>I QL ^ > q0>AB ABCf@Fq LC ^ ?FIIFLK 4EB @R00BKq >@@LRKq ?>I>K@B FP ^ ?FIIFLK 3BB QEB @LJMIBqBA ,45?8

	.4?H8 B9 KCBEGF @BA8L 9?BJ<A : <AGB G ; 8 - A<G87 +G4G8F	.4?H8 B9 !@CBEGF @BA8L 9?BJ<A : BHG B9 G ; 8 - A<G87 +G4G8F	4?4A68
' LLAP			^
3B0SF@BP			
)K@LJB 0B@BfMqP >KA M>VJBKqP			
5KFI>qB0>I q0>KPCB0P			^

.4?H8 B9 KCBEGF @BA8L 9?BJ<A: <AGB G; 8 - A<G87 +G4G8F		.4?H8 B9 !@CBEGF @BA8L 9?BJ<A: BHG B9 G; 8 - A<G87 +G4G8F		4?4A68
HEE8AG 466BHAG 54?4A68				^

,45?8      B@C?8G87 %8E6;4A7<F8 4?4A68 4A7 HEE8AG 66BHAG 4?4A68

## N ,E478 4?4A68F <A <FGBE<64? 4A7 !AG8EA4G<BA4? BAG8KG

! V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL

d K>IVWB DO>MEP LC QEB @ROOBKQ >@LRKQ ?>I>K@B >KA QEB J B0@E>KAFPB Q0>AB ?>I>K@B

d (ABKQFCV M>QQBOKP FK 4 2 Q0>AB PROMIRPBP >KA ABCF@FQP

d "L J M>OB QEB 4 2 Q0>AB PROMIRPBP >KA ABCF@FQP QL LQEB0 @LRKQ0FBP Q0>AB PROMIRPBP >KA ABCF@FQP

6 B MOBPBKQ QEB EFPQLOV LC QEB 4 2 @ROOBKQ >@LRKQ ?>I>K@B FK OB@BKQ AB@>ABP FK PBSB0>I AFCCB0BKQ T>VP <:HE8

> PELTP QEB @ROOBKQ >@LRKQ ?>I>K@B >KA QEB J B0@E>KAFPB Q0>AB ?>I>K@B FK ALII>0 QBO J P <:HE8 ? PELTP QEB

@ROOBKQ >@LRKQ ?>I>K@B >KA J B0@E>KAFPB >@LRKQ ?>I>K@B VBQ >D>FK QEFB QF J B >P > PE>OB LC QEB &# / CLO QE>Q VB>0 ! V  
AFSFAFKD QEB Q0>AB ABCF@FQ FK B>@E VB>0 ?V &# / FK QE>Q VB>0 <:HE8 ? C>@QLOP LRQ ?LQE FKCI>QLK >KA DOLTQE FK

QEB OB>I B@LKL J V

#E>MqB0 X 4EB )K(BOK>FLK>I 40>AB >KA #>Mq>I &ILT P

<:HE8 HEE8AG 66BHAG 4?4A68 4A7 %8E6;4A7<F8 ,E478 4?4A68 P > 4EB @R00BKQ >@@LRKQ  
?>I>K@B >KA QEB JB0@E>KAFPB Q0>AB ?>I>K@B FK ?HIFLKP LC ALII>OP COL J QL )C QEB IFKBP >OB >?LSB WB0L  
ALII>OP QEB 5KfQBA 3Q>QBP T>P ORKKFKD > MLPfQFSB Q0>AB ?>I>K@B >KA @R00BKQ >@@LRKQ ?>I>K@B )C QEB IFKBP C>II ?BILT  
WB0L ALII>OP QEB 5KfQBA 3Q>QBP FP ORKKFKD > Q0>AB ABCf@FQ >KA > ABCf@FQ FK FQP @R00BKQ >@@LRKQ ?>I>K@B ? 4EFP PELTP QEB  
P>JB FQB JP \_ Q0>AB ?>I>K@B >KA @R00BKQ >@@LRKQ ?>I>K@B \_ FK OBI>QFLKPEFM QL QEB PFWB LC QEB 5 3 B@LKLJV L0 ' \$0  
COL J QL

!V BFQEBO JB>PROB QEB 4 2 ?>I>K@B LC Q0>AB M>QQBOK FP @IB>0 %0LJ QEB P FKQL QEB P QEB 4 2 B@LKLJV E>A  
JLPQIV PJ >II Q0>AB PROMIRPBP b QE>Q FP QEB DO>MEP FK <:HE8 PELT MLPfQFSB KR J ?BOP ' LTBSBO PQ>OQFKD FK QEB  
P QEB Q0>AB ABCf@FQ FK@OB>PBA O>MFAIV >KA >CQBO > QFKV PROMIRP FK QEB @R00BKQ >@@LRKQ Q0>AB ABCf@FQ ?B@>JB  
BSBK I>ODBO FK QEB I>QB P >KA FKQL QEB JFA P ' LTBSBO QEB Q0>AB ABCf@FQ AB@IFKBA FK >CQBO QEB OB@BPPFLK  
E>A Q>HBK ELIA QEBK OB?LRKABA M>QF>IIV FK >KA E>P OB J >FKBA PQ>?IB RM QEOLRDE

,45'8 PELTP QEB 4 2 QO>AB MF@QROB FK @L J M>OBA TFQE PL J B LQEBO B@LKL J FBP COL J >OLRKA QEB TLOIA 6 EFIB QEB 4 2 B@LKL J V E>P @LKPFPQBKQIV ORK QO>AB ABCF@FQP FK OB@BKQ VB>OP )>M>K >KA J >KV \$ROLMB>K K>QFLKP > J LKD QEB J %O>K@B >KA &B0 J >KV E>SB @LKPFPQBKQIV ORK QO>AB PROMIRPBP 2L J B LC QEB LQEBO @LRKQOFBP IFQBA FK@IRAB !O>WFI QEB I>ODBPQ B@LKL J V FK +>QFK J BOF@> - FDBOF> >ILKD TFQE 2LRQE COF@> @L J MBQFKD QL ?B QEB I>ODBPQ B@LKL J V FK COF@> >KA "EFK> (KAF> >KA \*LOB> 3EB CFOPQ @LIR J K LCCBOP LKB J B>PROB LC >K B@LKL J V P DIL?>IFW>QFLK **exports of goods and services as a percentage of GDP** 3EB PB@LKA @LIR J K PELTP QEB QO>AB ?>I>K@B 4PR>IIV J LPQ @LRKQOFBP E>SB QO>AB PROMIRPBP LO ABCF@FQP QE>Q >OB IBPP QE>K LC &# / P VLR @>K PBB QEB 4 2 @ROOBKQ >@@LRKQ ?>I>K@B FP a LC &# / TEFIB &B0 J >KV P FP LC &# /

KCBEGF B9 BB7F 4A7 +8E1<68F		HEE8AG 66BHAG 4?4A68
5KFQBA 3Q>QBP		^
*>M>K		
' B0 J >KV		
5KFQBA +FKDAL J		^
#>K>A>		^
3TBABK		
+LOB>		
- BUF@L		^
" O>WFI		^
#EFK>		
)KAF>		^
. FDBOF>		
7 LOIA		

,45'8 \$818? 4A7 4?4A68 B9 ,E478 <A 9<: HE8F 4F 4 C8E68AG4 : 8 B9 ( +BHE68 ;GGC 74G4 JBE?754A> BE: <A7<64GBE & 0 '# 2+

N ,E478 4?4A68F 4A7 ?BJF B9 <A4A6<4? 4C<G4?

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB @LKKB@QFLK ?BQTBBK QO>AB ?>I>K@BP >KA CFK>K@F>I @>M@>I CILTP
- d ">I@RI>QB @L J M>O>QFSB >AS>KQ>DB
- d \$UMI>FK ?>I>K@BA QO>AB FK QBO J P LC FKSBPQ J BKQ >KA @>M@>I CILTP

P B@LKL J FPQP PBB FQ QO>AB PROMIRPBP @>K ?B BFQEBO DLLA LO ?>A ABMBKAFKD LK @FO@R J PQ>K@BP >KA QO>AB ABCF@FQP @>K ?B DLLA LO ?>A QLL 3EB @E>IIBKDB FP QL RKABOP>KA ELT QEB FKQBOK>QFLK>I CILTP LC DLLAP >KA PBOSF@BP >OB @LKKB@QBA TFQE FKQBOK>QFLK>I CILTP LC **financial capital** (K QEFP J LARIB TB TFII FIIRPQO>QB QEB FKQF J >QB @LKKB@QFLK ?BQTBBK QO>AB ?>I>K@BP >KA CILTP LC CFK>K@F>I @>M@>I FK QTL T>VP > M>O>?IB LC QO>AB ?BQTBBK 1L?FKPLK "ORPLB >KA %OFA>V >KA > @FO@RI>O CILTP AF>DO> J OBMOPBPKQFKD CILTP LC QO>AB >KA M>V J BKQP

, JB (8EFBA 6BAB@L \*B5<AFBA EHF8 4A7 E<74L

3L RKABOP>KA ELT B@LKL J FPQP SFBT QO>AB ABCF@FQP >KA PROMIRPBP @LKPFABO > M>O>?IB ?>PBA LK QEB PQLOV LC 1L?FKPLK "ORPLB "ORPLB >P VLR J >V OB J B J ?BO COL J QEB @I>PPF@ KLSBI ?V #>KFBI #BCLB CFOPQ MR?IFPEBA FK T>P

PEFMT@OB@HBA LK > ABPBOQ FPI>KA CQBO IFSFKD >ILKB CLO PL J B QF J B EB FP GLFKBA ?V > PB@LKA MBOPLK TEL J EB K> J BP %OFA>V 3EFKH >?LRQ QEB ?>I>K@B LC QO>AB FK > QTL MBOPLK B@LKL J V IFHB QE>Q LC 1L?FKPLK >KA %OFA>V

1L?FKPLK >KA %OFA>V QO>AB DLLAP >KA PBOSF@BP /BOE>MP 1L?FKPLK @>Q@EBP CFPE >KA QO>ABP QEB J QL %OFA>V CLO @L@LKRQP LO %OFA>V TB>SBP > E>Q LRQ LC QOBB COLKAP >KA QO>ABP FQ QL 1L?FKPLK CLO EBIM FK @>OOVFKD T>QBO %LO > MBOFLA LC QF J B B>@E FKAFSFAR>I QO>AB FP PBIC @LKL>FKBA >KA @L J MIBQB !B@>RBP B>@E QO>AB FP SLIRKQ>OV ?LQE 1L?FKPLK >KA %OFA>V J RPQ CBBI QE>Q QEBV >OB OB@BFSFKD C>FO S>IRB CLO TE>Q QEBV >OB DFSFKD P > OBPRIQ B>@E MBOPLKdP BUMLOQP >OB >IT>VP BNR>I QL EFP F J MLOQP >KA QO>AB FP >IT>VP FK ?>I>K@B ?BQTBBK QEB QTL - BFQEBO MBOPLK BUMBOFBK@BP BFQEBO > QO>AB ABCF@FQ LO > QO>AB PROMIRP

' LTBSBO LKB A>V 1L?FKPLK >MMOL>@EBP %OFA>V TFQE > MOLMLPFQFLK 1L?FKPLK T>KQP QL AFD AFQ@EBP CLO >K FOOFD>QFLK PVPQB J CLO EFP D>OABK ?RQ EB HKLTP QE>Q FC EB PQ>OQP QEFP MOLGB@Q EB TFII KLQ E>SB J R@E QF J B IBCQ QL CFPE >KA D>QEBO @L@LKRQP QL CBBA EF J PBIC B>@E A>V ' B MOLMLPBP QE>Q %OFA>V PRMMIV EF J TFQE > @BOQ>FK KR J ?BO LC CFPE >KA @L@LKRQP CLO PBSBO>I J LKQEP >KA QEBK >CQBO QE>Q QF J B EB MOL J FPBP QL OBM>V %OFA>V LRQ LC QEB BUQO> MOLAR@B QE>Q EB TFII ?B >?IB QL DOLT FK EFP FOOFD>QBA D>OABK (C %OFA>V >@BMQP QEFP LCCBO QEBK > QO>AB F J ?>I>K@B @L J BP FKQL ?BFKD %LO PBSBO>I J LKQEP %OFA>V TFII E>SB > QO>AB PROMIRP QE>Q FP EB FP BUMLOQFKD QL 1L?FKPLK J LOB QE>K EB FP F J MLOQFKD , LOB MOB@FPBIV EB FP DFSFKD 1L?FKPLK CFPE >KA @L@LKRQP >KA >Q IB>PQ CLO QEB J L J BKQ EB FP OB@BFSFKD KLQEFKD FK OBQROK "LKSBOBPV 1L?FKPLK TFII E>SB > QO>AB ABCF@FQ ?B@>RBP EB FP F J MLOQFKD J LOB COL J %OFA>V QE>K EB FP BUMLOQFKD

3EFP M>O>?IB O>FPBP PBSBO>I RPBCCI FPPRBP FK QEFKHKD >?LRQ TE>Q > QO>AB ABCF@FQ >KA > QO>AB PROMIRP OB>IIV J B>K FK B@LKL J F@ QBO J P 3EB CFOPQ FPPRBP QE>Q QEFP PQLOV LC 1L?FKPLK >KA %OFA>V O>FPBP FP QEFP (P FQ ?BQBO QL E>SB > QO>AB PROMIRP LO > QO>AB ABCF@FQ 3EB >KPTBO >P FK >KV SLIRKQ>OV J >OHBQ FKQBO>@FLK FP QE>Q FC ?LQE M>OQFBP >DOBB QL QEB QO>KP>@FLK QEBK QEBV J >V ?LQE ?B ?BQBO LCC . SBO QF J B FC 1L?FKPLKdP FOOFD>QBA D>OABK FP > PR@BPP FQ FP @BOQ>FKIV MLPPF?IB QE>Q ?LQE 1L?FKPLK >KA %OFA>V @>K ?BKBCFQ COL J QEFP >DOBB J BKQ

3EB M>O>?IB O>FPBP > PB@LKA FPPRB 6 E>Q @>K DL TOLKD 1L?FKPLKdP MOLMLP>I QL %OFA>V FKQOLAR@BP >K BIB J BKQ LC RK@BOQ>FKQV %OFA>V FP FK BCCB@Q J >HFKD > IL>K LC CFPE >KA @L@LKRQP QL 1L?FKPLK >KA %OFA>VdP E>MMFKBPP TFQE QEFP >O>KDB J BKQ TFII ABMBKA LK TEBQEBO 1L?FKPLK OBM>VP QE>Q IL>K >P MI>KKBA FK CRII >KA LK QF J B /BOE>MP 1L?FKPLK PMBKAP PBSBO>I J LKQEP IL>CFKD >KA KBSBO ?RFIAP QEB FOOFD>QFLK PVPQB J LO MBOE>MP 1L?FKPLK E>P ?BBK QLL LMQF J FPQF@ >?LRQ ELT J R@E EB TFII ?B >?IB QL DOLT TFQE QEB KBT FOOFD>QFLK PVPQB J TEF@E QROKP LRQ KLQ QL ?B SBOV MOLAR@FSB /BOE>MP >CQBO ?RFIAFKD QEB FOOFD>QFLK PVPQB J 1L?FKPLK AB@FABP QE>Q EB ALBP KLQ T>KQ QL OBM>V %OFA>V >P J R@E >P EB MOBSFLRPV >DOBBA KV LC QEBPB ABSBILM J BKQP TFII MOL J MQ > KBT OLRKA LC KBDLQF>QFLK ?BQTBBK %OFA>V >KA 1L?FKPLK 6 EV QEB OBM>V J BKQ C>FIBA FP IFHBIV QL PE>MB %OFA>VdP >QFQFAB QLT>OA QEBPB OBKBDLQF>QFLK (C 1L?FKPLK TLOHBA SBOV E>OA >KA QEB FOOFD>QFLK PVPQB J GRPQ AFA KLQ FK@OB>PB MOLAR@FLK >P FKQBKABA %OFA>V J >V E>SB PL J B PV J M>QEV (C 1L?FKPLK IL>CBA LO FC EB GRPQ OBCRPBP QL M>V %OFA>V J >V ?B@L J B FOOFQ>QBA

QEFOA FPPRB QE>Q QEB M>O>?IB O>FPBP FP QE>Q >K FKQF J >QB OBI>QFLKPEFM BUFPQ ?BQTBBK > QO>AB ABCF@FQ >KA FKQBOK>QFLK>I ?LOOLTFKD >KA ?BQTBBK > QO>AB PROMIRP >KA FKQBOK>QFLK>I IBKAFKD 3EB PFWB LC %OFA>VdP QO>AB PROMIRP FP BU>@QIV ELT J R@E EB FP IBKAFKD QL 1L?FKPLK 3EB PFWB LC 1L?FKPLKdP QO>AB ABCF@FQ FP BU>@QIV ELT J R@E EB FP ?LOOLTFKD COL J %OFA>V 3L B@LKL J FPQP > QO>AB PROMIRP IFQBO>IIV J B>KP QEB P> J B QEFKD >P >K LRQCILT LC CFK>K@F>I @>MFQ>I >KA > QO>AB ABCF@FQ IFQBO>IIV J B>KP QEB P> J B QEFKD >P >K FKCILT LC CFK>K@F>I @>MFQ>I 3EFP I>PQ FKPFDQ FP TLOQE BUMILOFKD FK DOB>QBO ABQ>FI TEF@E TB TFII AL FK QEB CLILTFKD PB@QFLK

3EB PQLOV LC 1L?FKPLK >KA %OFA>V >IPL MOLSFABP > DLLA LMMLQQRKFQV QL @LKPFABO QEB I>T LC @L J M>O>QFSB >AS>KQ>DB TEF@E VLR IB>OK J LOB >?LRQ FK QEB !AG8EA4G<BA4? ,E478 @E>MQBO 3EB CLILTFKD 6LOH (Q . RQ CB>QROB PQBMP VLR QEOLRDE @>I@RI>QFKD @L J M>O>QFSB >AS>KQ>DB CLO QEB TEB>Q >KA @ILQE QO>ABA ?BQTBBK QEB 4KFQBA 2Q>QBP >KA &OB>Q !OFQ>FK FK QEB P

# Work It Out

**4?6H?4G<A: B@C4E4G<I8 7I4AG4:8**

JQ QEB P QEB 5KQBA 3Q>QBP >KA "OFQ>FK QO>ABA TEB>Q >KA @ILQE ,45?8 PELTP QEB S>OVFKD ELROP LC I>?LO MBO RKQ LC LRQMRQ

	/ ;84G <A 5HF ;8?F	?BG ; <A L4E7F	*8?4G<18 ?45BE 6BFG B9 J ;84G ( J (6	*8?4G<18 ?45BE 6BFG B9 6?BG ; (6 ( J
5KfQBA 3Q>QBP				
" OFQ>FK				

,45?8

3QBM / ?PBOSB COL J ,45?8 QE>Q FK QEB 5KfQBA 3Q>QBP FQ Q>HBP BfDEQ ELROP QL PRMMIV > ?RPEBI LC TEB>Q >KA KfKB ELROP QL PRMMIV > V>OA LC @ILQE )K @LKQO>PQ FQ Q>HBP CLRO ELROP QL PRMMIV > ?RPEBI LC TEB>Q >KA QEOBB ELROP QL PRMMIV > V>OA LC @ILQE FK " OFQ>FK

3QBM 2B@LDKfWB QEB AfccB0BK@B ?BQTBBK >?PLIRQB >AS>KQ>DB >KA @LJM>O>QfSB >AS>KQ>DB " OFQ>FK E>P >K >?PLIRQB >AS>KQ>DB ILTBPQ @LPQ FK B>@E DLLA PFK@B FQ Q>HBP > ILTBO > J LRKQ LC I>?LO QL J>HB B>@E DLLA FK " OFQ>FK " OFQ>FK >IPL E>P > @LJM>O>QfSB >AS>KQ>DB FK QEB MOLAR@QFLK LC @ILQE ILTBO LMMLQQRKfQV @LPQ FK @ILQE SB0PRP 4EB 5KfQBA 3Q>QBP E>P > @LJM>O>QfSB >AS>KQ>DB FK TEB>Q MOLAR@QFLK ILTBO LMMLQQRKfQV @LPQ LC SB0PRP

3QBM \$BQBOJFKB QEB OBI>QfSB MOF@B LC LKB DLLA FK QBOJJP LC QEB LQEBO DLLA 4EB MOF@B LC TEB>Q FK QEFP BU> J MIB FP QEB > J LRKQ LC @ILQE VLR E>SB QL DfSB RM 4L CfKA QEFP MOF@B @LKSBOQ QEB ELROP MBO RKFQ LC TEB>Q >KA @ILQE FKQL RKFQ MBO ELRO 4L AL PL L?PBOSB QE>Q FK QEB 5KfQBA 3Q>QBP FQ Q>HBP BfDEQ ELROP QL J>HB > ?RPEBI LC TEB>Q PL TLOHBOP @>K MOL@BPP LC > ?RPEBI LC TEB>Q FK >K ELRO )Q Q>HBP KfKB ELROP QL J>HB > V>OA LC @ILQE FK QEB 5KfQBA 3Q>QBP PL TLOHBOP @>K MOLAR@B LC > V>OA LC @ILQE FK >K ELRO )C VLR AfSfAB QEB > J LRKQ LC @ILQE LC > V>OA ?V QEB > J LRKQ LC TEB>Q VLR DfSB RM LC > ?RPEBI FK >K ELRO VLR CfKA QEB MOF@B LC LKB DLLA TEB>Q FK QBOJJP LC QEB LQEBO @ILQE

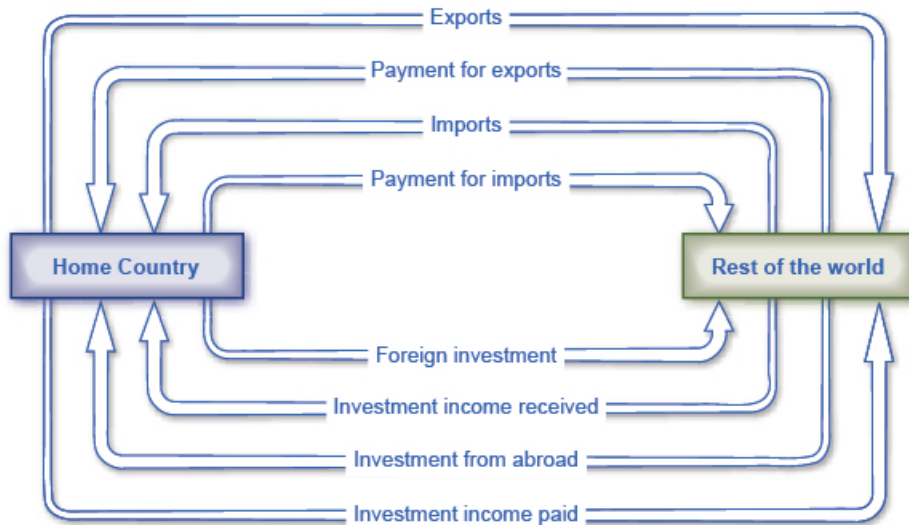
, ; 8 4?4A68 B9 ,E478 4F G ; 8 4?4A68 B9 ( 4L@8AGF

3EB @LKKB@QFLK ?BQTBBK QO>AB ?>I>K@BP >KA FKQBOK>QFLK>I CILT P LC CFK>K@F>I @>MFQ>I FP PL @ILPB QE>Q B@LKL J FPQP PL J BQF J BP ABP@OF?B QEB ?>I>K@B LC QO>AB >P QEB ?>I>K@B LC M>V J BKQP \$>@E @>QBDLOV LC QEB @ROOBKQ >@@LRKQ ?>I>K@B FKSLISBP > @L00BPMLKAFKD CILT LC M>V J BKQP ?BQTBBK > DfSBK @LRKQOV >KA QEB OBPQ LC QEB TLOIA B@LKL J V

<:HE8 PELTP QEB CILT LC DLLAP >KA PBOSf@BP >KA M>V J BKQP ?BQTBBK LKB @LRKQOV b QEB 4KfQBA 2Q>QBP FK QEFP BU> J MIB b >KA QEB OBPQ LC QEB TLOIA 3EB QLM IFKB PELTP 4 2 BUMLOQP LC DLLAP >KA PBOSf@BP TEFIB QEB PB@LKA IFKB PELTP CFK>K@F>I M>V J BKQP COL J MRO@E>PBOP FK LQEBO @LRKQOFBP ?>@H QL QEB 4 2 B@LKL J V 3EB QEF0A IFKB QEBK PELTP 4 2 F J MLOQP LC DLLAP PBOSf@BP >KA FKSBPQ J BKQ >KA QEB CLROQE IFKB PELTP M>V J BKQP COL J QEB EL J B B@LKL J V QL QEB OBPQ LC QEB TLOIA %ILT LC DLLAP >KA PBOSf@BP IFKB LKB >KA QEOBB PELT RM FK QEB @ROOBKQ >@@LRKQ TEFIB TB CfKA CILT LC CRKAP IFKBP QTL >KA CLRO FK QEB CFK>K@F>I >@@LRKQ

3EB ?LQQL J CLRO IFKBP FK <:HE8 PELT QEB CILT P LC FKSBPQ J BKQ FK@L J B (K QEB CFOPQ LC QEB ?LQQL J IFKBP TB PBB FKSBPQ J BKQP J>AB >?OL>A TfQE CRKAP CILTfKD COL J QEB EL J B @LRKQOV QL QEB OBPQ LC QEB TLOIA (KSBPQ J BKQ FK@L J B PQB J J FKD COL J >K FKSBPQ J BKQ >?OL>A QEBK ORKP FK QEB LQEBO AFOB@QFLK COL J QEB OBPQ LC QEB TLOIA QL QEB EL J B @LRKQOV 2F J FI>OIV TB PBB LK QEB ?LQQL J QEF0A IFKB >K FKSBPQ J BKQ COL J QEB OBPQ LC QEB TLOIA FKQL QEB EL J B @LRKQOV >KA FKSBPQ J BKQ FK@L J B ?LQQL J CLROQE IFKB CILTfKD COL J QEB EL J B @LRKQOV QL QEB OBPQ LC QEB TLOIA 6B CfKA QEB FKSBPQ J BKQ FK@L J B ?LQQL J IFKBP QTL >KA CLRO FK QEB @ROOBKQ >@@LRKQ TEFIB FKSBPQ J BKQ QL QEB OBPQ LC QEB TLOIA LO FKQL QEB EL J B @LRKQOV IFKBP LKB >KA QEOBB FP FK QEB CFK>K@F>I >@@LRKQ 3EFP CFDROB ALBP KLQ PELT RKFfQBO>I QO>KPCBOP QEB CLROQE FQB J FK QEB @ROOBKQ >@@LRKQ





<:HE8 ?BJ B9 !A18FG@8AG BB7F 4A7 4C<G4? %>@E BIB JBKQ LC QEB @ROOBKQ >@LRKQ ?>I>K@B FKSLISBP > CILT LC CFK>K@F>I M>V JBKQP ?BQTBBK @LRKQFBP 4EB QLM IFKB PELTP BUMLOQP LC DLLAP >KA PBOSF@BP IB>SFKD QEB EL JB @LRKQOV QEB PB@LKA IFKB PELTP QEB J LKBY QE>Q QEB EL JB @LRKQOV OB@BFSBP CLO QELPB BUMLOQP 4EB QEFOA IFKB PELTP FJ MLQOP QE>Q QEB EL JB @LRKQOV OB@BFSBP QEB CLROQE IFKB PELTP QEB M>V JBKQP QE>Q QEB EL JB @LRKQOV PBKQ >?OL>A FK BU@E>KDB CLO QEBPB FJ MLQOP

@ROOBKQ >@LRKQ ABCF@FQ JB>KP QE>Q QEB @LRKQOV FP >KBQ ?LOOLTBO COL J >?OL>A " LKSBOBPBIV >MLPFQFSB @ROOBKQ >@LRKQ ?>I>K@B JB>KP > @LRKQOV FP >KBQ IBKABO QL QEB OBPQ LC QEB TLOIA )RPQ IFHB QEB M>O>?IB LC 1L?FKPLK >KA %OFA>V QEB IBPPLK FP QE>Q > QO>AB PROMIRP JB>KP >K LSBO>II LRQCILT LC CFK>K@F>I FKSBPQ JBKQ @>MFQ>I >P AL JBPF@ FKSBPQLOP MRQ QEBFO CRKAP >?OL>A TEFIB > ABCF@FQ FK QEB @ROOBKQ >@LRKQ ?>I>K@B FP BU@QIV BNR>I QL QEB LSBO>II LO KBQ FKCILT LC CLOBFDK FKSBPQ JBKQ @>MFQ>I COL J >?OL>A

(Q FP FJ MLQO>KQ QL OB@LDFWB QE>Q >K FKCILT >KA LRQCILT LC CLOBFDK @>MFQ>I ALBP KLQ KB@BPP>OFIV OBCBO QL > AB?Q QE>Q DLSBOK JBKQP LTB QL LQEBO DLSBOK JBKQP >IQELRDE DLSBOK JBKQ AB?Q J>V ?B M>OQ LC QEB MF@QROB (KQB>A QEBPB FKQBOK>QLK>I CILT LC CFK>K@F>I @>MFQ>I OBCBO QL >II LC QEB T>VP FK TEF@E MOFS>QB FKSBPQLOP FK LKB @LRKQOV J>V FKSBPQ FK >KLEBO @LRKQOV b ?V ?RVFKD OB>I BPQ>QB @LJ M>KFBP >KA CFK>K@F>I FKSBPQ JBKQP IFHB PQL@HP >KA ?LKAP

## N , ; 8 &4G<BA4? +4I<A: 4A7 !A18FG@8AG !78AG<GL

!V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB ABQBO J FK>KQP LC QO>AB >KA @ROOBKQ >@LRKQ ?>I>K@B
- d (ABKQFCV >KA @>I@RI>QB PRMIV >KA AB J >KA CLO CFK>K@F>I @>MFQ>I
- d \$UMI>FK ELT > K>QLK P LTK IBSBI LC AL JBPF@P >SFKD >KA FKSBPQ JBKQ ABQBO J FKBP > K>QLK P ?>I>K@B LC QO>AB
- d /OBAF@Q QEB OFPFKD >KA C>HFKD LC QO>AB ABCF@FQ ?>PBA LK > K>QLK P P>SFKD >KA FKSBPQ JBKQ FABKQFV

3EB @ILPB @LKKB@QLK ?BQTBBK QO>AB ?>I>K@BP >KA FKQBOK>QLK>I CILT LC P>SFKDP >KA FKSBPQ JBKQP IB>AP QL > J>@OLB@LKL JF@ >K>IVFP 3EFP >MMOL>@E SFBTP QO>AB ?>I>K@BP b >KA QEBFO >PPL@F>QBA CILT LC CFK>K@F>I @>MFQ>I b FK QEB @LKQBUQ LC QEB LSBO>II IBSBIP LC P>SFKDP >KA CFK>K@F>I FKSBPQ JBKQ FK QEB B@LKL J V

## -A78EF64A7<A: G; 8 8G8E@<A4AGF B9 G; 8 ,E478 4A7 HEE8AG 66BHAG 4?4A68

3EB national saving and investment identity MOLSABP > RPBCRI T>V QL RKABOPQ>KA QEB ABQBO J FK>KQP LC QEB QO>AB >KA @ROOBKQ >@LRKQ ?>I>K@B (K > K>QLKdP CFK>K@F>I @>MFQ>I J >OHBQ QEB NR>KQFV LC CFK>K@F>I @>MFQ>I PRMMIFBA >Q >KV DFSBK QF JB J RPQ BNR>I QEB NR>KQFV LC CFK>K@F>I @>MFQ>I AB J >KABA CLO MROMLPBP LC J >HFKD FKSBPQ JBKQP 6 E>Q FP LK QEB PRMMIV >KA AB J >KA PFABP LC CFK>K@F>I @>MFQ>I 2BB QEB CLIL TFKD " IB>O (Q 4M CB>QROB CLO QEB >KPTBO QL QEFB NRBPQLK

# Clear It Up



/ ; 4G 6B@CE<F8F G ; 8 FHCC?L 4A7 78@4A7 B9 9<A4A6<4? 64C<G4?

! @LRKQOV@P K>QFLK>I P>SFKDP FP QEB QLQ>I LC FQP AL J BPQ@P P>SFKDP ?V ELRPBELIA >KA @L J M>KFBP MOFS>QB P>SFKDP >P TBII >P QEB DLSBOK J BKQ MR?IF@ P>SFKDP )C > @LRKQOV FP ORKKFKD > QO>AB ABCF@FQ FQ J B>KP J LKBV COL J >?OL>A FP BKQB@FKD QEB @LRKQOV >KA QEB DLSBOK J BKQ @LKP@BOP FQ M>OQ LC QEB PRMMIV LC CFK>K@F>I @>M@>I

4EB AB J >KA CLO CFK>K@F>I @>M@>I J LKBV OBMOPBKPQ DOLRMP QE>Q >OB ?LOOLTFKD QEB J LKBV "RPFKBPPBP KBBA QL ?LOOLT QL CFK>K@B QEBFO FKSBPQ J BKQP FK C>@QL@FBP J >QB@>IP >KA MB@PLKKB 7 EBK QEB @BABA>I DLSBOK J BKQ ORKP > ?RADBQ ABCF@FQ FQ FP >IPL ?LOOLTFKD J LKBV COL J FKSBPQL@P ?V PBIFKD 4OB>PROV ?LKAP 4EB@B@LOB ?LQE ?RPFKBPP FKSBPQ J BKQ >KA QEB @BABA>I DLSBOK J BKQ @>K AB J >KA LO ?LOOLT QEB PRMMIV LC P>SFKDP

3EB@B >OB QTL J >FK PLR@BP CLO QEB PRMMIV LC CFK>K@F>I @>M@>I FK QEB 4 2 B@LKL J V P>SFKD ?V FKA@SFAR>IP >KA CFO J P @>IIBA 2 >KA QEB FK@ILT LC CFK>K@F>I @>M@>I COL J CLO@B@D FKSBPQL@P TEF@E FP BNR>I QL QEB QO>AB ABCF@FQ , a 7 LO F J MLOQP J FKR@P BUMLOQP 3EB@B >OB >IPL QTL J >FK PLR@BP LC AB J >KA CLO CFK>K@F>I @>M@>I FK QEB 4 2 B@LKL J V MOFS>QB PB@QL@ FKSBPQ J BKQ ( >KA DLSBOK J BKQ ?LOOLTFKD TEB@B QEB DLSBOK J BKQ KBBAP QL ?LOOLT TEBK DLSBOK J BKQ PMBKAFKD & FP EFDEBO QE>K QEB Q>UBP @LIIB@QBA 3 6B @>K BUM@BPP QEF@P K>QFLK>I P>SFKDP >KA FKSBPQ J BKQ FABKQFQV FK >IDB?O>F@ QBO J P

$$\text{Supply of financial capital} = \text{Demand for financial capital}$$
$$S + (M - X) = I + (G - T)$$

D>FK FK QEF@P BNR>QFLK 2 FP MOFS>QB P>SFKDP 3 FP Q>UBP & FP DLSBOK J BKQ PMBKAFKD , FP F J MLOQP 7 FP BUMLOQP >KA (FP FKSBPQ J BKQ 3EFP OBI>QFLKPEFM FP QORB >P > J >Q@BO LC ABCF@FQ?B@>RPB CLO QEB J >@OL B@LKL J V QEB NR>KQFQV PRMMIFBA LC CFK>K@F>I @>M@>I J RPQ ?B BNR>I QL QEB NR>KQFQV AB J >KABA

' LTB@SBO @B@Q>FK @L J MLK@B@P LC QEB K>QFLK>I P>SFKDP >KA FKSBPQ J BKQ FABKQFQV @>K PTF@E ?BQTB@B QEB PRMMIV PFAB >KA QEB AB J >KA PFAB 2L J B @LRKQ@FBP IFHB QEB 4KFQBA 2Q>QB@P FK J LPQ VB>OP PFK@B QEB P E>SB ?RADBQ ABCF@FQ TEF@E J B>K QEB DLSBOK J BKQ FP PMBKAFKD J LOB QE>K FQ @LIIB@QP FK Q>UBP >KA PL QEB DLSBOK J BKQ KBBAP QL ?LOOLT CRKAP (K QEF@ @>PB QEB DLSBOK J BKQ QBO J TLRIA ?B & a 3 PELTFKD QE>Q PMBKAFKD FP I>ODBO QE>K Q>UBP >KA QEB DLSBOK J BKQ TLRIA ?B > AB J >KABO LC CFK>K@F>I @>M@>I LK QEB IBCQ E>KA PFAB LC QEB BNR>QFLK QE>Q FP > ?LOOLTBO KLQ > PRMMIFBO LC CFK>K@F>I @>M@>I LK QEB OFDEQ E>KA PFAB ' LTB@SBO FC QEB DLSBOK J BKQ ORKP > ?RADBQ PROMIRP PL QE>Q QEB Q>UBP BU@BBA PMBKAFKD >P QEB 4 2 DLSBOK J BKQ AFA COL J QL QEBK QEB DLSBOK J BKQ FK QE>Q VB>O T>P @L@KQ@P?RQFKD QL QEB PRMMIV LC CFK>K@F>I @>M@>I 3 a & >KA TLRIA >MMB>O LK QEB IBCQ P>SFKD PFAB LC QEB K>QFLK>I P>SFKDP >KA FKSBPQ J BKQ FABKQFQV 2F J FI>OIV FC > K>QFLK>I B@LKL J V ORKP > QO>AB PROMIRP QEB QO>AB PB@QL@ TFII FKSLISB >K L@QCILT LC CFK>K@F>I @>M@>I QL L@EBO @LRKQ@FBP QO>AB PROMIRP J B>KP QE>Q QEB AL J BPQ@P CFK>K@F>I @>M@>I FP FK PROMIRP T@FQEK > @LRKQOV >KA @>K ?B FKSBP@BA FK L@EBO @LRKQ@FBP

3EB CRKA >J BKQ>I KL@FLK QE>Q QLQ>I NR>KQFQV LC CFK>K@F>I @>M@>I AB J >KABA BNR>IP QLQ>I NR>KQFQV LC CFK>K@F>I @>M@>I PRMMIFBA J RPQ >IT>VP OB J >FK QORB #L J BPQ@P P>SFKDP TFII >IT>VP >MMB>O >P M>OQ LC QEB PRMMIV LC CFK>K@F>I @>M@>I >KA AL J BPQ@P FKSBPQ J BKQ TFII >IT>VP >MMB>O >P M>OQ LC QEB AB J >KA CLO CFK>K@F>I @>M@>I ' LTB@SBO QEB DLSBOK J BKQ >KA QO>AB ?>I>K@B BIB J BKQP LC QEB BNR>QFLK @>K J LSB ?>@H >KA CLOQE >P BFQEBO PRMMIFBOP LO AB J >KABOP LC CFK>K@F>I @>M@>I ABMBKAFKD LK TEBQEBO DLSBOK J BKQ ?RADBQ >KA QEB QO>AB ?>I>K@B >OB FK PROMIRP LO ABCF@FQ

**B@8F@<6 +4I<A: 4A7 !A18F@<8AG 8G8E@<A8 G ; 8 ,E478 4?4A68**

. KB FKPFDEQ COL J QEB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFQV FP QE>Q > K>QFLK P LTK IBSBIP LC AL J BPQ@P P>SFKD >KA FKSBPQ J BKQ ABQBO J FKB > K>QFLK@P ?>I>K@B LC QO>AB 3L RKABOP>KA QEF@P MLFKQ OB>OO>KDB QEB FABKQFQV QL MRQ QEB ?>I>K@B LC QO>AB >II ?V FQPBIC LK LKB PFAB LC QEB BNR>QFLK "LKP@B@O CFOPQ QEB P@QR>QFLK T@FQE > QO>AB ABCF@FQ >KA QEBK QEB P@QR>QFLK T@FQE > QO>AB PROMIRP

(K QEB @>PB LC > QO>AB ABCF@FQ QEB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFQV @>K ?B OBT@FQ@BK >P

$$\text{Trade deficit} = \text{Domestic investment} - \text{Private domestic saving} - \text{Government (or public) savings}$$
$$(M - X) = I - S - (T - G)$$

(K QEF@P @>PB AL J BPQ@P FKSBPQ J BKQ FP EFDEBO QE>K AL J BPQ@P P>SFKD FK@IRAFKD ?LQE MOFS>QB >KA DLSBOK J BKQ P>SFKD 3EB

LKIV T>V QE>Q AL J BPQF@ FKSBPQ J BKQ @>K BU@BBA AL J BPQF@ P>SFKD FP FC @>M@>I FP CILTFKD FKQL > @LRKQOV COL J >?OL>A CQBO >II QE>Q BUQO> CFK>K@F>I @>M@>I CLO FKSBPQ J BKQ E>P QL @L J B COL J PL J BMI>@B

- LT @LKPFABO > QO>AB surplus COL J QEB P@>KAMLFKQ LC QEB K>FLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV

Trade surplus = Private domestic saving + Public saving – Domestic investment

$$(X - M) = S + (T - G) - I$$

(K QEPF @>PB AL J BPQF@ P>SFKDP ?LQE MOFS>QB >KA MR?IF@ FP EFDEBO QE>K AL J BPQF@ FKSBPQ J BKQ 3E>Q BUQO> CFK>K@F>I @>M@>I TFII ?B FKSBPQBA >?OL>A

3EFP @LKKB@FLK LC AL J BPQF@ P>SFKD >KA FKSBPQ J BKQ QL QEB QO>AB ?>I>K@B BUMI>FKP TEV B@LKL J FPQP SFBT QEB ?>I>K@B LC QO>AB >P > CRKA> J BKQ>IIV J >@OLB@LKL J F@ MEBKL J BKLK P QEB K>FLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV PELTP QEB MBOCLO J >K@B LC @BOQ>FK PB@QLOP LC >K B@LKL J V IFHB @>OP LO PQBBI AL KLQ ABQBO J FKB QEB QO>AB ?>I>K@B %ROQEBO TEBQEBO QEB K>FLK@P QO>AB I>TP >KA OBDRI>QFLKP BK@LRO>DB COBB QO>AB LO MOLQB@QFLKFP J >IPL ALBP KLQ ABQBO J FKB QEB QO>AB ?>I>K@B PBB ?B54?<M4G<BA 4A7 (EBG86G<BA<F@

KC?BE<A: ,E478 4?4A68F ' A8 46G6E 4G 4 ,<@8

3EB K>FLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV >IPL MOLSFABP > CO> JBTLOH CLO QEFKHFKD >?LRQ TE>Q TFII @>RBP QO>AB ABCF@FP QL OFPB LO C>II !BDFK TFQE QEB SBOPFLK LC QEB FABKQFV QE>Q E>P AL J BPQF@ P>SFKDP >KA FKSBPQ J BKQ LK QEB IBCQ >KA QEB QO>AB ABCF@FQ LK QEB OFDEQ

Domestic investment – Private domestic savings – Public domestic savings = Trade deficit

$$I - S - (T - G) = (M - X)$$

- LT @LKPFABO QEB C>@QLOP LK QEB IBCQ E>KA PFAB LC QEB BNR>QFLK LKB >Q > QF J B TEFIB ELIAFKD QEB LQEBO C>@QLOP @LKPQ>KQ

P > CFOPQ BU>J MIB >PPR J B QE>Q QEB IBSBI LC AL J BPQF@ FKSBPQ J BKQ FK > @LRKQOV OFPBP TEFIB QEB IBSBI LC MOFS>QB >KA MR?IF@ P>SFKD OB J >FKP RK@E>KDBA ,45?8 PELTP QEB OBPRIQ FK QEB CFOPQ OLT RKABO QEB BNR>QFLK 2FK@B QEB BNR>IFV LC QEB K>FLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV JRPQ @LQKFKRB QL ELIA b FQ FP >CQBO >II >K FABKQFV QE>Q JRPQ ?B QORB ?V ABCFK@FLK b QEB OFPB FK AL J BPQF@ FKSBPQ J BKQ TFII J B>K > EFDEBO QO>AB ABCF@FQ 3EFP PFQR>QFLK L@>ROOBA FK QEB 4 2 B@LKL J V FK QEB I>QB P !B@>RBP LC QEB PRODB LC KBT FKLO J >QFLK >KA @L J J RKF@>QFLK Q@>EKLILDFBP QE>Q ?B@>J B >S>FI>?IB ?RPFKBP FKSBPQ J BKQ FK@OB>PBA PR?PQ>K@F>IIV C>II FK MOFS>QB P>SFKD AROFKD QEP QF J B >KA > OFPB FK DLSBOK J BKQ P>SFKD J LOB LO IBPP LCCPBQ B>@E LQEBO P > OBPRIQ QEB CFK>K@F>I @>M@>I QL CRKA QE>Q ?RPFKBP FKSBPQ J BKQ @>J B COL J >?OL>A TEF@E FP LKB OB>PLK CLO QEB SBOV EFDE 4 2 QO>AB ABCF@FQ LC QEB I>QB P >KA B>OIV P

B@8F@6 !A18F@8AG	P	(E<14G8 B@8F@6 +4I<A:F	P	(H5?6 B@8F@6 +4I<A:F	,E478 8@<6G
!	P	+	P	, P	% P O
5M		. L @E>KDB		. L @E>KDB	4EBK - ^ 8 JRPQ OFPB
. L @E>KDB		5M		. L @E>KDB	4EBK - ^ 8 JRPQ C>II
. L @E>KDB		. L @E>KDB		\$LTK	4EBK - ^ 8 JRPQ OFPB

,45?8 4HF8F B9 4 ;4A:<A: ,E478 4?4A68

P > PB@LKA P@BK>OFL >PPR J B QE>Q QEB IBSBI LC AL J BPQF@ P>SFKDP OFPBP TEFIB QEB IBSBI LC AL J BPQF@ FKSBPQ J BKQ >KA MR?IF@ P>SFKDP OB J >FKP RK@E>KDBA (K QEPF @>PB QEB QO>AB ABCF@FQ TLRIA AB@IFKB P AL J BPQF@ P>SFKDP OFPBP QEBOB TLRIA ?B IBPP KBBA CLO CLOBFDK CFK>K@F>I @>M@>I QL J BBQ FKSBPQ J BKQ KBBAP %LO QEPF OB>PLK > MLIF@V MOLMLP>I LCQBK J >AB CLO OBAR@FKD QEB 4 2 QO>AB ABCF@FQ FP QL FK@OB>PB MOFS>QB P>SFKD b >IQELRDE BU>@QIV ELT QL FK@OB>PB QEB LSBO>II O>QB LC P>SFKD E>P MOLSBK @LQQLSBOFP>I

P > QEFOA P@BK>OFL F J >DFKB QE>Q QEB DLSBOK J BKQ ?RADBQ ABCF@FQ FK@OB>PBA AO>J >QF@>IIV TEFIB AL J BPQF@ FKSBPQ J BKQ

>KA MOFS>QB P>SFKDP OB J >FKBA RK@E>KDBA 3EFP P@BK>OFL L@@ROOBA FK QEB 4 2 B@LKL J V FK QEB J FA P 3EB CBABO>I ?RADBQ ABCF@FQ FK@OB>PBA COL J ?FIIFLK FK QL ?FIIFLK FK b >K FK@OB>PB FK QEB AB J >KA CLO CFK>K@F>I @>M@>I LC ?FIIFLK 3EB @ROOBKQ >@L@LRKQ ?>I>K@B @LII>MPBA COL J > PROMIRP LC ?FIIFLK FK QL > ABCF@FQ LC ?FIIFLK FK b >K FK@OB>PB FK QEB PRMMIV LC CFK>K@F>I @>M@>I COL J >?OL>A LC ?FIIFLK 3EB @LKKB@QFLK >Q QE>Q QF J B FP @IB>0 > PE>OM FK@OB>PB FK DLSBOK J BKQ ?LOOLTFKD FK@OB>PBA QEB 4 2 B@LKL J V@P AB J >KA CLO CFK>K@F>I @>M@>I >KA CLOBFDK FKSBP@LOP QEOLRDE QEB QO>AB ABCF@FQ MOF J >OFIV PRMMIFBA QE>Q FK@OB>PB 3EB CLILITFKD 6LOH (Q . RQ CB>QROB T>IHP VLR QEOLRDE > P@BK>OFL FK TEF@E MOFS>QB AL J BP@F@ P>SFKDP E>P QL OFPB ?V > @BOQ>FK > J LRKQ QL OBAR@B > QO>AB ABCF@FQ

# Work It Out

+B?I<A: (EB5?8@F J<G; G;8 +4I<A: 4A7 !A!8FG@8AG !78AG<GL

5PB QEB P>SFKD >KA FKSBPQ J BKQ FABK@FQV QL >KPTBO QEB CLILITFKD NRBP@FLK #LRKQOV ! E>P > QO>AB ABCF@FQ LC ?FIIFLK MOFS>QB AL J BP@F@ P>SFKDP LC ?FIIFLK > DLSBOK J BKQ ABCF@FQ LC ?FIIFLK >KA MOFS>QB AL J BP@F@ FKSBPQ J BKQ LC ?FIIFLK 4L OBAR@B QEB ?FIIFLK QO>AB ABCF@FQ ?V ?FIIFLK ?V ELT JR@E ALBP MOFS>QB AL J BP@F@ P>SFKDP E>SB QL FK@OB>PB

3QBM 7 OFQB LRQ QEB P>SFKDP FKSBPQ J BKQ CLO J RI> PLISFKD CLO QEB QO>AB ABCF@FQ LO PROMIRP LK QEB IBCQ

$$(X - M) = S + (T - G) - I$$

3QBM )K QEB CLO J RI> MRQ QEB > J LRKQ CLO QEB QO>AB ABCF@FQ FK >P > KBD>QFSB KR J ?BO 8 ^ - 4EB IBCQ PFAB LC VLRO CLO J RI> FP KLT

$$-200 = S + (T - G) - I$$

3QBM %K@BO QEB MOFS>QB AL J BP@F@ P>SFKDP 3 LC FK QEB CLO J RI>

$$-200 = 500 + (T - G) - I$$

3QBM %K@BO QEB MOFS>QB AL J BP@F@ FKSBPQ J BKQ ) LC FKQL QEB CLO J RI>

$$-200 = 500 + (T - G) - 500$$

3QBM 4EB DLSBOK J BKQ ?RADBQ PROMIRP LO ?>I>K@B FP OBM@BPKQBA ?V 4 ^ ' %K@BO > ?RADBQ ABCF@FQ > J LRKQ CLO 4 ^ ' LC ^

$$-200 = 500 + (-200) - 500$$

3QBM 9LRO CLO J RI> KLT FP

$$(X - M) = S + (T - G) - I$$

$$-200 = 500 + (-200) - 500$$

4EB NRBP@FLK FP 4L OBAR@B VLRO QO>AB ABCF@FQ 8 ^ - LC ^ QL ^ FK ?FIIFLK LC ALII>OP ?V ELT JR@E TFIH P>SFKDP E>SB QL OFPB

$$(X - M) = S + (T - G) - I$$

$$-100 = S + (-200) - 500$$

$$600 = S$$

3QBM 3RJ J>OFWB QEB >KPTBO O@FS>QB AL J BP@F@ P>SFKDP KBBAP QL OFPB ?V ?FIIFLK QL > QL@>I LC ?FIIFLK CLO QEB T L PFABP LC QEB BNR>QFLK QL OB J >FK BNR>I ^ ^

## + ; BEG ,8E@ %B!8@8AGF <A G;8 HF<A8FF L6?8 4A7 G;8 ,E478 4?4A68

(K QEB PELOQ ORK TEBQEBO >K B@LKL J V FP FK > OB@BPPFLK LO LK QEB RMP@TFKD @>K >CCB@Q QO>AB F J ?>I>K@BP OB@BPPFLK QBKAP QL J >HB > QO>AB ABCF@FQ P J >IIBO LO > QO>AB PROMIRP I>ODBO TEFIB > MBOFLA LC PQOLKD B@LKL J F@ DOLTQE QBKAP QL J >HB > QO>AB ABCF@FQ I>ODBO LO > QO>AB PROMIRP P J >IIBO

P >K BU>J MIB KLQB FK <:HE8 QE>Q QEB 4 2 QO>AB ABCF@FQ AB@IFKBA ?V >I J LPQ E>IC COL J QL . KB MOF J >OV OB>PLK CLO QEFP @E>KDB FP QE>Q AROFKD QEB OB@BPPFLK >P QEB 4 2 B@LKL J V PILTBA ALTK FQ MRQ@E>PBA CBTBO LC >II DLLAP FK@IRAFKD CBTBO F J MLOQP COL J >?OL>A ' L TBSBO ?RVEKD MLTBO >?OL>A CBII IBPP >KA PL 4 2 BUMLOQP AFA KLQ

C>II ?V >P J R@E

"LKSBOBPBIV FK QEB J FA P TEBK QEB 4 2 QO>AB ABCF@FQ ?B@> J B SBOV I>ODB > @LKQOF?RQFKD PELOQ QBO J OB>PLK FP QE>Q QEB 4 2 B@LKL J V T>P DOLTFKD P > OBPRIQ QEBOB T>P @LKPFABO>?IB >DDOBPPFSB ?RVFKD FK QEB 4 2 B@LKL J V FK@IRAFKD QEB ?RVFKD LC F J MLOQP 3ERP > QO>AB ABCF@FQ LO > J R@E ILTBO QO>AB PROMIRP LCQBK >@L J M>KFBP > O>MFAIV DOLTFKD AL J BPQF@ B@LKL J V TEFIB > QO>AB PROMIRP LO > J R@E ILTBO QO>AB ABCF@FQ >@L J M>KFBP > PILTFKD LO OB@BPPFLK>OV AL J BPQF@ B@LKL J V

6 EBK QEB QO>AB ABCF@FQ OFPBP FQ KB@BPP>OFIV J B>KP > DOB>QBO KBQ FKCILT LC CLOBFDK CFK>K@F>I @>M/Q>I 3EB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFQV QB>@EBP QE>Q QEB OBPQ LC QEB B@LKL J V @>K >?PLO? QEFP FKCILT LC CLOBFDK CFK>K@F>I @>M/Q>I FK PBSBO>I AFCCBOBKQ T>VP %LO BU> J MIB OBAR@BA MOFS>QB P>SFKDP @LRIA LCCPBQ QEB >AAFQFLK>I FKCILT LC CFK>K@F>I @>M/Q>I COL J >?OL>A IB>SFKD AL J BPQF@ FKSBPQ J BKQ >KA MR?IF@ P>SFKD RK@E>KDBA IQBOK>QFSBIV QEB FKCILT LC CLOBFDK CFK>K@F>I @>M/Q>I @LRIA OBPRIQ FK EFDEBO AL J BPQF@ FKSBPQ J BKQ IB>SFKD MOFS>QB >KA MR?IF@ P>SFKD RK@E>KDBA 8BQ >KLQEBQ MLPPF?FIQV FP QE>Q DOB>QBO DLSBOK J BKQ ?LOOLT FTKD @LRIA >?PLO? QEB FKCILT LC CLOBFDK CFK>K@F>I @>M/Q>I IB>SFKD AL J BPQF@ P>SFKD >KA FKSBPQ J BKQ RK@E>KDBA 3EB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFQV ALBP KLQ PMB@FCV TEF@E LC QEBPB P@BK>OFLP >ILKB LO FK @L J ?FK>QFLK TFII L@@RO b LKIV QE>Q LKB LC QEB J J RPQ L@@RO

## N , ; 8 ( EBF 4A7 BAF B9 , E478 89<6<GF 4A7 +HEC?HF8F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d (ABKQFCV QEObB T>VP FK TEF@E ?LOOLT FTKD J LKBV LO ORKKFKD > QO>AB ABCF@FQ @>K OBPRIQ FK > EB>IQEV B@LKL J V
- d (ABKQFCV QEObB T>VP FK TEF@E ?LOOLT FTKD J LKBV LO ORKKFKD > QO>AB ABCF@FQ @>K OBPRIQ FK > TB>HBO B@LKL J V

! B@>RPB CILTP LC QO>AB >IT>VP FKSLISB CILTP LC CFK>K@F>I M>V J BKQP CILTP LC FKQBOK>QFLK>I QO>AB >OB >@QR>IIV QEB P> J B >P CILTP LC FKQBOK>QFLK>I CFK>K@F>I @>M/Q>I 3EB NRBPOFLK LC TEBQEBO QO>AB ABCF@FQ LO PROMIRPBP >OB DLLA LO ?>A CLO >K B@LKL J V FP FK B@LKL J F@ QBO J P BU>@QIV QEB P> J B NRBPOFLK >P TEBQEBO FQ FP > DLLA FAB> CLO >K B@LKL J V QL OBIV LK KBQ FKCILT P LC CFK>K@F>I @>M/Q>I COL J >?OL>A LO QL J >HB KBQ FKSBPQ J BKQP LC CFK>K@F>I @>M/Q>I >?OL>A "LKSQBQFLK>I TTPAL J LCQBK ELIAP QE>Q ?LOOLT FTKD J LKBV FP CLLIE>OAV >KA QE>Q > MORABKQ @LRKQOV IFHB > MORABKQ MBOPLK PELRIA >IT>VP OBIV LK FQP LTK OBPLRO@BP 6 EFIB FQ FP @BOQ>FKIV MLPPF?IB QL ?LOOLT QLL J R@E b >P >KVLKB TFQE >K LSBOIL>ABA @OBAFQ @>OA @>K QBQFCV b ?LOOLT FTKD >Q @BOQ>FK QF J BP @>K >IPL J >HB PLRKA B@LKL J F@ PBKPB %LO ?LQE FKAFSFAR>IP >KA @LRKQOFPB QEBOB FP KL B@LKL J F@ J BOFQ FK > MLIF@V LC >?PQ>FKFKD COL J M>OQF@FM>QFLK FK CFK>K@F>I @>M/Q>I J >OHBQP

(Q J>HBP B@LKL J F@ PBKPB QL ?LOOLT TEBK VLR >OB ?RVFKD PL J BQEFKD TFQE > ILKD ORK M>VLCC QE>Q FP TEBK VLR >OB J >HFKD >K FKSBPQ J BKQ %LO QEFP OB>PLK FQ @>K J >HB B@LKL J F@ PBKPB QL ?LOOLT CLO > @LIIBDB BAR@>QFLK ?B@>RPB QEB BAR@>QFLK TFII QVMF@>IIV >IILT VLR QL B>OK EFDEBO T>DBP >KA PL QL OBM>V QEB IL>K >KA PQFII @L J B LRQ >EB>A (Q @>K >IPL J >HB PBKPB CLO > ?RPFKBP QL ?LOOLT FK LOABO QL MRO@E>PB > J >@EFKB QE>Q TFII I>PQ VB>OP >P ILKD >P QEB J >@EFKB TFII FK@OB>PB LRQMRQ >KA MOLCFQP ?V J LOB QE>K BKL RDE QL OBM>V QEB IL>K 2F J FI>OIV FQ @>K J >HB B@LKL J F@ PBKPB CLO > K>QFLK>I B@LKL J V QL ?LOOLT COL J >?OL>A >P ILKD >P FQ TFPBIV FKSBPQ QEB J LKBV FK T>VP QE>Q TFII QBKA QL O>FPB QEB K>QFLK@P B@LKL J F@ DOLTFE LSBO QF J B 3EBK FQ TFII ?B MLPPF?IB CLO QEB K>QFLK>I B@LKL J V QL OBM>V QEB ?LOOLT BA J LKBV LSBO QF J B >KA PQFII BKA RM ?BQBO LCC QE>K ?BCLOB

. KB SFSFA BU> J MIB LC > @LRKQOV QE>Q ?LOOLT TBA EB>SFIV COL J >?OL>A FKSBPQBA TFPBIV >KA AFA MBOCB@QIV TBII FP QEB 4KFQBA 2Q>QBP AROFKD QEB KFKBQBBKQE @BKQROV 3EB 4KFQBA 2Q>QBP O>K > QO>AB ABCF@FQ FK LC QEB VB>OP COL J QL TEF@E J B>KQ QE>Q FQ T>P F J MLOQFKD @>M/Q>I COL J >?OL>A LSBO QE>Q QF J B ' LTBSBO QE>Q CFK>K@F>I @>M/Q>I T>P J LPQIV FKSBPQBA FK MOLGB@QP IFHB O>FIOL>AP QE>Q ?OLRDEQ > PR?PQ>KQF>I B@LKL J F@ M>VLCC 2BB QEB CLILTFKD "IB>O (Q 4M CB>QROB CLO J LOB LK QEFP

J LOB OB@BKQ BU> J MIB >ILKD QEBPB IFKBP FP QEB BUMBOFBK@B LC 2LRQE \*LOB> TEF@E E>A QO>AB ABCF@FQ AROFKD J R@E LC QEB P b >KA PL T>P >K F J MLOQBO LC @>M/Q>I LSBO QE>Q QF J B ' LTBSBO 2LRQE \*LOB> >IPL E>A EFDE O>QBP LC FKSBPQ J BKQ FK MEVPF@>I MI>KQ >KA BNRFM J BKQ >KA FQP B@LKL J V DOBT O>MFAIV %LO J QEB J FA P FKQL QEB J FA P 2LRQE \*LOB> LCQBK E>A QO>AB PROMIRPBP b QE>Q FP FQ T>P OBM>VFKD FQP M>PQ ?LOOLT FTKD ?V PBKAFKD @>M/Q>I >?OL>A

(K @LKQO>PQ PL J B @LRKQOFPB E>SB ORK I>ODB QO>AB ABCF@FQ ?LOOLT TBA EB>SFIV FK DIL?>I @>M/Q>I J >OHBQP >KA BKABA RM FK >II HEKAP LC QOLR?IB 3TL PMB@FCF@ PLOQP LC QOLR?IB >OB TLOQE BU> J FKFKD %FOPQ > ?LOOLT BO K>QFLK @>K CFKA FQP BIC FK > ?FKA FC FQ ALBP KLQ FKSBPQ QEB FK@L J FKD CRKAP COL J >?OL>A FK > T>V QE>Q IB>AP QL FK@OB>PBA MOLAR@QFSQV 2BSBO>I LC

+>QFK J BOF@> P I>ODB B@LKL JFBP FK@IRAFKD , BUFL>KA !O>WFI O>K I>ODB QO>AB ABCF@FQP >KA ?LOOLTBA EB>SFIV COL J  
>?OL>A FK QEB P ?RQ QEB FKCLT LC CFK>K@F>I @>MFQ>I AFA KLQ ?LLPQ MOLAR@QFSFQV PRCCF@FBKQIV TEF@E J B>KQ QE>Q QEBPB  
@LRKQOFBP C>@BA BKLO J LRP QOLR?IBP OBM>VFKD QEB J LKBV ?LOOLTBA TEBK B@LKL J F@ @LKAFLKLP PEFQBA AROFKD QEB P  
2F J FI>OIV FQ >MMB>OP QE>Q > KR J ?BO LC COF@>K K>QFLKP QE>Q ?LOOLTBA CLOBFDK CRKAP FK QEB P >KA P AFA KLQ  
FKSBPQ FK MOLAR@QFSB B@LKL J F@ >PPBQP P > OBPRIQ PBSBO>I LC QELPB @LRKQOFBP I>QBO C>@BA I>ODB FKQBOPQ M>V J BKQP TFQE  
KL B@LKL J F@ DOLTQE QL PELT CLO QEB ?LOOLTBA CRKAP

# Clear It Up

## E8 GE478 789<6GF 4? J4LF ;4E@9H?

&LO JLPQ VB>OP LC QEB KFKBQBBKQE @BKQROV 5 3 FJMLQPP BU@BBABA BUMLOQP >KA QEB 5 3 B@LKL J V E>A >  
QO>AB ABCF@FQ 9BQ QEB PQOFKD LC QO>AB ABCF@FQ AFA KLQ ELIA ?>@H QEB B@LKL J V >Q >II )KPQB>A QEB QO>AB ABCF@FQ  
@LKOQF?RQBA QL QEB PQOLKD B@LKL J F@ DOLTQE QE>Q D>SB QEB 5 3 B@LKL J V QEB EFDEBPQ MBO @>MFQ> ' \$ O FK QEB  
TLOIA ?V >OLRKA

4EB 5 3 QO>AB ABCF@FQ J B>KQ QE>Q QEB 5 3 B@LKL J V T>P OB@BFSFKD > KBQ FKCLT LC CLOBFDK @>MFQ>I COL J >?OL>A  
- R@E LC QE>Q CLOBFDK @>MFQ>I CILTBA FKQL QTL >OB>P LC FKSBPQ J BKQ \_ O>FIOL>AP >KA MR?IF@ FKCO>PQOR@QROB IFHB OL>AP  
T>QBO PVPQB J P >KA P@ELLIP \_ TEF@E TBOB F J MLOQ>KQ QL EBIMFKD QEB 5 3 B@LKL J V DOLT

7 B PELRIA KLQ LSBOP>QB QEB BCCB@Q LC CLOBFDK FKSBPQ J BKQ @>MFQ>I LK 5 3 B@LKL J F@ DOLTQE )K JLPQ VB>OP QEB  
CLOBFDK CFK>K@F>I @>MFQ>I OBMOBPBKQBA KL JLOB QE>K ^ LC QEB CRKAP QE>Q QEB DLSBOK J BKQ RPBA CLO LSBO>II  
MEVPF@>I FKSBPQ J BKQ FK QEB B@LKL J V . LKBQEIBIPP QEB QO>AB ABCF@FQ >KA QEB >@L J M>KVFKD FKSBPQ J BKQ CRKAP  
COL J >?OL>A TBOB @IB>OIV > EBIM KLQ > EFKAO>K@B QL QEB 5 3 B@LKL J V FK QEB KFKBQBBKQE @BKQROV

PB@LKA eQOLR?IBf FP 6 E>Q E>MMBKP FC QEB CLOBFDK J LKBV CILTP FK >KA QEBK PRAABKIV CILTP LRQ >D>FK 6 B O>FPBA  
QEFP P@BK>OFL >Q QEB PQ>OQ LC QEB @E>MQBO (K QEB J FA P > KR J ?BO LC @LRKQOFBP FK \$>PQ PF> b 3E>FI>KA (KALKBPF>  
, >I>VPF> >KA 2LRQE \*LOB> b O>K I>ODB QO>AB ABCF@FQ >KA F J MLOQBA @>MFQ>I COL J >?OL>A ' LTBSBO FK >KA  
J >KV CLOBFDK FKSBPQLOP ?B@> J B @LK@BOKBA >?LRQ QEB EB>IQE LC QEBPB B@LKL JFBP >KA NRF@HIV MRIIBA QEBFO J LKBV LRQ  
LC PQL@H >KA ?LKA J >OHBQP OB>I BPQ>QB >KA ?>KHP 3EB BUQOB J BIV O>MFA ABM>OQROB LC QE>Q CLOBFDK @>MFQ>I PQ>DDBOBA QEB  
>?KHFKD PVPQB J P >KA B@LKL JFBP LC QEBPB @LRKQOFBP MIRKDFKD QEB J FKQL ABM OB@BPPFLK 6 B FKSBPQFD>QB >KA AFP@RPP QEB  
IFKHP ?BQTTBK FKQBOK>FLK>I @>MFQ>I CILTP ?>KHP >KA OB@BPPFLK FK , ; !@C46GF B9 B18EA@8AG BEEBJ<A :

6 EFIB > QO>AB ABCF@FQ FP KLQ >IT>VP E>O J CRI QEBOB FP KL DR>O>KQBB QE>Q ORKKFKD > QO>AB PROMIRP TFII ?OFKD OL?RPQ  
B@LKL J F@ EB>IQE %LO BU> J MIB &BO J >KV >KA )>M>K O>K PR?PQ>KQF>I QO>AB PROMIRPBP CLO JLPQ LC QEB I>PQ QEOBB AB@>ABP  
1BD>OAIPPP LC QEBFO MBOPFPQBKQ QO>AB PROMIRPBP ?LQE @LRKQOFBP E>SB BUMBOFBK@BA L@>>PFLK>I OB@BPPFLK >KA KBFQEBO  
@LRKQOV E>P E>A BPMB@F>IIV OL?RPQ >KRR>I DOLTQE FK OB@BKQ VB>OP 1B>A JLOB >?LRQ )>M>KdP QO>AB PROMIRP FK QEB KBUQ  
"IB>O (Q 4M CB>QROB

# Link It Up

7>Q@E QEFP SFABL EQQM LMBKPQ>U@LIIBDB LOD I QO>ABABC@F@FQ LK TEBQEBO LO KLQ QO>AB ABCF@FQ FP DLLA CLO QEB  
B@LKL J V

3EB PEBBO PFWB >KA MBOPFPQB@B LC QEB 4 2 QO>AB ABCF@FQP >KA FKCILTP LC CLOBFDK @>M@>I PFK@B QEB P >OB > IBDFQ J >QB  
@>RBP CLO @LK@BOK 3EB ERDB 4 2 B@LKL J V TFII KLQ ?B ABPQ>?FIFWBA ?V >K LRQCILT LC FKQBOK>QLK>I @>M@>I >P B>PFIV >P  
P>V QEB @L J M>O>QFSBIV QFKV B@LKL J FBP LC 3E>FI>KA >KA (KALKBPF> TBOB FK a \$SBK >K B@LKL J V QE>Q FP KLQ  
HKL@HBA ALTK ELTBSBO @>K PQFII ?B PE>HBK J BOF@>K MLIF@V J >HBOP PELRIA @BQ>FKIV ?B M>VFKD >QQBKQLK QL QELPB  
@>PBP TEBOB > M>Q@BOK LC BUQBKPFBS >KA PRPQ>FKBA @ROOBKQ >@>LRKQ ABCF@FQP >KA CLOBFDK ?LOOLTFKD E>P DLKB ?>AIV b FC  
LKIV >P > @>RQFLK>OV Q>IB

# Clear It Up

**E8 GE478 FHEC?HF8F 4? J 4LF 58A89<6<4? BAF<78E<A : "4C4A F<A68 G ; 8 F**

OB0E>MP KL B@LKL J V >OLRKA QEB TLOIA FP ?BQQBO HKL TK CLO FQP QO>AB PROMIRPBP QE>K \*>M>K 3FK@B QEB PFWB  
LC QEBPB PROMIRPBP E>P LQ@BK ?BBK KB>O ?FIIFLK MBO VB>O 7 EBK \*>M>K@P B@LKL J V T>P DOLTfKD SfDLOLRPIV  
FK QEB P >KA P J >KV BPMB@f>IIV KLK B@LKL J FQP ABP@f?BA FQP I>ODB QO>AB PROMIRPBP B@QEBO > @>RBP  
LO > OBPRIQ LC FQP OL?RPQ B@LKL J F@ EB>IQE (LTBSBO COL J > P>QAMLFKQ LC B@LKL J F@ DOLTQE \*>M>K@P B@LKL J V  
E>P ?BBK QBBQBOFKD FK >KA LRQ LC OB@BPPFLK PFK@B TFQE OB>I ' \$O DOLTQE >SBO>DFKD LKIV >?LRQ MBO  
VB>O >KA >K RKB J MILV JBKQ O>QB QE>Q E>P ?BBK @OBMMFKD EFDEBO #IB>OIV > TELMMFKD QO>AB PROMIRP FP KL  
DR>O>KQBB LC B@LKL J F@ DLLA EB>IQE

)KP@B>A \*>M>K@P QO>AB PROMIRP OBCIB@QP QE>Q \*>M>K E>P > SBOV EFDE O>QB LC AL J BPQf@ P>SfKDP J LOB QE>K  
QEB \*>M>KBPB B@LKL J V @>K FKSBPQ AL J BPQf@>IIV >KA PL FQ FKSBPQP QEB BUQO> CRKAP >?OL>A )K \*>M>K@P PILT  
B@LKL J V @LKPR J MQFLK LC F J MLOQP FP OBI>QFSBIV ILT >KA QEB DOLTQE LC @LKPR J MQFLK FP OBI>QFSBIV PILT 4ERP  
\*>M>K@P BUMLOQP @LKQFKR>IIV BU@BBA FQP F J MLOQP IB>SfKD QEB QO>AB PROMIRP @LKQFKR>IIV EFDE 2B@BKQIV \*>M>K@P  
QO>AB PROMIRPBP ?BD>K QL ABQBOFLO>QB )K \*>M>K O>K > QO>AB ABCF@FQ ARB QL QEB EFDE @LPQ LC F J MLOQBA LFI " V  
\*>M>K >D>FK E>A > PROMIRP

## N , ; 8 <998E8A68 58G J 88A \$8 I 8? B9 , E478 4A7 G ; 8 , E478 4?A68

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d (ABKQFCV QE0BB C>@QLOP QE>Q FKCIRBK@B > @LRKQOV P IBSBI LC QO>AB
- d #FCCBOBKQF>QB ?BQTBBK ?>I>K@B LC QO>AB >KA IBSBI LC QO>AB

K>QLKdP level LC QO>AB J >V >Q CFOPQ PLRKA IFHB J R@E QEB P> J B FPPRB >P QEB balance LC QO>AB ?RQ QEBPB QTL >OB >@QR>IIV  
NRFQB PBM>O>QB (Q FP MBOCB@QIV MLPPF?IB CLO > @LRKQOV QL E>SB > SBOV EFDE IBSBI LC QO>AB b J B>PROBA ?V FQP BUMLOQP LC  
DLLAP >KA PBOsf@BP >P > PE>OB LC FQP &# / b TEHIB FQ >IPL E>P > KB>O ?>I>K@B ?BQTBBK BUMLOQP >KA F J MLOQP EFDE IBSBI  
LC QO>AB FKAf@>QBP QE>Q QEB K>QLK BUMLOQP > DLLA MLOQFLK LC FQP MOLAR@QLK (Q FP >IPL MLPPF?IB CLO > @LRKQOV@P QO>AB QL ?B  
> OBI>QFSBIV ILT PE>OB LC &# / OBI>QFSB QL DIL ?>I >SBO>DBP ?RQ CLO QEB F J ?>I>K@B ?BQTBBK FQP BUMLOQP >KA FQP F J MLOQP  
QL ?B NRFQB I>ODB 6B B J ME>PFWBA QEFP DBKB0>I QEB J B B>OIFBO FK %84FHE<A : ,E478 4?A68F TEF@E LCCBOBA PL J B  
FIIRPQ>QFSB CFDRBP LK QO>AB IBSBIP >KA ?>I>K@BP

@LRKQOV@P IBSBI LC QO>AB QBIIP ELT J R@E LC FQP MOLAR@QLK FQ BUMLOQP 6B J B>PROB QEFP ?V QEB MBO@BKQ LC BUMLOQP LRQ  
LC &# / (Q FKAf@>QBP QEB ABDOBB LC >K B@LKL J V P DIL ?>IFW>QLK 2L J B @LRKQOFPB PR@E >P &B0 J >KV E>SB > EFDE IBSBI LC  
QO>AB b QEBV BUMLOQ >I J LPQ LC QEBFO QL>I MOLAR@QLK 3EB ?>I>K@B LC QO>AB QBIIP RP FC QEB @LRKQOV FP ORKKFKD > QO>AB  
PROMIRP LO QO>AB ABCF@FQ @LRKQOV @>K E>SB > ILT IBSBI LC QO>AB ?RQ > EFDE QO>AB ABCF@FQ %LO BU> J MIB QEB 4KFQBA  
2Q>QBP LKIV BUMLOQP LC &# / ?RQ FQ E>P > QO>AB ABCF@FQ LC LSBO ?FIIFLK

3E0BB C>@QLOP PQOLKDIV FKCIRBK@B > K>QLKdP IBSBI LC QO>AB QEB PFWB LC FQP B@LKL J V FQP DBLDO>MEF@ IL@>QLK >KA  
FQP EFPQLOV LC QO>AB +>ODB B@LKL J FBP IFHB QEB 4KFQBA 2Q>QBP >@K AL J R@E LC QEBFO QO>AFKD FKQBOK>IIV TEHIB P J >II  
B@LKL J FBP IFHB 2TBABK E>SB IBPP >?FIFV QL MOLSfAB TE>Q QEBV T>KQ FKQBOK>IIV >KA QBKA QL E>SB EFDEBO O>QLP LC BUMLOQP  
>KA F J MLOQP QL &# / ->QLKP QE>Q >OB KBfDE?LOP QBKA QL QO>AB J LOB PFK@B @LPQ LC QO>KPMLQ>QLK >KA @L J J RKF@>QLK

>OB ILTBO , LOBLSBO PL J B K>QLKP E>SB ILKD >KA BPQ>?IFPEBA M>QQBOKP LC FKQBOK>QLK>I QO>AB TEFIB LQEBOP AL KLQ

"LKPBNRBKQIV > OBI>QFSBIV P J >II B@LKL J V IFHB 2TBABK TFQE J >KV KB>0?V QO>AFKD M>OQKBOP >@OLPP \$R0LMB >KA > ILKD EFPQLOV LC CLOBFDK QO>AB E>P > EFDE IBSBI LC QO>AB !O>WFI >KA (KAF> TEF@E >OB C>FOIV I>ODB B@LKL J FBP QE>Q E>SB LCQBK PLRDEQ QL FKEF?FQ QO>AB FK OB@BKQ AB@>ABP E>SB ILTBO IBSBIP LC QO>AB TEBOB>P QEB 4KFQBA 2Q>QB >KA )>M>K >OB BUQOB J BIV I>ODB B@LKL J FBP QE>Q E>SB @L J M>O>QFSBIV CBT KB>0?V QO>AFKD M>OQKBOP !LQE @LRKQFBP >@QR>IIV E>SB NRFQB ILT IBSBIP LC QO>AB ?V TLOIA PQ>KA>OAP 3EB O>QFL LC BUMLOP QL &# / FK BFQEBQ QEB 4KFQBA 2Q>QB LO FK )>M>K FP >?LRQ E>IC LC QEB TLOIA >SBO>DB

3EB ?>I>K@B LC QO>AB FP > PBM>O>QB FPPRB COL J QEB IBSBI LC QO>AB 3EB 4KFQBA 2Q>QB E>P > ILT IBSBI LC QO>AB ?RQ E>A BKLO J LRP QO>AB ABCF@FQ CLO J LPQ VB>OP COL J QEB J FA P FKQL QEB P )>M>K E>P > ILT IBSBI LC QO>AB ?V TLOIA PQ>KA>OAP ?RQ E>P QVMF>IIV PELTK I>ODB QO>AB PROMIRBP FK OB@BKQ AB@>ABP ->QLKP IFHB &BO J >KV >KA QEB 4KFQBA \*FKDAL J E>SB J BAFR J QL EFDE IBSBIP LC QO>AB ?V TLOIA PQ>KA>OAP ?RQ &BO J >KV E>A > J LABO>QB QO>AB PROMIRP FK TEFIB QEB 4KFQBA \*FKDAL J E>A > J LABO>QB QO>AB ABCF@FQ 3EBFO QO>AB MF@QROB T>P OLRDEIV FK ?>I>K@B FK QEB I>QB P 2TBABK E>A > EFDE IBSBI LC QO>AB >KA > J LABO>QB QO>AB PROMIRP FK TEFIB , BUFL E>A > EFDE IBSBI LC QO>AB >KA > J LABO>QB QO>AB ABCF@FQ QE>Q P> J B VB>O

(K PELOQ FQ FP NRFQB MLPPF?IB CLO K>QLKP TFQE > OBI>QFSBIV ILT IBSBI LC QO>AB BUMOBPPBA >P > MBO@BKQ>DB LC &# / QL E>SB OBI>QFSBIV I>ODB QO>AB ABCF@FQ (Q FP >IPL NRFQB MLPPF?IB CLO K>QLKP TFQE > KB>O ?>I>K@B ?BQTBBK BUMLOP >KA F J MLOP QL TLOOV >?LRQ QEB @LKPBNRBK@BP LC EFDE IBSBIP LC QO>AB CLO QEB B@LKL J V (Q FP KLQ FK@LKPFPQBKQ QL ?BIFBSB QE>Q > EFDE IBSBI LC QO>AB FP MLQBKQF>IIV ?BKBCF@F>I QL >K B@LKL J V ?B@>RPB LC QEB T>V FQ >IILT P K>QLKP KL MI>V QL QEBFO @L J M>O>QFSB >AS>KQ>DBP >KA QL >IPL ?B @LK@BOKBA >?LRQ >KV J >@OLB@LKL J F@ FKPQ>?FIFV @>RPBA ?V > ILKD QBO J M>OQBOK LC I>ODB QO>AB ABCF@FQ 3EB CLILTFKD "IB>O (Q 4M CB>QROB AFP@RPPBP ELT QEFP PLOQ LC AVK> J F@ MI>VBA LRQ FK "LILKF>I (KAF>

# Clear It Up

E8 GE478 FHEC?HF8F 4?J4LF 58A89<6<4? BAF<78E<A: B?BA<4? !A7<4

)KAF> T>P CLOJ>IIV RKABO "OFQPE ORIB COL J QL \$R0FKD QE>Q QF J B )KAF> @LKPFPQBKQIV E>A QO>AB PROMIRBP TFQE 'OB>Q "OFQ>FK !KVLKB TEL ?BIFBSBP QE>Q QO>AB PROMIRBP >OB > PFDK LC B@LKL J F@ PQ@BKDQE >KA AL J FK>K@B TEFIB QO>AB ABCF@FQ >OB > PFDK LC B@LKL J F@ TB>HKBPP JRPQ CFKA QEFP M>OQBOK LAA PFK@B FQ TLRIA J B>K QE>Q @LILKF>I )KAF> T>P PR@BPPCRIIV AL J FK>QFKD >KA BUMILQFKD 'OB>Q "OFQ>FK CLO >I J LPQ > @BKQROV \_ TEF@E T>P KLQ QORB

)KPB>A )KAF>@P QO>AB PROMIRBP TFQE 'OB>Q "OFQ>FK J B>KQ QE>Q B>@E VB>O QEBOB T>P >K LSBO>II CILT LC CFK>K@F>I @>MFQ>I COL J )KAF> QL 'OB>Q "OFQ>FK )K )KAF> J >KV EB>SHV @OF@FWBA QEFP CFK>K@F>I @>MFQ>I CILT >P QEB bAO>FK >KA QEBV SFBTBA BIF J FK>QFKD QEB CFK>K@F>I @>MFQ>I AO>FK >P LKB LC QEB J >KV OB>PLKP TEV )KAF> TLRIA ?BKBCFQ COL J >@EFBSFKD FKABMBKABK@B

<A4? , ;BH: ;GF 45BHG ,E478 4?4A68F

3O>AB ABCF@FQ @>K ?B > DLLA LO > ?>A PFDK CLO >K B@LKL J V >KA QO>AB PROMIRBP @>K ?B > DLLA LO > ?>A PFDK \$SBK > QO>AB ?>I>K@B LC WBOL b TEF@E GRPQ J B>KP QE>Q > K>QLK FP KBQEBQ > KBQ ?LOOLTBO KLO IBKABO FK QEB FKQBOK>QLK>I B@LKL J V b @>K ?B BFQEBQ > DLLA LO ?>A PFDK 3EB CRKA>J BKQ>I B@LKL J F@ NRBPQLK FP KLQ TEBQEBQ > K>QLKdP B@LKL J V FP ?LOOLTFKD LO IBKAFKD >Q >II ?RQ TEBQEBQ QEB M>OQF@RI>O ?LOOLTFKD LO IBKAFKD FK QEB M>OQF@RI>O B@LKL J F@ @LKAFLKLP LC QE>Q @LRKQOV J >HBP PBKPB

(Q FP FKQBOPQFKD QL OBCIB@Q LK ELT MR?IF@ >QQFRABP QL T>OA QO>AB ABCF@FQ >KA PROMIRBP J FDEQ @E>KDB FC TB @LRIA PL J BELT @E>KDB QEB I>?BIP QE>Q MBLMIB >KA QEB KBTP J BAF> >CCFU QL QEB J (C TB @>IIBA > QO>AB ABCF@FQ e>QO>@QFKD CLOBFDK CFK>K@F>I @>MFQ>I b TEF@E >@>RO>QIV ABP@OF?BP TE>Q > QO>AB ABCF@FQ J B>KP b QEBK QO>AB ABCF@FQ J FDEQ ILLH J LOB >QO>@QFSB "LKSBOBPBIV FC TB @>IIBA > QO>AB PROMIRP ePEFMFKD CFK>K@F>I @>MFQ>I >?QL>Af b TEF@E >@>RO>QIV @>MQROBP TE>Q > QO>AB PROMIRP ALBP b QEBK QO>AB PROMIRBP J FDEQ ILLH IBPP >QO>@QFSB \$FQEBQ T>V QEB HBV QL RKABOPQ>KAFKD QO>AB ?>I>K@BP FP QL RKABOPQ>KA QEB OBI>QLKPEFMP ?BQTBBK CILT P LC QO>AB >KA CILT P LC FKQBOK>QLK>I M>V J BKQP >KA TE>Q QEBPB OBI>QLKPEFMP F J MIV >?LRQ QEB @>RPBP ?BKBCFQ >KA OFPHP LC AFCCBOKQ HFKAP LC QO>AB ?>I>K@BP 3EB CFOPQ PQBM >ILKD QEFP GLROKBV LC RKABOPQ>KAFKD FP QL J LSB ?BVLKA HKBB GBOH OB>@QLKP QL QBO J P IFHB eQO>AB PROMIRP f



#E>M@B0 X 4EB )K@BOK>FLK>I 40>AB >KA #>M@>I &ILT P

e@>AB ?>I>K@B f >KA e@>AB ABCF@FQ f

# Bring it Home

%BE8 G ; 4A %88GF G ; 8 L8 <A G ; 8 BA : B

. LT QE>Q VLR PBB QEB ?FD MF@QROB VLR RKALR?QB AIV OB>IFWB QE>Q >II LC QEB B@LKL J F@ @ELF@BP VLR J >HB PRQE >P ABMLPF@FKD P>SFKDP LO FKSBP@FKD FK >K FK@BOK>FLK>I J RQR>I CRKA AL FK@IRBK@B QEB CILT LC DLLAP >KA PB@S@BP >P TBII >P QEB CILTP LC J LKBV >OLRKA QEB TLOIA

9LR KLT HKLT QE>Q > QO>AB PROMIRP ALBP KLQ KB@BPP>OFIV QBII RP TEBQEBO >K B@LKL J V FP MBO@LO J FKD TBII LO KLQ 4EB \$B J L@>QF@ 2BMR?If@ LC QEB #LKDL O>K > QO>AB PROMIRP FK >P TB IB>OKBA FK QEB ?BDFKKFKD LC QEB @E>M@B0 9BQ F@P @R@OBKQ >@LRKQ ?>I>K@B T>P ^ ?FIFLK (LTBSBO QEB OB@ROK LC MLIF@>I PQ>?HFQV >KA QEB OB?RFAFKD FK QEB >Q@B0 J>QE LC QEB @FSI T>O QEB@B E>P JB>KQ > CILT LC FKSBPQ JBKQ >KA CFK>K@F>I @>MRQ>I FKQL QEB @LRKQOV )K QEFP @>PB > KBD>QFSB @R@OBKQ >@LRKQ ?>I>K@B JB>KP QEB @LRKQOV FP ?B@KD OB?RFHQ \_>KA QE>Q FP > DLLA QEFKD

# # 1 , \*%+

54?4A68 B9 GE478 GE478 54?4A68 QEB D>M FC >KV ?BQ'TBBK > K>QFLKdP BUMLOQP >KA F J MLOQP

6HEE8AG 466BHAG 54?4A68 > ?OL>A J B>PROB LC QEB ?>I>K@B LC QO>AB QE>Q FK@IRABP QO>AB FK DLLAP >KA PBO SF@BP >P TBII >P  
FKQBOK>QFLK>I CIL TP LC FK@L J B >KA CLOBFDK >FA

8KCBEGF B9 : BB7F 4A7 F8EI<68F 4F 4 C8E68AG4 : 8 B9 ( QEB ALII>0 S>IRB LC BUMLOQP AFSFABA ?V QEB ALII>0 S>IRB LC  
> @LRKQOVdP &# /

9<A4A6<4? 64C<G4? QEB FKQBOK>QFLK>I CIL TP LC J LKBV QE>Q C>@FHFQ>QBP QO>AB >KA FKSBPQ J BKQ

@8E6 ; 4A7<F8 GE478 54?4A68 QEB ?>I>K@B LC QO>AB ILLHFKD LKIV >Q DLLAP

A4G<BA4? F4I<A : F 4A7 <A18FG@8AG <78AG<GL QEB QLQ>I LC MOFS>QB P>SFKDP >KA MR?IF@ P>SFKDP > DLSBOK J BKQ ?RADBQ  
PROMIRP

HA<4G8E4? GE4AF98EF eLKB T>V M>V J BKQp QE>Q DLSBOK J BKQP MOFS>QB BKQFQBP LO FKAFSFAR>IP J >HB QE>Q QEBV PBKQ >?OL>A  
TFQE KLQEFKD OB@BFSBA FK OBQRQK

# # 1 ' & ( , + & + - % % \* 1

%84FHE<A : ,E478 4?4A68F

3EB QO>AB ?>I>K@B J B>PROBP QEB D>M ?BQ'TBBK > @LRKQOVdP BUMLOQP >KA FQP F J MLOQP (K J LPQ EFDE FK@L J B B@LKL J FBP  
DLLAP @L J MOFPB IBPP QE>K E>IC LC > @LRKQOVdP QLQ>I MOLAR@QFLK TEFIB PBO SF@BP @L J MOFPB J LOB QE>K E>IC 3EB I>PQ QTL  
AB@>AB E>SB PBBK > PRODB FK FKQBOK>QFLK>I QO>AB FK PBO SF@BP EL TBSBO J LPQ DIL ?>I QO>AB PQFII Q>HBP QEB CLO J LC DLLAP  
O>QEBO QE>K PBO SF@BP 3EB @ROOBKQ >@LRKQ ?>I>K@B FK@IRABP QEB QO>AB FK DLLAP PBO SF@BP >KA J LKBV CIL TFKD FKQL >KA  
LRQ LC > @LRKQOV COL J FKSBPQ J BKQP >KA RKFI>QBO>I QO>KPCBOP

,E478 4?4A68F <A <FGBE<64? 4A7 !AG8EA4G<BA4? BAG8KG

3EB 4KFQBA 2Q>QBP ABSBILMBA I>ODB QO>AB PROMIRPBP FK QEB B>OIV P PTRKD ?>@H QL > QFKV QO>AB PROMIRP FK >KA  
QEBK E>A BSBK I>ODBO QO>AB ABCF@FQ FK QEB I>QB P >KA B>OIV P P TB TFII PBB ?BIL T > QO>AB ABCF@FQ KB@BPP>OFIV  
J B>KP > KBQ FKCIL T LC CFK>K@F>I @>M@>I COL J >?OL>A TEFIB > QO>AB PROMIRP KB@BPP>OFIV J B>KP > KBQ LRQCIL T LC CFK>K@F>I  
>M@>I COL J >K B@LKL J V QL LQEBO @LRKQFQBP

,E478 4?4A68F 4A7 ?BJF B9 <A4A6<4? 4C<G4?

(KQBOK>QFLK>I CIL TP LC DLLAP >KA PBO SF@BP >OB @ILPBIV @LKKB@QBA QL QEB FKQBOK>QFLK>I CIL TP LC CFK>K@F>I @>M@>I  
>@ROOBKQ >@LRKQ ABCF@FQ J B>KP QE>Q >CQBO Q>HFKD >II QEB CIL TP LC M>V J BKQP COL J DLLAP PBO SF@BP >KA FK@L J B QLDBQEBO  
QEB @LRKQOV FP > KBQ ?LOOLTBO COL J QEB OBPQ LC QEB TLOIA @ROOBKQ >@LRKQ PROMIRP FP QEB LMMLPFQB >KA J B>KP QEB  
@LRKQOV FP > KBQ IBKABO QL QEB OBPQ LC QEB TLOIA

, ; 8 &4G<BA4? +4I<A : 4A7 !A18FG@8AG !78AG<GL

3EB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV FP ?>PBA LK QEB OBI>QFLKPEFM QE>Q QEB QLQ>I NR>KQFQV LC CFK>K@F>I @>M@>I  
PRMMIFBA COL J >II PLR@BP J RPQ BNR>I QEB QLQ>I NR>KQFQV LC CFK>K@F>I @>M@>I AB J >KABA COL J >II PLR@BP (C 2 FP MOFS>QB  
P>SFKD 3 FP Q>UBP & FP DLSBOK J BKQ PMBKAFKD , FP F J MLOQP 7 FP BUMLOQP >KA ( FP FKSBPQ J BKQ QEBK CLO >K B@LKL J V  
TFQE > @ROOBKQ >@LRKQ ABCF@FQ >KA > ?RADBQ ABCF@FQ

Supply of financial capital = Demand for financial capital

$$S + (M - X) = I + (G - T)$$

OB@BPPFLK QBKAP QL FK@OB>PB QEB QO>AB ?>I>K@B J B>KFKD > EFDEBO QO>AB PROMIRP LO IL TBO QO>AB ABCF@FQ TEFIB B@LKL J F@  
?LL J TFII QBKA QL AB@OB>PB QEB QO>AB ?>I>K@B J B>KFKD > IL TBO QO>AB PROMIRP LO > I>ODBO QO>AB ABCF@FQ

, ; 8 (EBF 4A7 BAF B9 ,E478 89<6<GF 4A7 +HEC?HF8F

30>AB PROMIRBPB >OB KL DR>O>KQBB LC B@LKL J F@ EB>IQE >KA QO>AB ABCF@FQP >OB KL DR>O>KQBB LC B@LKL J F@ TB>HKBPP \$FQEBO QO>AB ABCF@FQP LO QO>AB PROMIRBPB @>K TLOH LRQ TBII LO MLLQIV ABMBKAFKD LK TEBQEBO > DLSBOK J BKQ TFPBIV FKSBBPQ QEB @L00BPMLKAFKD CIL TP LC CFK>K@F>I @>M@>I

, ; 8 <998E8A68 58<J88A \$818? B9 ,E478 4A7 G ; 8 ,E478 4?4A68

3EB0B FP > AFCCBOBK@B ?BQTBBK QEB IBSBI LC > @LRKQOVdP QO>AB >KA QEB ?>I>K@B LC QO>AB 3EB DLSBOK J BKQ J B>PROBP FQP IBSBI LC QO>AB ?V QEB MBO@BKQ>DB LC BUMLOQP LRQ LC &# / LO QEB PFWB LC QEB B@LKL J V 2 J >II B@LKL J FBP QE>Q E>SB KB>O?V QO>AFKD M>OQKBOP >KA > EFFQLOV LC FKQBOK>QFLK>I QO>AB TFII QBKA QL E>SB EFDEBO IBSBIP LC QO>AB +>ODBO B@LKL J FBP TFQE CBT KB>O?V QO>AFKD M>OQKBOP >KA > IF J QBA EFFQLOV LC FKQBOK>QFLK>I QO>AB TFII QBKA QL E>SB ILTBO IBSBIP LC QO>AB 3EB IBSBI LC QO>AB FP AFCCBOBKQ COL J QEB QO>AB ?>I>K@B 3EB IBSBI LC QO>AB ABMBKAP LK > @LRKQOVdP EFFQLOV LC QO>AB FQP DBLDO>MEV >KA QEB PFWB LC FQP B@LKL J V @LRKQOVdP ?>I>K@B LC QO>AB FP QEB ALII>O AFCCBOBK@B ?BQTBBK FQP BUMLOQP >KA F J MLOQP 30>AB ABCF@FQP >KA QO>AB PROMIRBPB >OB KLQ KB@BPP>OFIV DLLA LO ?>A b FQ ABMBKAP LK QEB @FO@R J PQ>K@BP \$SBK FC > @LRKQOV FP ?LOOLTFKD FC FQ FKSBBPQ QE>Q J LKBV FK MOLAR@QFSFQV ?LLPQFKD FKSBBPQ J BKQP FQ @>K IB>A QL >K F J MOLSB J BKQ FK ILKD QBO J B@LKL J F@ DOLTQE

+ \$ # ) - + , ! ' & +

(C CLOBFDK FKSBBPQLQOP ?RV J LOB 4 2 PQL@HP >KA ?LKAP ELT TLRIA QE>Q PEL T RM FK QEB @ROOBKQ >@LRKQ ?>I>K@B (C QEB QO>AB ABCF@FQ LC QEB 4KFQBA 2Q>QBP FK@OB>PBP ELT FP QEB @ROOBKQ >@LRKQ ?>I>K@B >CCB@QBA 2Q>QB TEBQEBO B>@E LC QEB CLIILT FTKD BSBKQP FKSLSIBP > CFK>K@F>I CILT QL QEB , BUF@>K B@LKL J V LO > CFK>K@F>I CILT LRQ LC QEB , BUF@>K B@LKL J V > , BUF@L F J MLOQP PBOSE@BP COL J )>M>K ? , BUF@L BUMLOQP DLLAP QL ">K>A> @ 4 2 FKSBBPQLQOP OB@BFSB > OBQROK COL J M>PQ CFK>K@F>I FKSBBPQ J BKQP FK , BUF@L (K TE>Q T>V ALBP @L J M>OFKD > @LRKQOVdP BUMLOQP QL &# / OBCIB@Q FQP ABDOBB LC DIL ?>IFW>QFLK Q LKB MLFKQ ">K>A>dP &# / T>P ?FIIFLK >KA FQP BUMLOQP TBOB ?FIIFLK 6 E>Q T>P ">K>A>dP BUMLOQ O>QFL >Q QEFP QF J B 3EB &# / CLO QEB 4KFQBA 2Q>QBP FP ?FIIFLK >KA FQP @ROOBKQ >@LRKQ ?>I>K@B FP a ?FIIFLK 6 E>Q MBO@BKQ LC &# / FP QEB @ROOBKQ >@LRKQ ?>I>K@B 6 EV ALBP QEB QO>AB ?>I>K@B >KA QEB @ROOBKQ >@LRKQ ?>I>K@B QO>@H PL @ILPBIV QLDBQEBO LSBO QF J B 2Q>QB TEBQEBO B>@E LC QEB CLIILT FTKD BSBKQP FKSLSIBP > CFK>K@F>I CILT QL QEB 4 2 B@LKL J V LO >T>V COL J QEB 4 2 B@LKL J V > \$UMLQ P>IBP QL &B0 J >KV ? 1BQROKP M>FA LK M>PQ 4 2 CFK>K@F>I FKSBBPQ J BKQP FK !O>WFI @ %LOBFDK >FA COL J QEB 4 2 DLSBOK J BKQ QL \$DVMQ A ( J MLOQBA LFI COL J QEB 1RPPF>K %BABO>QFLK B )>M>KBPP FKSBBPQLQOP ?RVFKD 4 2 OB>I BPQ>QB ' LT ALBP QEB ?LQQL J MLOQFLK LC <:HE8 PEL T FTKD QEB FKQBOK>QFLK>I CILT LC FKSBBPQ J BKQP >KA @>M@>I AFCCBO COL J QEB RMMBO MLOQFLK \$UMI>FK QEB OBI>QFLKPEFM ?BQTBBK > @ROOBKQ >@LRKQ ABCF@FQ LO PROMIRP >KA QEB CILT LC CRKAP 4PFKD QEB K>QFLK>I P>SFKDP >KA FKSBBPQ J BKQ FABKQFQV BUMI>FK ELT B>@E LC QEB CLIILT FTKD @E>KDBP ceteris paribus TFII FK@OB>PB LO AB@OB>PB QEB QO>AB ?>I>K@B > ILTBO AL J BPQF@ P>SFKDP O>QB ? 3EB DLSBOK J BKQ @E>KDBP COL J ORKKFKD > ?RADBQ PROMIRP QL ORKKFKD > ?RADBQ ABCF@FQ @ 3EB O>QB LC AL J BPQF@ FKSBBPQ J BKQ PRODBP

(C > @LRKQOV FP ORKKFKD > DLSBOK J BKQ ?RADBQ PROMIRP TEV FP 3 a & LK QEB IBCQ PFAB LC QEB P>SFKD FKSBPQ J BKQ FABKQFQV

6 E>Q ABQBO J FKBP QEB PFWB LC > @LRKQOVdP QO>AB ABCF@FQ

(C AL J BPQF@ FKSBPQ J BKQ FK@OB>PBP >KA QEBOB FP KL @E>KDB FK QEB > J LRKQ LC MOFS>QB >KA MR?IF@ P>SFKD TE>Q J RPQ E>MMBK QL QEB PFWB LC QEB QO>AB ABCF@FQ

6 EV ALBP > OB@BPPFLK @>RPB > QO>AB ABCF@FQ QL FK@OB>PB

! LQE QEB 4 KFQBA 2Q>QBP >KA DIL?>I B@LKL J FBP >OB ?LL J FKD 6 FII 4 2 F J MLOQP >KA LO BUMLOQP FK@OB>PB

%LO B>@E LC QEB CLILTFKD FKAF@>QB TEF@E QVMB LC DLSBOK J BKQ PMBKAFKD TLRIA GRPQFCV > ?RADBQ ABCF@FQ >KA TEF@E TLRIA KLQ

- > (K@OB>PBA CBABO>I PMBKAFKD LK , BAF@>OB
- ? (K@OB>PBA PMBKAFKD LK BAR@>QFLK
- @ (K@OB>PBA PMBKAFKD LK QEB PM>@B MOLDO> J
- A (K@OB>PBA PMBKAFKD LK >FOMLOQP >KA >FO QO>CCF@ @LKQOLI

' LT AFA I>ODB QO>AB ABCF@FQ EROQ QEB \$>PQ PF>K @LRKQOFBP FK QEB J FA P 1B@>II QE>Q QO>AB ABCF@FQ >OB BNRFS>IBKQ QL FKCILTP LC CFK>K@F>I @>MFQ>I COL J >?OL>A

#BP@OF?B > P@BK>OFL FK TEF@E > QO>AB PROMIRP ?BKBCFP >K B@LKL J V >KA LKB FK TEF@E > QO>AB PROMIRP FP L@>ROOFKD FK >K B@LKL J V QE>Q MBOCLO J P MLLQIV 6 E>Q HBV C>@QLO LO C>@QLOP >OB J >HFKD QEB AFCCBOBK@B FK QEB LRQ@L J B QE>Q OBPRIP COL J > QO>AB PROMIRP

3EB 4KFQBA 2Q>QBP BUMLOQP LC &# / TEFIB &BO J >KV BUMLOQP >?LRQ LC FQP &# / \$UMI>FK TE>Q QE>Q J B>KP

\$UMI>FK ?OFBCIV TEBQEBO B>@E LC QEB CLILTFKD TLRIA ?B J LOB IFHBIV QL IB>A QL > EFDEBO IBSBI LC QO>AB CLO >K B@LKL J V LO > DOB>QBO F J ?>I>K@B LC QO>AB CLO >K B@LKL J V

- > +FSFKD FK >K BPMB@F>IIV I>ODB @LRKQOV
- ? ' >SFKD > AL J BPQF@ FKSBPQ J BKQ O>QB J R@E EFDEBO QE>K QEB AL J BPQF@ P>SFKDP O>QB
- @ ' >SFKD J >KV LQEBO I>ODB B@LKL J FBP DBLDO>MEF@>IIV KB>O?V
- A ' >SFKD >K BPMB@F>IIV I>ODB ?RADBQ ABCF@FQ
- B ' >SFKD @LRKQOFBP TFEQ > QO>AFQFLK LC PQQLKD MOLQB@QFLKFPQ IBDFPI>QFLK PERQQFKD LRQ F J MLOQP

\* .! / ) - + ,!' &+

(C F J MLOQP BU@BBA BUMLOQP FP FQ > QO>AB ABCF@FQ LO > QO>AB PROMIRP 6 E>Q >?LRQ FC BUMLOQP BU@BBA F J MLOQP

6 E>Q FP FK@IRABA FK QEB @ROOBKQ >@LRKQ ?>I>K@B

(K OB@BKQ AB@>ABP E>P QEB 4 2 QO>AB ?>I>K@B RPR>IIV ?BBK FK ABCF@FQ PROMIRP LO ?>I>K@BA

#LBP > QO>AB PROMIRP J B>K >K LSB0>II FKCILT LC CFK>K@F>I @>MFQ>I QL >K B@LKL J V LO >K LSB0>II LRQCILT LC CFK>K@F>I @>MFQ>I 6 E>Q >?LRQ > QO>AB ABCF@FQ

6 E>Q >OB QEB QTL J >FK PFABP LC QEB K>QFLK>I P>SFKDP >KA FKSBPQ J BKQ FABKQFQV

6 E>Q >OB QEB J >FK @L J MLKKBQP LC QEB K>QFLK>I P>SFKDP >KA FKSBPQ J BKQ FABKQFQV

6 EBK FP > QO>AB ABCF@FQ IFHBIV QL TLOH LRQ TBII CLO >K B@LKL J V 6 EBK FP FQ IFHBIV QL TLOH LRQ MLLQIV

#LBP > QO>AB PROMIRP EBIM QL DR>O>KQBB PQQLKD B@LKL J F@ DOLTQE

6 E>Q QE0BB C>@QLOP TFII ABQBO J FKB TEBQEBO > K>QFLK E>P > EFDEBO LO ILTBO PE>OB LC QO>AB OBI>QFSB QL FQP &# /

6 E>Q FP QEB AFCCBOBK@B ?BQTBBK QO>AB ABCF@FQ >KA ?>I>K@B LC QO>AB

\*!,! \$ , !&#!& ) - +,! ' &+

. @>PFLK>IIV > DLSBOK J BKQ LCCF@F>I TFII >ODRB QE>Q  
> @LRKQOV PELRIA PQQFSB CLO ?LQE > QO>AB PROMIRP >KA >  
EB>IQEV FKCILT LC @>MFQ>I COL J >?OL>A \$UMI>FK TEV PR@E  
> PQ>QB J BKQ FP B@LKL J F@>IIV F J MLPPF?IB

DLSBOK J BKQ LCCF@F>I >KKLRK@BP > KBT MLIF@V  
3EB @LRKQOV TFPEBP QL BIF J FK>QB FQP QO>AB ABCF@FQ ?RQ TFII  
PQOLKDIV BK@LRO>DB CFK>K@F>I FKSBPQ J BKQ COL J CLOBFDK  
CFO J P \$UMI>FK TEV PR@E > PQ>QB J BKQ FP @LKQO>AF@QLOV

(C > @LRKQOV FP > ?FD BUMLOQBO FP FQ J LOB BUMLPBA QL  
DIL?>I CFK>K@F>I @OFPPB

(C @LRKQOFPB OBAR@BA QO>AB ?>OOFBOP TLRIA QEB  
FKQBOK>QLK>I CILT P LC J LKBV FK@OB>PB

(P FQ ?BQBO CLO VLRO @LRKQOV QL ?B >K FKQBOK>QLK>I  
IBKABO LO ?LOOLTBO

, >KV QEFKH QE>Q QEB PFWB LC > QO>AB ABCF@FQ FP ARB  
QL > I>@H LC @L J MBQF@FSBKBP LC AL J BPQF@ PB@QLOP PR@E >P  
>RQLP \$UMI>FK TEV QEFPP FP KLQ QORB

( \* ' \$ %+

(K QEB 4KFQBA \*FKDAL J P B@LKL J V BUMLOQBA  
DLLAP TLOQE Z ?FIIFLK >KA PBOSF@BP TLOQE >KLQEB0  
Z ?FIIFLK (Q F J MLOQBA DLLAP TLOQE Z ?FIIFLK >KA  
PBOSF@BP TLOQE Z ?FIIFLK 1B@BFMQP LC FK@L J B COL J  
>?OL>A TBOB Z ?FIIFLK TEFIB FK@L J B M>V J BKQP DLFKD  
>?OL>A TBOB Z ?FIIFLK &LSBOK J BKQ QO>KPCBOP COL J  
QEB 4KFQBA \*FKDAL J QL QEB OBPQ LC QEB TLOIA TBOB Z  
?FIIFLK TEFIB S>OFLRP 4 \* DLSBOK J BKQ >DBK@FBP  
OB@BFSBA M>V J BKQP LC Z ?FIIFLK COL J QEB OBPQ LC QEB  
TLOIA

> " >I@RI>QB QEB 4 \* J B0@E>KAFP B QO>AB ABCF@FQ CLO

? " >I@RI>QB QEB @ROOBKQ >@LRKQ ?>I>K@B CLO

@ \$UMI>FK ELT VLR AB@FABA TEBQEB0 M>V J BKQP LK  
CLOBFDK FKSBPQ J BKQ >KA DLSBOK J BKQ QO>KPCBOP  
@LRKQBA LK QEB MLPF@FSB LO QEB KBD>QFSB PFAB LC  
QEB @ROOBKQ >@LRKQ ?>I>K@B CLO QEB 4KFQBA  
\*FKDAL J FK

(C VLR L?PBOSBA > @LRKQOV TFQE > O>MFAIV DOLT FFKD  
QO>AB PROMIRP LSBO > MBOFLA LC > VB>O LO PL TLRIA VLR ?B  
J LOB IFHBIV QL ?BIFBSB QE>Q QEB @LRKQOV P B@LKL J V T>P FK  
> MBOFLA LC OB@BPPFLK LO LC O>MFA DOLT QE \$UMI>FK

. @>PFLK>IIV > DLSBOK J BKQ LCCF@F>I TFII >ODRB QE>Q  
> @LRKQOV PELRIA PQQFSB CLO ?LQE > QO>AB PROMIRP >KA >  
EB>IQEV FKCILT LC @>MFQ>I COL J >?OL>A (P QEFPP MLPPF?IB

6 E>Q FP J LOB F J MLOQ>KQ > @LRKQOV@P @ROOBKQ  
>@LRKQ ?>I>K@B LO &# / DOLT QE 6 EV

6 FII K>QFLKP QE>Q >OB J LOB FKSLISBA FK CLOBFDK  
QO>AB QBKA QL E>SB EFDEBO QO>AB F J ?>I>K@BP ILTBO QO>AB  
F J ?>I>K@BP LO FP QEB M>QQBOK RKM0BAF@Q>?IB

2L J B B@LKL J FPQP T>OK QE>Q QEB MBOPFPQBKQ QO>AB  
ABCF@FQ >KA > KBD>QFSB @ROOBKQ >@LRKQ ?>I>K@B QE>Q QEB  
4KFQBA 2Q>QBP E>P ORK TFII ?B > MOL?IB J FK QEB ILKD ORK  
#L VLR >DOBB LO KLQ \$UMI>FK VLRO >KPTBO

(J >DFKB QE>Q QEB 4 2 B@LKL J V CFKAP FQP BIC FK QEB  
CLIILTFKD PFQR>QLK > DLSBOK J BKQ ?RADBQ ABCF@FQ LC  
?FIIFLK QL>I AL J BPQF@ P>SFKDP LC ?FIIFLK >KA  
QL>I AL J BPQF@ MEVPP@>I @>MFQ>I FKSBPQ J BKQ LC  
?FIIFLK @LOAFKD QL QEB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ  
FABKQFV TE>Q TFII ?B QEB @ROOBKQ >@LRKQ ?>I>K@B 6 E>Q  
TFII ?B QEB @ROOBKQ >@LRKQ ?>I>K@B FC FKSBPQ J BKQ OFPPB ?V  
?FIIFLK TEFIB QEB ?RADBQ ABCF@FQ >KA K>QFLK>I P>SFKDP  
OB J >FK QEB P> J B

,45'8 MOLSFABP PL J B EVMLQEBQF@>I A>Q> LK  
J >@QLB@LKL J F@ >@@LRKQP CLO QE0BB @LRKQ0FBP 0BMOBPKQBA  
?V ! >KA " >KA J B>PROBA FK ?FIIFLKP LC @R00BK@V  
RKFQP (K ,45'8 MOFS>QB ELRPBELIA P>SFKD FP 2 '  
Q>U OBSBKRFB FP 3 DLSBOK J BKQ PMBKAFKD FP & >KA  
FKSBPQ J BKQ PMBKAFKD FP (

( J >DFKB QE>Q QEB B@LKL J V LC &B0 J >KV CFKAP FQP BIC  
FK QEB CLIL TFKD PFR>QLK QEB DLSBOK J BKQ ?RADBQ E>P  
> PROMIRP LC LC &B0 J >KVdP &# / MOFS>QB P>SFKDP FP  
LC &# / >KA MEVPF@>I FKSBPQ J BKQ FP LC &# /  
> !>PBA LK QEB K>QLK>I P>SFKD >KA FKSBPQ J BKQ  
FABKQFQV TE>Q FP QEB @R00BKQ >@@LRKQ ?>I>K@B  
? (C QEB DLSBOK J BKQ ?RADBQ PROMIRP C>IIP QL WBOL  
ELT TFII QEFP >CCB@Q QEB @R00BKQ >@@LRKQ ?>I>K@B

3 (			
4			
,			
)			

,45'8 %46EB86BAB@<6 66BHAGF

- > " >I@RI>QB QEB Q0>AB ?>I>K@B >KA QEB KBQ FKCILT LC  
CLOBFDK P>SFKD CLO B>@E @LRKQ0V
- ? 2Q>QB TEBQEBO B>@E LKB E>P > Q0>AB PROMIRP LO  
ABCF@FQ LO ?>I>K@BA Q0>AB
- @ 2Q>QB TEBQEBO B>@E FP > KBQ IBKABO LO ?L00LTBO  
FKQBOK>QLK>IIV >KA BUMI>FK

N , ; 8 : : E8 : 4G8 8@4A7  
: : E8 : 4G8 +HCC?L %B78?



<:HE8 &8J B@8 BAFGEH6G<BA !Q QEB MB>H LC QEB ELRPFKD ?R??IB J>KV MBLMIB >@OLPP QEB @LRKQOV TBOB >?IB  
QL PB@ROB QEB IL>KP KB@BPP>OV QL ?RFIA KBT ELRPPB #0BARQ J LAFcf@>QFLK LC TLOH ?V 4FJ OFB0@B &f@HO #0B>QFSB  
#L J J LKP

# Bring it Home

EB@ BHF<A: H55?8 GB BHF<A: HFG

4EB 5KRQBA 3Q>QBP BUMBOFBK@BA OFPKD EL JB LTKBOPEFM O>QBP CL0 J LPQ LC QEB I>PQ QTL AB@>ABP "BQTBBK  
>KA QEB 5 3 ELRPFKD J>0HBQ DOBT (LJBLTKBOPEFM O>QBP DOBT COLJ QL >EFDE LC LSBO ?BQTBBK  
>KA &L0 J>KV MBLMIB QEF T>P > MB0FLA FK TEF@E QEBV @LRIA BFQEB0 ?RV CFOPQ EL JB LP L0 ?RV > I>0DB0  
>KA JLOB BUMBKPF SB EL JB \$ROFKD QEF QF JB J LQD>DB S>IRBP QOFMIBA (LRPFKD ?B@>JB JLOB >@BPPF?IB QL  
! JB0F@>KP >KA T>P @LKPFABOBA QL ?B > P>QB CFK>K@f@I FKSBPQ JBKQ <:HE8 PELTP ELT KBT PFKDIB C>J FIV  
EL JB P>IBP MB>HBA FK >Q RKRP

<:HE8 &8J +<A:78 4@<?L BHF8F +B?7 &0LJ QEB B>0IV P RM QEOLRDE QEB KR J ?BO LC KBT  
PFKDIB C> J FIV ELRPBP PLIA 0LPB PQB>AFIV )K QEB KR J ?BO AOLMMBA A0>J >Qf@>IIV >KA QEFP A0>J >Qf@ AB@IFKB  
@LKQFKRBA QEOLRDE "V QEB KR J ?BO LC KBT ELRPBP PLIA E>A ?BDRK QL @IF J ? ?>@H RM ?RQ QEB IBSBIP  
>OB PQFII ILTBO QE>K QELPB LC 3LR0@B 5 3 #BKPRP "R0B>R

4EB ELRPFKD ?R??IB ?BD>K QL PELT PFDKP LC ?R0PQFKD FK >P ABIFKNRBK@V >KA I>QB M>V J BKQP ?BD>K QL  
D0LT >KA >K LSB0PRMMIV LC KBT EL J BP LK QEB J >0HBQ ?B@> J B >MM>0BKQ \$0LMMFKD EL J B S>IRBP @LKQF?RQBA QL  
> AB@0B>PB FK QEB LSB0>II TB>IQE LC QEB ELRPBELIA PB@QL0 >KA @>RPBA EL J BLTKBOP QL MRII ?>@H LK PMBKAFKD  
3BSB0>I J L0QD>DB IBKABOP TB0B CLO@BA QL CFIB CLO ?>KHORMQ@V ?B@>RPB EL J BLTKBOP TB0B KLQ J >HFKD QEBFO  
M>V J BKQP >KA ?V QEB MOL?IB J E>A PMOB>A QEOLRDELQ QEB CFK>K@F>I J >0HBQP ,BKABOP @I>J MBA ALTK  
LK @0BAFQ >KA QEB ELRPFKD ?R??IB ?R0PQ &FK>K@F>I J >0HBQP TB0B KLT FK @0FPFP >KA RK>?IB LO RKTFFIKD QL BSBK  
BUQBKA @0BAFQ QL @0BAFQ TLQEV @RPQL J BOP

4EB ELRPFKD ?R??IB >KA QEB @0FPFP FK QEB CFK>K@F>I J >0HBQP TB0B J >ILO @LKQF?RQL0P QL QEB ' 0B>Q 2B@BPPFLK  
QE>Q IBA QL RKB J MILV J BKQ 0>QBP LSB0 >KA C>IIFKD ' \$0 7 EHB QEB 5KQBA 3Q>QBP FP PQFII 0B@LSB0FKD COL J QEB  
F J M>@Q LC QEB ' 0B>Q 2B@BPPFLK FQ E>P J >AB PR?PQ>KQF>I MOLD0BPP FK 0BPQL0FKD CFK>K@F>I J >0HBQ PQ>?HFQV QEOLRDE  
F J MIB J BKQFKD >DD0BPPFSB CFP@>I >KA J LKBQ>0V MLIF@V

4EB B@LKL J F@ EFPQLOV LC QEB 5KQBA 3Q>QBP FP @V@IF@>I FK K>QROB TFQE 0B@BPPFLKP >KA BUM>KPFLK 3L J B LC  
QEBPB CIR@QR>QFLK >OB PBSB0B PR@E >P QEB B@LKL J F@ ALTKQR0K QE>Q L@R00BA AROFKD QEB ' 0B>Q \$BMOBPPFLK  
FK QEB P TEF@E I>PQBA PBSB0>I VB>0P 7 EV ALBP QEB B@LKL J V D0LT >Q AFCCB0BKQ 0>QBP FK AFCCB0BKQ VB>0P  
7 E>Q >0B QEB @>RPBP LC QEB @V@IF@>I ?BE>SFL0 LC QEB B@LKL J V 4EFP @E>MQBO TFII FKQOLAR@B >K F J MLQ>KQ J LABI  
QEB >DD0BD>QB AB J >KA^>DD0BD>QB PRMMIV J LABI QL ?BDFK LRO RKABOPQ>KAFKD LC TEV B@LKL J FBP BUM>KA >KA  
@LKQ>@Q LSB0 QF J B

# !AGEB7H6G<BA GB G;8 : :E8:4G8 +HCC?LP : :E8:4G8 8@4A7 %B78?

(K QEFP @E>MQBO VLR TFII IB>OK >?LRQ

- g , >@0LB@LKL J F@ /BOPMB@QFSBP LK #B J >KA >KA 2RMMIV
- g !RFIAFKD > , LABI LC DD0BD>QB 2RMMIV >KA DD0BD>QB #B J >KA
- g 2EFCQP FK DD0BD>QB 2RMMIV
- g 2EFCQP FK DD0BD>QB #B J >KA
- g ' LT QEB 2a # , LABI (K@LOML0>QBP &0LTQE 4KB J MILV J BKQ >KA (KCI>QFLK
- g \*BVKBPd +>T >KA 2>VdP +>T FK QEB 2a # , LABI

HBV M>OQ LC J >@0LB@LKL J F@P FP QEB RPB LC J LABIP QL >K>IVWB J >@0L FPPRBP >KA MOL?IB J P ' LT FP QEB 0>QB  
LC B@LKL J F@ D0LTQE @LKKB@QBA QL @E>KDBP FK QEB RKB J MILV J BKQ 0>QB (P QEB0B > 0B>PLK TEV RKB J MILV J BKQ >KA  
FKCI>QFLK PBB J QL J LSB FK LMLPQFB AF0B@QFLK ILTBO RKB J MILV J BKQ >KA EFDEBO FKCI>QFLK COL J QL EFDEBO  
RKB J MILV J BKQ >KA ILTBO FKCI>QFLK FK QEB B>0IV P ILTBO RKB J MILV J BKQ >KA EFDEBO FKCI>QFLK FK QEB J FA P



>KA QEBK EFDEBO RKB J MILV J BKQ >KA ILTBO FKCI>QFLK FK 6 EV AFA QEB @R00BKQ >@@LRKQ ABCF@FQ OFPB PL EFDE ?RQ QEBK AB@IFKB FK

3L >K>IVWB NRPQFLKP IFHB QEBPB TB JRPQ JLSB ?BVLKA AFP@RPPFKD J>@OLB@LKL JF@ FPPRBP LKB >Q > QF J B >KA ?BDFK ?RFIAFKD B@LKL JF@ J LABIP QE>Q TFII @>M@ROB QEB OBI>QFLKPEFMP >KA FKQBO@LKKB@QFLKP ?BQTB BK QEB J 3EB KBUQ QE0BB @E>M@BOP Q>HB RM QEFP Q>PH 3EFP @E>M@B0 FKQOLAR@BP QEB J>@OLB@LKL JF@ J LABI LC >DD0BD>QB PRMMIV >KA >DD0BD>QB AB J>KA ELT QEB QTL FKQBO>@Q QL OB>@E > J>@OLB@LKL JF@ BNRIF?OFR J >KA ELT PEFQPK FK >DD0BD>QB AB J>KA L0 >DD0BD>QB PRMMIV TFII >CCB@Q QE>Q BNRIF?OFR J 3EFP @E>M@B0 >IPL OBI>QBP QEB J LABI LC >DD0BD>QB PRMMIV >KA >DD0BD>QB AB J>KA QL QEB QE0BB DL>IP LC B@LKL JF@ MLIF@V DOLTQE RKB J MILV J BKQ >KA FKCI>QFLK >KA MOLSFABP > CO> JBTLOH CLO QEFKHKD >?LRQ J>KV LC QEB @LKKB@QFLKP >KA QO>ABLCCP ?BQTB BK QEBPB DL>IP 3EB @E>M@B0 LK ; ; 8 #8LA8F<4A (8EFC86G<18 CL@RPBP LK QEB J>@OLB@LKL J V FK QEB PELOQ ORK TEB0B >DD0BD>QB AB J>KA MI>VP > @OR@F>I OLIB 3EB @E>M@B0 LK ; ; 8 &8B6?4FF<64? (8EFC86G<18 BUMILOBP QEB J>@OLB@LKL J V FK QEB ILKD ORK TEB0B >DD0BD>QB PRMMIV MI>VP > @OR@F>I OLIB

## N %46EB86BAB@<6 (8EFC86G<18F BA 8@4A7 4A7 +HCC?L

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK 2>VdP +>T >KA RKABOPQ>KA TEV FQ MOF J >OFIV >MMIFBP FK QEB ILKD ORK
- d \$UMI>FK \*BVKBpd +>T >KA RKABOPQ>KA TEV FQ MOF J >OFIV >MMIFBP FK QEB PELOQ ORK

, >@OLB@LKL J FPQP LSBO QEB I>PQ QTL @BKQROFBP E>SB LCQBK AFSFABA FKQL QTL DOLRMP QELPB TEL >ODRB QE>Q PRMMIV FP QEB J LPQ F J MLOQ>KQ ABQBO J FK>KQ LC QEB PFWB LC QEB J>@OLB@LKL J V TEFIB AB J>KA GRPQ Q>DP >ILKD >KA QELPB TEL >ODRB QE>Q AB J>KA FP QEB J LPQ F J MLOQ>KQ C>@QLO FK QEB PFWB LC QEB J>@OLB@LKL J V TEFIB PRMMIV GRPQ Q>DP >ILKD

## +4LRF \$4J 4A7 G; 8 %46EB86BAB@<6F B9 +HCC?L

3ELPB B@LKL J FPQP TEL B J ME>PFWB QEB OLIB LC PRMMIV FK QEB J>@OLB@LKL J V LCQBK OBCBO QL QEB TLOH LC > C> JLRP B>OIV KFKBQBBKQE @BKQROV %OBK@E B@LKL J FPQ K> J BA )B>K !>MQFPB 2>V a **Say's law** FP e2RMMIV @OB>QBP FQP LTK AB J>KA f P > J>@QBO LC EFPQLOF@>I >@@RO>@V FQ PBB J P @IB>0 QE>Q 2>V KBSBO >@QR>IIV TOLQB ALTK QEFP I>T >KA QE>Q FQ LSBOPF J MIFCFBP EFP ?BIFCBP ?RQ QEB I>T IFSBP LK >P RPBCRI PELOQE>KA CLO PR J J >OFWFKD > MLFKQ LC SFBT

3EB FKQRFQFLK ?BEFKA 2>VdP I>T FP QE>Q B>@E QF J B > DLLA LO PBOSE@B FP MOLAR@BA >KA PLIA FQ DBKBO>QBP FK@L J B QE>Q FP B>OKBA CLO PL J BLKB > TLOHBO > J>K>DBO >K LTKBO LO QELPB TEL >OB TLOHBOP J>K>DBOP >KA LTKBOP >Q CFO J P QE>Q PRMMIV FKMRRP >ILKD QEB @E>FK LC MOLAR@QFLK 6B >IIRABA QL QEFP B>OIFBO FK LRO AFP@RPPFLK LC QEB ->QFLK>I (K@L J B >MMOL>@E QL J B>PROFKD &# / 3EB CLO@BP LC PRMMIV >KA AB J>KA FK KFAFSFAR>I J>OHBQP TFII @>RPB MOF@BP QL OFPB >KA C>II 3EB ?LQQL J IFKB OB J>FKP ELTBSBO QE>Q BSOV P>IB OBMOPBPKQ FK@L J B QL PL J BLKB >KA PL 2>VdP I>T >ODRBP > DFSBK S>IRB LC PRMMIV JRPQ @OB>QB >K BNRFS>IBKQ S>IRB LC AB J>KA PL J BTEB0B BIPB FK QEB B@LKL J V !B@>RPB )B>K !>MQFPB 2>V A> J 2 J FQE >KA LQEBO B@LKL J FPQP TOFQFKD >OLRKA QEB QROK LC QEB KFKBQBBKQE @BKQROV TEL AFP@RPPBA QEFP SFBT TBOB HKLTK >P e@I>PPF@>IF B@LKL J FPQP J LABOK B@LKL J FPQP TEL DBKBO>IIV PR?P@OF?B QL QEB 2>VdP I>T SFBT LK QEB F J MLOQ>K@B LC PRMMIV CLO ABQBO J FKFQD QEB PFWB LC QEB J>@OLB@LKL J V >OB @>IIBA **neoclassical economists**

(C PRMMIV >IT>VP @OB>QBP BU>@QIV BKL RDE AB J>KA >Q QEB J>@OLB@LKL JF@ IBSBI QEBK >P 2>V EF J PBIC OB@LDKFWBA FQ FP E>0A QL RKABOPQ>KA TEV MBOFLAP LC OB@BPPFLK >KA EFDE RKB J MILV J BKQ PELRIA BSBO L@RO 3L ?B PROB BSBK FC QLQ>I PRMMIV >IT>VP @OB>QBP >K BNR>I > J LRKQ LC QLQ>I AB J>KA QEB B@LKL J V @LRIA PQFII BUMBOFBK@B > PFQR>QFLK LC PL J B CFO J P B>OKFKD MOLCFQP TEFIB LQEBO CFO J P PRCCBO ILPPBP - BSBOQEBIBPP > OB@BPPFLK FP KLQ > PFQR>QFLK TEB0B >II ?RPFKBPP C>FIROBP >OB BU>@QIV @LRKQBO?>I>K@BA ?V >K LCCPBQFKD KR J ?BO LC PR@>BPPBP OB@BPPFLK FP > PFQR>QFLK FK TEF@E QEB B@LKL J V >P > TELIB FP PEOFKHKD FK PFWB ?RPFKBPP C>FIROBP LRQKR J ?BO QEB OB J>FKFKD PR@>BPP PQLOFBP >KA J>KV CFO J P BKA RM PRCCBOFKD ILPPBP >KA I>VFKD LCC TLOHBOP

2>VdP I>T QE>Q PRMMIV @OB>QBP FQP LTK AB J>KA ALBP PBB J > DLLA >MMOLUF J>QFLK CLO QEB ILKD ORK . SBO MBOFLAP LC PL J B VB>OP LO AB>ABP >P QEB MOLAR@QFSB MLTBO LC >K B@LKL J V QL PRMMIV DLLAP >KA PBOSE@BP FK@OB>PBP QLQ>I AB J>KA FK QEB B@LKL J V DOLT P >Q OLRDEIV QEB P> J B M>@B ' L TBSBO LSBO PELOQBO QF J B ELOFWLKP LC > CBT J LKQEP LO BSBK VB>OP OB@BPPFLK LO BSBK ABMOBPPFLK L@RO FK TEF@E CFO J P >P > DOLRM PBB J QL C>@B > I>@H LC AB J>KA CLO QEBFO MOLAR@QP

## #8LA8FR \$4J 4A7 G; 8 %46EB86BAB@<6F B9 8@4A7

3EB >IQBOK>QFSB QL 2>VdP I>T TFQE FQP B J ME>PFP LK PRMMIV FP **Keynes' law** e#B J>KA @OB>QBP FQP LTK PRMMIV f P >

J>QQBO LC EFPQLQF>I >@RO>@V GRPQ >P )B>K !>MQFPQB 2>V KBSBO TOLQB ALTK >KVQEFKD >P PF J MIB J FKABA >P 2>VdP I>T )LEK ,>VK>0A \*BVKBP KBSBO TOLQB ALTK \*BVKBPd I>T ?RQ QEB I>T FP > RPBCRI PF J MIFCF@>QFLK QE>Q @LKSQVP > @BQ>FK MLFKQ LC SFBT

6 EBK \*BVKBP TOLQB EFP FKCIRBKQF>I TLOH *The General Theory of Employment, Interest, and Money* AROFKD QEB P &OB>Q #BMOBPPFLK EB MLFKQBA LRQ QE>Q AROFKD QEB #BMOBPPFLK QEB B@LKL J V P @>M>@FQV QL PRMMIV DLLAP >KA PBO SF@BP E>A KLQ @E>KDBA J R@E 4 2 RKB J MILV J BKQ 0>QB PL>OBA EFDEBO QE>K COL J QL ?RQ QEB KR J ?BO LC MLPPF?IB TLOHBOP E>A KLQ FK@OB>PBA LO AB@OB>PBA J R@E %>@LQFBP @ILPBA ?RQ J>@EFKBOV >KA BNRFM J BKQ E>A KLQ AFP>MMB>OBA 3B@EKLILDFBP QE>Q E>A ?BBK FKSQBQBA FK QEB P TBOB KLQ RK FKSQBQBA >KA CLODLQQBK FK QEB P 3ERP \*BVKBP >ODRBA QE>Q QEB &OB>Q #BMOBPPFLK b >KA J >KV LOAFK>OV OB@BPPFLK >P TBII b TBOB KLQ @>RPBA ?V > AOLM FK QEB >?IFQV LC QEB B@LKL J V QL PRMMIV DLLAP >P J B>PROBA ?V I>?LO MEVPF@>I @>MFQ>I LO QB@EKLILDV ' B >ODRBA QEB B@LKL J V LCQBK MOLAR@BA IBPP QE>K FQP CRII MLQBKF>I KLQ ?B@>RPB FQ T>P QB@EKF@>IIV F J MLPPF?IB QL MOLAR@B J LOB TFQE QEB BUFPQFKD TLOHBOP >KA J >@EFKBP ?RQ ?B@>RPB > I>@H LC AB J >KA FK QEB B@LKL J V >P > TELIB IBA QL FK>ABNR>QB FK@BKQFSBP CLO CFO J P QL MOLAR@B (K PR@E @>PBP EB >ODRBA QEB IBSBI LC &# / FK QEB B@LKL J V T>P KLQ MOF J >OFIV ABQBO J FKBA ?V QEB MLQBKF>I LC TE>Q QEB B@LKL J V @LRIA PRMMIV ?RQ 0>QEBO ?V QEB > J LRKQ LC QLQ>I AB J >KA

\*BVKBPd I>T PBB J P QL >MMIV C>FOIV TBII FK QEB PELOQ ORK LC > CBT J LKQEP QL > CBT VB>OP TEBK J >KV CFO J P BUMBOFBK@B BFQEBO > AOLM FK AB J >KA CLO QEBFO LRQMRQ AROFKD > OB@BPPFLK LO PL J R@E AB J >KA QE>Q QEBV E>SB QOLR?IB MOLAR@FKD BKL RDE AROFKD >K B@LKL J F@ ?LL J ' L TBSBO AB J >KA @>KKLQ QBII QEB TELIB J >@OLB@LKL J F@ PQLQV BFQEBO CQBO >II FC AB J >KA T>P >II QE>Q J >QQBOBA >Q QEB J >@OLB@LKL J F@ IBSBI QEBK QEB DLSBOK J BKQ @LRIA J >HB QEB B@LKL J V >P I>ODB >P FQ T>KQBA GRPQ ?V MR J MFKD RM QLQ>I AB J >KA QEOLRDE > I>ODB FK@OB>PB FK QEB DLSBOK J BKQ PMBKAFKD @L J MLKBKQ LO ?V IBDFFI>QFKD I>ODB Q>U @RQP QL MRPE RM QEB @LKPR J MQFLK @L J MLKBKQ \$@LKL J FBP AL EL TBSBO C>@B DBKRFKB IF J FQP QL EL T J R@E QEBV @>K MOLAR@B IF J FQP ABQBO J FKBA ?V QEB NR>KQFQV LC I>?LO MEVPF@>I @>MFQ>I QB@EKLILDV >KA QEB FKPQFQFLK>I >KA J >OHBQ PQOR@QROBP QE>Q ?OFKD QEBPB C>@QLQ LC MOLAR@QLK QLDBQEBO 3EBPB @LKPQ>FKQP LK TE>Q >K B@LKL J V @>K PRMMIV >Q QEB J >@OLB@LKL J F@ IBSBI AL KLQ AFP>MMB>O GRPQ ?B@>RPB LC >K FK@OB>PB FK AB J >KA

### B@5<A<A: +HCC?L 4A7 8@4A7 <A %46EB86BAB@<6F

3TL FKPFDEQP B J BODB COL J QEFP LSBOSFBT LC 2>VdP I>T TFQE FQP B J ME>PFP LK J >@OLB@LKL J F@ PRMMIV >KA \*BVKBPd I>T TFQE FQP B J ME>PFP LK J >@OLB@LKL J F@ AB J >KA 3EB CFOPQ @LK@IRPFLK TEF@E FP KLQ BU>@QIV > ELQ KBTP CI>PE FP QE>Q >K B@LKL J F@ >MMOL>@E CL@RPBA LKIV LK QEB PRMMIV PFAB LO LKIV LK QEB AB J >KA PFAB @>K ?B LKIV > M>OQF>I PR@BPP 6B KBBA QL Q>HB FKQL >@LRLKQ ?LQE PRMMIV >KA AB J >KA 3EB PB@LKA @LK@IRPFLK FP QE>Q PFK@B \*BVKBPd I>T >MMIFBP J LOB >@RO>QBIV FK QEB PELOQ ORK >KA 2>VdP I>T >MMIFBP J LOB >@RO>QBIV FK QEB ILKD ORK QEB QO>ABLCCP >KA @LKKB@QLKFP ?BQTBBK QEB QEBOB DL>IP LC J >@OLB@LKL J F@P J >V ?B AFCCBOBKQ FK QEB PELOQ ORK >KA QEB ILKD ORK

N H?7<A: 4 %B78? B9 : :E8:4G8 8@4A7 4A7

: :E8:4G8 +HCC?L

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB >DDOBD>QB PRMMIV @ROSB >KA ELT FQ OBI>QBP QL OB>I &# / >KA MLQBKF>I &# /
- d \$UMI>FK QEB >DDOBD>QB AB J >KA @ROSB >KA ELT FQ FP FKCIRBK@BA ?V MOF@B IBSBIP
- d (KQBOMOBQ QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI
- d (ABKQFCV QEB MLFKQ LC BNRFFI?OFR J FK QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI
- d #BCFKB PELOQ ORK >DDOBD>QB PRMMIV >KA ILKD ORK >DDOBD>QB PRMMIV

3L ?RFIA > RPBCRI J >@OLB@LKL J F@ J LABI TB KBBA > J LABI QE>Q PELTP TE>Q ABQBO J FKBP QLQ>I PRMMIV LO QLQ>I AB J >KA CLO QEB B@LKL J V >KA ELT QLQ>I AB J >KA >KA QLQ>I PRMMIV FKQBO>@Q >Q QEB J >@OLB@LKL J F@ IBSBI 6B @>II QEFP QEB **aggregate demand/aggregate supply model** 3EFP J LARIB TFII BUMI>FK >DDOBD>QB PRMMIV >DDOBD>QB AB J >KA >KA QEB BNRFFI?OFR J ?BQTBBK QEB J 3EB CLIL TFKD J LARIB TFII AFP@RPP QEB @>RPBP LC PEFCQP FK >DDOBD>QB PRMMIV >KA >DDOBD>QB AB J >KA

, ; 8 : :E8:4G8 +HCC?L HEI 8 4A7 (B68AG<4? (

%FO J P J >HB AB@FPFLK >?LRQ TE>Q NR>KQFQV QL PRMMIV ?>PBA LK QEB MOLCFQP QEBV BUMB@Q QL B>OK 3EBV ABQBO J FK B MOLCFQP FK QROK ?V QEB MOF@B LC QEB LRQMRQP QEBV PBII >KA ?V QEB MOF@BP LC QEB FKMRQP IFHB I>?LO LO O>T J >QBOF>IP QE>Q QEBV KBBA QL ?RV **Aggregate supply (AS)** OBCBOP QL QEB QLQ>I NR>KQFQV LC LRQMRQ F B OB>I &# / CFO J P TFII MOLAR@B >KA PBII 3EB

**aggregate supply (AS) curve** PELTP QEB QLQ>I NR>KQFQV LC LRQMRQ F B OB>I &# / QE>Q CFO J P TFII MOLAR@B >KA PBII >Q B>@E MOF@B IBSBI

<:HE8 PELTP >K >DD0BD>QB PRMMIV @ROSB (K QEB CLILTFKD M>0>D0>MEP TB TFII T>IH QEOLRDE QEB BIB J BKQP LC QEB AF>D0>J LKB >Q > QF J B QEB ELOFWLKQ>I >KA SBOQF@>I >UBP QEB >DD0BD>QB PRMMIV @ROSB FQPBC >KA QEB J B>KFKD LC QEB MLQBKQF>I &# / SBOQF@>I IFKB

<:HE8 ;;8 ::E8:4G8 +HCC?L HEI8 !DD0BD>QB PRMMIV !3 PILMBP RM ?B@>RPB >P QEB MOF@B IBSBI CLO LRQMRQ OFPBP TFQE QEB MOF@B LC FKMRQP OB J>FKFKD CFUBA CFO J P E>SB >K FK@BKQFSB QL MOLAR@B J LOB QL B>OK EFDEBO MOLCFQP 4EB MLQBKQF>I ' \$O IFKB PELTP QEB J>UF J R J QE>Q QEB B@LKL J V @>K MOLAR@B TFQE CRII B J MILV J BKQ LC TLOHBOP >KA MEVPF@>I @>MFQ>I

3EB AF>D0>J P ELOFWLKQ>I >UFP PELTP OB>I &# / b QE>Q FP QEB IBSBI LC &# / >AGRPQA CLO FKCI>QFLK 3EB SBOQF@>I >UFP PELTP QEB MOF@B IBSBI TEF@E J B>PROBP QEB >SBO>DB MOF@B LC >II DLLAP >KA PBOSE@BP MOLAR@BA FK QEB B@LKL J V (K LQEBO TLOAP QEB MOF@B IBSBI FK QEB # 2 J LABI FP TE>Q TB @>IIBA QEB &# / #BCI>QLO FK ;;8 %46EB86BAB@<6 (8EFC86G<18 1B J B J ?BO QE>Q QEB MOF@B IBSBI FP AFCCBOBKQ COL J QEB FKCI>QFLK 0>QB 5FPR>IFWB QEB MOF@B IBSBI >P >K FKABU KR J ?BO IFHB QEB " LKPR J BO /OF@B (KABU TEFIB QEB FKCI>QFLK 0>QB FP QEB MBO@BKQ>DB @E>KDB FK QEB MOF@B IBSBI LSBO QF J B

P QEB MOF@B IBSBI OFPBP OB>I &# / OFPBP >P TBII 6 EV 3EB MOF@B IBSBI LK QEB SBOQF@>I >UFP OBMOPBKPQ MOF@BP CLO CFK>I DLLAP LO LRQMRQ ?LRDEQ FK QEB B@LKL J V b F B QEB &# / ABCI>QLO b KLQ QEB MOF@B IBSBI CLO FKQBO J BAF>QB DLLAP >KA PBOSE@BP QE>Q >OB FKMRQP QL MOLAR@QFLK 3ERP QEB 2 @ROSB ABP@OF?BP ELT PRMMIFBOP TFII OB>@Q QL > EFDEBO MOF@B IBSBI CLO CFK>I LRQMRQ LC DLLAP >KA PBOSE@BP TEFIB ELIAFKD QEB MOF@BP LC FKMRQP IFHB I>?LO >KA BKBODV @LKPQ>KQ (C CFO J P >@OLPP QEB B@LKL J V C>@B > PFQR>QFLK TEBOB QEB MOF@B IBSBI LC TE>Q QEBV MOLAR@B >KA PBII FP OFPFKD ?RQ QEBFO @LPQ LC MOLAR@QFLK >OB KLQ OFPFKD QEBK QEB IROB LC EFDEBO MOLCFQP TFII FKAR@B QEB J QL BUM>KA MOLAR@QFLK (K LQEBO TLOAP >K >DD0BD>QB PRMMIV @ROSB PELTP ELT MOLAR@BOP >P >DOLRM TFII OBPMLKA QL >K FK@OB>PB FK >DD0BD>QB AB J >KA

K 2 @ROSB P PILMB @E>KDBP COL J KB>OIV CI>Q >Q FQP C>O IBCQ QL KB>OIV SBOQF@>I >Q FQP C>O OFDEQ Q QEB C>O IBCQ LC QEB >DD0BD>QB PRMMIV @ROSB QEB IBSBI LC LRQMRQ FK QEB B@LKL J V FP C>O ?BILT **potential GDP** TEF@E TB ABCFKB >P QEB >J LRKQ LC OB>I &# / >K B@LKL J V @>K MOLAR@B ?V CRIIV B J MILVFKD FQP BUFPQFKD IBSBIP LC I>?LO MEVPF@>I @>MFQ>I >KA QB@EKLILDV FK QEB @LKQBUQ LC FQP BUFPQFKD J >OHBQ >KA IBD>I FKPQFQRQFLKP Q QEBPB OBI>QFSBIV ILT IBSBIP LC LRQMRQ IBSBIP LC RKB J MILV J BKQ >OB EFDE >KA J >KV C>@QLOFBP >OB ORKKFKD LKIV M>OQ QF J B LO E>SB @ILPBA QEBFO ALLOP (K QEFP PFQR>QFLK > OBI>QFSBIV P J >II FK@OB>PB FK QEB MOF@BP LC QEB LRQMRQ QE>Q ?RPFKBPBP PBII b TEFIB >PPR J FKD KL OFPB FK FKMRQ MOF@BP b @>K BK@LRO>DB > @LKPFABO>?IB PRODB FK QEB NR>KQFQV LC >DD0BD>QB PRMMIV ?B@>RPB PL J >KV TLOHBOP >KA C>@QLOFBP >OB OB>AV QL PTFKD FKQL MOLAR@QFLK

P QEB &# / FK@OB>PBP ELTBSBO PL J B CFO J P >KA FKARPQOFBP TFII PQ>OQ ORKKFKD FKQL IF J FQP MBOE>MP KB>OIV >II LC QEB BUMBOQ TLOHBOP FK > @BOQ>FK FKARPQOV TFII E>SB GL?P LO C>@QLOFBP FK @BOQ>FK DBLD0>MEF@ >OB>P LO FKARPQOFBP TFII ?B ORKKFKD >Q CRII PMBBA (K QEB 2 @ROSB P FKQBO J BAF>QB >OB> > EFDEBO MOF@B IBSBI CLO LRQMRQ @LKFQRBP QL BK@LRO>DB > DOB>QBO NR>KQFQV LC LRQMRQ b ?RQ >P QEB FK@OB>PFKDIV PQBBM RMT>OA PILMB LC QEB >DD0BD>QB PRMMIV @ROSB PELTP QEB FK@OB>PB FK OB>I &# / FK OBPMLKPB QL > DFSBK OFPB FK QEB MOF@B IBSBI TFII KLQ ?B >P I>ODB 1B>A QEB CLILTFKD " IB>O (Q 4M CB>QROB QL IB>OK TEV QEB 2 @ROSB @OLPPBP MLQBKQF>I &# /

# Clear It Up



/ ;L 7B8F + 6EBFF CBG8AG<4? (

%@LKL JFPQP QVMF@>IIV A0>T QEB >DD0BD>QB PRMMIV @ROSB QL @OLPP QEB MLQBKF>I ' \$O IFKB 4EFP PE>MB J>V PBB J MRWWIFKD (LT @>K >K B@LKL J V MOLAR@B >Q >K LRQMRQ IBSBI TEF@E FP EFDEBO QE>K FQP bMLQBKF>ic LO bCRII BJMILVJBKQc ' \$O 4EB B@LKL J F@ FKQRFQFLK EBOB FP QE>Q FC MOF@BP CLO LRQMRQP TBOB EFDE BKL RDE MOLAR@BOP TLRIA J>HB C>K>QF@>I B@CLOQP QL MOLAR@B >II TLOHBOP TLRIA ?B LK ALR?IB LSBQF JB >II J>@EFKBP TLRIA ORK ELROP > A>V PBSBK A>VP > TBBH 3R@E EVMBO FKQBKP MOLAR@QFLK TLRIA DL ?BVLKA RPFKD MLQBKF>I I>?LO >KA MEVPF@>I @>MfQ>I OBPLRO@BP CRIIV QL RPFKD QEB J FK > T>V QE>Q FP KLQ PRPQ>FK>?IB FK QEB ILKD QBO J 4ERP FQ FP MLPPF?IB CLO MOLAR@QFLK QL PMOFKQ >?LSB MLQBKF>I ' \$O ?RQ LKIV FK QEB PELQ ORK

Q QEB C>O OFDEQ QEB >DD0BD>QB PRMMIV @ROSB ?B@L J BP KB>OIV SBOQF@>I Q QEFP NR>KQFQV EFDEBO MOF@BP CLO LRQMRQP @>KKLQ BK@LRO>DB >AAQFLK>I LRQMRQ ?B@>RBP BSBK FC CFO J P T>KQ QL BUM>KA LRQMRQ QEB FKMRQP LC I>?LO >KA J>@EFKBOV FK QEB B@LKL J V >OB CRIIV B J MILVBA (K QEFP BU> J MIB QEB SBOQF@>I IFKB FK QEB BUEF?FQ PEL TP QE>Q MLQBKF>I &# / L@>ROP >Q > QLQ>I LRQMRQ LC 6 EBK >K B@LKL J V FP LMBO>QFKD >Q FQP MLQBKF>I &# / J>@EFKBP >KA C>@QLOFBP >OB ORKKFKD >Q @>M>@FQV >KA QEB RKB J MILV JBKQ >OQB FP OBI>QFSBIV IL T b >Q QEB K>QRO>I O>QB LC RKB J MILV JBKQ %LO QEFP OB>PLK MLQBKF>I &# / FP PL J BQF J BP >IPL @>IIBA **full-employment GDP**

, ;8 ::E8:4G8 8@4A7 HEI8

**Aggregate demand (AD)** OBCBOP QL QEB > J LRKQ LC QLQ>I PMBKAFKD LK AL JBPQF@ DLLAP >KA PBOSF@BP FK >K B@LKL J V 2QOF@QIV PMB>HFKD # FP TE>Q B@LKL JFPQP @>II QLQ>I MI>KKBA BUMBAFQROB 6B TFII CROQEBO BUMI>FK QEFP AFPQFK@QFLK FK QEB >MMBKAFU , ;8 **KC8A7<GHE8 'HGCHG %B78?** %LO KLT GRPQ QEFKH LC >DD0BD>QB AB J>KA >P QLQ>I PMBKAFKD (Q FK@IRABP >II CLRO @L J MLKBKQP LC AB J>KA @LKPR JMQFLK FKSBPQ JBKQ DLSBOK JBKQ PMBKAFKD >KA KBQ BUMLOQP BUMLOQP JFKRP F J MLOQP 3EFP AB J>KA FP ABQBO J FKBA ?V > KR J ?BO LC C>@QLOP ?RQ LKB LC QEB J FP QEB MOF@B IBSBI b OB@>II QELRDE QE>Q QEB MOF@B IBSBI FP >K FKABU KR J ?BO PR@E >P QEB &# / ABCI>QLO QE>Q J B>PROBP QEB >SBO>DB MOF@B LC QEB QEFKDP TB ?RV 3EB **aggregate demand (AD) curve** PEL TP QEB QLQ>I PMBKAFKD LK AL JBPQF@ DLLAP >KA PBOSF@BP >Q B>@E MOF@B IBSBI

<:HE8 MOBPKQP >K >DD0BD>QB AB J>KA # @ROSB )RPQ IFHB QEB >DD0BD>QB PRMMIV @ROSB QEB ELOFWLKQ>I >UFP PEL TP OB>I &# / >KA QEB SBOQF@>I >UFP PEL TP QEB MOF@B IBSBI 3EB # @ROSB PILMBP ALTK TEF@E JB>KP QE>Q FK@OB>PBP FK QEB MOF@B IBSBI LC LRQMRQP IB>A QL > ILTBO NR>KQFQV LC QLQ>I PMBKAFKD 3EB OB>PLKP ?BEFKA QEFP PE>MB >OB OBI>QBA QL ELT @E>KDBP FK QEB MOF@B IBSBI >CCB@Q QEB AFCCBOBKQ @L J MLKBKQP LC >DD0BD>QB AB J>KA 3EB CLIILTFKD @L J MLKBKQP @L J MOFPB >DD0BD>QB AB J>KA @LKPR JMQFLK PMBKAFKD " FKSBPQ JBKQ PMBKAFKD ( DLSBOK JBKQ PMBKAFKD & >KA PMBKAFKD LK BUMLOQP 7 JFKRP F J MLOQP , " ( & 7 a ,

<:HE8 , ;8 ::E8:4G8 8@4A7 HEI8 ! DD0BD>QB AB J>KA ! \$ PILMBP ALTK PELTFKD QE>Q >P QEB MOF@B IBSBI OFPBP QEB > J LRKQ LC QLQ>I PMBKAFKD LK AL JBPQF@ DLLAP >KA PBOSF@BP AB@IFKBP



<:HE8 , ;8 + HEI8F ! \$ >KA ! 3 @ROSBP @QB>QBA COL J QEB A>Q> FK ,45'8

3QBM \$BQBO JFKB TEB0B ! \$ >KA ! 3 FKQBOPB@Q 4EFP FP QEB BNRHF?OFR J TFQE MOF@B IBSBI >Q >KA OB>I ' \$O >Q

3QBM ,LLH >Q QEB DO>ME QL ABQBO JFKB TEB0B BNRHF?OFR J FP IL@>QBA 7 B @>K PBB QE>Q QEFP BNRHF?OFR J FP C>FOIV C>O COL J TEB0B QEB ! 3 @ROSB ?B@L J BP KB>O SBOQF@>I LO >Q IB>PQ NRFQB PQBBM TEF@E PBB J P QL PQ>OQ >Q >?LRQ LC OB>I LRQMRQ 4EFP F J MIFBP QE>Q QEB B@LKL J V FP KLQ @ILPB QL MLQBKQF>I ' \$O 4ERP RKB J MILV J BKQ THII ?B EFDE )K QEB OBI>QFSBIV CI>Q M>OQ LC QEB ! 3 @ROSB TEB0B QEB BNRHF?OFR J L@@ROP @E>KDBP FK QEB MOF@B IBSBI THII KLQ ?B > J>GL0 @LK@BOK PFK@B PR@E @E>KDBP >OB IFHBIV QL ?B P J >II

3QBM \$BQBO JFKB TE>Q QEB PQBBM MLQFLK LC QEB ! 3 @ROSB FKAf@>QBP 7 EB0B QEB ! 3 @ROSB FP PQBBM QEB B@LKL J V FP >Q LO @ILPB QL MLQBKQF>I ' \$O

3QBM \$O>T @LK@IRPFLKP COL J QEB DfSBK FKCL0 J >QFLK

d )C BNRHF?OFR J L@@ROP FK QEB CI>Q O>KDB LC ! 3 QEBK B@LKL J V FP KLQ @ILPB QL MLQBKQF>I ' \$O >KA THII ?B BUMBOFBK@FKD RKB J MILV J BKQ ?RQ PQ>?IB MOF@B IBSBI

d )C BNRHF?OFR J L@@ROP FK QEB PQBBM O>KDB LC ! 3 QEBK QEB B@LKL J V FP @ILPB LO >Q MLQBKQF>I ' \$O >KA THII ?B BUMBOFBK@FKD OFFKD MOF@B IBSBIP LO FKCI>QFLK>OV MOBPPROBP ?RQ THII E>SB >ILT RKB J MILV J BKQ O>QB

### DH<?5E<H@ <A G;8 ::E8:4G8 8@4A7 ::E8:4G8 +HCC?L %B78?

3EB FKQBOPB@QFLK LC QEB >DD0BD>QB PRMMIV >KA >DD0BD>QB AB J>KA @ROSBP PELTP QEB BNRHF?OFR J IBSBI LC OB>I &# / >KA QEB BNRHF?OFR J MOF@B IBSBI FK QEB B@LKL J V Q > OBI>QFSBIV ILT MOF@B IBSBI CLO LRQMRQ CFO J P E>SB IFQIB FK@BKQFSB QL MOLAR@B >IQELRDE @LKPR J BOP TLRIA ?B TFIIFKD QL MRO@E>PB > I>ODB NR>KQFQV LC LRQMRQ P QEB MOF@B IBSBI OFPBP >DD0BD>QB PRMMIV OFPBP >KA >DD0BD>QB AB J>KA C>IIP RKQFI QEB BNRHF?OFR J MLFKQ FP OB>@EBA

<:HE8 @L J ?FKBP QEB 2 @ROSB COL J <:HE8 >KA QEB # @ROSB COL J <:HE8 >KA MI>@BP QEB J ?LQE LK > PFKDIB AF>DO> J (K QEFP BU> J MIB QEB BNRHF?OFR J MLFKQ L@@ROP >Q MLFKQ \$ >Q > MOF@B IBSBI LC >KA >K LRQMRQ IBSBI LC

<:HE8 : :E8:468 +HCC?L 4A7 : :E8:468 8@4A7 4EB BNRHF?0FR J TEB0B >DD0BD>QB PRMMIV !3 BNR>IP >DD0BD>QB AB J>KA ! \$ L@@R0P >Q > MOF@B IBSBI LC >KA >K LRQMRQ IBSBI LC

"LKCRPFLK PL J BQF J BP >0FPBP ?BQTBBK QEB >DD0BD>QB PRMMIV >KA >DD0BD>QB AB J>KA J LABI >KA QEB J F@0LB@LKL J F@ >K>IVPFP LC AB J>KA >KA PRMMIV FK M>0QF@RI>0 J >0HBQP CLO DLLAP PBOSF@BP I>?LO >KA @>MFQ>I 1B>A QEB CLIILTFKD "IB>0 (Q 4M CB>QROB QL D>FK >K RKAB0PQ>KAFKD LC TEBQEBO 2 >KA # >OB J>@OL LO J F@OL

# Clear It Up

## E8 + 4A7 @46EB BE @<6EB

4EBPB >DD0BD>QB PRMMIV >KA AB J>KA J LABIP >KA QEB J F@0LB@LKL J F@ >K>IVPFP LC AB J>KA >KA PRMMIV FK M>0QF@RI>0 J >0HBQP CLO DLLAP PBOSF@BP I>?LO >KA @>MFQ>I E>SB > PRMBOCF@F>I 0BPB J ?I>K@B ?RQ QEBV >IPL E>SB J >KV RKAB0IVFKD AFCCB0BK@BP

&LO BU>J MIB QEB SBOQF@>I >KA ELOFWLKQ>I >UBP E>SB AFPQFK@QIV AFCCB0BKQ JB>KFKDP FK J>@0LB@LKL J F@ >KA J F@0LB@LKL J F@ AF>DO>J P 4EB SBOQF@>I >UFP LC > J F@0LB@LKL J F@ AB J>KA >KA PRMMIV AF>DO>J BUMOBPPBP > MOF@B LO T>DB LO O>QB LC OBQROK CLO >K FKAFSFAR>I DLLA LO PBOSF@B 4EFP MOF@B FP F J MIF@QIV 0BI>QFSB FQ FP FKQBKABA QL ?B @L J M>OBA TFQE QEB MOF@BP LC LQEBO MOLAR@QP CLO BU>J MIB QEB MOF@B LC MFWW> 0BI>QFSB QL QEB MOF@B LC COFBA @EF@HBK )K @LQO>PQ QEB SBOQF@>I >UFP LC >K >DD0BD>QB PRMMIV >KA >DD0BD>QB AB J>KA AF>DO>J BUMOBPPBP QEB IBSBI LC > MOF@B FKABU IFHB QEB #LKP J B0 0OF@B )KABU LO QEB ' \$0 ABCI>QL0 \_@L J ?FKFKD > TFAB >00>V LC MOF@BP COL J >@OLPP QEB B@LKL J V 4EB MOF@B IBSBI FP >?PLIRQB FQ FP KLQ FKQBKABA QL ?B @L J M>OBA QL >KV LQEBO MOF@BP PFK@B FQ FP BPPBKQF>IIV QEB >SBO>DB MOF@B LC >II MOLAR@QP FK >K B@LKL J V 4EB ELOFWLKQ>I >UFP LC > J F@0LB@LKL J F@ PRMMIV >KA AB J>KA @ROSB JB>PROBP QEB NR>KQFQV LC > M>0QF@RI>0 DLLA LO PBOSF@B )K @LQO>PQ QEB ELOFWLKQ>I >UFP LC QEB >DD0BD>QB AB J>KA >KA >DD0BD>QB PRMMIV AF>DO>J JB>PROBP ' \$0 TEF@E FP QEB PR J LC >II QEB CFK>I DLLAP >KA PBOSF@BP MOLAR@BA FK QEB B@LKL J V KLQ QEB NR>KQFQV FK > PMB@FCF@ J >0HBQ

)K >AAQFLK QEB B@LKL J F@ OB>PLKP CLO QEB PE>MBP LC QEB @ROSBP FK QEB J>@0LB@LKL J F@ J LABI >OB AFCCB0BKQ COL J QEB OB>PLKP ?BEKA QEB PE>MBP LC QEB @ROSBP FK J F@0LB@LKL J F@ J LABIP \$B J>KA @ROSBP CLO FKAFSFAR>I DLLAP LO PBOSF@BP PILMB ALTK MOF J>OFIV ?B@>RPB LC QEB BUFPQBK@B LC PR?PQFQRQB DLLAP KLQ QEB TB>IQE BCCB@QP FKQB0BPQ O>QB >KA CLOBFDK MOF@B BCCB@QP >PPL@F>QBA TFQE >DD0BD>QB AB J>KA @ROSBP 4EB PILMBP LC FKAFSFAR>I PRMMIV >KA AB J>KA @ROSBP @>K E>SB > S>0FBQV LC AFCCB0BKQ PILMBP ABMBKAFKD LK QEB BUQBKQ QL TEF@E NR>KQFQV AB J>KABA >KA NR>KQFQV PRMMIFBA OB>@Q QL MOF@B FK QE>Q PMB@FCF@ J >0HBQ ?RQ QEB PILMBP LC QEB !3 >KA ! \$ @ROSBP >OB J R@E QEB P>J B FK BSOV AF>DO>J >IQELRDE >P TB PE>II PBB FK I>QBO @E>M@B0P PELOQ ORK >KA ILKD ORK MB0PMB@QFSBP TH I B J ME>PRWB AFCCB0BKQ M>0QP LC QEB !3 @ROSB

)K PELOQ GRPQ ?B@>RPB QEB ! \$ !3 AF>DO>J E>P QTL IFKBP QE>Q @OLPP AL KLQ >PPR JB QE>Q FQ FP QEB P>J B >P BSOV LQEBO AF>DO>J TEB0B QTL IFKBP @OLPP 4EB FKQRFQFLKP >KA JB>KFKDP LC QEB J>@OL >KA J F@OL AF>DO>J P >OB LKIV

AFPQ>KQ @LRPFKP COL J AFCCBOBKQ ?Q>K@EBP LC QEB B@LKL J F@P C> J FIV Q0BB

### 89<A<A : +\* + 4A7 \$\* +

(K QEB "IB>0 (Q 4M CB>QROB QFQIBA e 6 EV ALBP 2 @OLPP MLQBKF>I &# / f TB AFCCBOBKQ>QBA ?BQTBBK PELOQ ORK @E>KDBP FK >DDOBD>QB PRMMIV TEF@E QEB 2 @ROSB PELTP >KA ILKD ORK @E>KDBP FK >DDOBD>QB PRMMIV TEF@E QEB SBOQF@>I IFKB >Q MLQBKF>I &# / ABCFKBP (K QEB PELOQ ORK FC AB J >KA FP QLL ILT LO QLL EFDE FQ FP MLPPF?IB CLO MOLAR@BOP QL PRMMIV IBPP &# / LO JLOB &# / QE>K MLQBKF>I (K QEB ILKD ORK ELTBSBO MOLAR@BOP >OB IF J FQBA QL MOLAR@FKD >Q MLQBKF>I &# / %LO QEFP OB>PLK TB J >V >IPL OBCBO QL TE>Q TB E>SB ?BBK @>HFKD QEB 2 @ROSB >P QEB **short run aggregate supply (SRAS) curve** 6B J >V >IPL OBCBO QL QEB SBOQF@>I IFKB >Q MLQBKF>I &# / >P QEB **long run aggregate supply (LRAS) curve**

### N + ; <9GF <A : : E8 : 4G8 + HCC?L

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK ELT MOLAR@QFSFQV DOLTQE @E>KDBP QEB >DDOBD>QB PRMMIV @ROSB
- d \$UMI>FK ELT @E>KDBP FK FKMRQ MOF@BP @E>KDB QEB >DDOBD>QB PRMMIV @ROSB

3EB LOFDFK>I BNRHIF?OFR J FK QEB # 2 AF>DO>J TFII PEFCQ QL > KBT BNRHIF?OFR J FC QEB 2 LO # @ROSB PEFCQP 6 EBK QEB >DDOBD>QB PRMMIV @ROSB PEFCQP QL QEB OFDEQ QEBK >Q BSBOV MOF@B IBSBI MOLAR@BOP PRMMIV > DOB>QBO NR>KQFQV LC OB>I &# / 6 EBK QEB 2 @ROSB PEFCQP QL QEB IBCQ QEBK >Q BSBOV MOF@B IBSBI MOLAR@BOP PRMMIV > ILTBO NR>KQFQV LC OB>I &# / 3EFP J LARIB AFP@RPPBP QTL LC QEB J LPQ F J MLOQ>KQ C>@QLOP QE>Q @>K IB>A QL PEFCQP FK QEB 2 @ROSB MOLAR@QFSFQV DOLTQE >KA @E>KDBP FK FKMRQ MOF@BP

### BJ (EB7H6G<I<GL EB JG ; + ; <9GF G ; 8 + HEI8

(K QEB ILKD ORK QEB J LPQ F J MLOQ>KQ C>@QLO PEFCQFKD QEB 2 @ROSB FP MOLAR@QFSFQV DOLTQE /OLAR@QFSFQV J B>KP ELT JR@E LRQMRQ @>K ?B MOLAR@BA TFQE > DFSBK NR>KQFQV LC I>?LO . KB J B>PROB LC QEFP FP LRQMRQ MBO TLOHBO LO &# / MBO @>MFQ> . SBO QF J B MOLAR@QFSFQV DOLT TP PL QE>Q QEB P> J B NR>KQFQV LC I>?LO @>K MOLAR@B JLOB LRQMRQ ' FPQLOF@>IIV QEB OB>I DOLTQE FK &# / MBO @>MFQ> FK >K >AS>K@BA B@LKL J V IFHB QEB 4KFQBA 2Q>QBP E>P >SBO>DBA >?LRQ QL MBO VB>0 ?RQ MOLAR@QFSFQV DOLTQE E>P ?BBK C>PQBO AROFKD @BOQ>FK BUQBKABA MBOFLAP IFHB QEB P >KA QEB I>QB P QEOLRDE QEB B>OIV P LO PILTBO AROFKD MBOFLAP IFHB QEB P EFDEBO IBSBI LC MOLAR@QFSFQV PEFCQP QEB 2 @ROSB QL QEB OFDEQ ?B>@RPB TFQE F J MOLSBA MOLAR@QFSFQV CFO J P @>K MOLAR@B > DOB>QBO NR>KQFQV LC LRQMRQ >Q BSBOV MOF@B IBSBI <: HE8 > PELTP >K LRQT>OA PEFCQ FK MOLAR@QFSFQV LSBO QTL QF J B MBOFLAP 3EB 2 @ROSB PEFCQP LRQ COL J 21 2 QL 21 2 QL 21 2 >KA QEB BNRHIF?OFR J PEFCQP COL J \$ QL \$ QL \$ -LQB QE>Q TFQE FK@OB>PBA MOLAR@QFSFQV TLOHBOP @>K MOLAR@B JLOB &# / 3ERP CRII B J MILV J BKQ @LOOBPMLKAP QL > EFDEBO IBSBI LC MLQBKF>I &# / TEF@E TB PELT >P > OFDEQT>OA PEFCQ FK +1 2 COL J +1 2 QL +1 2 QL +1 2



<:HEB +;@GF<A ::E8:468 +HCC?L > 4EB OFPB FK MOLAR@QFSQV @>RPBP QEB 32!3 @ROSB QL PEFCQ QL QEB OFDEQ 4EB L0FDFK>I BNRHF?OFR J % FP >Q QEB FKQBOPB@QFLK LC !\$ >KA 32!3 7EBK 32!3 PEFCQP OFDEQ QEBK QEB KBT BNRHF?OFR J % FP >Q QEB FKQBOPB@QFLK LC !\$ >KA 32!3 >KA QEBK VBQ >KLQEB0 BNRHF?OFR J % FP >Q QEB FKQBOPB@QFLK LC !\$ >KA 32!3 3EFCQP FK 32!3 QL QEB OFDEQ IB>A QL > DOB>QBO IBSBI LC LRQMRQ >KA QL ALTKT>0A MOBPPROB LK QEB MOF@B IBSBI ? ! EFDEBO MOF@B CLO FKMRQP J B>KP QE>Q >Q >KV DFSBK MOF@B IBSBI CLO LRQMRQP > ILTBO OB>I ' \$0 TFII ?B MOLAR@BA PL >DD0BD>QB PRMMIV TFII PEFCQ QL QEB IBCQ COL J 32!3 QL 32!3 4EB KBT BNRHF?OFR J % E>P > OBAR@BA NR>KQFQV LC LRQMRQ >KA > EFDEBO MOF@B IBSBI QE>K QEB L0FDFK>I BNRHF?OFR J %

PEFCQ FK QEB 21 2 @ROSB QL QEB OFDEQ TFII OBPRIQ FK > DOB>QBO OB>I &# / >KA ALTKT>0A MOBPPROB LK QEB MOF@B IBSBI FC >DD0BD>QB AB J >KA OB J >FKP RK@E>KDBA ' LTBSBO FC QEFP PEFCQ FK 21 2 OBPRIQP COL J D>FKP FK MOLAR@QFSQV DOLTQE TEF@E TB QVMF@>IIV J B>PROB FK QBO J P LC > CBT MBO@BKQ>DB MLFKQP MBO VB>0 QEB BCCB@Q TFII ?B OBI>QFSBIV P J >II LSBO > CBT J LKQEP LO BSBK > @LRMIB LC VB>OP 1B@>II ELT FK ;B<68 <A 4 / BE?7 B9 +64E6<GL TB P>FA QE>Q > K>QFLK P MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO FP CFUBA FK QEB PELOQ ORK ?RQ PEFCQP LRQ FK QEB ILKD ORK 3EFP FP QEB P> J B MEBKL J BKLK RPFKD > AFCCBOBKQ J LABI

**BJ ;4A:8F<A !ACHG (E<68F +;@G G;8 + HEI8**

' EFDEBO MOF@BP CLO FKMRQP QE>Q >OB TFABIV RPBA >@OLPP QEB BKQF0B B@LKL J V @>K E>SB > J>@OLB@LKL J F@ F J M>@Q LK >DD0BD>QB PRMMIV \$U>J MIBP LC PR@E TFABIV RPBA FKMRQP FK@IRAB I>?LO >KA BKBODV MOLAR@QP (K@OB>PBP FK QEB MOF@B LC PR@E FKMRQP TFII @>RPB QEB 21 2 @ROSB QL PEFCQ QL QEB IBCQ TEF@E J B>KP QE>Q >Q >B>@E DFSBK MOF@B IBSBI CLO LRQMRQP > EFDEBO MOF@B CLO FKMRQP TFII AFP@LRO>DB MOLAR@QFLK ?B@>RPB FQ TFII OBAR@B QEB MLPPF?FIFQFBP CLO B>OKFKD MOLCFQP <:HEB ? PELTP QEB >DD0BD>QB PRMMIV @ROSB PEFCQFKD QL QEB IBCQ COL J 21 2 QL 21 2 @>RPFKD QEB BNRHF?OFR J QL J LSB COL J \$ QL \$ 3EB J LSB J BKQ COL J QEB L0FDFK>I BNRHF?OFR J LC \$ QL QEB KBT BNRHF?OFR J LC \$ TFII ?OFKD > K>PQV PBQ LC BCCB@QP OBAR@BA &# / LO OB@BPPFLK EFDEBO RKB J MILV J BKQ ?B@>RPB QEB B@LKL J V FP KL T CROQEB0 >T>V COL J MLQBKQF>I &# / >KA >K FKCI>QFLK>OV EFDEBO MOF@B IBSBI >P TBII %LO BU> J MIB QEB 4 2 B@LKL J V BUMBOFBK@BA OB@BPPFLK FK a a a >KA a QE>Q TBOB B>@E MOB@BABA LO >@L J M>KFBA ?V > OFPB FK QEB HBV FKMRQ LC LFI MOF@BP (K QEB P QEFP M>QQBOK LC > PEFCQ QL QEB IBCQ FK 21 2 IB>AFKD QL > PQ>DK>KQ B@LKL J V TFQE EFDE RKB J MILV J BKQ >KA FKCI>QFLK T>P KF@HK> J B **stagflation**

"LKSBOBPBIV > AB@IFKB FK QEB MOF@B LC > HBV FKMRQ IFHB LFI TFII PEFCQ QEB 21 2 @ROSB QL QEB OFDEQ MOLSFAFKD >K FK@BKQFSB CLO J LOB QL ?B MOLAR@BA >Q BSOV DFSBK MOF@B IBSBI CLO LRQMRQP %OL J QL CLO BU> J MIB QEB >SBO>DB MOF@B LC @ORAB LFI CBII ?V >I J LPQ E>IC COL J > ?>00BI QL > ?>00BI 2F J FI>OIV COL J QL QEB MOF@B LC > ?>00BI LC @ORAB LFI AOLMBA COL J MBO ?>00BI QL MBO ?>00BI (K ?LQE @>PBP QEB MIR J J BQFKD LFI MOF@B IBA QL > PFQR>QFLK IFHB QE>Q TEF@E TB MOBPKQBA B>OIFBO FK <:HEB > TEOB QEB LRQT>0A PEFCQ LC 21 2 QL QEB OFDEQ >IILTBA QEB B@LKL J V QL BUM>KA RKB J MILV J BKQ QL C>II >KA FKCI>QFLK QL AB@IFKB

ILKD TFQE BKBODV MOF@BP QTL LQEBO HBV FKMRQP QE>Q J>V PEFCQ QEB 21 2 @ROSB >OB QEB @LPQ LC I>?LO LO T>DBP >KA QEB @LPQ LC F J MLOQBA DLLAP QE>Q TB RPB >P FKMRQP CLO LQEBO MOLAR@QP (K QEBPB @>PBP >P TBII QEB IBPPLK FP QE>Q ILTBO MOF@BP CLO FKMRQP @>RPB 21 2 QL PEFCQ QL QEB OFDEQ TEFIB EFDEBO MOF@BP @>RPB FQ QL PEFCQ ?>@H QL QEB IBCQ - LQB QE>Q RKIFHB @E>KDBP FK MOLAR@QFSFV @E>KDBP FK FKMRQ MOF@BP AL KLQ DBKBO>IIV @>RPB +1 2 QL PEFCQ LKIV 21 2

### ' G ; 8E +HCC?L + ; B6>F

3EB >DD0BD>QB PRMMIV @ROSB @>K >IPL PEFCQ ARB QL PEL@HP QL FKMRQ DLLAP LO I>?LO %LO BU> J MIB >K RKBUMB@QBA B>OIV COBBWB @LRIA ABPQOLV > I>ODB KR J ?BO LC >DOF@RIQR0>I @OLMP > PEL@H QE>Q TLRIA PEFCQ QEB 2 @ROSB QL QEB IBCQ PFK@B QEB0B TLRIA ?B CBTBO >DOF@RIQR0>I MOLAR@QP >S>FI>?IB >Q >KV DFSBK MOF@B

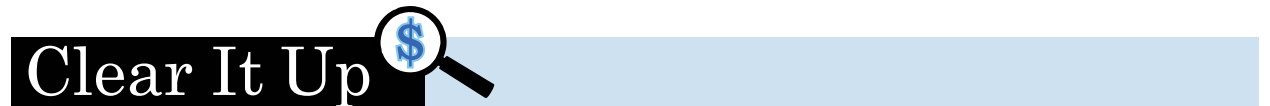
2F J FI>OIV PEL@HP QL QEB I>?LO J >OHBQ @>K >CCB@Q >DD0BD>QB PRMMIV K BUQOB J B BU> J MIB J FDEQ ?B >K LSBOPB>P T>O QE>Q OBNRFOBA > I>ODB KR J ?BO LC TLOHBOP QL @B>PB QEBFO LOAFK>OV MOLAR@QFLK FK LOABO QL DL CFDEQ CLO QEBFO @LRKQOV (K QEFP @>PB 21 2 >KA +1 2 TLRIA ?LQE PEFCQ QL QEB IBCQ ?B@>RPB QEB0B TLRIA ?B CBTBO TLOHBOP >S>FI>?IB QL MOLAR@B DLLAP >Q >KV DFSBK MOF@B

## N + ; <9GF <A : : E8 : 4G8 8@4A7

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK ELT F J MLOQP FK CIRBK@B >DD0BD>QB AB J >KA
- d (ABKQFCV T>VP FK TEF@E ?RPFKBPP @LKCFAKB@B >KA @LKPR J BO @LKCFAKB@B @>K >CCB@Q >DD0BD>QB AB J >KA
- d \$UMI>FK ELT DLSBOK J BKQ MLIF@V @>K @E>KDB >DD0BD>QB AB J >KA
- d \$\$S>IR>QB TEV B@LKL J FPQP AFP>DOBB LK QEB QLMF@ LC Q>U @RQP

P TB J BKQFLKBA MOBSFLRPV QEB @L J MLKBKQP LC >DD0BD>QB AB J >KA >OB @LKPR J MQFLK PMBKAFKD " FKSBPQ J BKQ PMBKAFKD ( DLSBOK J BKQ PMBKAFKD & >KA PMBKAFKD LK BUMLOQP 7 J FKRP F J MLOQP , 1B>A QEB CLIILTFKD " IB>O (Q 4M CB>QR0B CLO BUMI>K>QFLK LC TEV F J MLOQP >OB PR?Q0>@QBA COL J BUMLOQP >KA TE>Q QEFP J B>KP CLO >DD0BD>QB AB J >KA PEFCQ LC QEB # @ROSB QL QEB OFDEQ J B>KP QE>Q >Q IB>PQ LKB LC QEBPB @L J MLKBKQP FK@OB>PBA PL QE>Q > DOB>QBO > J LRKQ LC QLQ>I PMBKAFKD TLRIA L@RO >Q BSOV MOF@B IBSBI PEFCQ LC QEB # @ROSB QL QEB IBCQ J B>KP QE>Q >Q IB>PQ LKB LC QEBPB @L J MLKBKQP AB@OB>PBA PL QE>Q > IBPPBO > J LRKQ LC QLQ>I PMBKAFKD TLRIA L@RO >Q BSOV MOF@B IBSBI ; ; 8 #8LA8F<4A (8EFC86G<18 TFII AFP@RPP QEB @L J MLKBKQP LC >DD0BD>QB AB J >KA >KA QEB C>@QLOP QE>Q >CCB@Q QEB J ' BOB QEB AFP@RPPFLK TFII PHBQ@E QTL ?OL>A >@QBDLOFBP QE>Q @LRIA @>RPB # @ROSBP QL PEFCQ @E>KDBP FK @LKPR J BO LO CFO J ?BE>SFL0 >KA @E>KDBP FK DLSBOK J BKQ Q>U LO PMBKAFKD MLIF@V



## B <@CBEGF 7<@<A<F; 4 : : E8 : 4G8 78@4A7

7 B E>SB PBBK QE>Q QEB CLO J RI> CLO >DD0BD>QB AB J >KA FP ! \$ # ) ' 8 - TEB0B - FP QEB QLQ>I S>IRB LC F J MLOQBA DLLAP 7 EV FP QEB0B > J FKRP PFDK FK COLKQ LC F J MLOQP \$LBP QEFP J B>K QE>Q J LOB F J MLOQP TFII OBPRIQ FK > ILTBO IBSBI LC >DD0BD>QB AB J >KA 4EB PELQ >KPTBO FP VBP ?B@>RPB >DD0BD>QB AB J >KA FP ABCFKBA >P QLQ>I AB J >KA CLO AL J BPQf@>IIV MOLAR@BA DLLAP >KA PBO SF@BP

7 EBK >K ! J BOf>K ?RVP > CLOBFDK MOLAR@Q CLO BU> J MIB FQ DBQP @LRKQBA >ILKD TFQE >II QEB LQEBO @LKPR J MQFLK 4ERP QEB FK@L J B DBKBO>QBA ALBP KLQ DL QL ! J BOf>K MOLAR@BOP ?RQ O>QEB0 QL MOLAR@BOP FK >KLQEB0 @LRKQOV )Q TLRIA ?B TOLKD QL @LRKQ QEFP >P M>OQ LC AL J BPQf@ AB J >KA 4EB0BCLOB F J MLOQP >AABA FK @LKPR J MQFLK >OB PR?Q0>@QBA ?>@H LRQ FK QEB - QBO J LC QEB BNR>QFLK

"B@>RPB LC QEB T>V FK TEF@E TB TOfQB QEB AB J >KA BNR>QFLK FQ FP B>PV QL J >HB QEB J FPQ>HB LC QEFKHKD QE>Q F J MLOQP >OB ?>A CLO QEB B@LKL J V \*RPQ HBBM FK J FKA QE>Q BSOV KBD>QFSB KR J ?BO FK QEB - QBO J E>P > @L00BPMLKAFKD MLPQf@FSB KR J ?BO FK QEB # LO ) LO ' QBO J >KA QEBV >IT>VP @>K@BI LRQ

## BJ ;4A:8F 5L BAFH@8EF 4A7 <E@F 4A 9986G

6 EBK @LKPR J BOP CBBI J LOB @LKCFAFKQ >?LRQ QEB CRQROB LC QEB B@LKL J V QEBV QBKA QL @LKPR J B J LOB (C ?RPFKBPP @LKCFAFKQ@B FP EFDE QEBK CFO J P QBKA QL PMBKA J LOB LK FKSBPQ J BKQ ?BIFBSFKD QE>Q QEB CRQROB M>VLCC COL J QE>Q FKSBPQ J BKQ TFII ?B PR?PQ>KQF>I "LKSBOBPBIV FC @LKPR J BO LO ?RPFKBPP @LKCFAFKQ@B AOLMP QEBK @LKPR J MQFLK >KA FKSBPQ J BKQ PMBKAFKD AB@IFKB

3EB 4KFSBOPFV LC , F@EFD>K MR?IFPEBP > PROSBV LC @LKPR J BO @LKCFAFKQ@B >KA @LKPQOR@QP >K FKABU LC @LKPR J BO @LKCFAFKQ@B B>@E J LKQE 3EB PROSBV OBPRIQP >OB QEBK OBMLQQA >Q ;GGC J J J F64 <FE H@<6; 87H ;GGC J J J F64 <FE H@<6; 87H TEF@E ?OB>H ALTK QEB @E>KDB FK @LKPR J BO @LKCFAFKQ@B > J LKD AFCCBQFK@L J B IBSBIP @LLOAFKD QL QE>Q FKABU @LKPR J BO @LKCFAFKQ@B >SBO>DBA >OLRKA MOFLO QL QEB &OB>Q 1B@BPPFLK >KA QEBK FQ CBII QL ?BILT FK I>QB TEF@E T>P QEB ILTBQP FQ E>A ?BKB PFK@B 2FK@B QEBK @LKCFAFKQ@B E>P @IF J ?BA COL J > ILT LC ?>@H QL > IBSBI FK QEB ILT P TEF@E B@LKL J FPQ @LKPFABO @ILPB QL > EB>IQEV PQ>QB

3EB .OD>KFW>QFLK CLO \$@LKL J F@ #BSBILM J BKQ >KA "LLMBO>QFLK . \$"# MR?IFPEBP LKB J B>PROB LC ?RPFKBPP @LKCFAFKQ@B QEB ?RPFKBPP QBKABK@V PROSBVP 3EB . \$"# @LIIB@QP ?RPFKBPP LMEKFLK PROSBV A>Q> CLO @LRKQOFB LK CRQROB PBIFKD MOF@BP >KA B J MILV J BKQ > J LKD LQEBQ ?RPFKBPP @IF J >QB BIB J BKQP CQBO PE>OMIV AB@IFKFKD AROFKD QEB &OB>Q 1B@BPPFLK QEB J B>PROB E>P OFPBK >?LSB WBOL >D>FK >KA FP ?>@H QL ILKD QBO J >SBO>DBP QEB FKAFA@>QLO AFMP ?BILT WBOL TEBK ?RPFKBPP LRQILH FP TB>HBO QE>K RPR>I . C @LROBP BFQEBQ LC QEBPB PROSBV J B>PROBP FP KLQ SBOV MOB@FPB 3EBV @>K ELTBSBO PRDDBPQ TEBK @LKCFAFKQ@B FP OFPKD LO C>IIFKD >P TBII >P TEBK FQ FQ OBI>QFSBIV EFDE LO ILT @L J M>OBA QL QEB M>PQ

!B@>RPB B@LKL J FPQP >PPL@F>QB > OFPB FK @LKCFAFKQ@B TFQE EFDEBO @LKPR J MQFLK >KA FKSBPQ J BKQ AB J >KA FQ TFII IB>A QL >K LRQT>OA PEFCQ FK QEB # @ROSB >KA > J LSB LC QEB BNRFF?OFR J COL J \$ QL \$ QL > EFDEBO NR>KQFQV LC LRQMRQ >KA > EFDEBO MOF@B IBSBI >P <:HE8 > PELTP

"LKPR J BO >KA ?RPFKBPP @LKCFAFKQ@B LCQBK OBCIB@Q J>@OLB@LKL J F@ OB>IFQFBP CLO BU> J MIB @LKCFAFKQ@B FP RPR>IIV EFDE TEBK QEB B@LKL J V FP DOLTFKD ?OFPHIV >KA ILT AROFKD >OB@BPPFLK ' LTBSBO B@LKL J F@ @LKCFAFKQ@B @>K PL J BQF J BP OFPB LO C>II CLO OB>PLKP QE>Q AL KLQ E>SB > @ILPB @LKKB@QFLK QL QEB F J J BAF>QB B@LKL J V IFHB > OFPH LC T>O BIB@QFLK OBPRIQP CLOBFDK MLIF@V BSBKQP LO > MBPPF J FPQF@ MOBAF@QFLK >?LRQ QEB CRQROB ?V > MOL J FKBKQ MR?IF@ CFDRQB 4 2 MOBPFABKQP CLO BU> J MIB J RPQ ?B @>OBCRI FK QEBFO MR?IF@ MOLKLRK@B J BKQP >?LRQ QEB B@LKL J V (C QEBV LCCBO B@LKL J F@ MBPPF J FP J QEBV OFPH MOLSLHFKD > AB@IFKB FK @LKCFAFKQ@B QE>Q OBAR@BP @LKPR J MQFLK >KA FKSBPQ J BKQ >KA PEFCQ # QL QEB IBCQ >KA FK > PBIC CRICHIIFKD MOLMEB@V @LKQOF?RQBP QL @>RPFKD QEB OB@BPPFLK QE>Q QEB MOBPFABKQ T>OKBA >D>FKPQ FK QEB CFOPQ MI>@B <:HE8 ? PELTP > PEFCQ LC # QL QEB IBCQ >KA QEB @LOOBPMLKAFKD J LSB J BKQ LC QEB BNRFF?OFR J COL J \$ QL \$ QL > ILTBO NR>KQFQV LC LRQMRQ >KA > ILTBO MOF@B IBSBI

## Link It Up

6fPq QeFp TB?PqB EQqM LMBKp>U@LIIBDB LOD I @LKPR J BO@LKCFA CLO A>Q> LK @LKPR J BO @LKCFAFKQ@B



## Link It Up

6fPq QeFp TB?PqB EQqM LMBKp>U@LIIBDB LOD I ?RPFKBPP@LKCFA CLO A>Q> LK ?RPFKBPP @LKCFAFKQ@B



<:HEB +;96F<A ::E8:468 8@4A7 > ! K FK@0B>PB FK @LKPR J BO @LKCfABK@B LO ?RPFkBPP @LKCfABK@B @>K PEFCQ ! \$ QL QEB OFDEQ COL J ! \$ QL ! \$ 7 EBK ! \$ PEFCQP QL QEB OFDEQ QEB KBT BNRHF?0FR J % THII E>SB > EFDEBO NR>KQFQV LC LRQMRQ >KA >IPL > EFDEBO MOF@B IBSBI @L J M>0BA TFQE QEB LOFDfK>I BNRHF?0FR J % )K QEF BU> J MIB QEB KBT BNRHF?0FR J % FP >IPL @ILPB0 QL MLQBKQF>I ' \$0 ! K FK@0B>PB FK DLSBOK J BKQ PMBKAFKD LO > @RQ FK Q>UBP QE>Q IB>AP QL > OFPB FK @LKPR J BO PMBKAFKD @>K >IPL PEFCQ ! \$ QL QEB OFDEQ ? ! AB@0B>PB FK @LKPR J BO @LKCfABK@B LO ?RPFkBPP @LKCfABK@B @>K PEFCQ ! \$ QL QEB IBCQ COL J ! \$ QL ! \$ 7 EBK ! \$ PEFCQP QL QEB IBCQ QEB KBT BNRHF?0FR J % THII E>SB > ILTBO NR>KQFQV LC LRQMRQ >KA >IPL > ILTBO MOF@B IBSBI @L J M>0BA TFQE QEB LOFDfK>I BNRHF?0FR J % )K QEF BU> J MIB QEB KBT BNRHF?0FR J % FP >IPL C>0QEBO ?BILT MLQBKQF>I ' \$0 ! AB@0B>PB FK DLSBOK J BKQ PMBKAFKD LO EFDEBO Q>UBP QE>Q IB>AP QL > C>II FK @LKPR J BO PMBKAFKD @>K >IPL PEFCQ ! \$ QL QEB IBCQ


### BJ BI8EA@8AG %46EB86BAB@<6 (B?<6L ;B<68F 4A +;96

&LSBOK J BKQ PMBKAFKD FP LKB @L J MLKBKQ LC # 3ERP EFDEBO DLSBOK J BKQ PMBKAFKD TFII @>RPB # QL PEFCQ QL QEB OFDEQ >P FK <:HEB > TEFIB ILTBO DLSBOK J BKQ PMBKAFKD TFII @>RPB # QL PEFCQ QL QEB IBCQ >P FK <:HEB ? %LO BU> J MIB FK QEB 4KFQBA 2Q>QBP DLSBOK J BKQ PMBKAFKD AB@IFKBA ?V LC &# / AROFKD QEB P COL J LC &# / FK >KA QL LC &# / FK ' LTBSBO COL J QL QEB MB>H LC QEB &0B>Q 1B@BPPFLK DLSBOK J BKQ PMBKAFKD FK@0B>PBA COL J LC &# / QL LC &# / (C @E>KDBP LC > CBT MBQ@BKQ>DB MLFKQP LC &# / PBB J P J >II QL VLR OB J B J ?BO QE>Q PFK@B &# / T>P >?LRQ QOFIIFLK FK > PBB J FKDIV P J >II @E>KDB LC LC &# / FP BNR>I QL @ILPB QL ?FIIFLK

3>U MLIF@V @>K >CCB@Q @LKPR J MQFLK >KA FKSBPQ J BKQ PMBKAFKD QLL 3>U @RQP CLO FKAfSFAR>IP TFII QBKA QL FK@0B>PB @LKPR J MQFLK AB J >KA TEFIB Q>U FK@0B>PBP TFII QBKA QL AF J FKfPE FQ 3>U MLIF@V @>K >IPL MR J M RM FKSBPQ J BKQ AB J >KA ?V LCCBOFKD ILTBO Q>U O>QBP CLO @LOMLO>QFLKP LO Q>U OBAR@QFLKP QE>Q ?BKBCFQ PMB@FCF@ HFKAP LC FKSBPQ J BKQ 2EFCQFKD " LO ( TFII PEFCQ QEB # @ROSB >P > TELIB

#ROFKD > OB@BPPFLK TEBK RKB J MILV J BKQ FP EFDE >KA J>KV ?RPFKBPPBP >OB PRCCBOFKD ILT MOLCFQP LO BSBK ILPPBP QEB 4 2 "LKDOBPP LCQBK M>PPBP Q>U @RQP #ROFKD QEB OB@BPPFLK CLO BU>J MIB QEB 4 2 "LKDOBPP BK>@QBA > Q>U @RQ FKQL I>T Q PR@E QF J BP QEB MLIFQF@>I OEBQLOF@ LCQBK CL@RPPBP LK ELT MBLMIB BUMBOFBK@FKD E>0A QF J BP KBBA OBIFBC COL J Q>UBP 3EB >DD0BD>QB PRMMIV >KA >DD0BD>QB AB J >KA CO> J BTLOH ELTBSBO LCCBOP > @L J MIB J BKQ>OV O>QFLK>IB >P <:HEB FIIRPQO>QBP 3EB LOFDK>I BNRFF?OFR J AROFKD > OB@BPPFLK FP >Q MLFKQ \$ OBI>QFSBIV C>0 COL J QEB CRII B J MILV J BKQ IBSBI LC LRQMRQ 3EB Q>U @RQ ?V FK@OB>PFKD @LKPR J MQFLK PEFQO QEB # @ROSB QL QEB OFDEQ Q QEB KBT BNRFF?OFR J \$ OB>I &# / OFPBP >KA RKB J MILV J BKQ C>IIP >KA ?B@>RPB FK QEFP AF>DO>J QEB B@LKL J V E>P KLQ VBQ OB>@EBA FQP MLQBKQF>I LO CRII B J MILV J BKQ IBSBI LC &# / >KV OFPBP FK QEB MOF@B IBSBI OB J >FKP J RQBA 1B>A QEB CLIIITFKD "IB>0 (Q 4M CB>QROB QL @LKPFAO QEB NRBPFQFLK LC TEBQEBO B@LKL J FPQP C>SLO Q>U @RQP LO LMMLPB QEB J

<:HEB \*86FFBA 4A7 H?? @C?BL@8AG <A G;8 + %B78? 7 EBQEBO QEB B@LKL J V FP FK > OB@BPPFLK FP FIIRPQO>QBA FK QEB ! \$ ! 3 J LABI ?V ELT @ILPB QEB BNRFF?OFR J FP QL QEB MLQBKQF>I ' \$ O IFKB >P FKA?@>QBA ?V QEB SBOQF@>I , 2 ! 3 IFKB )K QEFP BU>J MIB QEB IBSBI LC LRQMRQ 9 >Q QEB BNRFF?OFR J % FP OBI>QFSBIV C>0 COL J QEB MLQBKQF>I ' \$ O IFKB PL FQ @>K OBMOBPBKQ >K B@LKL J V FK OB@BPPFLK TBII ?BILT QEB CRII B J MILV J BKQ IBSBI LC ' \$ O )K @LKO>PQ QEB IBSBI LC LRQMRQ 9 >Q QEB BNRFF?OFR J % FP OBI>QFSBIV @ILPB QL MLQBKQF>I ' \$ O >KA PL FQ TLRIA OBMOBPBKQ >K B@LKL J V TFQE > ILTBO RKB J MILV J BKQ O>QB



# Clear It Up

## B 86BAB@<FGF 94 I BE G4K 6HGF BE BCCBF8 G; 8@

/ KB LC QEB J LPQ CRKA> J BKQ>I AFSFPFLKP FK ! J BOF@>K MLIFQF@P LSBO QEB I>PQ CBT AB@>ABP E>P ?BBK ?BQTBBK QELPB TEL ?BIFBSB QE>Q QEB DLSBOK J BKQ PELRIA @RQ Q>UBP PR?PQ>KQF>IIV >KA QELPB TEL AFP>DOBB 2LK>IA 2B>D>K OLAB FKQL QEB MOBPFABK@V FK M>OQIV ?B@>RPB LC EFP MOL J FPB PLLK @>OOFBA LRQ QL BK>@Q > PR?PQ>KQF>I Q>U @RQ ' BLODB "RPE ILPQ EFP ?FA CLO OBBIB@QFLK >D>FKPQ "FII #IFKQLK FK M>OQIV ?B@>RPB EB E>A ?OLHBK EFP MOL J FPB b2B>A J V IFMP .L KBT Q>UBP c )K QEB MOBPFABKQF>I BIB@QFLK ?LQE ' BLODB 7 "RPE >KA !! ' LOB >ASL@>QBA PR?PQ>KQF>I Q>U @RQP >KA "RPE PR@BBABA FK MRPEFKD > Q>U @RQ M>H>DB QEOLRDE #LKDOBPP B>OIV FK - LOB OB@BKQIV FK \$LK>IA 4OR J M E>P MRPEBA CLO Q>U @RQP QL PQF J RI>QB QEB B@LKL J V \$FPMRQBP LSBO Q>U @RQP LCQBK FDKQFB >Q QEB Pq>QB >KA IL@>I IBSBI >P TBII

7 E>Q PFAB AL B@LKL J FPQP Q>HB \$L QEBV PRMMLQ ?OL>A Q>U @RQP LO LMMLPB QEB J 4EB >KPTBO RKP>QFPCVFKD QL WB>ILQP LK ?LQE PFABP FP QE>Q FQ ABMBKAP / KB FPPRB FP TEBQEBO BNR>IIV I>ODB DLSBOK J BKQ PMBKA?KD @RQP >@>L J M>KV QEB Q>U @RQP %@LKL J FPQP AFCCBO >P ALBP >KV ?OL>A @OLPP PB@QFLK LC QEB MR?IF@ LK ELT I>ODB DLSBOK J BKQ PMBKA?KD PELRIA ?B >KA TE>Q MOLDO>J P QEB DLSBOK J BKQ J FDEQ @RQ ?>@H ! PB@LKA FPPRB J LOB

OBIBS>KQ QL QEB AFP@RPPFLK FK QEFP @E>M0B0 @LK@B0KP ELT @ILPB QEB B@LKL J V FP QL QEB CRII B J MILV J BKQ LRQMRQ  
IBSBI JK > OB@BPPFLK TEBK QEB ! \$ >KA ! 3 @ROSBP FKQB0PB@Q C>0 ?BILT QEB CRII B J MILV J BKQ IBSBI Q>U @RQP @>K  
J>HB PBKPB >P > T>V LC PEFCQFKD ! \$ QL QEB OFDEQ ( LTBSBO TEBK QEB B@LKL J V FP >IOB>AV MBOCLO J FKD BUQ0B J BIV  
TBII Q>U @RQP J>V PEFCQ ! \$ PL C>0 QL QEB OFDEQ >P QL DBKBO>QB FKCI>QFLK>0V MOBPPROBP TFQE IFQIB D>FK QL ' \$ 0  
7 FQE QEB ! \$ ! 3 CO>JBTLOH FK JFKA J>KV B@LKL J FQP J FDEQ OB>AFIV ?BIFBSB QE>Q QEB 2B>D>K Q>U @RQP  
TEF@E QLLH BCCB@Q GRPQ >QBO QTL PBOFLRP OB@BPPFLK TB0B ?BKBCF@F>I B@LKL J F@ MLIF@V 3FJFI>0IV #LKD0BPP  
BK>@QBA QEB "RPE Q>U @RQP >KA QEB / ?>J> Q>U @RQP AROFKD OB@BPPFLK ( LTBSBO PL J B LC QEB P>J B  
B@LKL J FQP TEL C>SLO Q>U @RQP AROFKD OB@BPPFLK TLRIA ?B J R@E J LOB AR?FLRP >?LRQ FABKQF>I Q>U @RQP >Q >  
QF J B QEB B@LKL J V FP MBOCLO J FKD TBII >KA @V@F@>I RKB J MILV J BKQ FP ILT

&LSBOK J BKQ PMBKAFKD >KA Q>U 0>QB @E>KDBP @>K ?B RPBARI QLLIP QL >CCB@Q >DDOBD>QB AB J >KA 6B TFII AFP@RPP QEBPB  
FK DOB>QBO ABQ>FI FK QEB B18EA@8AG H7:8GF 4A7 <F64? (B?6L @E>M0B0 >KA , ; 8 !@C46GF B9 B18EA@8AG  
BEEBJ<A: . QEB0 MLIF@V QLLIP @>K PEFCQ QEB >DDOBD>QB AB J >KA @ROSB >P TBII %LO BU>J MIB >P TB TFII AFP@RP FK  
QEB %BA8G4EL (B?6L 4A7 4A> \*8:H?4G<BA @E>M0B0 QEB %BABO>I 1BPB0SB @>K >CCB@Q FKQB0BPQ 0>QBP >KA @OBAFQ  
>S>FI>?FIFQV ' FDEBO FKQB0BPQ 0>QBP QBKA QL AFP@LR0>DB ?LOOLTFKD >KA QERP OBAR@B ?LQE ELRPBELIA PMBKAFKD LK ?FD  
QF@HBQ FQB J P IFHB ELRPBP >KA @>OP >KA FKSBBPQ J BKQ PMBKAFKD ?V ?RPFKBPP "LKSBBPBIV ILTBO FKQB0BPQ 0>QBP TFII PQF J RI>QB  
@LKP R J MQFLK >KA FKSBBPQ J BKQ AB J >KA (KQB0BPQ 0>QBP @>K >IPL >CCB@Q BU@E>KDB 0>QBP TEF@E FK QROK TFII E>SB BCCB@Q LK  
QEB BUMLOQ >KA F J MLOQ @L J MLKKBKQP LC >DDOBD>QB AB J >KA

"I>OFCVFKD QEB ABQ>FIP LC QEBPB >IQBOK>QFSB MLIF@FBP >KA ELT QEBV >CCB@Q QEB @L J MLKKBKQP LC >DDOBD>QB AB J >KA @>K T>FQ  
CLO , ; 8 #8LA8F<4A (8EFC86G<18 @E>M0B0 ' BOB QEB HBV IBPPLK FP QE>Q > PEFCQ LC QEB >DDOBD>QB AB J >KA @ROSB QL QEB  
OFDEQ IB>AP QL > DOB>QBO OB>I &# / >KA QL RMT>0A MOBPPROB LK QEB MOF@B IBSBI "LKSBBPBIV > PEFCQ LC >DDOBD>QB AB J >KA  
QL QEB IBCQ IB>AP QL > ILTBO OB>I &# / >KA > ILTBO MOF@B IBSBI 6 EBQEBO QEBPB @E>KDBP FK LRQMRQ >KA MOF@B IBSBI >OB  
OBI>QFSBIV I>ODB LO OBI>QFSBIV P J >II >KA ELT QEB @E>KDB FK BNRFFI?OFR J OBI>QBP QL MLQBKQF>I &# / ABMBKAP LK TEBQEBO  
QEB PEFCQ FK QEB # @ROSB FP E>MMBKFKD FK QEB 2 @ROSB P OBI>QFSBIV CI>Q LO OBI>QFSBIV PQBBM MLOQFLK

# N BJ G ; 8 + %B78? !A6BECBE4G8F EB J G ; - A8@C?BL@8AG 4A7 !A9?4G<BA

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d 4PB QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI QL PELT MBOFLAP LC B@LKL J F@ DOLTQE >KA  
OB@BPPFLK
- d \$UMI>FK ELT RKB J MILV J BKQ >KA FKCI>QFLK F J M>@Q QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI
- d \$S>IR>QB QEB F J MLOQ>K@B LC QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI

3EB # 2 J LABI @>K @LKSBBV > KR J ?BO LC FKQB0IL@HFKD OBI>QFLKPEFMP ?BQTBBK QEB QE0BB J >@OLB@LKL J F@ DL>IP LC  
DOLTQE RKB J MILV J BKQ >KA ILT FKCI>QFLK , LOBLSBO QEB # 2 CO>JBTLOH FP CIBUF?IB BKL RDE QL >@@L J J LA>QB ?LQE  
QEB \*BVKBpd I>T >MMOL>@E QE>Q CL@RPBP LK >DDOBD>QB AB J >KA >KA QEB PELOQ ORK TEFIB >IPL FK@IRAFKD QEB 2>VdP I>T  
>MMOL>@E QE>Q CL@RPBP LK >DDOBD>QB PRMMIV >KA QEB ILKD ORK 3EBPB >AS>KQ>DBP >OB @LKPFAO>?IB \$SBOV J LABI FP >  
PF J MIFCBA SBOPFLK LC QEB ABBMBO OB>IFQV >KA FK QEB @LKBQUQ LC QEB # 2 J LABI QEB QE0BB J >@OLB@LKL J F@ DL>IP >OFPB  
FK T>VP QE>Q >OB PL J BQF J BP FKAFOB@Q LO FK@L J MIBQB (K QEFP J LARIB TB @LKPFAO ELT QEB # 2 J LABI FIIRPQ>QBP QEB  
QE0BB J >@OLB@LKL J F@ DL>IP LC B@LKL J F@ DOLTQE ILT RKB J MILV J BKQ >KA ILT FKCI>QFLK

## EB J G ; 4A7 \*868FF<BA <A G ; 8 + <4:E4@

(K QEB # 2 AF>DO> J ILKD ORK B@LKL J F@ DOLTQE ARB QL MOLAR@QFSFQV FK@OB>PBP LSB0 QF J B TFII ?B OBM0BPBKQBA ?V >  
DO>AR>I PEFCQ QL QEB OFDEQ LC >DDOBD>QB PRMMIV 3EB SBOQF>I IFKB OBM0BPBKQFKD MLQBKQF>I &# / LO QEB eCRII B J MILV J BKQ  
IBSBI LC &# / f TFII DO>AR>IIV PEFCQ QL QEB OFDEQ LSB0 QF J B >P TBII \$>OIFBO <:HEB > PELTBA > M>QQBOK LC  
B@LKL J F@ DOLTQE LSB0 QE0BB VB>OP TFQE QEB 2 @ROSB PEFCQFKD PIFDEQIV LRQ QL QEB OFDEQ B>@E VB>O ' LTBSBO QEB C>@QLOP  
QE>Q ABQBO J FKB QEB PMBBA LC QEFP ILKD QBO J B@LKL J F@ DOLTQE 0>QB B IFHB FKSBBPQ J BKQ FK MEVVPF>I >KA ER J >K @>MF>I  
QB@EKLILDV >KA TEBQEBO >K B@LKL J V @>K Q>HB >AS>KQ>DB LC @>Q@E RM DOLTQE b AL KLQ >MMB>O AFOB@QIV FK QEB # 2  
AF>DO> J

(K QEB PELOQ ORK &# / C>IIP >KA OFPBP FK BSB0V B@LKL J V >P QEB B@LKL J V AFMP FKQL OB@BPPFLK LO BUM>KAP LRQ LC OB@BPPFLK

3EB # 2 AF>D0>J FIIRPQ0>QBP OB@BPPFLKP TEBK QEB BNRFFI?OFR J IBSBI LC OB>I &# / FP PR?PQ>KQF>IIV ?BILT MLQBKQF>I &# / >P TB PBB >Q QEB BNRFFI?OFR J MLFKQ \$ FK <:HEB %0L J >KLQEB0 PQ>KAMLFKQ FK VB>OP LC OBPRODBKQ B@LKL J F@ DOLTQE QEB BNRFFI?OFR J TFI QVMF@>IIV ?B @ILPB QL MLQBKQF>I &# / >P BNRFFI?OFR J MLFKQ \$ FK QE>Q B>OIFBO CFDROB PELTP

-A8@C?BL@8AG <A G ; 8 + <4 : E4@

6B ABP@QF?BA QTL QVMBP LC RKB J MILV J BKQ FK QEB -A8@C?BL@8AG @E>M@B0 2ELOQ ORK S>OF>QFLKP FK RKB J MILV J BKQ @V@IF@>I RKB J MILV J BKQ >OB @>RPBA ?V QEB ?RPFKBPP @V@IB >P QEB B@LKL J V BUM>KAP >KA @LKO>@QP . SBO QEB ILKD ORK FK QEB 4KFQBA 2Q>QBP QEB RKB J MILV J BKQ 0>QB QVMF@>IIV ELSBOP >OLRKA DFSB LO Q>HB LKB MBO@BKQ>DB MLFKQ LO PL TEBK QEB B@LKL J V FP EB>IQEV (K J >KV LC QEB K>QFLK>I B@LKL J FBP >@OLPP \$R0LMB QEB RKB J MILV J BKQ 0>QB FK OB@BKQ AB@>ABP E>P LKIV AOLMBA QL >?LRQ LO > ?FQ ILTBO BSBK FK DLLA B@LKL J F@ VB>OP 6B @>II QEFP ?>PBIFKB IBSBI LC RKB J MILV J BKQ QE>Q L@>ROP VB>O FK >KA VB>O LRQ QEB K>QRO>I 0>QB LC RKB J MILV J BKQ >KA TB ABQBO J FKB FQ ?V ELT TBII QEB PQOR@QROBP LC J >OHBQ >KA DLSBOK J BKQ FKPQFQRFLKP FK QEB B@LKL J V IB>A QL > J >Q@EFKD LC TLOHBOP >KA B J MILVBOP FK QEB I>?LO J >OHBQ /LQBKQF>I &# / @>K F J MIV AFCCB0BKQ RKB J MILV J BKQ 0>QBP FK AFCCB0BKQ B@LKL J FBP ABMBKAFKD LK QEB K>QRO>I 0>QB LC RKB J MILV J BKQ CLO QE>Q B@LKL J V

3EB # 2 AF>D0>J PELTP @V@IF@>I RKB J MILV J BKQ ?V ELT @ILPB QEB B@LKL J V FP QL QEB MLQBKQF>I LO CRII &# / B J MILV J BKQ IBSBI 1BQROKFKD QL <:HEB OBI>QFSBIV ILT @V@IF@>I RKB J MILV J BKQ CLO >K B@LKL J V L@>ROP TEBK QEB IBSBI LC LRQMRQ FP @ILPB QL MLQBKQF>I &# / >P FK QEB BNRFFI?OFR J MLFKQ \$ "LKS0BPBIV EFDE @V@IF@>I RKB J MILV J BKQ >OFPBP TEBK QEB LRQMRQ FP PR?PQ>KQF>IIV QL QEB IBCQ LC MLQBKQF>I &# / LK QEB # 2 AF>D0>J >P >Q QEB BNRFFI?OFR J MLFKQ \$ IQELRDE TB AL KLQ PELT QEB C>@QLOP QE>Q ABQBO J FKB QEB K>QRO>I 0>QB LC RKB J MILV J BKQ PBM>0>QIV FK QEB # 2 J LABI QEBV >OB F J MIF@FQIV M>OQ LC TE>Q ABQBO J FKBP MLQBKQF>I &# / LO CRII B J MILV J BKQ &# / FK > DFSBK B@LKL J V

!A9?4G<BA4EL (E8FFHE8F <A G ; 8 + <4 : E4@

(KCI>QFLK CIR@QR>QBP FK QEB PELOQ ORK ' FDEBO FKCI>QFLK 0>QBP E>SB QVMF@>IIV L@>R00BA BFQEB0 AROFKD LO GRPQ >CQBO B@LKL J F@ ?LL J P CLO BU>J MIB QEB ?FDDBPQ PMROQP LC FKCI>QFLK FK QEB 4 2 B@LKL J V AROFKD QEB QTBKQFBQE @BKQROV CLILTBQA QEB T>OQF J B ?LL J P LC 6LOIA 6>0 ( >KA 6LOIA 6>0 (( "LKS0BPBIV 0>QBP LC FKCI>QFLK DBKBO>IIV AB@IFKB AROFKD OB@BPPFLKP P >K BUQOB J B BU>J MIB FKCI>QFLK >@QR>IIV ?B@>J B KBD>QFSB b > PFQR>QFLK @>IIBA eABCI>QFLK f b AROFKD QEB &OB>Q #BMOBPPFLK \$SBK AROFKD QEB OBI>QFSBIV PELOQ OB@BPPFLK QEB FKCI>QFLK 0>QB AB@IFKBA COL J FK QL FK #ROFKD QEB OBI>QFSBIV PELOQ OB@BPPFLK QEB 0>QB LC FKCI>QFLK AB@IFKBA COL J FK QL FK #ROFKD QEB ABBM OB@BPPFLK LC a QEB FKCI>QFLK 0>QB AB@IFKBA COL J FK QL a FK 2L J B @LRKQOFBP E>SB BUMBOFBK@BA ?LRQP LC EFDE FKCI>QFLK QE>Q I>PQBA CLO VB>OP (K QEB 4 2 B@LKL J V PFK@B QEB J FAa P FKCI>QFLK ALBP KLQ PBB J QL E>SB E>A >KV ILKD QBO J QOBKA QL ?B PR?PQ>KQF>IIV EFDEBO (KPQB>A FQ E>P PQ>VBA FK QEB a 0>KDB >KKR>IIV

3EB # 2 C0>J BTLOH F J MIFBP QTL T>VP QE>Q FKCI>QFLK>OV MOBPPROBP J >V >OFPB . KB MLPPF?IB QOFDDBO FP FC >DDOBD>QB AB J >KA @LQFKRBP QL PEFCQ QL QEB OFDEQ TEBK QEB B@LKL J V FP >IOB>AV >Q LO KB>O MLQBKQF>I &# / >KA CRII B J MILV J BKQ QERP MRPEFKD QEB J >@OLB@LKL J F@ BNRFFI?OFR J FKQL QEB 2 @ROSB P PQBBM MLOQFLK (K <:HEB > QEB0B FP > PEFCQ LC >DDOBD>QB AB J >KA QL QEB OFDEQ 3EB KBT BNRFFI?OFR J \$ FP @IB>OIV >Q > EFDEBO MOF@B IBSBI QE>K QEB LOFDKF>I BNRFFI?OFR J \$ (K QEFP PFQR>QFLK QEB >DDOBD>QB AB J >KA FK QEB B@LKL J V E>P PL>OBA PL EFDE QE>Q CFO J P FK QEB B@LKL J V >OB KLQ @>M>?IB LC MOLAR@FKD >AAFQFLK>I DLLAP ?B@>RPB I>?LO >KA MEVPE@>I @>MFQ>I >OB CRIIV B J MILVBA >KA PL >AAFQFLK>I FK@OB>PBP FK >DDOBD>QB AB J >KA @>K LKIV OBPRIQ FK >OFPB FK QEB MOF@B IBSBI

<:HE8 +BHE68F B9 !A9?4G<BA4EL (E8FFHE8 <A G ;8 + %B78? > ! PEFCQ FK >DD0BD>QB AB J>KA COL J ! \$ QL ! \$ TEBK FQ E>MMBKP FK QEB >OB> LC QEB 3 2 ! 3 @ROSB QE>Q FP KB>O MLQBKQF>I ' \$ O T FII IB>A QL > EFDEBO MOF@B IBSBI >KA QL MOBPPROB CLO > EFDEBO MOF@B IBSBI >KA FKCI>QLK 4EB KBT BNRHF?OFR J % FP >Q > EFDEBO MOF@B IBSBI O QE>K QEB LOFDK>I BNRHF?OFR J ? ! PEFCQ FK >DD0BD>QB PRMMIV COL J 3 2 ! 3 QL 3 2 ! 3 T FII IB>A QL > ILTBO OB>I ' \$ O >KA QL MOBPPROB CLO > EFDEBO MOF@B IBSBI >KA FKCI>QLK 4EB KBT BNRHF?OFR J % FP >Q > EFDEBO MOF@B IBSBI O T FII QEB LOFDK>I BNRHF?OFR J % FP >Q QEB ILTBO MOF@B IBSBI O

K >IQBOK>QFSB PLRO@B LC FKCI>QLK>OV MOBPPROBP @>K L@RO ARB QL > OFPB FK FKMRQ MOF@BP QE>Q >CCB@QP J >KV LO J LPQ CFO J P >@OLPP QEB B@LKL J V b MBOE>MP >K F J MLOQ>KQ FKMRQ QL MOLAR@QLK IFHB LFI LO I>?LO b >KA @>RPBP QEB >DD0BD>QB PRMMIV @ROSB QL PEFCQ ?>@H QL QEB IBCQ (K <:HE8 ? QEB 2 1 2 @ROSB P PEFCQ QL QEB IBCQ >IPL FK@OB>PBP QEB MOF@B IBSBI COL J / >Q QEB LOFDK>I BNRHF?OFR J \$ QL > EFDEBO MOF@B IBSBI LC / >Q QEB KBT BNRHF?OFR J \$ (K BCCB@Q QEB OFPB FK FKMRQ MOF@BP BKAP RM >CQBO QEB CFK>I LRQMRQ FP MOLAR@BA >KA PLIA M>PPFKD >ILKD FK QEB CLO J LC > EFDEBO MOF@B IBSBI CLO LRQMRQ

3EB # 2 AF>DO>J PELTP LKIV > LKB QF J B PEFCQ FK QEB MOF@B IBSBI (Q ALBP KLQ >AAOBPP QEB NRBQFLK LC TE>Q TLRIA @>RPB FKCI>QLK BFQEBO QL S>KFPE >CQBO > VB>O LO QL PRPQ>FK FQPBC CLO PBSBO>I VB>OP 3EBOB >OB QTL BUMI>K>QLKP CLO TEV FKCI>QLK J >V MBOPFPQ LSBO QF J B . KB T>V QE>Q @LQFKR>I FKCI>QLK>OV MOF@B FK@OB>PBP @>K L@RO FP FC QEB DLSBOK J BKQ @LQFKR>IIV >QB J MQP QL PQF J RI>QB >DD0BD>QB AB J >KA FK > T>V QE>Q HBBMP MRPEFKD QEB # @ROSB TEBK FQ FP >IOB>AV FK QEB 2 1 2 @ROSB P PQBBM MLOQLK PB@LKA MLPPF?FIFV FP QE>Q FC FKCI>QLK E>P ?BBK L@ROOFKD CLO PBSBO>I VB>OP MBLMIB J FDEQ ?BDFK QL BUMB@Q > @BOQ>FK IBSBI LC FKCI>QLK (C QEBV AL QEBK QEBPB BUMB@Q>QLKP T FII @>RPB MOF@BP T>DBP >KA FKQBOBPQ O>QBP QL FK@OB>PB >KKR>IIV ?V QEB > J LRKQ LC QEB FKCI>QLK BUMB@QBA 3EBPB QTL OB>PLKP >OB FKQBOBI>QBA ?B@>RPB FC > DLSBOK J BKQ CLPQBOP > J >@OLB@LKL J F@ BKSFOFK J BKQ TFQE FKCI>QLK>OV MOBPPROBP QEBK MBLMIB T FII DOLT QL BUMB@Q FKCI>QLK ' LTBSSO QEB # 2 AF>DO>J ALBP KLQ PELT QEBPB M>QQBOKP LC LKDLFKD LO BUMB@QBA FKCI>QLK FK > AFOB@Q T>V

!@CBEG4A68 B9 G ;8 ::E8:4G8 8@4A7 ::E8:4G8 +HCC?L %B78?

, >@OLB@LKL J F@P Q>HBP >K LSBO>II SFBT LC QEB B@LKL J V TEF@E J B>KP QE>Q FQ KBBAP QL GRDDIB J >KV AFCCBOBKQ @LK@BMQP %LO BU>J MIB PQ>OQ TFQE QEB QEobb J >@OLB@LKL J F@ DL>IP LC DOLTQE ILT FKCI>QLK >KA ILT RKB J MILV J BKQ DD0BD>QB AB J >KA E>P CLRO BIB J BKQP @LKP R J MQFLK FKSBPQ J BKQ DLSBOK J BKQ PMBKAFK >KA BUMLOQP IBPP F J MLOQP DD0BD>QB PRMMIV OBSB>IP ELT ?RPFKBPPBP QEOLRDELRLQ QEB B@LKL J V T FII OB>@Q QL > EFDEBO MOF@B IBSBI CLO LRQMRQ %FK>IIV > TFAB >O>V LC B@LKL J F@ BSBKQP >KA MLIF@V AB@FPFLKP @>K >CCB@Q >DD0BD>QB AB J >KA >KA >DD0BD>QB PRMMIV FK@IRAFKD DLSBOK J BKQ >U >KA PMBKAFK AB@FPFLKP @LKP J BO >KA ?RPFKBPP @LKFABK@B @E>KDBP FK MOF@BP LC HBV FKMRQ IFHB LFI >KA QB@EKLILDV QE>Q ?OFKDP EFDEBO IBSBIP LC MOLAR@QFSFQV

3EB >DD0BD>QB AB J >KA >DD0BD>QB PRMMIV J LABI FP LKB LC QEB CRKA> J BKQ>I AF>DO>J P FK QEF @LROPB IFHB QEB ?RADBQ @LKPQ>FKQ AF>DO>J QE>Q TB FKQOLAR@BA FK QEB ;B<68 <A 4 / BE?7 B9 +64E6<GL @E>MQBO >KA QEB PRMMIV >KA AB J >KA



#E>M@B0 X 4EB !DD0BD>QB \$B J>KA !DD0BD>QB 3RMMIV - LABI

AF>D0> J FK QEB 8@4A7 4A7 +HCC?L @E>M@B0 ?B@>RPB FQ MOLSFABP >K LSBO>II CO> J BTLOH CLO ?OFKDFKD QEBPB C>@QLOP  
QLDBQEBO FK LKB AF>D0> J 2L J B SBOPFLK LC QEB # 2 J LABI TFII >MMB>0 FK BSOV @E>M@B0 FK QEB OBPQ LC QEFP ?LLH

## N #8LA8FR \$4J 4A7 +4LRF \$4J <A G;8 + %B78?

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

d (ABKQFCV QEB KBL@I>PPF@>I WLKB QEB FKQBO J BAF>QB WLKB >KA QEB \*BVKBPF>K WLKB FK QEB >DD0BD>QB  
AB J >KA >DD0BD>QB PRMMIV J LABI

d 4PB >K >DD0BD>QB AB J >KA >DD0BD>QB PRMMIV J LABI >P > AF>DKLPQF@ QBPQ QL RKABOPQ>KA QEB @ROOBKQ PQ>QB  
LC QEB B@LKL J V

6B @>K RPB QEB # 2 J LABI QL FIIRPQO>QB ?LQE 2>V@P I>T QE>Q PRMMIV @OB>QBP FQP LTK AB J >KA >KA \*BVKBPF I>T QE>Q  
AB J >KA @OB>QBP FQP LTK PRMMIV "LKPFAO QEB 21 2 @ROSB P QEORB WLKB TEF@E <:HEB FABKQCFBP QEB \*BVKBPF>K  
WLKB QEB KBL@I>PPF@>I WLKB >KA QEB FKQBO J BAF>QB WLKB

<:HEB #8LA8F &8B6?4FF<64? 4A7 !A68E@87<468 2BA8F <A G;8 ::E8:468 +HCC?L HEI8 . B>0 QEB  
BNRFIF?OFR J %H FK QEB +BVKBPF>K WLKB >Q QEB C>0 IBCQ LC QEB 32 ! 3 @ROSB P J>II PEFQCP FK ! \$ BFQEBO QL QEB OFDEQ LO QEB  
IBCQ TFII >CCB@Q QEB LRQMRQ IBSBI 9H ?RQ TFII KLQ JR@E >CCB@Q QEB MOF@B IBSBI )K QEB +BVKBPF>K WLKB ! \$ I>0DBIV  
ABQBO J FKBP QEB NR>KQFQV LC LRQMRQ . B>0 QEB BNRFIF?OFR J %K FK QEB KBL@I>PPF@>I WLKB >Q QEB 32 ! 3 @ROSB P C>0 OFDEQ  
P J>II PEFQCP FK ! \$ BFQEBO QL QEB OFDEQ LO QEB IBCQ TFII E>SB OBI>QFSBIV IFQIB BCCB@Q LK QEB LRQMRQ IBSBI 9K ?RQ FKPBQ>A TFII  
E>SB > DOB>QBO BCCB@Q LK QEB MOF@B IBSBI )K QEB KBL@I>PPF@>I WLKB QEB KB>0 SBOQF@>I 32 ! 3 @ROSB @ILPB QL QEB IBSBI LC  
MLQBKQF>I ' \$ O I>0DBIV ABQBO J FKBP QEB NR>KQFQV LC LRQMRQ )K QEB FKQBO J BAF>QB WLKB >0LRKA BNRFIF?OFR J %F J LSB J BKQ FK  
! \$ QL QEB OFDEQ TFII FK@OB>PB ?LQE QEB LRQMRQ IBSBI >KA QEB MOF@B IBSBI TEFH > J LSB J BKQ FK ! \$ QL QEB IBCQ TLRIA  
AB@OB>PB ?LQE QEB LRQMRQ IBSBI >KA QEB MOF@B IBSBI

%L@RP CFOPQ LK QEB **Keynesian zone** QE>Q MLOQFLK LC QEB 21 2 @ROSB LK QEB C>0 IBCQ TEF@E FP OBI>QFSBIV CI>Q (C QEB  
# @ROSB @OLPPBP QEFP MLOQFLK LC QEB 21 2 @ROSB >Q >K BNRFIF?OFR J MLFKQ IFHB \$H QEBK @BOQ>FK PQ>QB J BKQP >?LRQ QEB  
B@LKL J F@ PFQR>QFLK TFII CLIIILT (K QEB \*BVKBPF>K WLKB QEB BNRFIF?OFR J IBSBI LC OB>I &# / FP C>0 ?BILT MLQBKQF>I &# /  
QEB B@LKL J V FP FK OB@BPPFLK >KA @V@IF@>I RKB J MILV J BKQ FP EFDE (C >DD0BD>QB AB J >KA PEFQBA QL QEB OFDEQ LO IBCQ FK QEB  
\*BVKBPF>K WLKB FQ TFII ABQBO J FKBP QEB OBPRIQFKD IBSBI LC LRQMRQ >KA QERP RKB J MILV J BKQ ' L TBSBO FKCI>QFLK>OV MOF@B  
MOBPPROB FP KLQ JR@E LC > TLOOV FK QEB \*BVKBPF>K WLKB PFK@B QEB MOF@B IBSBI ALBP KLQ S>OV JR@E FK QEFP WLKB

- L T CL@RP VLRO >Q@BQFLK LK QEB **neoclassical zone** LC QEB 21 2 @ROSB TEF@E FP QEB KB>0 SBOQF@>I MLOQFLK LK QEB OFDEQ  
E>KA PFAB (C QEB # @ROSB @OLPPBP QEFP MLOQFLK LC QEB 21 2 @ROSB >Q >K BNRFIF?OFR J MLFKQ IFHB \$K TEBOB LRQMRQ FP  
>Q LO KB>0 MLQBKQF>I &# / QEBK QEB PFWB LC MLQBKQF>I &# / MOBQV JR@E ABQBO J FKBP QEB IBSBI LC LRQMRQ FK QEB B@LKL J V

2FK@B QEB BNRIF?OFR J FP KB>0 MLQBKF>I &# / @V@IF@>I RKB J MILV J BKQ FP ILT FK QEFP B@LKL J V >IQELRDE PQOR@QRO>I RKB J MILV J BKQ J >V OB J >FK >K FPPRB (K QEB KBL@I>PPF@>I WLKB PEFCQP LC >DD0BD>QB AB J >KA QL QEB OFDEQ LO QEB IBCQ E>SB IFQQIB BCCB@Q LK QEB IBSBI LC LRQMRQ LO B J MILV J BKQ 3EB LKIV T>V QL FK@OB>PB QEB PFWB LC QEB OB>I &# / FK QEB KBL@I>PPF@>I WLKB FP CLO 2 QL PEFCQ QL QEB OFDEQ ' LTBSBO PEFCQP FK # FK QEB KBL@I>PPF@>I WLKB TFII @OB>QB MOBPPROBP QL @E>KDB QEB MOF@B IBSBI

%K>IIV @LKPFABO QEB 21 2 @ROSB P **intermediate zone** FK <:HE8 (C QEB # @ROSB @OLPPBP QEFP MLOQFLK LC QEB 21 2 @ROSB >Q >K BNRIF?OFR J MLFKQ IFHB \$F QEBK TB J FDEQ BUMB@Q RKB J MILV J BKQ >KA FKCI>QFLK QL J LSB FK LMMLPKD AFOB@QFLK %LO FKPQ>K@B > PEFCQ LC # QL QEB OFDEQ TFII J LSB LRQMRQ @ILPBO QL MLQBKF>I &# / >KA QERP OBAR@B RKB J MILV J BKQ ?RQ TFII >IPL IB>A QL > EFDEBO MOF@B IBSBI >KA RMT>0A MOBPPROB LK FKCI>QFLK "LKSOPBIV > PEFCQ LC # QL QEB IBCQ TFII J LSB LRQMRQ CROQEBO COL J MLQBKF>I &# / >KA 0>FPB RKB J MILV J BKQ ?RQ TFII >IPL IB>A QL > ILTBO MOF@B IBSBI >KA ALTKT>0A MOBPPROB LK FKCI>QFLK

3EFP >MMOL>@E LC AFSFAFKD QEB 21 2 @ROSB FKQL AFCCBOBKQ WLKBP TLOHP >P > AF>DKLPQF@ QBPQ QE>Q TB @>K >MMIV QL >K B@LKL J V IFHB > AL@QLO @EB@HFKD > M>QFBKQ CLO PV J MQL J P %FOPQ CFDRQB LRQ FK TE>Q WLKB QEB B@LKL J V FP 3EFP TFII @I>OFCV QEB B@LKL J F@P FPPRBP QO>ABLCCP >KA MLIF@V @ELF@BP 2L J B B@LKL J FPQP ?BIFBSB QE>Q QEB B@LKL J V FP PQOLKDIV MOBAFPLPBA QL ?B FK LKB WLKB LO >KLQEBO 3ERP E>0A IFKB \*BVKBP>K B@LKL J FPQP ?BIFBSB QE>Q QEB B@LKL J FBP >OB FK QEB \*BVKBP>K WLKB J LPQ LC QEB QF J B >KA PL QEBV SFBT QEB KBL@I>PPF@>I WLKB >P > QEBLOBQF@>I >?PQO>@QFLK "LKSOPBIV E>0A IFKB KBL@I>PPF@>I B@LKL J FPQP >ODRB QE>Q B@LKL J FBP >OB FK QEB KBL@I>PPF@>I WLKB J LPQ LC QEB QF J B >KA QE>Q QEB \*BVKBP>K WLKB FP > AFPQO>@QFLK ; ; 8 #8LA8F<4A (8EFC86<18 >KA ; ; 8 &8B6?4FF<64? (8EFC86<18 PELRIA EBIM QL @I>OFCV QEB RKABOMFKFKDP >KA @LKPBNRBK@BP LC QEBBP @LKQO>PQFKD SFBTP LC QEB J >@OLB@LKL J V



EB@ BHF<A: H55?8 GB BHF<A: HFG

7B @>K BUMI>FK B@LKL J F@ CIR@QR>QFLKP TEBQEBO QELPB BUMBOFBK@BA AROFKD QEB P 'OB>Q \$BMOBPPFLK QEB P PQ>DCI>QFLK LO QEB 'OB>Q 2B@BPPFLK @>K ?B BUMI>FKBA RPFKD QEB !\$ !3 AF>DO>J 3ELOQ ORK CIR@QR>QFLKP FK LRQMRQ L@>RO ARB QL PEFCQP LC QEB 32!3 @ROSB QEB !\$ @ROSB LO ?LQE JK QEB @>PB LC QEB ELRPFKD ?R??IB OFFPKD EL J B S>IRBP @>RPBA QEB !\$ @ROSB QL PEFCQ QL QEB OFDEQ >P J LOB MBLMIB CBIQ QE>Q QFPFKD EL J B S>IRBP FK@OB>PBA QEBFO LSBO>II TB>IQE ->KV EL J BLTKBOP QLLH LK J LQOQ>DBP QE>Q BU@BBABA QEBFO >?HFQV QL M>V ?B@>RPB >P EL J B S>IRBP @LQFKRBA QL OFPB QEB FK@OB>PBA S>IRB TLRIA M>V LCC >KV AB?Q LRQPQ>KAFKD JK@OB>PBA TB>IQE ARB QL OFFPKD EL J B S>IRBP IB>A QL FK@OB>PBA EL J B BNRQV IL>KP >KA FK@OB>PBA PMBKAFKD !II QEBPB >@QSFQFB MRPEBA !\$ QL QEB OFDEQ @LQKF?RQFKD QL ILT RKB J MILV J BKQ 0>QB >KA B@LKL J F@ DOLTQE FK QEB 5KQBA 3Q>QB 7EBK QEB ELRPFKD ?R??IB ?ROPQ LSBO>II TB>IQE A0LMMBA A0>J >QF@>IIV TFMFKD LRQ QEB OB@BKQ D>FKP 4EFP A0LM FK EL J B S>IRBP T>P > AB J >KA PEL@H QL QEB 5 3 B@LKL J V ?B@>RPB LC FQP F J M>@Q AFOB@QIV LK QEB TB>IQE LC QEB ELRPBELIA PB@QLO >KA FQP @LQ>DFLK FKQL QEB CFK>K@F>I QE>Q BPPBKQ>IIV IL@HBA RM KBT @OBAFQ 4EB !\$ @ROSB PEFCQBA QL QEB IBCQ >P BSFABK@BA ?V QEB 'OB>Q 2B@BPPFLK P OFFPKD RKB J MILV J BKQ

5KABOPQ>KAFKD QEB PLRO@B LC QEBPB J>@OLB@LKL J F@ CIR@QR>QFLKP MOLSFABA J LKBQ>OV >KA CFP@>I MLIF@V J >HBOP TRQE FKFDEQ >?LRQ TE>Q MLIF@V >@QFLK QL Q>HB QL J FQFD>QB QEB F J M>@Q LC QEB ELRPFKD @OFFP &@L J > J LKBQ>OV MLIF@V MBOPMB@QFSB QEB &BABA>I 2BPBOSB ILTBOBA PELOQ QBO J FKQBOPQ 0>QB QL ?BQTBBK >KA QL ILLPBK RM @OBAFQ QOLRDELQ QEB CFK>K@F>I PVPQB J \$FP@OBQFLK>OV CFP@>I MLIF@V JB>PROBP FK@IRABA QEB M>PP>DB LC QEB %J BODBK@V %@LKL J F@ 3Q>?FIFW>QFLK !@Q LC QE>Q >IILTBA CLO QEB MRO@E>PB LC QOLR?IBA >PPBQP PR@E >P J LQOQ>DBP COL J CFK>K@F>I FKPQF@RQFLK >KA QEB !J B@F@>K 2B@LSBOV >KA 2BFKSBPQ J BKQ !@Q LC QE>Q FK@OB>PBA DLSBOK J BKQ PMBKAFKD LK FKCO>PQOR@QROB MOLSFABA CLO Q>U @RQP >KA FK@OB>PBA QO>KPCBO M>V J BKQP JK @L J ?FK>QFLK ?LQE J LKBQ>OV >KA CFP@>I MLIF@V JB>PROBP TB@B ABPFDKBA QL EBIM PQF J RI>QB >DD0BD>QB AB J >KA FK QEB 5 3 B@LKL J V MRPEFKD QEB !\$ @ROSB QL QEB OFDEQ

7EHB J LPQ B@LKL J F@PQ >DOBB LK QEB RPB@RIKBPP LC QEB !\$ !3 AF>DO>J FK >K>IVWFKD QEB PLRO@BP LC QEBPB CIR@QR>QFLKP QEB@B FP PQFII PL J B AFP>DOBB J BKQ >?LRQ QEB BCCB@QFSBKBPP LC MLIF@V AB@FPFLK QE>Q >OB RPB@RI FK PQ>?FIFWFKD QEBPB CIR@QR>QFLK 7B AFP@RPP QEB MLPPF?IB MLIF@V >@QFLK >KA QEB AFCCBOBK@BP >J LKD B@LKL J F@PQ >?LRQ QEBFO BCCB@QFSBKBPP FK J LOB ABQ>FI FK ; ; 8 #8LA8F<4A (8EFC86<18 %BA8G4EL (B?<6L 4A7 4A> \*8:H?4G<BA >KA B18EA@8AG H7:8GF 4A7 <F64? (B?<6L

# # 1 , \*%+

4 : :E8 :4G8 78@4A7 QEB > J LRKQ LC QLQ>I PMBKAFKD LK AL J BPQF@ DLLAP >KA PBOSF@BP FK >K B@LKL J V

4 : :E8 :4G8 78@4A7 6HE18 QEB QLQ>I PMBKAFKD LK AL J BPQF@ DLLAP >KA PBOSF@BP >Q B>@E MOF@B IBSBI

4 : :E8 :4G8 78@4A7 4 : :E8 :4G8 FHCC?L @B78? > J LABI QE>Q PEL TP TE>Q ABQBO J FKBP QLQ>I PRMMIV LO QLQ>I AB J >KA CLO  
QEB B@LKL J V >KA ELT QLQ>I AB J >KA >KA QLQ>I PRMMIV FKQBO>@Q >Q QEB J >@OLB@LKL J F@ IBSBI

4 : :E8 :4G8 FHCC?L + QEB QLQ>I NR>KQFQV LC LRQMRQ F B OB>I &# / CFO J P TFII MOLAR@B >KA PBII

4 : :E8 :4G8 FHCC?L + 6HE18 QEB QLQ>I NR>KQFQV LC LRQMRQ F B OB>I &# / QE>Q CFO J P TFII MOLAR@B >KA PBII >Q B>@E MOF@B  
IBSBI

9H?? 8@C?BL@8AG ( >KLQEB0 K> J B CLO MLQBKF>I &# / TEBK QEB B@LKL J V FP MOLAR@FKD >Q FQP MLQBKF>I >KA  
RKB J MILV J BKQ FP >Q QEB K>QR0>I 0>QB LC RKB J MILV J BKQ

<AG8E@87<4G8 MBA8 MLOQFLK LC QEB 2 1 2 @ROSB TEB0B &# / FP ?BILT MLQBKF>I ?RQ KLQ PL C>0 ?BILT >P FK QEB \*BVKBPf>K  
WLKB QEB 2 1 2 @ROSB FP RMT>0A PILMFKD ?RQ KLQ SBOQF@>I FK QEB FKQBO J BAF>QB WLKB

#8LA8F<4A MBA8 MLOQFLK LC QEB 2 1 2 @ROSB TEB0B &# / FP C>0 ?BILT MLQBKF>I >KA QEB 2 1 2 @ROSB FP CI>Q

#8LA8FR ?4J eAB J >KA @OB>QBP FQP LTK PRMMIVf

?BA : EHA 4 : :E8 :4G8 FHCC?L \$\* + 6HE18 SBOQF@>I IFKB >Q MLQBKF>I &# / PELTFKD KL OBI>QFLKPEFM ?BQTBBK QEB MOF@B  
IBSBI CLO LRQMRQ >KA OB>I &# / FK QEB ILKD ORK

A8B6?4FF<64? 86BAB@<FGF B@LKL J FPQP TEL DBKB0>IIV B J ME>PFWB QEB F J MLOQ>K@B LC >DDOBD>QB PRMMIV FK ABQBO J FKFKD QEB  
PFWB LC QEB J >@OLB@LKL J V LSBO QEB ILKD ORK

A8B6?4FF<64? MBA8 MLOQFLK LC QEB 2 1 2 @ROSB TEB0B &# / FP >Q LO KB>0 MLQBKF>I LRQMRQ TEB0B QEB 2 1 2 @ROSB FP PQBBM

CBG8AG<4? ( QEB J >UF J R J NR>KQFQV QE>Q >K B@LKL J V @>K MOLAR@B DFSBK CRII B J MILV J BKQ LC FQP BUFPQFKD IBSBIP LC  
I>?LO MEVPPf@>I @>MFQ>I QB@EKLILDV >KA FKPFQRFQFLKP

+4LRF ?4J ePRMMIV @OB>QBP FQP LTK AB J >Kaf

F ; BEG EHA 4 : :E8 :4G8 FHCC?L + \* + 6HE18 MLPFQFSB PELOQ ORK OBI>QFLKPEFM ?BQTBBK QEB MOF@B IBSBI CLO LRQMRQ >KA  
OB>I &# / ELIAFKD QEB MOF@BP LC FKMRQP CFUBA

F64 : ?94G<BA >K B@LKL J V BUMBOFBK@BP PQ>DK>KQ DOL TQE >KA EFDE FKCI>QFLK >Q QEB P> J B QF J B

# # 1 ' & ( , + & + - % % \* 1

%46EB86BAB@<6 (8EFC86G<18F BA 8@4A7 4A7 +HCC?L

- BL@I>PPF@>I B@LKL J FPQP B J ME>PFWB 2>VdP I>T TEF@E ELIAP QE>Q PRMMIV @OB>QBP FQP LTK AB J >KA \*BVKBPf>K  
B@LKL J FPQP B J ME>PFWB \*BVKBPd I>T TEF@E ELIAP QE>Q AB J >KA @OB>QBP FQP LTK PRMMIV , >KV J >FKPQOB> J B@LKL J FPQP  
>HB > \*BVKBPf>K MBOPMB@QFSB B J ME>PFWFKD QEB F J MLOQ>K@B LC >DDOBD>QB AB J >KA CLO QEB PELOQ ORK >KA > KBL@I>PPF@>I  
MBOPMB@QFSB B J ME>PFWFKD QEB F J MLOQ>K@B LC >DDOBD>QB PRMMIV CLO QEB ILKD ORK

H<?7<A : 4 %B78? B9 : :E8 :4G8 8@4A7 4A7 : :E8 :4G8 +HCC?L

3EB RMT>0A PILMFKD PELOQ ORK >DDOBD>QB PRMMIV 2 1 2 @ROSB PEL TP QEB MLPFQFSB OBI>QFLKPEFM ?BQTBBK QEB MOF@B  
IBSBI >KA QEB IBSBI LC OB>I &# / FK QEB PELOQ ORK DD0BD>QB PRMMIV PILMBP RM ?B@>RPB TEBK QEB MOF@B IBSBI CLO  
LRQMRQP FK@OB>PBP TEFIB QEB MOF@B IBSBI LC FKMRQP OB J >FKP CFUBA QEB LMMLQQRKFQV CLO >AAFQFLK>I MOLCFQP BK@LRO>DBP J LOB  
MOLAR@QFLK 3EB >DDOBD>QB PRMMIV @ROSB FP KB>0 ELOFWLQ>I LK QEB IBCQ >KA KB>0 SBOQF@>I LK QEB OFDEQ (K QEB ILKD ORK

TB PELT QEB >DD0BD>qB PRMMIV ?V > SBOQF@>I IFKB >Q QEB IBSBI LC MLQBKF>I LRQMRQ TEF@E FP QEB J >UF J R J IBSBI LC LRQMRQ QEB B@LKL J V @>K MOLAR@B TFQE FQP BUFPQFKD IBSBIP LC TLOHBOP MEVPF@>I @>MFQ>I QB@EKLILDV >KA B@LKL J F@ FKPFQRQFLKP

3EB ALTKT>0A PILMFKD >DD0BD>qB AB J >KA # @ROSB PELTP QEB OBI>QLKPEFM ?BQTBBK QEB MOF@B IBSBI CLO LRQMRQP >KA QEB NR>KQFQV LC QLQ>I PMBKAFKD FK QEB B@LKL J V (Q PILMBP ALTK ?B@>RPB LC > QEB TB>IQE BCCB@Q TEF@E J B>KP QE>Q > EFDEBO MOF@B IBSBI IB>AP QL ILTBO OBI>I TB>IQE TEF@E OBAR@BP QEB IBSBI LC @LKP J MQFLK ? QEB FKQBOPQ 0>QB BCCB@Q TEF@E ELIAP QE>Q > EFDEBO MOF@B IBSBI TFII J B>K > DOB>QBO AB J >KA CLO J LKBV TEF@E TFII QBKA QL AOFBSB RM FKQBOPQ 0>QB >KA OBAR@B FKSBPQ J BKQ PMBKAFKD >KA @ QEB CLOBFDK MOF@B BCCB@Q TEF@E ELIAP QE>Q > OFPB FK QEB MOF@B IBSBI TFII J >HB AL J BPQF@ DLLAP OBI>QFSBIV J LOB BUMBKPSB AFP@LRO>DFKD BUMLOQP >KA BK@LRO>DFKD F J MLOQP

**+ ;<9GF <A : :E8:4G8 +HCC?L**

3EB >DD0BD>qB AB J >KA >DD0BD>qB PRMMIV # 2 AF>DO>J PELTP ELT # >KA 2 FKQBO>@Q 3EB FKQBOPB@QFLK LC QEB # >KA 2 @ROSBP PELTP QEB BNRFFI?OFR J LRQMRQ >KA MOF@B IBSBI FK QEB B@LKL J V , LSB J BKQP LC BFQEBO 2 LO # TFII OBPRIQ FK > AFCCBOBKQ BNRFFI?OFR J LRQMRQ >KA MOF@B IBSBI 3EB >DD0BD>qB PRMMIV @ROSB TFII PEFCQ LRQ QL QEB OFDEQ >P MOLAR@QFSFQV FK@OB>PBP (Q TFII PEFCQ ?>@H QL QEB IBCQ >P QEB MOF@B LC HBV FKMRQP OFBP >KA TFII PEFCQ LRQ QL QEB OFDEQ FC QEB MOF@B LC HBV FKMRQP C>IIP (C QEB 2 @ROSB PEFCQ ?>@H QL QEB IBCQ QEB @L J ?FK>QFLK LC ILTBO LRQMRQ EFDEBO RKB J MILV J BKQ >KA EFDEBO FKCI>QFLK @>IIBA PQ>DCI>QFLK L@>ROP (C 2 PEFCQ LRQ QL QEB OFDEQ > @L J ?FK>QFLK LC ILTBO FKCI>QFLK EFDEBO LRQMRQ >KA ILTBO RKB J MILV J BKQ FP MLPPF?IB

**+ ;<9GF <A : :E8:4G8 8@4A7**

3EB # @ROSB TFII PEFCQ LRQ >P QEB @L J MLKKBQP LC >DD0BD>qB AB J >KA b " ( & >KA 7a , b OFPB (Q TFII PEFCQ ?>@H QL QEB IBCQ >P QEBPB @L J MLKKBQP C>II 3EBPB C>@QLOP @>K @E>KDB ?B@>RPB LC AFCCBOBKQ MBOPLK>I @ELF@BP IFHB QELPB OBPRIQFKD COL J @LKP J BO LO ?RPFKBP @LKCFAKB@B LO COL J MLIF@V @ELF@BP IFHB @E>KDBP FK DLSBOK J BKQ PMBKAFKD >KA Q>UBP (C QEB # @ROSB PEFCQ QL QEB OFDEQ QEBK QEB BNRFFI?OFR J NR>KQFQV LC LRQMRQ >KA QEB MOF@B IBSBI TFII OFPB (C QEB # @ROSB PEFCQ QL QEB IBCQ QEBK QEB BNRFFI?OFR J NR>KQFQV LC LRQMRQ >KA QEB MOF@B IBSBI TFII C>II 6 EBQEBO BNRFFI?OFR J LRQMRQ @E>KDBP OBI>QFSBIV J LOB QE>K QEB MOF@B IBSBI LO TEBQEBO QEB MOF@B IBSBI @E>KDBP OBI>QFSBIV J LOB QE>K LRQMRQ FP ABQBO J FKBA ?V TEBOB QEB # @ROSB FKQBOPB@QP TFQE QEB 2 @ROSB

3EB # 2 AF>DO>J PRMBOCF@F>IIV OBPB J ?IBP QEB J F@OLB@LKL J F@ PRMMIV >KA AB J >KA AF>DO>J LK QEB PROC>@B ?RQ FK OB>IFQV TE>Q FP LK QEB ELOFWLKQ>I >KA SBOQF@>I >UBP >KA QEB RKABOIVFKD B@LKL J F@ OB>PLKP CLO QEB PE>MBP LC QEB @ROSBP >OB SBOV AFCCBOBKQ 6B @>K FIIRPQ>QB ILKD QBO J B@LKL J F@ DOLTQE FK QEB # 2 CO>J BTLOH ?V > DO>AR>I PEFCQ LC QEB >DD0BD>qB PRMMIV @ROSB QL QEB OFDEQ 6B FIIRPQ>QB > OB@BPPFLK TEBK QEB FKQBOPB@QFLK LC # >KA 2 FP PR?PQ>KQF>IIV ?BILT MLQBKF>I &# / TEFIB TB FIIRPQ>QB >K BUM>KAFKD B@LKL J V TEBK QEB FKQBOPB@QFLK LC 2 >KA # FP KB>O MLQBKF>I &# /

**BJ 6;8 + %B78? !A6BECBE4G8F EB JG; -A8@C?BL@8AG 4A7 !A9?4G<BA**

"V@F@>I RKB J MILV J BKQ FP OBI>QFSBIV I>ODB FK QEB # 2 CO>J BTLOH TEBK QEB BNRFFI?OFR J FP PR?PQ>KQF>IIV ?BILT MLQBKF>I &# / "V@F@>I RKB J MILV J BKQ FP P J >II FK QEB # 2 CO>J BTLOH TEBK QEB BNRFFI?OFR J FP KB>O MLQBKF>I &# / 3EB K>QRO>I 0>QB LC RKB J MILV J BKQ >P ABQBO J FKBA ?V QEB I>?LO J >OHBQ FKPFQRQFLKP LC QEB B@LKL J V FP ?RFI QFKL TE>Q B@LKL J FQP J B>K ?V MLQBKF>I &# / ?RQ ALBP KLQ LQEBOTFPB >MMB>O FK >K # 2 AF>DO>J 3EB # 2 CO>J BTLOH PELTP MOBPPROBP CLO FKCI>QFLK QL OFPB LO C>II TEBK QEB J LSB J BKQ COL J LKB BNRFFI?OFR J QL >KLQEBO @>RPB QEB MOF@B IBSBI QL OFPB LO QL C>II 3EB ?>I>K@B LC QO>AB ALBP KLQ >MMB>O AFOB@QIV FK QEB # 2 AF>DO>J ?RQ FQ >MMB>OP FKAFOB@QIV FK PBSBO>I T>VP (K@OB>PBP FK BUMLOQP LO AB@IFKBP FK F J MLOQP @>K @>RPB PEFCQ FK # "E>KDBP FK QEB MOF@B LC HBV F J MLOQBA FKMRQP QL MOLAR@QFLK IFHB LFI @>K @>RPB PEFCQ FK 2 3EB # 2 J LABI FP QEB HBV J LABI TB RPB FK QEFP ?LLH QL RKABOPQ>KA J >@OLB@LKL J F@ FPPRBP

**#8LA8FR \$4J 4A7 +4LRF \$4J <A G;8 + %B78?**

6B @>K AFSFAB QEB 21 2 @ROSB FKQL QE0BB WLKBP \*BVKBPd I>T P>VP AB J >KA @OB>QBP FQP LTK PRMMIV PL QE>Q @E>KDBP FK >DD0BD>qB AB J >KA @>RPB @E>KDBP FK OB>I &# / >KA B J MILV J BKQ 6B @>K PELT \*BVKBPd I>T LK QEB ELOFWLKQ>I \*BVKBPF>K WLKB LC QEB >DD0BD>qB PRMMIV @ROSB 3EB \*BVKBPF>K WLKB L@>ROP >Q QEB IBCQ LC QEB 21 2 @ROSB TEBOB FQ FP C>FOIV CI>Q PL J LSB J BKQP FK # TFII >CCB@Q LRQMRQ ?RQ E>SB IFQIB BCCB@Q LK QEB MOF@B IBSBI 2>VdP I>T P>VP PRMMIV @OB>QBP FQP LTK AB J >KA "E>KDBP FK >DD0BD>qB AB J >KA E>SB KL BCCB@Q LK OB>I &# / >KA B J MILV J BKQ LKIV LK QEB MOF@B IBSBI 6B @>K PELT 2>VdP I>T LK QEB SBOQF@>I KBL@I>PPF@>I WLKB LC QEB >DD0BD>qB PRMMIV @ROSB 3EB KBL@I>PPF@>I WLKB L@>ROP >Q QEB OFDEQ LC QEB 21 2 @ROSB TEBOB FQ FP C>FOIV SBOQF@>I >KA PL J LSB J BKQP FK # TFII >CCB@Q QEB MOF@B IBSBI ?RQ E>SB IFQIB F J M>@Q LK LRQMRQ 3EB FKQBO J BAF>QB WLKB FK QEB J FAAIB LC QEB 21 2 @ROSB FP RMT>0A PILMFKD PL > OFPB FK # TFII @>RPB EFDEBO LRQMRQ >KA MOF@B IBSBI TEFIB > C>II FK # TFII IB>A QL > ILTBO LRQMRQ >KA MOF@B IBSBI

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#BP@OF?B QEB JB@E>KFP J ?V TEF@E PRMMIV @OB>QBP FQP LTK AB J >KA

#BP@OF?B QEB JB@E>KFP J ?V TEF@E AB J >KA @OB>QBP FQP LTK PRMMIV

3EB PELOQ ORK >DD0BD>QB PRMMIV @ROSB T>P @LKPQR@QBA >PPR J FKD QE>Q >P QEB MOF@B LC LRQMRQP FK@OB>PBP QEB MOF@B LC FKMRQP PQ>VP QEB P> JB 'LT TLRIA >K FK@OB>PB FK QEB MOF@BP LC F J MLO>KQ FKMRQP IFHB BKBODV >CCB@Q >DD0BD>QB PRMMIV

(K QEB # 2 J LABI TE>Q MOBSBKQP QEB B@LKL J V COL J >@EFBSFKD BNRFFI?OFR J >Q MLQBKF>I LRQMRQ

2RMMLPB QEB 4 2 "LKDOBPP M>PPBP PFDKFCF@>KQ F J J FDO>QFLK OBCLQ J QE>Q J >HBP FQ J LOB AFCCF@RIQ CLO CLOBFDKBOP QL @L J B QL QEB 4KFQBA 2Q>QBP QL TLOH 4PB QEB # 2 J LABI QL BUMI>FK ELT QEFP TLRIA >CCB@Q QEB BNRFFI?OFR J IBSBI LC &# / >KA QEB MOF@B IBSBI

2RMMLPB @LK@BOKP >?LRQ QEB PFWB LC QEB CBABO>I ?RADBQ ABCF@FQ IB>A QEB 4 2 "LKDOBPP QL @RQ >II CRKAFKD CLO OBPB>Q@E >KA ABSBILM J BKQ CLO QBK VB>OP PPR J FKD QEFP E>P >K F J M>@Q LK QB@EKLILDV DOLTQE TE>Q ALBP QEB # 2 J LABI MOBAF@Q TLRIA ?B QEB IFHBIV BCCB@Q LK BNRFFI?OFR J &# / >KA QEB MOF@B IBSBI

'LT TLRIA >AO> J >QF@ FK@OB>PB FK QEB S>IRB LC QEB PQL@H J >OHBQ PEFCQ QEB # @ROSB 6E>Q BCCB@Q TLRIA QEB PEFCQ E>SB LK QEB BNRFFI?OFR J IBSBI LC &# / >KA QEB MOF@B IBSBI

2RMMLPB , BUF@L LKB LC LRO I>ODBPQ QO>AFKD M>OQKBOP >KA MRO@E>PBO LC > I>ODB NR>KQFQV LC LRO BUMLOQP DLBP FKQL > OB@BPPFLK 4PB QEB # 2 J LABI QL ABQBO J FKQ QEB IFHBIV F J M>@Q LK LRO BNRFFI?OFR J &# / >KA MOF@B IBSBI

MLIF@V J >HBO @I>F J P QE>Q Q>U @RQP IBA QEB B@LKL J V LRQ LC > OB@BPPFLK ">K TB RPB QEB # 2 AF>DO>J QL PELT QEFP

, >KV CFK>K@F>I >K>IVQP >KA B@LKL J FPQP B>DBOIV >T>FQ QEB MOBPP OBIB>PBP CLO QEB OBMLQQP LK QEB EL J B MOF@B FKABU >KA @LKPR J BO @LKCFABK@B FKABU 6E>Q TLRIA ?B QEB BCCB@Q LC > KBD>QFSB OBMLQ LK ?LQE LC QEBPB 6E>Q >?LRQ > MLPFQFSB OBMLQ

6E>Q F J M>@Q TLRIA > AB@OB>PB FK QEB PFWB LC QEB I>?LO CLO@B E>SB LK &# / >KA QEB MOF@B IBSBI >@@LOAFKD QL QEB # 2 J LABI

2RMMLPB >CQBO CFSB VB>OP LC PIRDDFPE DOLTQE QEB \$ROLMB>K 4KFLK P B@LKL J V MF@HP RM PMBBA 6E>Q TLRIA ?B QEB IFHBIV F J M>@Q LK QEB 4 2 QO>AB ?>I>K@B &# / >KA B J MILV J BKQ

2RMMLPB QEB %BABO>I 1BPBOSB ?BDFKP QL FK@OB>PB QEB PRMMIV LC J LKBV >Q >K FK@OB>PFKD O>QB 6E>Q F J M>@Q TLRIA QE>Q E>SB LK &# / RKB J MILV J BKQ >KA FKCI>QFLK

(C QEB B@LKL J V FP LMBO>QFKD FK QEB KBL@I>PPF@>I WLKB LC QEB 2 1 2 @ROSB >KA >DD0BD>QB AB J >KA C>IIP TE>Q FP IFHBIV QL E>MMBK QL OB>I &# /

(C QEB B@LKL J V FP LMBO>QFKD FK QEB \*BVKBPf>K WLKB LC QEB 2 1 2 @ROSB >KA >DD0BD>QB AB J >KA C>IIP TE>Q FP IFHBIV QL E>MMBK QL OB>I &# /

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6E>Q FP 2>VdP I>T

6E>Q FP LK QEB ELOFWLKQ>I >UFP LC QEB # 2 AF>DO>J 6E>Q FP LK QEB SBOQF@>I >UFP

6E>Q FP \*BVKBPd I>T

6E>Q FP QEB B@LKL J F@ OB>PLK TEV QEB 2 1 2 @ROSB PILMBP RM

#L KBL@I>PPF@>I B@LKL J FPQP ?BIFBSB FK \*BVKBPd I>T LO 2>VdP I>T

6E>Q >OB QEB @L J MLKKBQP LC QEB >DD0BD>QB AB J >KA # @ROSB

#LBP 2>VdP I>T >MMIV J LOB >@RO>QBIV FK QEB ILKD ORK LO QEB PELOQ ORK 6E>Q >?LRQ \*BVKBPd I>T

6 E>Q >OB QEB B@LKL J F@ OB>PLKP TEV QEB # @ROSB  
PILMBP ALTK

! OFBCIV BUMI>FK QEB OB>PLK CLO QEB KB>O ELOFWLKQ>I  
PE>MB LC QEB 2 1 2 @ROSB LK FQP C>O IBCQ

! OFBCIV BUMI>FK QEB OB>PLK CLO QEB KB>O SBOQF@>I  
PE>MB LC QEB 2 1 2 @ROSB LK FQP C>O OFDEQ

6 E>Q FP MLQBKF>I &# /

-> JB PL JB C>@QLOP QE>Q @LRIA @>RPB QEB 2 1 2  
@ROSB QL PEFCQ >KA P>V TEBQEB QEBV TLRIA PEFCQ 2 1 2  
QL QEB OFDEQ LO QL QEB IBCQ

6 FII QEB PEFCQ LC 2 1 2 QL QEB OFDEQ QBKA QL J>HB  
QEB BNRIF?OFR J NR>KQFQV >KA MOF@B IBSBI EFDEBO LO ILTBO  
6 E>Q >?LRQ > PEFCQ LC 2 1 2 QL QEB IBCQ

6 E>Q FP PQ>DCI>QLK

-> JB PL JB C>@QLOP QE>Q @LRIA @>RPB # QL PEFCQ  
>KA P>V TEBQEB QEBV TLRIA PEFCQ # QL QEB OFDEQ LO QL  
QEB IBCQ

6 LRIA > PEFCQ LC # QL QEB OFDEQ QBKA QL J>HB QEB  
BNRIF?OFR J NR>KQFQV >KA MOF@B IBSBI EFDEBO LO ILTBO  
6 E>Q >?LRQ > PEFCQ LC # QL QEB IBCQ

\*!,! \$ , !&#!& ) - +,! ' &+

6 EV TLRIA >K B@LKL JFPQ @ELLPB BFQEB QEB  
KBL@I>PPF@>I MBOPMB@QFSB LO QEB \*BVKBPF>K MBOPMB@QFSB  
?RQ KLQ ?LQE

. K > J F@OLB@LKL J F@ AB J>KA @ROSB > AB@OB>PB FK  
MOF@B @>RPBP >K FK@OB>PB FK NR>KQFQV AB J>KABA ?B@>RPB  
QEB MOLAR@Q FK NRPBQFLK FP KLT OBI>QFSBIV IBPP BUMBKPFSB  
QE>K PR?PQFQRB MOLAR@Q \$UMI>FK TEV >DD0BD>@B AB J>KA  
ALBP KLQ FK@OB>PB CLO QEB P> JB OB>PLK FK OBPMLKPB QL >  
AB@OB>PB FK QEB >DD0BD>@B MOF@B IBSBI (K LQEB TLOAP  
TE>Q @>RPBP QLQ>I PMBKAFKD QL FK@OB>PB FC FQ FP KLQ ?B@>RPB  
DLLAP >OB KLT @EB>MBO

\$@LKL JFPQP BUMB@Q QE>Q >P QEB I>?LO J>OHBQ  
@LQKFKRBP QL QFDEQBK DLFKD FKQL QEB I>QBO M>OQ LC  
QE>Q TLOHBOP PELRIA ?BDFK QL BUMB@Q T>DB FK@OB>PBP FK  
>KA PPR JFKD QEFQ L@>ROP >KA FQ T>P QEB  
LKIV ABSBILM JBKQ FK QEB I>?LO J>OHBQ QE>Q VB>O ELT  
TLRIA QEFQ >CCB@Q QEB 2 @ROSB 6 E>Q FC FQ T>P >IPL  
>@@L J M>KFBA ?V >K FK@OB>PB FK TLOHBO MOLAR@QFSFQV

' LT FP ILKD QBO J DOLTQE FIIRPQO>QBA FK >K # 2  
J LABI

' LT FP OB@BPPFLK FIIRPQO>QBA FK >K # 2 J LABI

' LT FP @V@IF@>I RKB J MILV JBKQ FIIRPQO>QBA FK >K  
# 2 J LABI

' LT FP QEB K>QRO>I O>QB LC RKB J MILV JBKQ  
FIIRPQO>QBA FK >K # 2 J LABI

' LT FP MOBPPROB CLO FKCI>QLK>OV MOF@B FK@OB>PBP  
PELTK FK >K # 2 J LABI

6 E>Q >OB PL JB LC QEB T>VP FK TEF@E BUMLOQP >KA  
F J MLOQP @>K >CCB@Q QEB # 2 J LABI

6 E>Q FP QEB \*BVKBPF>K WLKB LC QEB 2 1 2 @ROSB  
' LT JR@E FP QEB MOF@B IBSBI IFHBIV QL @E>KDB FK QEB  
\*BVKBPF>K WLKB

6 E>Q FP QEB KBL@I>PPF@>I WLKB LC QEB 2 1 2 @ROSB  
' LT JR@E FP QEB LRQMRQ IBSBI IFHBIV QL @E>KDB FK QEB  
KBL@I>PPF@>I WLKB

6 E>Q FP QEB FKQBO J BAF>QB WLKB LC QEB 2 1 2 @ROSB  
6 FII > OFPB FK LRQMRQ ?B >@@L J M>KFBA ?V > OFPB LO > C>II FK  
QEB MOF@B IBSBI FK QEFQ WLKB

(C KBT DLSBOK JBKQ OBDRI>QFLKP OBNRFOB CFO J P QL  
RPB > @IB>KBO QB@EKLILDV QE>Q FP >IPL IBPP BCCF@FBKQ QE>K  
TE>Q QEBV MOBSFLRPV RPBA TE>Q TLRIA QEB BCCB@Q ?B LK  
LRQMRQ QEB MOF@B IBSBI >KA B J MILV JBKQ RPFKD QEB #  
2 AF>DO> J

#ROFKD PMOFKD QEB , FATBPQBOK 4KFQBA 2Q>QBP  
TEF@E E>P > I>ODB >DOF@RIQRO>I ?>PB BUMBOFBK@BP >?LSB  
>SBO>DB O>FKC>II 4PFKD QEB # 2 AF>DO> J TE>Q FP QEB  
BCCB@Q LK LRQMRQ QEB MOF@B IBSBI >KA B J MILV JBKQ

' VAO>RIF@ CO>@QROFKD CO>@HFKD E>P QEB MLQBKF>I  
QL PFDKFCF@>KQIV FK@OB>PB QEB > JLRQ LC K>QRO>I D>P  
MOLAR@BA FK QEB 4KFQBA 2Q>QBP (C > I>ODB MBO@BKQ>DB LC  
C>@QLOFBP >KA RQFIFQV @L J M>KFBP RPB K>QRO>I D>P TE>Q THIE  
E>MMBK QL LRQMRQ QEB MOF@B IBSBI >KA B J MILV JBKQ >P  
CO>@HFKD ?B@L J BP J LOB TFABIV RPBA

2L JB MLIFQF@>KP E>SB PRDDBPQBA QVFKD QEB  
JFKFJR J T>DB QL QEB @LKPR J BO MOF@B FKABU "/(   
4PFKD QEB # 2 AF>DO> J TE>Q BCCB@Q TLRIA QEFQ  
MLIF@V JLPQ IFHBIV E>SB LK LRQMRQ QEB MOF@B IBSBI >KA  
B J MILV JBKQ

(C ELRPBELIAP AB@FAB QL P>SB > I>ODBO MLOQFLK LC QEBFO FK@L J B TE>Q BCCB@Q TLRIA QEFF E>SB LK QEB LRQMRQ B J MILV J BKQ >KA MOF@B IBSBI FK QEB PELOQ ORK 6 E>Q >?LRQ QEB ILKD ORK

(C CFO J P ?B@L J B J LOB LMQF J FPQF@ >?LRQ QEB CRQROB LC QEB B@LKL J V >KA >Q QEB P> J B QF J B FKKLS>QFLK FK # MOFKQFKD J>HBP J LPQ TLOHBOP J LOB MOLAR@QFSB TE>Q FP QEB @L J ?FKBA BCCB@Q LK LRQMRQ B J MILV J BKQ >KA QEB MOF@B IBSBI

(C "LKDOBPP @RQP Q>UBP >Q QEB P> J B QF J B QE>Q ?RPFKBPPPBP ?B@L J B J LOB MBPPF J FPQF@ >?LRQ QEB B@LKL J V TE>Q FP QEB @L J ?FKBA BCCB@Q LK LRQMRQ QEB MOF@B IBSBI >KA B J MILV J BKQ RPFKD QEB # 2 AF>DO> J

2RMMLPB QEB IBSBI LC PQOR@QRO>I RKB J MILV J BKQ FK@OB>PBP 'LT TLRIA VLR FIIRPQO>QB QEB FK@OB>PB FK PQOR@QRO>I RKB J MILV J BKQ FK QEB # 2 J LABI Hint 'LT ALBP PQOR@QRO>I RKB J MILV J BKQ >CCB@Q MLQBKQF>I &# /

(C CLOBFDK TB>IQE ELIABOP AB@FAB QE>Q QEB 4KFQBA 2Q>QBP FP QEB P>CBPQ MI>@B QL FKSBPQ QEBFO P>SFKDP TE>Q TLRIA QEB BCCB@Q ?B LK QEB B@LKL J V EBOB 2ELT DO>MEF@>IIV RPFKD QEB # 2 J LABI

3EB # 2 J LABI FP PQ>QF@ (Q PELTP > PK>MPELQ LC QEB B@LKL J V >Q > DFSBK MLFKQ FK QF J B !LQE B@LKL J F@ DOLTQE >KA FKCI>QFLK >OB AVK> J F@ MEBKL J BK> 2RMMLPB B@LKL J F@ DOLTQE FP MBO VB>O >KA >DD0BD>QB AB J >KA FP DOLTFKD >Q QEB P> J B O>QB 6 E>Q ALBP QEB # 2 J LABI P>V QEB FKCI>QFLK O>QB PELRIA ?B

\$UMI>FK TEV QEB PELOQ ORK >DD0BD>QB PRMMIV @ROSB J FDEQ ?B C>FOIV CI>Q FK QEB \*BVKBPF>K WLKB LC QEB 2 1 2 @ROSB 'LT J FDEQ TB QBII FC TB >OB FK QEB \*BVKBPF>K WLKB LC QEB 2

\$UMI>FK TEV QEB PELOQ ORK >DD0BD>QB PRMMIV @ROSB J FDEQ ?B SBOQF@>I FK QEB KBL@I>PPF@>I WLKB LC QEB 2 1 2 @ROSB 'LT J FDEQ TB QBII FC TB >OB FK QEB KBL@I>PPF@>I WLKB LC QEB 2

6 EV J FDEQ FQ ?B F J MLOQ>KQ CLO MLIF@V J >HBOP QL HKLT TEF@E FK WLKB LC QEB 2 1 2 @ROSB QEB B@LKL J V FP

(K VLRO SFBT FP QEB B@LKL J V @ROOBKQIV LMB0>QFKD FK QEB \*BVKBPF>K FKQBO J BAF>QB LO KBL@I>PPF@>I MLOQFLK LC QEB B@LKL J V dP >DD0BD>QB PRMMIV @ROSB

OB 2>VdP I>T >KA \*BVKBPD I>T KB@BPP>OFIV J RQR>IIV BU@IRPFSB





,45?8 ABP@OF?BP 2>KQEBO P B@LKL J V

(E<68 \$818?		+

,45?8 (E<68 \$818? +

- > /ILQ QEB # 2 @ROSBP >KA FABKQFCV QEB  
BNRFIF?OFR J
- ? 6LRIA VLR BUMB@Q RKB J MILV J BKQ FK QEFP  
B@LKL J V QL ?B OBI>QFSBIV EFDE LO ILT
- @ 6LRIA VLR BUMB@Q MOF@BP QL ?B > OBI>QFSBIV I>ODB  
LO P J >II @LK@BOK CLO QEFP B@LKL J V
- A (J>DFKB QE>Q FKMRQ MOF@BP C>II >KA PL 2 PEFCQP  
QL QEB OFDEQ ?V RKFQP (ABKQFCV QEB KBT  
BNRFIF?OFR J
- B 'LT TFII QEB PEFCQ FK 2 >CCB@Q QEB LOFDFK>I  
LRQMRQ MOF@B IBSBI >KA B J MILV J BKQ

#E>MqB0 X 4EB !DD0BD>qB \$BJ>KA !DD0BD>qB 3RMMIV - LABI

4EFP / MBK3q>U ?LLH FP >S>f>?IB CL0 00BB >q EQM @KU L0D @LKqBKq @LI

# N , ; 8 #8LA8F<4A (8EFC86G<I 8



<:HEB +<:AF B9 4 \*868FF<BA (L J B CLOB@ILPROBP TBOB GRPQ LKB LC QEB J >KV PFDKP >KA PV J MQL J P LC QEB OB@BKQ 'OB>Q 2B@BPPFLK \$ROFKD QE>Q QF J B J >KV ?RPFKBPPPBP @ILPBA >KA J >KV MBLMIB ILPQ QEBFO GL?P #OBAFQ J LAFCF@>QFLK LC TLOH ?V 4>?B0 !KA0BT ">fK &f@HO #OB>QFSB #L J J LKP

## Bring it Home

### , ; 8 E84G \*868FF<BA

4EB 'OB>Q 2B@BPPFLK EFQ QEB 5 3 B@LKL J V E>0A !@@LOAFKD QL QEB "ROB>R LC ,>?LO 3Q>QFP@P ",3 QEB KR J ?B0 LC RKB J MILVBA ! J BOf@>KP OLPB COL J J FIFLK FK ->V QL J FIFLK FK /@QL?B0 \$ROFKD QE>Q QF J B QEB 5 3 #BKPRP "ROB>R BPQF J >QBA QE>Q >MMOLUF J >QBIV P J >II ?RPFKBPPPBP @ILPBA ->PP I>VLCCP MB>HBA FK &B?OR>OV TEBK B J MILVBOP D>SB TLOHBOP KLQF@B 5 3 MOLAR@QFSQV >KA LRQMRQ CBII >P TBII \*L? ILPPBP AB@IFKFKD EL J B S>IRBP AB@IFKFKD FK@L J BP >KA RK@BQ>FKQV >?LRQ QEB CRQROB @>RPBA @LKPR J MQLK BUMBKAFQROBP QL AB@OB>PB !@@LOAFKD QL QEB ", 3 ELRPBELIA PMBKAFKD AOLMMBA ?V

(L J B CLOB@ILPROBP >KA QEB J BIQALTK FK 5 3 CFK>K@F>I J >OHBQP @>IIBA CLO F J J BAF>QB >@QFLK ?V #LKDOBPP QEB OOBPFABKQ >KA QEB &BABO>I 2BPB0SB ">KH &LO BU> J MIB QEB DLSBOK J BKQ F J MIB J BKQBA MOLDO> J P PR@E >P QEB ! J BOf@>K 2BPQLO>QFLK >KA 2B@LSBOV !@Q QL EBIM J FIFLKP LC MBLMIB ?V MOLSFAFKD Q>U @OBAFQ CLO EL J B ?RVBOP M>VFKD b@>PE CLO @IRKHBOP c >KA BUQBKAFKD RKB J MILV J BKQ ?BKBCFQP &OL J @RQFKD ?>@H LK PMBKAFKD CFHKD CLO RKB J MILV J BKQ >KA ILPFKD EL J BP J FIFLKP LC MBLMIB TBOB >CCB@QBA ?V QEB OB@BPPFLK 7 EHIB QEB 5KQBA 3Q>QBP FP KLT LK QEB M>QE QL OB@LSBOV MBLMIB TFII CBBI QEB F J M>@Q CLO J >KV VB>OP QL @L J B

7 E>Q @>RPBA QEFP OB@BPPFLK >KA TE>Q MOBSBKQBA QEB B@LKL J V COL J PMFO>IFKD CROQEBO FKQL >KLQEB0 ABMOBPPFLK OLIF@V J >HBOP ILLHBA QL QEB IBPPLKP IB>OKBA COL J QEB P 'OB>Q \$BMOBPPFLK >KA QL \*LEK ->VK>0A +BVKBP J LABIP QL >K>IVWB QEB @>RPBP >KA CFKA PLIRQFLKP QL QEB @LRKQOVaP B@LKL J F@ TLBP 4EB +BVKBPF>K MB0PMB@QFSB FP QEB PR?@B@Q LC QEFP @E>M@B0

# !AGEB7H6G<BA GB G ; 8 #8LA8F<4A (8EFC86G<I8

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g DD0BD>QB #B J >KA FK \*BVKBPF>K K>IVPPF
- g 3EB !RFIAFKD !IL@HP LC \*BVKBPF>K K>IVPPF
- g 3EB /EFIFMP "ROSB
- g 3EB \*BVKBPF>K /B0PMB@QFSB LK , >0HBQ %L0@BP

6B E>SB IB>OKBA QE>Q QEB IBSBI LC B@LKL JF@ >@QFSFQV CLO BU>J MIB LRQMRQ B J MILV J BKQ >KA PMBKAFKD QBKAP QL DOLT LSOB QF J B (K , ; 8 #8LA8F<4A (8EFC86G<I8 TB IB>OKBA QEB OB>PLKP CLO QEFP QOBKA , ; 8 %46EB86BAB@<6 (8EFC86G<I8 MLFKQBA LRQ QE>Q QEB B@LKL J V QBKAP QL @V@IB >0LRKA QEB ILKD ORK QOBKA (K LQEBO TLOAP QEB B@LKL J V ALBP KLQ >IT>VP DOLT >Q FQP >SBO>DB DOLTQE O>QB 2L J BQF J BP B@LKL J F@ >@QFSFQV DOLTTP >Q QEB QOBKA O>QB PL J BQF J BP FQ DOLTTP J LOB QE>K QEB QOBKA PL J BQF J BP FQ DOLTTP IBPP QE>K QEB QOBKA >KA PL J BQF J BP FQ >@QR>IIV AB@IFKBP 8LR @>K PBB QEFP @V@IF@>I ?BE>SFL0 FK <:HEB

<:HEB - + EBFf B@8F<6 (EB7H6G (8E68AG ;4A:8F P 4EB @E>0Q Q0>@HP QEB MB0@BKQ @E>KDB FK ' \$0 PFK@B 4EB J>DKFQ RAB LC ?LQE OB@BPPFLKP >KA MB>HP T>P NRQRB I>0DB ?BQTBBK >KA 3LR0@B "ROB>R LC %@LKL JF@ !K>IVPPF b .>QFLK>I %@LKL JF@ !@@LRKQPc

3EFP B J MFOF@>I OB>IFQV O>FPBP QTL F J ML0Q>KQ NRBPQFLKP ' LT @>K TB BUMI>FK QEB @V@IBP >KA QL TE>Q BUQBKQ @>K TB J LABO>QB QEB J 3EFP @E>MQB0 LK QEB \*BVKBPF>K MB0PMB@QFSB >KA , ; 8 &8B6?4FF<64? (8EFC86G<I8 BUMILOB QELPB NRBPQFLKP COL J QTL AFCCBOBKQ MLFKQP LC SFBT ?RFIAFKD LK TE>Q TB IB>OKBA FK , ; 8 ::E8:4G8 8@4A7 ::E8:4G8 +HCC?L %B78?

N ::E8:4G8 8@4A7 <A #8LA8F<4A A4?LF<F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK OB>I &# / OB@BPPFLK>OV D>MP >KA FKCI>QFLK>OV D>MP
- d 1B@LDKFWB QEB \*BVKBPF>K # 2 J LABI
- d (ABKQFCV QEB ABQBO J FKFKD C>@QLOP LC ?LQE @LKPR J MQFLK BUMBKAFQROB >KA FKSBPQ J BKQ BUMBKAFQROB
- d K>IVWB QEB C>@QLOP QE>Q ABQBO J FKB DLSBOK J BKQ PMBKAFKD >KA KBQ BUMLOQP

3EB \*BVKBPF>K MB0PMB@QFSB CL@RPBP LK >DD0BD>QB AB J >KA 3EB FAB> FP PF J MIB CFO J P MOLAR@B LRQMRQ LKIV FC QEBV BUMB@Q FQ QL PBII 3ERP TEFIB QEB >S>FI>?FIFV LC QEB C>@QLOP LC MOLAR@QFLK ABQBO J FKBP >K>QFLKdP MLQBKQF>I &# / QEB > J LRKQ LC

DLLAP >KA PBOSF@BP QE>Q >@QR>IIV PBII HKLTK >P **real GDP** ABMBKAP LK ELT J R@E AB J >KA BUFPQP >@OLPP QEB B@LKL J V  
<: HE8 FIIRPQO>QBP QEFP MLFKQ

<: HE8 ; ; 8 #8LA8F<4A + %B78? 4EB +BVKBPF>K 6FT LC QEB ! \$ ! 3 - LABI RBPB >K 3 2 ! 3 @R0SB TEF@E FP  
ELQFWLKQ>I >Q IBSBIP LC LRQMRQ ?BILT MLQBKF>I >KA SBOQF>I >Q MLQBKF>I LRQMRQ 4ERP TEBK ?BDFKFKD COL J MLQBKF>I  
LRQMRQ >KV AB@OB>PB FK ! \$ >CCB@QP LKIV LRQMRQ ?RQ KLQ MOF@BP ! KV FK@OB>PB FK ! \$ >CCB@QP LKIV MOF@BP KLQ LRQMRQ

\*BVKBPF >ODRBA QE>Q CLO OB>PLKP TB BUMI>FK PELOQIV >DDOBD>QB AB J >KA FP KLQ PQ>?IB b QE>Q FQ @>K @E>KDB RKBUMB@QBAIV  
2RMMLPB QEB B@LKL J V PQ>OQP TEBOB # FKQBOPB@QP 2 1 2 >Q / >KA 8M ! B@>RPB 8M FP MLQBKF>I LRQMRQ QEB B@LKL J V  
FP >Q CRII B J MILV J BKQ ! B@>RPB # FP SLI>QFIB FQ @>K B>PFIV C>II 3ERP BSBK FC TB PQ>OQ >Q 8M FC # C>IIP QEBK TB  
CFKA LROPBISBP FK TE>Q \*BVKBPF QBO J BA > **recessionary gap** 3EB B@LKL J V FP FK BNRFFI?OFR J ?RQ TFQE IBPP QE>K CRII  
B J MILV J BKQ >P 8 FK <: HE8 PELTP \*BVKBPF ?BIFBSBA QE>Q QEB B@LKL J V TLRIA QBKA QL PQ>V FK > OB@BPPFLK>OV  
D>M TFQE FQP >QQBKA>KQ RKB J MILV J BKQ CLO > PFDKFCF@>KQ MBOFLA LC QF J B

(K QEB P> J B T>V >IQELRDE TB AL KLQ PELT FQ FK QEB CFDR0B FC # FK@OB>PBP QEB B@LKL J V @LRIA BUMBOFBK@B >K  
**inflationary gap** TEBOB AB J >KA FP >QQB J MQFKD QL MRPE QEB B@LKL J V M>PQ MLQBKF>I LRQMRQ " LKPBNRBQIV QEB B@LKL J V  
BUMBOFBK@BP FKCI>QFLK 3EB HBV MLIF@V F J MIF@>QFLK CLO BFQEB0 PFQR>QFLK FP QE>Q DLSBOK J BKQ KBBAP QL PQBM FK >KA @ILPB  
QEB D>M FK@OB>PFKD PMBKAFKD AROFKD OB@BPPFLK >KA AB@OB>PFKD PMBKAFKD AROFKD ?LL J P QL OBQROK >DDOBD>QB AB J >KA QL  
J >Q@E MLQBKF>I LRQMRQ

1B@>II COL J ; ; 8 ::E8:4G8 +HCC?L ::E8:4G8 8@4A7 %B78? QE>Q >DDOBD>QB AB J >KA FP QLQ>I PMBKAFKD  
B@LKL J V TFAB LK AL J BPQF@ DLLAP >KA PBOSF@BP DDOBD>QB AB J >KA # FP >@QR>IIV TE>Q B@LKL J FPQP @>II QLQ>I  
MI>KKBA BUMBKAFQROB 1B>A QEB >MMBKAFU LK ; ; 8 KC8A7<GHE8 'HGCHG %B78? CLO J LOB LK QEFP 8LR J >V >IPL  
OB J B J ?BO QE>Q >DDOBD>QB AB J >KA FP QEB PR J LC CLRO @L J MLKBKQP @LKPR J MQFLK BUMBKAFQROB FKSBPQ J BKQ BUMBKAFQROB  
DLSBOK J BKQ PMBKAFKD >KA PMBKAFKD LK KBQ BUMLOQP BUMLOQP J FKRP F J MLOQP (K QEB CLILTFKD PB@QFLK TB TFII  
BU> J FK B>@E @L J MLKBKQ QEOLRDE QEB \*BVKBPF>K MBOPMB@QFSB

/ ; 4G 8G8E@<A8F BAFH@CG<BA KC8A7<GHE8

"LKPR J MQFLK BUMBKAFQROB FP PMBKAFKD ?V ELRPBELIAP >KA FKAFSFAR>IP LK ARO>?IB DLLAP KLKARO>?IB DLLAP >KA  
PBOSF@BP #RO>?IB DLLAP >OB FQB J P QE>Q I>PQ >KA MOLSFA B S>IRB LSBO QF J B PR@E >P >RQL J L ?FIBP - LKARO>?IB DLLAP >OB  
QEFKDP IFHB DOL@BOFBP b LK@B VLR @LKPR J B QEB J QEBV >OB DLKB 1B@>II COL J ; ; 8 %46EB86BAB@<6 (8EFC86G<18  
QE>Q PBOSF@BP >OB FKQ>KDF?IB QEFKDP @LKPR J BOP ?RV IFHB EB>IQE@>OB LO BKQBQ>FK J BKQ

\*BVKBPF FABKQFCFBA QEOBB C>@QLOP QE>Q >CCB@Q @LKPR J MQFLK

- d #FPMLP>?IB FK@L J B %LO J LPQ MBLMIB QEB PFKDIB J LPQ MLTBOCRI ABQBO J FK>KQ LC ELT J R@E QEBV @LKPR J B FP  
ELT J R@E FK@L J B QEBV E>SB FK QEBFO Q>HB EL J B M>V >IPL HKLTK >P **disposable income** TEF@E FP FK@L J B >CQBO  
Q>UBP
- d \$UMB@QBA CRQROB FK@L J B "LKPR J BO BUMB@Q>QFLK >?LRQ CRQROB FK@L J B >IPL >OB F J MLOQ>KQ FK ABQBO J FKFKD  
@LKPR J MQFLK (C @LKPR J BOP CBBI LMQF J FPQF@ >?LRQ QEB CRQROB QEBV >OB J LOB IFHBIV QL PMBKA >KA FK@OB>PB LSBO>II  
>DDOBD>QB AB J >KA - BTP LC OB@BPPFLK >KA QOLR?IBP FK QEB B@LKL J V TFII J >HB QEB J MRII ?>@H LK @LKPR J MQFLK
- d 6B>IQE LO @OBAFQ 6 EBK ELRPBELIAP BUMBOFBK@B >OFPB FK TB>IQE QEBV J >V ?B TFIIFKD QL @LKPR J B > EFDEBO PE>OB  
LC QEBFO FK@L J B >KA QL P>SB IBPP 6 EBK QEB 4 2 PQL@H J >OHBQ OLPB A0> J >QF@>IIV FK QEB I>QB P CLO BU> J MIB  
4 2 P>SFKDP O>QBP AB@IFKBA MOL??>IV FK M>OQ ?B@>RPB MBLMIB CBIQ QE>Q QEBFO TB>IQE E>A FK@OB>PBA >KA QEOB T>P  
IBPP KBBA QL P>SB 'LT AL MBLMIB PMBKA ?BVLKA QEBFO FK@L J B TEBK QEBV MBO@BFSB QEBFO TB>IQE FK@OB>PFKD 3EB  
>KPTBO FP ?LOOLTFKD . K QEB LQEB0 PFAB TEBK QEB 4 2 PQL@H J >OHBQ AB@IFKBA >?LRQ COL J , >O@E QL

, >0@E MBLMIB CBIQ C>O DOB>QBO RK@BOQ>FKQV >?LRQ QEBFO B@LKL J F@ CRQROB PL P>SFKDP O>QBP FK@OB>PBA TEFIB @LKPR J MQLK AB@IFKBA

%FK>IIV \*BVKB KLQBA QE>Q > S>OFBQV LC LQEBO C>@QLOP @L J ?FKB QL ABQBO J FKB ELT J R@E MBLMIB P>SB >KA PMBKA (C ELRPBELIA M0BCBOBK@BP >?LRQ P>SFKD PEFCQ FK > T>V QE>Q BK@LRO>DBP @LKPR J MQLK O>QEBO QE>K P>SFKD QEBK # TFII PEFCQ LRQ QL QEB OFDEQ

# Link It Up

6FPFQ QEFP TB?PQIB EQM LMBKPQ>U@LIIBDB LOD I \$f>KB=2BEJ CLO JLOB FKLOJ>QLK >?LRQ ELT QEB OB@BPPFLK >CCB@QBA S>OFLRP DOLRMP LC MBLMIB

## / ;4G 8G8E@<A8F !A18FG@8AG KC8A7<GHE8

6B @>II PMBKAFKD LK KBT @>MFQ>I DLLAP FKSBPQ J BKQ BUMBKAFQROB (KSBPQ J BKQ C>IIP FKQL CLRO @>QBDLOFBP MOLAR@BOdP ARO>?IB BNRFM J BKQ >KA PLCQT>OB KLBKOBPFABKQF>I PQOR@QROBP PR@E >P C>@QLOFBP LCCF@BP >KA OBQ>FI IL@>QFLKP @E>KDBP FK FKSBBKLOFBP >KA OBPFBKQF>I PQOR@QROBP PR@E >P PFKDIB C> J HIV EL J BP QLTKELRBPB >KA >M>OQ J BKQ ?RFIAFKDP !RPFKBPPBP @LKAR@Q QEB CFOPQ QE0BB QVMBP LC FKSBPQ J BKQ TEFIB ELRPBELIAP @LKAR@Q QEB I>PQ

\*BVKBdP QOB>Q J BKQ LC FKSBPQ J BKQ CL@RPBP LK QEB HBV OLIB LC BUMB@>QFLKP >?LRQ QEB CRQROB FK FKCIRBK@FKD ?RPFKBPP AB@FPFLKP 6 EBK > ?RPFKBPP AB@FABP QL J >HB >K FKSBPQ J BKQ FK MEVPF@>I >PPBP IFHB MI>KQP LO BNRFM J BKQ LO FK FKQ>KDF?IB >PPBP IFHB PHFIP LO > OBPB>0@E >KA ABSBILM J BKQ MOLGB@Q QE>Q CFO J @LKPFBOP ?LQE QEB BUMB@QBA FKSBPQ J BKQ ?BKBCFPQ CRQROB MOLCFQ BUMB@>QFLKP >KA QEB FKSBPQ J BKQ @LPQP FKQBOBPQ O>QBP

d \$UMB@>QFLKP LC CRQROB MOLCFQP 3EB @IB>OBPQ AOFB0 LC FKSBPQ J BKQ ?BKBCFP FP BUMB@>QFLKP CLO CRQROB MOLCFQP 6 EBK TB BUMB@>K B@LKL J V QL DOLT ?RPFKBPPBP MBO@BFSB > DOLT FKD J >OHBQ CLO QEBFO MOLAR@Q 3EBFO EFDEBO ABDOB LC ?RPFKBPP @LKCFAKB@B TFII BK@LRO>DB KBT FKSBPQ J BKQ %LO BU> J MIB FK QEB PB@LKA E>IC LC QEB P 4 2 FKSBPQ J BKQ IBSBIP PRODBA COL J LC &# / FK QL FK 'LTBSBO TEBK > OB@BPPFLK PQ>OQBA FK 4 2 FKSBPQ J BKQ IBSBIP NRF@HIV P>KH ?>@H QL LC &# / ?V

d (KQBOBPQ O>QBP >IPL MI>V > PFDKFCF@>KQ OLIB FK ABQBO J FFKD ELT J R@E FKSBPQ J BKQ > CFO J TFII J >HB )RPQ >P FKAFSFAR>IP KBBA QL ?LOOLT J LKBV QL MRO@E>PB EL J BP PL ?RPFKBPPBP KBBA CFK>K@FKD TEBK QEBV MRO@E>PB ?FD QF@HQB FQB J P 3EB @LPQ LC FKSBPQ J BKQ QERP FK@IRABP QEB FKQBOBPQ O>QB \$SBK FC QEB CFO J E>P QEB CRKAP QEB FKQBOBPQ O>QB J B>PROBP QEB LMMLOQRKFQV @LPQ LC MRO@E>PFK ?RPFKBPP @>MFQ>I +LTBO FKQBOBPQ O>QBP PQF J RI>QB FKSBPQ J BKQ PMBKAFKD >KA EFDEBO FKQBOBPQ O>QBP OBAR@B FQ

, >KV C>@QLOP @>K >CCB@Q QEB BUMB@QBA MOLCFQ>?FIFQV LK FKSBPQ J BKQ %LO BU> J MIB FC QEB BKBODV MOF@BP AB@IFKB QEBK FKSBPQ J BKQ QE>Q RPB BKBODV >P >K FKMQR TFII VFBIA EFDEBO MOLCFQ (C DLSBOK J BKQ LCCBOP PMB@F>I FK@BKQFSBP CLO FKSBPQ J BKQ CLO BU> J MIB QEO LRDE QEB Q>U @LAB QEBK FKSBPQ J BKQ TFII ILLH JLOB >QQO>@QFSB @LKSBOBPBIV FC DLSBOK J BKQ OB J LSBP PMB@F>I FKSBPQ J BKQ FK@BKQFSBP COL J QEB Q>U @LAB LO FK@OB>PBP LQEBO ?RPFKBPP Q>UBP QEBK FKSBPQ J BKQ TFII ILLH IBPP >QQO>@QFSB P \*BVKB KLQBA ?RPFKBPP FKSBPQ J BKQ FP QEB J LPQ S>Of>?IB LC >II QEB @L J MLKKBQP LC >D0BD>QB AB J >KA

## / ;4G 8G8E@<A8F B18EA@8AG +C8A7<A:

3EB QEF0A @L J MLKKBQ LC >D0BD>QB AB J >KA FP CBABO>I PQ>QB >KA IL@>I DLSBOK J BKQ PMBKAFKD IQELRDE TB RPR>IIV SFBT QEB 4KFQBA 2Q>QBP >P > J >OHBQ B@LKL J V DLSBOK J BKQ PQFII MI>VP > PFDKFCF@>KQ OLIB FK QEB B@LKL J V P TB AFP@RPP FK AI<EBA@8AG? (EBG8G<BA 4A7 &8:4G<18 K8EA4?<G<8F ;GG 6AK BE: 6BAG8AG @ ?4G8FG >KA (BF<G<18 K8EA4?<G<8F 4A7 (H5?<6 BB7F ;GG 6AK BE: 6BAG8AG @ ?4G8FG DLSBOK J BKQ MOLSFABP F J MLO>KQ MR?IF@ PBOF@BP PR@E >P K>QFLK>I ABCBKP B QQ>KPMLO>QFLK FKCO>PQOR@QROB >KA BAR@>QFLK

\*BVKBP OB@LDFKFWBA QE>Q QEB DLSBOK J BKQ ?RADBQ LCCBOBA > MLTBOCRI QLLI CLO FK CIRBK@FKD >DDOBD>QB AB J >KA -LQ LKIV @LRIA J LOB DLSBOK J BKQ PMBKAFKD PQF J RI>QB # LO IBPP DLSBOK J BKQ PMBKAFKD OBAR@B FQ ?RQ ILTBOFKD LO O>FPFKD Q>U O>QBP @LRIA FK CIRBK@B @LKPR J MQFLK >KA FKSBPQ J BKQ PMBKAFKD \*BVKBP @LK@IRABA QE>Q AROFKD BUQOB J B QF J BP IFHB ABBM OB@BPPFLKP LKIV QEB DLSBOK J BKQ E>A QEB MLTBO >KA OBPLRO@BP QL J LSB >DDOBD>QB AB J >KA

/ ;4G 8G8E@<A8F &8G KCBEGF

1B@>II QE>Q BUMLOQP >OB AL J BPQF@>IIV MOLAR@BA MOLAR@QP QE>Q PBII >?QL>A TEFIB F J MLOQP >OB CLOBFDK MOLAR@BA MOLAR@QP QE>Q @LKPR J BOP MRO@E>PB AL J BPQF@>IIV 2FK@B TB ABCFKB >DDOBD>QB AB J >KA >P PMBKAFKD LK AL J BPQF@ DLLAP >KA PBOSE@BP BUMLOQ BUMBKAFQROBP >AA QL # TEFIB F J MLOQ BUMBKAFQROBP PR?QO>@Q COL J #

3TL PBQP LC C>@QLOP @>K @>RPB PEFCQP FK BUMLOQ >KA F J MLOQ AB J >KA @E>KDBP FK OBI>QFSB DOLTQE O>QBP ?BQTBBK @LRKQOFBP >KA @E>KDBP FK OBI>QFSB MOF@BP ?BQTBBK @LRKQOFBP 6 E>Q FP E>MMBKFKD FK QEB @LRKQOFBP B@LKL JFBP QE>Q TLRIA ?B MRO@E>PFKD QELPB BUMLOQP EB>SFIV >CCB@QP QEB IBSBI LC AB J >KA CLO > K>QFLK P BUMLOQP %LO BU> J MIB FC J >GLO F J MLOQBOP LC J BOF@>K J >AB MOLAR@QP IFHB ">K>A> )>M>K >KA &B0 J >KV E>SB OB@BPPFLKP BUMLOQP LC 4 2 MOLAR@QP QL QELPB @LRKQOFBP >OB IFHBIV QL AB@IFKB "LKSBOPIV QEB > J LRKQ LC FK@L J B FK QEB AL J BPQF@ B@LKL J V AFOB@QIV >CCB@QP QEB NR>KQFQV LC > K>QFLK P F J MLOQP J LOB FK@L J B THII ?OFKD > EFDEBO IBSBI LC F J MLOQP

1BI>QFSB MOF@BP LC DLLAP FK AL J BPQF@ >KA FKQBOK>QFLK>I J >OHBQP @>K >IPL >CCB@Q BUMLOQP >KA F J MLOQP (C 4 2 DLLAP >OB OBI>QFSBIV @EB>MBO @L J M>OBA TFQE DLLAP J >AB FK LQEBO MI>@BP MBOE>MP ?B@>RPB > DOLRM LC 4 2 MOLAR@BOP E>P J >PQBOBA @BOQ>FK MOLAR@QFSFQV ?OB>HQEOLRDEP QEBK 4 2 BUMLOQP >OB IFHBIV QL OFPB (C 4 2 DLLAP ?B@L J B OBI>QFSBIV J LOB BUMBKPFBS MBOE>MP ?B@>RPB > @E>KDB FK QEB BU@E>KDB O>QB ?BQTBBK QEB 4 2 ALII>O >KA LQEBO @ROBK@FBP E>P MRPEBA RM QEB MOF@B LC FKMRQP QL MOLAR@FLK FK QEB 4KFQBA 2Q>QBP QEBK BUMLOQP COL J 4 2 MOLAR@BOP >OB IFHBIV QL AB@IFKB

,45?8 PR J J >OFWBP QEB OB>PLKP TB E>SB BUMI>FKBA CLO @E>KDBP FK >DDOBD>QB AB J >KA

* 84FBAF 9BE 4 86E84F8 <A : :E8 : 4G8 8@4A7	* 84FBAF 9BE 4A !A6E84F8 <A : :E8 : 4G8 8@4A7
<p><b>Consumption</b></p> <ul style="list-style-type: none"> <li>d 2FPB FK Q&gt;UBP</li> <li>d &amp;&gt;II FK FK@L J B</li> <li>d 2FPB FK FKQB0BPQ O&gt;QBP</li> <li>d \$BPFOB QL P&gt;SB J LOB</li> <li>d \$B@OB&gt;PB FK TB&gt;IQE</li> <li>d &amp;&gt;II FK CRQROB BUMB@QBA FK@L J B</li> </ul>	<p><b>Consumption</b></p> <ul style="list-style-type: none"> <li>d \$B@OB&gt;PB FK Q&gt;UBP</li> <li>d )K@OB&gt;PB FK FK@L J B</li> <li>d &amp;&gt;II FK FKQB0BPQ O&gt;QBP</li> <li>d \$BPFOB QL P&gt;SB IBPP</li> <li>d 2FPB FK TB&gt;IQE</li> <li>d 2FPB FK CRQROB BUMB@QBA FK@L J B</li> </ul>
<p><b>Investment</b></p> <ul style="list-style-type: none"> <li>d &amp;&gt;II FK BUMB@QBA O&gt;QB LC OBQROK</li> <li>d 2FPB FK FKQB0BPQ O&gt;QBP</li> <li>d \$OLM FK ?RPFKBPP @LKCFA BK@B</li> </ul>	<p><b>Investment</b></p> <ul style="list-style-type: none"> <li>d 2FPB FK BUMB@QBA O&gt;QB LC OBQROK</li> <li>d \$OLM FK FKQB0BPQ O&gt;QBP</li> <li>d 2FPB FK ?RPFKBPP @LKCFA BK@B</li> </ul>
<p><b>Government</b></p> <ul style="list-style-type: none"> <li>d 2BAR@QFLK FK DLSBOK J BKQ PMBKAFKD</li> <li>d )K@OB&gt;PB FK Q&gt;UBP</li> </ul>	<p><b>Government</b></p> <ul style="list-style-type: none"> <li>d )K@OB&gt;PB FK DLSBOK J BKQ PMBKAFKD</li> <li>d \$B@OB&gt;PB FK Q&gt;UBP</li> </ul>
<p><b>Net Exports</b></p> <ul style="list-style-type: none"> <li>d \$B@OB&gt;PB FK CLOBFDK AB J &gt;KA</li> <li>d 2BI&gt;QFSB MOF@B FK@OB&gt;PB LC 5 3 DLLAP</li> </ul>	<p><b>Net Exports</b></p> <ul style="list-style-type: none"> <li>d )K@OB&gt;PB FK CLOBFDK AB J &gt;KA</li> <li>d 2BI&gt;QFSB MOF@B AOLM LC 5 3 DLLAP</li> </ul>

# N , ;8 H<?7<A: ?B6>F B9 #8LA8F<4A A4?LF<F

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d \$S>IR>QB QEB \*BVKBPF>K SFBT LC OB@BPPFLKP QEOLRDE >K RKABOPQ>KAFKD LC PQF@HV T>DBP >KA MOF@BP >KA QEB F J MLOQ>K@B LC >DDOBD>QB AB J >KA
- d \$UMI>FK QEB @LLOAFK>QFLK >ODR J BKQ J BKR @LPQP >KA J >@OLB@LKL J F@ BUQBOK>IFQV
- d K>IVWB QEB F J M>@Q LC QEB BUMBKAFQROB J RIQFIFB0

- LT QE>Q TB E>SB > @IB>0 RKABOPQ>KAFKD LC TE>Q @LKPQFQRQBP >DDOBD>QB AB J >KA TB OBQROK QL QEB \*BVKBPF>K >ODR J BKQ RPFKD QEB J LABI LC >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV # 2 %LO > PF J FI>0 QOB>Q J BKQ RPFKD \*BVKBPD FK@L J B BUMBKAFQROB J LABI PBB QEB >MMBKAFU LK , ;8 KC8A7<GHE8 'HGCHG %B78?

\*BVKBPF>K B@LKL J F@P CL@RPBP LK BUMI>FKFKD TEV OB@BPPFLKP >KA ABMOBPPFLKP L@RO >KA LCCBOFKD > MLIF@V MOBP@QFMQFLK CLO J FK F J FFKD QEBFO BCCB@QP 3EB \*BVKBPF>K SFBT LC OB@BPPFLK FP ?>PBA LK QTL HBV ?RFIAFKD ?IL@HP %FOPQ >DDOBD>QB AB J >KA FP KLQ >IT>VP >RQL J >QF@>IIV EFDE BKL RDE QL MOLSFAB CFO J P TFQE >K FK@BKQFSB QL EFOB BKL RDE TLOHBOP QL OB>@E CRII B J MILV J BKQ 2B@LKA QEB J >@OLB@LKL J V J >V >AGRQ LKIV PILTIV QL PEFCQP FK >DDOBD>QB AB J >KA ?B@>RPB LC **sticky wages and prices** TEF@E >OB T>DBP >KA MOF@BP QE>Q AL KLQ OBPMLKA QL AB@OB>PBP LO FK@OB>PBP FK AB J >KA 6B TFII @LKPFABO QEBPB QTL @I>F J P FK QROK >KA QEBK PBB ELT QEBV >OB OBMOBPBKQBA FK QEB # 2 J LABI

3EB CFOPQ ?RFIAFKD ?IL@H LC QEB \*BVKBPF>K AF>DKLPFP FP QE>Q OB@BPPFLKP L@RO TEBK QEB IBSBI LC AB J >KA CLO DLLAP >KA PBOSE@BP FP IBPP QE>K TE>Q FP MOLAR@BA TEBK I>?LO FP CRIIV B J MILVBA (K LQEB0 TLOAP QEB FKQBOPB@QFLK LC >DDOBD>QB PRMMIV >KA >DDOBD>QB AB J >KA L@RO P >Q > IBSBI LC LRQMRQ IBPP QE>K QEB IBSBI LC &# / @LKPFPQBKQ TFQE CRII B J MILV J BKQ 2RMMLPB QEB PQL@H J >OHBQ @O>PEBP >P FK LO PRMMLPB QEB ELRPFKD J >OHBQ @LII>MPBP >P FK (K BFQEB0 @>PB ELRPBELIA TB>IQE TFII AB@IFKB >KA @LKPR J MQFLK BUMBKAFQROB TFII CLILT 2RMMLPB ?RPFKBPPBP PBB QE>Q @LKPR J BO PMBKAFKD FP C>IFKD 3E>Q TFII OBAR@B BUMB@Q>QFLK LC QEB MOLCFQ>?FQV LC FKSBPQ J BKQ PL ?RPFKBPPBP TFII AB@OB>PB FKSBPQ J BKQ BUMBKAFQROB

3EFP PBB J BA QL ?B QEB @>PB AROFKD QEB &OB>Q #BMOBPPFLK PFK@B QEB MEVPF@>I @>M>@FQV LC QEB B@LKL J V QL PRMMIV DLLAP AFA KLQ >IQBO J R@E - L CILLA LO B>OQENR>HB LO LQEB0 K>QRO>I AFP>PQBO ORFKBA C>@QLOFBP FK LO - L LRQ?OB>H LC AFPB>PB AB@F J >QBA QEB O>KHP LC TLOHBOP - L HBV FKMQR MOF@B IFHB QEB MOF@B LC LFI PL>OBA LK TLOIA J >OHBQP 3EB 4 2 B@LKL J V FK E>A GRPQ >?LRQ QEB P> J B C>@QLOFBP TLOHBOP >KA PQ>QB LC QB@EKLILDV >P FQ E>A E>A CLRO VB>OP B>OIFBO FK b >KA VBQ QEB B@LKL J V E>A PEORKH AO> J >QF@>IIV 3EFP >IPL PBB J P QL ?B TE>Q E>MMBKBA FK

P \*BVKBPF OB@LDKFWBA QEB BSBKQP LC QEB #BMOBPPFLK @LKQ>AF@QBA 2>VdP I>T QE>Q ePRMMIV @OB>QBP FQP LTK AB J >KA f IQELRDE MOLAR@QFLK @>M>@FQV BUFPQBA QEB J >OHBQP TBOB KLQ >?IB QL PBII QEBFO MOLAR@QP P > OBPRIQ OB>I &# / T>P IBPP QE>K MLQBKQF>I &# /

## Link It Up

6fPq QEFB TB?PqB EQQM LMBKPQ>U@LIIBDB LOD I BUMBKAFQROB CLO 0>T A>Q> RPBA QL @>I@RI>QB ' \$0



## / 4:8 4A7 (E<68 +G<6><A8FF

\*BVKBPF >IPL MLFKQBA LRQ QE>Q >IQELRDE # CIR@QR>QBA MOF@BP >KA T>DBP AFA KLQ F J J BAF>QBIV OBPMLKA >P B@LKL J FPQP LCQBK BUMB@QBA (KPB>A MOF@BP >KA T>DBP >OB ePQF@HV f J >HFKD FQ AFCCF@RIQ QL OBPQLOB QEB B@LKL J V QL CRII B J MILV J BKQ



>KA MLQBKQF>I &# / \*BVKB B J ME>PFWBA LKB M>OQF@RI>O OB>PLK TEV T>DBP TBOB PQF@HV QEB **coordination argument**  
3EFP >ODR J BKQ MLFKQP LRQ QE>Q BSBK FC J LPQ MBLMIB TLRIA ?B TFIIFKD b >Q IB>PQ EVMLQEBQF@>IIV b QL PBB > AB@IFKB FK  
QEBFO LTK T>DBP FK ?>A B@LKL J F@ QF J BP >P ILKD >P BSOVLKB BIPB >IPL BUMBOFBK@BA PR@E > AB@IFKB > J >OHBQ LOFBKQBA  
B@LKL J V E>P KL L?SFLRP T>V QL F J MIB J BKQ > MI>K LC @LLOAFK>QBA T>DB OBAR@QFLKP - **A8@C@BL@8AG** MOLMLPBA >  
KR J ?BO LC OB>PLKP TEV T>DBP J FDEQ ?B PQF@HV ALTKT>OA J LPQ LC TEF@E @BKQBO LK QEB >ODR J BKQ QE>Q ?RPFKBPPBP >SLFA  
T>DB @RQP ?B@>RBP QEBV J >V FK LKB T>V LO >KLQEBBO ABMOBPP J LO>IB >KA EROQ QEB MOLAR@QFSFV LC QEB BUFPQFKD TLOHBOP

2L J B J LABOK B@LKL J FPQP E>SB >ODRBA FK > \*BVKBPF>K PMFOFQ QE>Q >ILKD TFQE T>DBP LQEBO MOF@BP J >V ?B PQF@HV QLL  
, >KV CFO J P AL KLQ @E>KDB QEBFO MOF@BP BSOV A>V LO BSBK BSOV J LKQE 6 EBK > CFO J @LKPFBOP @E>KDFKD MOF@BP FQ J RPQ  
@LKPFBOP QTL PBQP LC @LPQP %FOPQ @E>KDFKD MOF@BP RPB @L J M>KV OBPLRO@BP J >K>DBOP J RPQ >K>IVWB QEB @L J MBQFQFLK >KA  
J >OHBQ AB J >KA >KA AB@FAB QEB KBT MOF@BP QEBV J RPQ RMA>QB P>IBP J >QBOF>IP @E>KDB ?FIIFKD OB@LOAP >KA OBAL MOLAR@Q  
>KA MOF@B I>?BIP 2B@LKA COBNRBKQ MOF@B @E>KDBP J >V IB>SB @RPQL J BOP @LKRCPBA LO >KDOV b BPMB@F>IIV FC QEBV AFP@LSBO  
QE>Q > MOLAR@Q KLT @LPQP J LOB QE>K QEBV BUMB@QBA 3EBPB @LPQP LC @E>KDFKD MOF@BP >OB @>IIBA **menu costs** b IFHB QEB  
@LPQP LC MOFKQFKD > KBT PBQ LC J BKRP TFQE AFCCBOBKQ MOF@BP FK > OBPQ>RO>KQ /OF@BP AL OBPLKA QL CLO@BP LC PRMMIV >KA  
AB J >KA ?RQ COL J > J >@OLB@LKL J F@ MB@PMB@QFSB QEB MOL@BPP LC @E>KDFKD >II MOF@BP QEOLRDELRLQ QEB B@LKL J V Q>HBP  
QF J B

3L RKABOP>KA QEB BCCB@Q LC PQF@HV T>DBP >KA MOF@BP FK QEB B@LKL J V @LKPFBOP <:HE8 > FIIRPQ>QFKD QEB LSBO>II  
I>?LO J >OHBQ TEFIB <:HE8 ? FIIRPQ>QBP > J >OHBQ CLO > PMB@FCF@ DLLA LO PBOSF@B 3EB LOFDFK>I BNRIF?OFR J \$  
FK B>@E J >OHBQ L@R@P >Q QEB FKQBOPB@QFLK LC QEB AB J >KA @ROSB # >KA PRMMIV @ROSB 2 6 EBK >DDOBD>QB AB J >KA  
AB@IFKB QEB AB J >KA CLO I>?LO PEFQCP QL QEB IBCQ QL # FK <:HE8 > >KA QEB AB J >KA CLO DLLAP PEFQCP QL QEB IBCQ  
QL # FK <:HE8 ? 'LTBSBO ?B@>RBP LC PQF@HV T>DBP >KA MOF@BP QEB T>DB OB J >FKP >Q FQP LOFDFK>I IBSBI 6  
CLO > MBOFLA LC QF J B >KA QEB MOF@B OB J >FKP >Q FQP LOFDFK>I IBSBI /

P > OBPRIQ > PFQR>QFLK LC BU@BPP PRMMIV b TEBOB QEB NR>KQFV PRMMIFBA BU@BBAP QEB NR>KQFV AB J >KABA >Q QEB BUFPQFKD  
T>DB LO MOF@B b BUFPQ FK J >OHBQ CLO ?LQE I>?LO >KA DLLAP >KA O FP IBPP QE>K O FK ?LQE <:HE8 > >KA <:HE8  
? 6 EBK J >KV I>?LO J >OHBQ >KA J >KV DLLAP J >OHBQ >II >@OLPP QEB B@LKL J V CFKA QEB J PBISBP FK QEP MLPFQFLK  
QEB B@LKL J V FP FK > OB@BPPFLK QE>Q FP CFO J P @>KKLQ PBII TE>Q QEBV TFPE QL MOLAR@B >Q QEB BUFPQFKD J >OHBQ MOF@B >KA  
AL KLQ TFPE QL EFOB >II TEL >OB TFIIFKD QL TLOH >Q QEB BUFPQFKD J >OHBQ T>DB 3EB "IB>O (Q 4M CB>QROB AFP@RPPBP QEP  
MOL?IB J FK J LOB ABQ>FI

<:HE8 +@<6>L (E<68F 4A7 4??A: 8@4A7 <A G; 8 \$45BE 4A7 BB7F %4E>8G )K ?LQE > >KA ? AB J >KA PEFQCP  
IBCQ COL J \$ QL \$ (LTBSBO QEB T>DB FK > >KA QEB MOF@B FK ? AL KLQ F J J BAF>QBIV AB@IFKB )K > QEB NR>KQFV  
AB J >KABA LC I>?LO >Q QEB LOFDFK>I T>DB 7 FP 1 ?RQ TFQE QEB KBT AB J >KA @ROSB CLO I>?LO \$ FQ THH ?B 1  
3F J FI>OIV FK ? QEB NR>KQFV AB J >KABA LC DLLAP >Q QEB LOFDFK>I MOF@B O FP 1 ?RQ >Q QEB KBT AB J >KA @ROSB \$ FQ  
THH ?B 1 !K BU@BPP PRMMIV LC I>?LO THH BUFPQ TEF@E TB @>II RKB J MILV J BKQ !K BU@BPP PRMMIV LC DLLAP THH >IPL  
BUFPQ TEBOB QEB NR>KQFV AB J >KABA FP PR?PQ>KQF>IIV IBPP QE>K QEB NR>KQFV PRMMIFBA 4ERP PQF@HV T>DBP >KA PQF@HV  
MOF@BP @L J ?FKBA TFQE > AOLM FK AB J >KA ?QFKD >?LRQ RKB J MILV J BKQ >KA OB@BPPFLK

# Clear It Up



/ ;L !F G ;8 (468 B9 / 4:8 7=HFG@8AGF +?BJ

4EB 0B@LSB0V >CQBO QEB ' 0B>Q 2B@BPPFLK FK QEB 5KfQBA 3Q>QBP E>P ?BBK PILT TfQE T>DBP Pq>DK>KQ FC KLQ  
AB@IFKFKD )K C>@Q J >KV ILT T>DB TLOHBOP >Q - @\$LK>IAP \$L J fKLP >KA 7>I J >OQ E>SB QE0B>QBKBA QL Pq0fHB CL0  
EFDEBO T>DBP 4EBf0 MIFDEQ FP M>OQ LC > I>0DB0 QOBKA FK GL? D0LTQE >KA M>V FK QEB MLPQ^0B@BPPFLK 0B@LSB0V

<:HE8 "B5F \$BFG 4<A87 <A G ;8 \*868FF<BA \*86B I8EL \$>Q> FK QEB >CQBO J>QE LC QEB ' 0B>Q  
2B@BPPFLK PRDDBPQP QE>Q GL?P ILPQ TBOB FK JfA T>DB L@@RM>QfLKP TEfHB GL?P D>fKBA TBOB FK ILT T>DB  
L@@RM>QfLKP

4EB .>QfLK>I % J MILV J BKQ ,>T OOLG@ @L J MHBA A>Q> COL J QEB "ROB>R LC ,>?LO 3Q>QfPQf@P >KA CLRKA QE>Q  
AROfKD QEB ' 0B>Q 2B@BPPFLK LC GL? ILPPBP TBOB FK JBAfR J T>DB L@@RM>QfLKP - LPQ LC QEB J TBOB  
OBMI>@BA AROfKD QEB 0B@LSB0V MBOFLA TfQE ILTBO T>DB GL?P FK QEB PBOSf@B 0BQ>fI >KA CLLA FKARPQfBP <:HE8  
fIIRPQ>QBP QEFp A>Q>

7>DBP FK QEB PBOSf@B 0BQ>fI >KA CLLA FKARPQfBP >OB >Q LO KB>O J fKf J R J T>DB >KA QBKA QL ?B ?LQE ALTKT>0AIV  
>KA RMT>0AIV bPQf@HV c 7>DBP >OB ALTKT>0AIV Pqf@HV ARB QL J fKf J R J T>DB I>TP 4EBV J >V ?B RMT>0AIV Pqf@HV  
fC fKPRCCf@fBKQ @L J MBQfQfLK FK ILT PHfIIBA I>?LO J >0HBQP BK>?IBP B J MILVBOP QL >SLFA 0>fPfkD T>DBP QE>Q TLRIA  
OBAR@B QEBf0 MOLCRQP !Q QEB P>JB Qf JB ELTBSBO QEB #LQPR J BO Of@B )KABU FK@OB>PBA ?BQTBBK >KA  
MRPEfKD 0B>I T>DBP ALTK

, ;8 , JB #8LA8F<4A FFH@CG<BAF <A G ;8 + %B78?

<:HE8 FP QEB # 2 Af>D0>J TEf@E fIIRPQ>QBP QEBPB QTL \*BVKBPF>K >PPR J MQfLKP b QEB f J MLOQ>K@B LC >DD0BD>QB  
AB J >KA FK @>RPFKD 0B@BPPFLK >KA QEB Pqf@HFKBPP LC T>DBP >KA MOF@BP - LQB QE>Q ?B@>RPB LC QEB Pqf@HFKBPP LC T>DBP >KA  
MOF@BP QEB >DD0BD>QB PRMMIV @ROSB FP CI>QBO QE>K BfQEBO PRMMIV @ROSB I>?LO LO PMB@fCF@ DLLA (K C>@Q fC T>DBP >KA  
MOF@BP TBOB PL Pqf@HV QE>Q QEBV AFA KLQ C>II >Q >II QEB >DD0BD>QB PRMMIV @ROSB TLRIA ?B @L J MIBQBIv CI>Q ?BILT MLQBKQf>I  
&# / >P <:HE8 PELTP 3EFp LRQ@L J B FP >K F J MLOQ>KQ BU>J MIB LC > **macroeconomic externality** TEB0B TE>Q  
E>MMBKP >Q QEB J>@OL IBSBI FP AfCCBOBKQ COL J >KA FKCBOfLO QL TE>Q E>MMBKP >Q QEB J f@OL IBSBI %LO BU>J MIB >CfO J  
PELRIA OBPLKA QL > AB@OB>PB FK AB J >KA CLO fQP MOLAR@Q ?V @RQfFKD fQP MOF@B QL FK@OB>PB P>IBP ' LTBSBO fC >II CfO J P  
BUMBOfBK@B > AB@OB>PB FK AB J >KA CLO QEBf0 MOLAR@Q Pqf@HV MOF@BP FK QEB >DD0BD>QB MOBSBKQ >DD0BD>QB AB J >KA COL J  
0B?LRKAfKD TEf@E TB TLRIA PELT >P > J LSB J BKQ >ILKD QEB # @ROSB FK OBPLKPB QL > ILTBO MOF@B IBSBI

3EB LOFDFK>I BNRfIF>OFR J LC QEFp B@LKL J V L@@ROP TEB0B QEB >DD0BD>QB AB J >KA CRK@QfLK # FKQBOPB@QP TfQE 2  
2FK@B QEFp FKQBOPB@QfLK L@@ROP >Q MLQBKQf>I &# / 8M QEB B@LKL J V FP LMBO>QfKD >Q CRII B J MILV J BKQ 6 EBK >DD0BD>QB

AB J >KA PEFCQP QL QEB IBCQ >II QEB >AGRPQ J BKQ L@@ROP QEOLRDE AB@OB>PBA OB>I &# / 3EBOB FP KL AB@OB>PB FK QEB MOF@B IBSBI 2FK@B QEB BNRIF?OFR J L@@ROP >Q 8 QEB B@LKL J V BUMBOFBK@BP PR?PQ>KQF>I RKB J MILV J BKQ

<:HE8 #8LA8F<4A (8EFC86G<18 B9 \*868FF<BA 4EFP CFDR@B FIIRPQ>QBP QEB QTL HBV >PPR J M@FLKP ?BEFKA +BVKBPF>K B@LKL J F@P ! OB@BPPFLK ?BDFKP TEBK >DDOBD>QB AB J >KA AB@IFKBP COL J ! \$ QL ! \$ 4EB OB@BPPFLK MBOPFPQP ?B@>RPB LC QEB >PPR J M@FLK LC CFUBA T>DBP >KA MOF@BP TEF@E J >HBP QEB 32 ! 3 CI>Q ?BILT MLQBKQF>I ' \$ O )C QE>Q TB@B KLQ QEB @>PB QEB MOF@B IBSBI TLRIA C>II >IPL O>FPFKD ' \$ O >KA IF J FQFKD QEB OB@BPPFLK )KPQ>A QEB FKQBOPB@QLK % L@@ROP FK QEB CI>Q MLO@FLK LC QEB 32 ! 3 @ROSB TEB@B ' \$ O FP IBPP QE>K MLQBKQF>I

### , ;8 KC8A7<GHE8 %H?G<C?<8E

HBV @LK@BMQ FK \*BVKBPF>K B@LKL J F@P FP QEB **expenditure multiplier** 3EB BUMBKA@ROB J RIQFMIFBO FP QEB FAB> QE>Q KLQ LKIV ALBP PMBKA@FKD >CCB@Q QEB BNRIF?OFR J IBSBI LC &# / ?RQ QE>Q PMBKA@FKD FP MLTBOCRI , LOB MOB@FPBIV FQ J B>KP QE>Q > @E>KDB FK PMBKA@FKD @>RPBP > J LOB QE>K MOLML@QLK>QB @E>KDB FK &# /

$$\frac{\Delta Y}{\Delta \text{Spending}} > 1$$

3EB OB>PLK CLO QEB BUMBKA@ROB J RIQFMIFBO FP QE>Q LKB MBOPLK@P PMBKA@FKD ?B@L J BP >KLQEB@ MBOPLK@P FK@L J B TEF@E IB>AP QL >AAF@FLK>I PMBKA@FKD >KA >AAF@FLK>I FK@L J B PL QE>Q QEB @R J RI>QFSB F J M>@Q LK &# / FP I>ODBO QE>K QEB FKFQF>I FK@OB>PB FK PMBKA@FKD 3EB >M@BKA@FU LK , ;8 KC8A7<GHE8 'HGCHG %B78? M@LSFABP QEB ABQ>FIP LC QEB J RIQFMIFBO MOL@BPP ?RQ QEB @LK@BMQ FP F J MLO@>KQ BKL@RDE CLO RP QL PR J J >OFWB EBOB 6 EFIB QEB J RIQFMIFBO FP F J MLO@>KQ CLO RKABOP>KAFKD QEB BCCB@QFSBKBPP LC CFP@>I MLIF@V FQ L@@ROP TEBKBSBO >KV >RQLKL J LRP FK@OB>PB FK PMBKA@FKD L@@ROP AAF@FLK>IIV QEB J RIQFMIFBO LMB@>QBP FK >KBD>QFSB >P TBII >P >MLPF@FSB AFOB@QLK 3ERP TEBK FKS@BPQ J BKQ PMBKA@FKD @LII>MPBA AROFKD QEB &OB>Q #BMOBPPFLK FQ @>RPBA > J R@E I>ODBO AB@OB>PB FK OB>I &# / 3EB PFWB LC QEB J RIQFMIFBO FP @OFQF@>I >KA T>P >HBV BIB J BKQ FK AFP@RPPFLK LC QEB BCCB@QFSBKBPP LC QEB . ?> J >A J FKFPQ>QLK@P CFP@>I PQF J RIRP M>@H>DB LCCF@F>IIV QFQIBA QEB J BOF@>K 1B@LSBOV >KA 1BFKS@BPQ J BKQ @Q LC

### N , ;8 ( ;??<CF HEI8

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

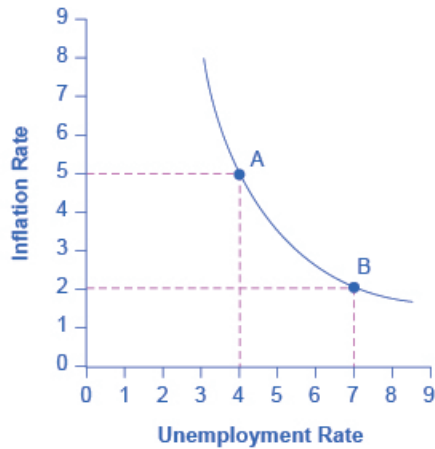
- d \$UMI>FK QEB / EFII@MP @ROSB KLQFKD FQP F J M>@Q LK QEB QEBLOFBP LC \*BVKBPF>K B@LKL J F@P
- d &O>ME > / EFII@MP @ROSB
- d (ABKQFCV C>@QLOP QE>Q @>RPB QEB FKPQ>?FIFQV LC QEB / EFII@MP @ROSB
- d K>IVWB QEB \*BVKBPF>K MLIF@V CLO OBAR@FKD RKB J MILV J BKQ >KA FKCI>QLK

3EB PF J MIFC@BA # 2 J LABI QE>Q TB E>SB RPBA PL C>O FP CRIIV @LKPFPQBKQ TFQE \*BVKB@P L@FDFK>I J LABI , LOB OB@BKQ OB@PB>O@E QELRDE E>P FKA@>QBA QE>Q FK QEB OB>I TLOIA >K >DDOBD>QB PRMMIV @ROSB FP J LOB @ROSB@ QE>K QEB OFDEQ >KDIB QE>Q TB RPBA FK QEFP @E>M@B0 1>QEBO QEB OB>I TLOIA 2 @ROSB FP SBOV CI>Q >Q IBSBIP LC LRQMRQ C>O ?BILT MLQBKQF>I eQEB \*BVKBPF>K WLK@F SBOV PQBBM >Q IBSBIP LC LRQMRQ >?LSB MLQBKQF>I eQEB KBL@I>PPF@>I WLK@F >KA @ROSB@ FK ?BQTBBK eQEB FKQBO J BAF@QB WLK@F <:HE8 FIIRPQ>QBP QEFP 3EB QVMF@>I >DDOBD>QB PRMMIV @ROSB IB>AP QL QEB @LK@BMQ LC QEB /EFII@MP @ROSB

<:HE8 #8LA8F &8B6?4FF<64? 4A7 !A68E@87<468 2BA8F <A G;8 : :E8:468 +HCC?L HEI8 . B>0 QEB BNRHF?0FR J %H FK QEB +BVKBPF>K WLKB >Q QEB 32 ! 3 @ROSB P C>0 IBCQ P J>II PEFCQP FK ! \$ BFQEBO QL QEB OFDEQ LO QEB IBCQ TFII >CCB@Q QEB LRQMRQ IBSBI 9H ?RQ TFII KLQ J R@E >CCB@Q QEB MOF@B IBSBI )K QEB +BVKBPF>K WLKB ! \$ I>0DBIV ABQBO J FKBP QEB NR>KQFQV LC LRQMRQ . B>0 QEB BNRHF?0FR J %K FK QEB KBL@I>PPF@>I WLKB >Q QEB 32 ! 3 @ROSB P C>0 OFDEQ P J>II PEFCQP FK ! \$ BFQEBO QL QEB OFDEQ LO QEB IBCQ TFII E>SB 0BI>QFSBIV IFQIB BCCB@Q LK QEB LRQMRQ IBSBI 9K ?RQ FKPB>A TFII E>SB > DOB>QBO BCCB@Q LK QEB MOF@B IBSBI )K QEB KBL@I>PPF@>I WLKB QEB KB>0 SBOQF@>I 32 ! 3 @ROSB @ILPB QL QEB IBSBI LC MLQBKQF>I ' \$ 0 >P 0BMOBPBKQBA ?V QEB , 2 ! 3 IFKB I>0DBIV ABQBO J FKBP QEB NR>KQFQV LC LRQMRQ )K QEB FKQBO J BAF>QB WLKB >0LRKA BNRHF?0FR J %F J LSB J BKQ FK ! \$ QL QEB OFDEQ TFII FK@QB>PB ?LQE QEB LRQMRQ IBSBI >KA QEB MOF@B IBSBI TEHIB > J LSB J BKQ FK ! \$ QL QEB IBCQ TLRIA AB@QB>PB ?LQE QEB LRQMRQ IBSBI >KA QEB MOF@B IBSBI

### , ;8 <F6BI8EL B9 G;8 (;<??<CF HEI8

(K QEB P 6 /EFHIFMP >K B@LKL J FPQ >Q QEB +LKALK 2@ELLI LC \$@LKL J F@P T>P PQRAVFKD QEB \*BVKBPF>K >K>IVQF@>I CO> J BTLOH 3EB \*BVKBPF>K QEBLOV F J MIFBA QE>Q AROFKD > 0B@BPPFLK FKCI>QFLK>OV MOBPPROBP >0B ILT ?RQ TEBK QEB IBSBI LC LRQMRQ FP >Q LO BSBK MRPEFKD ?BVLKA MLQBKQF>I &# / QEB B@LKL J V FP >Q DOB>QBO OFPH CLO FKCI>QFLK / EFHIFMP >K>IVWBA VB>OP LC ! OFQFPE A>Q> >KA AFA CFKA QE>Q QO>ABLCC ?BQTB BK RKB J MILV J BKQ >KA FKCI>QFLK TEF@E ?B@> J B HKLTK >P QEB **Phillips curve** <:HE8 PELTP > QEBLOBQF@>I / EFHIFMP @ROSB >KA QEB CLHILTFKD 6LOH (Q . RQ CB>QROB PELTP ELT QEB M>QQBOK >MMB>OP CLO QEB 4KFQBA 2Q>QBP



<:HE8 #8LA8F<4A (;<??<CF HEI8 ,E478B99 58G J88A -A8@C?BL@8AG 4A7 !A9?4G<BA ! OEHIFMP @ROSB HIIRPQ>QBP > QO>ABLCC ?BQTB BK QEB RKB J MILV J BKQ O>QB >KA QEB FKCI>QFLK O>QB )C LKB FP EFDEBO QEB LQEBO J RPQ ?B ILTBO &LO BU> J MIB MLFKQ ! HIIRPQ>QBP > FKCI>QFLK O>QB >KA > RKB J MILV J BKQ )C QEB DLSBOK J BKQ >QB J MQP QL 0BAR@B FKCI>QFLK QL QEBK FQ TFII BUMBOFBK@B > OFPB FK RKB J MILV J BKQ QL >P MLFKQ " PELTP

# Work It Out

, ;8 ( ;<??<CF HEI8 9BE G ;8 - A<G87 +G4G8F

3QBM ' L QL QEFP J85F<8 ;GGC HF4 :BI 6 CF7\$ QL PBB QEB *Economic Report of the President.*

3QBM 3@0LII ALTK >KA IL@>QB 4>?IB " FK QEB !MMBKAf@BP 4EFP Q>?IB FP QFQIBA b#E>KDBP FK PMB@F>I @LKPR J B0 MOF@B FKABUBP ^ c

3QBM \$LTKIL>A QEB Q>?IB FK %U@BI ?V PBIB@QFKD QEB 8 , 3 LMQFLK >KA QEBK PBIB@QFKD QEB IL@>QFLK FK TEF@E QL P>SB QEB CFIB

3QBM / MBK QEB ALTKIL>ABA %U@BI CFIB

3QBM 6FBT QEB QEFOA @LIR J K I>?BIBA b9B>0 QL VB>0c 4EFP FP QEB FKCI>QFLK 0>QB J B>PROBA ?V QEB MBO@BKQ>DB @E>KDB FK QEB #LKPR J B0 OQF@B )KABU

3QBM 2BQR0K QL QEB TB?PQ B >KA P@0LII QL IL@>QB QEB !MMBKAfU 4>?IB " b#FSHF>K RKB J MILV J BKQ 0>QB ^

3QBM \$LTKIL>A QEB Q>?IB FK %U@BI

3QBM / MBK QEB ALTKIL>ABA %U@BI CFIB >KA SFBT QEB PB@LKA @LIR J K 4EFP FP QEB LSB0>II RKB J MILV J BKQ 0>QB

3QBM 5PFKD QEB A>Q> >S>FI>?IB COL J QEBPB QTL Q>?IBP MILQ QEB OEFIHMP @ROSB CLO ^ TFQE RKB J MILV J BKQ 0>QB LK QEB U >UFP >KA QEB FKCI>QFLK 0>QB LK QEB V >UFP 9LR0 DO>ME PELRIA ILLH IFHB <:HE8

<:HE8 , ;8 ( ;<??<CF HEI8 9EB@ P 4EFP @E>0Q PELTP QEB KBD>QFSB OBI>QFLKPEFM ?BQTBBK RKB J MILV J BKQ >KA FKCI>QFLK

3QBM OILQ QEB OEFIHMP @ROSB CLO ^ 7 E>Q ALBP QEB DO>ME ILLH IFHB \$L VLR PQFI PBB QEB QO>ABLCC ?BQTBBK FKCI>QFLK >KA RKB J MILV J BKQ 9LR0 DO>ME PELRIA ILLH IFHB <:HE8

<:HE8 - + (;<?<CF HEI8 P 4EB Q0>ABLCC ?BQTB BK RKB J MILV J BKQ >KA FKCI>QFLK  
>MMB>OBA QL ?0B>H ALTK AROFKD QEB P >P QEB OEFHMP #ROSB PEFCQBA LRQ QL QEB OFDEQ  
/ SBO QEFP ILKDBO MBOFLA LC QF J B QEB OEFHMP @ROSB >MMB>OP QL E>SB PEFCQBA LRQ 4EB0B FP KL Q0>ABLCC >KV J LOB

### , ; 8 !AF645<?<GL B9 G ; 8 (;<?<CF HEI8

#ROFKD QEB P B@LKL J FPQP SFBTBA QEB /EFHMP @ROSB >P MLIF@V J BKR K>QFLK @LRIA @ELLPB ILT FKCI>QFLK  
>KA EFDE RKB J MILV J BKQ LO EFDE FKCI>QFLK >KA ILT RKB J MILV J BKQ LO >KVTEBOB FK ?BQTB BK \$@LKL J FBP @LRIA RPB  
CFP@>I >KA J LKBQ>OV MLIF@V QL J LSB RM LO ALTK QEB /EFHMP @ROSB >P ABPFOBA 3EBK > @ROFLRP QEFKD E>MMBKBA 6 EBK  
MLIF@V J >HBOP QOFBA QL BUMILFQ QEB Q0>ABLCC ?BQTB BK FKCI>QFLK >KA RKB J MILV J BKQ QEB OBPRIQ T>P >K FK@OB>PB FK ?LQE  
FKCI>QFLK >KA RKB J MILV J BKQ 6 E>Q E>A E>MMBKBA 3EB /EFHMP @ROSB PEFCQBA

3EB 4 2 B@LKL J V BUMBOFBK@BA QEFP M>QQBOK FK QEB ABBM OB@BPPFLK COL J QL >KA >D>FK FK ?>@H QL ?>@H  
OB@BPPFLK COL J QL , >KV K>QFLK P>OLRKA QEB TLOIA P>T PF J FI>O FK@OB>PBP FK RKB J MILV J BKQ >KA FKCI>QFLK  
3EFP M>QQBOK ?B@> J B HKLTK >P PQ>DCI>QFLK 1B@>II COL J , ; 8 : :E8:4G8 8@4A7 : :E8:4G8 +HCC?L %B78?  
QE>Q PQ>DCI>QFLK FP >K RKEB>IQEV @L J ?FK>QFLK LC EFDE RKB J MILV J BKQ >KA EFDE FKCI>QFLK /BOE>MP J LPQ F J MLQ>KQ  
PQ>DCI>QFLK T>P > MEBKL J BKLK QE>Q Q0>AFQFLK>I \*BVKBPF>K B@LKL J F@P @LRIA KLQ BUMI>FK

\$@LKL J FPQP E>SB @LKL@IRABA QE>Q QTL C>@QLOP @>RPB QEB /EFHMP @ROSB QL PEFCQ 3EB CFOPQ FP PRMMIV PEL@HP IFHB  
QEB J FA P LFI @OFPP TEF@E CFOPQ ?QLRDEQ PQ>DCI>QFLK FKQL LRO SL@>?RI>OV 3EB PB@LKA FP @E>KDBP FK MBLMIB@P  
BUMB@>QFLK >?LRQ FKCI>QFLK (K LQEBO TLOAP QEBOB J >V ?B > Q0>ABLCC ?BQTB BK FKCI>QFLK >KA RKB J MILV J BKQ TEBK  
MBLMIB BUMB@> KL FKCI>QFLK ?RQ TEBK QEBV OB>IFWB FKCI>QFLK FP L@>ROOFKD QEB Q0>ABLCC AFP>MMB>OP !LQE C>@QLOP PRMMIV  
PEL@HP >KA @E>KDBP FK FKCI>QFLK>OV BUMB@>QFLK @>RPB QEB >DDOBD>QB PRMMIV @ROSB >KA QERP QEB /EFHMP @ROSB QL  
PEFCQ

(K PELOQ TB PELRIA FKQBOMOBQ > ALTKT>OA PILMFKD /EFHMP @ROSB >P S>IFA CLO PELOQ ORK MBOFLAP LC PBSBO>I VB>OP  
?RQ LSBO ILKDBO MBOFLAP TEBK >DDOBD>QB PRMMIV PEFCQ QEB ALTKT>OA PILMFKD /EFHMP @ROSB @>K PEFCQ PL QE>Q  
RKB J MILV J BKQ >KA FKCI>QFLK >OB ?LQE EFDEBO >P FK QEB P >KA B>OIV P LO ?LQE ILTBO >P FK QEB B>OIV P LO  
CFOPQ AB@>AB LC QEB P

### #8LA8F<4A (B?<6L 9BE <: ;G<A: - A8@C?BL@8AG 4A7 !A9?4G<BA

\*BVKBPF>K J >@OLB@LKL J F@P >ODRBP QE>Q QEB PLIRQFLK QL > OB@BPPFLK FP **expansionary fiscal policy** PR@E >P Q>U @RQP  
QL PQF J RI>QB @LKR J MQFLK >KA FKSBPQ J BKQ LO AF0B@>FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD QE>Q TLRIA PEFCQ QEB >DDOBD>QB  
AB J >KA @ROSB QL QEB OFDEQ %LO BU> J MIB FC >DDOBD>QB AB J >KA T>P LOFDFK>IIV >Q #0 FK <:HE8 PL QE>Q QEB  
B@LKL J V T>P FK OB@BPPFLK QEB >MMOLMOF>QB MLIF@V TLRIA ?B CLO DLSBOK J BKQ QL PEFCQ >DDOBD>QB AB J >KA QL QEB OFDEQ  
COL J #0 QL #C TEBOB QEB B@LKL J V TLRIA ?B >Q MLQBKQF>I &# / >KA CRII B J MILV J BKQ

\*BVKBPF KLQBA QE>Q TEFIB FQ TLRIA ?B KF@B FC QEB DLSBOK J BKQ @LRIA PMBKA >AAFQFLK>I J LKBV LK ELRPFKD OL>AP  
>KA LQEBO > J BKFQFBP EB >IPL >ODRBA QE>Q FC QEB DLSBOK J BKQ @LRIA KLQ >DOBB LK ELT QL PMBKA J LKBV FK MO>@QF>I  
T>VP QEBK FQ @LRIA PMBKA FK F J MO>@QF>I T>VP %LO BU> J MIB \*BVKBPF PRDDBPQBA ?RFIAFKD J LKR J BKQP IFHB > J LABOK

BNRFS>IBKQ LC QEB \$DVMQF>K MVO> J FAP ' B MOLMLPBA QE>Q QEB DLSBOK J BKQ @LRIA ?ROV J LKBV RKABODOLRKA >KA IBQ J FKFKD @L J M>KFBP PQ>OQ AFDDFKD RM QEB J LKBV >D>FK 3EBPB PRDDBP@FLKP TBOB PIFDEQIV QLKDRB FK @EBBH ?RQ QEBFO MROMLPB T>P QL B J ME>PFWB QE>Q > &OB>Q #BMOBPPFLK FP KL QF J B QL NRF??IB LSBO QEB PMB@FCF@P LC DLSBOK J BKQ PMBKAFKD MOLDO> J P >KA >U @RQP TEBK QEB DL>I PELRIA ?B QL MR J M RM >DDOBD>QB AB J >KA ?V BKL RDE QL IFCQ QEB B@LKL J V QL MLQBKF>I &# /

<:HEB <:;G<A: \*868FF<BA 4A7 !A9?4G<BA J<G; #8LA8F<4A (B?6L )C >K B@LKL J V FP FK OB@BPPFLK TFQE >K BNRHF?OFR J >Q %O QEBK QEB +BVKBPF>K OBPMLKPB TLRIA ?B QL BK>@Q > MLIF@V QL PEFCQ >DDOBD>QB AB J >KA QL QEB OFDEQ COL J ! \$O QLT>OA ! \$C )C >K B@LKL J V FP BUMBOFBK@FKD FKCI>QFLK>OV MOBPPROBP TFQE >K BNRHF?OFR J >Q %F QEBK QEB +BVKBPF>K OBPMLKPB TLRIA ?B QL BK>@Q > MLIF@V OBPMLKPB QL PEFCQ >DDOBD>QB AB J >KA QL QEB IBCQ COL J ! \$F QLT>OA ! \$C

3EB LQEBO PFAB LC \*BVKBPF>K MLIF@V L@@ROP TEBK QEB B@LKL J V FP LMBO>QFKD >?LSB MLQBKF>I &# / (K QEFP PFQR>QFLK RKB J MILV J BKQ FP ILT ?RQ FKCI>QFLK>OV OFPBP FK QEB MOF@B IBSBI >OB > @LK@BOK 3EB \*BVKBPF>K OBPMLKPB TLRIA ?B **contractionary fiscal policy** RPFKD Q>U FK@OB>PBP LO DLSBOK J BKQ PMBKAFKD @RQP QL PEFCQ # QL QEB IBCQ 3EB OBPRIQ TLRIA ?B ALTKT>OA MOBPPROB LK QEB MOF@B IBSBI ?RQ SBOV IFQQIB OBAR@QFLK FK LRQMRQ LO SBOV IFQQIB OFPB FK RKB J MILV J BKQ (C >DDOBD>QB AB J >KA T>P LOFDFK>IIV >Q #F FK <:HEB PL QE>Q QEB B@LKL J V T>P BUMBOFBK@FKD FKCI>QFLK>OV OFPBP FK QEB MOF@B IBSBI QEB >MMOLMOF>QB MLIF@V TLRIA ?B CLO DLSBOK J BKQ QL PEFCQ >DDOBD>QB AB J >KA QL QEB IBCQ COL J #F QLT>OA #C TEF@E OBAR@BP QEB MOBPPROB CLO > EFDEBO MOF@B IBSBI TEFIB QEB B@LKL J V OB J >FKP >Q CRUI B J MILV J BKQ

(K QEB \*BVKBPF>K B@LKL J F@ J LABI QLL IFQQIB >DDOBD>QB AB J >KA ?OFKDP RKB J MILV J BKQ >KA QLL J R@E ?OFKDP FKCI>QFLK 3ERP VLR @>K QEFKH LC \*BVKBPF>K B@LKL J F@P >P MROPRFKD > e&LIAFIL@HPf IBSBI LC >DDOBD>QB AB J >KA KLQ QLL J R@E KLQ QLL IFQQIB ?RQ ILLHFKD CLO TE>Q FP GRPQ OFDEQ

## N , ; 8 #8LA8F<4A (8EFC86G<I8 BA %4E>8G BE68F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB \*BVKBPF>K MBOPMB@QFSB LK J >OHBQ CLO@BP
- d K>IVWB QEB OLIB LC DLSBOK J BKQ MLIF@V FK B@LKL J F@ J >K>DB J BKQ

\$SBO PFK@B QEB ?FOQE LC \*BVKBPF>K B@LKL J F@P FK QEB P @LKQ@LSBOPV E>P PF J J BOBA LSBO QEB BUQBKQ QL TEF@E DLSBOK J BKQ PELRIA MI>V >K >@QFSB OLIB FK J >K>DFKD QEB B@LKL J V (K QEB >CQBO J >QE LC QEB ER J >K ABS>PQ>QFLK >KA J FPBOV LC QEB &OB>Q #BMOBPPFLK J >KV MBLMIB b FK@IRAFKD J >KV B@LKL J FPQP b ?B@> J B J LOB >T>OB LC SRIKBO>?FIFQFBP TFQEFK QEB J >OHBQ LOFBKQBA B@LKL J F@ PVPQB J 2L J B PRMMLQ@BOP LC \*BVKBPF>K B@LKL J F@P >ASL@>QBA > EFDE ABDORB LC DLSBOK J BKQ MI>KFKD FK >II M>OQP LC QEB B@LKL J V

' L'TBSBO \*BVKBP EF J PBIC T>P @>OBCRI QL PBM>0>QB QEB FPPRB LC >DDOBD>QB AB J >KA COL J QEB FPPRB LC ELT TBII FKAFSFAR>I J>OHBQP TLOHBA ' B >ODRBA QE>Q FKAFSFAR>I J>OHBQP CLO DLLAP >KA PBOSF@BP TBOB >MMOLMOF>QB >KA RPBARI ?RQ QE>Q PL J BQF J BP QE>Q IBSBI LC >DDOBD>QB AB J >KA T>P GRPQ QLL ILT 6 EBK J FIIFLK MBLMIB >OB TFIIFKD >KA >?IB QL TLOH ?RQ LKB J FIIFLK LC QEB J >OB RKB J MILVBA EB >ODRBA FKAFSFAR>I J>OHBQP J>V ?B ALFKD > MBOCB@QIV DLLA GL? LC >IIL@>QFKD QEB BCCL0QP LC QEB KFKB J FIIFLK TLOHBOP b QEB MOL?IB J FP QE>Q FKPRCCF@FBKQ >DDOBD>QB AB J >KA BUFPQ QL PRMML0Q GL?P CLO >II J FIIFLK 3ERP EB ?BIFBSBA QE>Q TEFIB DLSBOK J BKQ PELRIA BKPROB QE>Q LSB0>II IBSBI LC >DDOBD>QB AB J >KA FP PRCCF@FBKQ CLO >K B@LKL J V QL OB>@E CRII B J MILV J BKQ QEFP Q>PH AFA KLQ F J MIV QE>Q QEB DLSBOK J BKQ PELRIA >QQB J MQ QL PBQ MOF@BP >KA T>DBP QEOLRDELRO QEB B@LKL J V KLO QL Q>HB LSB0 >KA J >K>DB I>ODB @LOMLO>QFLKP LO BKQFOB FKARPQOFBP AFOB@QIV

\$SBK FC LKB >@BMQP QEB \*BVKBPf>K B@LKL J F@ QEBLOV > KR J ?BO LC MO>@Qf@>I NRBQFLKP OB J >FK (K QEB OB>I TLOIA @>K DLSBOK J BKQ B@LKL J FPQP FABKQFCV MLQBKQf>I &# / >@@R0>QBIV (P > ABPFOBA FK@OB>PB FK >DDOBD>QB AB J >KA ?BQQBO >@L J MIFPEBA ?V > Q>U @RQ LO ?V >K FK@OB>PB FK DLSBOK J BKQ PMBKAFKD &fSBK QEB FKBSFQ>?IB ABI>VP >KA RK@BOQ>FKQFBP >P DLSBOK J BKQ BK>@Q MLIF@FBP FKQL I>T FP FQ OB>PLK>?IB QL BUMB@Q QE>Q QEB DLSBOK J BKQ @>K F J MIB J BKQ \*BVKBPf>K B@LKL J F@P ">K CFUFD > OB@BPPFLK OB>IIV ?B GRPQ >P PF J MIB >P MR J MFKD RM >DDOBD>QB AB J >KA B18EA@8AG H7:8GF 4A7 <F64? (B?6L TFII MOL?B QEBPB FPPRB 3EB \*BVKBPf>K >MMOL>@E TFQE FQP CL@RP LK >DDOBD>QB AB J >KA >KA PQF@HV MOF@BP E>P MOLSA RPBARI FK RKABOPQ>KAFKD ELT QEB B@LKL J V CIR@QR>QBP FK QEB PELOQ ORK >KA TEV OB@BPPFLK >KA @V@IF@>I RKB J MILV J BKQ L@R0 (K , ; 8 &8B6?4FF<64? (8EFC86<18 TB TFII @LKPFABO PL J B LC QEB PELOQ@L J FKDP LC QEB \*BVKBPf>K >MMOL>@E >KA TEV FQ FP KLQ BPMB@f>IIV TBII PRQBA CLO ILKD ORK J >@OLB@LKL J F@ >K>IVPFP



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4EB IBPPLK IB>OKBA AR0FKD QEB P ' OB>Q \$BMOBPPFLK >KA QEB >DDOBD>QB BUMBKAfQROB J LABI QE>Q \*LEK - >VK>0A +BVKBP MOLMLPBA D>SB QEB J LABOK B@LKL J FPQP >KA MLIF@V J >HBOP LC QLA>V QEB QLLIP QL BCCB@QFSBIV K>SFD>QB QEB Q0B>@EBOLRP B@LKL J V FK QEB I>QQBO E>IC LC QEB P )K b ( LT QEB ' OB>Q 2B@BPPFLK 7>P "0LRDEQ QL >K %KA !I>K 3 "IFKABO >KA ->OH :>KAF TOLQB QE>Q QEB >@QFLKP Q>HBK ?V QLA>V@P MLIF@V J >HBOP PQ>KA FK PE>OM @LKKQ>PQ QL QELPB LC QEB B>OIV VB>OP LC QEB ' OB>Q \$BMOBPPFLK 4LA>V@P B@LKL J FPQP >KA MLIF@V J >HBOP TBOB KLQ @LKKQBQ QL IBQ QEB J>OHBQP OB@LSBO COL J OB@BPPFLK TFQELRQ Q>HFKD MOL>@QFSB JB>PROBP QL PRMML0Q @LKPR J MQFLK >KA FKSBPQ J BKQ 4EB &BABO>I 2BPBOSB >@QFSBIV ILTB0BA PELOQ QBO J FKQB0BPQ 0>QBP >KA ABSBILMBA FKKLS>QFSB T>VP QL MR J M J LKBV FKQL QEB B@LKL J V PL QE>Q @OBAFQ >KA FKSBPQ J BKQ TLRIA KLQ AOV RM "LQE 00BPfABKQP "RPE >KA / ?>J >KA #LKDOBPP F J MIB J BKQBA > S>OFBQV LC MOLDO>J P 0>KDFKD COL J >QU OB>?>QBP QL b#>PE CLO #IRKHBOPc QL QEB 40LR?IBA !PPBQ 2BIFBC 00LD0>J QL PQf J RI>QB >KA PQ>?FIFWB ELRPBELIA @LKPR J MQFLK >KA BK@LR0>DB FKSBPQ J BKQ !IQELRDE QEBPB MLIF@FBP @>J B RKABO E>OPE @0FQf@FP J COL J QEB MR?IF@ >KA J >KV MLIFQf@>KP QEBV IBPPBKBA QEB F J M>@Q LC QEB B@LKL J F@ ALTKQROK >KA J >V E>SB P>SBA QEB @LRKQOV COL J > PB@LKA ' OB>Q \$BMOBPPFLK



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6BAGE46G<BA4EL 9<F64? CB?<6L Q>U FK@OB>PBP LO @RQP FK DLSBOK J BKQ PMBKAFKD ABPFDKBA QL AB@OB>PB >DD0BD>QB AB J >KA >KA OBAR@B FKCI>QLK>OV MOBPPROBP

6BBE7<A4G<BA 4E : H@8AG ALTKT>0A T>DB >KA MOF@B CIBUF?FIFV OBNRFOBP MBOCB@Q FKCL0 J >QLK >?LRQ QEB IBSBI LC ILTBO @L J MBKP>QLK >@BMQ>?IB QL LQEBO I>?LOBOP >KA J >OHBQ M>OQF@FM>KQP

7<FCBF45?8 <A6B@8 FK@L J B >CQB0 Q>UBP

8KC4AF<BA4EL 9<F64? CB?<6L Q>U @RQP LO FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD ABPFDKBA QL PQF J RI>QB >DD0BD>QB AB J >KA >KA J LSB QEB B@LKL J V LRQ LC OB@BPPFLK

8KC8A7<GHE8 @H?G<C?<8E \*BVKBPf>K @LK@BMQ QE>Q >PPB0P QE>Q > @E>KDB FK >RQLKL J LRP PMBKAFKD @>RPBP > J LOB QE>K MOLMLQFLK>QB @E>KDB FK OB>I &# /

<A9?4G<BA4EL : 4C BNRFF?OFR J >Q > IBSBI LC LRQMRQ >?LSB MLQBKF>I &# /

@46EB86BAB@<6 8KG8EA4?<GL L@R0P TEBK TE>Q E>MMBKP >Q QEB J >@0L IBSBI FP AFCCB0BKQ COL J >KA FKCB0FLO QL TE>Q E>MMBKP >Q QEB J F@0L IBSBI >K BU> J MIB TLRIA ?B TEB0B RMT>0A PILMFKD PRMMIV @ROSBP CLO CFO J P ?B@L J B > CI>Q >DD0BD>QB PRMMIV @ROSB FIIRPQ>QFKD QE>Q QEB MOF@B IBSBI @>KKLQ C>II QL PQF J RI>QB >DD0BD>QB AB J >KA

@8AH 6BF6F @LPQP CFO J P C>@B FK @E>KDFKD MOF@BP

( ; <?<CF 6HEI8 QEB QO>ABLCC ?BQTBBK RKB J MILV J BKQ >KA FKCI>QLK

E84? ( QEB > J LRKQ LC DLLAP >KA PBOsf@BP >@QR>IIV PLIA FK > K>QLK

E868FF<BA4EL : 4C BNRFF?OFR J >Q > IBSBI LC LRQMRQ ?BILT MLQBKF>I &# /

FG<6>L J4 : 8F 4A7 CE<68F > PFQR>QLK TEB0B T>DBP >KA MOF@BP AL KLQ C>II FK OBPMLKPB QL > AB@OB>PB FK AB J >KA LO AL KLQ OFPB FK OBPMLKPB QL >K FK@OB>PB FK AB J >KA

# # 1 ' & ( , + & + - % % \* 1

::E8:4G8 8@4A7 <A #8LA8F<4A A4?LF<F

DD0BD>QB AB J >KA FP QEB PR J LC CLRO @L J MLKBKQP @LKPR J MQFLK FKSBPQ J BKQ DLSBOK J BKQ PMBKAFKD >KA KBQ BUMLOQP " LKPR J MQFLK TFII @E>KDB CLO > KR J ?BO LC OB>PLKP FK@IRAFKD J LSB J BKQP FK FK@L J B Q>UBP BUMB@Q>QLKP >?LRQ CRQROB FK@L J B >KA @E>KDBP FK TB>IQE IBSBIP (KSBPQ J BKQ TFII @E>KDB FK OBPMLKPB QL FQP BUMB@QBA MOLCFQ>?FIFV TEF@E FK QROK FP PE>MBA ?V BUMB@Q>QLKP >?LRQ CRQROB B@LKL J F@ DOLTQE QEB @OB>QLK LC KBT QB@EKLILDFBP QEB MOF@B LC HBV FKMRQP >KA Q>U FK@BKQFSBP CLO FKSBPQ J BKQ (KSBPQ J BKQ TFII >IPL @E>KDB TEBK FKQB0BPQ O>QBP OFPB LO C>II /LIFQF@>I @LKPFABO>QLKP ABQBO J FKB DLSBOK J BKQ PMBKAFKD >KA Q>UBP \$UMLQQP >KA F J MLQQP @E>KDB >@LOAFKD QL OBI>QFSB DOLTQE O>QBP >KA MOF@BP ?BQTBBK QTL B@LKL J FBP

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\*BVKBPf>K B@LKL J F@P FP ?>PBA LK QTL J >FK FAB>P >DD0BD>QB AB J >KA FP J LOB IFHBIV QE>K >DD0BD>QB PRMMIV QL ?B QEB MOF J >OV @>RPB LC > PEL0Q ORK B@LKL J F@ BSBKQ IFHB > OB@BPPFLK T>DBP >KA MOF@BP @>K ?B PQF@HV >KA PL FK >K B@LKL J F@ ALTKQROK RKB J MILV J BKQ @>K OBPRIQ 3EB I>QQBO FP >K BU> J MIB LC > J >@0LB@LKL J F@ BUQBOK>IFV 6 EFIB PROMIRPBP @>RPB MOF@BP QL C>II >Q QEB J F@0L IBSBI QEBV AL KLQ KB@BPP>OFIV >Q QEB J >@0L IBSBI (KPQ>A QEB >AGRPQ J BKQ QL > AB@OB>PB FK AB J >KA L@R0P LKIV QEOLRDE AB@OB>PBA NR>KQFQFBP .KB OB>PLK TEV MOF@BP J >V ?B PQF@HV FP J BKR @LPQP QEB @LPQP LC @E>KDFKD MOF@BP 3EBPB FK@IRAB FKQBOK>I @LPQP > ?RPFKBPP C>@BP FK @E>KDFKD MOF@BP FK QBO J P LC I>?BIFKD OB@LOAHBMMFKD >KA >@LRKQFKD >KA >IPL QEB @LPQP LC @L J J RKF@>QFKD QEB MOF@B @E>KDB QL MLPPF?IV RKE>MMV @RPQL J BOP \*BVKBPf>KP >IPL ?BIFBSB FK QEB BUFPQB@B LC QEB BUMBKAfQROB J RIQFMIFBO b QEB KLQFLK QE>Q > @E>KDB FK >RQLKL J LRP BUMBKAfQROB @>RPBP > J LOB QE>K MOLMLQFLK>QB @E>KDB FK &# /

,;8 (;<?<CF HEI8

/EFHIMP @ROSB PELTP QEB Q0>ABLCC ?BQTBBK RKB J MILV J BKQ >KA FKCI>QLK FK >K B@LKL J V %OL J > \*BVKBPF>K SFBTMLFKQ QEB /EFHIMP @ROSB PELRIA PILMB ALTK PL QE>Q EFDEBO RKB J MILV J BKQ J B>KP ILTBO FKCI>QLK >KA SF@B SBOP> 'LTBSBO >ALTKT>OA PILMFKD /EFHIMP @ROSB FP >PELOQ QBO J OBI>QLKPEFM QE>Q J >V PEFCQ >CQB0 >CBT VB>OP

\*BVKBPF>K J >@OLB@LKL J F@P >ODRBP QE>Q QEB PLIRQLK QL > OB@BPPFLK FP BUM>KPFLK>OV CFP@>I MLIF@V PR@E >P Q>U @RQP QL PQF J RI>QB @LKPR J MQFLK >KA FKSBPQ J BKQ LO AFOB@Q FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD QE>Q TLRIA PEFCQ QEB >DDOBD>QB AB J >KA @ROSB QL QEB OFDEQ 3EB LQEB0 PFAB LC \*BVKBPF>K MLIF@V L@@ROP TEBK QEB B@LKL J V FP LMBO>QFKD >?LSB MLQBKF>I &# / (K QEFP PFQR>QLK RKB J MILV J BKQ FP ILT ?RQ FKCI>QLK>OV OFPBP FK QEB MOF@B IBSBI >OB > @LK@BOK 3EB \*BVKBPF>K OBPMLKPB TLRIA ?B @LKQ>@QLK>OV CFP@>I MLIF@V RPFKD Q>U FK@OB>PBP LO DLSBOK J BKQ PMBKAFKD @RQP QL PEFCQ # QL QEB IBCQ

,;8 #8LA8F<4A (8EFC86<18 BA %4E>8G BE68F

3EB \*BVKBPF>K MOBP@QFMQLK CLO PQ>?FIFWKD QEB B@LKL J V F J MIFBP DLSBOK J BKQ FKQBOSBKQLK >Q QEB J >@OLB@LKL J F@ IBSBI b FK@OB>PFD >DDOBD>QB AB J >KA TEBK MOFS>QB AB J >KA C>IIP >KA AB@OB>PFD >DDOBD>QB AB J >KA TEBK MOFS>QB AB J >KA OFPBP 3EFP ALBP KLQ F J MIV QE>Q QEB DLSBOK J BKQ PELRIA ?B M>PPFKD I>TP LO OBDRI>QLKQ QE>Q PBQ MOF@BP >KA NR>KQFQFBP FK J F@OLB@LKL J F@ J >OHBQP

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(K QEB \*BVKBPF>K CO>JBTLOH TEF@E LC QEB CLILTFKD BSBKQP J FDEQ @>RPB > OB@BPPFLK 6 EF@E J FDEQ @>RPB FKCI>QLK 2HBQ@E # 2 AF>D0>J P QL FIIRPQ>QB VLRO >KPTBOP

- > I>ODB FK@OB>PB FK QEB MOF@B LC QEB EL J BP MBLMIB LTK
- ? 1>MFA DOLTQE FK QEB B@LKL J V LC > J >GLO Q0>AFKD M>0QKBO
- @ 3EB ABSBILM J BKQ LC > J >GLO KBT QB@EKLILDV LCCBOP MOLCFQ>?IB LMMLOQRKFQFBP CLO ?RPFKBPP
- A 3EB FKQBOPQ 0>QB OFPBP
- B 3EB DLLA F J MLQQA COL J > J >GLO Q0>AFKD M>0QKBO ?B@L J B J R@E IBPP BUMBKPFBSB

(K > \*BVKBPF>K CO>JBTLOH RPFKD >K # 2 AF>D0>J TEF@E LC QEB CLILTFKD DLSBOK J BKQ MLIF@V @ELF@BP LCCBO > MLPPF?IB PLIRQLK QL OB@BPPFLK 6 EF@E LCCBO > MLPPF?IB PLIRQLK QL FKCI>QLK

- > Q>U FK@OB>PB LK @LKPR J BO FK@L J B
- ? PRODB FK J FIFQ>OV PMBKAFKD
- @ OBAR@QLK FK Q>UBP CLO ?RPFKBPPBP QE>Q FK@OB>PB FKSBPQ J BKQ
- A J >GLO FK@OB>PB FK TE>Q QEB 4 2 DLSBOK J BKQ PMBKAP LK EB>IQE@>OB

4PB QEB # 2 J LABI QL BUMI>FK ELT >K FKCI>QLK>OV D>M L@@ROP ?BDFKKFKD COL J QEB FKQF>I BNRHIF>OFR J FK <:HE8

2RMMLPB QEB 4 2 "LKDOBPP @RQP CBAB0>I DLSBOK J BKQ PMBKAFKD FK LOABO QL ?>I>K@B QEB %BAB0>I ?RADBQ 4PB QEB # 2 J LABI QL >K>IVWB QEB IFHBIV F J M>@Q LK LRQMRQ >KA B J MILV J BKQ Hint OBSFPFQ <:HE8

'LT TLRIA > AB@OB>PB FK BKBODV MOF@BP >CCB@Q QEB /EFHIMP @ROSB

#LBP \*BVKBPF>K B@LKL J F@P OBNRFOB DLSBOK J BKQ QL PBQ @LKQOLIP LK MOF@BP T>DBP LO FKQBOPQ 0>QBP

+FPQ QEOBB MO>@QF@>I MOL?IB J P TFQE QEB \*BVKBPF>K MBOPMB@QFSB

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->J B PL J B B@LKL J F@ BSBKQP KLQ OBI>QBA QL %OL J > \*BVKBPF>K MLFKQ LC SFBT TEF@E FP J LOB DLSBOK J BKQ MLIF@V QE>Q @LRIA @>RPB >DDOBD>QB AB J >KA IHBIV QL @>RPB > OB@BPPFLK >DDOBD>QB AB J >KA LO QL PEFCQ >DDOBD>QB PRMMIV >KA TEV

->J B PL J B DLSBOK J BKQ MLIF@FBP QE>Q @LRIA @>RPB >DDOBD>QB AB J >KA QL PEFCQ

6 EV AL PQF@HV T>DBP >KA MOF@BP FK@OB>PB QEB  
F J M>@Q LC >K B@LKL J F@ ALTKQROK LK RKB J MILV J BKQ >KA  
OB@BPPFLK

\$UMI>FK TE>Q B@LKL J FPQP J B>K ?V e J BKR @LPQP f

6 E>Q QO>ABLCC ALBP > /EFIHMP @ROSB PELT

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(K FQP OB@BKQ OBML0Q 3EB "LKCB0BK@B !L>0AdP *Global  
Economic Outlook 2015* RMA>QBA -LSB J ?B0  
EQQM TTT @LKCB0BK@B ?L>0A LOD A>Q>  
DIL?>ILRQILLH @C J MOLGB@QP "EFK>dP DOLTQE ?BQTTBBK  
>KA QL ?B >?LRQ *International Business  
Times* EQQM TTT F?QF JBP @L J RP BUMLOQP @EFK> E>SB  
DOLTK LSBO M>PQ AB@>AB OBML0QP QE>Q  
"EFK> FP QEB 4KFQBA 2Q>QBPd QEFOA I>0DBPQ BUMLOQ J >0HBQ  
TFQE BUMLOQP QL "EFK> DOLTFKD LSBO QEB I>PQ QBK  
VB>OP \$UMI>FK TE>Q F J M>@Q "EFK> E>P LK QEB 4 2  
B@LKL J V

6 E>Q J >V E>MMBK FC DOLTQE FK "EFK> @LKQFKRBP L0  
@LKQO>@QP

#LBP FQ J >HB PBKPB QE>Q T>DBP TLRJA ?B PQF@HV  
ALTKT>0AP ?RQ KLQ RMT>0AP 6 EV L0 TEV KLQ

6 LRIA VLR BUMB@Q QL PBB ILKD ORK A>Q> QO>@B LRQ >  
PQ>?IB ALTKT>0A PILMFKD /EFIHMP @ROSB

6 E>Q FP QEB \*BVKBPF>K MOBP@OFMQFLK CLO OB@BPPFLK  
%L0 FKCI>QFLK

' LT AFA QEB \*BVKBPF>K MBOPMB@QFSB >AA0BPP QEB  
B@LKL J F@ J >0HBQ C>FIROB LC QEB &0B>Q #BMOBPPFLK

2RMMLPB QEB B@LKL J V FP LMB0>QFKD >Q MLQBKQF>I  
&# / TEBK FQ BUMBOFBK@BP >K FK@OB>PB FK BUMLOQ AB J >KA  
' LT J FDEQ QEB B@LKL J V FK@OB>PB MOLAR@QFLK LC BUMLOQP  
QL J BBQ QEFP AB J >KA DFSBK QE>Q QEB B@LKL J V FP >IOB>AV  
>Q CRII B J MILV J BKQ

#L VLR QEFKH QEB /EFIHMP @ROSB FP > RPBCRI QLLI CLO  
>K>IVWFKD QEB B@LKL J V QLA>V 6 EV L0 TEV KLQ

1BQROK QL QEB Q>?IB COL J QEB *Economic Report of  
the President* FK QEB B>OIFBO /BE> !G 'HG CB>QROB QFQIBA  
e3EB /EFIHMP "ROSB CLO QEB 4KFQBA 2Q>QBP f ' LT TLRJA  
VLR BUMB@Q DLSBOK J BKQ PMBKAFKD QL E>SB @E>KDBA LSBO  
QEB I>PQ PFU VB>OP

\$UMI>FK TE>Q QVMBP LC MLIF@FBP QEB CBAB0>I  
DLSBOK J BKQ J >V E>SB F J MIB J BKQBA QL OBPQLOB >DD0BD>QB  
AB J >KA >KA QEB MLQBKQF>I L?PQ>@IBP MLIF@V J >HBOP J >V  
E>SB BK@LRKQBOBA



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<:HEB !@C466 B9 G; 8 E84G \*868FF<BA 7 B @>K PBB QEB F J M>@Q LC QEB ' 0B>Q 2B@BPPFLK FK J >KV >0B>P LC QEB B@LKL J V QE>Q F J M>@Q LRO A>FIV IFSBP / KB LC QEB J LPQ SFFf?IB PFDKP T>P FK QEB ELRPFKD J >0HBQ TEB0B J >KV MBLMIB TB0B CL0@BA QL >?>KALK QEBf0 EL J BP >KA LQEB0 ?RfAfKDP FK@IRAFKD LKBP J FAT>V QE0LRDE @LKPQR@QFLK #0BAFQ J LAFcf@>QFLK LC TLOH ?V ! - @, FK &f@HO #0B>QfSB #LJ J LKP



## &4I<:4G<A: - A6;4EG8E87 / 4G8EF

4EB ' 0B>Q 2B@BPPFLK BKABA FK \*RKB >QBO J LKQEP >@@LOAfKD QL QEB .>QFLK>I "ROB>R LC %@LKL J F@ 2BPPB>0@E . "%2 4EB . "%2 BU>JFKBP >S>QfBQV LC JB>PROBP LC B@LKL J F@ >@QfSFQV QL D>RDB QEB B@LKL J V P LSB0>II EB>IQE 4EBPB JB>PROBP FK@IRAB 0B>I FK@L J B TELIBP>IB >KA 0BQ>fI P>IBP B J MILV J BKQ >KA FKARPQf>I MOLAR@QFLK )K QEB VB>OP PFK@B QEB LCCf@f>I BKA LC QEF EFPQLof@ B@LKL J F@ ALTKQR0K FQ E>P ?B@L J B @IB>0 QE>Q QEB ' 0B>Q 2B@BPPFLK T>P QTL MOLKDBA EFQfKD QEB 5 3 B@LKL J V TfQE QEB @LII>MPB LC QEB ELRPFKD J >0HBQ >KA QEB C>FIROB LC QEB CFK>K@f>I PVPQB J P @0BAFQ FKPFQfRQFLKP CR0QEB0 @LKQ>JFK>QfKD DIL?>I B@LKL J FBP 7 EFIB QEB PQL@H J >0HBQ 0>MFAIV ILPQ QOFIFLKP LC ALII>OP LC S>IRB @LKPR J B0 PMBKAFKD AOFBA RM >KA @L J M>KfBP ?BD>K @RQfKD GL?P B@LKL J F@ MLIF@V J >HB0P TB0B PQRRDDIFKD TfQE ELT QL ?BPQ @L J ?>Q >KA MOBSBKQ >K>QFLK>I >KA BSBK DIL?>I B@LKL J F@ @LII>MPB )K QEB BKA MLIF@V J >HB0P RPBA >KR J ?B0 LC @LKQQLSBOPf>I J LKBQ>0V >KA CF@>I MLIF@FBP QL PRMMLQ QEB ELRPFKD J >0HBQ >KA AL J BPQf@ FKARPQfBP >P TBII >P QL Pq>?fFfWB QEB CFK>K@f>I PB@QL0 3L J B LC QEBPB FKfQf>QfSBP FK@IRABA

d &BAB0>I 2BPB0SB ">KH MR0@E>PB LC ?LQE Q0>AfQfLK>I >KA KLKQ0>AfQfLK>I >PPBQP LCC ?>KHP ?>I>K@B PEBBQP "V ALFKD QEFQ QEB &BA FK@B@QBA J LKBV FKQL QEB ?>KHFKD PVPQB J >KA FK@0B>PBA QEB >J LRPQP LC CRKAP >S>fI>?IB QL IBKA QL QEB ?RPFKBPP PB@QL0 >KA @LKPR J B0P 4EFP >IPL AOLMMBA PEL0Q QBO J FKQBOBPQ 0>QBP QL >P ILT >P WBOL MBO@BKQ TEF@E E>A QEB BCCB@Q LC ABS>IRfKD 5 3 ALII>OP FK QEB DIL?>I J >0HBQ >KA ?LLPQfKD BUMLOQP

d 4EB #LKD0BPP >KA QEB 00BPFABKQ >IPL M>PPBA PBSB0>I MfB@BP LC IBDfPI>QFLK QE>Q TLRIA Pq>?fFfWB QEB

CFK>K@f>I J>0HBQ 4EB 40LR?IBA !PPBQ 2BIFBC 00LDO>J 4!20 M>PPBA FK I>QB >IILTBA QEB  
DLSBOK J BKQ QL FK@B@Q @>PE FKQL QOLR?IBA ?>KHP >KA LQEB0 CFK>K@f>I FKP@Q@R@FLKP >KA EBIM PRMMLQ ' BKBO>I  
- L@L@P >KA #E0VPIBO >P QEBV C>@BA ?>KHORMQ@V >KA QEOB>QBKBA GL? ILPPBP QEO@L@DEL@RQ QEB@FO PRMMIV  
@E>FK 4EB ! JB@f@>K 2B@LSBOV >KA 2B@KSBPQ J BKQ ! @Q FK B>0IV MOLSFABA Q>U 0B?>QBP QL ILT >KA  
JFAAIB FK@L J B ELRPBELIAP QL BK@LR0>DB @LKPR J B0 PMBKA@KD

&LR0 VB>0P >C@B0 QEB BKA LC QEB ' 0B>Q 2B@BPPFLK QEB B@LKL J V E>P VBQ QL 0B@R0K QL F@P MOB 0B@BPPFLK IBSBIP  
LC MOLAR@QFS@V >KA DOLTQE ! KKR>I MOLAR@QFS@V FK@0B>PBA LKIV ?B@TBBK >KA @L J M>0BA QL  
F@P >KKR>I DOLTQE 0>QB ?B@TBBK >KA RKB J MILV J BKQ 0B J >FKP >?LSB QEB K>QRO>I 0>QB >KA  
0B>I ' \$0 @LK@FKRBP QL I>D ?BE@KA ML@B@K@f>I DOLTQE 4EB >@Q@FLKP QEB DLSBOK J BKQ E>P Q>HBK QL P@>?@F@WB QEB  
B@LKL J V >0B P@F@I RKABO P@0R@FKV >KA AB?>QB >?LRQ QEB@O BCCB@QFSB@BPP @LK@FKRBP )K QEF@ @E>M@B0 TB F@I A@P@RPP  
QEB KBL@I>PPF@>I MBOPMB@QFSB LK B@LKL J F@P >KA @L J M>0B F@ QL QEB +BVKBPF>K MBOPMB@QFSB ! Q QEB BKA LC QEB  
@E>M@B0 TB F@I RPB QEB KBL@I>PPF@>I MBOPMB@QFSB QL >K>IVWB QEB >@Q@FLKP QEB DLSBOK J BKQ E>P Q>HBK FK QEB ' 0B>Q  
2B@BPPFLK

## !AGEB7H6G<BA GB G ; 8 &8B6?4FF<64? ( 8EFC86G<I 8

(K QEF@ @E>M@B0 VLR T@I IB>OK >?LRQ

- g 3EB !RFIAFKD !IL@HP LC -BL@I>PPF@>I K>IVPPP
- g 3EB /LIF@V ( J MIF@>Q@FLKP LC QEB -BL@I>PPF@>I /BOPMB@QFSB
- g !>I>K@FKD \*BVKBPF>K >KA -BL@I>PPF@>I , LABIP

(K "EF@>DL (IIFKLP QEB EFDEBP@ 0B@LOABA @B J MBO>QROB T>P ] FK )RIV TEFIB QEB ILTBP@ 0B@LOABA @B J MBO>QROB  
T>P ] ?BILT@ W@OL FK )>KR>0V 4KABOPQ>KAFKD TEV QEBPB BU@QB J B TB>QEB0 M>QQBOKP L@>R@O@BA T@RIA ?B  
FK@BOBP@FKD ' LTBSBO FC VLR T>K@BA QL RKABOPQ>KA QEB QVME@>I TB>QEB0 M>QQBOK FK "EF@>DL FKP@>A LC CL@RPFKD LK LKB  
@F J B BU@QB J BP VLR T@RIA KBBA QL ILLH >Q QEB BK@F@B M>QQBOK LC A>Q> LSBO @F J B

PF J FI>0 IBPPLK >MMIFBP QL QEB P@RAV LC J >@0LB@LKL J F@P (Q FP FK@BOBP@FKD QL P@RAV BU@QB J B P@R>Q@FLKP IFHB QEB P  
&0B>Q #BMOBPPFLK L@ TE>Q J >KV E>SB @>IIBA QEB &0B>Q 1B@BPPFLK (C VLR T>K@ QL RKABOPQ>KA QEB TELIB  
M@>QROB ELTBSBO VLR KBBA QL ILLH >Q QEB ILKD @B0 J "LKP@F@B QEB RKB J MILV J BKQ 0>QB 3EB RKB J MILV J BKQ 0>QB E>P  
CIR@Q@>QBA COL J >P ILT >P FK QL >P EFDE >P FK >KA FK \$SBK >P QEB 4 2 RKB J MILV J BKQ  
0>QB 0LPB AROFKD 0B@BPPFLK >KA AB@IFKBA AROFKD BUM>KPF@LP F@ HBM@ 0B@R@K@FKD QL QEB DBKBO>I KB@F@?L@ELLA LC a  
6 EBK QEB KLKM>Q@F@>K "LKDOBPPFLK>I !R@DBQ . CCF@ @>00FBA LRQ F@P ILKD 0>KDB B@LKL J F@ CLOB@>P@P FK F@ >P@P J BA  
QE>Q COL J QL >C@B0 QEB 0B@BPPFLK E>P M>PPBA QEB RKB J MILV J BKQ 0>QB T@RIA ?B %0L J > ILKD ORK  
MBOPMB@QFSB QEB B@LKL J V P@B J P QL HBBM >AGRP@FKD ?>@H QL QEF@ 0>QB LC RKB J MILV J BKQ

P QEB K>J B eKBL@I>PPF@>I F J MIFBP QEF@ MBOPMB@QFSB LC ELT QEB J >@0LB@LKL J V TLOHP FP > eKBTf S@BT LC QEB eLIAf  
@I>PPF@>I J LABI LC QEB B@LKL J V 3EB @I>PPF@>I S@BT QEB MOB@L J FK>K@ B@LKL J F@ MEFILPLMEV RK@FI QEB &0B>Q #BMOBPPFLK  
T>P QE>Q PEL@Q @B0 J CIR@Q@>Q@FLKP FK B@LKL J F@ >@QFS@V T@RIA 0>QEB0 N@R@HIV T@QE CIBUF?IB M@F@BP >AGRP@ ?>@H QL CRII  
B J MILV J BKQ 3EFP S@BT LC QEB B@LKL J V F J MIFBA > S@B@F@>I >DDOBD>QB PRMMIV @R@SB >Q CRII B J MILV J BKQ &# / >KA  
M@BP@Q@F@>BA > eE>K@P LCC@ MLIF@V >MMOL>@E %L@ BU>J MIB FC QEB B@LKL J V TBOB QL PIFM FK@L 0B@BPPFLK > IBC@T>0A PEF@Q  
LC QEB >DDOBD>QB AB J >KA @R@SB F@ T@RIA @B J MLO>0FIV BUEF@?F@ > PROMIRP LC DLLAP %>IIFKD M@F@BP T@RIA BIF J FK>QB  
QEF@ PROMIRP >KA QEB B@LKL J V T@RIA 0B@R@K@ QL CRII B J MILV J BKQ IBSBI LC &# / - L >@QFSB CFP@>I L@ J LKB@>0V MLIF@V  
T>P KBBABA (K C>@Q QEB @I>PPF@>I S@BT T>P QE>Q BUM>KPF@>0V CFP@>I L@ J LKB@>0V MLIF@V T@RIA LKIV @>R@P FKCI>Q@FLK  
0>QEB0 QE>K FK@0B>P@B &# / 3EB ABBM >KA I>P@FKD F J M@>Q LC QEB &0B>Q #BMOBPPFLK @E>KDBA QEF@ QEFKHF@K >KA \*BVKBPF>K  
B@LKL J F@P TEF@E M@BP@Q@F@>BA >@QFSB CFP@>I MLIF@V QL >IIBSF@QB TB>H >DDOBD>QB AB J >KA ?B@> J B QEB J LOB J >FKP@QB > J  
MBOPMB@QFSB

# N , ; 8 H<?7<A: ?B6>F B9 &8B6?4FF<64? A4?LF<F

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB F J MLOQ>K@B LC MLQBKF>I &# / FK QEB ILKD ORK
- d K>IVWB QEB OLIB LC CIBUF?IB MOF@BP
- d (KQBOMOBQ > KBL@I>PPF@>I J LABI LC >DDOBD>QB AB J >KA >KA >DDOBD>QB PRMMIV
- d \$S>IR>QB AFCCBOBKQ T>VP CLO J B>PROFKD QEB PMBBA LC J >@OLB@LKL J F@ >AGRPQ J BKQ

3EB **neoclassical perspective** LK J >@OLB@LKL J F@P ELIAP QE>Q FK QEB ILKD ORK QEB B@LKL J V TFII CIR@QR>QB >OLRKA FQP MLQBKF>I &# / >KA FQP K>QRO>I 0>QB LC RKB J MILV J BKQ 3EFP @E>M@B0 ?BDFKP TFQE QTL ?RHFADK ?IL@HP LC KBL@I>PPF@>I B@LKL J F@P MLQBKF>I &# / ABQBO J FKBP QEB B@LKL J V P QEB PFWB >KA T>DBP >KA MOF@BP TFII >AGRPQ FK > CIBUF?IB J >KKBO PL QE>Q QEB B@LKL J V TFII >AGRPQ ?>@H QL FQP MLQBKF>I &# / IBSBI LC LRQMRQ 3EB HBV MLIF@V F J MIF@>QFLK FP QEFB 3EB DLSBOK J BKQ PELRIA CL@RP J LOB LK ILKD QBO J DOLTQE >KA LK @LKQOLIIFKD FKCI>QFLK QE>K LK TLOOVFKD >?LRQ OB@BPPFLK LO @V@IF@>I RKB J MILV J BKQ 3EFP CL@RP LK ILKD ORK DOLTQE 0>QEBO QE>K QEB PELOQ ORK CIR@QR>QFLK FK QEB ?RPFKBP @V@IB J B>KP QE>Q KBL@I>PPF@>I B@LKL J F@P FP J LOB RPBORI CLO ILKD ORK J >@OLB@LKL J F@ >K>IVPPF >KA \*BVKBP>K B@LKL J F@P FP J LOB RPBORI CLO >K>IVWFKD QEB J >@OLB@LKL J F@ PELOQ ORK +BQ P @LKPFAO QEB QTL KBL@I>PPF@>I ?RHFADK ?IL@HP FK QROK >KA ELT TB @>K B J ?LAV QEB J FK QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI

## , ; 8 !@CBEG4A68 B9 ( B68AG<4? ( <A G ; 8 \$BA: \*HA

. SBO QEB ILKD ORK QEB IBSBI LC MLQBKF>I &# / ABQBO J FKBP QEB PFWB LC OB>I &# / 6 EBK B@LKL J FQP OBCBO QL eMLQBKF>I &# / f QEBV >OB OBCBOOFKD QL QE>Q IBSBI LC LRQMRQ QE>Q >K B@LKL J V @>K >@EFBSB TEBK >II OBPLRO@BP I>KA I>?LO @>MFQ>I >KA BKQOBMOBKBRQF>I >?FIFQV >OB CRIIV B J MILVBA 6 EFIB QEB RKB J MILV J BKQ 0>QB FK I>?LO J >OHBQP TFII KBSBO ?B WBOL CRII B J MILV J BKQ FK QEB I>?LO J >OHBQ OBCBOP QL WBOL @V@IF@>I RKB J MILV J BKQ 3EBOB TFII PQFII ?B PL J B IBSBI LC RKB J MILV J BKQ ARB QL COF@QFLK>I LO PQOR@QRO>I RKB J MILV J BKQ ?RQ TEBK QEB B@LKL J V FP LMBO>QFKD TFQE WBOL @V@IF@>I RKB J MILV J BKQ B@LKL J FQP P>V QE>Q QEB B@LKL J V FP >Q QEB K>QRO>I 0>QB LC RKB J MILV J BKQ LO >Q CRII B J MILV J BKQ

\$@LKL J FQP ?BK@E J >OH >@QR>I LO OB>I &# / >D>FKPQ QEB MLQBKF>I &# / QL ABQBO J FKB ELT TBII QEB B@LKL J V FP MBOCLO J FKD P BUMI>FKBA FK 6BAB@<6 EB J G; TB @>K BUMI>FK &# / DOLTQE ?V FK@OB>PBP >KA FKSBBP J BKQ FK MEVPF@>I @>MFQ>I >KA ER J >K @>MFQ>I MBO MBOPLK >P TBII >P >AS>K@BP FK QB@EKLILDV **Physical capital per person** OBCBOP QL QEB > J LRKQ >KA HFKA LC J >@EFKBOV >KA BNRFM J BKQ >S>FI>?IB QL EBIM MBLMIB DBQ TLOH ALKB "L J M>OB CLO BU> J MIB VLRO MOLAR@QFSFQV FK QVMFKD > QBO J M>MBO LK > QVMBT@FQBO QL TLOHFKD LK VLRO I>MQLM TFQE TLOA MOL@BPPFKD PLCQT>OB "IB>OIV VLR TFII ?B >?IB QL ?B J LOB MOLAR@QFSB RPFKD TLOA MOL@BPPFKD PLCQT>OB 3EB QB@EKLILDV >KA IBSBI LC @>MFQ>I LC VLRO I>MQLM >KA PLCQT>OB E>P FK@OB>PBA VLRO MOLAR@QFSFQV , LOB ?OL>AIV QEB ABSBILM J BKQ LC &/2 QB@EKLILDV >KA 4KFSBOP>I /OLAR@Q "LABP QELPB ?>Q@LABP LK BSOV MOLAR@Q TB ?RV E>P J >AB FQ J R@E B>PFB0 CLO CFO J P QL QO>@H PEFM J BKQP Q>?RI>QB FKSBBKLOFBP >KA PBII >KA AFPQOF?RQB MOLAR@Q 3EBBP QTL QB@EKLILDV@>I FKKLS>QFLK >KA J >KV LQEBOP E>SB FK@OB>PBA >K>QFLK P >?FIFQV QL MOLAR@B DLLAP >KA PBOF@BP CLO > DFSBK MLMRI>QFLK +FHBTFPB FK@OB>PFKD ER J >K @>MFQ>I FKSLSIBP FK@OB>PFKD IBSBIP LC HKLTIBADB BAR@>QFLK >KA PHFII PBQP MBO MBOPLK QEOLRDE SL@>QFLK>I LO EFDEBO BAR@>QFLK /EVPPF@>I >KA ER J >K @>MFQ>I F J MOLSB J BKQP TFQE QB@EKLILDV@>I >AS>K@BP TFII FK@OB>PB LSBO>II MOLAR@QFSFQV >KA QERP &# /

3L PBB ELT QEBPB F J MOLSB J BKQP E>SB FK@OB>PBA MOLAR@QFSFQV >KA LRQMRQ >Q QEB K>QFLK>I IBSBI TB PELRIA BU> J FKB BSFABK@B COL J QEB 4KFQBA 2Q>QBP 3EB 4KFQBA 2Q>QBP BUMBOFBK@BA PFDKFCF@>K DOLTQE FK QEB QTBKQFBQE @BKQROV ARB QL MEBKL J BK>I @E>KDBP FK FKCO>PQOR@QROB BNRFM J BKQ >KA QB@EKLILDV@>I F J MOLSB J BKQP FK MEVPF@>I @>MFQ>I >KA ER J >K @>MFQ>I 3EB MLMRI>QFLK J LOB QE>K QOFMIBA FK QEB QTBKQFBQE @BKQROV COL J J FIFLK FK QL LSBO J FIFLK FK 3EB ER J >K @>MFQ>I LC J LABOK TLOHBOP FP C>O EFDEBO QLA>V ?B@>RBP QEB BAR@>QFLK >KA PHFII LC TLOHBOP E>SB OFPBK AO> J >QF@>IIV (K LKIV >?LRQ LKB BFDEQE LC QEB 4 2 MLMRI>QFLK E>A @L J MIBQBA EFDE P@ELLI >KA GRPQ LKB MBOPLK FK E>A @L J MIBQBA > CLRO VB>O @LIIBDB ABDORB !V J LOB QE>K LC J BOF@>KP E>A > EFDE P@ELLI ABDORB >KA LSBO E>A > CLRO VB>O @LIIBDB ABDORB >P TBII (K LC TLOHFKD >DB J BOF@>KP E>A > CLRO VB>O @LIIBDB ABDORB 3EB >SBO>DB > J LRKQ LC MEVPF@>I @>MFQ>I MBO TLOHBO E>P DOLTQE AO> J >QF@>IIV 3EB QB@EKLILDV >S>FI>?IB QL J LABOK TLOHBOP FP BUQO>LOAFK>OFIV ?BQBO QE>K > @BKQROV >DL @>OP >FOMI>KBP BIB@QOF@>I J >@EFKBOV P J >QOMELKBP @L J MRQBOP @EB J F@>I >KA ?FLILDV@>I >AS>K@BP J >QBOF>IP P@FBK@B EB>IQE @>OB b QEB IFPQ LC QB@EKLILDV@>I >AS>K@BP @LRIA ORK LK >KA LK , LOB TLOHBOP EFDEBO PHFII IBSBIP I>ODBO > J LRKQ LC MEVPF@>I @>MFQ>I MBO TLOHBO >KA > J >WFKDIV ?BQBO QB@EKLILDV >KA MLQBKF>I &# / CLO QEB 4 2 B@LKL J V E>P @IB>OIV FK@OB>PBA > DOB>Q AB>I PFK@B

3EFP DOLTQE E>P C>IIBK ?BILT FQP MLQBKF>I &# / >KA >Q QF J BP E>P BU@BBABA FQP MLQBKF>I %LO BU> J MIB COL J QL

QEB 4 2 B@LKL J V QR J ?IBA FKQL OB@BPPFLK >KA OB J >FKP ?BILT FQP MLQBKF>I Q LQEBQ QF J BP IFHB FK QEB I>QB P  
QEB B@LKL J V O>K >Q MLQBKF>I &# / b LO BSBK PIFDEQIV >EB>A <:HE8 PELTP QEB >@QR>I A>Q> CLO QEB FK@OB>PB FK  
OB>I &# / PFK@B 3EB PIFDEQIV P J LLQEBQ IFKB PELTP QEB MLQBKF>I &# / PFK@B >P BPQF J >QBA ?V QEB KLKM>OQFP>K  
"LKDOBPPFLK>I !RADBQ .CCF@B ,LPQ B@LKL J F@ OB@BPPFLK >KA RMP'FKDP >OB QF J BP TEBK QEB B@LKL J V FP a ?BILT  
LO >?LSB MLQBKF>I &# / FK > DFSBK VB>0 "IB>OIV PELQ ORK CIR@QR>QFLKP >OLRKA MLQBKF>I &# / AL BUFPQ ?RQ LSBQ QEB  
ILKD ORK QEB RMT>OA QOBKA LC MLQBKF>I &# / ABQBO J FKBP QEB PFWB LC QEB B@LKL J V

<:HE8 (B68AG<4? 4A7 6GH4? ( <A B??4EF !@QR>I ' \$O C>IIP ?BILT MLQBKF>I ' \$O AROFKD >KA >QBO  
OB@BPPFLK IFHB QEB OB@BPPFLK LC >KA ^ ^ >KA ^ >KA @LKQFKRBP ?BILT MLQBKF>I  
' \$O QEO LRDE )K LQEBQ @>PBP >@QR>I ' \$O @>K ?B >?LSB MLQBKF>I ' \$O CLO > QF J B >P FK QEB I>QB P

(K QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI TB PELT MLQBKF>I &# / >P > SBOQF@>I IFKB -BL@I>PPF@>I B@LKL J FPQP  
TEL CL@RP LK MLQBKF>I &# / >P QEB MOF J >OV ABQBO J FK>KQ LC OB>I &# / >ODRB QE>Q QEB ILKD ORK >DDOBD>QB PRMMIV @ROSB  
FP IL@>QBA >Q MLQBKF>I &# / b QE>Q FP TB AO>T QEB ILKD ORK >DDOBD>QB PRMMIV @ROSB >P > SBOQF@>I IFKB >Q QEB IBSBI LC  
MLQBKF>I &# / >P <:HE8 PELTP SBOQF@>I +1 2 @ROSB J B>KP QE>Q QEB IBSBI LC >DDOBD>QB PRMMIV LO MLQBKF>I  
&# / TFI ABQBO J FK B QEB B@LKL J V P OB>I &# / OBD>OAIBPP LC QEB IBSBI LC >DDOBD>QB AB J >KA .SBO QF J B FK@OB>PBP  
FK QEB NR>KQFV >KA NR>IFV LC MEVPP@>I @>MFQ>I FK@OB>PBP FK ER J >K @>MFQ>I >KA QB@EKLILDF@>I >AS>K@B J BKQP PEFCQ  
MLQBKF>I &# / >KA QEB SBOQF@>I +1 2 @ROSB DO>AR>IIV QL QEB OFDEQ \$@LKL J FPQP LCQBK ABP@OF?B QEFP DO>AR>I FK@OB>PB FK  
>K B@LKL J V P MLQBKF>I &# / >P > K>QLK P ILKD QBO J B@LKL J F@ DOLTQE



<:HE8 .8EG<64? + HE18 )K QEB KBL@I>PPf@>I J LABI TB A0>T QEB >DD0BD>QB PRMMIV @ROSB >P > SBOQf@>I IFKB >Q QEB IBSBI LC MLQBKQf>I ' \$0 )C ! 3 FP SBOQf@>I QEBK FQ ABQBO J FKBP QEB IBSBI LC OB>I LRQMRQ KL J>Q|BO TEB0B TB A0>T QEB >DD0BD>QB AB J>KA @ROSB / SBO Qf J B QEB , 2 ! 3 @ROSB PEFQfP QL QEB OFDEQ >P MOLAR@QfSfQV FK@0B>PBP >KA MLQBKQf>I ' \$0 BUM>KAP

### , ; 8 \* B?8 B9 ?8K<5?8 (E<68F

' LT ALBP QEB J>@OLB@LKL J V >AGRPQ ?>@H QL FQP IBSBI LC MLQBKQf>I &# / FK QEB ILKD ORK 6 E>Q FC >DD0BD>QB AB J>KA FK@0B>PBP LO AB@0B>PBP \$@LKL J FPQP ?>PB QEB KBL@I>PPf@>I SFBT LC ELT QEB J>@OLB@LKL J V >AGRPQ LK QEB FKPFDEQ QE>Q BSBK FC T>DBP >KA MOF@BP >OB ePQf@Hvf LO PILT QL @E>KDB FK QEB PELOQ ORK QEBV >OB CIBUF?IB LSB0 Qf J B 3L RKABOPQ>KA QEFf ?BQQBO IBQ P CLILT QEB @LKKB@QfLKP COL J QEB PELOQ ORK QL QEB ILKD ORK J>@OLB@LKL J f@ BNRfIF?OFR J

3EB >DD0BD>QB AB J>KA >KA >DD0BD>QB PRMMIV Af>D0> J FK <:HE8 PELTP QTL >DD0BD>QB PRMMIV @ROSBP 6 B A0>T QEB LOFDFK>I RMT>0A PILMFKD >DD0BD>QB PRMMIV @ROSB 2 1 2 FP > PELOQ ORK LO \*BVKBPf>K 2 @ROSB 3EB SBOQf@>I >DD0BD>QB PRMMIV @ROSB +1 2K FP QEB ILKD ORK LO KBL@I>PPf@>I 2 @ROSB TEF@E FP IL@>QBA >Q MLQBKQf>I &# / 3EB LOFDFK>I >DD0BD>QB AB J>KA @ROSB I>?BIBA # PL QE>Q QEB LOFDFK>I BNRfIF?OFR J L@@ROP >Q MLFKQ \$ >Q TEF@E MLFKQ QEB B@LKL J V FP MOLAR@FKD >Q FQP MLQBKQf>I &# /

<:HEB ;8 \*85BHA7 GB (B68AG<4? ( 4968E IA6E84F8F 4EB LOFDK>I BNRHF?OFR J % >Q >K LRQMRQ IBSBI LC  
>KA > MOF@B IBSBI LC E>MMBKP >Q QEB FKQB0PB@QFLK LC QEB >DDOBD>QB AB J>KA @ROSB !\$ >KA QEB PELOQ ORK  
>DDOBD>QB PRMMIV @ROSB 32!3 4EB LRQMRQ >Q % FP BNR>I QL MLQBKQF>I ' \$O !DDOBD>QB AB J>KA PEFCQP OFDEQ COL J !\$  
QL !\$ 4EB KBT BNRHF?OFR J FP % TFQE > EFDEBO LRQMRQ IBSBI LC >KA >K FK@OB>PB FK QEB MOF@B IBSBI QL 7 FQE  
RKB J MILV J BKQ 0>QBP RKPRPQ>FK>?IV ILT B>DBO B J MILVBOP ?FA RM T>DBP TEF@E PEFCQP PELOQ ORK >DDOBD>QB PRMMIV QL  
QEB IBQ COL J 32!3 QL 32!3 4EB KBT BNRHF?OFR J % FP >Q QEB P>J B LOFDK>I IBSBI LC LRQMRQ ?RQ >Q > EFDEBO  
MOF@B IBSBI LC 4ERP QEB ILKD ORK >DDOBD>QB PRMMIV @ROSB ,2!3K TEF@E FP SBOQF@>I >Q QEB IBSBI LC MLQBKQF>I ' \$O  
ABQBO J FKBP QEB IBSBI LC OB>I ' \$O FK QEFB B@LKL J V FK QEB ILKD ORK

- LT F J >DFKB QE>Q PL J B B@LKL J F@ BSBKQ ?LLPQP >DDOBD>QB AB J>KA MBOE>MP > PRODB LC BUMLOP >IBP LO > OFPB FK ?RPFKBPP  
@LKCFAFK@B QE>Q IB>AP QL J LOB FKSBPQ J BKQ MBOE>MP > MLIF@V AB@FPFLK IFHB EFDEBO DLSBOK J BKQ PMBKAFKD LO MBOE>MP > Q>U  
@RQ QE>Q IB>AP QL >AAFQFLK>I >DDOBD>QB AB J>KA 3EB PELOQ ORK \*BVKBPF>K >K>IVPPF FP QE>Q QEB OFPB FK >DDOBD>QB AB J>KA  
TFII PEFCQ QEB >DDOBD>QB AB J>KA @ROSB LRQ QL QEB OFDEQ COL J # QL # IB>AFKD QL > KBT BNRHF?OFR J >Q MLFKQ \$  
TFQE EFDEBO LRQMRQ ILTBO RKB J MILV J BKQ >KA MOBPPROB CLO >K FKCI>QLK>OV OFPB FK QEB MOF@B IBSBI

(K QEB ILKD ORK KBL@I>PPF@>I >K>IVPPF ELTBSBO QEB @E>FK LC B@LKL J F@ BSBKQP FP GRPQ ?BDFKKFKD P B@LKL J F@ LRQMRQ  
OFBPP >?LSB MLQBKQF>I &# / QEB IBSBI LC RKB J MILV J BKQ C>IIP 3EB B@LKL J V FP KLT >?LSB CRII B J MILV J BKQ >KA QEBOB  
FP > I>?LO PELOQ>DB \$>DBO B J MILVBOP >OB QOVFKD QL ?FA TLOHBOP >T>V COL J LQEB @L J M>KFBP >KA QL BK@LR0>DB QEBFO  
@ROOBKQ TLOHBOP QL BUBOQ J LOB BCCLQ >KA QL TLOH ILKDBO ELROP 3EFP EFDE AB J>KA CLO I>?LO TFII AOFBSB RM T>DBP , LPQ  
B J MILVBOP OBSFBT QEBFO TLOHBOP P>I>OFBP LKIV LK@B LO QTF@B > VB>O >KA PL FQ TFII Q>HB QF J B ?BCLOB QEB EFDEBO T>DBP  
CFIQBO QEOLRDE QEB B@LKL J V P T>DBP AL OFPB FQ TFII J B>K > IBCQT>OA PEFCQ FK QEB PELOQ ORK \*BVKBPF>K >DDOBD>QB PRMMIV  
@ROSB ?>@H QL 21 2 ?B@>RPB QEB MOF@B LC > J>GLO FKMRQ QL MOLAR@QLK E>P FK@OB>PBA 3EB B@LKL J V JLSBP QL > KBT  
BNRHF?OFR J \$ 3EB KBT BNRHF?OFR J E>P QEB P>J B IBSBI LC OB>I &# / >P AFA QEB LOFDK>I BNRHF?OFR J \$ ?RQ QEBOB  
E>P ?BBK >K FKCI>QLK>OV FK@OB>PB FK QEB MOF@B IBSBI

3EFP ABP@OFMQLK LC QEB PELOQ ORK PEFCQ COL J \$ QL \$ >KA QEB ILKD ORK PEFCQ COL J \$ QL \$ FP > PQBM ?V PQBM T>V LC  
J>HFKD > PF J MIB MLFKQ QEB B@LKL J V @>KKLQ PRPQ>FK MOLAR@QLK >?LSB FQP MLQBKQF>I &# / FK QEB ILKD ORK K B@LKL J V  
J>V MOLAR@B >?LSB FQP IBSBI LC MLQBKQF>I &# / FK QEB PELOQ ORK RKABO MOBPPROB COL J > PRODB FK >DDOBD>QB AB J>KA . SBO  
QEB ILKD ORK ELTBSBO QE>Q PRODB FK >DDOBD>QB AB J>KA BKAP RM >P >K FK@OB>PB FK QEB MOF@B IBSBI KLQ >P > OFPB FK LRQMRQ

3EB OB?LRKA LC QEB B@LKL J V ?>@H QL MLQBKQF>I &# / >IPL TLOHP FK OBPMLKPB QL > PEFCQ QL QEB IBQ FK >DDOBD>QB  
AB J>KA <:HEB >D>FK PQ>OQP TFQE QTL >DDOBD>QB PRMMIV @ROSBP TFQE 21 2 PELTFKD QEB LOFDK>I RMT>OA  
PILMEKD PELOQ ORK \*BVKBPF>K 2 @ROSB >KA +1 2K PELTFKD QEB SBOQF@>I ILKD ORK KBL@I>PPF@>I >DDOBD>QB PRMMIV @ROSB  
AB@OB>PB FK >DDOBD>QB AB J>KA b CLO BU>J MIB ?B@>RPB LC > AB@IFKB FK @LKPR J BO @LKCFAFK@B QE>Q IB>AP QL IBPP  
@LKPR J MQFLK >KA J LOB P>SKD b @>RPBP QEB LOFDK>I >DDOBD>QB AB J>KA @ROSB # QL PEFCQ ?>@H QL # 3EB PEFCQ COL J  
QEB LOFDK>I BNRHF?OFR J \$ QL QEB KBT BNRHF?OFR J \$ OBPRIQP FK > AB@IFKB FK LRQMRQ 3EB B@LKL J V FP KLT ?BILT  
CRII B J MILV J BKQ >KA QEBOB FP > PROMIRP LC I>?LO P LRQMRQ C>IIP ?BILT MLQBKQF>I &# / RKB J MILV J BKQ OFBPP 6 EFIB >  
ILTBO MOF@B IBSBI F B ABCI>QLK FP O>OB FK QEB 4KFQBA 2Q>QBP FQ ALBP E>MMBK L@>PELK>IIV AROFKD SBOV TB>H MBOFLAP LC  
B@LKL J F@ >@QSFQV %LO MO>@QF@>I MROMLPBP TB J FDEQ @LKPFABO > ILTBO MOF@B IBSBI FK QEB #a 2 J LABI >P FKAFA>QFSB  
LC AFPFKCI>QLK TEF@E FP > AB@IFKB FK QEB FKCI>QLK 0>QB 3ERP QEB ILKD ORK >DDOBD>QB PRMMIV @ROSB +1 2K TEF@E FP

SBOQF@>I >Q QEB IBSBI LC MLQBKQF>I &# / RIQF J >QBIV ABQBO J FKBP QEFB B@LKL J V P OB>I &# /

<:HEB \*85BHA7 46> GB (B68A<4? ( 9EB@ 4 + ;<9G GB G ;8 \$89G <A ::E8:4G8 8@4A7 4EB LOfDFK>I  
BNRHF?OFR J % >Q >K LRQMRQ IBSBI LC >KA > MOF@B IBSBI LC E>MMBKP >Q QEB FKQBOPB@QFLK LC QEB >DDOBD>QB  
AB J>KA @ROSB !\$ >KA QEB PELOQ ORK >DDOBD>QB PRMMIV @ROSB 32!3 4EB LRQMRQ >Q % FP BNR>I QL MLQBKQF>I ' \$0  
!DDOBD>QB AB J>KA PEFCQP IBCQ COL J !\$ QL !\$ 4EB KBT BNRHF?OFR J FP >Q % TFQE > ILTBO LRQMRQ IBSBI LC >KA  
ALTKT>OA MOBPPROB LK QEB MOF@B IBSBI LC 7 FQE EFDE RKB J MILV J BKQ O>QBP T>DBP >OB EBIA ALTK ,LTBO T>DBP >OB  
>K B@LKL J V TFAB AB@OB>PB FK QEB MOF@B LC > HBV FKMRQ TEF@E PEFCQP PELOQ ORK >DDOBD>QB PRMMIV QL QEB OFDEQ COL J  
32!3 QL 32!3 4EB KBT BNRHF?OFR J % FP >Q QEB P> J B LOfDFK>I IBSBI LC LRQMRQ ?RQ >Q > ILTBO MOF@B IBSBI LC

D>FK COL J QEB KBL@I>PPF@>I MBOPMB@QFSB QEFB PELOQ ORK P@BK>OFL FP LKIV QEB ?BDFKFKD LC QEB @E>FK LC BSBKQP 3EB  
EFDEBO IBSBI LC RKB J MILV J BKQ J B>KP J LOB TLOHBOP ILLHFKD CLO GL?P P > OBPRIQ B J MILVBOP @>K ELIA ALTK LK M>V  
FK@OB>PBP b LO MBOE>MP BSBK OBMI>@B PL J B LC QEBFO EFDEBO M>FA TLOHBOP TFQE RKB J MILVBA MBLMIB TFIIFKD QL >@BMQ >  
ILTBO T>DB P T>DBP P>DK>QB LO C>II QEFB AB@IFKB FK QEB MOF@B LC > HBV FKMRQ J B>KP QE>Q QEB PELOQ ORK \*BVKBPF>K  
>DDOBD>QB PRMMIV @ROSB PEFCQP QL QEB OFDEQ COL J FQP LOfDFK>I 21 2 QL 21 2 3EB LSBO>II F J M>@Q FK QEB ILKD ORK >P  
QEB J>@OLB@LKL J F@ BNRHF?OFR J PEFCQP COL J \$ QL \$ QL \$ FP QE>Q QEB IBSBI LC LRQMRQ OBQROK QL MLQBKQF>I &# / TEBOB FQ  
PQ>OQBA 3EBOB FP ELTBSBO ALTKT>OA MOBPPROB LK QEB MOF@B IBSBI 3ERP FK QEB KBL@I>PPF@>I SFBT @E>KDBP FK >DDOBD>QB  
AB J >KA @>K E>SB > PELOQ ORK F J M>@Q LK LRQMRQ >KA LK RKB J MILV J BKQ b ?RQ LKIV > PELOQ ORK F J M>@Q (K QEB ILKD ORK  
TEBK T>DBP >KA MOF@BP >OB CIBUF?IB MLQBKQF>I &# / >KA >DDOBD>QB PRMMIV ABQBO J FKBP OB>I &# / P PFWB

### BJ 4FG !F G ;8 +C887 B9 %46EB86BAB@<6 7-HFG@8AG

' LT ILKD ALBP FQ Q>HB CLO T>DBP >KA MOF@BP QL >AGRPQ >KA CLO QEB B@LKL J V QL OB?LRKA QL FQP MLQBKQF>I &# / 3EFP  
PR?GB@Q FP EFDEIV @LQKQFLRP \*BVKBPF>K B@LKL J FPQP >ODRB QE>Q FC QEB >AGRPQ J BKQ COL J OB@BPPFLK QL MLQBKQF>I &# /  
>HBP > SBOV ILKD QF J B QEBK KBL@I>PPF@>I QEBLOV J >V ?B J LOB EVMLQEBQF@>I QE>K MO>@QF@>I (K OBPMLKPB QL )LEK  
, >VK>OA \*BVKBPF F J J LQ>I TLOAP e(K QEB ILKD ORK TB >OB >II AB>A f KBL@I>PPF@>I B@LKL J FPQP OBPMLKA QE>Q BSBK FC QEB  
>AGRPQ J BKQ Q>HBP >P ILKD >P P>V QBK VB>OP QEB KBL@I>PPF@>I MBOPMB@QFSB OB J >FKP LC @BKQ>I F J MLOQ>K@B FK RKABOPQ>KAFKD  
QEB B@LKL J V

. KB PR?PBQ LC KBL@I>PPF@>I B@LKL J FPQP ELIAP QE>Q T>DB >KA MOF@B >AGRPQ J BKQ FK QEB J >@OLB@LKL J V J FDEQ ?B NRFQB  
O>MFA 3EB QEBLOV LC **rational expectations** ELIAP QE>Q MBLMIB CLO J QEB J LPQ >@RO>QB MLPPF?IB BUMB@Q>QLKP >?LRQ  
QEB CRQROB QE>Q QEBV @>K RPFKD >II FKALO J >QLK >S>FI>?IB QL QEB J (K >K B@LKL J V TEBOB J LPQ MBLMIB E>SB O>QLK>I  
BUMB@Q>QLKP B@LKL J F@ >AGRPQ J BKQ J >V E>MMB SBOV NRF@HIV

3L RKABOPQ>KA ELT O>QLK>I BUMB@Q>QLKP J >V >CCB@Q QEB PMBBA LC MOF@B >AGRPQ J BKQ QEFKH >?LRQ > PQR>QLK FK QEB OB>I  
BPQ>QB J >OHBQ ( J >DFKB QE>Q PBSBO>I BSBKQP PBB J IFHBIV QL MRPE RM EL J B S>IRBP FK QEB KBFDE?LOELLA /BOE>MP > IL@>I  
B J MILVBO >KKLRK@BP QE>Q FQ MI>KP QL EFOB J >KV J LOB MBLMIB LO QEB @FQV >KKLRK@BP QE>Q FQ TFII ?RFIA > IL@>I M>OH LO >  
IF?O>OV FK QE>Q KBFDE?LOELLA 3EB QEBLOV LC O>QLK>I BUMB@Q>QLKP MLFKQP LRQ QE>Q BSBK QELRDE KLKB LC QEB @E>KDBP TFII  
E>MMB F J J BAF>QBIV EL J B MOF@BP FK QEB KBFDE?LOELLA TFII OFPB F J J BAF>QBIV ?B@>RPB QEB BUMB@Q>QLK QE>Q EL J BP TFII  
?B TLOQE J LOB FK QEB CRQROB TFII IB>A ?RVBOP QL ?B TFIIFKD QL M>V J LOB FK QEB MOBPKQ 3EB > J LRKQ LC QEB F J J BAF>QB  
FK@OB>PB FK EL J B MOF@BP TFII ABMBKA LK ELT IFHBIV FQ PBB J P QE>Q QEB >KKLRK@B J BKQ >?LRQ QEB CRQROB TFII >@QR>IIV

E>MMBK >KA LK ELT AFPQ>KQ QEB IL@>I GL?P >KA KBFDE?LOELLA F J MOLSB J BKQP >OB FK QEB CRQROB 3EB HBV MLFKQ FP QE>Q ?B@>RPB LC 0>QFLK>I BUMB@Q>QFLK M@F@BP AL KLQ T>FQ LK BSBKQP ?RQ >AGRPQ F J J BAF>QBIV

Q > J >@OLB@LKL J F@ IBSBI QEB QEBLOV LC 0>QFLK>I BUMB@Q>QFLK MLFKQP LRQ QE>Q FC QEB >DDOBD>QB PRMMIV @ROS B FP SBOQF@>I LSBO QF J B QEBK MBLMIB PELRIA 0>QFLK>IIV BUMB@Q QEP M>QQBOK 6 EBK > PEFCQ FK >DDOBD>QB AB J >KA L@>R@P MBLMIB >KA ?RPFKBPBP TFQE 0>QFLK>I BUMB@Q>QFLK TFII HKLT QE>Q FQP F J M>@Q LK LRQMRQ >KA B J MILV J BKQ TFII ?B QB J MLO>OV TEFIB FQP F J M>@Q LK QEB MOF@B IBSBI TFII ?B MBO J >KBKQ (C CFO J P >KA TLOHBOP MBO@BFSB QEB LRQ@L J B LC QEB MOL@BPP FK >AS>K@B >KA FC >II CFO J P >KA TLOHBOP HKLT QE>Q BSOVLKB BIPB FP MBO@BFSFKD QEB MOL@BPP FK QEB P> J B T>V QEBK QEBV E>SB KL FK@BKQFSB QL DL QEOLRDE >K BUQKBABA PBOFBP LC PELOQ ORK P@BK>OFLP IFHB > CFO J CFOQ EFQFKD J LOB MBLMIB TEBK >DDOBD>QB AB J >KA PEFCQ LRQ >KA QEBK CFOFKD QELPB P> J B MBLMIB TEBK >DDOBD>QB PRMMIV PEFCQ ?>@H (KPB>A BSOVLKB TFII OB@LQDKFWB TEBOB QEP MOL@BPP FP EB>AFKD b QLT>OA > @E>KDB FK QEB MOF@B IBSBI b >KA QEBK TFII >@Q LK QE>Q BUMB@Q>QFLK (K QEP P@BK>OFL QEB BUMB@QBA ILKD ORK @E>KDB FK QEB MOF@B IBSBI J >V E>MMBK SBOV NRF@HIV TFQELRQ > AO>TK LRQ WFDW>D LC LRQMRQ >KA B J MILV J BKQ CFOQ J LSFKD LKB T>V >KA QEBK QEB LQEBO

3EB QEBLOV QE>Q MBLMIB >KA CFO J P E>SB 0>QFLK>I BUMB@Q>QFLK @>K ?B > RPBKRI PF J MIFCF@>QFLK ?RQ >P > PQ>QB J BKQ >?LRQ ELT MBLMIB >KA ?RPFKBPBP >@QR>IIV ?BE>SB QEB >PPR J M@FLK PBB J P QLL PQQLKD CQBO >II J >KV MBLMIB >KA CFO J P >OB KLQ BPMB@F>IIV TBII FKALO J BA BFQEBO >?LRQ TE>Q FP E>MMBKFKD FK QEB B@LKL J V LO >?LRQ ELT QEB B@LKL J V TLOHP

K >IQBOK>QB >PPR J M@FLK FP QE>Q MBLMIB >KA CFO J P >@Q TFQE **adaptive expectations** QEBV ILLH >Q M>PQ BUMBOFBK@B >KA DO>AR>IIV >A>M@ QEBFO ?BIFBCP >KA ?BE>S@LO >P @FO@R J PQ>K@BP @E>KDB ?RQ >OB KLQ MB@CB@Q PVKQEBPFWBOP LC FKALO J >QFLK >KA >@>R@>QB MOBAF@QLOP LC QEB CRQROB FK QEB PBKPB LC 0>QFLK>I BUMB@Q>QFLK QEBLOV (C J LPQ MBLMIB >KA ?RPFKBPBP E>SB PL J B CLO J LC >A>M@FSB BUMB@Q>QFLK QEBK QEB >AGRPQ J BKQ COL J QEB PELOQ ORK >KA ILKD ORK TFII ?B QO>@BA LRQ FK FK@OB J BKQ>I PQBMP QE>Q L@>R@ LSBO QF J B

3EB B J MFOF@>I BSFABK@B LK QEB PMBBA LC J >@OLB@LKL J F@ >AGRPQ J BKQ LC MOF@BP >KA T>DBP FP KLQ @IB>O @RQ 3EB PMBBA LC J >@OLB@LKL J F@ >AGRPQ J BKQ MOL?>?IV S>OFBP > J LKD AFCCB@B@Q @LRKQOFBP >KA QF J B MBOFLAP OB>PLK>?IB DRBPP FP QE>Q QEB FKQF>I PELOQ ORK BCCB@Q LC > PEFCQ FK >DDOBD>QB AB J >KA J FDEQ I>PQ QTL QL CFSB VB>OP ?B@LOB QEB >AGRPQ J BKQ FK T>DBP >KA MOF@BP @>RPB QEB B@LKL J V QL >AGRPQ ?>@H QL MLQBKF>I &# / 3ERP LKB J FDEQ QEFKH LC QEB PELOQ ORK CLO >MMIVFKD \*BVKBPF>K >K>IVPPF >P QF J B MBOFLAP IBPP QE>K QTL QL CFSB VB>OP >KA QEB ILKD ORK CLO >MMIVFKD KBL@I>PPF@>I >K>IVPPF >P ILKDBO QE>K CFSB VB>OP %LO MO>@QF@>I MROMLPBP QEP DRFABIFKB FP CORPQO>QFKDIV F J MOB@FPB ?RQ TEBK >K>IVWFKD > @L J MIBU PL@F>I J B@E>KFP J IFHB >K B@LKL J V >P FQ BSLISBP LSBO QF J B PL J B F J MOB@FPFLK PBB J P RK>SLFA>?IB

# N , ; 8 ( B?<6L !@C?<64G<BAF B9 G ; 8 &8B6?4FF<64? ( 8EFC86G<I 8

! V QEB BKA LC QEP PB@QFLK VLR TFII ?B >?IB QL

- d #FP@RPP TEV >KA ELT B@LKL J FPQP J B>PROB FKCI>QFLK BUMB@Q>QFLK
- d K>IVWB QEB F J M>@P LC CFP@>I >KA J LKBQ>OV MLIF@V LK >DDOBD>QB PRMMIV >KA >DDOBD>QB AB J >KA
- d \$UMI>FK QEB KBL@I>PPF@>I / EFIFMP @ROSB KLQFKD FQP QO>ABLCC ?BQTBK FKCI>QFLK >KA RKB J MILV J BKQ
- d (ABKQFCV @IB>O AFPQFK@QFLK ?BQTBK KBL@I>PPF@>I B@LKL J F@P >KA \*BVKBPF>K B@LKL J F@P

3L RKABOPQ>KA QEB MLIF@V OB@L J J BKA>QFLK LC QEB KBL@I>PPF@>I B@LKL J FPQP FQ EBIMP QL PQ>OQ TFQE QEB \*BVKBPF>K MBOPMB@QFSB 2RMMLPB > AB@OB>PB FK >DDOBD>QB AB J >KA @>RPBP QEB B@LKL J V QL DL FKQL OB@BPPFLK TFQE EFDE RKB J MILV J BKQ 3EB \*BVKBPF>K OBPMLKPB TLRIA ?B QL RPB DLSBOK J BKQ MLIF@V QL PQF J RI>QB >DDOBD>QB AB J >KA >KA BIF J FK>QB QEB OB@BPPFLK>OV D>M 3EB KBL@I>PPF@>I B@LKL J FPQP ?BIFBSB QE>Q QEB \*BVKBPF>K OBPMLKPB TEFIB MBOE>MP TBII FKQBKQFLKBA TFII KLQ E>SB > DLLA LRQ@L J B CLO OB>PLKPB TB TFII AFP@RPP PELOQIV 2FK@B QEB KBL@I>PPF@>I B@LKL J FPQP ?BIFBSB QE>Q QEB B@LKL J V TFII @LOOB@Q FQPBIC LSBO QF J B QEB LKIV >AS>KQ>DB LC > \*BVKBPF>K PQ>?FIFW>QFLK MLIF@V TLRIA ?B QL >@>BIBO>QB QEB MOL@BPP >KA J FKJ F WB QEB QF J B QE>Q QEB RKB J MILVBA >OB LRQ LC TLOH (P QE>Q QEB IFHBIV LRQ@L J B

\*BVKBPF>K J >@OLB@LKL J F@ MLIF@V OB@L J J B LMQF J FP J >?LRQ QEB DLSBOK J BKQ P >?FIFV QL OB@LQDKFWB > PFQR>QFLK LC QLL IFQIB LO QLL J R@E >DDOBD>QB AB J >KA >KA QL >AGRPQ >DDOBD>QB AB J >KA >@>LOAFKDIV TFQE QEB OFDEQ IBSBI LC @E>KDBP FK Q>UBP LO PMBKAFKD >II BK>@QBA FK > QF J BIV C>PEFLK CQBO >II KBL@I>PPF@>I B@LKL J FPQP >ODRB FQ Q>HBP DLSBOK J BKQ PQ>QFPQF>KP J LKQEP QL MOLAR@B BSBK MOBIF J FK>OV BPQF J >QB LC &# / PL QE>Q MLIF@F>KP HKLT TEBQEBO > OB@BPPFLK FP L@>R@OOFKD b >KA QELPB MOBIF J FK>OV BPQF J >QB J >V ?B OBSFPBA PR?PQ>KQF>IIV I>QBO , LOBLSBO QEBOB FP QEB NRBPQFLK LC QF J BIV >@QFLK 3EB MLIF@F>I MOL@BPP @>K Q>HB J LOB J LKQEP QL BK>@Q > Q>U @RQ LO > PMBKAFKD FK@OB>PB /LIF@F@>I LO B@LKL J F@ @LKPFABO>QFLK J >V ABQBO J FKB QEB > J LRKQ LC Q>U LO PMBKAFKD @E>KDBP 3EBK QEB B@LKL J V TFII Q>HB PQFII

J LOB J LKQEP QL MRQ FKQL BCCB@Q @E>KDBP FK >DDOBD>QB AB J >KA QEOLRDE PMBKAFKD >KA MOLAR@QFLK 6 EBK B@LKL J FPQP >KA MLIF@V J >HBOP @LKPFABO >II LC QEBPB QF J B I>DP >KA MLIF@V@I OB>IFQFBP >@QFSB CFP@>I MLIF@V J >V C>FI QL >AAOBPP QEB @ROOBKQ MOL?IB J >KA @LRIA BSBK J >HB QEB CRQROB B@LKL J V TLOPB 3EB >SB0>DB 4 2 MLPQ 6 LOIA 6>0 (( OB@BPPFLK E>P I>PQBA LKIV >?LRQ > VB>0 ! V QEB QF J B DLSBOK J BKQ MLIF@V >@QFS>QBP QEB OB@BPPFLK TFII IFHBIV ?B LSBO P > @LKPBNRBK@B QEB LKIV OBPRIQ LC DLSBOK J BKQ CFKB QRKFKD TFII ?B QL PQF J RI>QB QEB B@LKL J V TEBK FQ FP >IOB>AV OB@LSBOFKD LO QL @LKLQ>@Q QEB B@LKL J V TEBK FQ FP >IOB>AV C>IIFKD (K LQEBO TLOAP >K >@QFSB J >@OLB@LKL J F@ MLIF@V FP IFHBIV QL BU>@B0?>QB QEB @V@IBP O>QEBO QE>K A> J MBK QEB J 2L J B KBL@I>PPF@>I B@LKL J FPQP ?BIFBSB > I>ODB M>OQ LC QEB ?RPFKBPP @V@IBP T B L?PBOSB >OB ARB QL CI>TBA DLSBOK J BKQ MLIF@V 3L IB>OK >?LRQ QEFF FPRB CROQEBO OB>A QEB CLIL TFKD " IB>0 (Q 4M CB>QROB

# Clear It Up

/ ;L 4A7 ;BJ 7B 86BAB@<FGF @84FHE8 <A9?4G<BA 8KC86G4G<BAF

OBLMIB Q>HB BUMB@Q>QFLKP >?LRQ FKCI>QFLK FKQL @LKPFABO>QFLK BSB0V QF J B QEBV J >HB > J>@LO MRO@E>PB PR@E >P > ELRPB LO > @>0 ! P FKCI>QFLK CIR@QR>QBP PL QLL ALBP QEB KL J FK>I FKQBOBPQ O>QB LK IL>KP QL ?RV QEBPB DLLAP 4EB KL J FK>I FKQBOBPQ O>QB FP @L J MOPFA LC QEB OB>I O>QB MIRP >K 8KC86G87 <A9?4G<BA C>@QL0 %UMB@QBA FKCI>QFLK >IPL QBIIP B@LKL J FPQP >?LRQ ELT QEB MR?IF@ SIFBTP QEB B@LKL J V P AFOB@QFLK 3RMMLPB QEB MR?IF@ BUMB@QP FKCI>QFLK QL FK@OB>PB 4EFP @LRIA ?B QEB OBPRIQ LC MLP@QFSB AB J >KA PEL@H ARB QL >K BUM>KAFKD B@LKL J V >KA FK@OB>PFKD >DDOBD>QB AB J >KA J@ @LRIA >IPL ?B QEB OBPRIQ LC > KBD>QFSB PRMMIV PEL@H MBOE>MP COL J QFPFKD BKBODV MOP@BP >KA AB@OB>PFKD >DDOBD>QB PRMMIV JK BQEBO @>PB QEB MR?IF@ J >V BUMB@Q QEB @BKQ>I ?>KH QL BKD>DB FK @LKLQ>@QFLK>OV J LKBQ>OV MLIF@V QL OBAR@B FKCI>QFLK >KA QEFP MLIF@V OBPRIQP FK EFDEBO FKQBOBPQ O>QBP J@ ELTBSBO B@LKL J FPQP BUMB@Q FKCI>QFLK QL AB@OB>PB QEB MR?IF@ J >V >KQF@FM>QB > OB@BPPFLK JK QR0K QEB MR?IF@ J >V BUMB@Q BUM>KPFK>OV J LKBQ>OV MLIF@V >KA ILTBO FKQBOBPQ O>QBP FK QEB PELOQ ORK "V J LKFLQOFKD BUMB@QBA FKCI>QFLK B@LKL J FPQP D>OKBO FKALO J >QFLK >?LRQ QEB BCCB@QFSBKBPP LC J >@OLB@LKL J F@ MLIF@FBP !AAFQFLK>IIV J LKFLQOFKD BUMB@QBA FKCI>QFLK >IILTTP CLO MOLGB@QFKD QEB AFOB@QFLK LC OB>I FKQBOBPQ O>QBP QE>Q FPLI>QB CLO QEB BCCB@Q LC FKCI>QFLK 4EFP FKALO J >QFLK FP KB@BPP>OV CLO J >HFKD AB@FPFLKP >?LRQ CFK>K@FKD FKSBBPQ J BKQP

%UMB@Q>QFLKP >?LRQ FKCI>QFLK J >V PBB J IFHB > EFDEIV QEBLOBQF@>I @LK@BMQ ?RQ FK C>@Q QEB &BABA>I 2BPB0SB ">KH JB>PR0BP FKCI>QFLK BUMB@Q>QFLKP ?>PBA RMLK B>OIV OBPB>0@E @LKAR@QBA ?V \*LPBME ,FSFKDPQLK >CFK>K@F>I GLROK>IFPQ CLO QEB Philadelphia Inquirer JK EB PQ>QBA > QTF@B > VB>0 PROSBV LC B@LKL J FPQP >?LRQ QEBFO BUMB@Q>QFLKP LC FKCI>QFLK !QBO ,FSFKDPQLK P AB>QE FK QEB &BABA>I 2BPB0SB ">KH >KA LQEBO B@LKL J F@ OBPB>0@E >DBK@FBP PR@E >P QEB 3ROSBV 2BPB>0@E #BKQBO >Q QEB 5KFSBOPFQV LC -F@EFD>K QEB ! JB0F@>K 3Q>QFP@>I !PPL@F>QFLK >KA QEB .>QFLK>I " ROB>R LC %@LKL J F@ 2BPB>0@E @LKQKRBA QEB PROSBV

#ROOBKQ &BABA>I 2BPB0SB OBPB>0@E @L J M>OBP QEBPB BUMB@Q>QFLKP QL >@QR>I FKCI>QFLK QE>Q E>P L@R00BA >KA QEB OBPRIQP PL C>0 >OB J FUBA %@LKL J FPQP CLOB@>PQP ELTBSBO E>SB ?B@L J B KLQ>?IV J LOB >@R0>QB FK QEB I>PQ CBT AB@>ABP %@LKL J FPQP >OB >@QFSBIV OBPB>0@E@FKD ELT FKCI>QFLK BUMB@Q>QFLKP >KA LQEBO B@LKL J F@ S>QF>?IBP CLO J >KA @E>KDB

# Link It Up

6FPFQ QEFP TB?PFQB EQMP TTT @IBSBI>KACBA LOD KBTPOLL J >KA BSBKQP MR?IF@>QFLKP B@LKL J F@ @L J J BKQ>OV B@LKL J F@ @L J J BKQ>OV >0@EFSBP B@LKL J F@ @L J J BKQ>FBP B@ > KBT >MMOL>@E QL D>RDFKD FKCI>QFLK BUMB@Q>QFLKP >PMU QL OB>A b4EB &BABA>I 2BPB0SB ">KH LC #IBSBI>KAaP %@LKL J F@ #L J J BKQ>OV ! .BT !MMOL>@E QL ' >RDFKD )KCI>QFLK %UMB@Q>QFLKPc ?V \*LPBME ' (>R?QF@E CLO J LOB FKALO J >QFLK >?LRQ ELT B@LKL J FPQP CLOB@>PQ BUMB@QBA FKCI>QFLK



, ; 8 & 8B6?4FF<64? ( ; <??<CF HEI8 ,E478B99

, ; 8 #8LA8F<4A (8EFC86<18 FKQLAR@BA QEB /EFIIFMP @ROSB >KA BUMI>FKBA ELT FQ FP ABOFSBA COL J QEB >DDOBD>QB PRMMIV @ROSB 3EB PELOQ ORK RMT>0A PILMFKD >DDOBD>QB PRMMIV @ROSB F J MIFBP > ALTKT>0A PILMFKD /EFIIFMP @ROSB QERP QEBQB FP > QO>ABLCC ?BQTBBK FKCI>QFLK >KA RKB J MILV J BKQ FK QEB PELOQ ORK ! V @LKQO>PQ > KBL@I>PPF@>I ILKD ORK >DDOBD>QB PRMMIV @ROSB TFII F J MIV > SBOQF@>I PE>MB CLO QEB /EFIIFMP @ROSB FKAF@>QFKD KL ILKD ORK QO>ABLCC ?BQTBBK FKCI>QFLK >KA RKB J MILV J BKQ <:HE8 > PELTP QEB SBOQF@>I 2 @ROSB TFQE QE0BB AFCCBOBKQ IBSBIP LC >DDOBD>QB AB J >KA OBPRIQFKD FK QE0BB AFCCBOBKQ BNRFF?OF> >Q QE0BB AFCCBOBKQ MOF@B IBSBIP Q BSOV MLFKQ >ILKD QE>Q SBOQF@>I 2 @ROSB MLQBKF>I &# / >KA QEB O>QB LC RKB J MILV J BKQ OB J >FKP QEB P> J B PPR J B QE>Q CLO QEF B@LKL J V QEB K>QRO>I O>QB LC RKB J MILV J BKQ FP P > OBPRIQ QEB ILKD ORK /EFIIFMP @ROSB OBI>QFLKPEFM FK <:HE8 ? FP > SBOQF@>I IFKB OFPKD RM COL J RKB J MILV J BKQ >Q >KV IBSBI LC FKCI>QFLK 1B>A QEB CLILTFKD 6LOH (Q .RQ CB>QROB CLO >AAFQFLK>I FKCL O J >QFLK LK ELT QL FKQBOMOBQ FKCI>QFLK >KA RKB J MILV J BKQ O>QBP

<:HE8 EB@ 4 \$BA: \*HA + HEI8 GB 4 \$BA: \*HA ( ; <??<CF HEI8 > 7 FQE > SBOQF@>I , 2 ! 3 @ROSB PEFCQP FK >DDOBD>QB AB J >KA AL KLQ >IQBO QEB IBSBI LC LRQMRQ ?RQ AL IB>A QL @E>KDBP FK QEB MOF@B IBSBI "B@>RPB LRQMRQ FP RK@E>KDBA ?BQTBBK QEB BNRFF?OF> % % >KA % >II RKB J MILV J BKQ FK QEF B@LKL J V TFII ?B ARB QL QEB K>QRO>I O>QB LC RKB J MILV J BKQ ? )C QEB K>QRO>I O>QB LC RKB J MILV J BKQ FP QEBK QEB OEFIIFMP @ROSB TFII ?B SBOQF@>I 4E>Q FP QBD>OAIPPP LC @E>KDBP FK QEB MOF@B IBSBI QEB RKB J MILV J BKQ O>QB OB J >FKP >Q

# Work It Out

,E46><A: !A9?4G<BA 4A7 - A8@C?BL@8AG \* 4G8F

3RMMLPB QE>Q VLR E>SB @LIIB@QBA A>Q> CLO VB>OP LK FKCI>QFLK >KA RKB J MILV J BKQ 0>QBP >KA OB@LOABA QEB J FK > Q>?IB PR@E >P ,45?8 (LT AL VLR FKQBOMOBQ QE>Q FKCL0 J >QFLK

184E	!A9?4G<BA * 4G8	- A8@C?BL@8AG * 4G8

,45?8

3QBM OILQ QEB A>Q> MLFKQP FK > DO>ME TRQE FKCI>QFLK 0>QB LK QEB SBOQf@>I >UFP >KA RKB J MILV J BKQ 0>QB LK QEB EL0FWLKQ>I >UFP 9LR0 DO>ME TFII >MMB>0 PF J FI>0 QL <:HEB



<:HEB !A9?4G<BA \* 4G8F

3QBM 7E>Q M>QQB0KP AL VLR PBB FK QEB A>Q> 9LR PELRIA KLQf@B QE>Q QEB0B >0B VB>OP TEBK RKB J MILV J BKQ C>IIP ?RQ FKCI>QFLK 0FPBP >KA LQEB0 VB>OP TEB0B RKB J MILV J BKQ 0FPBP >KA FKCI>QFLK C>IIP

3QBM #>K VLR ABQBO JFKB QEB K>QR0>I 0>QB LC RKB J MILV J BKQ 00L J QEB A>Q> LO 00L J QEB DO>ME !P VLR >K>IVWB QEB DO>ME FQ >MMB>OP QE>Q QEB K>QR0>I 0>QB LC RKB J MILV J BKQ IFBP >Q 4EFP FP QEB 0>QB QE>Q QEB B@LKL J V >MMB>OP QL >AGRPQ ?>@H QL >CQBO >K >MM>0BKQ @E>KDB FK QEB B@LKL J V &LO BU>J MIB FK QEB B@LKL J V >MMB>0BA QL E>SB >K FK@OB>PB FK >DD0BD>QB AB J >KA 4EB RKB J MILV J BKQ 0>QB CBII QL ?RQ FKCI>QFLK FK@OB>PBA 00L J QL "V QEB B@LKL J V E>A >AGRPQBA ?>@H QL RKB J MILV J BKQ >KA QEB FKCI>QFLK 0>QB E>A 0BQR0KBA QL )K QEB B@LKL J V ILLHP QL E>SB PR00B0BA > 0B@BPPFLK >P RKB J MILV J BKQ 0LPB QL >KA FKCI>QFLK CBII QL 4EFP TLRIA ?B @LKPFPQBKQ TRQE > AB@OB>PB FK >DD0BD>QB AB J >KA "V QEB B@LKL J V 0B@LSB0BA ?>@H QL RKB J MILV J BKQ ?RQ >Q > ILTB0 FKCI>QFLK 0>QB LC )K QEB B@LKL J V >D>FK 0B?LRKABA >KA RKB J MILV J BKQ CBII QL ?RQ FKCI>QFLK FK@OB>PBA QL TEF@E FP @LKPFPQBKQ TRQE > I>0DB FK@OB>PB FK >DD0BD>QB AB J >KA 4EB B@LKL J V >AGRPQBA ?>@H QL RKB J MILV J BKQ ?RQ >Q > EFD0B0 0>QB LC FKCI>QFLK LC 4EBK FK ?LQE RKB J MILV J BKQ >KA FKCI>QFLK FK@OB>PBA QL >KA 0BPMB@fSBIV

3QB M \$L VLR PBB QEB OEFIHMP @ROSB P FK QEB A>Q> )C TB Q0>@B QEB ALTKT>0A PILMFKD Q0BKA LC A>Q> MLFKQP  
TB @LRIA PBB > PELOQ ORK OEFIHMP @ROSB QE>Q BUEF?FQP QEB FKSBOPB Q0>ABLCC ?BQTBBK EFDEBO RKB J MILV J BKQ >KA  
ILTBO FKCI>QFLK Q>QBP )C TB Q0>@B QEB SBOQF@>I IFKB LC A>Q> MLFKQP TB @LRIA PBB > ILKD ORK OEFIHMP @ROSB >Q QEB  
K>QRO>I 0>QB LC RKB J MILV J BKQ

3EB RKB J MILV J BKQ 0>QB LK QEB ILKD ORK /EFIHMP @ROSB TFII ?B QEB K>QRO>I 0>QB LC RKB J MILV J BKQ P J >II FKCI>QFLK>OV  
FK@OB>PB FK QEB MOF@B IBSBI COL J # QL # TFII E>SB QEB P> J B K>QRO>I 0>QB LC RKB J MILV J BKQ >P > I>ODBO FKCI>QFLK>OV  
FK@OB>PB FK QEB MOF@B IBSBI COL J # QL # 3EB J>@OLB@LKL J F@ BNRFF?OFR J >ILKD QEB SBOQF@>I >DDOBD>QB PRMMIV  
@ROSB @>K L@>RO >Q > S>QFBQV LC AFCCBQBKQ MOF@B IBSBIP >KA QEB K>QRO>I 0>QB LC RKB J MILV J BKQ @>K ?B @LKPFPQBKQ TFQE >II  
AFCCBQBKQ 0>QBP LC FKCI>QFLK 3EB DOB>Q B@LKL J FPQ , FIQLK %OFBA J >K a PR J J BA RM QEB KBL@I>PPF@>I SFBT LC  
QEB ILKD QBO J /EFIHMP @ROSB Q0>ABLCC FK > PMBB@E e:3;EBOB FP >IT>VP > QB J MLO>OV Q0>AB LCC ?BQTBBK FKCI>QFLK >KA  
RKB J MILV J BKQ QEBQB FP KL MBO J >KBKQ Q0>AB LCC f

(K QEB \*BVKBPf>K MBOPMB@QFSB QEB MOF J >OV CL@RP FP LK DBQQFKD QEB IBSBI LC >DDOBD>QB AB J >KA OFDEQ FK OBI>QFLKPEFM QL >K  
RMT>0A PILMFKD >DDOBD>QB PRMMIV @ROSB 3E>Q FP QEB DLSBOK J BKQ PELRIA >AGRPQ # PL QE>Q QEB B@LKL J V MOLAR@BP >Q FQP  
MLQBKQf>I &# / KLQ PL ILT QE>Q @V@IF@>I RKB J MILV J BKQ OBPRIQP >KA KLQ PL EFDE QE>Q FKCI>QFLK OBPRIQP (K QEB KBL@I>PPF@>I  
MBOPMB@QFSB >DDOBD>QB PRMMIV TFII ABQBO J FK B LRQMRQ >Q MLQBKQf>I &# / QEB K>QRO>I 0>QB LC RKB J MILV J BKQ ABQBO J FKBP  
RKB J MILV J BKQ >KA PEFCQP FK >DDOBD>QB AB J >KA >OB QEB MOF J >OV ABQBO J FK>KQ LC @E>KDBP FK QEB MOF@B IBSBI

# Link It Up

6fPQ QEFP TB?PFPB EQQM LMBKPQ>U@LIIBDB LOD I J LABIBA?BE>SFL0 QL OB>A >?LRQ QEB BCCB@QP LC B@LKL J F@  
FKQBOSBKQFLK



## < : ; < A : - A8@C?BL@8AG BE !A9?4G<BA

P TB BUMI>FKBA FK -A8@C?BL@8AG B@LKL J FPQP AFSFAB RKB J MILV J BKQ FKQL Q'TL @>QBDLOFBP @V@IF@>I RKB J MILV J BKQ  
>KA QEB K>QRO>I 0>QB LC RKB J MILV J BKQ TEF@E FP QEB PR J LC COF@QFLK>I >KA PQOR@QRO>I RKB J MILV J BKQ "V@IF@>I  
RKB J MILV J BKQ OBPRIQP COL J CIR@QR>QFLKPK FK QEB ?RPFKBPP @V@IB >KA FP @OB>QBA TEBK QEB B@LKL J V FP MOLAR@FKD ?BILT  
MLQBKQf>I &# / b DFSFKD MLQBKQf>I B J MILVBOP IBPP FK@BKQFSB QL EFOB 6 EBK QEB B@LKL J V FP MOLAR@FKD >Q MLQBKQf>I &# /  
@V@IF@>I RKB J MILV J BKQ TFII ?B WBOL !B@>RPB LC I>?LO J >OHBQ AVK> J F@P FK TEF@E MBLMIB >OB >IT>VP BKQBQFKD LO  
BUFQFKD QEB I>?LO CLO@B QEB RKB J MILV J BKQ 0>QB KBSBO C>IIP QL KLQ BSBK TEBK QEB B@LKL J V FP MOLAR@FKD >Q LO  
BSBK PIFDEQIV >?LSB MLQBKQf>I &# / /OL?>?IV QEB ?BPQ TB @>K ELMB CLO FP CLO QEB KR J ?BO LC GL? S>@>K@FBP QL BNR>I QEB  
KR J ?BO LC GL? PBBHBOP 6 B HKLT QE>Q FQ Q>HBP QF J B CLO GL? PBBHBOP >KA B J MILVBOP QL CFKA B>@E LQEBO >KA QEFP QF J B FP  
QEB @>RPB LC COF@QFLK>I RKB J MILV J BKQ , LPQ B@LKL J FPQP AL KLQ @LKPFAO COF@QFLK>I RKB J MILV J BKQ QL ?B > e?>Af QEFKD  
CQBO >II QEBQB TFII >IT>VP ?B TLOHBOP TEL >OB RKB J MILVBA TEFIB ILLHFKD CLO > GL? QE>Q FP > ?BQQBO J >Q@E CLO QEBFO  
PHFIIP 3EBOB TFII >IT>VP ?B B J MILVBOP QE>Q E>SB >K LMBK MLPQFLK TEFIB ILLHFKD CLO > TLOHBO QE>Q FP > ?BQQBO J >Q@E CLO  
QEB GL? (AB>IIV QEBPB J >Q@EBP E>MMBK NRF@HIV ?RQ BSBK TEBK QEB B@LKL J V FP SBOV PQQLKD QEBQB TFII ?B PL J B K>QRO>I  
RKB J MILV J BKQ >KA QEFP FP TE>Q QEB K>QRO>I 0>QB LC RKB J MILV J BKQ J B>PROBP

3EB KBL@I>PPF@>I SFBT LC RKB J MILV J BKQ QBKAP QL CL@RP >QQBKQFLK >T>V COL J QEB @V@IF@>I RKB J MILV J BKQ  
MOL?IB J b QE>Q FP RKB J MILV J BKQ @>RPBA ?V OB@BPPFLK b TEFIB MRQFKD J LOB >QQBKQFLK LK QEB RKB J MILV J BKQ 0>QB FPPRB  
QE>Q MOBS>FIP BSBK TEBK QEB B@LKL J V FP LMBO>QFKD >Q MLQBKQf>I &# / 3L MRQ FQ >KLQEBO T>V QEB KBL@I>PPF@>I SFBT  
LC RKB J MILV J BKQ QBKAP QL CL@RP LK ELT QEB DLSBOK J BKQ @>K >AGRPQ MR?IF@ MLIF@V QL OBAR@B QEB K>QRO>I 0>QB LC  
RKB J MILV J BKQ 2R@E MLIF@V @E>KDBP J FDEQ FKSLSIB OBABPFQFKD RKB J MILV J BKQ >KA TBIC>OB MOLDO> J P PL QE>Q QEBV




PRMML0Q QELPB FK KBBA ?RQ >IPL LCCB0 DOB>QBO BK@LRO>DB J BKQ CLO GL? ERKQFKD (Q J FDEQ FKSLISB OBABPFDKFKD ?RPFKBPB  
ORIBP TFQE >K BVB QL TEBQEBO QEBV >OB RKFQKQFLK>IIV AFP@LRO>DFKD ?RPFKBPB COL J Q>HFKD LK KBT B J MILVBPP (Q J FDEQ  
FKSLISB ?RFIAFKD FKPFQFQFLKP QL F J MOLSB QEB CILT LC FKLO J >QFLK >?LRQ GL?P >KA QEB J L?FIFV LC TLOHBOP QL EBIM ?OFKD  
TLOHBOP >KA B J MILVBOP QLDBQEBO J LOB NRF@HIV %LO QELPB TLOHBOP TEL CFKA QE>Q QEBFO PHFIP >OB MBO J >KBKQIV KL ILKDBO  
FK AB J >KA CLO BU> J MIB QEB PQQR@QRO>IIV RKB J MILVBA B@LKL J FPQP @>K ABPFDK MLIF@V QL MOLSFAB LMMLOQRKFQFBP CLO  
OBQ>FKFKD PL QE>Q QEBPB TLOHBOP @>K OBBKQBO QEB I>?LO CLO@B >KA PBBH B J MILV J BKQ

- BL@I>PPF@>I B@LKL J FPQP TFII KLQ QBKA QL PBB >DDOBD>QB AB J >KA >P > RPBCRI QLLI CLO OBAR@FKD RKB J MILV J BKQ >CQBO >II  
TFQE > SBOQF@>I >DDOBD>QB PRMMIV @ROSB ABQBO J FKFKD B@LKL J F@ LRQMRQ QEBK >DDOBD>QB AB J >KA E>P KL ILKD ORK BCCB@Q  
LK RKB J MILV J BKQ (KPQB>A KBL@I>PPF@>I B@LKL J FPQP ?BIFBSB QE>Q >DDOBD>QB AB J >KA PELRIA ?B >IILTBA QL BUM>KA LKIV  
QL J >Q@E QEB DO>AR>I PEFCQP LC >DDOBD>QB PRMMIV QL QEB OFDEQ b HBBMFKD QEB MOF@B IBSBI J R@E QEB P> J B >KA FKCI>QFLK>OV  
MOBPPROBP ILT

(C >DDOBD>QB AB J >KA OFPBP O>MFAIV FK QEB KBL@I>PPF@>I J LABI FK QEB ILKD ORK FQ IB>AP LKIV QL FKCI>QFLK>OV MOBPPROBP  
<:HE8 PELTP > SBOQF@>I +1 2 @ROSB >KA QE0BB AFCCBOBKQ IBSBIP LC >DDOBD>QB AB J >KA OFPKD COL J # QL # QL  
# P QEB J >@OLB@LKL J F@ BNRFF?OFR J OFPBP COL J \$ QL \$ QL \$ QEB MOF@B IBSBI OFPBP ?RQ OB>I &# / ALBP KLQ ?RADB  
KLO ALBP QEB O>QB LC RKB J MILV J BKQ TEF@E >AGRPQP QL FQP K>QRO>I O>QB "LKSBOBPBIV OBAR@FKD FKCI>QFLK E>P KL ILKD QBO J  
@LPQP BQEB0 3EFKH >?LRQ <:HE8 FK OBSBOPB >P QEB >DDOBD>QB AB J >KA @ROSB PEFCQP COL J # QL # QL #  
>KA QEB BNRFF?OFR J J LSBP COL J \$ QL \$ QL \$ #ROFKD QEFP MOL@BPP QEB MOF@B IBSBI C>IIP ?RQ FK QEB ILKD ORK KBFQEBO  
OB>I &# / KLO QEB K>QRO>I RKB J MILV J BKQ O>QB @E>KDBP

<:HE8 BJ ::E8:468 8@4A7 868E@<A8F G;8 (E<68 \$818?<A G;8 \$BA: \*HA !P >DDOBD>QB AB J >KA PEFCQP  
QL QEB OFDEQ COL J !\$ QL !\$ QL !\$ OB>I '\$ O FK QEFP B@LKL J V >KA QEB IBSBI LC RKB J MILV J BKQ AL KLQ @E>KDB  
(LTBSBO QEB0B FP FKCI>QFLK>OV MOBPPROB CLO > EFDEBO MOF@B IBSBI >P QEB BNRFF?OFR J @E>KDBP COL J % QL % QL %

**Link It Up** 

6fPq QEFP TB?PqB EQQM LMBKPQ>U@LIIBDB LOD I FKCI>QB J MILV QL OB>A >?LRQ ELT FKCI>QFLK >KA RKB J MILV J BKQ >OB  
OBI>QBA



<: ;<A: \* 868FF<BA BE A6BHE4:<A: \$BA: ,8E@ EB JG;

- BL@I>PPF@>I B@LKL J FPQP ?BIFBSB QE>Q QEB B@LKL J V TFII OB?LRKA LRQ LC > OB@BPPFLK LO BSBKQR>IIV @LKO>@Q AROFKD >K BUM>KPFLK ?B@>RPB MOF@BP >KA T>DB O>QBP >OB CIBUF?IB >KA TFII >AGRPQ BFQEBO RMT>0A LO ALTKT>0A QL OBPQLOB QEB B@LKL J V QL FQP MLQBKF>I &# / 3ERP QEB HBV MLIF@V NRBPQFLK CLO KBL@I>PPF@>IP FP ELT QL MOL J LQB DOL TQE LC MLQBKF>I &# / 6B HKLT QE>Q B@LKL J F@ DOL TQE RIQF J >QIV ABMBKAP LK QEB DOL TQE O>QB LC ILKD QBO J MOLAR@QFSFQV /OLAR@QFSFQV J B>PROBP ELT BCCB@QFSB FKMRQP >OB >Q MOLAR@FKD LRQMRQP 6B HKLT QE>Q 4 2 MOLAR@QFSFQV E>P DOL TK LK >SBO>DB >?LRQ MBO VB>0 3E>Q J B>KP QE>Q QEB P> J B > J LRKQ LC FKMRQP MOLAR@B J LOB LRQMRQ QE>K QEB VB>0 ?BCLOB 6B >IPL HKLT QE>Q MOLAR@QFSFQV DOL TQE S>OFBP > DOB>Q AB>I FK QEB PELOQ QBO J ARB QL @V@IF@>I C>@QLOP (Q >IPL S>OFBP PL J BTE>Q FK QEB ILKD QBO J %OL J a 4 2 I>?LO MOLAR@QFSFQV >P J B>PROBA ?V LRQMRQ MBO ELRO FK QEB ?RPFKBP PB@QLO DOBT >Q MBO VB>0 %OL J a MOLAR@QFSFQV DOL TQE AB@IFKBA PFDKFCF@>KQIV QL MBO VB>0 3EBK COL J a MOLAR@QFSFQV DOL TQE FK@OB>PBA PIFDEQIV QL MBO VB>0 3EB KBL@I>PPF@>I B@LKL J FPQP ?BIFBSB QEB RKABOMFKKFKDP LC ILKD ORK MOLAR@QFSFQV DOL TQE QL ?B >K B@LKL J V@P FKSBPQ J BKQP FK ER J >K @>MFQ>I MEVPP@>I @>MFQ>I >KA QB@EKLILDV LMB0>QFKD QLDBQEBO FK > J >OHBQ LOFBKQBA BKSFOLK J BKQ QE>Q OBT>OAP FKKLS>QLK &LSBOK J BKQ MLIF@V PELRIA CL@RP LK MOL J LQFKD QEBPB C>@QLOP

+H@@4EL B9 &8B6?4FF<64? %46EB86BAB@<6 ( B?6L \* 86B@@8A74G<BAF

+BQdP PR J J >OFWB TE>Q KBL@I>PPF@>I B@LKL J FPQP OB@L J J BKA CLO J >@OLB@LKL J F@ MLIF@V - BL@I>PPF@>I B@LKL J FPQP AL KLQ ?BIFBSB FK eCFKB QRKFKDf QEB B@LKL J V 3EBV ?BIFBSB QE>Q >PQ>?IB B@LKL J F@ BKSFOLK J BKQ TFQE > ILT O>QB LC FKCI>QFLK CLPQBOP B@LKL J F@ DOL TQE 2F J FI>OIV >U O>QBP PELRIA ?B ILT >KA RK@E>KDFKD (K QEFP BKSFOLK J BKQ MOFS>QB B@LKL J F@ >DBKQP @>K J >HB QEB ?BPQ MLPPF?IB FKSBPQ J BKQ AB@FPFLK TEF@E TFII IB>A QL LMQF J >I FKSBPQ J BKQ FK MEVPP@>I >KA ER J >K @>MFQ>I >P TBII >P OBPB>0@E >KA ABSBILM J BKQ QL MOL J LQB F J MOLSJ J BKQP FK QB@EKLILDV

+H@@4EL B9 &8B6?4FF<64? 6BAB@<6F I8EFHF #8LA8F<4A 6BAB@<6F

,45?8 PR J J >OFWBP QEB HBV AFCCBOBK@BP ?BQTBBK QEB QTL P@ELLIP LC QELRDEQ

+H@@4EL	&8B6?4FF<64? 6BAB@<6F	#8LA8F<4A 6BAB@<6F
&L@RP ILKD QBO J LO PELOQ QBO J	, LKD QBO J	3ELOQ QBO J
OOF@BP >KA T>DBP P@F@HV LO CIBUF?IB	&IBUF?IB	3QF@HV
%@LKL J F@ LRQMRQ OOF J >OFIV ABQB0 J FKBA ?V >DD0BD>QB AB J >KA LO >DD0BD>QB PRMMIV	! DD0BD>QB PRMMIV	! DD0BD>QB AB J >KA
! DD0BD>QB PRMMIV SBOQF@>I LO RMT>0A PILMFKD	6B0QF@>I	5MT>0A PILMFKD
OEFHIMP @ROSB SBOQF@>I LO ALTKT>0A PILMFKD	6B0QF@>I	\$LTKT>0A PILMFKD

,45?8 &8B6?4FF<64? I8EFHF #8LA8F<4A 6BAB@<6F

+H@@4EL	&8B6?4FF<64? 6BAB@<6F	#8LA8F<4A 6BAB@<6F
)P >DD0BD>QB AB J >KA > RPBCRI QLLI CLO @LKQQLIIFKD FKCI>QFLK	9BP	9BP
7 E>Q PELRIA ?B QEB MOF J >OV >OB> LC MLIF@V B J ME>PPF CLO 0BAR@FKD RKB J MILV J BKQ	2 BCLO J I>?LO J >OHBQ FKPQFQRQFLKP QL 0BAR@B K>QR0>I 0>QB LC RKB J MILV J BKQ	)K@0B>PB >DD0BD>QB AB J >KA QL BIF J FK>QB @V@IF@>I RKB J MILV J BKQ
)P >DD0BD>QB AB J >KA > RPBCRI QLLI CLO BKA@FKD 0B@BPPFLK	! Q ?BPQ LKIV FK QEB PELOQ ORK QB J MLO>OV PBKPB ?RQ J >V GRPQ FK@0B>PB FKCI>QFLK FKPQB>A	9BP

,45?8 &8B6?4FF<64? 18EFHF #8LA8F<4A 6BAB@<6F

## N 4?4A6<A : #8LA8F<4A 4A7 &8B6?4FF<64? %B78?F

! V QEB BKA LC QEPF PB@QFLK VLR TFII ?B >?IB QL

- d \$S>IR>QB ELT KBL@I>PPF@>I B@LKL J FPQP >KA \*BVKBPF>K B@LKL J FPQP OB>@Q QL OB@BPPFLKP
- d K>IVWB QEB FKQB00BI>QFLKPEFM ?BQTBBK QEB KBL@I>PPF@>I >KA \*BVKBPF>K B@LKL J F@ J LABIP

6B @>K @L J M>OB CFKAFKD QEB ?>I>K@B ?BQTBBK \*BVKBPF>K >KA -BL@I>PPF@>I J LABIP QL QEB @E>IIBKDB LC OFAFKD QTL  
 ELOPBP PF J RIQ>KBLRPV 6 EBK > @FO@RP MBOCLO J BO PQ>KAP LK QTL ELOPBP TFQE > CLLQ LK B>@E LKB J R@E LC QEB BU@FQB J BKQ  
 CLO QEB SFBTBO IFBP FK @LKQB J MI>QFKD QEB D>M ?BQTBBK QEB QTL P J LABOK J >@OLB@LKL J FPQP OFAB FKQL QEB CRQROB  
 LK QTL ELOPBP b TFQE LKB CLLQ LK QEB PELOQ QBO J \*BVKBPF>K MBOPMB@QFSB >KA LKB CLLQ LK QEB ILKD QBO J KBL@I>PPF@>I  
 MBOPMB@QFSB b QEB ?>I>K@FKD >@Q J >V ILLH RK@L J CLOQ>?IB ?RQ QEB0B ALBP KLQ PBB J QL ?B >KV T>V QL >SLFA FQ \$>@E  
 >MMOL>@E \*BVKBPF>K >KA KBL@I>PPF@>I E>P FQP PQQBKDQEP >KA TB>HKBPPBP

3EB PELOQ QBO J \*BVKBPF>K J LABI ?RFIQ LK QEB F J MLOQ>K@B LC >DD0BD>QB AB J >KA >P > @>RPB LC ?RPFKBPP @V@IBP >KA >  
 ABDOBB LC T>DB >KA MOF@B OFDFAFV ALBP > PLRKA GL? LC BUMI>FKFKD J >KV OB@BPPFLKP >KA TEV @V@IF@>I RKB J MILV J BKQ  
 OFPBP >KA C>IIP ! V CL@RPFKD LK QEB PELOQ ORK >DD0BD>QB AB J >KA >AGRQ J BKQP \*BVKBPF>K B@LKL J F@P OFPHP LSBOILLHFKD  
 QEB ILKD QBO J @>RPBP LC B@LKL J F@ DOLTQE LO QEB K>QR0>I 0>QB LC RKB J MILV J BKQ QE>Q BUFPQ BSBK TEBK QEB B@LKL J V FP  
 MOLAR@FKD >Q MLQBKF>I &# /

3EB KBL@I>PPF@>I J LABI TFQE FQP B J ME>PPF LK >DD0BD>QB PRMMIV CL@RPBP LK QEB RKABOIVFKD ABQBO J FK>KQP LC LRQMRQ  
 >KA B J MILV J BKQ FK J >OHBQP >KA QERP QBKAP QL MRQ J LOB B J ME>PPF LK B@LKL J F@ DOLTQE >KA ELT I>?LO J >OHBQP TLOH  
 ' L TBSBO QEB KBL@I>PPF@>I SFBT FP KLQ BPMB@F>IIV EBIMCRI FK BUMI>FKFKD TEV RKB J MILV J BKQ J LSBP RM >KA ALTK LSBO  
 PELOQ QF J B ELOFWLKP LC > CBT VB>OP -LO FP QEB KBL@I>PPF@>I J LABI BPMB@F>IIV EBIMCRI TEBK QEB B@LKL J V FP J FOBA FK  
 >K BPMB@F>IIV ABBM >KA ILKD I>PQFKD OB@BPPFLK IFHB QEB P &OB>Q #BMOBPPFLK \*BVKBPF>K B@LKL J F@P QBKAP QL SFBT  
 FKCI>QFLK >P > MOF@B QE>Q J FDEQ PL J BQF J BP ?B M>FA CLO ILTBO RKB J MILV J BKQ KBL@I>PPF@>I B@LKL J F@P QBKAP QL SFBT  
 FKCI>QFLK >P > @LPQ QE>Q LCCBOP KL LCCPBQFKD D>FKP FK QBO J P LC ILTBO RKB J MILV J BKQ

, >@OLB@LKL J F@P @>KLLQ ELTBSBO ?B PR J J BA RM >P >K >ODR J BKQ ?BQTBBK LKB DOLRM LC B@LKL J FPQP TEL >OB MROB  
 \*BVKBPF>K >KA >KLQEBO DOLRM TEL >OB MROB KBL@I>PPF@FPQP (KPQB>A J >KV J >FKPQOB> J B@LKL J FPQP ?BIFBSB ?LQE QEB  
 \*BVKBPF>K >KA KBL@I>PPF@>I MBOPMB@QFSB 1L?BOQ 2LILT QEB -L?BI I>ROB>QB FK B@LKL J F@P FK ABP@OF?BA QEB AR>I  
 >MMOL>@E FK QEPF T>V

Q PELOQ QF J B P@>IBP ( QEFKH PL J BQEFKD PLOQ LC c \*BVKBPF>Kd FP > DLLA >MMOLUF J >QFLK >KA PROBIV ?BQQBO QE>K  
 >KVQEFKD PQ0>FDEQ cKBL@I>PPF@>I d Q SBOV ILKD QF J B P@>IBP QEB FKQB0BPQFKD NRBPQFLKP >OB ?BPQ PQRAFBA FK >  
 KBL@I>PPF@>I CO> J BTLOH >KA >QKBQFLK QL QEB \*BVKBPF>K PFAB LC QEFKDP TLRIA ?B > J FKLO AFPQ0>@QFLK Q QEB  
 CFSB QL QBK VB>0 QF J B P@>IB T B E>SB QL MFB@B QEFKDP QLDBQEBO >P ?BPQ TB @>K >KA ILLH CLO > EV?OFA J LABI  
 QE>Q TFII AL QEB GL?

, >KV J LABOK J >@OLB@LKL J FPQP PMBKA @LKPFABO>?IB QF J B >KA BKBODV QOVFKD QL @LKPQOR@ J LABIP QE>Q ?IBKA QEB J LPQ  
 >QQ0>@QFSB >PMB@QP LC QEB \*BVKBPF>K >KA KBL@I>PPF@>I >MMOL>@EBP (Q FP MLPPF?IB QL @LKPQOR@ > PL J B TE>Q @L J MIBU

J>QEB J>QF@>I J LABI TEBOB >DDOBD>QB AB J>KA >KA PQF@HV T>DBP >KA MOF@BP J>QQBO FK QEB PELOQ ORK ?RQ T>DBP MOF@BP >KA >DDOBD>QB PRMMIV >AGRPQ FK QEB ILKD ORK ' LTBSBO @OB>QFKD >K LSB0>II J LABI QE>Q BK@L J M>PPBP ?LQE PELOQ QB0 J \*BVKBPF>K >KA ILKD QB0 J KBL@I>PPF@>I J LABIP FP KLQ B>PV



## &4I<:4G<A: - A6;4EG8E87 / 4G8EF

7 BOB QEB MLIF@FBP QE>Q QEB DLSBOK J BKQ F J MIB J BKQBA QL PQ>?FIFWB QEB B@LKL J V >KA CFK>K@F>I J >OHBQP AROFKD QEB ' OB>Q 2B@BPPFLK BCCB@QFSB ->KV B@LKL J FPQP COL J ?LQE QEB +BVKBPF>K >KA KBL@I>PPF@>I P@ELLIP E>SB CLRKA QE>Q QEBV TBOB >IQELRDE QL S>OVFKD ABD0BBP !I>K "IFKABO LC OOFK@BQLK 5KFSBOPFQV >KA ->OH :>KAF CLO -LLAVaP !K>IVQF@P CLRKA QE>Q TFQELRQ CFP@>I MLIF@V ' \$0 AB@IFKB TLRIA E>SB ?BBK PFDKFCF@>KQIV J LOB QE>K FQP FK CLILTBTA ?V FQP AB@IFKB FK 4EBV >IPL BPQF J >QBA QE>Q QEB0B TLRIA E>SB ?BBK

J FIFLK J LOB GL ? ILPPBP E>A QEB DLSBOK J BKQ KLQ FKQBOSBKBA FK QEB J >OHBQ TFQE QEB 4! 20 QL PRMML0Q QEB CFK>K@F>I FKARPQOV >KA HBV >RQL J >HBOP ' BKBO>I - LQL0P >KA #EOVPIBO &BAB0>I 2BPB0SB ">KH B@LKL J FPQP #>OILP #>OS>IEL 3QB<>KL %RPFM >KA #E0FPQF>K ' 0FPBP CLRKA FK QEBFO PQRAV *Policy Initiatives in the Global Recession: What Did Forecasters Expect?* QE>Q LK@B QEB DLSBOK J BKQ F J MIB J BKQBA MLIF@FBP CLOB@>PQBOP >A>MQBA QEBFO BUMB@Q>QLKP QL QEBPB MLIF@FBP 4EBV TBOB J LOB IFHBIV QL >KQF@FM>QB FK@OB>PBP FK FKSBPQ J BKQ ARB QL ILTBO FKQB0BPQ 0>QBP ?QLRDEQ LK ?V J LKBQ>OV MLIF@V >KA FK@OB>PBA B@LKL J F@ DOLTQE 0BPRIQFKD COL J CFP@>I MLIF@V

4EB AFCCF@RIQV TFQE BS>IR>QFKD QEB BCCB@QFSBKBPP LC QEB PQ>?FIFW>QFLK MLIF@FBP QE>Q QEB DLSBOK J BKQ QLLH FK 0BPMLKPB QL QEB ' OB>Q 2B@BPPFLK FP QE>Q TB THH KBSBO HKLT TE>Q TLRIA E>SB E>MMBKBA E>A QEB DLSBOK J BKQ KLQ F J MIB J BKQBA QELPB MLIF@FBP 3ROBIV PL J B LC QEB MOLDO>J P TBOB J LOB BCCB@QFSB >Q @OB>QFKD >KA P>SFKD GL?P TEHIB LQEBO MOLDO>J P TBOB IBPP PL 4EB CFK>I @LK@IRPFLK LK QEB BCCB@QFSBKBPP LC J>@OLB@LKL J F@ MLIF@FBP FP PQFII RM CLO AB?>QB >KA CROQEBO PQRAV THH KL ALR?Q @LKPfABO QEB F J M>@Q LC QEBPB MLIF@FBP LK QEB 5 3 ?RADBQ >KA ABCf@FQ >P TBII >P QEB 5 3 ALII>0 P S>IRB FK QEB CFK>K@F>I J >OHBQ

# # 1 , \*%+

474C<18 8KC86<4G<BAF QEB QEBLOV QE>Q MBLMIB ILLH >Q M>PQ BUMBOFBK@B >KA DO>AR>IIV >A>M@ QEBFO ?BIFBCP >KA ?BE>SFL0 >P @FO@R J Pq>K@BP @E>KDB

8KC86<87 <A9?4<BA > CRQROB 0>QB LC FKCI>QLK QE>Q @LKP R J BOP >KA CFO J P ?RFIA FKQL @ROOBKQ AB@FPFLK J >HFKD

A8B6?4FF<64? C8EFC86<18 QEB MEFILPLMEV QE>Q FK QEB ILKD ORK QEB ?RPFKBPP @V@IB TFII CIR@QR>QB >0LRKA QEB MLQBKF>I L0 CRII B J MILV J BKQ IBSBI LC LRQMRQ

C ; LF<64? 64C<G4? C8E C8EFBA QEB > J LRKQ >KA HFKA LC J >@EFKBOV >KA BNRFM J BKQ >S>FI>?IB QL EBIM > MBOPLK MOLAR@B > DLLA L0 PBOSE@B

E4<BA4? 8KC86<4G<BAF QEB QEBLOV QE>Q MBLMIB CLO J QEB J LPQ >@R0>QB MLPPF?IB BUMB@Q>QLKP >?LRQ QEB CRQROB QE>Q QEBV @>K RPFKD >II FKCL0 J >QLK >S>FI>?IB QL QEB J

# # 1 ' & ( , + & + - % % \* 1

, ; 8 H<?7<A: ?B6>F B9 &8B6?4FF<64? A4?LF<F

3EB KBL@I>PPF@>I MBOPMB@QFSB >ODRBP QE>Q FK QEB ILKD ORK QEB B@LKL J V TFII >AGRPQ ?>@H QL FQP MLQBKF>I &# / IBSBI LC LRQMRQ QEOLRDE CIBUF?IB MOF@B IBSBIP 3ERP QEB KBL@I>PPF@>I MBOPMB@QFSB SFBTP QEB ILKD ORK 2 @ROS0 >P SBOQF@>I 0>QLK>I BUMB@Q>QLKP MBOPMB@QFSB >ODRBP QE>Q MBLMIB E>SB BU@BIIBKQ FKCL0 J >QLK >?LRQ B@LKL J F@ BSBKQP >KA ELT QEB B@LKL J V TLOHP >KA QE>Q >P > OBPRIQ MOF@B >KA LQEBO B@LKL J F@ >AGRPQ J BKQ TFII E>MMBK SBOV NRF@HIV (K >A>MQFSB BUMB@Q>QLKP QEBLOV MBLMIB E>SB IF J FQA FKCL0 J >QLK >?LRQ B@LKL J F@ FKCL0 J >QLK >KA ELT QEB B@LKL J V TLOHP >KA PL MOF@B >KA LQEBO B@LKL J F@ >AGRPQ J BKQ @>K ?B PILT

, ; 8 ( B?6L !@C?64<BAF B9 G ; 8 &8B6?4FF<64? ( 8EFC86<18

- BL@I>PPF@>I B@LKL J FPQP QBKA QL MRQ OBI>QFSBIV J LOB B J ME>PFP LK ILKD QBO J DOLTQE QE>K LK CFDEQFKD OB@BPPFLK ?B@>RPB QEBV ?BIFBSB QE>Q OB@BPPFLK TFII C>AB FK > CBT VB>OP >KA ILKD QBO J DOLTQE TFII RIQF J >QBIV ABQBO J FKB QEB PQ>KA>OA LC IFSFKD 3EBV QBKA QL CL@RP J LOB LK OBAR@FKD QEB K>QRO>I 0>QB LC RKB J MILV J BKQ @>RPBA ?V B@LKL J F@ FKPFQRQLKP >KA DLSBOK J BKQ MLIF@FBP QE>K QEB @V@IF@>I RKB J MILV J BKQ @>RPBA ?V OB@BPPFLK

- BL@I>PPF@>I B@LKL J FPQP >IPL PBB KL PL@F>I ?BKBCFQ QL FKCI>QLK 6 FQE >K RMT>OA PILMFKD \*BVKBP>K 2 @ROS0 FKCI>QLK @>K >OFPB ?B@>RPB >K B@LKL J V FP >MMOL>@EFKD CRII B J MILV J BKQ 6 FQE > SBOQF@>I ILKD ORK KBL@I>PPF@>I 2 @ROS0 FKCI>QLK ALBP KLQ >@@L J M>KV >KV OFPB FK LRQMRQ (C >DDOBD>QB PRMMIV FP SBOQF@>I QEBK >DDOBD>QB AB J >KA ALBP KLQ >CCB@Q QEB NR>KQFV LC LRQMRQ (KQP>A >DDOBD>QB AB J >KA @>K LKIV @>RPB FKCI>QLK>OV @E>KDBP FK QEB MOF@B IBSBI SBOQF@>I >DDOBD>QB PRMMIV @ROS0 TEOB QEB NR>KQFV LC LRQMRQ FP @LKPFPQBKQ TFE J >KV AFCCOBKQ MOF@B IBSBIP >IPL F J MIFBP > SBOQF@>I / EPIIFMP @ROS0

4?4A6<A: #8LA8F<4A 4A7 &8B6?4FF<64? %B78?F

3EB \*BVKBP>K MBOPMB@QFSB @LKPFBOP @E>KDBP QL >DDOBD>QB AB J >KA QL ?B QEB @>RPB LC ?RPFKBPP @V@IB CIR@QR>QLKP \*BVKBP>KP >OB IFHBIV QL >ASL@>QB QE>Q MLIF@V J >HBOP >@QFSBIV >QB J M@ QL OBSBOPB OB@BPPFLK>OV >KA FKCI>QLK>OV MBOFLAP ?B@>RPB QEBV >OB KLQ @LKSFK@BA QE>Q QEB PBIC @L00B@QFKD B@LKL J V @>K B>PFIV OBQROK QL CRII B J MILV J BKQ

3EB KBL@I>PPF@>I MBOPMB@QFSB MI>@BP J LOB B J ME>PFP LK >DDOBD>QB PRMMIV - BL@I>PPF@>I B@LKL J FPQP ?BIFBSB QE>Q ILKD QBO J MOLAR@QFSFV DOLTQE ABQBO J FKBP QEB MLQBKF>I &# / IBSBI >KA QE>Q QEB B@LKL J V QVMF@>IIV TFII OBQROK QL CRII B J MILV J BKQ >CQBO > @E>KDB FK >DDOBD>QB AB J >KA 2HBMQF@>I LC QEB BCCB@QFSBKBPP >KA QF J BIFKBPP LC \*BVKBP>K MLIF@V KBL@I>PPF@>I B@LKL J FPQP >OB J LOB IFHBIV QL >ASL@>QB > E>KAP LCC L0 C>FOIV IF J FQA OLIB CLO >@QFSB PQ>?FIW>QLK MLIF@V

6 EFIB \*BVKBP>KP TLRIA QBKA QL >ASL@>QB >K >@BMQ>?IB QO>ABLCC ?BQTBK FKCI>QLK >KA RKB J MILV J BKQ TEBK @LRKQBO>@QFKD > OB@BPPFLK KBL@I>PPF@>I B@LKL J FPQP >ODRBP QE>Q KL PR@E QO>ABLCC BUFPQP KV PEL0 QBO J D>FKP FK ILTBO RKB J MILV J BKQ TFII BSBKQR>IIV S>KFPE >KA QEB OBPRIQ LC >@QFSB MLIF@V TFII LKIV ?B FKCI>QLK

+ \$ # ) - +,!'&+

#L 0>QFLK>I BUMB@Q>QFLKP QBKA QL ILLH ?>@H >Q M>PQ BUMB@Q>QFLKP ILLH >EB>A QL QEB CRQROB \$UMI>FK VLRO >KPTB0

+BDFPI>QFLK MOLMLPBP QE>Q QEB DLSBOK J BKQ PELRIA RPB J >@0LB@LKL J F@ MLIF@V QL >@EFBSB >K RKB J MILV J BKQ 0>QB LC WBOL MBO@BKQ ?V FK@OB>PFKD >DDOBD>QB AB J >KA CLO >P J R@E >KA >P ILKD >P KB@BPP>OV QL >@L J MIFPE QEFP DL>I %0L J > KBL@I>PPF@>I MBOPMB@QFSB ELT TFII QEFP MLIF@V >CCB@Q LRQMRQ >KA QEB MOF@B IBSBI FK QEB PELOQ ORK >KA FK QEB ILKD ORK 2HBQ@E >K >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV AF>D0> J QL FIIRPQ@>QB VLRO >KPTB0 Hint OBSFPFQ <:HE8

6LRIA FQ J >HB PBKPB QL >ODRB QE>Q 0>QFLK>I BUMB@Q>QFLKP B@LKL J F@P FP >K BUQOB J B SBOPFLK LC KBL@I>PPF@>I B@LKL J F@P \$UMI>FK

2R J J >0FWB QEB \*BVKBPF>K >KA - BL@I>PPF@>I J LABIP

\* .! / ) - +,!'&+

#LBP KBL@I>PPF@>I B@LKL J F@P CL@RP LK QEB ILKD QBO J LO QEB PELOQ QBO J \$UMI>FK VLRO >KPTB0

#LBP KBL@I>PPF@>I B@LKL J F@P SFBT MOF@BP >KA T>DBP >P PQF@HV LO CIBUF?IB 6 EV

6 E>Q PE>MB FP QEB ILKD ORK >DDOBD>QB PRMMIV @ROSB 6 EV ALBP FQ E>SB QEFP PE>MB

6 E>Q FP QEB AFCCBOK@B ?BQTBBK 0>QFLK>I BUMB@Q>QFLKP >KA >A>MQFSB BUMB@Q>QFLKP

KBL@I>PPF@>I B@LKL J FPQ >KA > \*BVKBPF>K B@LKL J FPQ >OB PQRVFKD QEB B@LKL J V LC 5FKBI>KA (Q >MMB>OP QE>Q 5FKBI>KA FP ?BDFKFKD QL BUMB@Q>QFLKP > J FIA OB@BPPFLK TFQE > AB@OB>PB FK >DDOBD>QB AB J >KA 6 EF@E LC QEBPB QT L B@LKL J FPQP TLRIA IFHBIV >ASL@>QB QE>Q QEB DLSBOK J BKQ LC 5FKBI>KA Q>HB >@QFSB J B>PROBP QL OBSBOPB QEFP AB@IFKB FK >DDOBD>QB AB J >KA 6 EV

#L KBL@I>PPF@>I B@LKL J FPQP QBKA QL CL@RP J LOB LK ILKD QBO J B@LKL J F@ DOLTQE LO LK OB@BPPFLKP \$UMI>FK ?OFBCIV

#L KBL@I>PPF@>I B@LKL J FPQP QBKA QL CL@RP J LOB LK @V@IF@>I RKB J MILV J BKQ LO LK FKCI>QFLK \$UMI>FK ?OFBCIV

\*!,! \$ , !&#!& ) - +,!'&+

(C JLPQ MBLMIB E>SB 0>QFLK>I BUMB@Q>QFLKP ELT ILKD TFII OB@BPPFLKP I>PQ

\$UMI>FK TEV QEB KBL@I>PPF@>I B@LKL J FPQP ?BIFBSB QE>Q QEB DLSBOK J BKQ ALBP KLQ KBBA QL AL J R@E >LRQ RKB J MILV J BKQ #L VLR >DOBB LO AFP>DOBB \$UMI>FK

#L KBL@I>PPF@>I B@LKL J FPQP PBB > S>IRB FK QLIBO>QFKD > IFQIB J LOB FKCI>QFLK FC FQ ?OFKDP >AAFQFLK>I B@LKL J F@ LRQMRQ \$UMI>FK VLRO >KPTB0

(C >DDOBD>QB PRMMIV FP SBOQF@>I TE>Q OLIB ALBP >DDOBD>QB AB J >KA MI>V FK ABQBO J FKFKD LRQMRQ (K ABQBO J FKFKD QEB MOF@B IBSBI

6 E>Q FP QEB PE>MB LC QEB KBL@I>PPF@>I ILKD ORK /EFIIFMP @ROSB 6 E>Q >PPR J MQFLKP AL B@LKL J FPQP J >HB QE>Q IB>A QL QEFP PE>MB

6 EBK QEB B@LKL J V FP BUMB@Q>QFLKP > OB@BPPFLK TEV TLRIA > KBL@I>PPF@>I B@LKL J FPQP ?B RKIFHBIV QL >ODRB CLO >DDOBD>QB MLIF@V QL PQF J RI>QB >DDOBD>QB AB J >KA >KA OBQROK QEB B@LKL J V QL CRH B J MILV J BKQ \$UMI>FK VLRO >KPTB0

(C QEB B@LKL J V FP PRCCBOKD QEOLRDE > 0> J M>KQ FKCI>QFLK>OV MBOFLA TLRIA > \*BVKBPF>K B@LKL J FPQP >ASL@>QB CLO PQ>?FIFW>QFLK MLIF@V QE>Q FKSLISBP EFDEBO Q>UBP >KA EFDEBO FKQBOBPQ 0>QBP \$UMI>FK VLRO >KPTB0

\$@LKL J FPQP COL J >II QEBLOBQF@>I MBOPR>PFLKP @OFQF@FWBA QEB JBOF@>K 1B@LSBOV >KA 1BFKSBPQ J BKQ

@Q 3EB e2QF J RIRP />@H>DBf T>P >ODR>?IV > \*BVKBPF>K J B>PROB PL TEV TLRIA > \*BVKBPF>K B@LKL J FPQP ?B @OFQF@>I LC FQ 6 EV TLRIA KBL@I>PPF@>I B@LKL J FPQP ?B @OFQF@>I

(P FQ > ILDF@>I @LKQO>AF@QFLK QL ?B > KBL@I>PPF@>I \*BVKBPF>K \$UMI>FK

( \* ' \$ %+

4PB ,45?8 QL >KPTB0 QEB CLIL TFKD NRBPQLKP

(E<68 \$818?	: :E8:4G8 +HCC?L	: :E8:4G8 8@4A7

,45?8

- > 2HBQ@E >K >DDOBD>QB PRMMIV >KA >DDOBD>QB  
AB J>KA AF>D0> J
- ? 6 E>Q FP QEB BNRIF?OFR J LRQMRQ >KA MOF@B IBSBI
- @ (C >DDOBD>QB AB J>KA PEFCQP OFDEQ TE>Q FP  
BNRIF?OFR J LRQMRQ
- A (C >DDOBD>QB AB J>KA PEFCQP IBCQ TE>Q FP  
BNRIF?OFR J LRQMRQ
- B (K QEF P@BK>OFL TLRIA VLR PRDDBPQ RPFKD  
>DDOBD>QB AB J>KA QL >IQB0 QEB IBSBI LC LRQMRQ LO  
QL @LKQOLI >KV FKCI>QLK>OV FK@OB>PBP FK QEB MOF@B  
IBSBI





# N %BA8L 4A7 4A><A:



<:HEB BJE<8 +;8?? BE %BA8L )P QEFP >K FJ>DB LC > @LTOFB PEBII LO J LKBV 4EB >KPTBO FP "LQE &LO @BKQROFBP MBLMIB RPBA QEB BUQ0B J BIV ARO>?IB @LTOFB PEBII >P > J BAFR J LC BU@E>KDB FK S>OFLRP M>0QP LC QEB TLOIA #0BARQ J LAFCf@>QFLK LC TLOH ?V bMOFICPEc &f@HO #0B>QFSB #LJ J LKP

## Bring it Home

, ;8 %4AL <F:H<F8F B9 %BA8L EB@ BJE<8F GB <G6B<AF

(BOB FP > Q0FS> NRPQFLK )K QEB EFPQLOV LC QEB TLOIA TE>Q FQBJ AfA MBLMIB RPB CLO J LKBV LSBO QEB ?0L>ABPQ DBLDO>MEF@ >0B> >KA CLO QEB ILKDBPQ MBOFLA LC QF JB 4EB >KPTBO FP KLQ DLIA PHISBO LO >KV MOB@FLRP JBQ>I )Q FP QEB @LTOFB > J LIIRPH PEBII CLRKA J >fKIV LOC QEB ->IAFSBP )PI>KAP FK QEB )KAF>K / @B>K #LTOFBP PBOSBA >P J LKBV >P B>0IV >P " # FK #EFK> "V QEB P QEBV TBOB FK TfABPMOB>A RPB >@0LPP )KAF> >KA !COF@> &LO PBSBO>I @BKQROFBP >QBO QE>Q @LTOFBP TBOB QEB JB>KP CLO BU@E>KDB FK J >0HBQP FK @IRAFKD PLRQEBOK %ROLMB TBPQBOK !COF@> )KAF> >KA #EFK> BSB0VQEFKD COL J ?RVFKD IRK@E LO > CB00V OFAB QL M>VFKD CLO > PEFMIL>A LC PFIH LO Cf@B #LTOFBP TBOB PFIH >@BMQ>?IB >P > T>V LC M>VFKD Q>UBP FK @BQ>FK !COF@>K K>QFLKP FK QEB B>0IV QT BKQFBQE @BKQROV

7E>Q J>AB @LTOFBP TLOH PL TBII >P J LKBV &fPQ QEBV >0B BUQ0B J BIV ARO>?IB \_I>PQFKD > @BKQROV LO J LOB !P QEB I>QB B@LKLJf@ EFPQL0F>K +>0I OLIV>Kf MRQ FQ QEBV @>K ?B bMLROBA P>@HBA PELSBIBA EL>0ABA FK EB>MPc TEHIB 0BJ>fKFKD b@IB>K A>fKQV PQ>fKIBPP MLIFPEBA >KA JfIH TEfQB c 3B@LKA M>0QFBP @LRIA RPB @LTOFBP BfQEBO ?V @LRKfKD PEBIIP LC > @BQ>fK PFWB LO \_CLO I>0DB MRO@E>PBP \_?V JB>PROFKD QEB TBfDEQ LO SLIRJB LC QEB QLQ>I PEBIIP QEBV TLRIA BU@E>KDB 4EFOA FQ T>P FJ MLPPf?IB QL @LRKQB0CBFQ > @LTOFB PEBII ?RQ AfPELKBPQ MBLMIB @LRIA @LRKQB0CBFQ DLIA LO PHISBO @LfkP ?V J>HFKD @LMFBP TfQE @EB>MBO JBQ>IP &fK>IIV FK QEB EBVA>V LC @LTOFB J LKBV COL J QEB P fKQL QEB P DLSBOK JBKQP CF0PQ QEB 0LQQRDRBPB QEBK QEB \$RQ@E >KA %KDIFFE QfDEQIV @LKQOLIIBA @LIH@fKD @LTOFBP !P > 0BPRIQ QEB PRMMIV LC @LTOFBP DOBT NRF@HIV BKLRDE QL PBOSB QEB KBBAP LC

@L J J B0@B ?RQ KLQ PL NRF@HIV QE>Q QEBV TB0B KL ILKDB0 P@>0@B - LKBV QE0LRDELRLQ QEB >DBP E>P Q>HBK J >KV  
AFCCB0BKQ CLO J P >KA @LKQFKRBP QL BSLISB BSBK QLA>V 7 E>Q AL VLR QEFKH J LKBV FP

## !AGEB7H6G<BA GB %BA8L 4A7 4A><A:

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g #BCFKFKD , LKBV ?V (QP %RK@QFLKP
- g , B>PROFKD , LKBV "R00BK@V , >KA ,
- g 3EB 1LIB LC !>KHP
- g 'LT !>KHP "0B>QB , LKBV

3EB AFP@RPPFLK LC J LKBV >KA ?>KHFKD FP > @BKQ>I @L J MLKBKQ FK P@RAVFKD J >@0LB@LKL J F@P Q QEFP MLFKQ VLR PELRIA  
E>SB CFO J IV FK J FKA QEB J >FK DL>IP LC J >@0LB@LKL J F@P COL J / 8?6B@8 GB 6BAB@<6F B@LKL J F@ DOLTQE ILT  
RKB J MILV J BKQ >KA ILT FKCI>QFLK 6B E>SB VBQ QL AFP@RPP J LKBV >KA FQP OLIB FK EBIMFKD QL >@EFBSB LRO J >@0LB@LKL J F@  
DL>IP

8LR PELRIA >IPL RKABOPQ>KA \*BVKBPF>K >KA KBL@I>PPF@>I CO> J BTLOHP CLO J >@0LB@LKL J F@P >K>IVPPF >KA ELT TB @>K  
B J ?LAV QEBPB CO> J BTLOHP FK QEB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV # 2 J LABI 6 FQE QEB DL>IP >KA CO> J BTLOHP  
CLO J >@0LB@LKL J F@P >K>IVPPF FK J FKA QEB CFK>I PQBM FP QL AFP@RPP QEB QTL J >FK @>QBDLOFBP LC J >@0LB@LKL J F@P MLIF@V  
J LKBQ>OV MLIF@V TEF@E CL@RPPB LK J LKBV ?>KHFKD >KA FKQB0BPQ O>QB >KA CFP@>I MLIF@V TEF@E CL@RPPB LK DLSBOK J BKQ  
PMBKAFKD Q>UBP >KA ?LOOLTFKD 3EFP @E>MQB0 AFP@RPPBP TE>Q B@LKL J F@P J B>K ?V J LKBV >KA ELT J LKBV FP @ILPBIV  
FKQB00BI>QBA TFQE QEB ?>KHFKD PVPQB J %BA8G4EL (B?<6L 4A7 4A> \*8 :H?4G<BA CROQEBOP QEFP AFP@RPPFLK

## N 89<A<A : %BA8L 5L !GF HA6G<BAF

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB S>OFLRP CRK@QFLKP LC J LKBV
- d "LKQO>PQ @L J J LAFQV J LKBV >KA CF>Q J LKBV

, LKBV CLO QEB P>HB LC J LKBV FP KLQ >K BKA FK FQPBIC 8LR @>KKLQ B>Q ALII>0 ?FIIP LO TB>0 VLRO ?>KH >@@LRKQ 4IQF J >QBIV  
QEB RPBCRIKBPP LC J LKBV OBPQ FK BU@E>KDFKD FQ CLO DLLAP LO PBOSF@BP P QEB J BOF@>K T@FQBO >KA ER J LOFPQ J ?OLPB  
!FBO@B a TOLQB FK J LKBV FP >e?IBPPFKD QE>Q FP LC KL >AS>KQ>DB QL RP BU@BMQFKD TEBK TB M>OQ TFQE FQ f  
, LKBV FP TE>Q MBLMIB OBDRI>OIV RPB TEBK MRO@E>PFKD LO PBIIFKD DLLAP >KA PBOSF@BP >KA QERP ?LQE ?RVBOP >KA PBIIBOP  
J RPQ TFABIV >@@BMQ J LKBV 3EFP @LK@BMQ LC J LKBV FP FKQBKQFLK>IIV CIBUF?IB ?B@>RBP J LKBV E>P Q>HBK > TFAB S>OFBQV  
LC CLO J P FK AFCCB0BKQ @RIQROBP

## 4EG8E 4A7 G; 8 BH5?8 B<A6<78A68 B9 / 4AGF

3L RKABOPQ>KA QEB RPBCRIKBPP LC J LKBV TB JRPQ @LKPFA0 TE>Q QEB TLOIA TLRIA ?B IFHB TFQELRQ J LKBV 'LT  
TLRIA MBLMIB BU@E>KDB DLLAP >KA PBOSF@BP \$@LKL JFBP TFQELRQ J LKBV QVMF@>IIV BKD>DB FK QEB ?>0QBO PVPQB J  
**Barter b** IFQBO>IIV QO>AFKD LKB DLLA LO PBOSF@B CLO >KLQEBO b FP EFDEIV FKBCCF@FBKQ CLO QOVFKD QL @LLOAFK>QB QEB QO>ABP FK >  
J LABOK >AS>K@BA B@LKL J V (K >K B@LKL J V TFQELRQ J LKBV >K BU@E>KDB ?BQTBK QTL MBLMIB TLRIA FKSLISB > **double  
coincidence of wants** > PFQR>QFLK FK TEF@E QTL MBLMIB B>@E T>KQ PL J B DLLA LO PBOSF@B QE>Q QEB LQEBO MBOPLK @>K  
MOLSFAB %LO BU>J MIB FC >K >@@LRKQ>KQ T>KQP > M>FO LC PELBP QEFP >@@LRKQ>KQ J RPQ CFKA PL J BLKB TEL E>P > M>FO LC  
PELBP FK QEB @L00B@Q PFWB >KA TEL FP TFIIFKD QL BU@E>KDB QEB PELBP CLO PL J B ELROP LC >@@LRKQFKD PBOSF@BP 2RQE > QO>AB  
FP IFHBIV QL ?B AFCC@RIQ QL >O0>KDB 3EFKH >?LRQ QEB @L J MIBUFQV LC PR@E QO>ABP FK > J LABOK B@LKL J V TFQE FQP BUQBKPF@S  
AFSPFLK LC I>?LO QE>Q FKSLISBP QELRP>KAP RMLK QELRP>KAP LC AFCCB0BKQ GL?P >KA DLLAP

KLQEBO MOL?IB J TFQE QEB ?>0QBO PVPQB J FP QE>Q FQ ALBP KLQ >IILT RP QL B>PFIV BKQBO FKQL CRQROB @LKQO>@QP CLO MRO@E>PFKD  
J >KV DLLAP >KA PBOSF@BP %LO BU>J MIB FC QEB DLLAP >OB MBOFFE>?IB FQ J >V ?B AFCC@RIQ QL BU@E>KDB QEB J CLO LQEBO  
DLLAP FK QEB CRQROB (J >DFKB > C>O J BO T>KQFKD QL ?RV > QO>@QLO FK PFU J LKQEP RPFKD > COBPE @QLM LC PQO>T?BOOFBP  
AAAFQELK>IIV TEFIB QEB ?>0QBO PVPQB J J FDEQ TLOH >ABNR>QBIV FK P J >II B@LKL JFBP FQ TFII HBBM QEBPB B@LKL JFBP COL J

DOLTFKD 3EB QF J B QE>Q FKAFFAR>IP TLRIA LQEBOTFPB PMBKA MOLAR@FKD DLLAP >KA PBOSF@BP >KA BKGLVFKD IBFPROB QF J B QEBV PMBKA ?>OQBQFKD

### HA6@BAF 9BE %BA8L

, LKBV PLISBP QEB MOL?IB J P QE>Q QEB ?>OQBO PVPQB J @OB>QBP 6B TFII DBQ QL FQP ABCFKFQFLK PLLK %FOPQ J LKBV PBOSBP >P > **medium of exchange** TEF@E J B>KP QE>Q J LKBV >@QP >P >K FKQBO J BAF>OV ?BQTBBK QEB ?RVBO >KA QEB PBIIBO (KQPB>A LC BU@E>KDFKD >@LRKQFKD PBOSF@BP CLO PELBP QEB >@LRKQ>KQ KL T BU@E>KDBP >@LRKQFKD PBOSF@BP CLO J LKBV 3EB >@LRKQ>KQ QEBK RPBP QEPF J LKBV QL ?RV PELBP 3L PBOSB >P > J BAFR J LC BU@E>KDB MBLMIB J RPQ TFABIV >@BMQ J LKBV >P > J BQELA LC M>V J BKQ FK QEB J >OHBQP CLO DLLAP I>?LO >KA CFK>K@F>I @>MFQ>I

2B@LKA J LKBV J RPQ PBOSB >P > **store of value** (K > ?>OQBO PVPQB J TB P>T QEB BU>J MIB LC QEB PELB J >HBO QO>AFKD PELBP CLO >@LRKQFKD PBOSF@BP 'LTBSBO PEB OFPHP E>SFKD EBO PELBP DL LRQ LC PQVIB B@M@F>IIV FC PEB HBBMP QEB J FK > T>OBELRPB CLO CRQROB RPB b QEBFO S>IRB TFII AB@OB>PB TFQE B>@E PB>PLK 2ELBP >OB KLQ > DLLA PQLOB LC S>IRB 'LIAFKD J LKBV FP > J R@E B>PFBO T>V LC PQLQFKD S>IRB 8LR HKL T QE>Q VLR AL KLQ KBBA QL PMBKA FQ F J BAF>QBIV ?B@>RBP FQ TFII PQFII ELIA FQP S>IRB QEB KBUQ A>V LO QEB KBUQ VB>O 3EFP CRK@QFLK LC J LKBV ALBP KLQ OBNRFOB QE>Q J LKBV FP > *perfect* PQLOB LC S>IRB (K >K B@LKL J V TFQE FKCI>QFLK J LKBV ILPBP PL J B ?RVFKD MLTBO B>@E VB>O ?RQ FQ OB J >FKP J LKBV

3EFOA J LKBV PBOSBP >P > **unit of account** TEF@E J B>KP QE>Q FQ FP QEB ORIBO ?V TEF@E TB J B>PROB S>IRBP %LO BU>J MIB >K >@LRKQ>KQ J >V @E>ODB QL CFIB VLRO Q>U OBQROK 3E>Q @>K MRO@E>PB QTL M>FO LC PELBP >Q > M>FO , LKBV >@QP >P > @L J J LK ABKL J FK>QLO >K >@LRKQFKD J BQELA QE>Q PF J MIFCFBP QEFKHFKD >?LRQ QO>AB LCCP

%FK>IIV >KLQBO CRK@QFLK LC J LKBV FP QE>Q FQ J RPQ PBOSB >P > **standard of deferred payment** 3EFP J B>KP QE>Q FC J LKBV FP RP>?IB QLA>V QL J >HB MRO@E>PBP FQ J RPQ >IPL ?B >@BMQ>?IB QL J >HB MRO@E>PBP QLA>V QE>Q QEB MRO@E>PBO TFII M>V FK QEB *future* +L>KP >KA CRQROB >DOBB J BKQP >OB PQ>QBA FK J LKBQ>OV QBO J P >KA QEB PQ>KA>OA LC ABCBOOBA M>V J BKQ FP TE>Q >IIL TP RP QL ?RV DLLAP >KA PBOSF@BP QLA>V >KA M>V FK QEB CRQROB 3ERP **money** PBOSBP >II LC QEBPB CRK@QFLK b FQ FP > J BAFR J LC BU@E>KDB PQLOB LC S>IRB RKFQ LC >@LRKQ >KA PQ>KA>OA LC ABCBOOBA M>V J BKQ

### B@B7@GL I8EFHF <4@ %BA8L

, LKBV E>P Q>HBK > TFAB S>OFBQV LC CLO J P FK AFCCBOBKQ @RIQROBP /BLMIB E>SB RPBA DLIA PFISBO @LTOFB PEBIIP @FD>OBQQBP >KA BSBK @L@L> ?B>KP >P J LKBV IQELRDE TB RPB QEBPB FQJ P >P **commodity money** QEBV >IPL E>SB > S>IRB COL J RPB >P PL J BQEFKD LQEBQ QE>K J LKBV %LO BU>J MIB MBLMIB E>SB RPBA DLIA QEOLRDELQ QEB >DBP >P J LKBV >IQELRDE QLA>V TB AL KLQ RPB FQ >P J LKBV ?RQ O>QEBQ S>IRB FQ CLO FQP LQEBQ >QQF?RQBP &LIA FP > DLLA @LKR@QLO LC BIB@QOF@FQV >KA QEB BIB@QOLKF@P >KA >BOLPM>@B FKARPQOV RPB FQ . QEBQ FKARPQOFBP RPB DLIA QLL PR@E >P QL J >KRC>@QROB BKBODV BCCF@FBKQ OBCIB@QFSB DI>PP CLO PHVP@O>MBOP >KA FP RPBA FK QEB J BAF@>I FKARPQOV >P TBII . C @LROPB DLIA >IPL E>P S>IRB ?B@>RBP LC FQP ?B>RQV >KA J >IIB>?FIFQV FK @OB>QFKD GBTBIOV

P @L J J LAFQV J LKBV DLIA E>P EFPQLOF@>IIV PBOSBA FQP MROMLPB >P > J BAFR J LC BU@E>KDB > PQLOB LC S>IRB >KA >P > RKFQ LC >@LRKQ **Commodity-backed currencies** >OB ALII>O ?FIIP LO LQEBQ @ROOBK@FBP TFQE S>IRBP ?>@HBA RM ?V DLIA LO LQEBQ @L J J LAFQFBP EBIA >Q > ?>KH #ROFKD J R@E LC FQP EFPQLOV DLIA >KA PFISBO ?>@HBA QEB J LKBV PRMMIV FK QEB 4KFQBA 2Q>QBP (KQBOPQFKDIV >KQFNRB ALII>OP A>QBA >P I>QB >P E>SB e2FISBO "BOQFCF@>QBf MOFKQBA LSBO QEB MLOQO>FQ LC &BLQDB 6>PEFKDQLK >P <:HE8 PELTP 3EFP J B>KQ QE>Q QEB ELIABO @LRIA Q>HB QEB ?FII QL QEB >MMOLMOF>QB ?>KH >KA BU@E>KDB FQ CLO > ALII>O@P TLOQE LC PFISBO



<:HE8 +<18E 8EG<9<6468 4A7 4 %B78EA - + <? 5KQFI PHSBO @BQFCF@>QBP TBOB @L J J LAFQV ?>@HBA J LKBV\_ ?>@HBA ?V PHSBO >P FKAf@>QBA ?V QEB TLOAP b3FISBO #BQFCF@>QBc MOFKQBA LK QEB ?FII 4LA>V 4EB &BABO>I 2BPBOSB ?>@HP 5 3 ?FIIP ?RQ >P Cf>Q J LKBV FK@LKSBOQ?IB M>MBO J LKBV J >AB IBD>I QBKABO ?V > DLSBOK J BKQ AB@0BB #0BARQ b4EB #L J BAF>Kc &f@H0 #0B>QFSB #L J J LKP

P B@LKL JFBP DOBT >KA ?B@>JB JLOB DIL?>I FK K>QROB QEB RPB LC @L J J LAFQV J LKFBP ?B@>JB JLOB @R J ?BOPL J B "LRKQOFBP JLSBA QLT>OAP QEB RPB LC fiat money %F>Q J LKBV E>P KL FKQOFKPF@ S>IRB ?RQ FP AB@I>OBA ?V > DLSBOK J BKQ QL ?B > @LRKQOV P IBD>I QBKABO 3EB 4KfQBA 2Q>QBPd M>MBO J LKBV CLO BU>J MIB @>OOFBP QEB PQ>QB J BKQ e3 '(2 - .3\$ (2 +\$& + 3\$ - # \$1 % .1 ++ # \$! 32 / 4 ! + (" - # / 1 (5 3\$ f (K LQEB TLOAP ?V DLSBOK J BKQ AB@0BB FC VLR LTB > AB?Q QEBK IBD>IIV PMB>HFkd VLR @>K M>V QE>Q AB?Q TfQE QEB 4 2 @ROOBK@V BSBK QELRDE FQ FP KLQ ?>@HBA ?V > @L J J LAFQV 3EB LKIV ?>@HFkd LC LRO J LKBV FP RKFSBOP>I C>fQE >KA QORPQ QE>Q QEB @ROOBK@V E>P S>IRB >KA KLQEFkd JLOB

# Link It Up

7>Q@E QEFp SfABL EQQM LMBKp>U@LIIBDB LOD I J LKBVEFPQLOV LK QEB b (FPQLOV LC - LKBV c

N %84FHE<A : %BA8L HEE8A6L % 4A7 %

! V QEB BKA LC QEFp PB@QFLK VLR TfII ?B >?IB QL  
d "LKQ>PQ , J LKBV PRMMIV >KA , J LKBV PRMMIV  
d "I>PPFCV J LKFBP >P , J LKBV PRMMIV LO , J LKBV PRMMIV

">PE FK VLRO ML@HBQ @BQ>FKIV PBOSBP >P J LKBV ELTBSBO TE>Q >?LRQ @EB@HP LO @OBAFQ @>OAP OB QEBV J LKBV QLL 1>QEBQ QE>K QOVFKD QL PQ>QB > PFKDIB T>V LC J B>PROFKD J LKBV B@LKL J FFPQ LCCBO ?OL>ABO ABCFKFQFLKP LC J LKBV ?>PBA LK IFNRFAFQV +FNRFAFQV OBCBOP QL ELT Nrf@HIV VLR @>K RPB > CFK>K@F>I >PPBQ QL ?RV > DLLA LO PBOSF@B %LO BU>J MIB @>PE FP SBOV IFNRFA 8LR @>K RPB VLRO ?FII B>PFIV QL ?RV > E> J ?RODBO >Q IRK@EQF J B ' LTBSBO QE>Q VLR E>SB FK VLRO

P>SFKDP >@L@LRKQ FP KLQ PL B>PV QL RPB 8LR J RPQ DL QL QEB ?>KH LO 3 , J>@EFKB >KA TFQEA0>T QE>Q @>PE QL ?RV VLRO IRK@E 3ERP FK VLRO P>SFKDP >@L@LRKQ FP less IFNRFA

3EB %BAB0>I 1BPB0SB !>KH TEF@E FP QEB @BK0>I ?>KH LC QEB 4KFQBA 2Q>QBP FP > ?>KH OBDRI>QL0 >KA FP OBPMLKPF?IB CLO J LKBQ>OV MLIF@V >KA ABCFKBP J LKBV >@L@L@AFKD QL FQP IFNRFAFV 3EB0B >OB QTL ABCFKFQFLK LC J LKBV , >KA , J LKBV PRMMIV **M1 money supply** FK@IRABP QELPB J LKFBP QE>Q >OB SBOV IFNRFA PR@E >P @>PE @EB@H>?IB AB J >KA ABMLPFQP >KA Q0>SBIB0dP @EB@HP **M2 money supply** FP IBPP IFNRFA FK K>QROB >KA FK@IRABP , MIRP P>SFKDP >KA QF J B ABMLPFQP @BOQFCF@>QBP LC ABMLPFQP >KA J LKBV J >OHBQ CRKAP

, J LKBV PRMMIV FK@IRABP **coins and currency in circulation** b QEB @L@FKP >KA ?FIIP QE>Q @FQ@RI>QB FK >K B@LKL J V QE>Q QEB 4 2 30B>PROV ALBP KLQ ELIA >Q QEB %BAB0>I 1BPB0SB !>KH LO FK ?>KH S>RIQP "ILPBIV OBI>QBA QL @R00BK@V >OB @EB@H>?IB ABMLPFQP >IPL HKLTK >P **demand deposits** 3EBPB >OB QEB >J L@LRKQ EBIA FK @EB@HFKD >@L@LRKQ 3EBV >OB @>IIBA AB J >KA ABMLPFQP LO @EB@H>?IB ABMLPFQP ?B@>RPB QEB ?>KHFKD FKPFQFQFLK J RPQ D@FSB QEB ABMLPFQ ELIABO EFP J LKBV eLK AB J >Kaf TEbk QEB @RPQL J BO TOFQBP > @EB@H LO RBPB > AB?FQ @>0A 3EBPB FQB J P QLDBQEBO b @R00BK@V >KA @EB@HFKD >@L@LRKQ FK ?>KHP b @L J MOFPB QEB ABCFKFQFLK LC J LKBV HKLTK >P , TEF@E QEB %BAB0>I 1BPB0SB 2VPQB J J B>PROBP A>FIV

?0L>ABO ABCFKFQFLK LC J LKBV , FK@IRABP BSB0VQEFKD FK , ?RQ >IPL >AAP LQEBO QVMBP LC ABMLPFQP %LO BU> J MIB , FK@IRABP **savings deposits** FK ?>KHP TEF@E >OB ?>KH >@L@LRKQ LK TEF@E VLR @>KKLQ TOFQB > @EB@H AFOB@QIV ?RQ COL J TEF@E VLR @>K B>PFIV TFQEA0>T QEB J LKBV >Q >K >RQL J >QF@ QBIIBO J >@EFKB LO ?>KH , >KV ?>KHP >KA LQEBO CFK>K@F>I FKPFQFQFLK >IPL LCCBO > @E>K@B QL FKSBPQ FK **money market funds** TEBOB QEBV MLLI QLDBQEBO QEB ABMLPFQP LC J >KV FKAFSAR>I FKSBPQL0P >KA FKSBPQ QEB J FK > P>CB T>V PR@E >P PELOQ QBO J DLSBOK J BKQ ?LKAP KLQEBO FKDOBAFBKQ LC , >OB QEB OBI>QFSBIV P J >II QE>Q FP IBPP QE>K >?LRQ @BOQFCF@>QBP LC ABMLPFQ "#P LO **time deposits** TEF@E >OB >@L@LRKQ QE>Q QEB ABMLPFQLO E>P @L J J FQQA QL IB>SFKD FK QEB ?>KH CLO > @BOQ>FK MBOFLA LC QF J B O>KDFKD COL J > CBT J LKQEP QL > CBT VB>OP FK BU@E>KDB CLO > EFDEBO FKQBOBPQ 0>QB (K PELOQ >II QEBPB QVMBP LC , >OB J LKBV QE>Q VLR @>K TFQEA0>T >KA PMBKA ?RQ TEF@E OBNRFOB > DOB>QBO BCCL0Q QL AL PL QE>K QEB FQB J P FK , <:HE8 PELRIA EBIM FK SFPR>IFWFKD QEB OBI>QLKPEFM ?BQTBK , >KA , -LQB QE>Q , FP FK@IRABA FK QEB , @>I@RI>QFLK

<:HE8 , ;8 \*8?4<BAF;<C 586J88A % 4A7 % %BA8L - >KA - J LKBV E>SB PBSB0>I ABCFKFQFLK 0>KDFKD COL J K>00LT QL ?0L>A - @L@FKP >KA @R00BK@V FK @FQ@RI>QFLK @EB@H>?IB AB J >KA ABMLPFQ Q0>SBIB0dP @EB@HP - P>SFKDP ABMLPFQ J LKBV J >OHBQ CRKAP @BOQFCF@>QBP LC ABMLPFQ LQEBO QF J B ABMLPFQ

3EB %BAB0>I 1BPB0SB 2VPQB J FP OBPMLKPF?IB CLO Q0>@HFKD QEB >J L@LRKQ LC , >KA , >KA M0BM>OBP > TBBHIV OBI>PB LC FKCL0 J >QFLK >?LRQ QEB J LKBV PRMMIV 3L MOLSFAB >K FAB> LC TE>Q QEBPB >J L@LRKQ PLRKA IFHB >@L@L@AFKD QL QEB %BAB0>I 1BPB0SB !>KHdP J B>PROB LC QEB 4 2 J LKBV PQL@H >Q QEB BKA LC %B?0R>OV , FK QEB 4KFQBA 2Q>QBP T>P QOFIFLK TEFIB , T>P QOFIFLK ,45?8 MOLSFABP > ?0B>HALTK LC QEB MLOQFLK LC B>@E QVMBP LC J LKBV QE>Q @L J MOFPBA , >KA , FK %B?0R>OV >P MOLSFABA ?V QEB %BAB0>I 1BPB0SB !>KH

B@CBA8AGF B9 % <A G;8 - + 85EH4EL +84FBA4??L 7=HFG87	5<??<BAF
#R00BK@V	
40>SBIB0aP @EB@HP	
\$B J >KA ABMLPFQP >KA LQEB0 @EB@HFKD >@@LRKQP	
<b>Total M1</b>	<b>\$2,988.2 (or \$3 trillion)</b>
B@CBA8AGF B9 % <A G;8 - + 85EH4EL +84FBA4??L 7=HFG87	5<??<BAF
- J LKBV PRMMIV	
3>SFKDP >@@LRKQP	
4F J B ABMLPFQP	
)KAF\$AR>I J LKBV J >0HBQ J RQR>I CRKA ?>I>K@BP	
<b>Total M2</b>	<b>\$11,820.3 (or \$11.8 trillion)</b>

,45?8 % 4A7 % 878E4? \*8F8E18 +G4G<FG<64? \*8?84F8 %BA8L +GB6> %84FHE8F 3LR0@B &BAB0>I  
2BPB0SB 3Q>QFPQF@>I 2BIB>PB EQQM TTT CBAB0>I0BPB0SB DLS 2%, %! 3%3 E @R00BKQ ABC>RIQ EQ J Q QD IFKH

3EB IFKBP PBM>0>QFKD , >KA , @>K ?B@L J B > IFQIIB ?IROOV 2L J BQF J BP ?RPFKBPPBP AL KLQ QOB>Q BIB J BKQP LC ,  
>IFHB %LO BU> J MIB PL J B ?RPFKBPPBP TFII KLQ >@@BMQ MBOPLK>I @EB@HP CLO I>ODB > J LRKQP ?RQ TFII >@@BMQ QO>SBIB0aP  
@EB@HP LO @>PE "E>KDBP FK ?>KHFCD MO>@QF@BP >KA QB@EKLILDV E>SB J >AB QEB P>SFKDP >@@LRKQP FK , J LOB PF J FI>0  
QL QEB @EB@HFKD >@@LRKQP FK , %LO BU> J MIB PL J B P>SFKDP >@@LRKQP TFII >IILT ABMLPFQLOP QL TOFQB @EB@HP RPB  
>RQL J >QF@ QBIIBO J >@EFKBP >KA M>V ?FIIP LSBO QEB FKQOKBQ TEF@E E>P J >AB FQ B>PFB0 QL >@@BPP P>SFKDP >@@LRKQP P  
TFQE J >KV LQEB0 B@LKL J F@ QBO J P >KA PQ>QFPQF@P QEB F J MLOQ>KQ MLFKQ FP QL HKLT QEB PQOBKDQEP >KA IF J FQ>QFLKP LC QEB  
S>OFLRP ABCFKFQFLKP LC J LKBV KLQ QL ?BIFBSB QE>Q PR@E ABCFKFQFLKP >OB >P @IB>0 @RQ QL B@LKL J FPQP >P P>V QEB ABCFKFQFLK  
LC KFQOLDBK FP QL @EB J FPQP

6 EBOB ALBP eMI>PQF@ J LKBVf IFHB AB?FQ @>OAP @OBAFQ @>OAP >KA P J >OQ J LKBV CFQ FKQL QEFP MF@QROB **debit card** IFHB  
> @EB@H FP >K FKPQR@QFLK QL QEB RPB0aP ?>KH QL QO>KPCBO J LKBV AFOB@QIV >KA F J J BAF>QBIV COL J VLRO ?>KH >@@LRKQ QL  
QEB PBIIBO (Q FP F J MLOQ>KQ QL KLQB QE>Q FK LRO ABCFKFQFLK LC J LKBV FQ FP *checkable deposits* QE>Q >OB J LKBV KLQ QEB M>MBO  
@EB@H LO QEB AB?FQ @>OA IQELRDE VLR @>K J >HB > MRO@E>PB TFQE > **credit card** QEB CFK>K@F>I FKPQFQRQFLK ALBP KLQ  
@LKPFABO FQ J LKBV ?RQ O>QEB0 > PELOQ QBO J IL>K COL J QEB @OBAFQ @>OA @L J M>KV QL VLR 6 EBK VLR J >HB > @OBAFQ @>OA  
MRO@E>PB QEB @OBAFQ @>OA @L J M>KV F J J BAF>QBIV QO>KPCBOP J LKBV COL J FQP @EB@HFKD >@@LRKQ QL QEB PBIIBO >KA >Q QEB BKA  
LC QEB J LKQE QEB @OBAFQ @>OA @L J M>KV PBKAP VLR > ?FII CLO TE>Q VLR E>SB @E>ODBA QE>Q J LKQE 4KQFI VLR M>V QEB @OBAFQ  
@>OA ?FII VLR E>SB BCCB@QFSBIV ?LOOLTBA J LKBV COL J QEB @OBAFQ @>OA @L J M>KV 6 FQE > **smart card** VLR @>K PQL0B >  
@BOQ>FK S>IRB LC J LKBV LK QEB @>OA >KA QEBK RPB QEB @>OA QL J >HB MRO@E>PBP 2L J B eP J >OQ @>OAPf RPBA CLO PMB@FCF@  
MROMLPBP IFHB ILKD AFPQ>K@B MELKB @>IIP LO J >HFKD MRO@E>PBP >Q > @> J MRP ?LLHPQLOB >KA @>CBQBOF> >OB KLQ OB>IIV >II  
QE>Q P J >OQ ?B@>RPB VLR @>K LKIV RPB QEB J CLO @BOQ>FK MRO@E>PBP LO FK @BOQ>FK MI>@BP

(K PELOQ @OBAFQ @>OAP AB?FQ @>OAP >KA P J >OQ @>OAP >OB AFCCB0BKQ T>VP QL J LSB J LKBV TEBK VLR J >HB > MRO@E>PB  
' L TBSBO E>SFKD J LOB @OBAFQ @>OAP LO AB?FQ @>OAP ALBP KLQ @E>KDB QEB NR>KQFV LC J LKBV FK QEB B@LKL J V >KV J LOB  
QE>K MOFKQFKD J LOB @EB@HP FK@OB>PBP QEB > J LRKQ LC J LKBV FK VLRO @EB@HFKD >@@LRKQ

. KB HBV J BPP>DB RKABOIVFKD QEFP AFP@RPPFLK LC , >KA , FP QE>Q J LKBV FK > J LABOK B@LKL J V FP KLQ GRPQ M>MBO ?FIIP  
>KA @LFBP (KQPB>A J LKBV FP @ILPBIV IFKHBA QL ?>KH >@@LRKQP 3EB ?>KHFCD PVPQB J I>ODBIV @LKB@QP J >@OLB@LKL J F@  
MLIF@FBP @LKB@BOKFKD J LKBV 3EB KBUQ PB@QFLK BUMI>FKP ELT ?>KHP CRK@QFLK >KA ELT > K>QFLKdP ?>KHFCD PVPQB J E>P QEB  
MLTBO QL @OB>QB J LKBV

# Link It Up

2B>A > ?0FBC >0QF@IB EQQM LMBKPQ>U@LIIBDB L0D I 3TBABK LK QEB @R00BKQ J LKBQ>0V @E>IIBKDBP FK 3TBABK

## N , ; 8 \* B?8 B9 4A>F

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK ELT ?>KHP >@Q >P FKQBO J BAF>0FBP ?BQTBBK P>SBOP >KA ?LOOLTBOB
- d \$\$S>IR>QB QEB OBI>QFLKPEFM ?BQTBBK ?>KHP P>SFKDP >KA IL>KP >KA @0BAFQ RKFLKP
- d K>IVWB QEB @>RPBP LC ?>KHORMQ@V >KA OB@BPPFLKP

2L J B?LAV LK@B >PHBA QEB I>QB ?>KH OL??BO K> J BA 6 FIIFB 2RQQLK TEV EB OL??BA ?>KHP ' B >KPTBOBA e3E>QdP TEBOB QEB J LKBV FP f 6 EFIB QEFB J >V E>SB ?BBK QORB >Q LKB QF J B COL J QEB MBOPMB@QFSB LC J LABOK B@LKL J FPQ 2RQQLK FP ?LQE OFDEQ >KA TOLKD ' B FP TOLKD ?B@>RPB QEB LSBOTEBI J FKD J >GLOFQV LC J LKBV FK QEB B@LKL J V FP KLQ FK QEB CLO J LC @R00BK@V PQQFKD FK S>RIQP LO AO>TBOP >Q ?>KHP T>FQFKD CLO > OL??BO QL >MMB>0 , LPQ J LKBV FP FK QEB CLO J LC ?>KH >@LRKQ TEF@E BUFPQ LKIV >P BIB@QQLKF@ OB@LOAP LK @L J MRQBOP %OL J > ?OL>ABO MBOPMB@QFSB ELTBSBO QEB ?>KH OL??BO T>P J LOB OFDEQ QE>K EB J >V E>SB HKLTK !>KHFKD FP FKQF J >QBIV FKQBO@LKKB@QBA TFQE J LKBV >KA @LKPBNRBKQIV TFQE QEB ?OL>ABO B@LKL J V

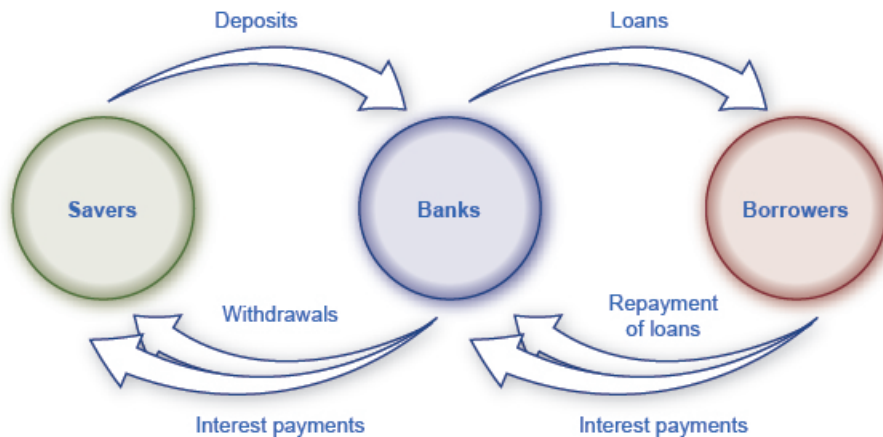
!>KHP J >HB FQ C>O B>PFBO CLO > @L J MIBU B@LKL J V QL @>00V LRQ QEB BUQO>LOAFK>0V O>KDB LC QO>KP>@QFLKP QE>Q L@>RO FK DLLAP I>?LO >KA CFK>K@F>I @>MFQ>I J >OHBQP ( J >DFKB CLO > J L J BKQ TE>Q QEB B@LKL J V TLRIA ?B IFHB FC BSOV?LAV E>A QL J >HB >II M>V J BKQ FK @>PE 6 EBK PELMMFKD CLO > I>ODB MRQ@E>PB LO DLFKD LK S>@>QFLK VLR J FDEQ KBBA QL @>00V ERKA0BAP LC ALII>OP FK > ML@HBQ LO MROPB \$SBK P J >II ?RPFKBPBPB TLRIA KBBA PQL@HMFIBP LC @>PE QL M>V TLOHBOP >KA QL MRQ@E>PB PRMMIFBP ?>KH >IILTP MBLMIB >KA ?RPFKBPBPB QL PLOB QEFB J LKBV FK BFQEBO > @EB@HFKD >@LRKQ LO P>SFKDP >@LRKQ CLO BU>J MIB >KA QEBK TFQEA0>T QEFB J LKBV >P KBBABA QEOLRDE QEB RPB LC > AFOB@Q TFQEA0>T>I TORQFKD > @EB@H LO RPFKD > AB?FQ @>0A

!>KHP >OB > @0FQF@>I FKQBO J BAF>0V FK TE>Q TB @>II QEB **payment system** TEF@E EBIMP >K B@LKL J V BU@E>KDB DLLAP >KA PBOSF@BP CLO J LKBV LO LQEBO CFK>K@F>I >PPBQP IPL QELPB TFQE BUQO> J LKBV QE>Q QEBV TLRIA IFHB QL P>SB @>K PLOB QEBFO J LKBV FK > ?>KH O>QEBO QE>K ILLH CLO >K FKAFSAR>I TEL FP THIFKD QL ?LOOLT FQ COL J QEB J >KA QEBK OBM>V QEB J >Q > I>QBO A>QB 3ELPB TEL T>KQ QL ?LOOLT J LKBV @>K DL AFOB@QIV QL > ?>KH O>QEBO QE>K QOVFKD QL CFKA PL J BLKQ QL IBKA QEB J @>PE **Transaction costs** >OB QEB @LPQP >PPL@F>QBA TFQE CFKAFKD > IBKABO LO > ?LOOLTBO CLO QEFB J LKBV 3ERP ?>KHP ILTBO QO>KP>@QFLKP @LPQP >KA >@Q >P CFK>K@F>I FKQBO J BAF>0FBP b QEBV ?0FKD P>SBOP >KA ?LOOLTBOB QLDBQEBO ILKD TFQE J >HFKD QO>KP>@QFLKP J R@E P>CBO >KA B>PFBO ?>KHP >IPL MI>V > HBV OLIB FK @B>QFKD J LKBV

## 4A>F 4F <A4A6<4? !AG8E@87<4E<8F

K eFKQBO J BAF>0Vf FP LKB TEL PQ>KAP ?BQTBBK TTL LQEBO M>0QFBP !>KHP >OB > **financial intermediary** b QE>Q FP >K FKPFQRFQFLK QE>Q LMBO>QB ?BQTBBK > P>SBO TEL ABMLPFQ J LKBV FK > ?>KH >KA > ?LOOLTBO TEL OB@BFSBP > IL>K COL J QE>Q ?>KH %FK>K@F>I FKQBO J BAF>0FBP FK@IRAB LQEBO FKPFQRFQFLK FK QEB CFK>K@F>I J >OHBQ PR@E >P FKPRO>K@B @L J M>KFBP >KA MBKPFK CRKAP ?RQ TB TFII KLQ FK@IRAB QEB J FK QEFB AFP@RPPFLK ?B@>RPB QEBV >OB KLQ **depository institutions** TEF@E >OB FKPFQRFQFLK QE>Q >@BMQ J LKBV **deposits** >KA QEBK RPB QEBPB QL J >HB IL>KP II QEB ABMLPFQBA CRKAP J FKDIB FK LKB ?FD MLLI TEF@E QEB CFK>K@F>I FKPFQRFQFLK QEBK IBKAP <: HE8 FIIRPQO>QB QEB MLPFQFLK LC ?>KHP >P CFK>K@F>I FKQBO J BAF>0FBP TFQE ABMLPFQ CILTFKD FKQL > ?>KH >KA IL>KP CILTFKD LRQ . C @LROPB TEBK ?>KHP J >HB IL>KP QL CFO J P QEB ?>KHP TFII QOV QL CRKKBI CFK>K@F>I @>MFQ>I QL EB>IQEV ?RPFKBPBPB QE>Q E>SB DLLA MOLPMB@QP CLO OBM>VFKD QEB IL>KP KLQ

QL CFO J P QE>Q >OB PRCCB0FKD ILPPBP >KA J >V ?B RK>?IB QL OBM>V



<:HEB 4A>F 4F <A4A6<4? !A68E@87<4E<8F ">KHP >@Q >P CFK>K@F>I FKQBO J BAF>QFBP ?B@>RPB QEBV PQ>KA ?BQ TBBK  
 P>SBOP >KA ?LOOLTBO P 3>SBOP MI>@B ABMLPFQP TFQE ?>KHP >KA QEBK OB@BFSB FKQB0BPQ M>V J BKQP >KA TFQEA0>T J LKBV  
 "LOOLTBO P OB@BFSB IL>KP COL J ?>KHP >KA OBM>V QEB IL>KP TFQE FKQB0BPQ )K QR0K ?>KHP OBQR0K J LKBV QL P>SBOP FK QEB  
 CLO J LC TFQEA0>T>IP TEF@E >IPL FK@IRAB FKQB0BPQ M>V J BKQP COL J ?>KHP QL P>SBOP

# Clear It Up

## BJ 4E8 54A>F F4I<A:F 4A7 ?B4AF 4A7 6E87<G HA<BAF E8?4G87

">KHP E>SB > @LRMIB LC @ILPB @LRPFKP P>SFKDP FKPFQRQFLKP >KA @OBAFQ RKFLKP ">KHP >P TB BUMI>FKBA OB@BFSB  
 ABMLPFQP COL J FKAfSfAR>IP >KA ?RPFKBPPBP >KA J>HB IL>KP TFQE QEB J LKBV 3>SFKDP FKPFQRQFLKP >OB >IPL  
 PL J BQf JBP @>IIBA bP>SfKDP >KA IL>KPC LO bQEOFCQP c 4EBV >IPL Q>HB IL>KP >KA J>HB ABMLPFQP (LTBSBO COL J  
 QEB P RKQFI QEB P CBABO>I I>T IF J FQBA ELT J R@E FKQB0BPQ P>SFKDP FKPFQRQFLKP TBOB >IILTBA QL M>V QL  
 ABMLPFQLOP 4EBV TBOB >IPL OBNRFOBA QL J>HB J LPQ LC QEBFO IL>KP FK QEB CLO J LC ELRPFKD OBI>QBA IL>KP BRQEBO QL  
 EL J B?RVBOP LO QL OB>I BPQ>QB ABSBILMBOP >KA ?RFIABOP

! @OBAFQ RKFLK FP > KLKMO LCFQ CFK>K@F>I FKPFQRQFLK QE>Q FQP JBJ?BOP LTK >KA ORK - B J?BOP LC B>@E @OBAFQ  
 RKFLK AB@FAB TEL FP BIFDF?IB QL ?B > JBJ?BO 5PR>IIV MLQBKF>I JBJ?BOP TLRIA ?B BSOVLKB FK > @BOQ>FK  
 @L J J RKQV LO DOLRMP LC B J MILVBPP LO JBJ?BOP LC > @BOQ>FK LOD>KFW>QFLK 4EB @OBAFQ RKFLK >@BMQP ABMLPFQP  
 COL J JBJ?BOP >KA CL@RPBP LK J>HFKD IL>KP ?>@H QL FQP JBJ?BOP 7 EHB QEB0B >OB J LOB @OBAFQ RKFLK QE>K  
 ?>KHP >KA J LOB ?>KHP QE>K P>SfKDP >KA IL>KP QEB QLQ>I >PPBP LC @OBAFQ RKFLK >OB DOLTFKD

)K QEB0B TBOB ?>KHP \$RB QL QEB ?>KH C>HIROBP LC ^ >KA ?>KH J BODBOP QEB0B TBOB  
 ?>KHP FK QEB 5KQBA 3Q>QBP >Q QEB BKA LC QEB CLRQOE NR>OQBO FK !@@LOAFKD QL QEB #OBAFQ 5KFLK .>QFLK>I  
 !PPL@f>QFLK >P LC \$B@BJ?BO QEB0B TBOB @OBAFQ RKFLK TFQE >PPBP QLQ>IFKD ?FIFLK ! A>V LC  
 b40>KPCBO 9LRO - LKBVc QLLH MI>@B FK LRQ LC DBKBO>I MR?IF@ AFPDRPQ TFQE ?FD ?>KH ?>FILRQP OBLMIB TBOB  
 BK@LRO>DBA QL QO>KPCBO QEBFO ABMLPFQP QL @OBAFQ RKFLK 4EFP E>P DOLTK FKQL QEB LKDLFKD - LSB 9LRO - LKBV  
 OOL@B@Q #LKPBNRBKQIV PL J B KLT ELIA ABMLPFQP >P I>ODB >P ?FIFLK (LTBSBO >P LC QEB I>ODBPQ  
 ?>KHP @LKQOLIIBA MB0@BKQ LC >II ?>KHFKD >PPBP >@@LOAFKD QL QEB \$>II>P &BABO>I 2BPB0SB

## 4A>RF 4?4A68 + ; 88G

**balance sheet** FP >K >@LRKQFKD QLLI QE>Q IFQP >PPBP >KA IF>?FIFQFBP K **asset** FP PL J BQEFKD LC S>IRB QE>Q VLR LTK  
 >KA VLR @>K RPB QL MOLAR@B PL J BQEFKD %LO BU> J MIB VLR @>K RPB QEB @>PE VLR LTK QL M>V VLRO QRFQFLK (C VLR LTK >  
 EL J B QEFP FP >IPL >K >PPBP **liability** FP > AB?Q LO PL J BQEFKD VLR LTB , >KV MBLMIB ?LOOLT J LKBV QL ?RV EL J BP (K  
 QEFP @>PB > EL J B FP QEB >PPBP ?RQ QEB J LOQD>DB FP QEB IF>?FIFQV 3EB **net worth** FP QEB >PPBP S>IRB J FKRP ELT J R@E FP  
 LTBA QEB IF>?FIFQV ?>KHdP ?>I>K@B PEBBQ LMBO>QBP FK J R@E QEB P> J B T>V ?>KHdP KBQ TLOQE >P **bank capital** 6B  
 >IPL OCB0 QL > ?>KH E>P >PPBP PR@E >P @>PE EBIA FK FQP S>RIQP J LKFBP QE>Q QEB ?>KH ELIAP >Q QEB %BABO>I 1BPB0SB ?>KH



@>IIBA eOBPBOBPf IL>KP QE>Q FQ J >HBP QL @RPQL J BOP >KA ?LKAP

<: HE8 FIIRPQ>QBP > EVMLQEBQf@>I >KA PF J MIFCBA ?>I>K@B PEBBQ CLO QEB 2>CB >KA 2B@ROB !>KH !B@>RPB LC QEB QTL @LIR J K CLO J >Q LC QEB ?>I>K@B PEBBQ TFQE QEB 3 PE>MB CLO J BA ?V QEB SBOQf@>I IFKB ALTK QEB J FAAIB >KA QEB ELOFWLKQ>I IFKB RKABO e PPBQf >KA e+f>?FIFQFBP f TB PL J BQf J BP @>II FQ > T-account

<: HE8 4?4A68 + ;88G 9BE G ;8 +498 4A7 +86HE8 4A>

3EB e3f FK > 3 >@>LRKQ PBM>0>QBP QEB >PPBQ LC > CFO J LK QEB IBCQ COL J FQP IF>?FIFQFBP LK QEB OFDEQ II CFO J P RPB 3 >@>LRKQ QELRDE J LPQ >OB JR@E J LOB @L J MIBU %LO > ?>KH QEB >PPBQ >OB QEB CFK>K@F>I FKPQOR J BKQP QE>Q BFQEBO QEB ?>KH FP ELIAFKD FQP OBPBOBP LO QELPB FKPQOR J BKQP TEBOB LQEBQ M>0QFBP LTB J LKBV QL QEB ?>KH b IFHB IL>KP J >AB ?V QEB ?>KH >KA 4 2 &LSBOK J BKQ 2B@ROFQFBP PR@E >P 4 2 QOB>PROV ?LKAP MRO@E>PBA ?V QEB ?>KH +f>?FIFQFBP >OB TE>Q QEB ?>KH LTBP QL LQEBOP 2MB@FCf@>IIV QEB ?>KH LTBP >KV ABMLPFQ J >AB FK QEB ?>KH QL QELPB TEL E>SB J >AB QEB J 3EB KBQ TLOQE LC QEB ?>KH FP QEB QLQ>I >PPBQ J FKRP QLQ>I IF>?FIFQFBP - BQ TLOQE FP FK@IRABA LK QEB IF>?FIFQFBP PFAB QL E>SB QEB 3 >@>LRKQ ?>I>K@B QL WBOL %LO > EB>IQEV ?RPFKBPP KBQ TLOQE TFII ?B MLPFQFSB %LO > ?>KHORMQ CFO J KBQ TLOQE TFII ?B KBD>QFSB (K BFQEBO @>PB LK > ?>KHdP 3 >@>LRKQ >PPBQ TFII >IT>VP BNR>I IF>?FIFQFBP MIRP KBQ TLOQE

6 EBK ?>KH @RPQL J BOP ABMLPFQ J LKBV FKQL > @EB@HFKD >@>LRKQ P>SFKDP >@>LRKQ LO > @BOQFCf@>QB LC ABMLPFQ QEB ?>KH SFBTP QEBPB ABMLPFQ >P IF>?FIFQFBP CQBO >II QEB ?>KH LTBP QEBPB ABMLPFQ QL FQP @RPQL J BOP TEBK QEB @RPQL J BOP TFPE QL TFQEAO>T QEBFO J LKBV (K QEB BU> J MIB FK <: HE8 QEB 2>CB >KA 2B@ROB !>KH ELIAP J FIIFLK FK ABMLPFQ

+L>KP >OB QEB CFOPQ @>QBDLOV LC ?>KH >PPBQ FK <: HE8 2>V QE>Q > C> J FIV Q>HBP LRQ > VB>0 J LQOD>DB IL>K QL MRO@E>PB > ELRPB TEF@E J B>KP QE>Q QEB ?LOOLTBO TFII OBM>V QEB IL>K LSBQ QEB KBUQ VB>OP 3EFP IL>K FP @IB>OIV >K >PPBQ COL J QEB ?>KHdP MBOPMB@QFSB ?B@>RPB QEB ?LOOLTBO E>P > IBD>I L?IFD>QLK QL J >HB M>V J BKQP QL QEB ?>KH LSBQ QF J B ' LTBBSO FK MO>@Qf@>I QBO J P ELT @>K TB J B>PROB QEB S>IRB LC QEB J LQOD>DB IL>K QE>Q QEB ?LOOLTBO FP M>VFKD LSBQ VB>OP FK QEB MOBPKQ . KB T>V LC J B>PROFKD QEB S>IRB LC PL J BQEFKD b TEBQEBO > IL>K LO >KVQEFKD BIPB b FP ?V BPQF J >QFKD TE>Q >KLQEBO M>0QV FK QEB J >OHBQ FP TFIIFKD QL M>V CLO FQ , >KV ?>KHP FPPRB EL J B IL>KP >KA @E>ODB S>OFLRP E>KAIFKD >KA MOL@BPPFKD CBBP CLO ALFKD PL ?RQ QEBK PBII QEB IL>KP QL LQEBQ ?>KHP LO CFK>K@F>I FKPQFQRFLK TEL @LIIB@Q QEB IL>K M>V J BKQP 6 B @>II QEB J >OHBQ TEBOB CFK>K@F>I FKPQFQRFLK J >HB IL>KP QL ?LOOLTBO QEB MOF J >OV IL>K J >OHBQ TEFIB QEB J >OHBQ FK TEF@E CFK>K@F>I FKPQFQRFLK ?RV >KA PBII QEBPB IL>KP FP QEB PB@LKA>OV IL>K J >OHBQ

. KB HBV C>@QLO QE>Q >CCB@QP TE>Q CFK>K@F>I FKPQFQRFLK >OB TFIIFKD QL M>V CLO > IL>K TEBK QEBV ?RV FQ QEB PB@LKA>OV IL>K J >OHBQ FP QEB MBO@BFSBA OFPHFKBPP LC QEB IL>K QE>Q FP DFSBK QEB ?LOOLTBO P @E>0>@QBOPF@P PR@E >P FK@L J B IBSBI >KA TEBQEBO QEB IL>I B@LKL J V FP MBOCLO J FKD PQQLKDIV TE>Q MOLMLQFLK LC IL>KP LC QEP QVMB TFII QEB ?LOOLTBO OBM>V 3EB DOB>QBO QEB OFPH QE>Q > ?LOOLTBO TFII KLQ OBM>V IL>K QEB IBPP QE>Q >KV CFK>K@F>I FKPQFQRFLK TFII M>V QL >@NRFOB QEB IL>K KLQEBO HBV C>@QLO FP QL @L J M>OB QEB FKQBOBPQ 0>QB QEB CFK>K@F>I FKPQFQRFLK @E>ODBA LK QEB LOFDK>I IL>K TFQE QEB @ROOBKQ FKQBOBPQ 0>QB FK QEB B@LKL J V (C QEB LOFDK>I IL>K OBNRFOBP QEB ?LOOLTBO QL M>V > ILT FKQBOBPQ 0>QB ?RQ @ROOBKQ FKQBOBPQ 0>QBP >OB OBI>QFSBIV EFDE QEBK > CFK>K@F>I FKPQFQRFLK TFII M>V IBPP QL >@NRFOB QEB IL>K (K @LKQ>PQ FC QEB LOFDK>I IL>K OBNRFOBP QEB ?LOOLTBO QL M>V > EFDE FKQBOBPQ 0>QB TEFIB @ROOBKQ FKQBOBPQ 0>QBP >OB OBI>QFSBIV ILT QEBK > CFK>K@F>I FKPQFQRFLK TFII M>V J LOB QL >@NRFOB QEB IL>K %LO QEB 2>CB >KA 2B@ROB !>KH FK QEP BU> J MIB QEB QLQ>I S>IRB LC FQP IL>KP FC QEBV PLIA QEB J QL LQEBQ CFK>K@F>I FKPQFQRFLK FK QEB PB@LKA>OV J >OHBQ FP J FIIFLK

3EB PB@LKA @>QBDLOV LC ?>KH >PPBQ FP ?LKAP TEF@E >OB > @L J J LK J B@E>KFP J CLO ?LOOLTFKD RPBA ?V QEB CBABO>I >KA IL>I DLSBOK J BKQ >KA >IPL MOFS>QB @L J M>KFBP >KA KLKMLCFQ LOD>KFW>QLK ?>KH Q>HBP PL J B LC QEB J LKBV FQ E>P OB@BFSBA FK ABMLPFQ >KA RBPB QEB J LKBV QL ?RV ?LKAP b QVMF@>IIV ?LKAP FPPRBA QE>Q QEB 4 2 DLSBOK J BKQ FPPRBP &LSBOK J BKQ ?LKAP >OB ILT OFPH ?B@>RPB QEB DLSBOK J BKQ FP SFOQR>IIV @BOQ>FK QL M>V LCC QEB ?LKA >I?BFQ >Q > ILT 0>QB LC FKQBOBPQ 3EBPB ?LKAP >OB >K >PPBQ CLO ?>KHP FK QEB P> J B T>V QE>Q IL>KP >OB >K >PPBQ 3EB ?>KH TFII OB@BFSB > PQOB> J LC M>V J BKQP FK QEB CRQROB (K LRO BU> J MIB QEB 2>CB >KA 2B@ROB !>KH ELIAP ?LKAP TLOQE > QLQ>I S>IRB LC J FIIFLK

3EB CFK>I BKQOV RKABO >PPBQ FP reserves TEF@E FP J LKBV QE>Q QEB ?>KH HBBMP LK E>KA >KA QE>Q FQ ALBP KLQ IBKA LO FKSBPQ FK ?LKAP b >KA QERP ALBP KLQ IB>A QL FKQBOBPQ M>V J BKQP 3EB %BABO>I 1BPBOSB OBNRFOBP QE>Q ?>KHP HBBM > @BOQ>FK MBO@BKQ>DB LC ABMLPFQLQp J LKBV LK eOBPBOBP f TEF@E J B>KP BFQEBO FK QEBFO S>RIQP LO >Q QEB %BABO>I 1BPBOSB !>KH 6 B @>II QEP > OBPBOBP OBNRFOB J BKQ %BA8G4EL (B?6L 4A7 4A> \*8:H?4G<BA TFII BUMI>FK ELT QEB IBSBI LC QEBPB OBNRFOBA OBPBOBP >OB LKB MLIF@V QLLI QE>Q DLSBOK J BKQP E>SB QL FKCIQBK@B ?>KH ?BE>SFLO AAFQFLK>IIV ?>KHP J >V >IPL T>KQ QL HBBM > @BOQ>FK > J LRKQ LC OBPBOBP LK E>KA FK BU>BPP LC TE>Q FP OBNRFOBA 3EB 2>CB >KA 2B@ROB !>KH FP ELIAFKD

J FIIFLK FK OBPBOSBP

6B ABCFKB KBQ TLOQE LC > ?>KH >P FQP QLQ>I >PPBQP J FKRP FQP QLQ>I IF>?FIFQFBP %LO QEB 2>CB >KA 2B@ROB !>KH FK <:HE8  
KBQ TLOQE FP BNR>I QL J FIIFLK QE>Q FP J FIIFLK FK >PPBQP J FKRP J FIIFLK FK IF>?FIFQFBP %LO > CFK>K@F>IIV  
EB>IQEV ?>KH QEB KBQ TLOQE TFII ?B MLPFQFSB (C > ?>KH E>P KBD>QFSB KBQ TLOQE >KA ABMLPFQLOP QOFBA QL TFQEA0>T QEBFO  
J LKBV QEB ?>KH TLRIA KLQ ?B ?>IB QL DFSB >II ABMLPFQLOP QEBFO J LKBV

# Link It Up

&LO PL JB @LK@0BQB BU> J MIBP LC TE>Q ?>KHP AL T>Q@E QEFP SFABL EQQM LMBKPQ>U@LIIBDB LOD I J>HFKDPBKP  
COL J O>RI 3LI J>KaP b - >HFKD 3BKP LC &fK>K@f>I . BTP c

## BJ 4A>F B 4A>EHCg

?>KH QE>Q FP ?>KHORMQ TFII E>SB > KBD>QFSB KBQ TLOQE J B>KFKD FQP >PPBQP TFII ?B TLOQE IBPP QE>K FQP IF>?FIFQFBP ' LT  
>K QEFP E>MMBK D>FK ILLHFKD >Q QEB ?>I>K@B PEBBQ EBIMP QL BUMI>FK

TBII ORK ?>KH TFII >PPR JB QE>Q > P J >II MBO@BKQ>DB LC ?LOOLTBOP TFII KLQ OBM>V QEBFO IL>KP LK QF J B LO >Q >II >KA  
>C>@QLO QEBPB J FPPFKD M>V J BKQP FKQL FQP MI>KKFKD 1B J B J ?BO QEB @>I@RI>QFLKP LC QEB ?>KHP BUMBKBP BSOV VB>0 FK@IRAB  
> C>@QLO CLO IL>KP QE>Q ?LOOLTBOP AL KLQ OBM>V >KA QEB S>IRB LC > ?>KHdP IL>KP LK FQP ?>I>K@B PEBBQ >PPR J BP > @BOQ>FK  
IBSBI LC OFPHFKBPP ?B@>RPB PL JB @RPQL J BOP TFII KLQ OBM>V IL>KP \$SBK FC > ?>KH BUMB@QP > @BOQ>FK KR J ?BO LC IL>K  
ABC>RIQP FQ TFII PRCCBO FC QEB KR J ?BO LC IL>K ABC>RIQP FP J R@E DOB>QBO QE>K BUMB@QBA >P @>K E>MMBK AROFKD > OB@BPPFLK  
%LO BU> J MIB FC QEB 2>CB >KA 2B@ROB !>KH FK <:HE8 BUMBOFBK@BA > T>SB LC RKBUMB@QBA ABC>RIQP PL QE>Q FQP IL>KP  
AB@IFKBA FK S>IRB COL J J FIIFLK QL J FIIFLK QEBK QEB >PPBQP LC QEB 2>CB >KA 2B@ROB !>KH TLRIA AB@IFKB PL QE>Q QEB  
?>KH E>A KBD>QFSB KBQ TLOQE

# Clear It Up

/ ;4G ?87 GB G ;8 P 9<A4A6<4? 6E<F<F

- >KV ?>KHP J>HB J LQD>DB IL>KP PL QE>Q MBLMIB @>K ?RV > EL JB ?RQ QEBK AL KLQ HBBM QEB IL>KP LK QEBFO  
?LLHP >P >K >PPBQ )KPQ>A QEB ?>KH PBIIP QEB IL>K 4EBPB IL>KP >OB bPB@ROFQFWBA c TEF@E JB>KP QE>Q QEBV  
>OB ?RKAIBA QLDBQEBO FKQL > CFK>K@f>I PB@ROFQV QE>Q > CFK>K@f>I FKPFQFQFLK PBIIP QL FKSBPQLOP )KSBPQLOP FK QEBPB  
J LQD>DB ?>@HBA PB@ROFQFBP OB@BFSB > O>QB LC OBQROK ?>PBA LK QEB IBSBI LC M>V J BKQP QE>Q MBLMIB J>HB LK >II  
QEB J LQD>DBP QE>Q PQ>KA ?BEFKA QEB PB@ROFQV

3B@ROFQFW>QFLK LCCBOP @BOQ>FK >AS>KQ>DBP )C > ?>KH J>HBP J LQP LC FQP IL>KP FK > IL@>I >OB> QEBK QEB ?>KH  
J>V ?B CFK>K@f>IIV SRIKBO>?IB FC QEB IL@>I B@LKL J V AB@fKBP PL QE>Q J>KV MBLMIB >OB RK>?IB QL J>HB QEBFO  
M>V J BKQP (LTBSBO FC > ?>KH PBIIP FQP IL@>I IL>KP >KA QEBK ?RVP > J LQD>DB ?>@HBA PB@ROFQV ?>PBA LK EL JB  
IL>KP FK J>KV M>OQP LC QEB @LRKQOV FQ @>K >SLFA BUMLPROB QL IL@>I CFK>K@f>I OFPHP )K QEB PF J MIB BU> J MIB FK QEB  
QBUQ ?>KHP GRPQ LTK b?LKAP c )K OB>fQV ?>KHP @>K LTK > KR J ?BO LC CFK>K@f>I FKPQOR J BKQP >P ILKD >P QEBPB  
CFK>K@f>I FKSBPQ J BKQP >OB P>CB BKL RDE QL P>QFQV QEB DL SBOK J BKQ ?>KH OBDRI>QLOP &LO J QEB PQ>KAMLFKQ LC >  
IL@>I EL JB ?RVBO PB@ROFQFW>QFLK LCCBOP QEB ?BKBQFQ QE>Q > IL@>I ?>KH ALBP KLQ KBBA QL E>SB PFDKFCF@>KQ BUQO>  
CRKAP QL J>HB > IL>K ?B@>RPB QEB ?>KH FP LKIV MI>KKFKD QL ELIA QE>Q IL>K CLO > PELOQ QF JB ?BCLQB PBIFKD QEB  
IL>K PL QE>Q FQ @>K MLLI FQ FKQL > CFK>K@f>I PB@ROFQV

(LTBSBO PB@ROFQFW>QFLK >IPL LCCBOP LKB MLQBKF>IIV I>ODB AFP>AS>KQ>DB )C > ?>KH MI>KP QL ELIA > J LQQD>DB IL>K >P >K >PPBQ QEB ?>KH E>P >K FK@BKQFSB QL P@ORQFKFWB QEB ?LOOLTBO @>OBCRIIV QL BKPROB QE>Q QEB @RPQL J BO FP IFHBIV QL OBM>V QEB IL>K (LTBSBO > ?>KH QE>Q MI>KP QL PBII QEB IL>K J>V ?B IBPP @>OBCRII FK J>HFKD QEB IL>K FK QEB CFOPQ MI>@B 4EB ?>KH TFII ?B J LOB TFHFKD QL J>HB TE>Q TB @>II bPR?MOF JB IL>KP c TEF@E >OB IL>KP QE>Q E>SB @E>O>@QBOPFQ@P IFHB ILT LO WBOL ALTK M>V J BKQ IFQIB P@ORQFKV LC TEBQEBO QEB ?LOOLTBO E>P > OBIF>?IB FK@L J B >KA PL J BQF J BP ILT M>V J BKQP CLO QEB CFOPQ VB>O LO QTL QE>Q TFII ?B CLIIILTBA ?V J R@E EFDEBO M>V J BKQP %@LKL J FPQP AR??BA PL J B CFK>K@F>I FKPQFQRQFLKP QE>Q J >AB PR?MOF JB IL>KP FK QEB J FA P .) . \* ! IL>KP IL>KP QE>Q CFK>K@F>I FKPQFQRQFLKP J >AB BSBK QELRDE QEB ?LOOLTBO E>A AB J LKPQO>QBA . L )K@L J B . L \*L? LO !PPBQP

&FK>K@F>I FKPQFQRQFLKP QVMF@>IIV PLIA QEBPB PR?MOF JB IL>KP >KA QROKBA QEB J FKQL CFK>K@F>I PB@ROFQFBP \_ ?RQ TFQE > QTFPQ 4EB FAB> T>P QE>Q FC ILPPBP L@>R00BA LK QEBPB J LQQD>DB ?>@HBA PB@ROFQFBP @BOQ>FK FKSBPQLQOP TLRIA >DOBB QL Q>HB QEB CFOPQ P>V LC PR@E ILPPBP /QEBO FKSBPQLQOP TLRIA >DOBB QL Q>HB P>V QEB KBUQ LC ILPPBP "V QEFP >MMOL>@E PQFII LQEBO FKSBPQLQOP TLRIA KLQ KBBA QL Q>HB >KV ILPPBP RKIBPP QEBPB J LQQD>DB ?>@HBA CFK>K@F>I PB@ROFQFBP ILPQ LO LO J LOB LC QEBFO QLQ>I S>IRB 4EBPB @L J MIBU PB@ROFQFBP >ILKD TFQE LQEBO B@LKL J F@ C>@QLQOP BK@LRO>DBA > I>ODB BUM>KPFLK LC PR?MOF JB IL>KP FK QEB J FA P

4EB B@LKL J F@ PQ>DB T>P KLT PBQ CLO > ?>KHFKD @OFFP " >KHP QELRDEQ QEBV TBOB ?RVFKD LKIV RIQO> P>CB PB@ROFQFBP ?B@>RPB BSBK QELRDE QEB PB@ROFQFBP TBOB RIQF J>QBIV ?>@HBA ?V OFPHV PR?MOF JB J LQQD>DBP QEB ?>KHP LKIV FKSBPQBA FK QEB M>OQ LC QELPB PB@ROFQFBP TEBOB QEBV TBOB MOLQB@QBA COL J P J >II LO J LABO>QB IBSBIP LC ILPPBP (LTBSBO >P ELRPFKD MOF@BP CBII >CQBO >KA QEB ABBMBKFKD OB@BPPFLK J >AB FQ E>OABO CLO J >KV MBLMIB QL J >HB QEBFO J LQQD>DB M>V J BKQP J >KV ?>KHP CLRKA QE>Q QEBFO J LQQD>DB ?>@HBA CFK>K@F>I >PPBQP @LRIA ?B TLOQE J R@E IBPP QE>K QEBV E>A BUMB@QBA \_>KA PL QEB ?>KHP TBOB C>@BA TFQE PQ>OFKD ?>KHORMQ@V )K QEB ^ MBOFLA ?>KHP C>HIBA FK QEB 5KQBA 3Q>QB

3EB OFPH LC >K RKBUMB@QBAIV EFDE IBSBI LC IL>K ABC>RIQP @>K ?B BPMB@F>IIV AFCCF@RIQ CLO ?>KHP ?B@>RPB > ?>KHdP IF>?FIFQFBP K> J BIV FQ @RPQL J BOP ABMLPFQP " RPQL J BOP @>K TFQEAO>T CRKAP NRF@HIV ?RQ J >KV LC QEB ?>KHdP >PPBQP IFHB IL>KP >KA ?LKAP TFII LKIV ?B OBM>FA LSBO VB>OP LO BSBK AB@>ABP 3EFP **asset-liability time mismatch** b QEB >?FIFQV CLO @RPQL J BOP QL TFQEAO>T ?>KHdP IF>?FIFQFBP FK QEB PELOQ QBO J TEFIB @RPQL J BOP OBM>V FQP >PPBQP FK QEB ILKD QBO J b @>K @>RPB PBSBOB MOL?IB J P CLO > ?>KH %LO BU> J MIB F J >DFKB > ?>KH QE>Q E>P IL>KBA > PR?PQ>KQF>I > J LRKQ LC J LKBV >Q > @BOQ>FK FKQBOBPQ O>QB ?RQ QEBK PBBP FKQBOBPQ O>QB OFPB PR?PQ>KQF>IIV 3EB ?>KH @>K CFKA FQPBIC FK > MOB@>OFLRP PFQR>QFLK (C FQ ALBP KLQ O>FPB QEB FKQBOBPQ O>QB FQ M>VP QL ABMLPFQLOP QEBK ABMLPFQP TFII CILT QL LQEBO FKPQFQRQFLKP QE>Q LCCBO QEB EFDEBO FKQBOBPQ O>QB QE>Q >OB KLT MOBS>FIFKD ' LTBSBO FC QEB ?>KH O>FPBP QEB FKQBOBPQ O>QB QE>Q FQ M>VP QL ABMLPFQLOP FQ J >V BKA RM FK > PFQR>QFLK TEBOB FQ FP M>VFKD > EFDEBO FKQBOBPQ O>QB QL ABMLPFQLOP QE>K FQ FP @LIIB@QFKD COL J QELPB M>PQ IL>KP QE>Q FQ >Q ILTBO FKQBOBPQ O>QB " IB>OIV QEB ?>KH @>KKLQ PROFSB FK QEB ILKD QBO J FC FQ FP M>VFKD LRQ J LOB FK FKQBOBPQ QL ABMLPFQLOP QE>K FQ FP OB@BFSFKD COL J ?LOOLTBO

' LT @>K ?>KHP MOLQB@Q QEB J PBISBP >D>FKPQ >K RKBUMB@QBAIV EFDE O>QB LC IL>K ABC>RIQP >KA >D>FKPQ QEB OFPH LC >K >PPBQ IF>?FIFQV QF J B J FP J >Q@E . KB PQO>QBDV FP CLO > ?>KH QL **diversify** FQP IL>KP TEF@E J B>KP IBKAFKD QL > S>OFBQV LC @RPQL J BOP %LO BU> J MIB PRMMLPB > ?>KH PMB@F>IFWBA FK IBKAFKD QL > KF@EB J >OHBQ b P>V J >HFKD > EFDE MOLMLQ@FLK LC FQP IL>KP QL @LKPQR@QFLK @L J M>KFBP QE>Q ?RFA LCCF@BP FK LKB ALTKQLTK >OB> (C QE>Q LKB >OB> PRCCBOP >K RKBUMB@QBA B@LKL J F@ ALTKQROK QEB ?>KH TFII PRCCBO I>ODB ILPPBP ' LTBSBO FC > ?>KH IL>KP ?LQE QL @LKP J BOP TEL >OB ?RVFKD EL J BP >KA @>OP >KA >IPL QL > TFAB O>KDB LC CFO J P FK J >KV FKARPOFBP >KA DBLDO>MEF@ >OB>P QEB ?>KH FP IBPP BUMLPBA QL OFPH 6 EBK > ?>KH AFSBOPFCFBP FQP IL>KP QELPB @>QBDLOFBP LC ?LOOLTBO TEL E>SB >K RKBUMB@QBAIV I>ODB KR J ?BO LC ABC>RIQP TFII QBKA QL ?B ?>I>K@BA LRQ >@>LOAFKD QL O>KAL J @E>K@B ?V LQEBO ?LOOLTBO TEL E>SB >K RKBUMB@QBAIV ILT KR J ?BO LC ABC>RIQP 3ERP AFSBOPFCF@>QFLK LC IL>KP @>K EBIM ?>KHP QL HBBM > MLPFQFSB KBQ TLOQE ' LTBSBO FC > TFABPMOB>A OB@BPPFLK L@>ROP QE>Q QLR@EBP J >KV FKARPOFBP >KA DBLDO>MEF@ >OB>P AFSBOPFCF@>QFLK TFII KLQ EBIM

ILKD TFQE AFSBOPFCVFKD QEBFO IL>KP ?>KHP E>SB PBSBO>I LQEBO PQO>QBDVFBP QL OBAR@B QEB OFPH LC >K RKBUMB@QBAIV I>ODB KR J ?BO LC IL>K ABC>RIQP %LO BU> J MIB ?>KHP @>K PBII PL J B LC QEB IL>KP QEBV J >HB FK QEB PB@LKA>OV IL>K J >OHBQ >P TB ABP@OF?BA B>OIFBO >KA FKPQB>A ELIA > DOB>QBO PE>OB LC >PPBQP FK QEB CLO J LC DLSBOK J BKQ ?LKAP LO OBPBOSBP - BSBQEBIBPP FK > IBKDQEV OB@BPPFLK J LPQ ?>KHP TFII PBB QEBFO KBQ TLOQE AB@IFKB ?B@>RPB @RPQL J BOP TFII KLQ OBM>V > EFDEBO PE>OB LC IL>KP FK QLRDE B@LKL J F@ QF J BP

# N BJ 4A>F E84G8 %BA8L

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d 4QFIFWB QEB J LKBV J RIQFMIFBO CLO J RI>QB QL ABQBO J FKB ELT ?>KHP @OB>QB J LKBV
- d K>IVWB >KA @OB>QB 3 >@LRKQ ?>I>K@B PEBBQP
- d \$\$S>IR>QB QEB OFPHP >KA ?BKBCFQP LC J LKBV >KA ?>KHP

!>KHP >KA J LKBV >OB FKQBOQTFKBA (Q FP KLQ GRPQ QE>Q J LPQ J LKBV FP FK QEB CLO J LC ?>KH >@LRKQP 3EB ?>KHFKD PVPQB J @>K IFQBO>IIV @OB>QB J LKBV QEOLRDE QEB MOL@BPP LC J >HFKD IL>KP +BQdP PBB ELT

## %BA8L E84G<BA 5L 4 +<A :?8 4A>

2Q>OQ TFQE > EVMLQEBQF@>I ?>KH @>IIBA 2FKDIBQLK !>KH 3EB ?>KH E>P J FIIFLK FK ABMLPFQP 3EB 3 >@LRKQ ?>I>K@B PEBBQ CLO 2FKDIBQLK !>KH TEBK FQ ELIAP >II LC QEB ABMLPFQP FK FQP S>RIQP FP FK <:HE8 Q QEFB PQ>DB 2FKDIBQLK !>KH FP PF J MIV PQLQFKD J LKBV CLO ABMLPFQLOP >KA FP RPFKD QEBPB ABMLPFQP QL J >HB IL>KP (K QEFB PF J MIFCFBA BU> J MIB 2FKDIBQLK !>KH @>KKLQ B>OK >KV FKQBOBPQ FK@L J B COL J QEBPB IL>KP >KA @>KKLQ M>V FQP ABMLPFQLOP >K FKQBOBPQ O>QB BFQEBO

<:HE8 +<A :?8GBA 4A>Rf 4?4A68 + ;88G \*868<18F @>?<BA <A 8CBF<Gf

3EB %BABA>I 1BPBOSB OBNRFQBP 2FKDIBQLK !>KH QL HBBM J FIIFLK LK OBPBOSB LC QLQ>I ABMLPFQP (Q TFII IL>K LRQ QEB OB J >FKFKD J FIIFLK !V IL>KFKD LRQ QEB J FIIFLK >KA @E>ODFKD FKQBOBPQ FQ TFII ?B >?IB QL J >HB FKQBOBPQ M>V J BKQP QL ABMLPFQLOP >KA B>OK FKQBOBPQ FK@L J B CLO 2FKDIBQLK !>KH CLO KLT TB TFII HBBM FQ PF J MIB >KA KLQ MRQ FKQBOBPQ FK@L J B LK QEB ?>I>K@B PEBBQ (KPQB>A LC ?B@L J FKD GRPQ > PQLQ>DB MI>@B CLO ABMLPFQP 2FKDIBQLK !>KH @>K ?B@L J B > CFK>K@F>I FKQBO J BAF>OV ?BQTBK P>SBOP >KA ?LOOLTBO

3EFP @E>KDB FK ?RPFKBPP MI>K >IQBOP 2FKDIBQLK !>KHdP ?>I>K@B PEBBQ >P <:HE8 PELTP 2FKDIBQLKdP >PPQP E>SB @E>KDBA (Q KLT E>P J FIIFLK FK OBPBOSBP >KA > IL>K QL ' >KHdP RQL 2RMMIV LC J FIIFLK 3EB ?>KH PQFI E>P J FIIFLK FK ABMLPFQP

<:HE8 +<A :?8GBA 4A>Rf 4?4A68 + ;88G \*8F8E18F 'A8 \*BHA7 B9 \$B4AF

2FKDIBQLK !>KH IBKAP J FIIFLK QL ' >KHdP RQL 2RMMIV 3EB ?>KH OB@LOAP QEFB IL>K ?V J >HFKD >K BKQOV LK QEB ?>I>K@B PEBBQ QL FKAf@>QB QE>Q FQ E>P J >AB > IL>K 3EFP IL>K FP >K >PPBQ ?B@>RPB FQ TFII DBKBO>QB FKQBOBPQ FK@L J B CLO QEB ?>KH . C @LROPB QEB IL>K LCCF@BO TFII KLQ >IILT IBQ ' >KH QL T>IH LRQ LC QEB ?>KH TFQE J FIIFLK FK @>PE 3EB ?>KH FPPRBP ' >KHdP RQL 2RMMIV > @>PEFBOdP @EB@H CLO QEB J FIIFLK ' >KH ABMLPFQP QEB IL>K FK EFP OBDRI>O @EB@HFKD >@LRKQ TFQE %FOPQ ->QFLK>I 3EB ABMLPFQP >Q %FOPQ ->QFLK>I OFPB ?V J FIIFLK >KA FQP OBPBOSBP >IPL OFPB ?V J FIIFLK >P <:HE8 PELTP %FOPQ ->QFLK>I J RPQ ELIA LC >AAfQLK>I ABMLPFQP >P OBNRFOBA OBPBOSBP ?RQ FP COBB QL IL>K LRQ QEB OBPQ

<:HE8 <EFG &4G<BA4? 4?4A68 + ;88G

, >HFKD IL>KP QE>Q >OB ABMLPFQBA FKQL > AB J >KA ABMLPFQ >@LRKQ FK@OB>PBP QEB , J LKBV PRMMIV 1B J B J ?BO QEB ABCFKFQFLK LC , FK@IRABP @EB@H>?IB AB J >KA ABMLPFQP TEF@E LKB >K B>PFIV RPB >P > J BAFR J LC BU@E>KDB QL ?RV DLLAP >KA PBOsf@BP - LQf@B QE>Q QEB J LKBV PRMMIV FP KLT J FIIFLK J FIIFLK FK ABMLPFQP FK 2FKDIBQLK ?>KH >KA J FIIFLK FK ABMLPFQP >Q %FOPQ ->QFLK>I . ?SFLRPV >P ' >KHdP RQL 2RMMIV TOfQBP @EB@HP QL M>V FQP ?FIIP QEB ABMLPFQP TFII AO>T ALTK ' LTBsBo QEB ?FDDBO MF@QROB FP QE>Q > ?>KH J RPQ ELIA BKLRDE J LKBV FK OBPBOSBP QL J BBQ FQP IF>?FIIFQFBP

3EB 0BPQ QEB ?>KH IL>KP LRQ (K QEF BU> J MIB PL C>0 ?>KH IBKAFKD E>P BUM>KABA QEB J LKBV PRMMIV ?V J FIIFLK  
 - LT %FOPQ ->QFLK>I J RPQ ELIA LKIV >P OBNRFOBA 0BPBOSBP ?RQ @>K IBKA LRQ QEB LQEB0 J FIIFLK  
 FK > IL>K QL )>@HdP "EBSV #B>IBOPEFM >P <:HE8 PELTP

Assets		Liabilities + Net Worth	
Reserves	\$900,000	Deposits	+ \$9 million
Loans	\$8.1 million		
<:HE8 <EFG &4G<BA4? 4?4A68 + ; 88G			

(C )>@HdP ABMLPFQP QEB IL>K FK FQP @EB@HFKD >@LRKQ >Q 2B@LKA ->QFLK>I QEB J LKBV PRMMIV GRPQ FK@0B>PBA ?V >K  
 >AAFQFLK>I J FIIFLK >P <:HE8 PELTP

<:HE8 +86BA7 &4G<BA4? 4A>RF 4?4A68 + ; 88G

' LT FP QEF J LKBV @0B>QFLK MLPPF?IB (Q FP MLPPF?IB ?B@>RPB QEB0B >0B J RIQFMIB ?>KHP FK QEB CFK>K@F>I PVPQB J QEBV >0B  
 OBNRFOBA QL ELIA LKIV > C0>@QFLK LC QEBFO ABMLPFQP >KA IL>KP BKA RM ABMLPFQBA FK LQEB0 ?>KHP TEF@E FK@0B>PBP ABMLPFQP  
 >KA FK BPPBK@B QEB J LKBV PRMMIV

# Link It Up

7>Q@E QEF S@ABL EQQM LMBKPQ>U@LIIBDB L0D I @0B>QB J LKBV QL IB>0K J L0B >?LRQ ELT ?>KHP @0B>QB J LKBV

, ; 8 %BA8L %H?G<C?<8E 4A7 4 %H?G< 4A> +LF68@

(K > PVPQB J TFQE J RIQFMIB ?>KHP 2FKDIBQLK !>KH ABMLPFQBA QEB FKQF>I BU@BPP 0BPBOSB > J LRKQ QE>Q FQ AB@FABA QL IBKA QL  
 ' >KHdP RQL 2RMMIV FKQL %FOPQ ->QFLK>I !>KH TEF@E FP COBB QL IL>K LRQ J FIIFLK (C >II ?>KHP IL>K LRQ QEBFO BU@BPP  
 0BPBOSBP QEB J LKBV PRMMIV TFII BUM>KA (K > J RIQF ?>KH PVPQB J FKPFQRFQFLKP ABQBO J FKB QEB > J LRKQ LC J LKBV QE>Q QEB  
 PVPQB J @>K @0B>QB ?V RPFKD QEB J LKBV J RIQFMIFBO 3EFP QBIP RP ?V ELT J >KV QF J BP > IL>K TFII ?B e J RIQFMIFBA f >P FQ FP  
 PMBKQ FK QEB B@LKL J V >KA QEBK 0B ABMLPFQBA FK LQEB0 ?>KHP

%LQQRK>QBIV > CLO J RI> BUFPQ CLO @>I@RI>QFKD QEB QLQ>I LC QEBPB J >KV 0LRKAP LC IBKAFKD FK > ?>KHFKD PVPQB J 3EB **money multiplier formula** FP

$$\frac{1}{\text{Reserve Requirement}}$$

6B QEBK J RIQFMIV QEB J LKBV J RIQFMIFBO ?V QEB @E>KDB FK BU@BPP 0BPBOSBP QL ABQBO J FKB QEB QLQ>I > J LRKQ LC , J LKBV  
 PRMMIV @0B>QBA FK QEB ?>KHFKD PVPQB J 2BB QEB 6LOH FQ . RQ CB>QROB QL T>IH QEOLRDE QEB J RIQFMIFBO @>I@RI>QFLK

# Work It Out

- F<A : G ; 8 %BA8L %H?G<C?<8E BE@H?4

5PFKD QEB J LKBV J RIQFMIFBO CLO QEB BU> J MIB FK QEFP QBUQ

3QBM )K QEB @>PB LC 3FKDIBQLK ">KH CLO TEL J QEB OBPOSBP OBNRFOP J BKQ FP LQ QEB J LKBV J RIQFMIFBO  
FP AFSFABA ?V TEF@E FP BNR>I QL

3QBM 7B E>SB FABKQFCFBA QE>Q QEB BU@BPP OBPOSBP >OB J FIIFLK PL RPFKD QEB CLO J RI> TB @>K ABQBO JFKB  
QEB QLQ>I @E>KDB FK QEB - J LKBV PRMMIV

$$\begin{aligned} \text{Total Change in the M1 Money Supply} &= \frac{1}{\text{Reserve Requirement}} \times \text{Excess Requirement} \\ &= \frac{1}{0.10} \times \$9 \text{ million} \\ &= 10 \times \$9 \text{ million} \\ &= \$90 \text{ million} \end{aligned}$$

3QBM 4ERP TB @>K P>V QE>Q FK QEFP BU> J MIB QEB QLQ>I NR>KQFQV LC J LKBV DBKB0>QBA FK QEFP B@LKL J V >CQBO >II  
OLRKAP LC IBKAFKD >OB @L J MIBQBA TFII ?B J FIIFLK

## 4HG<BAF 45BHG G ; 8 %BA8L %H?G<C?<8E

3EB J LKBV J RIQFMIFBO TFII ABMBKA LK QEB MOLMLQFLK LC OBPOSBP QE>Q QEB %BABA>I 1BPBOSB !>KA OBNRFOP ?>KHP QL  
ELIA AAFQFLK>IIV > ?>KH @>K >IPL @ELLPB QL ELIA BUQO> OBPOSBP !>KHP J >V AB@FAB QL S>OV ELT J R@E QEBV ELIA FK  
OBPOSBP CLO QTL OB>PLKP J >@OLB@LKL J F@ @LKAQFLKP >KA DLSBOK J BKQ ORIBP 6 EBK >K B@LKL J V FP FK OB@BPPFLK ?>KHP  
>OB IFHBIV QL ELIA > EFDEBO MOLMLQFLK LC OBPOSBP ?B@>RPB QEBV CB>O QE>Q @RPQL J BOP >OB IBPP IFHBIV QL OBM>V IL>KP TEBK  
QEB B@LKL J V FP PILT 3EB %BABA>I 1BPBOSB J >V >IPL O>FPB LO ILTBO QEB OBNRFOBA OBPOSBP EBIA ?V ?>KHP >P > MLIF@V  
J LSB QL >CCB@Q QEB NR>KQFQV LC J LKBV FK >K B@LKL J V >P %BA8G4EL (B?<6L 4A7 4A> \*8 : H?4G<BA TFII AFP@RPP

3EB MOL@BPP LC ELT ?>KHP @OB>QB J LKBV PELTP ELT QEB NR>KQFQV LC J LKBV FK >K B@LKL J V FP @ILPBIV IFKHA QL QEB  
NR>KQFQV LC IBKAFKD LO @OBAFQ FK QEB B@LKL J V II QEB J LKBV FK QEB B@LKL J V BU@BMQ CLO QEB LOFDFK>I OBPOSBP FP > OBPRIQ  
LC ?>KH IL>KP QE>Q FKPQFQFLKP OBMB>QBAIV OB ABMLPFQ >KA IL>K

%FK>IIV QEB J LKBV J RIQFMIFBO ABMBKAP LK MBLMIB OB ABMLPFQFKD QEB J LKBV QE>Q QEBV OB@BFSB FK QEB ?>KHFKD PVPQB J  
(C MBLMIB FKPQB>A P@LOB QEBFO @>PE FK P>CB ABMLPFQ ?LUBP LO FK PELB?LUBP EFAABK FK QEBFO @ILPBQ QEBK ?>KHP @>KKLQ  
OB@FO@RI>QB QEB J LKBV FK QEB CLO J LC IL>KP "BKQO>I ?>KHP E>SB >K FK@BKQFSB QL >PPROB QE>Q ?>KH ABMLPFQ >OB P>CB  
?B@>RPB FC MBLMIB TLOOV QE>Q QEBV J >V ILPB QEBFO ?>KH ABMLPFQ QEBV J >V PQ>OQ ELIAFKD J LOB J LKBV FK @>PE FKPQB>A  
LC ABMLPFQFKD FQ FK ?>KHP >KA QEB NR>KQFQV LC IL>KP FK >K B@LKL J V TFII AB@IFKB +LT FK@L J B @LRKQFOP E>SB TE>Q  
B@LKL J FQP PL J BQF J BP OBCBO QL >P eJ>QQOBPP P>SFKDP f LO J LKBV QE>Q MBLMIB >OB EFAFKD FK QEBFO EL J BP ?B@>RPB QEBV  
AL KLQ QORPQ ?>KHP 6 EBK J >QQOBPP P>SFKDP FK >K B@LKL J V >OB PR?PQ>KQF>I ?>KHP @>KKLQ IBKA LRQ QELPB CRKAP >KA QEB  
J LKBV J RIQFMIFBO @>KKLQ LMB0>QB >P BCCB@QFSBIV 3EB LSBO>II NR>KQFQV LC J LKBV >KA IL>KP FK PR@E >K B@LKL J V TFII  
AB@IFKB

# Link It Up

7>Q@E > SFABL EQQM LMBKPQ>U@LIIBDB LOD I J LKBV J VQE LC \*B J "BKABII AFP@RPPFKD b4EB - LKBV - VQE c

## %BA8L 4A7 4A>FQ 8A89<GF 4A7 4A:8EF

, LKBV >KA ?>KHP >OB J >OSBILRP PL@F>I FKSBBK@FLKP QE>Q EBIM > J LABOK B@LKL J V QL CRK@QFLK "L J M>OBA TFQE QEB >IQBOK>QFSB LC ?>OQB0 J LKBV J >HBP J >OHBQ BU@E>KDBP S>PQIV B>PFBO FK DLLAP I>?LO >KA CFK>K@F>I J >OHBQP !>KHFKD J >HBP J LKBV PQFII J LOB BCCB@QFSB FK C>@FIFQ>QFKD BU@E>KDBP FK DLLAP >KA I>?LO J >OHBQP , LOBLSBO QEB MOL@BPP LC ?>KHP J >HFKD IL>KP FK CFK>K@F>I @>MFQ>I J >OHBQP FP FKQF J >QBIV QFBA QL QEB @OB>QFLK LC J LKBV

' L TBSBO QEB BUQO>LOAFK>OV B@LKL J F@ D>FKP QE>Q >OB MLPPF?IB QEOLRDE J LKBV >KA ?>KHFKD >IPL PRDDBPQ PL J B MLPPF?IB @L00BPMLKAFKD A>KDBOP (C ?>KHP >OB KLQ TLOHFKD TBII FQ PBQP LCC > AB@IFKB FK @LKSBBK@B >KA P>CBQV LC QO>KP>@QFLKP QEOLRDELQ QEB B@LKL J V (C QEB ?>KHP >OB RKABO CFK>K@F>I P@OBPP ?B@>RPB LC > TFABPMOB>A AB@IFKB FK QEB S>IRB LC QEBFO >PPBQP IL>KP J >V ?B@L J B C>O IBPP >S>FI>?IB TEF@E @>K AB>I > @ORPEFKD ?ILT QL PB@QLOP LC QEB B@LKL J V QE>Q ABMBKA LK ?L00LTBA J LKBV IFHB ?RPFKBPP FKSBBP J BKQ EL J B @LKPQR@QFLK >KA @>O J >KRC>@QROFKD 3EB a &OB>Q 1B@BPPFLK FIIRPQ>QBA QEPF M>QQBOK



## , ; 8 %4AL <F:HKF8F B9 %BA8L EB@ BJE<8F GB <G B<AF

4EB DIL?>I B@LKL J V E>P @L J B > ILKD T>V PFK@B FQ PQ>QBA RPFKD @LTOFB PEBIIP >P @R00BK@V 7B E>SB JLSBA >T>V @L J @L J J LAFQV >KA @L J J LAFQV ?>@HBA M>MBO J LKBV QL CF>Q @R00BK@V !P QB@EKLILDV >KA DIL?>I FKQBD0>QFLK FK@OB>PBP QEB KBBA CLO M>MBO @R00BK@V FP AF J FKFPFKD QLL %SBOV A>V TB TFQKBPP QEB FK@OB>PBA RPB LC AB?FQ >KA @OBAFQ @>OAP

4EB I>QBPQ @OB>QFLK >KA MBOE>MP LKB LC QEB MROBPQ CLO J P LC CF>Q J LKBV FP QEB "FQ@LFK "FQ@LFKP >OB > AFDQ>I @R00BK@V QE>Q >IILTP RPBOP QL ?RV DLLAP >KA PBO SF@BP LKIFKB #RPQL JBOP @>K MRO@E>PB MOLAR@QP >KA PBO SF@BP PR@E >P SFABLP >KA ?LLHP RPFKD "FQ@LFKP 4EFP @R00BK@V FP KLQ ?>@HBA ?V >KV @L J J LAFQV KLO E>P >KV DLSBOK J BKQ AB@OBBA >P IBD>I QBKABO VBQ @RPQL JBOP RPB FQ >P > JBAFR J LC BU@E>KDB >KA @>K P@LOB FQP S>IRB LKIFKB >Q IB>PQ )Q FP >IPL RKOBDRI>QBA ?V >KV @BKQO>I ?>KH ?RQ FP @OB>QBA LKIFKB QEOLRDE MBLMIB PLISFKD SBOV @L J MIF@>QBA J >QEB J >QF@P MOL?IB J P >KA OB@BFSFKD M>V J BKQ >CQBOT>OA "FQ@LFK LOD FP >K FK CLO J >QFLK PLR0@B FC VLR >OB @ROFLRP "FQ@LFKP >OB > OBI>QFSBIV KBT QVMB LC J LKBV !Q MOBPPBKQ ?B@>RPB FQ FP KLQ P>K@QFLKBA >P > IBD>I @R00BK@V ?V >KV @LRKQOV KLO OBDRI>QBA ?V >KV @BKQO>I ?>KH FQ IBKAP FQPBIC CLO RPB FK FIIBD>I >P TBII >P IBD>I QO>AFKD >@QFSFQFBP !P QB@EKLILDV FK@OB>PBP >KA QEB KBBA QL OBAR@B QO>KP>@QFLKP @LPQP >PPL@F>QBA TFQE RPFKD QO>AFQFLK>I CLO J P LC J LKBV FK@OB>PBP "FQ@LFKP LO PL J B PLOQ LC AFDQ>I @R00BK@V J >V OBMI>@B LRO ALII>O ?FII GRPQ >P J >K OBMI>@BA QEB @LTOFB PEBII

# # 1 , \*%+

4FF8G FqB J LC S>IRB QE>Q > Cfo J LO >K FKAFSFAR>I LTKP

4FF8GP?<45?<GL G<@8 @<F@4G6 ; @RPQL J BOP @>K TFQEA0>T > ?>KHdP IF>?FIFQFBP FK QEB PELOQ QBO J TEFIB @RPQL J BOP OBM>V FQP >PPBQP FK QEB ILKD QBO J

54?4A68 F ; 88G >K >@@LRKQFKD QLLI QE>Q IFPQP >PPBQP >KA IF>?FIFQFBP

54A> 64C<G4? > ?>KHdP KBQ TLOQE

54E68E IFQBO>IIV QO>AFKD LKB DLLA LO PBOSF@B CLO >KLQEBO TFQELRQ RPFKD J LKBV

6B<AF 4A7 6HEE8A6L <A 6<E6H?4G<BA QEB @LFKP >KA ?FIIP QE>Q @FO@RI>QB FK >K B@LKL J V QE>Q >OB KLQ EBIA ?V QEB 4 2 3OB>PROV >Q QEB %BAB0>I 1BPB0S !>KH LO FK ?>KH S>RIQP

6B@@B7<GL @BA8L >K FqB J QE>Q FP RPBA >P J LKBV ?RQ TEF@E >IPL E>P S>IRB COL J FQP RPB >P PL J BQEFKD LQEBO QE>K J LKBV

6B@@B7<GL 546>87 6HEE8A6<8F ALII>O ?FIIP LO LQEBO @ROOBK@FBP TFQE S>IRBP ?>@HBA RM ?V DLIA LO >KLQEBO @L J J LAFQV

6E87<G 64E7 F J J BAF>QBIV QO>KPCBOP J LKBV COL J QEB @OBAFQ @>OA @L J M>KVdP @EB@HFKD >@@LRKQ QL QEB PBIIBO >KA >Q QEB BKA LC QEB J LKQE QEB RPBO LTBP QEB J LKBV QL QEB @OBAFQ @>OA @L J M>KV > @OBAFQ @>OA FP > PELOQ QBO J IL>K

785<G 64E7 IFHB > @EB@H FP >K FKPQR@QFLK QL QEB RPBOdP ?>KH QL QO>KPCBO J LKBV AFOB@QIV >KA F J J BAF>QBIV COL J VLRO ?>KH >@@LRKQ QL QEB PBIIBO

78@4A7 78CBF<G @EB@H>?IB ABMLPFQ FK ?>KHP QE>Q FP >S>FI>?IB ?V J >HFKD > @>PE TFQEA0>T>I LO TOfQFKD > @EB@H

78CBF<GBEL <AFG<GHG<BA FKPQFQRQFLK QE>Q >@@BMQP J LKBV ABMLPFQ >KA QEBK RPBQ QEBPB QL J >HB IL>KP

7<18EF<9L J >HFKD IL>KP LO FKSBPQ J BKQP TFQE > S>OFBQV LC Cfo J P QL OBAR@B QEB OFPH LC ?BFKD >ASBOPBIV >CCB@QBA ?V BSBKQP >Q LKB LO > CBT Cfo J P

7BH5?8 6B<A6<78A68 B9 J4AGF > PFQR>QFLK FK TEF@E QTL MBLMIB B>@E T>KQ PL J B DLLA LO PBOSF@B QE>Q QEB LQEBO MBOPLK @>K MOLSFAB

9<4G @BA8L E>P KL FKQOFKPF@ S>IRB ?RQ FP AB@I>OBA ?V > DLSBOK J BKQ QL ?B QEB @LRKQOV P IBD>I QKBABO

9<A4A6<4? <AG8E@87<4EL >K FKPQFQRQFLK QE>Q LMBO>QBP ?BQTBBK > P>SBO TFQE CFK>K@F>I >PPBQP QL FKSBPQ >KA >K BKQFQV TEL THII ?L00LT QELPB >PPBQP >KA M>V > O>QB LC OBQROK

?<45<?<GL >KV > J LRKQ LO AB?Q QE>Q > Cfo J LO >K FKAFSFAR>I LTBP

% @BA8L FHCC?L > K>00LT ABCFKFQFLK LC QEB J LKBV PRMMIV QE>Q FK@IRABP @ROOBK@V >KA @EB@HFKD >@@LRKQ FK ?>KHP >KA QL > IBPPBO ABD0BB QO>SBIB0dP @EB@HP

% @BA8L FHCC?L > ABCFKFQFLK LC QEB J LKBV PRMMIV QE>Q FK@IRABP BSB0VQEFKD FK , ?RQ >IPL >AAP P>SFKDP ABMLPFQ J LKBV J >OHBQ CRKAP >KA @BOQFCF@>QBP LC ABMLPFQ

@87<H@ B9 8K6 ; 4A : 8 TE>QBSBO FP TFABIV >@@BMQBA >P > J BQELA LC M>V J BKQ

@BA8L TE>QBSBO PBOSBP PL@FBQV FK CLRO CRK@QFLKP >P > J BAFR J LC BU@E>KDB > PQL0B LC S>IRB > RKFQ LC >@@LRKQ >KA > PQ>KA>OA LC ABCBO0BA M>V J BKQ

@BA8L @4E>8G 9HA7 QEB ABMLPFQ LC J >KV FKSBPQLOP >OB MLLIBA QLDBQEBO >KA FKSBPQBA FK > P>CB T>V IFHB PELOQ QBO J DLSBOK J BKQ ?LKAP

@BA8L @H?<C?<8E 9BE@H?4 QLQ>I J LKBV FK QEB B@LKL J V AFSFABA ?V QEB LOFDFK>I NR>KQFQV LC J LKBV LO @E>KDB FK QEB



QLQ>I J LKBV FK QEB B@LKL J V AFSFABA ?V > @E>KDB FK QEB LOFDK>I NR>KQFQV LC J LKBV

A8G JBEG; QEB BU@BPP LC QEB >PPBQ S>IRB LSBO >KA >?LSB QEB > J LRKQ LC QEB IF>?FIFQV QLQ>I >PPBQ J FKRP QLQ>I IF>?FIFQFBP

C4L@8AG FLF68@ EBIMP >K B@LKL J V BU@E>KDB DLLAP >KA PBOSF@BP CLO J LKBV LO LQEBO CFK>K@F>I >PPBQ

E8F8E18F CRKAP QE>Q > ?>KH HBBMP LK E>KA >KA QE>Q FQ ALBP KLQ IL>K LRQ LO FKSBPQ FK ?LKAP

F41A:F 78CBF<G ?>KH >@@LRKQ TEBOB VLR @>KKLQ TFQEAO>T J LKBV ?V TOFQFKD > @EB@H ?RQ @>K TFQEAO>T QEB J LKBV >Q > ?>KH b LO @>K QO>KPCBO FQ B>PFIV QL > @EB@HFKD >@@LRKQ

F@4EG 64E7 PQLQOB > @BOQ>FK S>IRB LC J LKBV LK > @>OA >KA QEBK LKB @>K RPB QEB @>OA QL J >HB MRO@E>PBP

F64A74E7 B9 7989EE87 C4L@8AG J LKBV J RPQ >IPL ?B >@@BMQ>?IB QL J >HB MRO@E>PBP QLA>V QE>Q TFI ?B M>FA FK QEB CRQROB

F6BE8 B9 14?H8 PL J BQEFKD QE>Q PBOSBP >P > T>V LC MOBPOBOSFKD B@LKL J F@ S>IRB QE>Q LKB @>K PMBKA LO @LKPR J B FK QEB CRQROB

, 466BHAG > ?>I>K@B PEBBQ TFQE > QTL @LIR J K CLO J >Q TFQE QEB 3 PE>MB CLO J BA ?V QEB SBOQF@>I IFKB ALTK QEB J FAAIB >KA QEB ELOFWLKQ>I IFKB RKABO QEB @LIR J K EB>AFKDP CLO e PPBQPF >KA e+f>?FIFQFBPF

G@8 78CBF<G >@@LRKQ QE>Q QEB ABMLPFQLO E>P @L J J FQQA QL IB>SFKD FK QEB ?>KH CLO > @BOQ>FK MBOFLA LC QF J B FK BU@E>KDB CLO > EFDEBO O>QB LC FKQBOBPQ >IPL @>IIBA @BOQCF@>QB LC ABMLPFQ

GE4AF46G<BA 6BF6F QEB @LPQP >PPL@F>QBA TFQE CFKAFKD > IBKABO LO > ?LOOLTBO CLO J LKBV

HA<G B9 466BHAG QEB @L J J LK T>V FK TEF@E TB J B>PROB J >OHBQ S>IRBP FK >K B@LKL J V

# # 1 ' & ( , + & + - % % \* 1

## 89<A:A : %BA8L 5L !GF HA6G<BAF

, LKBV FP TE>Q MBLMIB FK > PL@FBQV OBDRI>OIV RPB TEBK MRO@E>PFKD LO PBIIFKD DLLAP >KA PBOSF@BP (C J LKBV TBOB KLQ >S>FI>?IB MBLMIB TLRIA KBBA QL ?>OQBO TFQE B>@E LQEBO J B>KFKD QE>Q B>@E MBOPLK TLRIA KBBA QL FABKQFCV LQEBOB TFQE TEL J QEBV E>SB > ALR?IB @LFK@FABK@B LC T>KQP b QE>Q FP B>@E M>OQV E>P > PMB@FCF@ DLLA LO PBOSF@B QE>Q QEB LQEBO ABPFOBP , LKBV PBOSBP PBSBO>I CRK@QFLKQ > JBAFR J LC BU@E>KDB > RKFQ LC >@@LRKQ > PQLQOB LC S>IRB >KA > P>KA>OA LC ABCBOBA M>V J BKQ 3EBOB >OB QTL QVMBP LC J LKBV @L J J LAFQV J LKBV TEF@E FP >K FQB J RPB >P J LKBV ?RQ TEF@E >IPL E>P S>IRB COL J FQP RPB >P PL J BQEFKD LQEBO QE>K J LKBV >KA CF>Q J LKBV TEF@E E>P KL FKQOFKPF@ S>IRB ?RQ FP AB@I>OBA ?V > DLSBOK J BKQ QL ?B QEB @LRKQOV P IBD>I QBKABO

## %84FHE<A: %BA8L HEE8A6L % 4A7 %

6B J B>PROB J LKBV TFQE PBSBO>I ABCFKFQFLKP , FK@IRABP @ROOBK@V >KA J LKBV FK @EB@HFKD >@@LRKQP AB J >KA ABMLPFQP 3O>SBIBO@P @EB@HP >OB >IPL > @L J MLKBKQ LC , ?RQ >OB AB@IFKFKD FK RPB , FK@IRABP >II LC , MIRP P>SFKDP ABMLPFQP QF J B ABMLPFQP IFHB @BOQCF@>QB LC ABMLPFQ >KA J LKBV J >OHBQ CRKAP

## , ; 8 \* B?8 B9 4A>F

!>KHP C>@FIFQ>QB RPFKD J LKBV CLO QO>KP>@QFLKQ FK QEB B@LKL J V ?B@>RPB MBLMIB >KA CFO J P @>K RPB ?>KH >@@LRKQP TEBK PBIIFKD LO ?RVFKD DLLAP >KA PBOSF@BP TEBK M>VFKD > TLOHBO LO OB@BFSFKD M>V J BKQ >KA TEBK P>SFKD J LKBV LO OB@BFSFKD > IL>K (K QEB CFK>K@F>I @>MFQ>I J >OHBQ ?>KHP >OB CFK>K@F>I FKQBO J BAF>OFBP QE>Q FP QEBV LMBO>QB ?BQTBK P>SBOP TEL PRMIV CFK>K@F>I @>MFQ>I >KA ?LOOLTBO TEL AB J >KA IL>KP ?>I>K@B PEBBQ PL J BQF J BP @>IIBA > 3 >@@LRKQ FP >K >@@LRKQFKD QLLI TEF@E IFQP >PPBQ FK LKB @LIR J K >KA IF>?FIFQFBP FK >KLQEBO 3EB ?>KH P IF>?FIFQFBP >OB FQP ABMLPFQP 3EB ?>KH P >PPBQ FK@IRAB FQP IL>KP FQP LTKBOPEFM LC ?LKAP >KA FQP OBPOBOSBP TEF@E FQ ALBP KLQ IL>K LRQ 6B @>I@RI>QB > ?>KH P KBQ TLOQE ?V PR?QO>@QFKD FQP IF>?FIFQFBP COL J FQP >PPBQ !>KHP ORK > OFPH LC KBD>QFSB KBQ TLOQE FC QEB S>IRB LC QEBFO >PPBQ AB@IFKBP 3EB S>IRB LC >PPBQ @>K AB@IFKB ?B@>RPB LC >K RKBUMB@QBAIV EFDE KR J ?BO LC ABC>RIQP LK IL>KP LO FC FKQBOBPQ O>QB OFPB >KA QEB ?>KH PRCCBOP >K >PPBQ IF>?FIFQV QF J B J FP J >Q@E FK TEF@E QEB ?>KH FP OB@BFSFKD > ILT FKQBOBPQ O>QB LK FQP ILKD QBO J IL>KP ?RQ J RPQ M>V QEB @ROOBKQIV EFDEBO J >OHBQ FKQBOBPQ O>QB QL >QQO>@Q ABMLPFQLOP !>KHP

@>K MOLQB@Q QEB J PBISBP >D>FKPQ QEBPB OFPHP ?V @ELLPFKD QL AFSBOPFCV QEBFO IL>KP LO QL ELIA > DOB>QBO MOLMLQFLK LC QEBFO >PPBQP FK ?LKAP >KA OBPBOSBP (C ?>KHP ELIA LKIV > CO>@QFLK LC QEBFO ABMLPFQP >P OBPBOSBP QEBK QEB MOL@BPP LC ?>KHPd IBKAFKD J LKBV OB ABMLPFQFKD QELPB IL>KP FK ?>KHP >KA QEB ?>KHP J>HFkd >AAFQFLK>I IL>KP TFII @OB>QB J LKBV FK QEB B@LKL J V

**BJ 4A>F E84G8 %BA8L**

6 B ABCFKB QEB J LKBV J RIQFMIFBO >P QEB NR>KQFQV LC J LKBV QE>Q QEB ?>KHFkd PVPQB J @>K DBKB>QB COL J B>@E LC ?>KH OBPBOSBP 3EB CLO J RI> CLO @>I@RI>QFKD QEB J RIQFMIFBO FP OBPBOSB O>QFL TEBQB QEB OBPBOSB O>QFL FP QEB CO>@QFLK LC ABMLPFQP QE>Q QEB ?>KH TFPEBP QL ELIA >P OBPBOSBP 3EB NR>KQFQV LC J LKBV FK >K B@LKL J V >KA QEB NR>KQFQV LC @OBAFQ CLO IL>KP >OB FKBUQOF@>IV FKQBOQTFKBA 3EB KBQ TLOH LC ?>KHP J>HFkd IL>KP MBLMIB J>HFkd ABMLPFQP >KA ?>KHP J>HFkd J LOB IL>KP @OB>QB J R@E LC QEB J LKBV FK >K B@LKL J V

&FSBK QEB J>@OLB@LKL J F@ A>KDBOP LC > J>ICRK@QFLKFKD ?>KHFkd PVPQB J %BA8G4EL (B?6L 4A7 4A> \*8:H?4G>BA TFII AFP@RPP DLSBOK J BKQ MLIF@FBP CLO @LKQQLIIFKD QEB J LKBV PRMMIV >KA CLO HBBMFKD QEB ?>KHFkd PVPQB J P>CB

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(K J>KV @>PFKLP > MBOPLK ?RVP @EFMP QL RPB CLO D> J ?IFKD 6 FQEFK QEB @>PFKL P T>IIP @RPQL J BOP LCQBK @>K RPB QEBPB @EFMP QL ?RV CLLA >KA AOFKH LO BSBK > ELQBI OLL J #L @EFMP FK > D> J ?IFKD @>PFKL PBOB >II QEOBB CRK@QFLKP LC J LKBV

">K VLR K> J B PL J B FQB J QE>Q FP > PQLQB LC S>IRB ?RQ ALBP KLQ PBOB QEB LQEBQ CRK@QFLKP LC J LKBV

(C VLR >OB LRQ PELMMFKD CLO @ILQEBP >KA ?LLHP TE>Q FP B>PFBQP >KA J LPQ @LKSBBKFBKQ CLO VLR QL PMBKA , LO , \$UMI>FK VLRO >KPTBO

%LO QEB CLIIITFKD IFPQ LC FQB J P FKAFA@>QB FC QEBV >OB FK , , LO KBFQEBO

> 8LRO IFKB LC @OBAFQ LK VLRO !>KH LC J BOF@> @>OA

? ALII>OPd TLOQE LC QO>SBIBOP @EB@HP VLR E>SB KLQ RPBA VBQ

@ FK NR>OQBOP FK VLRO ML@HBQ

A FK VLRO @EB@HFkd >@@LRKQ

B VLR E>SB FK > J LKBV J>OHBQ >@@LRKQ

\$UMI>FK TEV QEB J LKBV IFPBA RKABO >PPBQP LK > ?>KH ?>I>K@B PEBBQ J >V KLQ >@QR>IIV ?B FK QEB ?>KH

(J >DFKB QE>Q VLR >OB FK QEB MLPFQFLK LC ?RVFKD IL>KP FK QEB PB@LKA>OV J >OHBQ QE>Q FP ?RVFKD QEB OFDEQ QL @LIIB@Q QEB M>V J BKQP LK IL>KP CLO > ?>KH LO LQEBQ CFK>K@F>I PBOB@BP @L J M>KV \$UMI>FK TEV VLR TLRIA ?B TFIIFKD QL M>V J LOB LO IBPP CLO > DFSBK IL>K FC

> 3EB ?LOOL TBO E>P ?BBK I>QB LK > KR J ?BO LC IL>K M>V J BKQP

? (KQBOBPQ O>QB FK QEB B@LKL J V >P > TELIB E>SB OFPBK PFK@B QEB ?>KH J >AB QEB IL>K

@ 3EB ?LOOL TBO FP > CFO J QE>Q E>P GRPQ AB@I>OBA > EFDE IBSBI LC MOLCFQP

A (KQBOBPQ O>QB FK QEB B@LKL J V >P > TELIB E>SB C>IIBK PFK@B QEB ?>KH J >AB QEB IL>K

**\* .! / ) - +,!'&+**

6 E>Q >OB QEB CLRO CRK@QFLKP QE>Q J LKBV PBOBSP

6 EV AL TB @>II > ?>KH > CFK>K@F>I FKQBO J BAF>OV

'LT ALBP QEB BUFPQBK@B LC J LKBV PF J MIFCV QEB MOL@BPP LC ?RVFKD >KA PBIIFKD

6 E>Q ALBP > ?>I>K@B PEBBQ PELT

6 E>Q >OB > ?>KH P >PPBQP 6 E>Q >OB FQP IF> ?FIFQFBP

6 E>Q FP QEB ALR?IB @LFA@FABK@B LC T>KQP

'LT AL VLR @>I@RI>QB > ?>KH P KBQ TLOQE

6 E>Q @L J MLKBKQP LC J LKBV AL TB @LRKQ >P M>OQ LC

'LT @>K > ?>KH BKA RM TFQE KBD>QFSB KBQ TLOQE

,

6 E>Q @L J MLKBKQP LC J LKBV AL TB @LRKQ FK ,

6 E>Q FP QEB >PPBQ IF> ?FIFQV QF J B J FP J >Q@E QE>Q >II ?>KHP C>@B

6 E>Q FP QEB OFPH FC > ?>KH ALBP KLQ AFSBOPFCV FQP  
IL>KP

\*!,! \$ , !&#!& ) - +,! ' &+

3EB !OFKD FQ 'LJB %B>QROB AFP@RPPBP QEB RPB LC  
@LTOFB PEBIIP >P J LKBV IQELRDE TB KL ILKDBO RPB  
@LTOFB PEBIIP >P J LKBV AL VLR QEFKH LQEB0 CLO J P LC  
@L J J LAFQV J LKFBP >OB MLPPF?IB 6 E>Q OLIB J FDEQ  
QB@EKLILDV MI>V FK LRO ABCFKFQFLK LC J LKBV

(J>DFKB QE>Q VLR >OB > ?>O?BO FK > TLOIA TFQELRQ  
J LKBV \$UMI>FK TEV FQ TLRIA ?B QOF@HV QL L?>Q>FK  
DOL@BOFBP @ILQEFKD >KA > MI>@B QL IFSB

\$UMI>FK TEV VLR QEFKH QEB %BABO>I 1BPBOSB !>KH  
QO>@HP , >KA ,

3EB QLQ>I > J LRKQ LC 4 2 @ROOBK@V FK @FO@RI>QFLK  
AFSFAFA ?V QEB 4 2 MLMRI>QFLK @L J BP LRQ QL >?LRQ  
MBO MBOPLK 3E>Q FP J LOB QE>K J LPQ LC RP @>OOV  
6 EBOB FP >II QEB @>PE

( \* ' \$ %+

(C VLR Q>HB LRQ LC VLRO MFDDV ?>KH >KA  
ABMLPFQ FQ FK VLRO @EB@HFKD >@LRKQ ELT AFA ,  
@E>KDB #FA , @E>KDB

?>KH E>P ABMLPFQ LC (Q ELIAP OBPBOSBP LC  
(Q E>P MRO@E>PBA DLSBOK J BKQ ?LKAP TLOQE (Q  
E>P J>AB IL>KP LC 2BQ RM > 3 >@LRKQ ?>I>K@B  
PEBBQ CLO QEB ?>KH TFQE >PPBQP >KA IF>?FIFQFBP >KA  
@>I@RI>QB QEB ?>KHdP KBQ TLOQE

' LT AL ?>KHP @OB>QB J LKBV

6 E>Q FP QEB CLO J RI> CLO QEB J LKBV J RIQFMIFBO

\$UMI>FK QEB AFCCBOBK@B ?BQTBBK ELT VLR TLRIA  
@E>O>@QBOWB ?>KH ABMLPFQ >KA IL>KP >P >PPBQP >KA  
IF>?FIFQFBP LK VLRO LTK MBOPLK>I ?>I>K@B PEBBQ >KA ELT >  
?>KH TLRIA @E>O>@QBOWB ABMLPFQ >KA IL>KP >P >PPBQP >KA  
IF>?FIFQFBP LK FQP ?>I>K@B PEBBQ

2ELRIA ?>KHP E>SB QL ELIA LC QEBFO ABMLPFQ  
6 EV LO TEV KLQ

\$UMI>FK TE>Q TFII E>MMBK QL QEB J LKBV J RIQFMIFBO  
MOL@BPP FC QEB0B FP >K FK@OB>PB FK QEB OBPBOSB  
OBNRFOB J BKQ

6 E>Q AL VLR QEFKH QEB %BABO>I 1BPBOSB !>KH AFA  
QL QEB OBPBOSB OBNRFOB J BKQ AROFKD QEB a &OB>Q  
1B@BPPFLK

' R J LKDLRP !>KH FP QEB LKIV ?>KH FK QEB B@LKL J V  
3EB MBLMIB FK QEFP B@LKL J V E>SB J FIIFLK FK J LKBV  
>KA QEBV ABMLPFQ >II QEBFO J LKBV FK ' R J LKDLRP !>KH  
> ' R J LKDLRP !>KH AB@FABP LK > MLIF@V LC ELIAFKD  
OBPBOBP #0>T > 3 >@LRKQ CLO QEB ?>KH  
? ' R J LKDLRP !>KH FP OBNRFOBA QL ELIA LC FQP  
BUFPQFKD J FIIFLK >P OBPBOSBP >KA QL IL>K LRQ  
QEB OBPQ #0>T > 3 >@LRKQ CLO QEB ?>KH >CQBO FQ  
E>P J>AB FQP CFOPQ OLRKA LC IL>KP  
@ PPR JB QE>Q ' R J LKDLRP ?>KH FP M>OQ LC >  
J RIQF?>KH PVPQB J ' LT J R@E TFII J LKBV PRMMIV  
FK@OB>PB TFQE QE>Q LOFDK>I J FIIFLK IL>K



# N %BA8G4EL ( B?<6L 4A7 4A> \* 8 : H?4G<BA



<:HE8 %4EE<A8E + 66?8F 878E4? \*8F8E18 847DH4E68EF /4F;<A:GBA 3LJB LC QEB JLPQ FKQIRBKQ>I  
AB@FPFLKP OBD>OAFKD J LKBQ>OV MLIF@V FK QEB 5KQBA 3Q>QBP >OB J>AB ?BEFKA QEBPB ALLOP #OBAFQ JLAFCF@>QLK LC TLOH  
?V bPNRF00BI c &f@HO #0B>QFSB #LJ J LKP

## Bring it Home

, ;8 (EB5?8@ B9 G; 8 28EB (8E68AG !AG8E8FG \*4G8 \$BJ8E BHA7

- LPQ B@LKL JFPQP ?BIFBSB QE>Q J LKBQ>OV MLIF@V QEB J>KFMRI>QLK LC FKQBOBPQ O>QBP >KA @OBAFQ @LKAQFLKP ?V >  
K>QLK@P @BKQO>I ?>KH E>P >MLTBOCRI FKQIRBK@B LK >K>QLK@P B@LKL JV - LKBQ>OV MLIF@V TLOHP TEBK QEB @BKQO>I  
?>KH OBAR@BP FKQBOBPQ O>QBP >KA J>HBP @OBAFQ JLOB >S>F>?IB !P >OBPRIQ ?RPFKBPP FKSBPQ JBKQ >KA LQEBQ QVMBP  
LC PMBKAFKD FK@QB>PB @>RPFKD ' \$O >KA B J MILV JBKQ QL DOLT

(LTBSBO TE>Q FC QEB FKQBOBPQ O>QBP ?>KHP M>V >OB @ILPB QL WBOL >IOB>AV 4EBV @>KKLQ ?B J>AB KBD>QFSB @>K  
QEBV 4E>Q TLRJA JB>K QE>Q IBKABOP M>V ?LOOLTBOP CLO QEB MOFSHDBD LC Q>HFKD QEBFO J LKBV 9BQ QEFQ T>P QEB  
PFR>QLK QEB 5 3 &BABO>I 2BPBOSB CLRKA FQPBIC FK >Q QEB BKA LC QEB ^ OB@BPPFLK 4EB CBABO>I CRKAP  
O>QB TEF@E FP QEB FKQBOBPQ O>QB CLO ?>KHP QE>Q QEB &BABO>I 2BPBOSB Q>ODBQ TFE FQ J LKBQ>OV MLIF@V T>P PIFDEQIV  
>?LSB FK "V FQ E>A C>IIBK QL

4EB &BABO>I 2BPBOSB@P PFR>QLK T>P CROQEBQ @LJ MIF@>QBA ?B@>RBP CFP@>I MLIF@V QEB LQEBQ J>SLO QLLI CLO  
J>K>DFKD QEB B@LKL JV T>P @LKPQ>FKBA ?V CB>OP QE>Q QEB CBABO>I ?RADBQ ABCF@FQ >KA QEB MR?IF@ AB?Q TBOB  
>IOB>AV QLL EFDE 7E>Q TBOB QEB &BABO>I 2BPBOSB@P LMQFLKP (LT @LRJA QEB &BABO>I 2BPBOSB RPB J LKBQ>OV  
MLIF@V QL PQF JRI>QB QEB B@LKL JV 4EB >KPTBO >P TB THII PBB FK QEFQ @E>MQBQ T>P QL @E>KDB QEB ORIBP LC QEB  
D>JB

# !AGEB7H6G<BA GB %BA8G4EL ( B?<6L 4A7 4A> \* 8 : H?4G<BA

(K QEFP @E>MqB0 VLR TFII IB>OK >?LRQ

g 3EB %BABO>I 1BPBOSB !>KHFKD 2VPQB J >KA "BKQO>I !>KHP

g !>KH 1BDRI>QFLK

g 'LT > "BKQO>I !>KH \$UB@RQBP , LKBQ>OV /LIF@V

g , LKBQ>OV /LIF@V >KA \$@LKL J F@ . RQ@L J BP

g /FQC>IIP CLO , LKBQ>OV /LIF@V

, LKBV IL>KP >KA ?>KHP >OB >II FKQBO@LKKB@QBA , LKBV FP ABMLPFQBA FK ?>KH >@LRKQP TEF@E FP QEBK IL>KBA QL ?RPFKBPPBP FKAFSAR>IP >KA LQEBO ?>KHP 6EBK QEB FKQBOIL@HFKD PVPQB J LC J LKBV IL>KP >KA ?>KHP TLOHP TBII B@LKL J F@ QO>KP>@QFLKP P J LLQEIV L@>RO FK DLLAP >KA I>?LO J >OHBQP >KA P>SBOP >OB @LKKB@QBA TFQE ?LOOLTBO (C QEB J LKBV >KA ?>KHFKD PVPQB J ALBP KLQ LMBO>QB P J LLQEIV QEB B@LKL J V @>K BFQEBO C>II FKQL OB@BPPFLK LO PRCCBO MOLILKDBA FKCI>QFLK

3EB DLSBOK J BKQ LC BSOV @LRKQV E>P MR?IF@ MLIF@FBP QE>Q PRMMLQ QEB PVPQB J LC J LKBV IL>KP >KA ?>KHFKD 'LTBSBO QEBPB MLIF@FBP AL KLQ >IT>VP TLOH MBOCB@QIV 3EFP @E>MqB0 AFP@RPPBP ELT J LKBQ>OV MLIF@V TLOHP >KA TE>Q J >V MOBSBKQ FQ COL J TLOHFKD MBOCB@QIV

## N , ; 8 878E4? \* 8F8E18 4A><A: +LF68@ 4A7 8AGE4? 4A>F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

d \$UMI>FK QEB PQR@QROB >KA LOD>KFW>QFLK LC QEB 4 2 %BABO>I 1BPBOSB

d #FP@RPP ELT @BKQO>I ?>KHP F J M>@Q J LKBQ>OV MLIF@V MOL J LQB CFK>K@F>I PQ>?FIFQV >KA MOLSAB ?>KHFKD PBOSE@BP

(K J>HFKD AB@FPFLKP >?LRQ QEB J LKBV PRMMIV > @BKQO>I ?>KH AB@FABP TEBQEBO QL O>FPB LO ILTBO FKQBOBPQ O>QBP >KA FK QEFP T>V QL FKCI@RKB@B J >@OLB@LKL J F@ MLIF@V TELPB DL>I FP ILT RKB J MILV J BKQ >KA ILT FKCI>QFLK 3EB @BKQO>I ?>KH FP >IPL OBPMLKPF?IB CLO OBDRI>QFKD >II LO M>OQ LC QEB K>QFLKdP ?>KHFKD PVPQB J QL MOLQB@Q ?>KH ABMLPFQLOP >KA FKPROB QEB EB>IQE LC QEB ?>KHdP ?>I>K@B PEBBQ

6B @>II QEB LOD>KFW>QFLK OBPMLKPF?IB CLO @LKAR@QFKD J LKBQ>OV MLIF@V >KA BKPROFKD QE>Q > K>QFLKdP CFK>K@F>I PVPQB J LMBO>QBP P J LLQEIV QEB **central bank** , LPQ K>QFLK E>SB @BKQO>I ?>KHP LO @ROOBK@V ?L>OAP 2L J B MOL J FKBKQ @BKQO>I ?>KHP >OLRKA QEB TLOIA FK@IRAB QEB \$ROLMB>K "BKQO>I !>KH QEB !>KH LC )>M>K >KA QEB !>KH LC \$KDI>KA (K QEB 4KFQBA 2Q>QBP TB @>II QEB @BKQO>I ?>KH QEB %BABO>I 1BPBOSB b LCQBK >?>OBSF>QBA >P GRPQ eQEB %BA f 3EFP PB@QFLK BUMI>FKP QEB 4 2 %BABO>I 1BPBOSB P LOD>KFW>QFLK >KA FABKQFCFBP QEB J >CLO @BKQO>I ?>KH P OBPMLKPF?FIFQFBP

## +GEH6GHE8 ' E : 4A<M4G<BA B9 G ; 8 878E4? \* 8F8E18

4KIFHB J LJP @BKQO>I ?>KHP QEB %BABO>I 1BPBOSB FP PB J F AB@BKQO>IFWBA J FUFKD DLSBOK J BKQ >MMLFKQBPP TFQE OBMOBPBKQ>QFLK COL J MOFS>QB PB@QLO ?>KHP Q QEB K>QFLK>I IBSBI FQ FP ORK ?V > !L>OA LC &LSBOKLOP @LKPFPQFKD LC PBSBK J B J ?BOP >MMLFKQBA ?V QEB /OBPFABKQ LC QEB 4KFQBA 2Q>QBP >KA @LKCFO J BA ?V QEB 2BK>QB MMLFKQ J BKQ >OB CLO VB>O QBO J P >KA QEBV >OB >OO>KDBA PL QE>Q LKB QBO J BUMFOBP )>KR>OV LC BSOV BSBK KR J ?BOBA VB>O 3EB MROMLPB LC QEB ILKD >KA PQ>DDBOBA QBO J P FP QL FKPRI>QB QEB !L>OA LC &LSBOKLOP >P J R@E >P MLPPF?IB COL J MLIF@V>I MOBPPROB PL QE>Q DLSBOKLOP @>K J >HB MLIF@V AB@FPFLKP ?>PBA LKIV LK QEBFO B@LKL J F@ J BOFQP AAFQFLK>IIV BU@BMQ TEBK CFIFKD >K RKCFFPEBA QBO J B @>E J B J ?BO LKIV PBOBP LKB QBO J CROQEBO FKPRI>QFKD AB@FPFLK J >HFKD COL J MLIF@V P 3EB %BA P MLIF@V AB@FPFLK AL KLQ OBNRFOB @LKDOBPPFLK>I >MMOLS>I >KA QEB /OBPFABKQ @>KKLQ >PH CLO > %BABO>I 1BPBOSB &LSBOKLO QL OBPFDK >P QEB /OBPFABKQ @>K TFQE @>?FKBQ MLPPQFLK

. KB J B J ?BO LC QEB !L>OA LC &LSBOKLOP FP ABPFDK>QBA >P QEB "E>FO %LO BU>J MIB COL J RKQFI B>OIV QEB "E>FO T>P I>K &OBBKPM>K %OL J RKQFI !BK !BOK>KHB EBIA QEB MLPQ 3EB @ROOBKQ "E>FO )>KBQ 8BIIBK E>P J >AB

J>KV EB>AIFKBP >IOB>AV 6 EV 2BB QEB CLIL.TFKD "IB>0 (Q 4M CB>QROB QL CFKA LRQ

# Clear It Up

/ ;B ;4F G ;8 @BFG <@@87<4G8 86BAB@<6 CB J8E <A G ;8 JBE?7



<:HE8 ;4<E B9 G ;8 878E4? \*8F8E18 B4E7 \*>KBQ , 9BIIBK FP QEB CFOPQ TL J>K QL ELIA QEB MLPPQLK LC #E>FO LC QEB &BABO>I 2BPBOSB "L>OA LC 'LSBOKLOP #0BAFQ "L>OA LC 'LSBOKLOP LC QEB &BABO>I 2BPBOSB 3VPQBJ

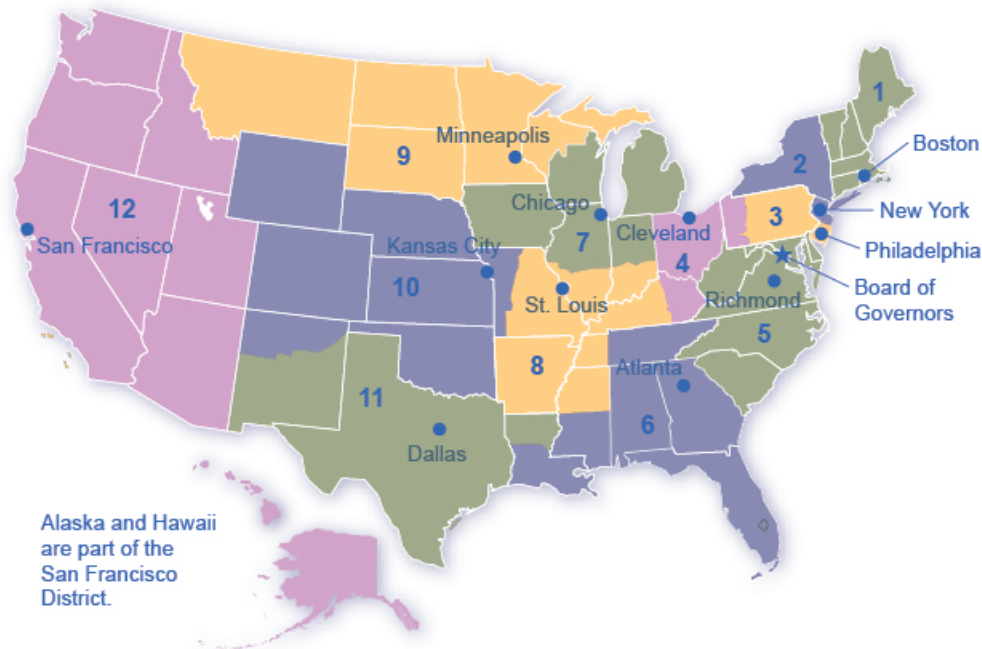
7E>Q FKAfSFAR>I @>K J>HB CFK>K@F>I J>OHBQ @O>PE LO PL>O GRPQ ?V J>HFKD > MR?IF@ PQ>QBJBKQ )Q FP KLQ "FII '>QBP LO 7>00BK "RCCBQQ )Q FP KLQ BSBK QEB OOBPFABKQ LC QEB 5KfQBA 3Q>QBP 4EB >KPTB0 FP QEB #E>FO LC QEB &BABO>I 2BPBOSB "L>OA LC 'LSBOKLOP )K B>OIV \*>KBQ , 9BIIBK <:HE8 ?B@>JB QEB CFOPQ TL J>K QL ELIA QEF MLPQ 4EB JBAF> E>A ABP@OF?BA 9BIIBK >P bMB0E>MP QEB JLPQ NR>IFCFBA &BA @E>FO FK EFPQL0V c 7 FQE > OE \$ FK B@LKL JF@P COL J 9>IB 5KfSBOPfQV 9BIIBK E>P Q>RDEQ J>@OLB@LKL JF@P >Q (>OS>OA QEB ,LKALK 3@ELLI LC %@LKL JF@P >KA JLPQ OB@BKQIV >Q QEB 5KfSBOPfQV LC #>IFCLOKf> >Q "BOHBIV &OLJ ^ 9BIIBK T>P OOBPFABKQ LC QEB &BABO>I 2BPBOSB ">KH LC 3>K &O>K@FP@L . LQ >K FSLOV QLTB0 B@LKL JFPQ 9BIIBK ?B@>JB LKB LC QEB CBT B@LKL JFPQP TEL T>OKBA >?LRQ > MLPPF?IB ?R??IB FK QEB ELRPFKD J>OHBQ JLOB QE>K QTL VB>OP ?BCLOB QEB CFK>K@F>I @OFFFP L@@R00BA 9BIIBK PBOSBA LK QEB "L>OA LC 'LSBOKLOP LC QEB &BABO>I 2BPBOSB QTF@B JLPQ OB@BKQIV >P 6F@B #E>FO 3EB >IPL PMBKQ QTL VB>OP >P #E>FO LC QEB OOBPFABKQ#P #LRK@FI LC %@LKL JF@ !ASFLOP )C BUMB0FBK@B >KA @OBABK@F>IP JB>K >KVQEFKD 9BIIBK FP IFHBIV QL ?B >K BCCB@QFSB &BA @E>FO

3EB %BA "E>FO FP CFOPQ > J LKD BNR>IP LK QEB !L>OA LC &LSBOKLOP 6 EFIB EB LO PEB E>P LKIV LKB SLQB QEB "E>FO @LKQQLIP QEB >DBKA> >KA FP QEB %BA P MR?IF@ SLF@B PL EB LO PEB E>P JLOB MLTBO >KA FKCIRBK@B QE>K LKB JFDEQ BUMB@Q

# Link It Up

6FPQ QEFP TB?PQfB EQQM LMBKPQ>U@LIIBDB LOD I 'LSBOKLOP QL PBB TEL QEB @R00BKQ JBJ?BOP LC QEB &BABO>I 2BPBOSB "L>OA LC 'LSBOKLOP >OB 9LR @>K CLILT QEB IFKHP MOLSFABA CLO B>@E ?L>OA JBJ?BO QL IB>OK JLOB >?LRQ QEBFO ?>@HDOLRKAP BUMB0FBK@BP >KA TEBK QEBFO QBO JP LK QEB ?L>OA TH BKA

3EB %BABO>I 1BPBOSB FP J LOB QE>K QEB !L>OA LC &LSBOKLOP 3EB %BA >IPL FK@IRABP OBDFLK>I %BABO>I 1BPBOSB ?>KHP B>@E LC TEF@E FP OBPMLKPF?IB CLO PRMMLQFKD QEB @L J J BO@F>I ?>KHP >KA B@LKL J V DBKBO>IIV FK FQP AFPQOF@Q <:HEB PELTP QEB %BABO>I 1BPBOSB AFPQOF@QP >KA QEB @FQFBP TEBQB QEBFO OBDFLK>I EB>ANR>OQBOP >OB IL@>QBA 3EB @L J J BO@F>I ?>KHP FK B>@E AFPQOF@Q BIB@Q > !L>OA LC #FOB@QLOP CLO B>@E OBDFLK>I %BABO>I 1BPBOSB ?>KH >KA QE>Q ?L>OA @ELLPBP >MOBPFABKQ CLO B>@E OBDFLK>I %BABO>I 1BPBOSB AFPQOF@Q 3ERP QEB %BABO>I 1BPBOSB 2VPQB J FK@IRABP ?LQE CBABO>IIV >KA MOFS>QB PB@QLO >MMLFKQBA IB>ABOP



<:HEB ;,8,J8?18 878E4? \*8F8E18 <FGE<6GF 4EB0B >OB QTBI8B OBDFLK>I &BABO>I 2BPBOSB ?>KHP B>@E TFQE FQP AFPQOF@Q

/ ;4G B8F 4 8AGE4? 4A> B

3EB %BABO>I 1BPBOSB IFHB J LPQ @BKQ>I ?>KHP FP ABPDKBA QL MBOCLO J QEOBB F J MLOQ>KQ CRK@QFLK

3L @LKAR@Q J LKBQ>OV MLIF@V

3L MOL J LQB PQ>?FIFV LC QEB CFK>K@F>I PVPQB J

3L MOLSFAB ?>KHFKD PBO8F@BP QL @L J J BO@F>I ?>KHP >KA LQEBO ABMLPFQLOV FKPQFQRQLK >KA QL MOLSFAB ?>KHFKD PBO8F@BP QL QEB CBABO>I DLSBOK J BKQ

3EB CFOPQ TTL CRK@QFLK >OB PRCCF@FBKQIV F J MLOQ>KQ QE>Q TB TFII AFP@RPP QEB J FK QEBFO LTK J LARIBP 3EB QEFOA CRK@QFLK TB TFII AFP@RPP EBOB

3EB %BABO>I 1BPBOSB MOLSFAB J >KV LC QEB P> J B PBO8F@BP QL ?>KHP >P ?>KHP MOLSFAB QL QEBFO @RPL J BOP %LO BU> J MIB >II @L J J BO@F>I ?>KHP E>SB >K >@L@LRKQ >Q QEB %BA TEBQB QEBV ABMLPFQ OBPBOSBP 2F J FI>OIV ?>KHP @>K L?>FK IL>KP COL J QEB %BA QEOLRDE QEB eAFP@LRKQ TFKAL Tf C>@FIFV TEF@E TB TFII AFP@RPP FK J LOB ABQ>FI I>QBO 3EB %BA FP >IPL OBPMLKPF?IB CLO @EB@H MOL@BPPFKD 6 EBK VLR T@FQB > @EB@H CLO BU> J MIB QL ?RV DOL@BOFBP QEB DOL@BOV P@LOB ABMLPFQ QEB @EB@H FK FQP ?>KH >@L@LRKQ 3EBK QEB DOL@BOV P@LOB P ?>KH OBQROKP QEB MEVPF@>I @EB@H LO >K F J >DB LC QE>Q >@QR>I @EB@H QL VLRO ?>KH >CQBO TEF@E FQ >KPCBOP CRKAP COL J VLRO ?>KH >@L@LRKQ QL QEB DOL@BOV P@LOB P >@L@LRKQ 3EB %BA FP OBPMLKPF?IB CLO B>@E LC QEBPB >@QFLK

. K > J LOB JRKA>KB IBSBI QEB %BABO>I 1BPBOSB BKPROBP QE>Q BKL RDE @ROOBK@V >KA @L@FKP >OB @FO@RI>QFKD QEOLRDE QEB CFK>K@F>I PVPQB J QL J BBQ MR?IF@ AB J >KAP %LO BU> J MIB B>@E VB>O QEB %BA FK@OB>PBP QEB > J L@RKQ LC @ROOBK@V >S>FI>?IB FK ?>KHP >OLRKA QEB "EOPFQ J >P PELMMFKD PB>PLK >KA OBAR@BP FQ >D>FK FK )>KR>OV

%FK>IIV QEB %BA FP OBPMLKPF?IB CLO >PPROFKD QE>Q ?>KHP >OB FK @L J MIF>K@B TFQE > TFAB S>OFBQV LC @L@KPR J BO MOLQB@QFLK I>TP %LO BU> J MIB ?>KHP >OB CLO?FAABK COL J AFP@OF J FK>QFKD LK QEB ?>PP LC >DB O>@B PBU LO J >OFQ>I PQ>QRP !>KHP >OB >IPL OBNRFOBA QL AFP@ILPB MR?IF@IV FK CLO J >QFLK >?LRQ QEB IL>KP QEBV J >HB CLO ?RVFKD ELRPBP >KA ELT QEBV AFPQOF@RQB



QEB IL>KP DBLDO>MEF@>IIV >P TBII >P ?V PBU >KA O>@B LC QEB IL>K >MMIF@>KQP

## N 4A> \* 8 : H?4G<BA

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d #FP@RPP QEB OBI>QFLKPEFM ?BQTBBK ?>KH OBDRI>QFLK >KA J LKBQ>OV MLIF@V
- d \$UMI>FK ?>KH PRMBSFPFLK
- d \$UMI>FK ELT ABMLPFQ FKPRO>K@B >KA IBKABO LC I>PQ OBPLQ >OB QTL PQO>QBDFBP QL MOLQB@Q >D>FKPQ ?>KH ORKP

P>CB >KA PQ>?IB K>QFLK>I CFK>K@F>I PVPQB J FP > @OFQF@>I @LK@BOK LC QEB %BABO>I 1BPBOSB 3EB DL>I FP KLQ LKIV QL MOLQB@Q FKAFSFAR>IPd P>SFKDP ?RQ QL MOLQB@Q QEB FKQBDQFV LC QEB CFK>K@F>I PVPQB J FQPBIC 3EFP BPLQBOF@ Q>PH FP RPR>IIV ?BEFKA QEB P@BKBP ?RQ @> J B FKQL SFBT AROFKD QEB a CFK>K@F>I @OFFP TEBK CLO > ?OFBC MBOFLA LC QF J B @OFQF@>I M>OQP LC QEB CFK>K@F>I PVPQB J C>FIBA >KA CFO J P ?B@> J B RK>?IB QL L?>FK CFK>K@FKD CLO LOAFK>OV M>OQP LC QEBFO ?RPFKBPP ( J >DFKB FC PRAABKIV VLR TBOB RK>?IB QL >@BPP QEB J LKBV FK VLRO ?>KH >@LRKQ ?B@>RPB VLRO @EB@HP TBOB KLQ >@BMQBA CLO M>V J BKQ >KA VLRO AB?FQ @>OAP TBOB AB@IFKBA 3EFP DFSBP >K FAB> LC > C>FIROB LC QEB M>V J BKQ CFK>K@F>I PVPQB J

!>KH OBDRI>QFLK FP FKQKBABA QL J >FKQ>FK ?>KHP PLISBK@V ?V >SLFAFKD BU@BPPFSB OFPH 1BDRI>QFLK C>IIP FKQL > KR J ?BO LC @>QBDLOFBP FK@IRAFKD OBPBOSB OBNRFQB J BKQP @>MFQ>I OBNRFQB J BKQP >KA OBPQOF@QFLKP LK QEB QVMBP LC FKSBPQ J BKQP ?>KHP J >V J >HB (K %BA8L 4A7 4A>A: TB IB>OKBA QE>Q ?>KHP >OB OBNRFOBA QL ELIA > J FKF J R J MBO@BKQ>DB LC QEBFO ABMLPFQ LK E>KA >P OBPBOSBP e . K E>Kaf FP > ?FQ LC > J FPKL J BO ?B@>RPB TEFIB > MLQFLK LC ?>KH OBPBOSBP >OB EBIA >P @>PE FK QEB ?>KH QEB J >GLOFQV >OB EBIA FK QEB ?>KHdP >@LRKQ >Q QEB %BABO>I 1BPBOSB >KA QEBFO MROMLPB FP QL @LSBO ABPFOBA TFQEAO>T>IP ?V ABMLPFQLOP KLQEBO M>OQ LC ?>KH OBDRI>QFLK FP OBPQOF@QFLKP LK QEB QVMBP LC FKSBPQ J BKQP ?>KHP >OB >IILTBA QL J >HB !>KHP >OB MBO J FQQA QL J >HB IL>KP QL ?RPFKBPPB FKAFSFAR>IP >KA LQEBO ?>KHP 3EBV @>K MRQ@E>PB 4 2 3OB>PROV PB@ROFQFBP ?RQ QL MOLQB@Q ABMLPFQLOP QEBV >OB KLQ MBO J FQQA QL FKSBPQ FK QEB PQL@H J >OHBQ LO LQEBO >PPBQ QE>Q >OB MBO@BFSBA >P QLL OFPHV

!>KH @>MFQ>I FP QEB AFCCBOBK@B ?BQTBBK > ?>KHdP >PPBQ >KA FQP IF>?FIFQFBP (K LQEBO TLOAP FQ FP > ?>KHdP KBQ TLOQE ?>KH J RPQ E>SB MLPFQFSB KBQ TLOQE LQEBOTFPB FQ FP FKPLISBKQ LO ?>KHORMQ J B>KFKD FQ TLRIA KLQ E>SB BKLKDE >PPBQ QL M>V ?>@H FQP IF>?FIFQFBP 1BDRI>QFLK OBNRFOBP QE>Q ?>KHP J >FKQ>FK > J FKF J R J KBQ TLOQE RPR>IIV BUMOBPPBA >P > MBO@BKQ LC QEBFO >PPBQ QL MOLQB@Q QEBFO ABMLPFQLOP >KA LQEBO @OBAFQLOP

# Link It Up

6FPQ QEFB TB?PQFB EQQM LMBKQ>U@LIIBDB LOD ! ?>KH OBDRI>QFLK QL OB>A QEB ?QFBC >OQF@IB b3QLM #LKCRRPKD  
- LKBQ>OV OLIF@V >KA ">KH 2BDRI>QFLK c

## 4A> +HC8EI<F<BA

2BSBO>I DLSBOK J BKQ >DBK@FBP J LKFQLO ?>KHP ?>I>K@B PEBBQ QL J >HB PROB QEBV E>SB MLPFQFSB KBQ TLOQE >KA >OB KLQ Q>HFKD QLL EFDE > IBSBI LC OFPH 6FQEFK QEB 4 2 #BM>OQ J BKQ LC QEB 3OB>PROV QEB . CCF@B LC QEB "L J MQOLIIBO LC QEB "ROOBK@V E>P > K>QFLK>I PQ>CC LC ?>KH BU> J FKBOP TEL @LKAR@Q LK PFQB OBSFBTP LC QEB LO PL LC QEB I>ODBPQ K>QFLK>I ?>KHP 3EB ?>KH BU> J FKBOP >IPL OBSFBT >KV CLOBFDK ?>KHP QE>Q E>SB ?O>K@EBP FK QEB 4KFQBA 2Q>QBP 3EB . CCF@B LC QEB "L J MQOLIIBO LC QEB "ROOBK@V >IPL J LKFQLOP >KA OBDRI>QBP >?LRQ P>SFKDP >KA IL>K FKPQFQRQFLKP

3EB ->QFLK>I "OBAFQ 4KFLK A J FKFQO>QFLK - " 4 PRMBSFPBP @OBAFQ RKFLKP TEF@E >OB KLKMOLECFQ ?>KHP QE>Q QEBFO

J B J ?BOP ORK >KA LTK 3EBOB >OB LSBO @OBAFQ RKFLK FP QEB 4 2 B@LKL J V >IQELRDE QEB QVMF@>I @OBAFQ RKFLK FP P J >II @L J M>OBA QL J LPQ ?>KHP

3EB %BABO>I 1BPBOSB >IPL E>P PL J B OBPMLKPF?FIFV CLO PRMBO SFPKD CFK>K@F>I FKPQFQRQFLK %LO BU>J MIB TB @>II @LKDIL J BO>QB CFO J P QE>Q LTK ?>KHP >KA LQEBO ?RPFKBPPBP e?>KH ELIAFKD @L J M>KFBP f 6 EFIB LQEBO OBDRI>QLOP IFHB QEB . CCF@B LC QEB "L J M@QLIIBO LC QEB "ROOBK@V PRMBO SFPPB QEB ?>KHP QEB %BABO>I 1BPBOSB PRMBO SFPPB QEB ELIAFKD @L J M>KFBP

6 EBK ?>KH PRMBO SFPLK >KA ?>KH IFHB FKPQFQRQFLK PR@E >P P>SFKDP >KA IL>KP >KA @OBAFQ RKFLK TLOHP TBII J LPQ ?>KHP TFII OB J >FK CFK>K@F>IIV EB>IQEV J LPQ LC QEB QF J B (C QEB ?>KH PRMBO SFPLP CFKA QE>Q > ?>KH E>P ILT LO KBD>QFSB KBQ TLOQE LO FP J >HFKD QLL EFDE > MOLMLQFLK LC OFPHV IL>KP QEBV @>K OBNRFOB QE>Q QEB ?>KH @E>KDB FQP ?BE>SFL0 b LO FK BUQ@J B @>BPB BSBK CLO@B QEB ?>KH QL @ILPB LO ?B PLIA QL > CFK>K@F>IIV EB>IQEV ?>KH

!>KH PRMBO SFPLK @>K ORK FKQL ?LQE MO>@QF@>I >KA MLIFQF@>I NRBPQFLK 3EB MO>@QF@>I NRBPQFLK FP QE>Q J B>PROFKD QEB S>IRB LC > ?>KH@P >PPBQP FP KLQ >IT>VP PQ>FDEQCL0T>0A P TB AFP@RPPBA FK %BABL 4A7 4A>A: > ?>KH@P >PPBQP >OB FQP IL>KP >KA QEB S>IRB LC QEBPB >PPBQP ABMBKAP LK BPQF J >QBP >?LRQ QEB OFPH QE>Q @RPQL J BOP TFII KLQ OBM>V QEBPB IL>KP 3EBPB FPPRPB @>K ?B@L J B BSBK J LOB @L J MIBU TEBK > ?>KH J >HBP IL>KP QL ?>KHP LO CFO J P FK LQEBO @LRKQFQBP LO >00>KDBP CFK>K@F>I AB>IP QE>Q >OB J R@E J LOB @L J MIBU QE>K > ?>PF@ IL>K

3EB MLIFQF@>I NRBPQFLK >OFPBP ?B@>RPB > ?>KH PRMBO SFPLP AB@FPFLK QL OBNRFOB > ?>KH QL @ILPB LO QL @E>KDB FQP CFK>K@F>I FKSBPQ J BKQP FP LCQBK @LKLQLSBOPF>I >KA QEB ?>KH PRMBO SFPLP LCQBK @L J BP RKABO MLIFQF@>I MOBPPROB COL J QEB ?>KHP LTKBOP >KA QEB IL@>I MLIFQF@>I KP QL HBBM NRFBQ >KA ?>@H LCC

%LO BU>J MIB J >KV L ?PBOSBOP E>SB MLFKQBA LRQ QE>Q )>M>K@P ?>KHP TBOB FK ABBM CFK>K@F>I QOLR?IB QEOLRDE J LPQ LC QEB P ELTBSBO KLQEFKD PR?PQ>KQF>I E>A ?BBK ALKB >?LRQ FQ ?V QEB B>OIV P PF J FI>O RKT FIFKDKBPP QL @LKLQ LKQ MOL?IB J P TFQE PQORDDIFKD ?>KHP FP SFPF?IB >@OLPP QEB OBPQ LC QEB TLOIA FK \$>PQ PF> +>QFK J B@F@> \$>PQBOK \$ROLMB 1RPPF> >KA BIPBTEBOB

(K QEB 4KQBA 2Q>QBP QEB DLSBOK J BKQ M>PPBA I>TP FK QEB P OBNRFOFKD QE>Q ?>KH PRMBO SFPLP J >HB QEBFO CFKAFKDP LMBK >KA MR?IF@ >KA QE>Q QEBV >@Q >P PLLK >P QEBV FABKQFCV > MOL?IB J ' LTBSBO >P J >KV 4 2 ?>KHP TBOB PQ>DDBOBA ?V QEB OB@BPPFLK @OFQF@P LC QEB ?>KH OBDRI>QLOP >PHBA MLFKQBA NRBPQFLK >?LRQ TEV QEB OBDRI>QLOP E>A KLQ CLOBPBBK QEB ?>KHP CFK>K@F>I PE>HFKBPP B>OIFBO ?BCL0B PR@E I>ODB ILPPBP E>A > @E>K@B QL >@R J RI>QB

### 4A> \*HAF

!>@H FK QEB KFKBQBBKQE @BKQROV >KA AROFKD QEB CFOPQ CBT AB@>ABP LC QEB QTBKQFBQE @BKQROV >OLRKA >KA AROFKD QEB &OB>Q #BMOBPPFLK MRQFKD VLRO J LKBV FK > ?>KH @LRIA ?B KBOSB TO>@HFKD ( J >DFKB QE>Q QEB KBQ TLOQE LC VLRO ?>KH ?B@> J B KBD>QFSB PL QE>Q QEB ?>KH@P >PPBQP TBOB KLQ BKL RDE QL @LSBO FQP IF>?FIFQFBP (K QEFP PFQR>QFLK TELBSBO TFQEA0BT QEBFO ABMLPFQP CFOPQ OB@BFSBA >II LC QEBFO J LKBV >KA QELPB TEL AFA KLQ ORPE QL QEB ?>KH NR@HIV BKL RDE ILPQ QEBFO J LKBV 6 B @>II ABMLPFQLOP 0>@FKD QL QEB ?>KH QL TFQEA0T QEBFO ABMLPFQP >P <:HEB PELTP > bank run (K QEB JLSFB It's a Wonderful Life QEB ?>KH J >K>DBO MI>VBA ?V )F J J V 2@BT>OQ C>@BP > J L? LC TLOOFBA ?>KH ABMLPFQLOP TEL T>KQ QL TFQEA0T QEBFO J LKBV ?RQ J >K>DBP QL >II>V QEBFO CB>OP ?V >IILTFKD PL J B LC QEB J QL TFQEA0T > MLOQFLK LC QEBFO ABMLPFQP b RPFKD QEB J LKBV COL J EFP LTK ML@HBQ QE>Q T>P PRMMLPBA QL M>V CLO EFP ELKBV J LLK



<:HE8 \*HA BA G;8 4A> ">KH ORKP AROFKD QEB 'OB>Q \$BMOBPPFLK LKIV PBOSBA QL TLOPBK QEB B@LKL JF@  
PRQR>QLK #0BAFQ .>QLK>I !Q@EFSBP >KA 2B@LOAP !AJFKFPQO>QLK

3EB OFPH LC ?>KH ORKP @OB>QBA FKPQ>?FIFQV FK QEB ?>KHFKD PVPQB J \$SBK > OR J LO QE>Q > ?>KH J FDEQ BUMBQFBK@B KBD>QFSB  
KBQ TLOQE @LRIA QOFDDBO > ?>KH ORK >KA FK > ?>KH ORK BSBK EB>IQEV ?>KHP @LRIA ?B ABPQOLVBA !B@>RPB > ?>KH IL>KP  
LRQ J LPQ LC QEB J LKBV FQ OB@BFSBP >KA ?B@>RPB FQ HBBMP LKIV IF J FQBA OBPBOSBP LK E>KA > ?>KH ORK LC >KV PFWB TLRIA  
NRF@HIV AO>FK >KV LC QEB ?>KHdP >S>FI>?IB @>PE 6 EBK QEB ?>KH E>A KL @>PE OB J >FKFKD FQ LKIV FKQBKPFQBA QEB CB>OP  
LC OB J >FKFKD ABMLPFQLOP QE>Q QEBV @LRIA ILPB QEBFO J LKBV , LOBLSBO > ?>KH ORK >Q LKB ?>KH LCQBK QOFDDBOBA > @E>FK  
OB>@QLK LC ORKP LK LQEBQ ?>KHP (K QEB I>QB KFKBQBKQE >KA B>OIV QTBKQFBQE @BKQROV ?>KH ORKP TBOB QVMF@>IIV KLQ QEB  
LODFEK>I @>RPB LC > OB@BPPFLK b ?RQ QEBV @LRIA J >HB > OB@BPPFLK J R@E TLOPB

### 8CBF<G !AFHE4A68

3L MOLQB@Q >D>FKPQ ?>KH ORKP "LKDOBPP E>P MRQ QTL PQO>QBDFBP FKQL MI>@B **deposit insurance** >KA QEB IBKABO LC I>PQ  
OBPLOQ #BMLPFQ FKPRO>K@B FP >K FKPRO>K@B PVPQB J QE>Q J >HBP PROB ABMLPFQLOP FK > ?>KH AL KLQ ILPB QEBFO J LKBV BSBK  
FC QEB ?>KH DLBP ?>KHORMQ ?LRQ @LRKQOFBP >OLRKA QEB TLOIA FK@IRAFKD >II LC QEB J >GLO B@LKL J FBP E>SB ABMLPFQ  
FKPRO>K@B MOLDO> J P (K QEB 4KFQBA 2Q>QBP QEB %BABO>I #BMLPFQ (KPRO>K@B "LOMLO>QLK %#(" FP OBPMKPF?IB CLO ABMLPFQ  
FKPRO>K@B !>KHP M>V >K FKPRO>K@B MOB J FR J QL QEB %#(" 3EB FKPRO>K@B MOB J FR J FP ?>PBA LK QEB ?>KHdP IBSBI LC  
ABMLPFQ >KA QEBK >AGRPQBA >@>LOAFKD QL QEB OFPHFKBPP LC > ?>KHdP CFK>K@F>I PFQR>QLK (K CLO BU> J MIB > C>FOIV  
P>CB ?>KH TFQE > EFDE KBQ TLOQE J FDEQ E>SB M>FA a @BKQP FK FKPRO>K@B MOB J FR J P CLO BSBOV FK ?>KH ABMLPFQ  
TEFIB > OFPHV ?>KH TFQE SBOV ILT KBQ TLOQE J FDEQ E>SB M>FA a @BKQP CLO BSBOV FK ?>KH ABMLPFQ

!>KH BU> J FKBP COL J QEB %#(" BS>IR>QB QEB ?>KHP ?>I>K@B PEBBQP ILLHFKD >Q QEB >PPBQ >KA IF>?FIFQV S>IRBP QL  
ABQBO J FKQ QEB OFPH IBSBI 3EB %#(" MOLSFABP ABMLPFQ FKPRO>K@B CLO >?LRQ ?>KHP >P LC QEB BKA LC %B>OR>OV  
\$SBK FC > ?>KH C>FIP QEB DLSBOK J BKQ DR>O>KQBBP QE>Q ABMLPFQLOP TFII OB@BFSB RM QL LC QEBFO J LKBV FK B>@E  
>@>LRKQ TEF@E FP BKLRDE CLO >I J LPQ >II FKAFSFAR>IP >IQELRDE KLQ PRCCF@FBKQ CLO J >KV ?RPFKBPBP 2FK@B QEB 4KFQBA  
2Q>QBP BK>@QBA ABMLPFQ FKPRO>K@B FK QEB P KL LKB E>P ILPQ >KV LC QEBFO FKPROBA ABMLPFQ !>KH ORKP KL ILKDBO  
E>MMBK >Q FKPROBA ?>KHP

### \$8A78E B9 \$4FG \*8FBEG

3EB MOL?IB J TFQE ?>KH ORKP FP KLQ QE>Q FKPLISBKQ ?>KHP TFII C>FI QEBV >OB >CQBO >II ?>KHORMQ >KA KBBA QL ?B PERQ  
ALTK 3EB MOL?IB J FP QE>Q ?>KH ORKP @>K @>RPB PLISBKQ ?>KHP QL C>FI >KA PMOB>A QL QEB OBPQ LC QEB CFK>K@F>I PVPQB J  
3L MOBSBKQ QEFQ QEB %BA PQ>KAP OB>AV QL IBKA QL ?>KHP >KA LQEBQ CFK>K@F>I FKPFQRFQFLKP TEBK QEBV @>KKLQ L?>FK CRKAP  
COL J >KVTEBOB BIPB 3EPF FP HKLTK >P QEB **lender of last resort** OLIB %LO ?>KHP QEB @BKQO>I ?>KH >@QFKD >P > IBKABO LC  
I>PQ OBPLOQ EBIMP QL OFBKCLQ@B QEB BCCB@Q LC ABMLPFQ FKPRO>K@B >KA QL OB>PPROB ?>KH @RPQL J BOP QE>Q QEBV TFII KLQ ILPB QEBFO  
J LKBV

3EB IBKABO LC I>PQ OBPLOQ Q>PH @>K >OFFB FK LQEBQ CFK>K@F>I @FFBP >P TBII #ROFKD QEB PQL@H J >OHBQ @>PE M>KF@  
TEBK 4 2 PQL@H S>IRBP CBII ?V FK > PFKDIB A>V QEB %BABO>I 1BPBOSB J >AB > KR J ?BO LC PELOQ QBO J B J BODBK@V  
IL>KP PL QE>Q QEB CFK>K@F>I PVPQB J @LRIA HBBM CRK@QLKFKD #ROFKD QEB OB@BPPFLK TB @>K FKQBOMOBQ QEB %BA P  
eNR>KQFQ>QFSB B>PFKdf MLIF@FBP AFP@RPPBA ?BILT >P > TFIIKDKBPP QL J >HB PELOQ QBO J @OBAFQ >S>FI>?IB >P KBBABA FK >

QF J B TEBK QEB ?>KHFKD >KA CFK>K@F>I PVPQB J T>P RKABO PQOBPP

## N BJ 4 8AGE4? 4A> K86HG8F %BA8G4EL ( B?<6L

! V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB OB>PLK CLO LMBK J >OHBQ LMBO>QLKQP
- d \$\$S>IR>QB OBPBOSB OBNRF0B J BKQP >KA AFP@LRKQ O>QB
- d (KQBOMOBQ >KA PELT ?>KH >@QFSFQV QEOLRDE ?>I>K@B PEBBQP

3EB %BABO>I 1BPBOSB P J LPQ F J MLQ>KQ CRK@QLK FP QL @LKAR@Q QEB K>QLKdP J LKBQ>OV MLIF@V OQF@IB ( 2B@QLK LC QEB  
 4 2 " LKPQFQRQLK DFSBP " LKDOBPP QEB MLTBO eQL @LFK J LKBVf >KA eQL OBDRI>QB QEB S>IRB QEB0BLC f P M>OQ LC QEB  
 IBDFPI>QLK QE>Q @OB>QBA QEB %BABO>I 1BPBOSB " LKDOBPP ABIBD>QBA QEBPB MLTBOP QL QEB %BA , LKBQ>OV MLIF@V FKSLISBP  
 J >K>DFKD FKQBOBPQ O>QB >KA @OBAFQ @LKAFLKQP TEF@E FKCIRBK@BP QEB IBSBI LC B@LKL J F@ >@QFSFQV >P TB ABP@OF?B FK J LOB  
 ABQ>FI ?BILT

@BKQO>I ?>KH E>P QE0BB QO>AFQFLK>I QLLIP QL F J MIB J BKQ J LKBQ>OV MLIF@V FK QEB B@LKL J V

- d . MBK J >OHBQ LMBO>QLKQP
- d " E>KDFKD OBPBOSB OBNRF0B J BKQP
- d " E>KDFKD QEB AFP@LRKQ O>QB

(K AFP@RPPFKD ELT QEBPB QE0BB QLLIP TLOH FQ FP RPBCCI QL QEFKH LC QEB @BKQO>I ?>KH >P > e?>KH CLO ?>KHP f b QE>Q FP B>@E  
 MOFS>QB PB@QLO ?>KH E>P FQP LTK >@LRKQ >Q QEB @BKQO>I ?>KH 6B TFII AFP@RPP B>@E LC QEBPB J LKBQ>OV MLIF@V QLLIP FK QEB  
 PB@QLKQP ?BILT

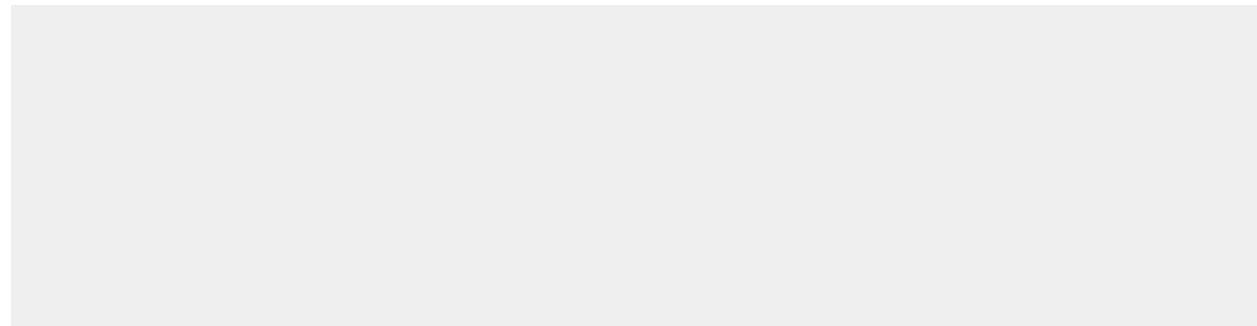
### ' C8A %4E>8G ' C8E4G<BAF

3EB J LPQ @L J J LK J LKBQ>OV MLIF@V QLLI FK QEB 4 2 FP **open market operations** 3EBPB Q>HB MI>@B TEBK QEB @BKQO>I  
 ?>KH PBII LO ?RVP 4 2 3OB>PROV ?LKAP FK LOABO QL FKCIRBK@B QEB NR>KQFQV LC ?>KH OBPBOSBP >KA QEB IBSBI LC FKQBOBPQ  
 O>QB 3EB PMB@FCF@ FKQBOBPQ O>QB Q>ODBQBA FK LMBK J >OHBQ LMBO>QLKQP FP QEB CBABO>I CRKAP O>QB 3EB K>J B FP > ?FQ LC >  
 J FPKL J BO PFK@B QEB CBABO>I CRKAP O>QB FP QEB FKQBOBPQ O>QB QE>Q @L J J BO@F>I ?>KHP @E>ODB J >HFKD LSBOKFDEQ IL>KP QL  
 LQEBQ ?>KHP P PR@E FQ FP > SBOV PELOQ QBO J FKQBOBPQ O>QB ?RQ LKB QE>Q OBCIB@QP @OBAFQ @LKAFLKQP FK CFK>K@F>I J >OHBQP  
 SBOV TBII

3EB **Federal Open Market Committee (FOMC)** J >HBP QEB AB@FPFLKPB OBD>OAFKD QEBPB LMBK J >OHBQ LMBO>QLKQP 3EB  
 % . , " @L J MOFPBP PPSBK J B J ?BOP LC QEB %BABO>I 1BPBOSBdP ! L>OA LC &LSBOKLOP (Q >IPL FK@IRABP CFSB SLQFKD J B J ?BOP  
 TEL QEB ! L>OA AO>TP LK > OLQ>QFKD ?>PFP COL J QEB OBDFLK>I %BABO>I 1BPBOSB ! >KHP 3EB -BT 8LOH AFPQOF@Q MOBPFAFKQ  
 FP > MBO J >KBKQ % . , " SLQFKD J B J ?BO >KA QEB ! L>OA CFHP LQEBQ CLRO PMLQP LK > OLQ>QFKD >KKR>I ?>PFP COL J QEB LQEBQ  
 AFPQOF@QP 3EB % . , " QVMF@>IIV J BBQP SBOV PFU TBBHP ?RQ FQ @>K J BBQ J LOB COBNRBKQIV FC KB@BPP>OV 3EB % . , "  
 QOFBP QL >@Q ?V @LKPBKPRP ELTBSBO QEB %BABO>I 1BPBOSB P @E>FO J >K E>P QO>AFQFLK>IIV MI>VBA > SBOV MLTB0CRI OLIB FK  
 ABCFKFKD >KA PE>MFKD QE>Q @LKPBKPRP %LO QEB %BABO>I 1BPBOSB >KA CLO J LPQ @BKQO>I ?>KHP LMBK J >OHBQ LMBO>QLKQP  
 E>SB LSBO QEB I>PQ CBT AB@>ABP ?BBK QEB J LPQ @L J J LKIV RPBA QLLI LC J LKBQ>OV MLIF@V

# Link It Up

6FPQ QEFB TB?PRQB EQM LMBKQ>U@LIIBDB LOD I J LKBQ>OVMLIF@V CLO QEB &BABO>I 2BPBOSB QL IB>OK J LOB >?LRQ  
 @R00BKQ J LKBQ>OV MLIF@V



3L RKABOPQ>KA ELT LMBK J>OHBQ LMB0>@FLKP >CCB@Q QEB J LKBV PRMMIV @LKPFA0 QEB ?>I>K@B PEBBQ LC '>MMV !>KH  
 AFPMI>VBA FK <:HE8 <:HE8 > PELTP QE>Q '>MMV !>KH PQ>OQP TFQE J FIFLK FK >PPBQP AFSFABA > J LKD  
 OBPBOSBP ?LKAP >KA IL>KP >KA J FIFLK FK IF>?FIFQFBP FK QEB CLO J LC ABMLPFQP TFQE > KBQ TLOQE LC J FIFLK  
 6 EBK QEB @BKQ>I ?>KH MR0@E>PBP J FIFLK FK ?LKAP COL J '>MMV !>KH QEB ?LKA ELIAFKDP LC '>MMV !>KH C>II  
 ?V J FIFLK >KA QEB ?>KHdP OBPBOSBP OFPB ?V J FIFLK >P <:HE8 ? PELTP 'LTBSB0 '>MMV !>KH LKIV  
 T>KQP QL ELIA J FIFLK FK OBPBOSBP QEB NR>KQFQV LC OBPBOSBP TFQE TEF@E FQ PQ>OQBA FK <:HE8 > PL QEB ?>KH  
 AB@FABP QL IL>K LRQ QEB BUQ0> J FIFLK FK OBPBOSBP >KA FQP IL>KP OFPB ?V J FIFLK >P <:HE8 @ PELTP  
 3EB @BKQ>I ?>KH P LMBK J>OHBQ LMB0>@FLK @>RPBP '>MMV !>KH QL J>HB IL>KP FKPQB>A LC ELIAFKD FQP >PPBQP FK QEB CLO J  
 LC DLSBOK JBKQ ?LKAP TEF@E BUM>KAP QEB J LKBV PRMMIV P QEB KBT IL>KP >OB ABMLPFQBA FK ?>KHP QEOLRDEL RQ QEB  
 B@LKL J V QEBBP ?>KHP TFII FK QROK IL>K LRQ PL J B LC QEB ABMLPFQP QEBV OB@BFSB QOFDDBOFKD QEB J LKBV J RIQFMIFB0 QE>Q  
 TB AFP@RPPBA FK %BA8L 4A7 4A><A:

Assets		Liabilities + Net Worth	
Reserves	40	Deposits	400
Bonds	120		
Loans	300	Net Worth	60

(a) The original balance sheet

Assets		Liabilities + Net Worth	
Reserves	40 + 20 = 60	Deposits	400
Bonds	120 - 20 = 100		
Loans	300	Net Worth	60

(b) The central bank buys bonds

Assets		Liabilities + Net Worth	
Reserves	60 - 20 = 40	Deposits	400
Bonds	100		
Loans	300 + 20 = 320	Net Worth	60

(c) The bank makes additional loans

<:HE8

6 EB0B AFA QEB %BAB0>I 1BPB0SB DBQ QEB J FIFLK QE>Q FQ RPBA QL MR0@E>PB QEB ?LKAP @BKQ>I ?>KH E>P QEB MLTBO  
 QL @OB>QB J LKBV (K MO>@QF@>I QBO J P QEB %BAB0>I 1BPB0SB TLRIA TOFQB > @EB@H QL '>MMV !>KH PL QE>Q '>MMV !>KH @>K  
 E>SB QE>Q J LKBV @OBAFQBA QL FQP ?>KH >@LRKQ >Q QEB %BAB0>I 1BPB0SB (K QORQE QEB %BAB0>I 1BPB0SB @OB>QBA QEB J LKBV  
 QL MR0@E>PB QEB ?LKAP LRQ LC QEFK >FO b LO TFQE > CBT @IF@HP LK PL J B @L J MRQBO HBVP

. MBK J>OHBQ LMB0>@FLKP @>K >IPL OBAR@B QEB NR>KQFQV LC J LKBV >KA IL>KP FK >K B@LKL J V <:HE8 > PELTP QEB  
 ?>I>K@B PEBBQ LC '>MMV !>KH ?BCL0B QEB @BKQ>I ?>KH PBIP ?LKAP FK QEB LMBK J>OHBQ 6 EBK '>MMV !>KH MR0@E>PBP  
 J FIFLK FK ?LKAP '>MMV !>KH PBKAP J FIFLK LC FQP OBPBOSBP QL QEB @BKQ>I ?>KH ?RQ KLT ELIAP >K >AAF@FLK>I  
 J FIFLK FK ?LKAP >P <:HE8 ? PELTP 'LTBSB0 '>MMV !>KH T>KQP QL ELIA J FIFLK FK OBPBOSBP >P  
 FK <:HE8 > PL FQ TFII >AGRPQ ALTK QEB NR>KQFQV LC FQP IL>KP ?V J FIFLK QL ?OFKD FQP OBPBOSBP ?>@H QL QEB

ABPFOBA IBSBI >P <:HE8 @ PELTP (K MO>@QF@>I QBO J P > ?>KH @>K B>PFIV OBAR@B FQP NR>KQFQV LC IL>KP Q >KV  
 DFSBK QF J B > ?>KH FP OB@BFSFKD M>V J BKQP LK IL>KP QE>Q FQ J >AB MOBSFLRPV >KA >IPL J >HFKD KBT IL>KP (C QEB ?>KH GRPQ  
 PILTP ALTK LO ?OFBCIV E>IQP J >HFKD KBT IL>KP >KA FKPQB>A >AAP QELPB CRKAP QL FQP OBPBOSBP QEBK FQP LSBQ>II NR>KQFQV  
 LC IL>KP TFII AB@OB>PB AB@OB>PB FK QEB NR>KQFQV LC IL>KP >IPL J B>KP CBTBO ABMLPFQP FK LQEBQ ?>KHP >KA LQEBQ ?>KHP  
 OBAR@FKD QEBFO IBKAFKD >P TBII >P QEB J LKBV J RIQFMIFBO QE>Q TB AFP@RPPBA FK %BA8L 4A7 4A><A: Q>HBP BCCB@Q 6 E>Q  
 >?LRQ >II QELPB ?LKAP 'LT AL QEBV >CCB@Q QEB J LKBV PRMMIV 1B>A QEB CLILTFKD "IB>0 (Q 4M CB>QROB CLO QEB >KPTBO

Assets		Liabilities + Net Worth	
Reserves	40	Deposits	400
Bonds	120		
Loans	300	Net Worth	60

(a) The original balance sheet

Assets		Liabilities + Net Worth	
Reserves	40 - 30 = 10	Deposits	400
Bonds	120 + 30 = 150		
Loans	300	Net Worth	60

(b) The central bank sells bonds to the bank

Assets		Liabilities + Net Worth	
Reserves	10 + 30 = 40	Deposits	400
Bonds	150		
Loans	300 - 30 = 270	Net Worth	60

(c) The bank makes fewer loans

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## Clear It Up

**B8F F8??<A: BE 5HL<A: 5BA7F <A6E84F8 G; 8 @BA8L FHCC?L**

)P FQ > P>IB LC ?LKAP ?V QEB @BKQ>I ?>KH TEF@E FK@OB>PBP ?>KH OBPBOSBP >KA ILTBOP FKQBOPQ O>QBP LO FP FQ >  
 MRQ@E>PB LC ?LKAP ?V QEB @BKQ>I ?>KH 4EB B>PV T>V QL HBBM QO>@H LC QEFQ FP QL QOB>Q QEB @BKQ>I ?>KH >P  
 ?BFDK outside QEB ?>KHFKD PVPQB J 7 EBK > @BKQ>I ?>KH ?RVP ?LKAP J LKBV FP CILTFKD COL J QEB @BKQ>I ?>KH QL  
 FKA'FSAR>I ?>KHP FK QEB B@LKL JV FK@OB>PKD QEB J LKBV PRMMIV FK @FO@RI>QFLK 7 EBK > @BKQ>I ?>KH PBII ?LKAP  
 QEBK J LKBV COL J FKA'FSAR>I ?>KHP FK QEB B@LKL JV FP CILTFKD FKQL QEB @BKQ>I ?>KH \_ OBAR@FKD QEB NR>KQFQV LC  
 J LKBV FK QEB B@LKL JV

**;4A:<A: \*8F8E I8 \*8DH<E8@8AGF**

PB@LKA JBQELA LC @LKAR@QFKD J LKBQ>OV MLIF@V FP CLO QEB @BKQ>I ?>KH QL O>FPB LO ILTBO QEB **reserve requirement**  
 TEF@E >P TB KLQBA B>OIFBO FP QEB MBO@BKQ>DB LC B>@E ?>KHdP ABMLPFQP QE>Q FQ FP IBD>IIV OBNRFOBA QL ELIA BFQEBQ >P @>PE FK  
 QEBFO S>RIQ LO LK ABMLPFQ TFQE QEB @BKQ>I ?>KH (C ?>KHP >OB OBNRFOBA QL ELIA > DOB>QBO > J LRKQ FK OBPBOSBP QEBV E>SB  
 IBPP J LKBV >S>FI>?IB QL IBKA LRQ (C ?>KHP >OB >IILTBA QL ELIA > P J >IIBO > J LRKQ FK OBPBOSBP QEBV TFII E>SB > DOB>QBO  
 > J LRKQ LC J LKBV >S>FI>?IB QL IBKA LRQ

(K B>OIV QEB %BABA>I 1BPBOSB OBNRFOBA ?>KHP QL ELIA OBPBOSBP BNR>I QL LC QEB CFOPQ J FIIFLK FK ABMLPFQP  
 QEBK QL ELIA OBPBOSBP BNR>I QL LC QEB ABMLPFQP RM QL J FIIFLK >KA LC >KV > J LRKQ >?LSB J FIIFLK  
 3EB %BA J >HBP P J >II @E>KDBP FK QEB OBPBOSB OBNRFOB J BKQP >I J LPQ BSBOV VB>0 %LO BU> J MIB QEB J FIIFLK AFSAFKD  
 IFKB FP PL JBQF J BP ?R J MBA RM LO ALTK ?V > CBT J FIIFLK ALII>OP (K MO>@QF@B QEB %BA O>OBIV RPBP I>ODB @E>KDBP FK  
 OBPBOSB OBNRFOB J BKQP QL BUB@RQB J LKBQ>OV MLIF@V PRAABK AB J >KA QE>Q >II ?>KHP FK@OB>PB QEBFO OBPBOSBP TLRJA ?B

BUQOB J BIV AFPORMQFSB >KA AFCCF@RIQ CLO QEB J QL @L J MIV TEFIB ILLPBKFKD OBNRFOB J BKQP QLL J R@E TLRIA @OB>QB > A>KDBO LC ?>KHP FK>?FIQV QL J BQ TFQEAO>T>I AB J >KAP

;4A:<A: G;8 <F6BHAG \*4G8

3EB %BABO>I 1BPBOSB T>P CLRKABA FK QEB >CQBO J >QE LC QEB %FK>K@F>I />KF@ TEBK J >KV ?>KHP C>FIBA >P > OBPRIQ LC ?>KH ORKP P J BKQFLKBA B>OIFBO PFK@B ?>KHP J >HB MOLCFQP ?V IBKAFKD LRQ QEBFO ABMLPFQP KL ?>KH BSBK QELPB QE>Q >OB KLQ ?>KHORMQ @>K TFQEPQ>KA > ?>KH ORK P > OBPRIQ LC QEB />KF@ QEB %BABO>I 1BPBOSB T>P CLRKABA QL ?B QEB eIBKABO LC I>PQ OBPLOQ f (K QEB BSBKQ LC > ?>KH ORK PLRKA ?>KHP ?>KHP QE>Q TBOB KLQ ?>KHORMQ @LRIA ?LOOLT >P J R@E @>PE >P QEBV KBBABA COL J QEB %BA@P AFP@LRKQ eTFKAL T f QL NRBI QEB ?>KH ORK 6B @>II QEB FKQBOBPQ O>QB ?>KHP M>V CLO PR@E IL>KP QEB **discount rate** 3EBV >OB PL K> J BA ?B@>RPB QEB ?>KH J >HBP IL>KP >D>FKPQ FQP LRQPQ>KAFKD IL>KP e>Q > AFP@LRKQf LC QEBFO C>@B S>IRB . K@B ABMLPFQLOP ?B@> J B @LKSFK@BA QE>Q QEB ?>KH TLRIA ?B ?>IB QL ELKLO QEBFO TFQEAO>T>IP QEBV KL ILKDBO E>A > OB>PLK QL J >HB > ORK LK QEB ?>KH (K PELOQ QEB %BABO>I 1BPBOSB T>P LOFDKF>IIV FKQBKABA QL MOLSFAB @OBAFQ M>PPFSBIV ?RQ FK QEB VB>OP PFK@B FQP CLRKAFKD QEB %BA E>P Q>HBK LK > J LOB >@QFSB OLIB TFQE J LKBQ>OV MLIF@V

3EB QEFOA QO>AFQFLK>I J BQELA CLO @LKAR@QFKD J LKBQ>OV MLIF@V FP QL O>FPB LO ILTBO QEB AFP@LRKQ O>QB (C QEB @BKQO>I ?>KH O>FPBP QEB AFP@LRKQ O>QB QEBK @L J J BQ@F>I ?>KHP TFII OBAR@B QEBFO ?LOOLT FFKD LC OBPBOSBP COL J QEB %BA >KA FKPQB>A @>II FK IL>KP QL OBMI>@B QELPB OBPBOSBP 2FK@B CBTBO IL>KP >OB >S>FI>?IB QEB J LKBV PRMMIV C>IIP >KA J >OHBQ FKQBOBPQ O>QBP OFPB (C QEB @BKQO>I ?>KH ILTBO QEB AFP@LRKQ O>QB FQ @E>ODBP QL ?>KHP QEB MOL@BPP TLOHP FK OBSBOPB

(K OB@BKQ AB@>ABP QEB %BABO>I 1BPBOSB E>P J >AB OBI>QFSBIV CBT AFP@LRKQ IL>KP !BCLOB > ?>KH ?LOOLT TP COL J QEB %BABO>I 1BPBOSB QL CFII LRQ FQP OBNRFOBA OBPBOSBP QEB ?>KH FP BUMB@QBA QL CFOPQ ?LOOLT COL J LQEBO >S>FI>?IB PLRQ@BP IFHB LQEBO ?>KHP 3EFP FP BK@LRO>DBA ?V QEB %BA @E>ODFKD > EFDEBO AFP@LRKQ O>QB QE>K QEB CBABO>I CRKAP O>QB &FSBK QE>Q J LPQ ?>KHP ?LOOLT IFQIB >Q QEB AFP@LRKQ O>QB @E>KDFKD QEB AFP@LRKQ O>QB RM LO ALTK E>P IFQIB F J M>@Q LK QEBFO ?BE>SFL0 , LOB F J MLOQ>KQIV QEB %BA E>P CLRKA COL J BUMBOFBK@B QE>Q LMBK J >OHBQ LMBO>QFLKP >OB > J LOB MOB@FPB >KA MLTBOCRI J B>KP LC BUB@RQFKD >KV ABPFOBA J LKBQ>OV MLIF@V

(K QEB %BABO>I 1BPBOSB @Q QEB MEO>PB e QL >CCL0A J B>KP LC OBAFP@LRKQFKD @L J J BQ@F>I M>MBOF FP @LKQ>FKBA FK FQP ILKD FQIB 3EFP T>P QEB J >FK QLLI CLO J LKBQ>OV MLIF@V TEBK QEB %BA T>P FKFQ>IIV @OB>QBA 3EFP FIIRPQO>QBP ELT J LKBQ>OV MLIF@V E>P BSLISBA >KA ELT FQ @LKQFKRBP QL AL PL

N %BA8G4EL (B?<6L 4A7 6BAB@<6 'HG6B@8F

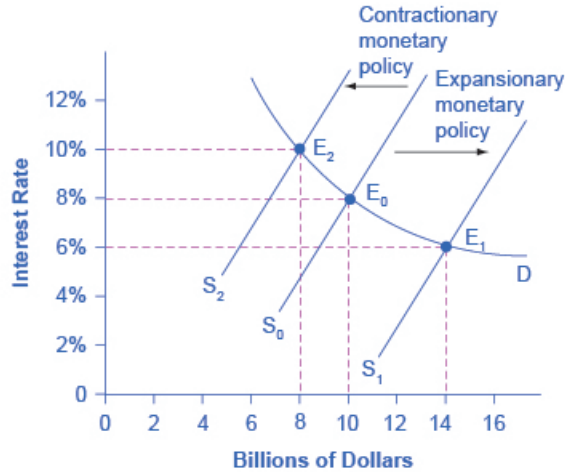
!V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d "LKQO>PQ BUM>KPFLK>OV J LKBQ>OV MLIF@V >KA @LKQO>@QFLK>OV J LKBQ>OV MLIF@V
- d \$UMI>FK ELT J LKBQ>OV MLIF@V F J M>@QP FKQBOBPQ O>QBP >KA >DDOBD>QB AB J >KA
- d \$S>IR>QB %BABO>I 1BPBOSB AB@FPFLKP LSBO QEB I>PQ CLOQV VB>OP
- d \$UMI>FK QEB PFDKFC@>K@B LC NR>KQFQ>QFSB B>PKFD O \$

J LKBQ>OV MLIF@V QE>Q ILTBO QEB FKQBOBPQ O>QBP >KA PQF J RI>QBP ?LOOLT FFKD FP >K **expansionary monetary policy** LO **loose monetary policy** "LKSBOBPBIV > J LKBQ>OV MLIF@V QE>Q O>FPBP FKQBOBPQ O>QBP >KA OBAR@BP ?LOOLT FFKD FK QEB B@LKL J V FP > **contractionary monetary policy** LO **tight monetary policy** 3EFP J LARIB TFII AFP@RPP ELT BUM>KPFLK>OV >KA @LKQO>@QFLK>OV J LKBQ>OV MLIF@FBP >CCB@Q FKQBOBPQ O>QBP >KA >DDOBD>QB AB J >KA >KA ELT PR@E MLIF@FBP TFII >CCB@Q J >@OLB@LKL J F@ DL>IP IFHB RKB J MILV J BKQ >KA FKCI>QFLK 6B TFII @LK@IRAB TFQE > ILLH >Q QEB %BA@P J LKBQ>OV MLIF@V MO>@QF@B FK OB@BKQ AB@>ABP

, ;8 9986G B9 %BA8G4EL (B?<6L BA !AG8E8FG \*4G8F

"LKPFAO QEB J >OHBQ CLO IL>K>?IB ?>KH CRKAP FK <:HE8 3EB LOFDKF>I BNRFF?OFR J \$ L@>ROP >Q >K FKQBOBPQ O>QB >KA > NR>KQFQV LC CRKAP IL>KBA >KA ?LOOLTBA LC ?FIIFLK K BUM>KPFLK>OV J LKBQ>OV MLIF@V TFII PEFCQ QEB PRMMIV LC IL>K>?IB CRKAP QL QEB OFDEQ COL J QEB LOFDKF>I PRMMIV @ROSB 2 QL 2 IB>AFKD QL >K BNRFF?OFR J \$ TFQE > ILTBO FKQBOBPQ O>QB >KA > NR>KQFQV ?FIIFLK FK IL>KBA CRKAP "LKSBOBPBIV > @LKQO>@QFLK>OV J LKBQ>OV MLIF@V TFII PEFCQ QEB PRMMIV LC IL>K>?IB CRKAP QL QEB IBCQ COL J QEB LOFDKF>I PRMMIV @ROSB 2 QL 2 IB>AFKD QL >K BNRFF?OFR J \$ TFQE > EFDEBO FKQBOBPQ O>QB >KA > NR>KQFQV LC ?FIIFLK FK IL>KBA CRKAP



<:HEB %BA8G4EL (B?6L 4A7 !A68E8FG \*4G8F 4EB L0FDFK>I BNRHF?OFR J L@@R0P >Q % !K BUM>KPFLK>OV J LKBQ>OV MLIF@V TFII PEFCQ QEB PRMMIV LC IL>K>?IB CRKAP QL QEB OFDEQ COL J QEB L0FDFK>I PRMMIV @ROSB 3 QL QEB KBT PRMMIV @ROSB 3 >KA QL >KBT BNRHF?OFR J LC % 0BAR@FKD QEB FKQBOBPQ O>QB COL J QL !@LKQ>@QFLK>OV J LKBQ>OV MLIF@V TFII PEFCQ QEB PRMMIV LC IL>K>?IB CRKAP QL QEB IBQ COL J QEB L0FDFK>I PRMMIV @ROSB 3 QL QEB KBT PRMMIV 3 >KA O>FPB QEB FKQBOBPQ O>QB COL J QL

'LT ALBP > @BKQ>I ?>KH e0>FPBf FKQBOBPQ O>QB 6 EBK ABP@QF?FKD QEB @BKQ>I ?>KH P J LKBQ>OV MLIF@V >@QFLKP FQ FP @L J J LK QL EB>O QE>Q QEB @BKQ>I ?>KH e0>FPBA FKQBOBPQ O>QBf L0 eILTBOBA FKQBOBPQ O>QB f 6 B KBBA QL ?B @IB>O ?>LRQ QEFP J LOB MOB@FPBIV QEOLRDE LMBK J >OHBQ LMBQ>QFLKP QEB @BKQ>I ?>KH @E>KDBP ?>KH OBPBOSBP FK > T>V TEF@E >CCB@QP QEB PRMMIV @ROSB LC IL>K>?IB CRKAP P > OBPRIQ <:HEB PELTP QE>Q FKQBOBPQ O>QB @E>KDB (C QEBV AL KLQ J BBQ QEB %BA@P Q>ODBQ QEB %BA @>K PRMMIV J LOB L0 IBPP OBPBOSBP RKQFI FKQBOBPQ O>QB AL

1B@>II QE>Q QEB PMB@FCF@ FKQBOBPQ O>QB QEB %BA Q>ODBQ FP QEB **federal funds rate** 3EB %BABO>I 1BPBOSB E>P PFK@B BPQ>?IFPEBA FQP Q>ODBQ CBABO>I CRKAP O>QB FK >AS>K@B LC >KV LMBK J >OHBQ LMBQ>QFLKP

.C @LROPB CFK>K@F>I J >OHBQ AFPMI>V > TFAB O>KDB LC FKQBOBPQ O>QB OBMOPBPKQFKD ?LOOLTBOB TFQE AFCCBOBKQ OFPH MOB J FR J P >KA IL>KP QE>Q QEBV J RPQ OBM>V LSBO AFCCBOBKQ MBOFLAP LC QF J B (K DBKBO>I TEBK QEB CBABO>I CRKAP O>QB AOLMP PR?PQ>KQF>IIV LQEBO FKQBOBPQ O>QB AOLM QLL >KA TEBK QEB CBABO>I CRKAP O>QB OFPBP LQEBO FKQBOBPQ O>QB OFPB 'LTBSBO >C>II LO OFPB LC LKB MBO@BKQ>DB MLFKQ FK QEB CBABO>I CRKAP O>QB b TEF@E OB J B J ?BO FP CLO ?LOOLTFKD LSBOKFDEQ b TFII QVMF@>IIV E>SB >K BCCB@Q LC IBPP QE>K LKB MBO@BKQ>DB MLFKQ LK > VB>O IL>K QL MRQ@E>PB > ELRBP L0 > QE0BB VB>O IL>K QL MRQ@E>PB > @>0 , LKBQ>OV MLIF@V @>K MRPE QEB BKQFOB PMB@QOR J LC FKQBOBPQ O>QB EFDEBO L0 ILTBO ?RQ QEB CLO@BP LC PRMMIV >KA AB J >KA FK QELPB PMB@FCF@ J >OHBQ CLO IBKAFKD >KA ?LOOLTFKD PBQ QEB PMB@FCF@ FKQBOBPQ O>QB

, ; 8 9986G B9 %BA8G4EL (B?6L BA ::E8:4G8 8@4A7

, LKBQ>OV MLIF@V >CCB@QP FKQBOBPQ O>QB >KA QEB >S>FI>?IB NR>KQFQV LC IL>K>?IB CRKAP TEF@E FK QR0K >CCB@QP PBSBO>I @L J MLKBKQP LC >DDOBD>QB AB J >KA 3FDEQ L0 @LKQ>@QFLK>OV J LKBQ>OV MLIF@V QE>Q IB>AP QL EFDEBO FKQBOBPQ O>QB >KA > OBAR@BA NR>KQFQV LC IL>K>?IB CRKAP TFII OBAR@B QTL @L J MLKBKQP LC >DDOBD>QB AB J >KA !RPFKBPP FKSBPQ J BKQ TFII AB@IFKB ?B@>RBP FQ FP IBPP >QQ>@QFSB CLO CFO J P QL ?LOOLT J LKBV >KA BSBK CFO J P QE>Q E>SB J LKBV TFII KLQ@B QE>Q TFQE EFDEBO FKQBOBPQ O>QB FQ FP OBI>QFSBIV J LOB >QQ>@QFSB QL MRQ QELPB CRKAP FK > CFK>K@F>I FKSBPQ J BKQ QE>K QL J >HB >K FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I (K >AAFQFLK EFDEBO FKQBOBPQ O>QB TFII AFP@LRO>DB @LKPR J BO ?LOOLTFKD CLO ?FD QF@HBQ FQB J P IFHB ELRBP >KA @>OP "LKSBOBPBIV ILLPB L0 BUM>KPFLK>OV J LKBQ>OV MLIF@V QE>Q IB>AP QL ILTBO FKQBOBPQ O>QB >KA > EFDEBO NR>KQFQV LC IL>K>?IB CRKAP TFII QBKA QL FK@OB>PB ?RPFKBPP FKSBPQ J BKQ >KA @LKPR J BO ?LOOLTFKD CLO ?FD QF@HBQ FQB J P

(C QEB B@LKL J V FP PRCCBOFKD > OB@BPPFLK >KA EFDE RKB J MILV J BKQ TFQE LRQMRQ ?BILT MLQBKQF>I &# / BUM>KPFLK>OV J LKBQ>OV MLIF@V @>K EBIM QEB B@LKL J V OBQROK QL MLQBKQF>I &# / <:HEB > FIIRPQ>QB QEFP PFQ>QFLK 3EFP BU> J MIB RBPB >PELOQ ORK RMT>0A PILMFKD \*BVKBPf>K >DDOBD>QB PRMMIV @ROSB 21 2 3EB L0FDFK>I BNRHF?OFR J AROFKD > OB@BPPFLK LC \$ L@@R0P >Q >K LRQMRQ IBSBI LC K BUM>KPFLK>OV J LKBQ>OV MLIF@V TFII OBAR@B FKQBOBPQ O>QB >KA PQF J RI>QB FKSBPQ J BKQ >KA @LKPR J MQLK PMBKAFKD @>RPFKD QEB L0FDFK>I >DDOBD>QB AB J >KA @ROSB # QL PEFCQ OFDEQ QL # PL QE>Q QEB KBT BNRHF?OFR J \$ L@@R0P >Q QEB MLQBKQF>I &# / IBSBI LC



<:HE8 KC4AF<BA4EL BE BAGE46G<BA4EL %BA8G4EL (B?<6L > 4EB B@LKL J V FP LOfDFK>IIV FK > OB@BPPFLK TRQE  
QEB BNRHF?OFR J LRQMRQ >KA MOF@B PELTK >Q % %UM>KPFLK>OV J LKBQ>OV MLIF@V TFII OBAR@B FKQBOBPQ O>QP >KA PEFCQ  
>DDOBD>QB AB J>KA QL QEB OFDEQ COL J !\$ QL !\$ IB>AFKD QL QEB KBT BNRHF?OFR J % >Q QEB MLQBKQF>I ' \$O IBSBI LC  
LRQMRQ TRQE > OBI>QFSBIV P J>II OFPB FK QEB MOF@B IBSBI ? 4EB B@LKL J V FP LOfDFK>IIV MOLAR@FKD >?LSB QEB MLQBKQF>I ' \$O  
IBSBI LC LRQMRQ >Q QEB BNRHF?OFR J % >KA FP BUMBOFBK@FKD MOBPPROBP CLO >K FKCI>QLK>OV OFPB FK QEB MOF@B IBSBI  
#LKQO>@QLK>OV J LKBQ>OV MLIF@V TFII PEFCQ >DDOBD>QB AB J>KA QL QEB IBCQ COL J !\$ QL !\$ QERP IB>AFKD QL > KBT  
BNRHF?OFR J % >Q QEB MLQBKQF>I ' \$O IBSBI LC LRQMRQ

"LKSBOPBIV FC >K B@LKL J V FP MOLAR@FKD >Q > NR>KQFQV LC LRQMRQ >?LSB FQP MLQBKQF>I &# / > @LKQO>@QLK>OV J LKBQ>OV  
MLIF@V @>K OBAR@B QEB FKCI>QLK>OV MOBPPROBP CLO > OFPKD MOF@B IBSBI (K <:HE8 ? QEB LOfDFK>I BNRHF?OFR J \$  
L@>ROP >Q >K LRQMRQ LC TEF@E FP >?LSB MLQBKQF>I &# / @LKQO>@QLK>OV J LKBQ>OV MLIF@V TFII O>FPB FKQBOBPQ O>QP  
AFP@LRO>DB ?LOOLTFKD CLO FKSBBPQ J BKQ >KA @LKPR J MQFLK PMBKAFKD >KA @>RPB QEB LOfDFK>I AB J>KA @ROS # QL PEFCQ  
IBCQ QL # PL QE>Q QEB KBT BNRHF?OFR J \$ L@>ROP >Q QEB MLQBKQF>I &# / IBSBI LC

3EBPB BU> J MIBP PRDDBPQ QE>Q J LKBQ>OV MLIF@V PELRIA ?B **countercyclical** QE>Q FP FQ PELRIA >@Q QL @LRKQBO?>I>K@B QEB  
?RPFKBPP @V@IBP LC B@LKL J F@ ALTKQROK >KA RMPTFKDP 3EB %BA PELRIA ILLPBK J LKBQ>OV MLIF@V TEBK > OB@BPPFLK E>P  
>@>RPBA RKB J MILV J BKQ QL FK@OB>PB >KA QFDEQBK FQ TEBK FKCI>QLK QEOb>QBKP . C @LROPB @LRKQBO@V@IF@>I MLIF@V ALBP MLPB  
> A>KDBO LC LSBOOB>@QLK (C ILLPB J LKBQ>OV MLIF@V PBBHFKD QL BKA > OB@BPPFLK DLBP QLL C>O FQ J>V MRPE >DDOBD>QB  
AB J>KA PL C>O QL QEB OFDEQ QE>Q FQ QOFDDBOP FKCI>QLK (C QFDEQ J LKBQ>OV MLIF@V PBBHFKD QL OBAR@B FKCI>QLK DLBP QLL C>O FQ  
J>V MRPE >DDOBD>QB AB J>KA PL C>O QL QEB IBCQ QE>Q > OB@BPPFLK ?BDFKP <:HE8 > PR J J>OFWBP QEB @E>FK LC BCCB@QP  
QE>Q @LKKB@Q ILLPB >KA QFDEQ J LKBQ>OV MLIF@V QL @E>KDBP FK LRQMRQ >KA QEB MOF@B IBSBI



(a) Expansionary monetary policy



(b) Contractionary monetary policy

<:HE8 ; ; 8 (4G; J4LF B9 %BA8G4EL (B?<6L >) K BUM>KPFLK>OV J LKBQ>OV MLIF@V QEB @BKQO>I ?>KH @>RPBP QEB  
PRMMIV LC J LKBV >KA IL>K>?IB CRKAP QL FK@OB>PB TEF@E ILTBOP QEB FKQBOBPQ O>QB PQF J RI>QFKD >AAQFLK>I ?LOOLTFKD CLO  
FKSBPQ J BKQ >KA @LKPR J MQFLK >KA PEFCQFKD >DDOBD>QB AB J>KA OFDEQ 4EB OBPRIQ FP > EFDEBO MOF@B IBSBI >KA >Q IB>PQ FK  
QEB PELOQ ORK EFDEBO OB>I ' \$O ? JK @LKQO>@QLK>OV J LKBQ>OV MLIF@V QEB @BKQO>I ?>KH @>RPBP QEB PRMMIV LC J LKBV  
>KA @OBAFQ FK QEB B@LKL J V QL AB@OB>PB TEF@E O>FPBP QEB FKQBOBPQ O>QB AFP@LRO>DFKD ?LOOLTFKD CLO FKSBBPQ J BKQ >KA  
@LKPR J MQFLK >KA PEFCQFKD >DDOBD>QB AB J>KA IBCQ 4EB OBPRIQ FP > ILTBO MOF@B IBSBI >KA >Q IB>PQ FK QEB PELOQ ORK ILTBO  
OB>I ' \$O

# 878E4? \*8F8E18 6G<BAF '18E \$4FG BHE 86478F

%LO QEB MBOFLA COL J QEB J FA P RM QEOLRDE QEB BKA LC TB @>K PR J J >OFWB %BABO>I 1BPBOSB J LKBQ>OV MLIF@V ?V ILLHFKD >Q ELT FQ Q>ODBQBA QEB CBABO>I CRKAP FKQBOBPQ O>QB RPFKD LMBK J >OHBQ LMBO>QLKP

. C @LROPB QBIFKD QEB PQLOV LC QEB 4 2 B@LKL J V PFK@B FK QBO J P LC %BABO>I 1BPBOSB >@QLKP IB>SBP LRQ J >KV LQEBO J >@OLB@LKL J F@ C>@QLOP QE>Q TBOB FK CIRBK@FKD RKB J MILV J BKQ OB@BPPFLK B@LKL J F@ DOLTQE >KA FKCI>QLK LSBO QEFQ QF J B 3EB KFKB BMFPLABP LC %BABO>I 1BPBOSB >@QLK LRQIFKBA FK QEB PB@QLKP ?BILT >IPL AB J LKPQO>QB QE>Q TB PELRIA @LKPFABO QEB @BKQO>I ?>KH >P LKB LC QEB IB>AFKD >@QLOP FK CIRBK@FKD QEB J >@OL B@LKL J V P TB KLQBA B>OIFBO QEB PFKDIB MBOPLK TFQE QEB DOB>QBPQ MLTBO QL FK CIRBK@B QEB 4 2 B@LKL J V FP MOL?>?IV QEB %BABO>I 1BPBOSB @E>FOMBOPK

<:HE8 PEL TP ELT QEB %BABO>I 1BPBOSB E>P @>OOFBA LRQ J LKBQ>OV MLIF@V ?V Q>ODBQFKD QEB CBABO>I CRKAP FKQBOBPQ O>QB FK QEB I>PQ CBT AB@>ABP 3EB DO>ME PEL TP QEB CBABO>I CRKAP FKQBOBPQ O>QB OB J B J ?BO QEFQ FKQBOBPQ O>QB FP PBQ QEOLRDE LMBK J >OHBQ LMBO>QLKP QEB RKB J MILV J BKQ O>QB >KA QEB FKCI>QLK O>QB PFK@B #FCCBOBKQ BMFPLABP LC J LKBQ>OV MLIF@V AROFKD QEFQ MBOFLA >OB FKAFA>QBA FK QEB CFDRQB

<:HE8 %BA8G4EL (B?<6L -A8@C?BL@8AG 4A7 !A9?4G<BA 4EOLRDE QEB BMFPLABP EB0B QEB &BABO>I 2BPBOSB QVMF@>IIV OB>@QBA QL EFDEBO FKCI>QLK TFQE > @LKQO>@QLK>OV J LKBQ>OV MLIF@V >KA > EFDEBO FKQBOBPQ O>QB >KA OB>@QBA QL EFDEBO RKB J MILV J BKQ TFQE >K BUM>KPFLK>OV J LKBQ>OV MLIF@V >KA > ILTBO FKQBOBPQ O>QB

## Episode 1

"LKPFABO \$MFPLAB FK QEB I>QB P 3EB O>QB LC FKCI>QLK T>P SBOV EFDE BU@BBAFKD FK >KA PL QEB %BABO>I 1BPBOSB RPBA QFDEQ J LKBQ>OV MLIF@V QL O>FPB FKQBOBPQ O>QB TFQE QEB CBABO>I CRKAP O>QB OFPKD COL J FK QL FK !V FKCI>QLK T>P ALTK QL ?RQ >DDOBD>QB AB J >KA @LKQO>@QBA PE>OMIV BKL RDE QE>Q ?>@H QL ?>@H OB@BPPFLK L@@ROOBA FK >KA FK a >KA QEB RKB J MILV J BKQ O>QB OLPB COL J FK QL FK

## Episode 2

(K \$MFPLAB TEBK B@LKL J FPQP MBOPR>ABA QEB %BABO>I 1BPBOSB FK QEB B>OIV P QE>Q FKCI>QLK T>P AB@IFKFKD QEB %BA ?BD>K PI>PEFKD FKQBOBPQ O>QB QL OBAR@B RKB J MILV J BKQ 3EB CBABO>I CRKAP FKQBOBPQ O>QB CBII COL J FK QL FK !V LO PL FKCI>QLK E>A C>IIBK QL >?LRQ >KA QEB RKB J MILV J BKQ O>QB E>A @L J B ALTK QL >KA T>P PQFII C>IIFKD

## Episode 3

'L TBSBO FK \$MFPLAB FK QEB I>QB P FKCI>QLK >MMB>OBA QL ?B @OBBMFKD RM >D>FK OFPKD COL J FK RM QL T>OA ?V (K OBPMLKPB QEB %BABO>I 1BPBOSB RPBA @LKQO>@QLK>OV J LKBQ>OV MLIF@V QL O>FPB QEB CBABO>I CRKAP O>QB COL J FK QL FK 3EB QFDEQBO J LKBQ>OV MLIF@V PQLMBA FKCI>QLK TEF@E CBII COL J >?LSB FK QL RKABO FK ?RQ FQ >IPL EBIMBA QL @>RPB QEB OB@BPPFLK >KA QEB RKB J MILV J BKQ O>QB OLPB COL J FK QL ?V

## Episode 4

(K \$MFPLAB FK QEB B>OIV P TEBK QEB %BABO>I 1BPBOSB T>P @LKCFAFKQ QE>Q FKCI>QLK T>P ?>@H RKABO @LKQOLI FQ  
OBAR@BA FKQBOPQ O>QBP TFQE QEB CBABO>I CRKAP FKQBOPQ O>QB C>IFKD COL J FK QL FK P QEB B@LKL J V  
BUM>KABA QEB RKB J MILV J BKQ O>QB AB@IFKBA COL J FK QL IBPP QE>K ?V

**Episodes 5 and 6**

(K \$MFPLABP >KA QEB %BABO>I 1BPBOSB MBO@BFSBA > OFPH LC FKCI>QLK >KA O>FPBA QEB CBABO>I CRKAP O>QB COL J QL  
COL J QL (KCI>QLK AFA KLQ OFPB >KA QEB MBOFLA LC B@LKL J F@ DOL TQE AROFKD QEB P @LKQFKRBA 3EBK  
FK >KA QEB %BA T>P @LK@BOKBA QE>Q FKCI>QLK PBB J BA QL ?B @OBBMFKD RM PL FQ O>FPBA QEB CBABO>I CRKAP FKQBOPQ  
O>QB COL J FK #B@B J ?BO QL FK )RKB ! V B>OIV FKCI>QLK T>P AB@IFKFKD >D>FK ?RQ > OB@BPPFLK  
L@ROOBA FK !BQTBK >KA QEB RKB J MILV J BKQ O>QB OLPB COL J QL

**Episodes 7 and 8**

(K \$MFPLABP >KA QEB %BABO>I 1BPBOSB @LKAR@QBA > ILLPB J LKBQ>OV MLIF@V >KA PI>PEBA QEB CBABO>I CRKAP O>QB COL J  
FK QL GRPQ FK >KA QEBK >D>FK QL FK 3EBV >@QR>IIV AFA QEFP ?B@>RPB LC CB>O LC )>M>K PQVIB  
ABCI>QLK 3EFP MBOPR>ABA QEB J QL ILTBO QEB %BA CRKAP CROQEBO QE>K QEBV LQEBOTFPB TLRIA E>SB 3EB OB@BPPFLK BKABA  
?RQ RKB J MILV J BKQ O>QBP TBOB PILT QL AB@IFKB FK QEB B>OIV P %FK>IIV FK QEB RKB J MILV J BKQ O>QB AB@IFKBA  
>KA QEB %BABO>I 1BPBOSB ?BD>K QL O>FPB QEB CBABO>I CRKAP O>QB RKQFI FQ OB>@EBA ?V

**Episode 9**

(K \$MFPLAB >P QEB &OB>Q 1B@BPPFLK QLLH ELIA FK QEB %BABO>I 1BPBOSB T>P NRF@H QL PI>PE FKQBOPQ O>QBP O>HFKD  
QEB J ALTK QL FK >KA QL KB>OIV FK 6 EBK QEB %BA E>A Q>HBK FKQBOPQ O>QBP ALTK QL KB>O WBOL ?V  
#B@B J ?BO QEB B@LKL J V T>P PQFII ABM FK OB@BPPFLK . MBK J >OHBQ LMBO>QLKP @LRIA KLQ J >HB QEB FKQBOPQ O>QB  
QROK KBD>QFSB 3EB %BABO>I 1BPBOSB E>A QL QEFKH eLRQFAB QEB ?LU f

**) H4AG<G4G<18 4F<A:**

3EB JLPQ MLTBOCRI >KA @LJ J LKIV RPBA LC QEB QEORB QO>AFQFLK>I QLLIP LC J LKBQ>OV MLIF@V b LMBK J >OHBQ  
LMBO>QLKP b TLOHP ?V BUM>KAFKD LO @LKQO>@FKD QEB J LKBV PRMMIV FK > T>V QE>Q FKCI>QLK @BP QEB FKQBOPQ O>QB (K I>QB  
>P QEB 4 2 B@LKL J V PQORDDIBA TFQE OB@BPPFLK QEB %BABO>I 1BPBOSB E>A >IOB>AV OBAR@BA QEB FKQBOPQ O>QB QL KB>O  
WBOL 6 FQE QEB OB@BPPFLK PQFII LKDLFKD QEB %BA AB@FABA QL >ALMQ >K FKKLS>QFSB >KA KLKQO>AFQFLK>I MLIF@V HKLTK >P  
**quantitative easing (QE)** 3EFP FP QEB MRO@E>PB LC ILKD QBO J DLSBOK J BKQ >KA MOFS>QB J LQD>DB ?>@HBA PB@ROFQFBP ?V  
@BKQO>I ?>KHP QL J >HB @OBAFQ >S>FI>?IB PL >P QL PQF J RI>QB >DDOBD>QB AB J >KA

OR>KQFQ>QFSB B>PFKD AFCCBOBA COL J QO>AFQFLK>I J LKBQ>OV MLIF@V FK PBSBO>I HBV T>VP %FOPQ FQ FKSLISBA QEB %BA  
MRO@E>PFKD ILKD QBO J 3OB>PROV ?LKAP O>QEBO QE>K PELOQ QBO J 3OB>PROV ?FIIP (K ELTBSBO FQ T>P F J MLPPF?IB QL  
PQF J RI>QB QEB B@LKL J V >KV CROQEBO ?V ILTBOFKD PELOQ QBO J O>QBP ?B@>RPB QEBV TBOB >IOB>AV >P ILT >P QEBV @LRIA DBQ  
1B>A QEB @ILPFKD !OFKD FQ ' L J B CB>QROB CLO J LOB LK QEFP 3EBOBCL0B "E>FO J >K !BOK>KHB PLRDEQ QL ILTBO ILKD QBO J  
O>QBP RQFIFWFKD NR>KQFQ>QFSB B>PFKD

3EFP IB>AP QL > PB@LKA T>V O \$ FP AFCCBOBK COL J QO>AFQFLK>I J LKBQ>OV MLIF@V (KPQB>A LC MRO@E>PFKD 3OB>PROV PB@ROFQFBP  
QEB %BA >IPL ?BD>K MRO@E>PFKD MOFS>QB J LQD>DB ?>@HBA PB@ROFQFBP PL J BQEFKD FQ E>A KBSBO ALKB ?BCL0B #ROFKD QEB  
CFK>K@F>I @OFPPP TEF@E MOB@FMFQ>QBA QEB OB@BPPFLK J LQD>DB ?>@HBA PB@ROFQFBP TBOB QBO J BA eQLUF@ >PPBQ f ?B@>RPB  
TEBK QEB ELRPFKD J >OHBQ @LI>MPBA KL LKB HKBT TE>Q QEBPB PB@ROFQFBP TBOB TLOQE TEF@E MRQ QEB CFK>K@F>I FKPFQRFQFLKP  
TEF@E TBOB ELIAFKD QELPB PB@ROFQFBP LK SBOV PE>HV DOLRKA !V LCCBOFKD QL MRO@E>PB J LQD>DB ?>@HBA PB@ROFQFBP QEB  
%BA T>P ?LQE MRPEFKD ILKD QBO J FKQBOPQ O>QBP ALTK >KA >IPL OB J LSFKD MLPPF?IV eQLUF@ >PPBQf COL J QEB ?>I>K@B PEBBQP  
LC MOFS>QB CFK>K@F>I CFO J P TEF@E TLRIA PQOBKDQEBK QEB CFK>K@F>I PVPQB J

OR>KQFQ>QFSB B>PFKD O \$ L@ROOBA FK QEORB BMFPLABP

#ROFKD O \$ TEF@E ?BD>K FK -LSB J ?BO QEB %BA MRO@E>PBA ?FIIFLK FK J LQD>DB ?>@HBA PB@ROFQFBP  
COL J DLSBOK J BKQ BKQBOMOFPPB %>KKFB , >B >KA %OBAAFB , >@

(K -LSB J ?BO QEB %BA ?BD>K O \$ FK TEF@E FQ MRO@E>PBA ?FIIFLK FK 4 2 3OB>PROV ?LKAP

O \$ ?BD>K FK 2BMQB J ?BO TEBK QEB %BA @LJ J BK@BA MRO@E>PFKD ?FIIFLK LC >AAFQFLK>I J LQD>DB  
?>@HBA PB@ROFQFBP MBO J LKQE 3EFP > J LRKQ T>P FK@OB>PBA FK #B@B J ?BO QL ?FIIFLK MBO J LKQE 3EB %BA  
PQ>QBA QE>Q TEBK B@LKL J F@ @LKAQFLKP MBO J FQ FQ TFII ?BDFK Q>MBOFKD LO OBAR@FKD QEB J LKQEIV MRO@E>PBP !V  
. @QL?BO QEB %BA E>A >KKLRK@BA QEB CFK>I ?FIIFLK ?LKA MRO@E>PB BKAFKD OR>KQFQ>QFSB \$>PFKD

6B RPR>IIV QEFKH LC QEB NR>KQFQ>QFSB B>PFKD MLIF@FBP QE>Q QEB %BABO>I 1BPBOSB >ALMQBA >P AFA LQEBO @BKQO>I ?>KHP  
>OLRKA QEB TLOIA >P QB J MLO>OV B J BODBK@V J B>PROBP (C QEBPB PQBMP >OB QL ?B QB J MLO>OV QEBK QEB %BABO>I 1BPBOSB TFII

KBBA QL PQLM J>HFKD QEBPB >AAFQLK>I IL>KP >KA PBII LCC QEB CFK>KQF>I PB@ROFQFBP FQ E>P >@@R J RI>QBA 3EB @LK@BOK FP QE>Q  
QEB MOL@BPP LC NR>KQFQ>QFSB B>PFKD J >V MOLSB J LOB AFCCF@RIQ QL OBSBOPB QE>K FQ T>P QL BK>@Q 3EB BSFABK@B PRDDBPQP QE>Q  
O \$ T>P PL J BTE>Q PR@BPPCRI ?RQ QE>Q O \$ >KA O \$ E>SB ?BBK IBPP PL

## N (<G94??F 9BE %BA8G4EL ( B?<6L

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d K>IVWB TEBQEBO J LKBQ>OV MLIF@V AB@FPFLK PELRIA ?B J>AB J LOB AB J L@>QF@>IIV
- d ">I@RI>QB QEB SBIL@FQV LC J LKBV
- d \$S>IR>QB QEB @BKQ>I ?>KHdP FK CIRBK@B LK FKCI>QLK RKB J MILV J BKQ >PPBQ ?R??IBP >KA IBSB>DB @V@IBP
- d ">I@RI>QB QEB BCCB@QP LC J LKBQ>OV PQF J RIRP

(K QEB OB>I TLOIA BCCB@QFSB J LKBQ>OV MLIF@V C>@BP > KR J ?BO LC PFDKFCF@>KQ EROAIBP , LKBQ>OV MLIF@V >CCB@QP QEB  
B@LKL J V LKIV >CQBO > QF J B I>D QE>Q FP QVMF@>IIV ILKD >KA LC S>OF>?IB IBKDQE 1B J B J ?BO J LKBQ>OV MLIF@V FKSLISBP  
> @E>FK LC BSBKQP QEB @BKQ>I ?>KH J RPQ MBO@BFSB > PFQR>QLK FK QEB B@LKL J V ELIA > J BBQFKD >KA J >HB > AB@FPFLK  
QL OB>@Q ?V QFDEQBKFKD LO ILLPBKFKD J LKBQ>OV MLIF@V 3EB @E>KDB FK J LKBQ>OV MLIF@V J RPQ MBO@LI>QB QEOLRDE QEB  
>>KHFKD PVPQB J @E>KDFKD QEB NR>KQFQV LC IL>KP >KA >CCB@QFKD FKQBOBPQ O>QP 6 EBK FKQBOBPQ O>QP @E>KDB ?RPFKBPPBP  
J RPQ @E>KDB QEBFO FKSBPQ J BKQ IBSBIP >KA @LKPR J BOP J RPQ @E>KDB QEBFO ?LOOLTFKD M>QQBOKP TEBK MRQ@E>PFKD EL J BP LO  
>@OP 3EBK FQ Q>HBP QF J B CLO QEBPB @E>KDBP QL CFIQBO QEOLRDE QEB OBPQ LC QEB B@LKL J V

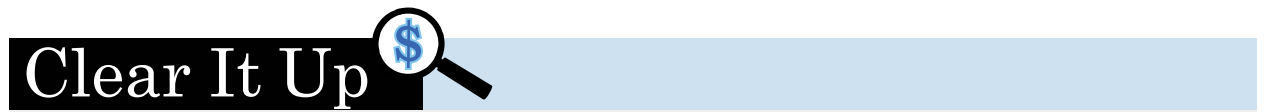
P > OBPRIQ LC QEFP @E>FK LC BSBKQP J LKBQ>OV MLIF@V E>P IFQIB BCCB@Q FK QEB F J J BAF>QB CRQROB (KQB>A FQP MOF J >OV BCCB@QP  
>OB CBIQ MBOE>MP LKB QL QEObB VB>OP FK QEB CRQROB 3EB OB>IFQV LC ILKD >KA S>OF>?IB QF J B I>DP ALBP KLQ J B>K QE>Q > @BKQ>I  
?>KH PELRIA OB CRPB QL J >HB AB@FPFLK (Q ALBP J B>K QE>Q @BKQ>I ?>KHP PELRIA ?B ER J ?IB >?LRQ Q>HFKD >@QLK ?B@>RPB  
LC QEB OFPH QE>Q QEBFO >@QLK @>K @OB>QB >P J R@E LO J LOB B@LKL J F@ FKPQ>?FIFQV >P QEBV OBPLISB

### K68FF \* 8F8E18F

!>KHP >OB IBD>IIV OBNRFOBA QL ELIA > J FKF J R J IBSBI LC OBPPBOSBP ?RQ KL ORIB MOLEF?FQP QEB J COL J ELIAFKD >AAFQLK>I  
**excess reserves** >?LSB QEB IBD>IIV J >KA>QBA IF J FQ %LO BU> J MIB AROFKD > OB@BPPFLK ?>KHP J >V ?B EBPFP>KQ QL IBKA  
?B@>RPB QEBV CB>O QE>Q TEBK QEB B@LKL J V FP @LKQ>@QFKD > EFDE MOLMLQQLK LC IL>K >MMIF@>KQP ?B@L J B IBPP IFHBIV QL  
OBM>V QEBFO IL>KP

6 EBK J >KV ?>KHP >OB @ELLPFKD QL ELIA BU@BPP OBPPBOSBP BUM>KPFLK>OV J LKBQ>OV MLIF@V J >V KLQ TLOH TBII 3EFP J >V  
L@>RO ?B@>RPB QEB ?>KHP >OB @LK@BOKBA >?LRQ > ABQBOFLO>QFKD B@LKL J V TEFIB QEB @BKQ>I ?>KH FP QOVFKD QL BUM>KA  
QEB J LKBV PRMMIV (C QEB ?>KHP MOCBO QL ELIA BU@BPP OBPPBOSBP >?LSB QEB IBD>IIV OBNRFOBA IBSBI QEB @BKQ>I ?>KH  
>KKLQ CLO@B FKAFFAR>I ?>KHP QL J >HB IL>KP 2F J FI>OIV PBKPF?IB ?RPFKBPPBP >KA @LKPR J BOP J >V ?B OBIR@>KQ QL ?LOOLT  
PR?PQ>KQF>I > J LRKQP LC J LKBV FK > OB@BPPFLK ?B@>RPB QEBV OB@LDKFWB QE>Q CFO J Pd P>IBP >KA B J MILVBBDP GL?P >OB J LOB  
FKPB@ROB FK > OB@BPPFLK >KA QEBV AL KLQ T>KQ QL C>@B QEB KBBA QL J >HB FKQBOBPQ M>V J BKQP 3EB OBPRIQ FP QE>Q AROFKD >K  
BPMB@F>IIV ABM OB@BPPFLK >K BUM>KPFLK>OV J LKBQ>OV MLIF@V J >V E>SB IFQIB BCCB@Q LK BFQEBO QEB MOF@B IBSBI LO QEB OB>I  
&# /

)>M>K BUMBOFBK@BA QEFP PFQR>QLK FK QEB P >KA B>OIV P )>M>KdP B@LKL J V BKQBOBA > MBOFLA LC SBOV PILT DOLTQE  
AFMMFKD FK >KA LRQ LC OB@BPPFLK FK QEB B>OIV P !V %B?OR>OV QEB !>KH LC )>M>K E>A ILTBOBA QEB BNRFS>IBKQ  
LC FQP CBABO>I CRKAP O>QB QL (Q HBMQ FQ QEBOB J LPQ LC QEB QF J B QEOLRDE , LOBLSBO FK QEB TTL VB>OP COL J , >O@E  
QL , >O@E QEB !>KH LC )>M>K >IPL BUM>KABA QEB @LRKQOV P J LKBV PRMMIV ?V >?LRQ b >K BKLO J LRP  
FK@OB>PB \$SBK QEFP EFDEIV BUM>KPFLK>OV J LKBQ>OV MLIF@V ELTBSBO E>A KL PR?PQ>KQF>I BCCB@Q LK PQF J RI>QFKD >DDOBD>QB  
AB J >KA )>M>KdP B@LKL J V @LKQFKRBA QL BUMBOFBK@B BUQOB J BIV PILT DOLTQE FKQL QEB J FA P



+ ; BH?7 @BA8G4EL CB?<6L 786<F<BAF 58 @478 @BE8 78@B6E4G<64??L

3ELRIA > K>QLKaP #LKDOBPP LO IBDfPI>QROB @L J MOFPBA LC BIB@QBA OBMOBPBKQ>QFSBP @LKAR@Q J LKBQ>OV MLIF@V LO  
PELRIA > MLIF@>IIV >MMLFKQBA @BKQ>I ?>KH QE>Q FP J LOB FKABMBKABKQ LC SLQBOP Q>HB @E>ODB (BOB >OB PL J B LC

QEB >ODR J BKQP

*The Case for Greater Democratic Control of Monetary Policy*

%IB@QBA OBM0BPBKQ>QFSBP M>PP Q>UBP >KA PMBKAfKD ?FIIP QL @LKR@Q CFP@>I MLIF@V ?V M>PPFKD Q>U >KA PMBKAfKD ?FIIP 4EBV @LRIA E>KAIB J LKBQ>OV MLIF@V FK QEB P>JB T>V 4EBV TFI PL JBQF JBP J>HB JFPQ>HBP ?RQ FK > AB J L@O>@V FQ FP ?BQQBO QL E>SB BIB@QBA LCCF@F>IP TEL >OB >@LRKQ>?IB QL SLQBOP J>HB JFPQ>HBP FKPB>A LC MLIF@F@>I >MMLFKQBBP !CQBO >II QEB MBLMIB >MMLFKQBA QL QEB QLM DLSBOKFKD MLPfQFLKP >Q QEB &BABO>I 2BPBOSB \_>KA QL J LPQ @BKQO>I ?>KHP >OLRKA QEB TLOIA \_>OB QVMF@>IIV ?>KHBOP >KA B@LKL JFPQP 4EBV >OB KLQ OBM0BPBKQ>QFSBP LC ?L00LTBOP IFHB PJ>II ?RPFKBPPBP LO C>O JBOP KLO >OB QEBV OBM0BPBKQ>QFSBP LC I>?LO RKFLKP #BKQO>I ?>KHP JFDEQ KLQ ?B PL NRF@H QL O>FPB FKQBOPQ O>QB FC QEBV E>A QL M>V JLOB >QQBKFLK QL CFOJP >KA MBLMIB FK QEB OB>I B@LKL JV

*The Case for an Independent Central Bank*

"B@>RPB QEB @BKQO>I ?>KH E>P PL JB FKPRI>QFLK COLJ A>V QL A>V MLIF@P FQP JBJ?BOP @>K Q>HB > KLKM>OQFP>K ILLH >Q PMB@CF@ B@LKL JF@ PFR>QFLKP >KA J>HB QL RDE FJ JBAF>QB AB@FPFLKP TEBK KB@BPP>OV 4EB FAB> LC DfSfKD > IBDfPI>QROB QEB >?FIQV QL @OB>QB J LKBV >KA E>KA LRQ IL>KP FP IFHBIV QL BKA RM ?>AIV PLLKBO LO I>QBO )Q FP PFJ MIV QLL QB JMQfKD CLO I>T J>HBOP QL BUM>KA QEB J LKBV PRMMIV QL CRKA QEBFO MOL@B@QP 4EB ILKD QBOJ OBPRQI TFI ?B O>JM>KQ FKCI>QFLK !IPL > @BKQO>I ?>KH >@QfKD >@L0AfKD QL QEB I>TP M>PPBA ?V BIB@QBA LCCF@F>IP @>K OBPMLKA C>O JLOB NRF@HIV QE>K > IBDfPI>QROB &LO BU>JMIB QEB 5 3 ?RADBQ Q>HBP J LKQEP QL AB?>QB M>PP >KA PFDK FKQL I>T ?RQ J LKBQ>OV MLIF@V AB@FPFLKP E>MMBK JR@E JLOB O>MAIV \$>V QL A>V AB J L@O>QF@ @LQQLI LC J LKBQ>OV MLIF@V FP FJ MO>@QF@>I >KA PBB J P IFHBIV QL IB>A QL >K LSBOIV BUM>KPFKQ>OV J LKBQ>OV MLIF@V >KA EFDEBO FKCI>QFLK

3EB MOL?IB J LC BU@BPP OBPBOSBP ALBP KLQ >CCB@Q @LQO>@QFLK>OV MLIF@V "BKQO>I ?>KHBOP E>SB >K LIA P>VFKD QE>Q J LKBQ>OV MLIF@V @>K ?B IFHB MRIIFKD >KA MRPEFKD LK > PQOFKD TEBK QEB @BKQO>I ?>KH MRIIP LK QEB PQOFKD >KA RBPB @LQO>@QFLK>OV J LKBQ>OV MLIF@V FQ @>K ABCfKfQBIIV O>FPB FKQBOPQ O>QB >KA OBAR@B >DDOBD>QB AB J >KA 'LTBSBO TEBK QEB @BKQO>I ?>KH QOFBP QL MRPE LK QEB PQOFKD LC BUM>KPFKQ>OV J LKBQ>OV MLIF@V QEB PQOFKD J >V PL JBQF JBP GRPQ CLIA RM IFJM >KA E>SB IFQIB BCCB@Q ?B@>RPB ?>KHP AB@FAB KLQ QL IL>K LRQ QEBFO BU@BPP OBPBOSBP #L KLQ Q>HB QEFQ >K>ILDV QLL IFQBO>IIV b BUM>KPFKQ>OV J LKBQ>OV MLIF@V RPR>IIV ALBP E>SB OB>I BCCB@QP >CQBO QE>Q FK@LKSbKfBKQIV ILKD >KA S>OF>?IB I>D 3EBOB >OB >IPL QF JBP IFHB )>M>KdP B@LKL J V FK QEB I>QB P >KA B>OIV P TEBK BUM>KPFKQ>OV J LKBQ>OV MLIF@V E>P ?BBK FKPRCCF@FBKQ QL IFQ > OB@BPPFLK MOLKB B@LKL JV

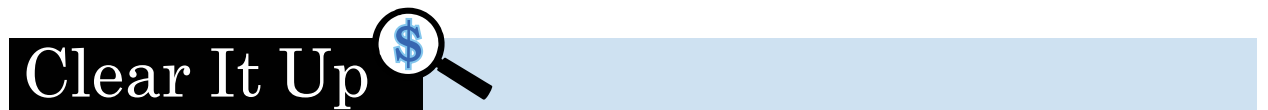
**- ACE87<6G45?8 %BI8@8AGF B9 .8?B6<GL**

5BIL@FQV FP > QBO J QE>Q B@LKL JFPQ RPB QL ABP@OF?B ELT NRF@HIV J LKBV @FO@RI>QBP QEOLRDE QEB B@LKL JV 6B ABCFKB QEB velocity LC J LKBV FK > VB>O >P

$$\text{Velocity} = \frac{\text{nominal GDP}}{\text{money supply}}$$

2MB@FCF@ JB>PROB J BKQP LC SBIL@FQV ABMBKA LK QEB ABCfKfQFLK LC QEB J LKBV PRMMIV RPBA "LKPfABO QEB SBIL@FQV LC , QEB QLQ>I > J LRKQ LC @ROOBK@V FK @FO@RI>QFLK >KA @EB@HFKD >@LRKQ ?>I>K@BP (K CLO BU>JMIB , T>P QOFIIFLK >KA KL J FK>I &# / T>P QOFIIFLK PL QEB SBIL@FQV LC , T>P QOFIIFLK QOFIIFLK EFDEBO SBIL@FQV LC J LKBV JB>KP QE>Q QEB >SBO>DB ALII>O @FO@RI>QBP JLOB QF JBP FK > VB>O ILTBO SBIL@FQV JB>KP QE>Q QEB >SBO>DB ALII>O @FO@RI>QBP CBTBO QF JBP FK > VB>O

2BB QEB CLILTFKD "IB>O (Q 4M CB>QROB CLO > AFP@RPPFLK LC ELT ABCI>QFLK @LRIA >CCB@Q J LKBQ>OV MLIF@V



**/ ;4G ;4CC8AF 7HE<A: 8C<FB78F B9 789?4G<BA**

\$BCI>QFLK L@>ROP TEBK QEB O>QB LC FKCI>QFLK FP KBD>QFSB QE>Q FP FKPB>A LC J LKBV E>SfKD IBPP MRQ@E>PfkD MLTBO LSBO QF JB >P L@>ROP TQfE FKCI>QFLK J LKBV FP TLOQE JLOB \$BCI>QFLK @>K J>HB FQ SBOV AfCCF@RIQ CLO J LKBQ>OV MLIF@V QL >AAOBPP > OB@BPPFLK

2B JBJ?BO QE>Q QEB OB>I FKQBOPQ O>QB FP QEB KL J FK>I FKQBOPQ O>QB JFKRP QEB O>QB LC FKCI>QFLK )C QEB KL J FK>I

FKQB0BPQ 0>QB FP >KA QEB 0>QB LC FKCI>qFLK FP QEBK QEB ?L00LTB0 FP BCCB@QFSBIV M>VFKD > OB>I FKQB0BPQ 0>QB )C QEB KL J FK>I FKQB0BPQ 0>QB FP >KA QEB0B FP deflation LC QEBK QEB OB>I FKQB0BPQ 0>QB FP >@QR>IIV )K QEF T>V >K RKBUMB@QBA ABCI>qFLK 0>FPBP QEB OB>I FKQB0BPQ M>V J BKQ P CLO ?L00LTBOP )Q @>K IB>A QL > PFR>qFLK TEB0B ?L00LTBOP AL KLQ OBM>V >K RKBUMB@QBAIV EFDE KR J ?B0 LC IL>KP >KA ?>KHP CFKA QE>Q QEBFO KBQ TLOQE FP AB@OB>PFKD LO KBD>qFSB 7 EBK ?>KHP >OB PRCCB@FKD ILPPBP QEBV ?B@L J B IBPP >?IB >KA B>DBO QL J>HB KBT IL>KP !DD0BD>QB AB J >KA AB@IFKBP TEF@E @>K IB>A QL OB@BPPFLK

4EBK QEB ALR?IB TE>J J V !CQB0 @>RPFKD > OB@BPPFLK ABCI>qFLK @>K J >HB FQ AFCC@RIQ CLO J LKBQ>OV MLIF@V QL TLOH 3>V QE>Q QEB @BKQ>I ?>KH RPBP BUM>KPFK>OV J LKBQ>OV MLIF@V QL OBAR@B QEB KL J FK>I FKQB0BPQ 0>QB >II QEB T>V QL WBO L \_?RQ QEB B@LKL J V E>P ABCI>qFLK !P > OBPRIQ QEB OB>I FKQB0BPQ 0>QB FP >KA ?B@>RPB > @BKQ>I ?>KH @>KKLQ J >HB QEB KL J FK>I FKQB0BPQ 0>QB KBD>qFSB BUM>KPFK>OV MLIF@V @>KKLQ OBAR@B QEB OB>I FKQB0BPQ 0>QB CROQEBO

)K QEB 5 3 B@LKL J V AROFKD QEB B>OIV P ABCI>qFLK T>P MBO VB>O COL J ^ TEF@E @>RPBA J >KV ?L00LTBOP QL ABC>RIQ LK QEBFO IL>KP >KA J >KV ?>KHP QL BKA RM ?>KHORMQ TEF@E FK QROK @LKLQF?RQBA PR?PQ>KQF>IIV QL QEB ' OB>Q \$BMOBPPFLK . LQ >II BMFLAP LC ABCI>qFLK ELTBSBO BKA FK B@LKL J F@ ABMOBPPFLK \*M>K CLO BU>J MIB BUMBOFBK@BA ABCI>qFLK LC PIFDEQIV IBPP QE>K MBO VB>O COL J ^ TEF@E ERQ QEB \*M>KBPB B@LKL J V ?RQ FQ PqFII DOBT ?V >?LRQ MBO VB>O LSBO QEF MBOFLA 4EB0B FP >Q IB>PQ LKB EFPQLQF@>I BU>J MIB LC ABCI>qFLK @LBUFPQFKD TqE O>MFA DOLTQE 4EB 5 3 B@LKL J V BUMBOFBK@BA ABCI>qFLK LC >?LRQ MBO VB>O LSBO QEB NR>OQBO @BKQROV COL J ^ ?RQ OB>I ' \$O >IPL BUM>KABA >Q > O>MFA @IFM LC MBO VB>O LSBO QEF QF J B ABPMFQB PL J B L@>PFLK>I PBSB0B OB@BPPFLK

4EB @BKQ>I ?>KH PELRIA ?B LK DR>OA >D>FKPQ ABCI>qFLK >KA FC KB@BPP>OV RPB BUM>KPFK>OV J LKBQ>OV MLIF@V QL MOBSBKQ >KV ILKD I>PQFKD LO BUQOB J B ABCI>qFLK COL J L@>ROOFKD %U@BMQ FK PBSB0B @>PBP IFHB QEB ' OB>Q \$BMOBPPFLK ABCI>qFLK ALBP KLQ DR>O>KQBB B@LKL J F@ AFP>PQBO

"E>KDBP FK SBIL@FQV @>K @>RPB MOL?IB J P CLO J LKBQ>OV MLIF@V 3L RKABOP>KA TEV OBT@QB QEB ABCFKFQFLK LC SBIL@FQV PL QE>Q QEB J LKBV PRMMIV FP LK QEB IBCQ E>KA PFAB LC QEB BNR>qFLK 3E>Q FP

Money supply × velocity = Nominal GDP

1B@>II COL J , ; 8 %46EB86BAB@<6 (8EFC86G<I8 QE>Q

Nominal GDP = Price Level (or GDP Deflator) × Real GDP.

3EB0BCL0B

Money Supply × velocity = Nominal GDP = Price Level × Real GDP.

6 B PL J BQF J BP @>II QEF BNR>qFLK QEB **basic quantity equation of money** ?RQ >P VLR @>K PBB FQ FP GRPQ QEB ABCFKFQFLK LC SBIL@FQV T@FQQBK FK > AFCCB@BKQ CLO J 3EFP BNR>qFLK J RPQ ELIA QORB ?V ABCFKFQFLK

(C SBIL@FQV FP @LKPQ>KQ LSBO QF J B QEBK > @BOQ>FK MBO@BKQ>DB OFPB FK QEB J LKBV PRMMIV LK QEB IBCQ E>KA PFAB LC QEB ?>PF@ NR>KQFQV BNR>qFLK LC J LKBV TFII FKBSFQ>?IV IB>A QL QEB P> J B MBO@BKQ>DB OFPB FK KL J FK>I &# / b >IQELRDE QEF @E>KDB @LRIA E>MMBQ QEOLRDE >K FK@OB>PB FK FKCI>qFLK LO >K FK@OB>PB FK OB>I &# / LO PL J B @L J ?FK>qFLK LC QEB QTL (C SBIL@FQV FP @E>KDFKD LSBO QF J B ?RQ FK > @LKPQ>KQ >KA MOBAF@Q>?IB T>V QEBK @E>KDBP FK QEB J LKBV PRMMIV TFII @LQFKRB QL E>SB > MOBAF@Q>?IB BCCB@ LK KL J FK>I &# / (C SBIL@FQV @E>KDBP RKMBAF@Q>?IV LSBO QF J B ELTBSBO QEBK QEB BCCB@ LC @E>KDBP FK QEB J LKBV PRMMIV LK KL J FK>I &# / ?B@L J BP RKMBAF@Q>?IB

<: HE8 FIIRPQ>QBP QEB >@QR>I SBIL@FQV LC J LKBV FK QEB 4 2 B@LKL J V >P J B>PROBA ?V RPFKD , QEB J LQ @L J J LK ABCFKFQFLK LC QEB J LKBV PRMMIV %OL J RM QL >?LRQ SBIL@FQV >MMB@OP C>FOIV MOBAF@Q>?IB QE>Q FP FQ FP FK@OB>PFKD >Q > C>FOIV @LKPQ>KQ 0>QB (K QEB B>OIV P ELTBSBO SBIL@FQV >P @>I@RI>QBA TFQE , ?B@L J BP J LOB S>QF>?IB 3EB OB>PLKP CLO QEBPB PE>OM @E>KDBP FK SBIL@FQV OB J >FK > MRWWIB \$@LKL J FPQ PRPMB@Q QE>Q QEB @E>KDBP FK SBIL@FQV >OB OBI>QBA QL FKKLS>qFLK FK ?>KHFKD >KA CFK@K@B TEF@E E>SB @E>KDBA ELT TB >OB RPFKD J LKBV FK J >HFKD B@LKL J F@ QO>KP>@qFLK CLO BU>J MIB QEB DOLTQE LC BIB@QOLKF@ M>V J BKQP > OFPB FK MBOPLK>I ?L00LTFKD >KA @OBAF@ @>OA RP>DB >KA >@L@L@QF QE>Q J >HB FQ B>PFBO CLO MBLMIB QL ELIA J LKBV FK P>SFKDP >@L@L@QF TEB0B FQ FP @L@L@QF >P , OFDEQ RM QL QEB J L J BKQ QE>Q QEBV T>KQ QL T@FQB > @EB@H LK QEB J LKBV >KA QO>KPCBO FQ QL , 2L C>O >Q IB>PQ FQ E>P MOLSBK AFCC@RIQ QL AO>T @IB>O IFKHP ?BQTBBK QEBPB HFAP LC C>@QLOP >KA QEB PMB@FCF@ RM >KA ALTK CIR@QR>qFLK FK , &FSBK J >KV @E>KDBP FK ?>KHFKD >KA QEB MOBS>IBK@B LC BIB@QOLKF@ ?>KHFKD B@LKL J FPQ KLT C>SLO , >P > J B>PROB LC J LKBV O>QEBO QE>K QEB K>OOLTB0 ,

<:HE8 .8?B6<GL 4?6H?4687 -F<A: % 6BIL@FQV FP QEB KL J FK>I ' \$O AFSfABA ?V QEB J LKBV PRMMIV CLO > DfSBK VB>0 7 B @>K @>I@RI>QB AfccB0BKQ J B>PROBP LC SBIL@FQV ?V RPKD AfccB0BKQ J B>PROBP LC QEB J LKBV PRMMIV 6BIL@FQV >P @>I@RI>QBA ?V RPKD - E>P I>@HBA > PQB>AV Q0BKA PFK@B QEB P FKPQ>A ?LRK@FKD RM >KA ALTK @0BAFQ &BAB0>I 2BPB0SB ">KH LC 3Q ,LRfP

(K QEB P TEBK SBIL@FQV >P J B>PROBA ?V , PBB J BA MOBAF@Q>?IB > KR J ?BO LC B@LKL J FPQP IBA ?V - L?BI I>ROB>QB , FIQLK %OFBA J >K a >ODRBA QE>Q QEB ?BPQ J LKBQ>0V MLIF@V T>P CLO QEB @BKQ>I ?>KH QL FK@OB>PB QEB J LKBV PRMMIV >Q > @LKPQ>KQ DOLTQE O>QB 3EBPB B@LKL J FPQP >ODRBA QE>Q TFQE QEB ILKD >KA S>OF>?IB I>DP LC J LKBQ>0V MLIF@V >KA QEB MLIF@>I MOBPPROBP LK @BKQ>I ?>KHBOP @BKQ>I ?>KH J LKBQ>0V MLIF@FBP TBOB >P IFHBIV QL E>SB RKABPF0>?IB >P QL E>SB ABPF0>?IB BCCB@QP 3ERP QEBPB B@LKL J FPQP ?BIFBSBA QE>Q QEB J LKBQ>0V MLIF@V PELRIA PBBH PQB>AV DOLTQE FK QEB J LKBV PRMMIV LC MBO VB>0 3EBV >ODRBA QE>Q > PQB>AV J LKBQ>0V DOLTQE O>QB TLRIA ?B @L00B@Q LSBO ILKDBO QF J B MBOFLAP PFK@B FQ TLRIA OLRDEIV J >Q@E QEB DOLTQE LC QEB OB>I B@LKL J V (K >AAFQFLK QEBV >ODRBA QE>Q DfSfKD QEB @BKQ>I ?>KH IBPP AFP@OBQFLK QL @LKR@Q J LKBQ>0V MLIF@V TLRIA MOBSBKQ >K LSBOIV >@QFSFPQ @BKQ>I ?>KH COL J ?B@L J FKD > PLR0@B LC B@LKL J F@ FKPQ>?FIFQV >KA RK@B0Q>FKQV (K QEFP PMFOFQ %OFBA J >K TOLQB FK e3EB CFOPQ >KA J LPQ F J MLOQ>KQ IBPPLK QE>Q EFPQLOV QB>@EBP >?LRQ TE>Q J LKBQ>0V MLIF@V @>K AL b >KA FQ FP > IBPPLK LC QEB J LPQ MOLCLRKA F J MLOQ>K@B b FP QE>Q J LKBQ>0V MLIF@V @>K MOBSBKQ J LKBV FQPBC COL J ?BFKD > J >GLO PLR0@B LC B@LKL J F@ AFPQRO?>K@B f

P QEB SBIL@FQV LC , ?BD>K QL CIR@QR>QB FK QEB P E>SfKD QEB J LKBV PRMMIV DOLT >Q > MOBABQBO J FKBA >KA RK@E>KDFKD O>QB PBB J BA IBPP ABPF0>?IB ?B@>RPB >P QEB NR>KQFV QEBLOV LC J LKBV PELTP QEB @L J ?FK>QFLK LC @LKPQ>KQ DOLTQE FK QEB J LKBV PRMMIV >KA CIR@QR>QFKD SBIL@FQV TLRIA @>RPB KL J FK>I &# / QL OFPB >KA C>II FK RKM0BAF@Q>?IB T>VP 3EB GR J MFKBPP LC SBIL@FQV FK QEB P @>RPBA J >KV @BKQ>I ?>KHP QL CL@RP IBPP LK QEB O>QB >Q TEF@E QEB NR>KQFV LC J LKBV FK QEB B@LKL J V T>P FK@OB>PKD >KA FKPQ>A QL PBQ J LKBQ>0V MLIF@V ?V OB>@QFKD QL TEBQEBO QEB B@LKL J V T>P BUMBOFBK@FKD LO FK A>KDBO LC EFDEBO FKCI>QFLK LO RKB J MILV J BKQ

### - A8@C?BL@8AG 4A7 !A9?4G<BA

(C VLR TBOB QL PROSBV @BKQ>I ?>KHBOP >OLRKA QEB TLOIA >KA >PH QEB J TE>Q QEBV ?BIFBSB PELRIA ?B QEB MOF J >OV Q>PH LC J LKBQ>0V MLIF@V QEB J LPQ MLMRI>O >KPTBO ?V C>O TLRIA ?B CFDEQFKD FKCI>QFLK , LPQ @BKQ>I ?>KHBOP ?BIFBSB QE>Q QEB KBL@I>PPF@>I J LABI LC B@LKL J F@P >@>RO>QBIV OBM0BPBKQP QEB B@LKL J V LSBO QEB J BAFR J QL ILKD QBO J 1B J B J ?BO QE>Q FK QEB KBL@I>PPF@>I J LABI LC QEB B@LKL J V TB AO>T QEB >DDOBD>QB PRMMIV @ROSB >P > SBOQE@>I IFKB >Q QEB IBSBI LC MLQBKF>I &# / >P <:HE8 PELTP (K QEB KBL@I>PPF@>I J LABI B@LKL J FPQP ABQBO J FK B QEB IBSBI LC MLQBKF>I &# / >KA QEB K>QRO>I O>QB LC RKB J MILV J BKQ QE>Q BUFPQP TEBK QEB B@LKL J V FP MOLAR@FKD >Q MLQBKF>I &# / ?V OB>I B@LKL J F@ C>@QLOP (C QEB LOFDfK>I IBSBI LC >DDOBD>QB AB J >KA FP # QEBK >K BUM>KPFLK>OV J LKBQ>0V MLIF@V QE>Q PEFQCP >DDOBD>QB AB J >KA QL # LKIV @OB>QBP >K FKCI>QFLK>OV FK@OB>PB FK QEB MOF@B IBSBI ?RQ FQ ALBP KLQ >IQBO &# / LO RKB J MILV J BKQ %OL J QEFP MBOPMB@QFSB >II QE>Q J LKBQ>0V MLIF@V @>K AL FQ QL IB>A QL ILT FKCI>QFLK LO EFDE FKCI>QFLK b >KA ILT FKCI>QFLK MOLSfABP > ?BQQBO @IF J >QB CLO > EB>IQEV >KA DOLTfKD B@LKL J V CQBO >II ILT FKCI>QFLK J B>KP QE>Q ?RPFKBPPBP J >HFKD FKSBPQ J BKQP @>K CL@RP LK OB>I B@LKL J F@ FPPRPB KLQ LK CFDR0FKD LRQ T>VP QL MOLQB@Q QEB J PBISBP COL J QEB @LPQ >KA OFPHP LC FKCI>QFLK (K QEFP T>V > @LKPFPQBKQ M>QQBOK LC ILT FKCI>QFLK @>K @LQKQF?RQB QL ILKD QBO J DOLTQE

<:HEB %BA8G4EL (B?6L <A 4 &8B6?4FF<64? %B78? )K > KBL@I>PPf@>I SFBT J LKBQ>OV MLIF@V >CCB@QP LKIV QEB MOF@B IBSBI KLQ QEB IBSBI LC LRQMRQ FK QEB B@LKL J V &LO BU>J MIB >K BUM>KPFLLK>OV J LKBQ>OV MLIF@V @>RPBP >DDOBD>QB AB J>KA QL PEFCQ COL J QEB LOFDK>I ! \$ QL ! \$ (LTBSBO QEB >AGRQ J BKQ LC QEB B@LKL J V COL J QEB LOFDK>I BNRHF?QFR J % QL QEB KBT BNRHF?QFR J % OBMOBPBKQP >K FKCI>QFLK>OV FK@OB>PB FK QEB MOF@B IBSBI COL J O QL O ?RQ E>P KL BCCB@Q FK QEB ILKD ORK LK LRQMRQ LO QEB RKB J MILV J BKQ O>QB )K C>@Q KL PEFCQ FK ! \$ TFHl >CCB@Q QEB BNRHF?QFR J NR>KQFQV LC LRQMRQ FK QEFP J LABI

3EFP SFPFLK LC CL@RPFKD J LKBQ>OV MLIF@V LK > ILT O>QB LC FKCI>QFLK FP PL >QQO>@QFSB QE>Q J >KV @LRKQOFBP E>SB OBTQFQBK QEBFO @BKQO>I ?>KHFKD I>TP PFK@B FK QEB P QL E>SB QEBFO ?>KH MO>@QF@B **inflation targeting** TEF@E J B>KP QE>Q QEB @BKQO>I ?>KH FP IBD>IIV OBNRFOBA QL CL@RP MOF J >OFIV LK HBBMFKD FKCI>QFLK ILT ! V @BKQO>I ?>KHP FK @LRKQOFBP FK@IRAFKD RPQOF> !O>WFI ">K>A> (PO>BI \*LOB> , BUFL @L -BT 9B>I>KA 2M>FK 2TBABK 3E>FI>KA >KA QEB 4KFQBA \*FKDAL J C>@BA > IBD>I OBNRFOB J BKQ QL Q>ODBQ QEB FKCI>QFLK O>QB KLQ>?IB BU@BMQFLK FP QEB %BABO>I 1BPBOSB FK QEB 4KFQBA 2Q>QBP TEF@E ALBP KLQ MO>@QF@B FKCI>QFLK Q>ODBQFKD (KPB>A QEB I>T DLSBOKFKD QEB %BABO>I 1BPBOSB OBNRFOBP FQ QL Q>HB ?LQE RKB J MILV J BKQ >KA FKCI>QFLK FKQL >@LRKQ

\$@LKL J FPQP E>SB KL CFK>I @LKPBPKP LK TEBQEBO > @BKQO>I ?>KH PELRIA ?B OBNRFOBA QL CL@RP LKIV LK FKCI>QFLK LO PELRIA E>SB DOB>QBO AFP@OBQFLK %LO QELPB TEL PR?P@OF?B QL QEB FKCI>QFLK Q>ODBQFKD MEFILPLMEV QEB CB>O FP QE>Q MLIF@F>KP TEL >OB TLOOFBA >?LRQ PILT B@LKL J F@ DOLTQE >KA RKB J MILV J BKQ TFHl @LKPQ>KQIV MOBPPROB QEB @BKQO>I ?>KH QL @LKAR@Q > ILLPB J LKBQ>OV MLIF@V b BSBK FC QEB B@LKL J V FP >IOB>AV MOLAR@FKD >Q MLQBKF>I &# / (K PL J B @LRKQOFBP QEB @BKQO>I ?>KH J >V I>@H QEB MLIF@F>I MLTBO QL OBPFPQ PR@E MOBPPROBP TFQE QEB OBPRIQ LC EFDEBO FKCI>QFLK ?RQ KL ILKD QBO J OBAR@QFLK FK RKB J MILV J BKQ 3EB 4 2 %BABO>I 1BPBOSB E>P > QO>AFQFLK LC FKABMBKABK@B ?RQ @BKQO>I ?>KHP FK LQEBO @LRKQOFBP J >V ?B RKABO DOB>QBO MLIF@F>I MOBPPROB %LO >II LC QEBBP OB>PLKP b ILKD >KA S>OF>?IB I>DP BU@BPP OBPBOSBP RKPQ>?IB SBIL@FQV >KA @LKQOLSOPV LSBO B@LKL J F@ DL>IP b J LKBQ>OV MLIF@V FK QEB OB>I TLOIA FP LCQBK AFCCF@RIQ 3EB ?>PF@ J BPP>DB OB J >FKP ELTBSBO QE>Q @BKQO>I ?>KHP @>K >CCB@Q >DDOBD>QB AB J >KA QEOLRDE QEB @LKAR@Q LC J LKBQ>OV MLIF@V >KA FK QE>Q T>V FKCIRBK@B J >@OLB@LKL J F@ LRQ@L J BP

### FF8G H55?8F 4A7 \$818E4:8 L6?8F

. KB ILKD PQ>KAFKD @LK@BOK >?LRQ E>SEKD QEB @BKQO>I ?>KH CL@RP LK FKCI>QFLK >KA RKB J MILV J BKQ FP QE>Q FQ J >V ?B LSBOILLHFKD @BO>FK LQEBO B@LKL J F@ MOL?IB J P QE>Q >OB @L J FKD FK QEB CRQROB %LO BU>J MIB COL J QL AROFKD TE>Q T>P HKLTK >P QEB eALQ @L J f ?LLJ QEB 4 2 PQL@H J >OHBQ TEF@E QEB #LT )LKBP (KARPQOF>I (KABU J B>PROBP TEF@E FK@IRABP SBOV I>ODB @L J M>KFBP COL J >@OLPP QEB 4 2 B@LKL J V KB>OIV QOFMIBA FK S>IRB 3EB ->PA>N FKABU TEF@E FK@IRABP J >KV P J >IIBO QB@EKLILDV @L J M>KFBP FK@OB>PBA FK S>IRB ?V > J RIQFMIB LC CFSB COL J QL 3EBBP O>QBP LC FK@OB>PB TBOB @IB>OIV KLQ PRPQ>FK>?IB 2QL@H S>IRBP >P J B>PROBA ?V QEB #LT )LKBP TBOB >I J LPQ ILTBO FK QE>K QEBV E>A ?BBK FK 2QL@H S>IRBP FK QEB ->PA>N FKABU TBOB ILTBO FK QE>K QEBV E>A ?BBK FK 3EB AOLM LCC FK PQL@H J >OHBQ S>IRBP @LKQOF?RQBA QL QEB OB@BPPFLK >KA QEB EFDEBO RKB J MILV J BKQ QE>Q CLILTBTA

6B @>K QBII > PF J FI>O PQLQOV >?LRQ ELRPFKD MOF@BP FK QEB J FA P #ROFKD QEB P P >KA P ELRPFKD MOF@BP FK@OB>PBA >Q >?LRQ MBO VB>O LK >SBO>DB #ROFKD TE>Q @> J B QL ?B HKLTK >P QEB eELRPFKD ?R?>IBf COL J QL ELRPFKD MOF@BP FK@OB>PBA >Q >I J LPQ ALR?IB QEFP >KKR>I O>QB 3EBBP O>QBP LC FK@OB>PB TBOB @IB>OIV KLQ PRPQ>FK>?IB 6 EBK ELRPFKD MOF@BP CBII FK >KA J >KV ?>KHP >KA ELRPBELIAP CLRKA QE>Q QEBFO >PPBQP TBOB TLOQE IBPP QE>K QEBV BUMB@QBA TEF@E @LKQOF?RQBA QL QEB OB@BPPFLK QE>Q PQ>QOBA FK

Q > ?OL>ABO IBSBI PL J B B@LKL J FPQP TLOOV >?LRQ > IBSBO>DB @V@IB TEBOB eIBSBO>DBf FP > QBO J CFK>K@F>I B@LKL J FPQP



RPB QL J B>K e?LOOLTfkd f 6 EBK B@LKL J F@ QF J BP >OB DLLA ?>KHP >KA QEB CFK>K@F>I PB@QL0 >OB B>DBO QL IBKA >KA MBLMIB >KA CFO J P >OB B>DBO QL ?LOOLT 1B J B J ?BO QE>Q > J LKBV J RIQFMIFBO ABQBO J FKBP QEB > J LRKQ LC J LKBV >KA @OBAFQ FK >K B@LKL J V b > MOL@BPP LC IL>KP J >AB J LKBV ABMLPFQBA >KA J LOB IL>KP J >AB (K DLLA B@LKL J F@ QF J BP QEF PRODB LC IBKAFKD BU>DDBO>QBP QEB BMFPLAB LC B@LKL J F@ DOLTQE (Q @>K BSBK ?B M>OQ LC TE>Q IB>A MOF@BP LC @BOQ>FK >PPBQP b IFHB PQL@H MOF@BP LO ELRPFKD MOF@BP b QL OFPB >Q RKPRPQ>FK>?IV EFDE >KKR>I O>QBP Q PL J B MLFKQ TEBK B@LKL J F@ QF J BP QROK ?>A ?>KHP >KA QEB CFK>K@F>I PB@QL0 ?B@L J B J R@E IBPP TFIIFKD QL IBKA >KA @OBAFQ ?B@L J BP BUMBKPFBS LO RK>S>FI>?IB QL J >KV MLQBKQ>I ?LOOLT BOP 3EB PE>OM OBAR@QFLK FK @OBAFQ MBOE>MP @L J ?FKBA TFQE QEB ABCI>QFKD MOF@BP LC > ALQ @L J PQL@H MOF@B ?R??IB LO > ELRPFKD ?R??IB J >HBP QEB B@LKL J F@ ALTKQROK TLOPB QE>K FQ TLRIA LQEBOTFPB ?B

3ERP PL J B B@LKL J FPQP E>SB PRDDBPQBA QE>Q QEB @BKQO>I ?>KH PELRIA KLQ GRPQ ILLH >Q B@LKL J F@ DOLTQE FKCI>QLK >KA RKB J MILV J BKQ O>QBP ?RQ PELRIA >IPL HBBM >K BVB LK >PPBQ MOF@BP >KA IBSBO>DB @V@IBP 2R@E MOLMLP>IP >OB NRFQB @LKQQLSBOPF>I (C > @BKQO>I ?>KH E>A >KCLRK@BA FK QE>Q PQL@H MOF@BP TBOB OFPFKD eQLL C>PQf LO FK QE>Q ELRPFKD MOF@BP TBOB OFPFKD eQLL C>PQ f >KA QEBK Q>HBK >@QLK QL ELIA ALTK MOF@B FK@OB>PBP J >KV MBLMIB >KA QEBFO BIB@QBA MLIFQ>I OBMOPBPKQ>QFSBP TLRIA E>SB ?BBK LRQO>DBA - BFQEBO QEB %BABA>I 1BPBOSB KLO >KV LQEB @BKQO>I ?>KHP T>KQ QL Q>HB QEB OBPMCLKP>FIFQV LC AB@FAFKD TEBK PQL@H MOF@BP >KA ELRPFKD MOF@BP >OB QLL EFDE QLL ILT LO GRPQ OFDEQ P CROQEBO OBPB>O@E BUMILOBP ELT >PPBQ MOF@B ?R??IBP >KA IBSBO>DB @V@IBP @>K >CCB@Q >K B@LKL J V @BKQO>I ?>KHP J >V KBBA QL QEFKH >?LRQ TEBQEBO QEBV PELRIA @LKR@Q J LKBQ>OV MLIF@V FK > T>V QE>Q TLRIA PBBH QL J LABO>QB QEBPB BCCB@Q

+BQdP BKA QEFP @E>M@B0 TFQE > 6 LOH FQ . RQ BUBO@FPB FK ELT QEB %BA b LO >KV @BKQO>I ?>KH b TLRIA PQFO RM QEB B@LKL J V ?V FK@OB>PFKD QEB J LKBV PRMMIV

# Work It Out

## 4?6H?4G<A : G ; 8 9986GF B9 %BA8G4EL +G<@H?HF

3RMMLPB QE>Q QEB @BKQO>I ?>KH T>KQP QL PQF J RI>QB QEB B@LKL J V ?V FK@OB>PFKD QEB J LKBV PRMMIV 4EB ?>KHBOP BPQF J >QB QE>Q QEB SBIL@FQV LC J LKBV FP >KA QE>Q QEB MOF@B IBSBI TFII FK@OB>PB COL J QL ARB QL QEB PQF J RIRP 5PFKD QEB NR>KQFQV BNR>QLK LC J LKBV TE>Q TFII ?B QEB F J M>@Q LC >K ?FIIFLK ALII>O FK@OB>PB FK QEB J LKBV PRMMIV LK QEB NR>KQFQV LC DLLAP >KA PBO SF@BP FK QEB B@LKL J V D FS BK >K FKQF>I J LKBV PRMMIV LC QOFI FLK

3QBM 7 B ?BD?K ?V TOFQFKD QEB NR>KQFQV BNR>QLK LC J LKBV - 6 01 7 B HKLT QE>Q FKQF>IIV 6 - ?FIIFLK >KA O 3R?PQFQRFKD QEBPB KR J ?BOP FK TB @>K PLISB CLO 1

$$\begin{aligned} MV &= PQ \\ 4,000 \times 3 &= 100 \times Q \\ Q &= 120 \end{aligned}$$

3QBM .LT TB T>KQ QL CFKA QEB BCCB@Q LC QEB >AAFOFLK ?FIIFLK FK QEB J LKBV PRMMIV QLDBQEBO TFQE QEB FK@OB>PB FK QEB MOF@B IBSBI 4EB KBT BNR>QLK FP

$$\begin{aligned} MV &= PQ \\ 4,800 \times 3 &= 110 \times Q \\ Q &= 130.9 \end{aligned}$$

3QBM )C TB Q>HB QEB AFCCBOBK@B ?BQ TBBK QEB QTL NR>KQFQBP TB CFKA QE>Q QEB J LKBQ>OV PQF J RIRP FK@OB>PBA QEB NR>KQFQV LC DLLAP >KA PBO SF@BP FK QEB B@LKL J V ?V ?FIIFLK

3EB AFP@RPPFLK FK QEFP @E>M@B0 E>P CL@RPBA LK AL J BPQF@ J LKBQ>OV MLIF@V QE>Q FP QEB SFBT LC J LKBQ>OV MLIF@V TFQEFK >K B@LKL J V **K6; 4A: 8 \* 4G8F 4A7 !AG8EA4G<BA4? 4C<G4? ?BJF** BUMILOBP QEB FKQBOK>QLK>I AF J BKPFLLC LC J LKBQ>OV MLIF@V >KA ELT J LKBQ>OV MLIF@V ?B@L J BP FKSLISBA TFQE BU@E>KDB O>QBP >KA FKQBOK>QLK>I CILTP LC CFK>K@F>I @>MFQ>I

# Bring it Home

, ; 8 (EB5?8@ B9 G; 8 28EB (8E68AG !AG8E8FG \*4G8 \$B J8E BHA7

JK QEB 5 3 &BABA>I 2BPBOSB CLRKA FQPBC FK > AFCCF@RIQ MLPRQFLK 4EB CBABA>I CRKAP 0>QB T>P LK FQP  
T>V QL KB>0 WBOL TEF@E JB>KQ QE>Q QO>AQFLK>I LMBK J>0HBQ LMB0>QFLKP ?V TEF@E QEB &BA MRO@E>PBP 5 3  
40B>PROV "FIIP QL ILTBO PELOQ QB0 J FKQB0BPQ 0>QBP T>P KL ILKDB0 SF>?IB 4EFP PL @>IIBA bWBOL ?LRKA MOL?IB J c  
MOL J MQBA QEB &BA RKAB0 QEBK #E>FO "BK "BOK>KHB QL >QQB JMQ PL JB RK@LKSBBKQFLK>I MLIF@FBP @LIIB@QFSBIV  
@>IIBA NR>KQFQ>QFSB B>PFKD "V B>OIV NR>KQFQ>QFSB B>PFKD KB>OIV NRFKQRMIBA QEB >JLRKQ LC ?>KH OBPBOSBP  
4EFP IFHBIV @LKCQF?RQBA QL QEB 5 3 B@LKL J V@P OB@LSBOV ?RQ QEB F J M>@Q T>P JRQBA MOL?>?IV ARB QL PL JB LC QEB  
EROAIBP JBKQFLKBA FK QEB I>PQ PB@QFLK LC QEFP J LARIB 4EB RKM0B@BABKQBA FK@OB>PB FK ?>KH OBPBOSBP >IPL IBA QL  
CB>OP LC FKCI>QFLK !P LC B>OIV ELTBSB0 QEB0B E>SB ?BBK KL PBOFLRP PFDKP LC > ?LLJ TFQE @LOB FKCI>QFLK  
>OLRKA > PQ>?IB

# # 1 , \*%+

54A> EHA TEBK ABMLPFQLOP 0>@B QL QEB ?>KH QL TFQEA0>T QEBFO ABMLPFQP CLO CB>0 QE>Q LQEB0TFPB QEBV TLRIA ?B ILPQ

54F<6 DH4AG<GL 8DH4G<BA B9 @BA8L J LKBV PRMMIV ^ SBIL@FQV KL J FK>I &# /

68AGE4? 54A> FKPQFQRQFLK TEF@E @LKAR@QP > K>QFLKdP J LKBQ>0V MLIF@V >KA OBDRI>QBP FQP ?>KHFKD PVPQB J

6BAGE46G<BA4EL @BA8G4EL CB?<6L > J LKBQ>0V MLIF@V QE>Q OBAR@BP QEB PRMMIV LC J LKBV >KA IL>KP

6BHAG8E6L6?<64? J LSKFD FK QEB LMMLPFQB AFOB@QFLK LC QEB ?RPFKBPP @V@IB LC B@LKL J F@ ALTKQROKP >KA RMP TFKDP

78CBF<G <AFHE4A68 >K FKPRO>K@B PVPQB J QE>Q J >HBP PROB ABMLPFQLOP FK > ?>KH AL KLQ ILPB QEBFO J LKBV BSBK FC QEB ?>KH DLBP ?>KHORMQ

7<F6BHAG E4G8 QEB FKQB0BPQ 0>QB @E>0DBA ?V QEB @BKQ0>I ?>KH LK QEB IL>KP QE>Q FQ DFSBP QL LQEB0 @L J J B0@F>I ?>KHP

8K68FF E8F8E I 8F 0BPB0SBP ?>KHP ELIA QE>Q BU@BBA QEB IBD>IIV J >KA>QBA IF J FQ

8KC4AF<BA4EL @BA8G4EL CB?<6L > J LKBQ>0V MLIF@V QE>Q FK@OB>PBP QEB PRMMIV LC J LKBV >KA QEB NR>KQFQV LC IL>KP

9878E4? 9HA7F E4G8 QEB FKQB0BPQ 0>QB >Q TEF@E LKB ?>KH IBKAP CRKAP QL >KLQEB0 ?>KH LSBOKFDEQ

<A9?4G<BA G4E : 8G<A : > ORIB QE>Q QEB @BKQ0>I ?>KH FP OBNRFOBA QL CL@RP LKIV LK HBBMFKD FKCI>QFLK ILT

?8A78E B9 ?4FG E8FBEG >K FKPQFQRQFLK QE>Q MOLSFABP PELOQ QBO J B J B0DBK@V IL>KP FK @LKAQFLKLP LC CFK>K@F>I @OFFFP

?BBF8 @BA8G4EL CB?<6L PBB BUM>KPFLK>0V J LKBQ>0V MLIF@V

BC8A @4E>8G BC8E4G<BAF QEB @BKQ0>I ?>KH PBIFKD LO ?RVFKD 30B>PROV ?LKAP QL FK CIRBK@B QEB NR>KQFQV LC J LKBV >KA QEB IBSBI LC FKQB0BPQ 0>QBP

DH4AG<G4G<I 8 84F<A : ) QEB MRO@E>PB LC ILKD QBO J DLSBOK J BKQ >KA MOFS>QB J LOQD>DB ?>@HBA PB@ROFQFBP ?V @BKQ0>I ?>KHP QL J >HB @0BAFQ >S>FI>?IB FK ELMBP LC PQF J RI>QFKD >DD0BD>QB AB J >KA

E8F8E I 8 E8DH<E8@8AG QEB MBO@BKQ>DB > J LRKQ LC FQP QLQ>I ABMLPFQP QE>Q > ?>KH FP IBD>IIV L?IFD>QBA QL QL BFQEB0 ELIA >P @>PE FK QEBFO S>RIQ LO ABMLPFQ TFQE QEB @BKQ0>I ?>KH

G< : ; G @BA8G4EL CB?<6L PBB @LKQ0>@QFLK>0V J LKBQ>0V MLIF@V

I8?B6<GL QEB PMBBA TFQE TEF@E J LKBV @FO@RI>QBP QEOLRDE QEB B@LKL J V @>I@RI>QBA >P QEB KL J FK>I &# / AFSFABA ?V QEB J LKBV PRMMIV

# # 1 ' & ( , + & + - % % \* 1

, ; 8 878E4? \*8F8E I 8 4A><A : +LF68@ 4A7 8AGE4? 4A>F

3EB J LPQ MOL J FK BKQ Q>PH LC > @BKQ0>I ?>KH FP QL @LKAR@Q J LKBQ>0V MLIF@V TEF@E FKSLISBP @E>KDBP QL FKQB0BPQ 0>QBP >KA @0BAFQ @LKAQFLKLP >CCB@QFKD QEB > J LRKQ LC ?LOOLTFKD >KA PMBKAFKD FK >K B@LKL J V 2L J B MOL J FK BKQ @BKQ0>I ?>KHP >OLRKA QEB TLOIA FK@IRAB QEB 4 2 %BABO>I 1BPB0SB QEB \$ROLMB>K "BKQ0>I !>KH QEB !>KH LC )>M>K >KA QEB !>KH LC \$KDI>KA

4A> \*8 : H?4G<BA

?>KH ORK L@>ROP TEBK QEB0B >0B OR J LOP MLPPF?IV QORB MLPPF?IV C>IPB QE>Q > ?>KH FP >Q CFK>K@F>I OFPH LC E>SFKD KBD>QFSB KBQ TLOQE P > 0BPRIQ ABMLPFQLOP ORPE QL QEB ?>KH QL TFQEA0>T QEBFO J LKBV >KA MRQ FQ PL J BMI>@B P>CBO \$SBK C>IPB OR J LOP FC QEBV @>RBP > ?>KH ORK @>K CLO@B > EB>IQEV ?>KH QL ILPB FQP ABMLPFQP >KA ?B CLO@BA QL @ILPB #BMLPFQ FKPRO>K@B DR>0>KQBBP ?>KH ABMLPFQLOP QE>Q BSBK FC QEB ?>KH E>P KBD>QFSB KBQ TLOQE QEBFO ABMLPFQP TFII ?B MOLQB@QBA (K

QEB 4KFQBA 2Q>QBP QEB %BABO>I #BMLPFQ (KPRO>K@B "LOMLO>QLK %#(" @LIIB@QP ABMLPFQ FKPRO>K@B MOB J FR J P COL J ?>KHP >KA DR>O>KQBBP ?>KH ABMLPFQ RM QL !>KH PRMBOSFPFLK FKSLISBP FKPMB@QFKD QEB ?>I>K@B PEBBQP LC ?>KHP QL J>HB PROB QE>Q QEBV E>SB MLPFQFSB KBQ T'LOQE >KA QE>Q QEBFO >PPBQP >OB KLQ QLL OFPHV (K QEB 4KFQBA 2Q>QBP QEB . CCF@B LC QEB " L J M@LIIBO LC QEB "ROOBK@V . " " FP OBPMMLKPF?IB CLO PRMBOSFPFKD ?>KHP >KA FKPMB@QFKD P>SFKDP >KA IL>KP >KA QEB ->QLK>I "OBAFQ 4KFLK A J FKFPQ>QLK - " 4 FP OBPMMLKPF?IB CLO FKPMB@QFKD @OBAFQ RKFLKP 3EB %#(" >KA QEB %BABO>I 1BPBOSB >IPL MI>V > OLIB FK ?>KH PRMBOSFPFLK

6 EBK > @BKQ>I ?>KH >@QP >P > IBKABO LC I>PQ OBPLQO FQ J>HBP PELQO QBO J IL>KP >S>FI>?IB FK PFQR>QLK LC PBSBOB CFK>K@F>I M>KF@ LO P@OBPP 3EB C>FIROB LC > PFKDIB ?>KH @>K ?B QOB>QBA IFHB >KV LQEBQ ?RPFKBPP C>FIROB 8BQ FC J >KV ?>KHP C>FI FQ @>K OBAR@B >DDOBD>QB AB J >KA FK > T>V QE>Q @>K ?QFKD LK LO ABBMBK > OB@BPPFLK 3EB @L J ?FK>QLK LC ABMLPFQ FKPRO>K@B ?>KH PRMBOSFPFLK >KA IBKABO LC I>PQ OBPLQO MLIF@FBP EBIM QL MOBSBKQ TB>HKBPBP FK QEB ?>KHFKD PVPQB J COL J @>RPFKD OB@BPPFLK

**BJ 4 8AGE4? 4A> K86HG8F %BA8G4EL (B?<6L**

@BKQ>I ?>KH E>P QE@BB QO>AFQFLK>I QLLIP QL @LKR@Q J LKBQ>OV MLIF@V LMBK J >OHBQ LMBQ>QLK TEF@E FKSLISBP ?RVFKD >KA PBIIFKD DLSBOK J BKQ ?LKAP TFQE ?>KHP OBPBOSB OBNRFOB J BKQP TEF@E ABQBO J FKB TE>Q IBSBI LC OBPBOSBP > ?>KH FP IBD>IIV OBNRFOBA QL ELIA >KA AFP@LRKQ O>QBP TEF@E FP QEB FKQBOBPQ O>QB @E>ODBA ?V QEB @BKQ>I ?>KH LK QEB IL>KP QE>Q FQ DFBSP QL LQEBQ @L J J B@F>I ?>KHP 3EB J LPQ @L J J LKIV RPBA QLLI FP LMBK J >OHBQ LMBQ>QLK

**%BA8G4EL (B?<6L 4A7 6BAB@<6 'HG6B@8F**

K BUM>KPFLK>OV LO ILLPB J LKBQ>OV MLIF@V O>FPBP QEB NR>KQFV LC J LKBV >KA @OBAFQ >?LSB TE>Q FQ LQEBOTFPB TLRIA E>SB ?BBK >KA OBAR@BP FKQBOBPQ O>QBP ?LLPQFKD >DDOBD>QB AB J >KA >KA QERP @LRKQBOFKD OB@BPPFLK @LKQ>@QLK>OV J LKBQ>OV MLIF@V >IPL @>IIBA > QFDEQ J LKBQ>OV MLIF@V OBAR@BP QEB NR>KQFV LC J LKBV >KA @OBAFQ ?BILT TE>Q FQ LQEBOTFPB TLRIA E>SB ?BBK >KA O>FPBP FKQBOBPQ O>QBP PBBHFKD QL ELIA ALTK FKCI>QLK #ROFKD QEB a OB@BPPFLK @BKQ>I ?>KHP >OLRKA QEB TLOIA >IPL RPBA NR>KQFQ>QFSB B>PFKD QL BUM>KA QEB PRMMIV LC @OBAFQ

**(<G94??F 9BE %BA8G4EL (B?<6L**

, LKBQ>OV MLIF@V FP FKBSFQ>?IV F J MOB@FPB CLO > KR J ?BO LC OB>PLKP > QEB BCCB@QP L@RO LKIV >CQBO ILKD >KA S>OF>?IB I>DP ? FC ?>KHP AB@FAB QL ELIA BU@BPP OBPBOSBP J LKBQ>OV MLIF@V @>KKLQ CLO@B QEB J QL IBKA >KA @ SBIL@FQV J >V PEFQ FK RKMBAF@Q>?IB T>VP 3EB ?>PF@ NR>KQFV BNR>QLK LC J LKBV FP , 5 /O TEBOB , FP QEB J LKBV PRMMIV 5 FP QEB SBIL@FQV LC J LKBV / FP QEB MOF@B IBSBI >KA O FP QEB OB>I LRQMRQ LC QEB B@LKL J V 2L J B @BKQ>I ?>KHP IFHB QEB \$ROLMB>K "BKQ>I !>KH MO>@QF@B FKCI>QLK Q>ODBQFKD TEF@E J B>KP QE>Q QEB LKIV DL>I LC QEB @BKQ>I ?>KH FP QL HBBM FKCI>QLK TFQEFK > ILT Q>ODBQ O>KDB . QEBO @BKQ>I ?>KHP PR@E >P QEB 4 2 %BABO>I 1BPBOSB >OB COBB QL CL@RP LK BFQEBQ OBAR@FKD FKCI>QLK LO PQF J RI>QFKD >K B@LKL J V QE>Q FP FK OB@BPPFLK TEF@EBSBO DL>I PBB J P J LPQ F J MLOQ>KQ >Q QEB QF J B

**+ \$ # ) - +,!'&+**

6 EV FP FQ F J MLOQ>KQ CLO QEB J B J ?BOP LC QEB !L>OA LC &LSBOKLOP LC QEB %BABO>I 1BPBOSB QL E>SB ILKDQO QBO J P FK LCCF@B QE>K BIB@QBA LCCF@F>IP IFHB QEB /OBPFABKQ

&FSBK QEB A>KDBO LC ?>KH ORKP TEV AL ?>KHP KLQ HBBM QEB J >GLOFV LC ABMLPFQ LK E>KA QL J BQ QEB AB J >KAP LC ABMLPFQLOP

!>KH ORKP >OB LCQBK ABP@OF?BA >P ePBIC CRICFIIFKD MOLMEB@FBP f 6 EV FP QEFP MEO>PB >MMOLMOF>QB QL ?>KH ORKP

(C QEB @BKQ>I ?>KH PBIIP FK ?LKAP QL > ?>KH QE>Q E>P FPPRBA FK IL>KP >KA FP BU>@QIV J BQFKD QEB OBPBOSB OBNRFOB J BKQ LC TE>Q TFII E>MMBK QL QEB > J LRKQ LC IL>KP >KA QL QEB J LKBV PRMMIV FK DBKB>I

6 E>Q TLRIA ?B QEB BCCB@Q LC FK@OB>PFKD QEB ?>KHP OBPBOSB OBNRFOB J BKQP LK QEB J LKBV PRMMIV

6 EV ALBP @LKQ>@QLK>OV J LKBQ>OV MLIF@V @>RPB FKQBOBPQ O>QBP QL OFPB

6 EV ALBP BUM>KPFLK>OV J LKBQ>OV MLIF@V @>RPBP FKQBOBPQ O>QBP QL AOLM

6 EV J FDEQ ?>KHP T>KQ QL ELIA BU@BPP OBPBOSBP FK QF J B LC OB@BPPFLK

6 EV J FDEQ QEB SBIL@FQV LC J LKBV @E>KDB RKBUMB@QBAIV

\* .! / ) - + ,!'&+

'LT FP > @BKQO>I ?>KH AFCCBOBKQ COL J > QVMF@>I @L J J BQ@F>I ?>KH

+FPQ QEB QE0BB QO>AFQFLK>I QLLIP QE>Q > @BKQO>I ?>KH E>P CLO @LKQOLIIFKD QEB J LKBV PRMMIV

'LT FP ?>KH OBDRI>QFLK IFKHBA QL QEB @LKAR@Q LC J LKBQ>OV MLIF@V

6 E>Q FP > ?>KH ORK

(K > MOLDO> J LC ABMLPFQ FKPRO>K@B >P FQ FP LMBQ>QBA FK QEB 4KFQBA 2Q>QBP TE>Q FP ?BFKD FKPROBA >KA TEL M>VP QEB FKPRO>K@B MOB J FR J P

(K DLSBOK J BKQ MOLDO> J P LC ?>KH PRMBOFPFLK TE>Q FP ?BFKD PRMBOFPBA

6 E>Q FP QEB IBKABO LC I>PQ OBPLQ

-> J B >KA ?OFBCIV ABP@OF?B QEB OBPMLKPF?HFQFBP LC B>@E LC QEB CLIILTFKD >DBK@FBP %#(" - " 4 >KA . " "

\$UMI>FK ELT QL RPB >K LMBK J >OHBQ LMBQ>QFLK QL BUM>KA QEB J LKBV PRMMIV

\$UMI>FK ELT QL RPB QEB OBPBOSB OBNRFOB J BKQ QL BUM>KA QEB J LKBV PRMMIV

\$UMI>FK ELT QL RPB QEB AFP@LRKQ O>QB QL BUM>KA QEB J LKBV PRMMIV

\*!,! \$ , !&#!& ) - + ,!'&+

6 EV AL MOBPFABKQP QVMF@>IIV OB>MMLFKQ "E>FOP LC QEB %BABO>I 1BPBOSB !L>OA BSBK TEBK QEBV TBOB LOFDK>IIV >MMLFKQBA ?V > MOBPFABKQ LC > AFCCBOBKQ MLIF@F>I M>OQV

(K TE>Q T>VP J FDEQ J LKBQ>OV MLIF@V ?B PRMBOFLO QL CFP@>I MLIF@V (K TE>Q T>VP J FDEQ FQ ?B FKCBQFLO

3EB QB0 J eJLO>I E>W>Oaf ABP@OF?BP FK@OB>PBP FK OFPHV ?BE>SFLQ OBPRIQFKD COL J BCCLQOP QL J>HB QE>Q ?BE>SFLQ P>CBO 'LT ALBP QEB @LK@BMQ LC JLO>I E>W>OA >MMIV QL ABMLPFQ FKPRO>K@B >KA LQEBQ ?>KH OBDRI>QFLK

\$UMI>FK TE>Q TLRIA E>MMBK FC ?>KHP TBOB KLQFCFBA QEBV E>A QL FK@OB>PB QEBFO OBNRFOBA OBPBOSBP ?V LKB MBO@BKQ>DB MLFKQ COL J P>V QL LC ABMLPFQ 6 E>Q TLRIA QEBFO LMQFLK ?B QL @L J B RM TFQE QEB @>PE

(\* ' \$ %+

'LT AL QEB BUM>KPFLK>OV >KA @LKQO>@QFLK>OV J LKBQ>OV MLIF@V >CCB@Q QEB NR>KQFQV LC J LKBV

'LT AL QFDEQ >KA ILLPB J LKBQ>OV MLIF@V >CCB@Q FKQBOBPQ O>QBP

'LT AL BUM>KPFLK>OV QFDEQ @LKQO>@QFLK>OV >KA ILLPB J LKBQ>OV MLIF@V >CCB@Q >DDOBD>QB AB J >KA

6 EF@E HFKA LC J LKBQ>OV MLIF@V TLRIA VLR BUMB@Q FK OBPMLKPB QL EFDE FKCI>QFLK BUM>KPFLK>OV LO @LKQO>@QFLK>OV 6 EV

\$UMI>FK ELT QL RPB NR>KQFQ>QFSB B>PFKD QL PQF J RI>QB >DDOBD>QB AB J >KA

6 EF@E HFKA LC J LKBQ>OV MLIF@V TLRIA VLR BUMB@Q FK OBPMLKPB QL OB@BPPFLK BUM>KPFLK>OV LO @LKQO>@QFLK>OV 6 EV

'LT JFDEQ B>@E LC QEB CLIILTFKD C>@QLOP @L J MIF@>QB QEB F J MIB J BKQ>QFLK LC J LKBQ>OV MLIF@V ILKD >KA S>OF>?IB I>DP BU@BPP OBPBOSBP >KA JLSB J BKQP FK SBIL@FQV

#BCFKB QEB SBIL@FQV LC QEB J LKBV PRMMIV

6 E>Q FP QEB ?>PF@ NR>KQFQV BNR>QFLK LC J LKBV

'LT ALBP > J LKBQ>OV MLIF@V LC FKCI>QFLK Q>ODBQ TLOH

TBII HKLTK B@LKL J F@ J LABI @>IIBA QEB /EFIIFMP "ROSB AFP@RPPBA FK , ; 8 #8LA8F<4A (8EFC86G<18 @E>MQB0 ABP@OF?BP QEB PELOQ ORK QO>ABLCC QVMF@>IIV L?PBOSBA ?BQTBK FKCI>QFLK >KA RKB J MILV J BKQ !>PBA LK QEB AFP@RPPFLK LC BUM>KPFLK>OV >KA @LKQO>@QFLK>OV J LKBQ>OV MLIF@V BUMI>FK TEV LKB LC QEBPB S>OF>?IBP RPR>IIV C>IIP TEBK QEB LQEBQ OFPBP

'LT ALBP ORIB ?>PBA J LKBQ>OV MLIF@V AFCCBO COL J AFP@OBQFLK>OV J LKBQ>OV MLIF@V QE>Q FP J LKBQ>OV MLIF@V KLQ ?>PBA LK > ORIB 6 E>Q >OB PL J B LC QEB >ODR J BKQP CLO B>@E

(P FQ MOBCBO>?IB CLO @BKQO>I ?>KHP QL MOF J >OFIV Q>ODBQ FKCI>QFLK LO RKB J MILV J BKQ 6 EV

2RMMLPB QEB %BA @LKAR@QP >K LMBK J >OHBQ MRO@E>PB  
?V ?RVFKD J FIIFLK FK 3OB>PROV ?LKAP COL J @ J B  
!>KH 2HBQ@E LRQ QEB ?>I>K@B PEBBQ @E>KDBP QE>Q TFII  
L@@RO >P @ J B @LKSBOQP QEB ?LKA P>IB MOL@BBAP QL KBT  
IL>KP 3EB FKQF>I @ J B ?>KH ?>I>K@B PEBBQ @LKQ>FKP QEB  
CLIILTFKD FKCLQ J >QLK PPBQP a OBPBOSBP ?LKAP  
>KA IL>KP +F>?FIFQFBP a ABMLPFQP >KA BNRQV

2RMMLPB QEB %BA @LKAR@QP >K LMBK J >OHBQ P>IB ?V  
PBIFKD J FIIFLK FK 3OB>PROV ?LKAP QL @ J B !>KH  
2HBQ@E LRQ QEB ?>I>K@B PEBBQ @E>KDBP QE>Q TFII L@@RO >P  
@ J B OBPQLOBP FQP OBNRFOBA OBPBOSBP LC ABMLPFQP ?V  
OBAR@FKD FQP IL>KP 3EB FKQF>I ?>I>K@B PEBBQ CLO @ J B  
!>KH @LKQ>FKP QEB CLIILTFKD FKCLQ J >QLK PPBQP a  
OBPBOSBP ?LKAP >KA IL>KP +F>?FIFQFBP a  
ABMLPFQP >KA BNRQV

II LQEB0 QEFKDP ?BFKD BNR>I ?V ELT J R@E TFII  
KL J FK>I &# / BUM>KA FC QEB @BKQ>I ?>KH FK@OB>PBP QEB  
J LKBV PRMMIV ?V ?FIIFLK >KA QEB SBIL@FQV LC  
J LKBV FP 4PB QEFP FKCLQ J >QLK >P KB@BPP>OV QL  
>KPTBO QEB CLIILTFKD NRBPPQLK

2RMMLPB KLT QE>Q B@LKL J FPQP BUMB@Q QEB SBIL@FQV  
LC J LKBV QL FK@OB>PB ?V >P > OBPRIQ LC QEB J LKBQ>OV  
PQF J RIRP 6 E>Q TFII ?B QEB QL>I FK@OB>PB FK KL J FK>I  
&# /

(C &# / FP >KA QEB J LKBV PRMMIV FP TE>Q  
FP SBIL@FQV

(C &# / KLT OFPBP QL ?RQ QEB J LKBV PRMMIV  
ALBP KLQ @E>KDB ELT E>P SBIL@FQV @E>KDBA

(C &# / KLT C>IIP ?>@H QL >KA QEB J LKBV  
PRMMIV C>IIP QL TE>Q FP SBIL@FQV

N K6 ; 4A : 8 \* 4G8F 4A7  
!AG8EA4G<BA4? 4C<G4? ?B J F



<:HE8 ,E478 EBHA7 G;8 / BE? )P > QQ>AB ABC@FQ ?BQTBBK QEB 5KFQBA 3Q>QBP >KA QEB %ROLMB>K 5KFLK DLLA LO  
?>A CLO QEB 5 3 B@LKL JV #OBAFQ JLAFCF@>@FLK LC TLOH ?V -FI>A -LP>MLLO 7FHJBAF> #LJ J LKP

# Bring it Home

!F 4 +GEBA : 8E B??4E BB7 9BE G;8 - + 6BAB@L

&OL J QL QEB 5 3 ALII>O ILPQ JLOB QE>K > NR>QQBO LC FQP S>IRB FK CLOB@FK @ROOBK@V J>OHBQP /K  
\*>KR>OV LKB ALII>O T>P TLOQE BROLP /K !MOFI FQ EQ FQP ILTBQP MLFKQ T@QE > ALII>O ?B@KD  
TLOQE BROLP \$R@FKD QEF@ MB@FLA QEB QQ>AB ABC@FQ ?BQTBBK QEB 5KFQBA 3Q>QBP >KA QEB %ROLMB>K 5KFLK DOBT  
COL J > VB>OIV QLQ>I LC >MMOLUF J>Q@V ^ ?FI@LK ALII>OP FK QL ?FI@LK ALII>OP FK 7>P QEF@ > DLLA  
QEF@ LO > ?>A QEF@ CLO QEB 5 3 B@LKL JV

7B IFSB FK > DIL?>I TLOIA 5 3 @LKPR JBOP ?RV Q@FI@LK LC ALII>OP TLOQE LC FJMLQ@BA DLLAP >KA PB@S@BP B>@E  
VB>O KLQ GRP@ COL J QEB %ROLMB>K 5KFLK ?RQ COL J >II LSBO QEB TLOIA 5 3 ?RPF@BPPBP PBII Q@FI@LK LC ALII>OPa  
TLOQE LC BUMLOQP 5 3 @F@FWBKP ?RPF@BPPBP >KA DLSBOK JB@QP FKSBP@ Q@FI@LK LC ALII>OP ?>OL>A BSBOV VB>O  
&L@B@FK FKSBP@L@P ?RPF@BPPBP >KA DLSBOK JB@QP FKSBP@ Q@FI@LK LC ALII>OP FK QEB 5KFQBA 3Q>QBP B>@E VB>O  
)KABBA CLOB@FKBOP >OB > J>@LO ?RVBO LC 5 3 @B@BO>I AB?Q

->KV MBLMIB @BBI QE>Q > TB>HBO ALII>O FP ?>A CLO ! JBOF@> QE>Q F@P >K FKA@>@FLK LC > TB>H B@LKL JV ?RQ FP Q  
4EF@ @E>M@B0 TFI EBIM >KPTBO QE>Q NRBP@FLK

!AGEB7H6G<BA GB K6 ; 4A : 8 \* 4G8F 4A7 !AG8EA4G<BA4? 4C<G4?

# ?BJF

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g ' LT QEB %LOBFDK \$U@E>KDB , >OHBQ 6 LOHP
- g #BJ >KA >KA 2RMMIV 2EFCQP FK %LOBFDK \$U@E>KDB , >OHBQP
- g , >@OLB@LKL J F@ \$CCB@QP LC \$U@E>KDB 1>QBP
- g \$U@E>KDB 1>QB /LIF@FBP

3EB TLOIA E>P LSB0 AFCCBOKQ @ROOBK@FBP COL J QEB CDE>KFPQ>K >CDE>KF >KA QEB I?>KF>K IBH >II QEB T>V QEOLRDE QEB >IME>?BQ QL QEB 9> J ?F>K HT>@E> >KA QEB 9F J ??>TB>K ALII>0 %LO FKQBOK>QLK>I B@LKL J F@ QO>KP>@QLKP ELRPBELIAP LO CFO J P TFII TFPE QL BU@E>KDB LKB @ROOBK@V CLO >KLQEBO /BOE>MP QEB KBBA CLO BU@E>KDFKD @ROOBK@FBP TFII @L J B COL J > &B0 J >K CFO J QE>Q BUMLOQP MOLAR@QP QL 1RPPF> ?RQ QEBK TFPEBP QL BU@E>KDB QEB 1RPPF>K OR?IBP FQ E>P B>OKBA CLO BR0LP PL QE>Q QEB CFO J @>K M>V FQP TLOHBOP >KA PRMMIFBOP FK &B0 J >KV /BOE>MP FQ TFII ?B > 2LRQE COF@>K CFO J QE>Q TFPEBP QL MRO@E>PB > J FKFKD LMB0>QLK FK KDLI> ?RQ QL J >HB QEB MRO@E>PB FQ J RPQ @LKSBOQ 2LRQE COF@>K O>KA QL KDLI>K HT>KW> /BOE>MP FQ TFII ?B >K J BOF@>K QLROFPQ SFPPFKD "EFK> TEL TFPEBP QL @LKSBOQ 4 2 ALII>0P QL "EFKBP VR>K QL M>V QEB ELQBI ?FII

\$U@E>KDB 0>QBP @>K PL J BQF J BP @E>KDB SBOV PTFCQIV %LO BU> J MIB FK QEB 4KQBA \*FKDAL J QEB MLRKA T>P TLOQE >?LRQ GRPQ ?BCLOB QEB K>QLK SLQBA QL IB>SB QEB \$ROLMB>K 4KFLK >IPL HKLTK >P QEB !OBUFQ SLQB ?RQ CBII QL GRPQ >CQBO QEB SLQB >KA @LKQFKRBA C>IIFKD QL OB>@E VB>0 ILTP > CBT J LKQEP I>QBO %LO CFO J P BKD>DBA FK FKQBOK>QLK>I ?RVFKD PBIFKD IBKAFKD >KA ?LOOLTFKD QEBBP PTFKDP FK BU@E>KDB 0>QBP @>K E>SB >K BKLO J LRP BCCB@Q LK MOLCFQP

3EFP @E>MQB0 AFP@RPPBP QEB FKQBOK>QLK>I AF J BKPFLK LC J LKBV TEF@E FKSLISBP @LKSBOPLKP COL J LKB @ROOBK@V QL >KLQEBO >Q >K BU@E>KDB 0>QB K BU@E>KDB 0>QB FP KLQEFKD J LOB QE>K > MOF@B b QE>Q FP QEB MOF@B LC LKB @ROOBK@V FK QBO J P LC >KLQEBO @ROOBK@V b >KA PL TB @>K >K>IVWB FQ TFQE QEB QLLIP LC PRMMIV >KA AB J >KA 3EB CFOQ J LARIB LC QEFP @E>MQB0 ?BDFKP TFQE >K LSBOSFBT LC CLOBFDK BU@E>KDB J >OHBQP QEBFO PFWB QEBFO J >FK M>OQF@FM>KQP >KA QEB SL@>?RI>OV CLO AFP@RPPFKD J LSB J BKQP LC BU@E>KDB 0>QBP 3EB CLILTFKD J LARIB RPPB AB J >KA >KA PRMMIV DO>MEP QL >K>IVWB PL J B LC QEB J >FK C>@QLOP QE>Q @>RPB PEFCQP FK BU@E>KDB 0>QBP CFK>I J LARIB QEBK ?OFKDP QEB @BKQO>I ?>KH >KA J LKBQ>OV MLIF@V ?>@H FKQL QEB MF@QROB \$>@E @LRKQOV J RPQ AB@FAB TEBQEBO QL >IILT QEB J >OHBQ QL ABQBO J FK B FQ BU@E>KDB 0>QB LO E>SB QEB @BKQO>I ?>KH FKQBOSBKB II QEB @ELF@BP CLO BU@E>KDB 0>QB MLIF@V FKSLISB AFPQFK@QFSB QO>ABLCCP >KA OFHP

## N BJ G;8 BE8<:A K6;4A:8 %4E>8G / BE>F

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d #BCFKB CLOBFDK BU@E>KDB J >OHBQ
- d #BP@OF?B AFCCBOKQ QVMBP LC FKSBPQ J BKQP IFHB CLOBFDK AFOB@Q FKSBPQ J BKQP %#( ML0QCLIFL FKSBPQ J BKQP >KA EBADFKD
- d \$UMI>FK ELT >MMOB@F>QFKD LO ABMOB@F>QFKD @ROOBK@V >CCB@QP BU@E>KDB 0>QBP
- d (ABKQFCV TEL ?BKBCFQP COL J > PQQLKDBO @ROOBK@V >KA ?BKBCFQP COL J > TB>HBO @ROOBK@V

, LPQ @LRKQOFBP E>SB AFCCBOKQ @ROOBK@FBP ?RQ KLQ >II 2L J BQF J BP P J >II B@LKL J FBP RPB >K B@LKL J F@>IIV I>ODBO KBFDE?LOP @ROOBK@V %LO BU> J MIB \$@R>ALO \$I 2>IS>ALO >KA />K> J > E>SB AB@FABA QL **dollarize b** QE>Q FP QL RPB QEB 4 2 ALII>0 >P QEBFO @ROOBK@V 2L J BQF J BP K>QLKP PE>OB > @L J J LK @ROOBK@V I>ODB P@>IB BU> J MIB LC > @L J J LK @ROOBK@V FP QEB AB@FPFLK ?V \$ROLMB>K K>QLKP b FK@IRAFKD PL J B SBOV I>ODB B@LKL J FBP PR@E >P %O>K@B &B0 J >KV >KA (Q>IV b QL OBMI>@B QEBFO CLO J BO @ROOBK@FBP TFQE QEB BR0L 6 FQE QEBBP BU@BMQFLKP J LPQ LC QEB FKQBOK>QLK>I B@LKL J V Q>HBP MI>@B FK > PQR>QLK LC J RIQFMIB K>QLK>I @ROOBK@FBP FK TEF@E ?LQE MBLMIB >KA CFO J P KBBA QL @LKSBOQ COL J LKB @ROOBK@V QL >KLQEBO TEBK PBIFKD ?RVFKD EFOFKD ?LOOLTFKD QO>SBIFKD LO FKSBPQFKD >@OLPP K>QLK>I ?LOABOP 6B @>II QEB J >OHBQ FK TEF@E MBLMIB LO CFO J P RPB LKB @ROOBK@V QL MRO@E>PB >KLQEBO @ROOBK@V QEB **foreign exchange market**

8LR E>SB BK@LRKQBOBA QEB ?>PF@ @LK@BMQ LC BU@E>KDB 0>QBP FK B>OIFBO @E>MQBOP (K , ; 8 !A68EA4G<BA4? ,E478 4A7 4C<G4? ?BJF CLO BU> J MIB TB AFP@RPPBA ELT B@LKL J FQP RPB BU@E>KDB 0>QBP QL @L J M>OB &# / P Q>QFPQ@P COL J @LRKQOFBP TEBOB QEBV J B>PROB &# / FK AFCCBOKQ @ROOBK@FBP 3EBBP B>OIFBO BU> J MIB ELTBSBO QLLH QEB >@QR>I BU@E>KDB



O>QB >P DFSBK >P FC FQ TBOB >C>@Q LC K>QROB (K OB>IFQV QEB BU@E>KDB O>QB FP > MOF@B b QEB MOF@B LC LKB @ROOBK@V BUMOBPPBA  
FK QBO J P LC RKFQP LC >KLQEBO @ROOBK@V 3EB HBV CO> J BTLOH CLO >K>IVWFKD MOF@BP TEBQEBO FK QEFP @LROPB >KV LQEBO  
B@LKL J F@P @LROPB FK MR?IF@ MLIF@V LO ?RPFKBP BU> J MIBP FP QEB LMBO>QLK LC PRMMIV >KA AB J >KA FK J >OHBQP

# Link It Up

6FPFQ QEFP TB?P@B EQM LMBKP@>U LOD I BU0>QB@>I@ CLO >K BU@E>KDB O>QB @>I@RI>QL0

## , ;8 KGE4BE7<A4EL +<M8 B9 G ;8 BE8<:A K6 ;4A:8 %4E>8GF

3EB NR>KQFQFBP QO>ABA FK CLOBFDK BU@E>KDB J >OHBQP >OB ?OB>QE@>HFKD !>KH LC (KQBOK>QLK>I 2BQQIB J BKQP PROSBV  
CLRKA QE>Q QOFIIFLK per day T>P QO>ABA LK CLOBFDK BU@E>KDB J >OHBQP TEF@E J >HBP QEB CLOBFDK BU@E>KDB J >OHBQ  
QEB I>ODBPQ J >OHBQ FK QEB TLOIA B@LKL J V (K @LKQO>PQ 4 2 OB>I &# / T>P QOFIIFLK per year

,45?8 PELTP QEB @ROOBK@FBP J LPQ @L J J LKIV QO>ABA LK CLOBFDK BU@E>KDB J >OHBQP 3EB 4 2 ALII>0 AL J FK>QB QEB  
CLOBFDK BU@E>KDB J >OHBQ CLIILTBA ?V QEB BR0L QEB !OFQPE MLRKA QEB RPQO>IF>K ALII>0 >KA (QEB )>M>KBPB VBK

HEE8A6L	4?L + ;4E8
5 3 ALII>0	
%R0L	
*>M>KBPB VBK	
"OFQPE MLRKA	
!RPQO>IF>K ALII>0	
#>K>AF>K ALII>0	
3TFPP CO>K@	
#EFKBPB VR>K	

,45?8 HEE8A6<8F ,E4787 %BFG BA BE8<:A K6 ;4A:8 %4E>8GF 4F B9 CE? 3LR0@B  
EQM TTT ?FP LOD MR?I OMCU CU MAC

## 8@4A78EF 4A7 +HCC?<8EF B9 HEE8A6L <A BE8<:A K6 ;4A:8 %4E>8GF

(K CLOBFDK BU@E>KDB J >OHBQP AB J >KA >KA PRMMIV ?B@L J B @ILPBIV FKQB00BI>QBA ?B@>RPB >MBOPLK LO CFO J TEL AB J >KAP  
LKB @ROOBK@V J RPQ >Q QEB P> J B QF J B PRMMIV >KLQEBO @ROOBK@V b >KA SF@B SBOP> 3L DBQ > PBKPB LC QEFP FQ FP RPBCRI QL  
@LKPFABO CLRO DOLRMP LC MBLMIB LO CFO J P TEL M>OQF@FM>QB FK QEB J >OHBQ CFO J P QE>Q >OB FKSLISBA FK FKQBOK>QLK>I  
QO>AB LC DLLAP >KA PBO SF@BP QLROFPQP SFPPQFKD LQEBO @LRKQOFBP FKQBOK>QLK>I FKSBPQLOP ?RVFKD LTKBOPEFM LO M>OQ  
LTKBOPEFM LC > CLOBFDK CFO J FKQBOK>QLK>I FKSBPQLOP J >HFKD CFK>K@F>I FKSBPQ J BKQP QE>Q AL KLQ FKSLISB LTKBOPEFM  
+BQ@P @LKPFABO QEBPB @>QBDLOFBP FK QR0K

%FO J P QE>Q ?RV >KA PBII LK FKQBOK>QLK>I J >OHBQP CFKA QE>Q QEBFO @LPQP CLO TLOHBOP PRMMIFBOP >KA FKSBPQLOP >OB J B>PROBA

FK QEB @ROOBK@V LC QEB K>@FLK TEBOB QEBFO MOLAR@QFLK L@@ROP ?RQ QEBFO OBSBKRBP COL J P>IBP >OB J B>PROBA FK QEB @ROOBK@V LC QEB AFCCBOBKQ K>@FLK TEBOB QEBFO P>IBP E>MMBKBA 3ERP > "EFKBPB CFO J BUMLOQFKD >?OL>A TFII B>OK PL J B LQEB @ROOBK@V b P>V 4 2 ALII>OP b ?RQ TFII KBBA "EFKBPB VR>K QL M>V QEB TLOHBOP PRMMIFBOP >KA FKSBPQLOP TEL >OB ?>PBA FK "EFK> (K QEB CLOBFDK BU@E>KDB J>OHBQ QEP CFO J TFII ?B > PRMMIFBO LC 4 2 ALII>OP >KA > AB J>KABO LC "EFKBPB VR>K

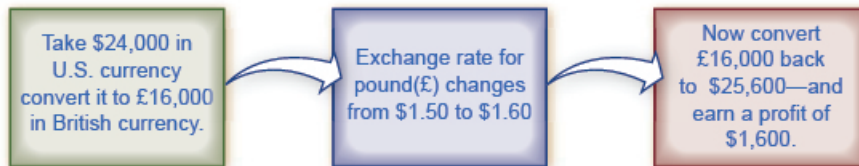
(K@BOK>@FLK>I @LROFPQ TFII PRMMIV QEBFO EL J B @ROOBK@V QL OB@BFSB QEB @ROOBK@V LC QEB @LRKQOV QEBV >OB SFPPQFKD %LO BU>J MIB >K J BOF@>K @LROFPQ TEL FP SFPPQFKD "EFK> TFII PRMMIV 4 2 ALII>OP FKQL QEB CLOBFDK BU@E>KDB J>OHBQ >KA AB J>KA "EFKBPB VR>K

6 B LCQBK AFSFAB CFK>K@F>I FKSBPQ J BKQP QE>Q @QLPP FK@BOK>@FLK>I ?LRKA>OFBP >KA OBNRFOB BU@E>KDFKD @ROOBK@V FKQL QTL @>@BDLOFBP **Foreign direct investment (FDI)** OBCBOP QL MRO@E>PFKD > CFO J >Q IB>PQ QBK MBO@BKQ FK >KLQEB @LRKQOV LO PQ>OQFKD RM > KBT BKQBOMOPFB FK > CLOBFDK @LRKQOV %LO BU>J MIB FK QEB !BIDF>K ?BBO ?OBTFKD @L J M>KV (K !BS ?LRDEQ QEB 4 2 ?BBO J>HBO KEBRPBO !RP@E CLO ?FIIFLK 3L J>HB QEP MRO@E>PB (K !BS TLRIA E>SB QL PRMMIV BROLP QEB @ROOBK@V LC !BIDFR J QL QEB CLOBFDK BU@E>KDB J>OHBQ >KA AB J>KA 4 2 ALII>OP

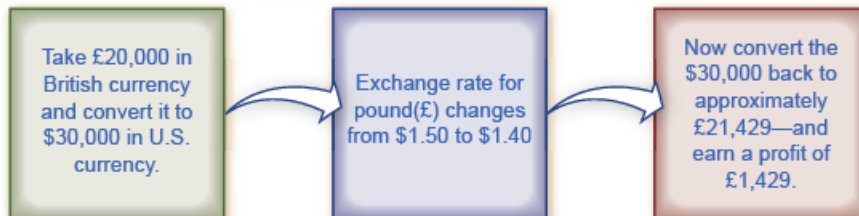
3EB LQEB HFKA LC FK@BOK>@FLK>I CFK>K@F>I FKSBPQ J BKQ **portfolio investment** FKSLSBP > MROBIV CFK>K@F>I FKSBPQ J BKQ QE>Q ALBP KLQ BKQ>FI >KV J >K>DB J BKQ OBPMLKPF?FIFV K BU>J MIB TLRIA ?B > 4 2 CFK>K@F>I FKSBPQLO TEL MRO@E>PBA 4 \* DLSBOK J BKQ ?LKAP LO ABMLPFQBA J LKVB FK > !OFQPE ?>KH 3L J>HB PR@E FKSBPQ J BKQ QEB J BOF@>K FKSBPQLO TLRIA PRMMIV 4 2 ALII>OP FK QEB CLOBFDK BU@E>KDB J>OHBQ >KA AB J>KA !OFQPE MLRKAP

!RPFKBPB MBLMIB LCQBK IFKH MLOQLIFL FKSBPQ J BKQ QL BUMB@Q>@FLK>I ?LRQ ELT BU@E>KDB O>QBP TFII PEFCQ +LLH >Q > 4 2 CFK>K@F>I FKSBPQLO TEL FP @LKPFABOFKD MRO@E>PFKD 4 \* FPPRBA ?LKAP %LO PF J MIF@FV FDKLOB >KV ?LKA FKQBOBPQ M>V J BKQ TEF@E TFII ?B P J >II FK QEB PELOQ ORK >KVT>V >KA CL@RP LK BU@E>KDB O>QBP 2>V QE>Q > !OFQPE MLRKA FP @ROOBK@V TLOQE FK 4 2 @ROOBK@V 'L TBSBO QEB FKSBPQLO ?BIFBSBP QE>Q FK > J LKQE QEB !OFQPE MLRKA TFII ?B TLOQE FK 4 2 @ROOBK@V 3ERP >P <:HEB > PELTP QEP FKSBPQLO TLRIA @E>KDB CLO !OFQPE MLRKAP (K > J LKQE FC QEB MLRKA FP TLOQE QEBK QEB MLOQLIFL FKSBPQLO @>K QO>AB ?>@H QL 4 2 ALII>OP >Q QEB KBT BU@E>KDB O>QB >KA E>SB b > KF@B MOLCFQ MLOQLIFL FKSBPQLO TEL ?BIFBSBP QE>Q QEB CLOBFDK BU@E>KDB O>QB CLO QEB MLRKA TFII TLOH FK QEB LMMLPFQB AFOB@QFLK @>K >IPL FKSBPQ >@L@AFKDIV 2>V QE>Q >K FKSBPQLO BUMB@Q QE>Q QEB MLRKA KL T TLOQE FK 4 2 @ROOBK@V TFII AB@IFKB QL 3EBK >P <:HEB ? PELTP QE>Q FKSBPQLO @LRIA PQ>OQ LCC TFQE Z FK !OFQPE @ROOBK@V ?LOLTFKD QEB J LKVB FC KB@BPP>OV @LKSBOQ FQ QL FK 4 2 @ROOBK@V T>FQ > J LKQE >KA QEBK @LKSBOQ ?>@H QL >MMOLUF J >QBIV Z FK !OFQPE @ROOBK@V b >D>FK J >HFKD > KF@B MOLCFQ . C @LROPB QEP HFKA LC FKSBPQFKD @L J BP TFQELRQ DR>O>KQBPP >KA >K FKSBPQLO TFII PRCCBO ILPPB FC QEB BU@E>KDB O>QBP AL KLQ J LSB >P MOBAF@QBA

(a) An international investor who expects that, in the future, a British pound (£) will buy \$1.60 in U.S. currency instead of its current exchange rate of \$1.50 may hope for the following chain of events to occur:



(b) An international investor who expects that, in the future, a British pound (£) will buy only \$1.40 in U.S. currency instead of its current exchange rate of \$1.50 may hope for the following chain of events to occur:



<:HEB (BEG9B?<B !A18F@BE ,EL<A: GB 8A89@9EB@ K6;4A:8 \*4@8 %B18@8AGF %UMB@Q>@FLK>I LC > @ROOBK@V P CR@ROB S>IRB >K A@FSB @P AB J>KA >KA PRMMIV FK CLOBFDK BU@E>KDB J>OHBQ

, >KV MLOQCLIFL FKSBPQ J BKQ AB@FPFLKP >OB KLQ >P PF J MIB >P ?BQFKD QE>Q QEB @ROOBK@V P S>IRB TFII @E>KDB FK LKB AFOB@QFLK LO QEB LQEBO (KPB>A QEBV FKSLISB CFO J P QOVFKD QL MOLQB@Q QEB J PBISBP COL J J LSB J BKQP FK BU@E>KDB O>QBP ( J >DFKB VLR >OB ORKFKD > 4 2 CFO J QE>Q FP BUMLOQFKD QL %O>K@B 8LR E>SB PFDKBA > @LKQ>@Q QL ABIFSB @BO>FK MOLAR@QP >KA TFII OB@BFSB J FIIFLK BROLP > VB>O COL J KLT ' LTBBSO VLR AL KLQ HKLT ELT J R@E QEF @LKQ>@Q TFII ?B TLOQE FK 4 2 ALII>OP ?B@>RBP QEB ALII>O BROL BU@E>KDB O>QB @>K CIR@QR>QB FK QEB KBUQ VB>O +BQdP P>V VLR T>KQ QL HKLT CLO PROB TE>Q QEB @LKQ>@Q TFII ?B TLOQE >KA KLQ Q>HB > OFPH QE>Q QEB BROL TFII ?B TLOQE IBPP FK 4 2 ALII>OP QE>K FQ @ROOBK@V FP 8LR @>K hedge TEF@E J B>KP RPFKD > CFK>K@F>I QO>KP>@QFLK QL MOLQB@Q VLROPBIC >D>FKPQ > OFPH COL J LKB LC VLRO FKSBPQ J BKQP FK QEF @>PB @ROOBK@V OFPH COL J QEB @LKQ>@Q 2MB@FCF>IIV VLR @>K PFDK > CFK>K@F>I @LKQ>@Q >KA M>V > CBB QE>Q DR>O>KQBBP VLR > @BO>FK BU@E>KDB O>QB LKB VB>O COL J KLT b OBD>OAI BPP LC TE>Q QEB J >OHBQ BU@E>KDB O>QB FP >Q QE>Q QF J B -LT FQ FP MLPPF?IB QE>Q QEB BROL TFII ?B TLOQE J LOB FK ALII>OP > VB>O COL J KLT PL VLRO EBADFKD @LKQ>@Q TFII ?B RKB@BPP>OV >KA VLR TFII E>SB M>FA > CBB CLO KLQEFKD ' LTBBSO FC QEB S>IRB LC QEB BROL FK ALII>OP AB@IFKBP QEBK VLR >OB MOLQB@QBA ?V QEB EBADB 6 EBK M>OQFBP TFPE QL BKQBO CFK>K@F>I @LKQ>@Q IFHB EBADFKD QEBV KLO J >IIV OBIV LK > CFK>K@F>I FKPQFQRFLK LO ?OLHBO>DB @L J M>KV QL E>KAIB QEB EBADFKD 3EBPB @L J M>KFBP BFQEBQ Q>HB > CBB LO @OB>QB > PMOB>A FK QEB BU@E>KDB O>QB FK LOABO QL B>OK J LKBV QEOLRDE QEB PBOSF@B QEBV MOLSFAB

!LQE CLOBFDK AFOB@Q FKSBPQ J BKQ >KA MLOQCLIFL FKSBPQ J BKQ FKSLISB >K FKSBPQLO TEL PRMMIFBP AL J BPQF@ @ROOBK@V >KA AB J >KAP > CLOBFDK @ROOBK@V 6 FQE MLOQCLIFL FKSBPQ J BKQ QEB @IFBKQ MRO@E>PBP IBPP QE>K QBK MBO@BKQ LC > @L J M>KV P PR@E ?RPFKBP MI>VBOP LCQBK DBQ FKSLISBA TFQE MLOQCLIFL FKSBPQ J BKQ TFQE >PELOQ QBO J CL@RP 6 FQE CLOBFDK AFOB@Q FKSBPQ J BKQ QEB FKSBPQLO MRO@E>PBP J LOB QE>K QBK MBO@BKQ LC > @L J M>KV >KA QEB FKSBPQLO QVMF@>IIV >PJR J BP PL J B J >K>DBO>I OBPMLKPF?FIQV 3ERP CLOBFDK AFOB@Q FKSBPQ J BKQ QBKAP QL E>SB > J LOB ILKD ORK CL@RP P > MO>@QF>I J >QQBO >K FKSBPQLO >K TFQEA>T MLOQCLIFL FKSBPQ J BKQ COL J > @LRKQOV J R@E J LOB NRF@HIV QE>K CLOBFDK AFOB@Q FKSBPQ J BKQ 4 2 MLOQCLIFL FKSBPQLO TEL T>KQP QL ?RV LO PBII 4 \* DLSBOK J BKQ ?LKAP @>K AL PL TFQE > MELKB @>II LO > CBT @L J MRQBO HBV?L>OA @IF@HP ' LTBBSO > 4 2 CFO J QE>Q T>KQP QL ?RV LO PBII @L J M>KV PR@E >P LKB QE>Q J >KRC>@QROBP >RQL J L?FIB M>OQP FK QEB 4KFQBA \*FKDAL J TFII CFKA QE>Q MI>KKFKD >KA @>OQVFKD LRQ QEB QO>KP>@QFLK Q>HBP > CBT TBBHP BSBK J LKQEP ,45?8 PR J J >OFWBP QEB J >FK @>QBDLOFBP LC @ROOBK@V AB J >KABOP >KA PRMMIFBOP

8@4A7 9BE G; 8 - + B??4E B@8F 9EB@ U	+HCC?L B9 G; 8 - + B??4E B@8F 9EB@ U
! 5 3 BUMLOQFKD CFO J QE>Q B>OKBA CLOBFDK @ROOBK@V >KA FP QOVFKD QL M>V 5 3 ?>PBA BUMBKBPB	! CLOBFDK CFO J QE>Q E>P PLIA F J MLOQBA DLLAP FK QEB 5KFQBA 3Q>QBP B>OKBA 5 3 ALII>OP >KA FP QOVFKD QL M>V BUMBKBPB FK@ROOBA FK FQP EL J B @LRKQOV
&LOBFDK QLROFPQP SFPFQFKD QEB 5KFQBA 3Q>QBP	5 3 QLROFPQP IB>SFKD QL SFPFQ LQEBO @LRKQOFBP
&LOBFDK FKSBPQLOP TEL TFPE QL J>HB AFOB@Q FKSBPQ J BKQP FK QEB 5 3 B@LKL JV	5 3 FKSBPQLOP TEL T>KQ QL J>HB CLOBFDK AFOB@Q FKSBPQ J BKQP FK LQEBO @LRKQOFBP
&LOBFDK FKSBPQLOP TEL TFPE QL J>HB MLOQCLIFL FKSBPQ J BKQP FK QEB 5 3 B@LKL JV	5 3 FKSBPQLOP TEL T>KQ QL J>HB MLOQCLIFL FKSBPQ J BKQP FK LQEBO @LRKQOFBP

,45?8 , ; 8 8@4A7 4A7 +HCC?L \$<A8 HCF <A BE8<:A K6; 4A: 8 %4E>8GF

(4EG<6<C4AGF <A G; 8 K6; 4A: 8 \* 4G8 %4E>8G

3EB CLOBFDK BU@E>KDB J >OHBQ ALBP KLQ FKSLISB QEB RIQF J >QB PRMMIFBOP >KA AB J >KABOP LC CLOBFDK BU@E>KDB IFQBO>IIV PBBHFKD B>@E LQEBO (C , >OQFK> AB@FABP QL IB>SB EBO EL J B FK 5BKWBWRBI> >KA Q>HB > QOFM FK QEB 4KFQBA 2Q>QBP PEB ALBP KLQ KBBA QL CFKA > 4 2 @FQWBK TEL FP MI>KKFKD QL Q>HB > S>@>QFLK FK 5BKWBWRBI> >KA >OO>KDB > MBOPLK QL MBOPLK @ROOBK@V QO>AB (KPB>A QEB CLOBFDK BU@E>KDB J >OHBQ TLOHP QEOLRDE CFK>K@F>I FKPQFQRFLK >KA FQ LMBO>QBP LK PBSBO>I IBSBIP

, LPQ MBLMIB >KA CFO J P TEL >OB BU@E>KDFKD > PR?PQ>KQF>I NR>KQFV LC @ROOBK@V DL QL > ?>KH >KA J LPQ ?>KHP MOLSFAB CLOBFDK BU@E>KDB >P > PBOSF@B QL @RPQL J BOP 3EBPB ?>KHP >KA > CBT LQEBO CFO J P HKLTK >P AB>IBOP QEBK QO>AB QEB CLOBFDK BU@E>KDB 3EFP FP @>IIBA QEB FKQBO?>KH J >OHBQ

(K QEB TLOIA B@LKL J V OLRDEIV CFO J P >OB CLOBFDK BU@E>KDB AB>IBOP 3EB 4 2 B@LKL J V E>P IBPP QE>K CLOBFDK BU@E>KDB AB>IBOP ?RQ QEB I>ODBPQ LO PL AB>IBOP @>00V LRQ J LOB QE>K E>IC QEB QL>I QO>KP>@QLFKP 3EB CLOBFDK BU@E>KDB J >OHBQ E>P KL @BKQO>I IL@>QLK ?RQ QEB J >GLO AB>IBOP HBBM > @ILPB T>Q@E LK B>@E LQEBO >Q >II QF J BP

3EB CLOBFDK BU@E>KDB J >OHBQ FP ERDB KLQ ?B@>RPB LC QEB AB J >KAP LC QLROFPQ CFO J P LO BSBK CLOBFDK AFOB@Q FKSBPQ J BKQ ?RQ FKPQ>A ?B@>RPB LC MLOQLIFL FKSBPQ J BKQ >KA QEB >@QLFKP LC FKQBOIL@HFKD CLOBFDK BU@E>KDB AB>IBOP (K@BOK>QLK>I QLROFP J FP > SBOV I>ODB FKARPQOV FKSLISFKD >?LRQ QOFIIFLK MBO VB>0 &IL?>I BUMLOQP >OB >?LRQ LC DIL?>I &# / TEF@E FP >?LRQ QOFIIFLK MBO VB>0 %LOBFDK AFOB@Q FKSBPQ J BKQ QL>IBA >?LRQ QOFIIFLK FK QEB BKA LC 3EBPB NR>KQFQFBP >OB AT>OCBA ELTBSBO ?V QEB QOFIIFLK *per day* QO>ABA FK CLOBFDK BU@E>KDB J >OHBQP , LPQ QO>KP>@QLFKP FK QEB CLOBFDK BU@E>KDB J >OHBQ >OB CLO MLOQLIFL FKSBPQ J BKQ b OBI>QFSBIV PELOQ QBO J J LSB J BKQP LC CFK>K@F>I @>MFQ>I ?BQTTBK @ROOBK@FBP b >KA ?B@>RPB LC QEB I>ODB CLOBFDK BU@E>KDB AB>IBOP >@QLFKP >P QEBV @LKPQ>KQIV ?RV >KA PBII TFQE B>@E LQEBO

**+GE8A:G;8A<A: 4A7 / 84>8A<A: HEE8A6L**

6 EBK QEB MOF@BP LC J LPQ DLLAP >KA PBOSF@BP @E>KDB QEB MOF@B OFPBP LO C>IIP %LO BU@E>KDB O>QBP QEB QBO J FKLILDV FP AFCCBOBKQ 6 EBK QEB BU@E>KDB O>QB CLO > @ROOBK@V OFPBP PL QE>Q QEB @ROOBK@V BU@E>KDBP CLO J LOB LC LQEBO @ROOBK@FBP TB OBCBO QL FQ >P **appreciating** LO ePQOBKDQEBKFKD f 6 EBK QEB BU@E>KDB O>QB CLO > @ROOBK@V C>IIP PL QE>Q > @ROOBK@V QO>ABP CLO IBPP LC LQEBO @ROOBK@FBP TB OBCBO QL FQ >P **depreciating** LO eTB>HBKFKD f

3L FIIRPQO>QB QEB RPB LC QEBPB QBO J P @LKPFABO QEB BU@E>KDB O>QB ?BQTTBK QEB 4 2 ALII>0 >KA QEB ">K>AF>K ALII>0 PFK@B FK <:HEB > 3EB SBOQF@>I >UFP FK <:HEB > PELTP QEB MOF@B LC FK 4 2 @ROOBK@V JB>PROBA FK QBO J P LC ">K>AF>K @ROOBK@V "IB>OIV BU@E>KDB O>QBP @>K J LSB RM >KA ALTK PR?PQ>KQF>IIV 4 2 ALII>0 QO>ABA CLO ">K>AF>K FK 3EB 4 2 ALII>0 >MMOB@F>QBA LO P@OBKDQEBKBA QL ">K>AF>K FK ABMOB@F>QBA LO TB>HBKBA QL ">K>AF>K FK >KA QEBK >MMOB@F>QBA LO P@OBKDQEBKBA QL ">K>AF>K ?V B>OIV FK CBII QL OLRDEIV ">K>AF>K FK >KA QEBK E>A > PE>OM PMFHB RM >KA AB@IFKB FK >KA (K , >V LC QEB 4 2 ALII>0 PQLLA >Q ">K>AF>K 3EB RKFQF FK TEF@E TB JB>PROB BU@E>KDB O>QBP @>K ?B @LKCRPFKD ?B@>RPB TB JB>PROB QEB BU@E>KDB O>QB LC QEB 4 2 ALII>0 BU@E>KDB RPFKD > AFCCBOBKQ @ROOBK@V b QEB ">K>AF>K ALII>0 ' LTBSBO BU@E>KDB O>QBP >IT>VP JB>PROB QEB MOF@B LC LKB RKFQ LC @ROOBK@V ?V RPFKD > AFCCBOBKQ @ROOBK@V

#E>MqB0 X %U@E>KDB 2>QBP >KA )KqBOK>QFLK>I #>Mq>I &ILTP

<:HE8 +GE8A:G;8A BE CCE86<4G8 IF / 84>8A BE 8CE86<4G8 %U@E>KDB 0>QBP QBKA QL CIR@QR>QB PR?PQ>KQF>IIV  
BSBK ?BQTBBK ?L0ABQFKD @L J M>KfBP PR@E >P QEB 5KfQBA 3Q>QBP >KA #>K>A> "V ILLHFKD @ILPBIV >Q QEB Qf JB S>IRBP QEB  
VB>OP S>OV PIFDEQIV LK QEBPB D0>MEP FQ FP @IB>0 QE>Q QEB S>IRBP FK M>OQ > >OB > J FOOL0 F J >DB LC M>OQ ? TEF@E  
AB J LKPQ0>QBP QE>Q QEB ABMOB@F>QFLK LC LKB @R00BK@V @L00BI>QBP QL QEB >MMOB@F>QFLK LC QEB LQEB0 >KA Sf@B SBOP> 4EFP  
JB>KP QE>Q TEBK @L J M>QfKD QEB BU@E>KDB 0>QBP ?BQTBBK QTL @LRKQ0FBP FK QEF@ @>PB QEB 5KfQBA 3Q>QBP >KA #>K>A>  
QEB ABMOB@F>QFLK LO TB>HBKfKD LC LKB @LRKQ0V QEB 5 3 ALII>0 CLO QEF@ BU> J MIB fKAF@>QBP QEB >MMOB@F>QFLK LO  
PQ0BKDQEBKfKD LC QEB LQEB0 @R00BK@V TEF@E FK QEF@ BU> J MIB FP QEB #>K>AF>K ALII>0 3LR0@B &BAB0>I 2BPB0SB  
%@LKL JF@ \$>Q> &2%\$ EQQMP OBPB>0@E PQILRfPCBA LOD COBA PBOFBP %8#!53

(K ILLHFKD >Q QEB BU@E>KDB 0>QB ?BQTBBK QTL @R00BK@FBP QEB >MMOB@F>QFLK LO PQ0BKDQEBKfKD LC LKB @R00BK@V J RPQ  
JB>K QEB ABMOB@F>QFLK LO TB>HBKfKD LC QEB LQEB0 <:HE8 ? PELTP QEB BU@E>KDB 0>QB CLO QEB ">K>AF>K ALII>0  
JB>PROBA FK QBO J P LC 4 2 ALII>OP 3EB BU@E>KDB 0>QB LC QEB 4 2 ALII>0 JB>PROBA FK ">K>AF>K ALII>OP FK <:HE8  
> FP > MBOCB@Q J FOOL0 F J >DB TfQE QEB ">K>AF>K ALII>0 BU@E>KDB 0>QB JB>PROBA FK 4 2 ALII>OP FK <:HE8 ?  
C>II FK QEB ">K>A> 4 2 0>QFL JB>KP > OFPB FK QEB 4 2 ">K>A> 0>QFL >KA Sf@B SBOP>

6 FQE QEB MOF@B LC > QVMF@>I DLLA LO PBOSF@B FQ FP @IB>0 QE>Q EFDEBO MOF@BP ?BKBCFQ PBIIBOP >KA EROQ ?RVBOP TEFIB ILTBO MOF@BP ?BKBCFQ ?RVBOP >KA EROQ PBIIBOP (K QEB @>PB LC BU@E>KDB 0>@BP TEBOB QEB ?RVBOP >KA PBIIBOP >OB KLQ >IT>VP FKQRF@FSBIV L?SFLRP FQ FP RPBICRI QL QO>@B ELT > P@QLKDBO LO TB>HBO @ROOBK@V TFII >CCB@Q AFCCBOBKQ J >OHBQ M>OQF@FM>KQP " LKPFABO CLO BU> J MIB QEB F J M>@Q LC > P@QLKDBO 4 2 ALII>0 LK PFU AFCCBOBKQ DOLRMP LC B@LKL J F@ >@QLOP >P <:HEB PELTP 4 2 BUMLOQBOP PBIIFKD >?OL>A CLOBFDK BUMLOQBOP QE>Q FP CFO J P PBIIFKD F J MLOQP FK QEB 4 2 B@LKL J V 4 2 QLROFPQ >?OL>A CLOBFDK QLROFPQ SFPPFKD QEB 4KFQBA 2Q>QBP 4 2 FKSBPQLOP BFQEBO CLOBFDK AFOB@Q FKSBPQ J BKQ LO MLOQCLIFL FKSBPQ J BKQ @LKPABOFKD LMMLOQRKQFBP FK LQEBO @LRKQFBP >KA CLOBFDK FKSBPQLOP @LKPABOFKD LMMLOQRKQFBP FK QEB 4 2 B@LKL J V

	A Stronger U.S. Dollar	A Weaker U.S. Dollar
A U.S. exporting firm		
A foreign firm exporting to the United States		
A U.S. tourist abroad		
A foreign tourist in the United States		
A U.S. investor abroad		
A foreign investor in the United States		

<:HEB BJ B K6;4A:8 \*468 %B18@8AGF 9986G 46; EBHC %U@E>KDB 0>@B J LSB J BKQP >CCB@Q BUMLOQBOP QLROFPQ >KA FK@BOK>@FLK>I FKSBPQLOP FK AFCCBOBKQ T>VP

%LO > 4 2 CFO J PBIIFKD >?OL>A > P@QLKDBO 4 2 ALII>0 FP > @ROPB P@QLKD 4 2 ALII>0 J B>KP QE>Q CLOBFDK @ROOBK@FBP >OB @L@OBPMLKAFKDIV TB>H 6 EBK QEFP BUMLOQFKD CFO J B>OKP CLOBFDK @ROOBK@FBP QEOLRDE FQP BUMLOQ P>IBP >KA QEBK @LKSBOQP QEB J ?>@H QL 4 2 ALII>0P QL M>V TLOHBOP PRMIFBOP >KA FKSBPQLOP QEB P@QLKDBO ALII>0 J B>KP QE>Q QEB CLOBFDK @ROOBK@V ?RVP CBTBO 4 2 ALII>0P QE>K FC QEB @ROOBK@V E>A KLQ P@QBKDQEBKBA >KA QE>Q QEB CFO J dP MOLCFQP >P J B>PROBA FK ALII>0P C>II P > OBPRIQ QEB CFO J J >V @ELLPB QL OBAR@B FQP BUMLOQP LO FQ J >V O>FPB FQP PBIIFKD MOF@B TEF@E TFII >IPL QBKA QL OBAR@B FQP BUMLOQP (K QEFP T>V > P@QLKDBO @ROOBK@V OBAR@BP > @LRKQOV@P BUMLOQP

"LKSBOBPIV CLO > CLOBFDK CFO J PBIIFKD FK QEB 4 2 B@LKL J V > P@QLKDBO ALII>0 FP > ?IBPPFKD \$>@E ALII>0 B>OKBA QEOLRDE BUMLOQ P>IBP TEBK QO>ABA ?>@H FKQL QEB BUMLOQFKD CFO J P EL JB @ROOBK@V TFII KLT ?RV J LOB EL JB @ROOBK@V QE>K BUMB@QBA ?BCLOB QEB ALII>0 E>A P@QBKDQEBKBA P > OBPRIQ QEB P@QLKDBO ALII>0 J B>KP QE>Q QEB F J MLOQFKD CFO J TFII B>OK EFDEBO MOLCFQP QE>K BUMB@QBA 3EB CFO J TFII PBBH QL BUM>KA FQP P>IBP FK QEB 4 2 B@LKL J V LO FQ J >V OBAR@B MOF@BP TEF@E TFII >IPL IB>A QL BUM>KABA P>IBP (K QEFP T>V > P@QLKDBO 4 2 ALII>0 J B>KP QE>Q @LKPR J BOP TFII MRQ@E>PB J LOB COL J CLOBFDK MOLAR@BOP BUM>KAFKD QEB @LRKQOV@P IBSBI LC F J MLOQP

%LO > 4 2 QLROFPQ >?OL>A TEL FP BU@E>KDFKD 4 2 ALII>0P CLO CLOBFDK @ROOBK@V >P KB@BPP>OV > P@QLKDBO 4 2 ALII>0 FP > ?BKBCFQ 3EB QLROFPQ OB@BFSBP J LOB CLOBFDK @ROOBK@V CLO B>@E 4 2 ALII>0 >KA @LKPBNRBKQIV QEB @LPQ LC QEB QOFM FK 4 2 ALII>0P FP ILTBO 6 EBK > @LRKQOV@P @ROOBK@V FP P@QLKD FQ FP > DLLA QF J B CLO @FQFWBKP LC QE>Q @LRKQOV QL QLRO >?OL>A (J >DFKB > 4 2 QLROFPQ TEL E>P P>SBA RM CLO > QOFM QL 2LRQE COF@> (K ?LRDEQ 2LRQE COF@>K O>KA PL QEB QLROFPQ E>A O>KA QL PMBKA (K ?LRDEQ O>KA PL QEB QLROFPQ E>A O>KA QL PMBKA !V ?LRDEQ KB>OIV O>KA "IB>OIV J LOB OB@BKQ VB>OP E>SB ?BBK ?BQQBO CLO 4 2 QLROFPQ QL SFPPQ 2LRQE COF@> %LO CLOBFDK SFPPQLOP QL QEB 4KFQBA 2Q>QBP QEB LMMLPFQB M>@QBOK ELIAP QORB OBI>@FSBIV P@QLKDBO 4 2 ALII>0 J B>KP QE>Q QEBFO LTK @ROOBK@FBP >OB OBI>@FSBIV TB>HBO PL QE>Q >P QEBV PEFCQ COL J QEBFO LTK @ROOBK@V QL 4 2 ALII>0P QEBV E>SB CBTBO 4 2 ALII>0P QE>K MOBSFLRPV 6 EBK > @LRKQOV@P @ROOBK@V FP P@QLKD FQ FP KLQ >K BPMB@F>IIV DLLA QF J B CLO CLOBFDK QLROFPQ QL SFPPQ

P@QLKDBO ALII>0 FKGROBP QEB MOLPMB@QP LC > 4 2 CFK>K@F>I FKSBPQLO TEL E>P >IOB>AV FKSBPQBA J LKBV FK >KLQEBO @LRKQOV 4 2 CFK>K@F>I FKSBPQLO >?OL>A J RPQ CFOPQ @LKSBOQ 4 2 ALII>0P QL > CLOBFDK @ROOBK@V FKSBPQ FK > CLOBFDK @LRKQOV >KA QEBK I>QBO @LKSBOQ QE>Q CLOBFDK @ROOBK@V ?>@H QL 4 2 ALII>0P (C FK QEB J B>KQF J B QEB 4 2 ALII>0 ?B@L J BP P@QLKDBO >KA

QEB CLOBFDK @ROOBK@V ?B@L J BP TB>HBO QEBK TEBK QEB FKSBP@LO @LKSBOQP ?>@H QL 4 2 ALII>OP QEB O>QB LC OBQROK LK QE>Q FKSBP@ J BKQ T@H ?B IBPP QE>K LOFDK>IIV BUMB@QBA >Q QEB QF J B FQ T>P J >AB

' LTBSBO > P@LKDDBO 4 2 ALII>O ?LLPQ QEB OB@ROK LC > CLOBFDK FKSBP@LO MR@QFKD J LKVB FK@L > 4 2 FKSBP@ J BKQ 3E>Q CLOBFDK FKSBP@LO @LKSBOQP COL J QEB EL J B @ROOBK@V QL 4 2 ALII>OP >KA PBBHP > 4 2 FKSBP@ J BKQ TEFIB I>QBO MI>KKFKD QL PTF@E ?>@H QL QEB EL J B @ROOBK@V (C FK QEB J B>KQF J B QEB ALII>O D@LTP P@LKDDBO QEBK TEBK QEB QF J B @L J BP QL @LKSBOQP COL J 4 2 ALII>OP ?>@H QL QEB CLOBFDK @ROOBK@V QEB FKSBP@LO T@H OB@BFSB J LOB CLOBFDK @ROOBK@V QE>K BUMB@QBA >Q QEB QF J B QEB LOFDK>I FKSBP@ J BKQ T>P J >AB

3EB MOB@BAFKD M>O>DO>MEP >II CL@RP LK QEB @>PB TEB@B QEB 4 2 ALII>O ?B@L J BP P@LKDDBO 3EB CF@PQ @LIR J K FK <:HEB HIIRP@>QBP QEB @LO@PMLKAFKD E>MMV LO RKE>MMV B@LKL J F@ OB>@QFLK 3EB CLILTFKD 6LOH (Q . RQ CB>QROB @BK@QBP QEB >K>IVPP LK QEB LMMLP@QB > TB>HBO ALII>O

# Work It Out

## 9986GF B9 4 / 84>8E B??4E

, B@P TLOH QE@LRDE QEB B@B@QP LC > TB>HBO ALII>O LK > 5 3 BUMLO@BO > CLOBFDK BUMLO@BO FK@L QEB 5K@BA 3Q>QBP > 5 3 QL@R@PQ DL@KD >?@L>A > CLOBFDK QL@R@PQ @L J FKD QL QEB 5K@BA 3Q>QBP > 5 3 FKSBP@LO >?@L>A >KA > CLOBFDK FKSBP@LO FK QEB 5K@BA 3Q>QBP

3QBM . L@B QE>Q QEB AB J >KA CLO 5 3 BUMLO@P FP > CRK@QFLK LC QEB M@B LC QELPB BUMLO@P TEF@E AMBKAP LK QEB ALII>O M@B LC QELPB DLLAP >KA QEB BU@E>KDB O>QB LC QEB ALII>O FK QBO J P LC CLOBFDK @ROOBK@V &LO BU> J MIB > &LOA M@HRM Q@R@H @LP@P FK QEB 5K@BA 3Q>QBP 7EBK F@ FP PLIA FK QEB 5K@BA +FKDAL J QEB M@B FP MBO "O@FPE MLRKA LO Y 4EB ALII>O >@B@QP QEB M@B CLOBFDK@BOP C>@B TEL J >V MRO@E>PB 5 3 BUMLO@P

3QBM #LKP@B@O QE>Q FC QEB ALII>O TB>HBKP QEB MLRKA @FPBP FK S>IRB )C QEB MLRKA @FPBP QL MBO MLRKA QEBK QEB M@B LC > &LOA M@HRM FP KLT Y ! TB>HBO ALII>O J B>KP QEB CLOBFDK @ROOBK@V ?RVP J LOB ALII>OP TEF@E J B>KP QE>Q 5 3 BUMLO@P >MMB>O IBPP BUMBK@FSB

3QBM 3R J J >@FWB QE>Q > TB>HBO 5 3 ALII>O IB>AP QL >K FK@OB>PB FK 5 3 BUMLO@P &LO > CLOBFDK BUMLO@BO QEB LR@L J B FP @RPQ QEB LMMLP@QB

3QBM 3RMMLPB > ?@BTOV FK %KDI>KA FP FK@B@P@BA FK P@IFKD F@P ">PP !IB QL > D@L@BOV P@LOB FK QEB 5K@BA 3Q>QBP )C QEB M@B LC > PFU M>@H LC ">PP !IB FP Y >KA QEB BU@E>KDB O>QB FP MBO "O@FPE MLRKA QEB M@B CLO QEB D@L@BOV P@LOB FP \ MBO PFU M>@H )C QEB ALII>O TB>HBKP QL MBO MLRKA QEB M@B LC ">PP !IB FP KLT \

3QBM 3R J J >@FWB QE>Q COL J QEB MB@PMB@QFSB LC 5 3 MRO@E>PB@P > TB>HBO ALII>O J B>KP QE>Q CLOBFDK @ROOBK@V FP J LOB BUMBK@FSB TEF@E J B>KP QE>Q CLOBFDK DLLAP >OB J LOB BUMBK@FSB >IPL 4EFP IB>AP QL > AB@OB>PB FK 5 3 F J ML@QP TEF@E FP ?>A CLO QEB CLOBFDK BUMLO@BO

3QBM #LKP@B@O 5 3 QL@R@PQ DL@KD >?@L>A 4EBV C>@B QEB P> J B P@R@>QFLK >P > 5 3 F J ML@QBO \_ QEBV >OB MRO@E>P@KD > CLOBFDK Q@FM ! TB>HBO ALII>O J B>KP QE>Q QEB@ Q@FM T@H @LP@ J LOB PFK@B > D@SBK BUMBK@F@ROB LC CLOBFDK @ROOBK@V B D EL@BI ?@H T@H Q>HB J LOB ALII>OP 4EB OB@P@R@Q FP QE>Q QEB QL@R@PQ J >V KL@ P@>V >P ILKD >?@L>A >KA PL J B J >V @ELLPB KL@ QL Q@>SBI >Q >II

3QBM #LKP@B@O QE>Q CLO QEB CLOBFDK QL@R@PQ QL QEB 5K@BA 3Q>QBP > TB>HBO ALII>O FP > ?LLK )Q J B>KP QEB@O @ROOBK@V DLBP CRO@EBO PL QEB @LP@ LC > Q@FM QL QEB 5K@BA 3Q>QBP T@H ?B IBPP &LOBFDK@BOP J >V @ELLPB QL Q>HB ILKDBO Q@FMP QL QEB 5K@BA 3Q>QBP >KA J LOB CLOBFDK QL@R@PQ J >V AB@F@B QL Q>HB 5 3 Q@FMP

3QBM . L@B QE>Q > 5 3 FKSBP@LO >?@L>A C>@BP QEB P> J B P@R@>QFLK >P > 5 3 F J ML@QBO \_ QEBV >OB MRO@E>P@KD > CLOBFDK >PP@Q ! 5 3 FKSBP@LO T@H PBB > TB>HBO ALII>O >P >K FK@OB>PB FK QEB bM@F@Bc LC FKSBP@ J BKQ PFK@B QEB P> J B KR J ?BO LC ALII>OP T@H ?RV IBPP CLOBFDK @ROOBK@V >KA QERP IBPP CLOBFDK >PP@P 4EFP PELRIA AB@OB>PB QEB >J LRK@ LC 5 3 FKSBP@ J BKQ >?@L>A

3QBM . L@B >IPL QE>Q CLOBFDK FKSBP@LOP FK QEB 5K@BP 3Q>QBP T@H E>SB QEB LMMLP@QB BUMB@FBK@B 3FK@B CLOBFDK @ROOBK@V ?RVP J LOB ALII>OP QEBV T@H I@HBIV FKSBP@ FK J LOB 5 3 >PP@P

FKQBOK>@FLK>I QO>AB QLRFPQP FKQBOK>@FLK>I CFK>K@F>I FKSBP@LQP ?>KHP >KA CLOBFDK BU@E>KDB AB>IBOP 3EB KBUQ J LARIB  
PELTP ELT MI>VBOP @>K RPB QEB QLLIP LC AB J >KA >KA PRMMIV FK CLOBFDK BU@E>KDB J >OHBQP QL BUMI>FK QEB RKABOIVFKD  
@>RPBP LC P@LKDDBO >KA TB>HBO @ROOBK@FBP TB >AAOBPP eP@LKDDBOf >KA eTB>HBOf J LOB FK QEB CLILTFKD "IB>O (Q 4M  
CB>@ROB

# Clear It Up

/ ; L <F 4 F@EBA : 8E 6HEE8A6L ABG A868FF4E<?L 58GG8E

/ KB @L J J LK J FPRKABOP@>KAFKD >?LRQ BU@E>KDB O>@BP FP QE>Q > bP@LKDDBOc LO b>MMOB@F>@FKDc @ROOBK@V J RPQ ?B  
?B@QBO QE>K > bTB>HBOc LO bABMOB@F>@FKDc @ROOBK@V ! @QBO >II FP FQ KLQ L?SFLRP QE>Q bP@LKDc FP ?B@QBO QE>K bTB>Hc  
\$L KLQ IBQ QEB QBO J FKLILDV @LKC@RPB VLR 7 EBK > @ROOBK@V ?B@L J BP P@LKDDBO PL QE>Q FQ MRO@E>PBP J LOB LC L@EBO  
@ROOBK@FBP FQ ?BKBC@FP PL J B FK QEB B@LKL J V >KA FK@ROBP L@EBO 3@LKDDBO @ROOBK@V FP KLQ KB@BPP>@FIV ?B@QBO FQ  
FP @RPQ AFCCB@BKQ

N 8@4A7 4A7 +HCC?L + ; <@GF <A BE8<:A K6;4A:8

%4E>8GF

! V QEB BKA LC Q@FP PB@@FLK VLR TFII ?B >?IB QL

- d \$UMI>FK PRMMIV >KA AB J >KA CLO BU@E>KDB O>@BP
- d #BCFKB >O?F@Q>DB
- d \$UMI>FK MRO@E>@FKD MLTBO M>@F@V P F J ML@Q>K@B TEBK @L J M>@FKD @LRK@QFBP

3EB CLOBFDK BU@E>KDB J >OHBQ FKSLISBP CF@J P ELRPBELIAP >KA FKSBP@LQP TEL AB J >KA >KA PRMMIV @ROOBK@FBP @L J FKD  
QLDB@EBO Q@LRDE QEBFO ?>KHP >KA QEB HBV CLOBFDK BU@E>KDB AB>IBOP <:HE8 > LCCBOP >K BU>J MIB CLO QEB  
BU@E>KDB O>@B ?B@TBBK QEB 4 2 ALII>O >KA QEB , BU@>K MBPL 3EB SBO@F@>I >UFP PELTP QEB BU@E>KDB O>@B CLO 4 2  
ALII>OP TEF@E FK Q@FP @>PB FP J B>PROBA FK MBPL 3EB EL@FWLK@>I >UFP PELTP QEB NR>K@F@V LC 4 2 ALII>OP QO>ABA FK QEB  
CLOBFDK BU@E>KDB J >OHBQ B>@E A>V 3EB AB J >KA @ROSB # CLO 4 2 ALII>OP FK@BOPB@Q@P TFQE QEB PRMMIV @ROSB 2 LC  
4 2 ALII>OP >Q QEB BNR@F@?@FR J MLFKQ \$ TEF@E FP >K BU@E>KDB O>@B LC MBPL MBO ALII>O >KA > QLQ>I SLIR J B LC  
?FII@LK



<:HE8 8@4A7 4A7 +HCC?L 9BE G;8 - + B?4E 4A7 %8K<64A (8FB K6;4A:8 \*4G8 > 4EB NR>KQFV JB>PROBA LK QEB ELOFWLKQ>I >UFP FP FK 5 3 ALII>OP >KA QEB BU@E>KDB O>QB LK QEB SBOQF@>I >UFP FP QEB MOF@B LC 5 3 ALII>OP JB>PROBA FK - BUf@>K MBPLP ? 4EB NR>KQFV JB>PROBA LK QEB ELOFWLKQ>I >UFP FP FK - BUf@>K MBPLP TEFIB QEB MOF@B LC QEB SBOQF@>I >UFP FP QEB MOF@B LC MBPLP JB>PROBA FK 5 3 ALII>OP )K ?LQE DO>MEP QEB BNRIF?OFR J BU@E>KDB O>QB L@>ROP >Q MLFKQ % >Q QEB FKQBOPB@QFLK LC QEB AB J>KA @ROSB \$ >KA QEB PRMMIV @ROSB 3

<:HE8 ? MOBPBKQP QEB P> JB AB J>KA >KA PRMMIV FKLO J>QFLK COL J QEB MBOPMB@QFSB LC QEB , BUf@>K MBPL 3EB SBOQF@>I >UFP PELTP QEB BU@E>KDB O>QB CLO , BUf@>K MBPLP TEF@E FP JB>PROBA FK 4 2 ALII>OP 3EB ELOFWLKQ>I >UFP PELTP QEB NR>KQFV LC , BUf@>K MBPLP QO>ABA FK QEB CLOBFDK BU@E>KDB J>OHBQ 3EB AB J>KA @ROSB # CLO , BUf@>K MBPLP FKQBOPB@QP TFQE QEB PRMMIV @ROSB 2 LC , BUf@>K MBPLP >Q QEB BNRIF?OFR J MLFKQ \$ TEF@E FP >K BU@E>KDB O>QB LC @BKQP FK 4 2 @ROOBK@V CLO B>@E , BUf@>K MBPL >KA >QLQ>I SLIR J B LC ?FIIFLK MBPLP - LQB QE>Q QEB QTL BU@E>KDB O>QB >OB FKSOPBP MBPLP MBO ALII>O FP QEB P> JB >P @BKQP MBO MBPL LO MBO MBPL (K QEB >@QR>I CLOBFDK BU@E>KDB J>OHBQ >I JLPQ >II LC QEB QO>AFKD CLO , BUf@>K MBPLP FP CLO 4 2 ALII>OP 6 E>Q C>@QLOP TLRIA @>RPB QEB AB J>KA LO PRMMIV QL PEFCQ QERP IB>AFKD QL > @E>KDB FK QEB BNRIF?OFR J BU@E>KDB O>QB 6 B AFP@RPP QEB >KPTBO QL QEF NRBPQFLK FK QEB CLIIL TFKD PB@QFLK

KC86G4G<BAF 45BHG HGHE8 K6;4A:8 \*4G8F

. KB OB>PLK QL AB J>KA > @ROOBK@V LK QEB CLOBFDK BU@E>KDB J>OHBQ FP QEB ?BIFBC QE>Q QEB @ROOBK@V P S>IRB FP >?LRQ QL FK@OB>PB . KB OB>PLK QL PRMMIV > @ROOBK@V b QE>Q FP PBII FQ LK QEB CLOBFDK BU@E>KDB J>OHBQ b FP QEB BUMB@Q>QFLK QE>Q QEB @ROOBK@V P S>IRB FP >?LRQ QL AB@IFKB %LO BU> J MIB F J >DFKB QE>Q > IB>AFKD ?RPFKBPP KBTMP>MBO IFHB QEB Wall Street Journal LO QEB Financial Times ORKP >K >OQF@IB MOBAF@QFKD QE>Q QEB , BUf@>K MBPL TFII >MMOB@F>QB FK S>IRB <:HE8 FIIRPQO>QBP QEB IFHBIV BCCB@QP LC PR@E >K >OQF@IB #B J>KA CLO QEB , BUf@>K MBPL PEFCQP QL QEB OFDEQ COL J # QL # >P FKSBPQLOP ?B@L J B B>DBO QL MRQ@E>PB MBPLP "LKSOPBIV QEB PRMMIV LC MBPLP PEFCQP QL QEB IBCQ COL J 2 QL 2 ?B@>RPB FKSBPQLOP TFII ?B IBPP TFIIFKD QL DfSB QEB J RM 3EB OBPRIQ FP QE>Q QEB BNRIF?OFR J BU@E>KDB O>QB OFPBP COL J @BKQP MBPL QL @BKQP MBPL >KA QEB BNRIF?OFR J BU@E>KDB O>QB OFPBP COL J ?FIIFLK QL ?FIIFLK MBPLP >P QEB BNRIF?OFR J JLSBP COL J \$ QL \$

<:HEB K6;4A:8 \*4G8 %4E>8G 9BE %8K<64A (8FB \*846GFB KC86G4G<BAF 45BHG HGHEB K6;4A:8 \*4G8F  
!K >KKLRK@B J BKQ QE>Q QEB MBPL BU@E>KDB O>QB FP IFHBIV QL PQQBKDQEBK FK QEB CRQROB TFII IB>A QL DOB>QBO AB J >KA CLO QEB  
MBPL FK QEB MOBPBKQ COL J FKSBPQLQOP TEL TIFE QL ?BKBQFQ COL J QEB >MMOB@F>QFLK 3F J FI>OIV FQ TFII J >HB FKSBPQLQOP IBPP  
IFHBIV QL PRMMIV MBPL QL QEB CLOBFDK BU@E>KDB J >OHBQ "LQE QEB PEFCQ LC AB J >KA QL QEB OFDEQ >KA QEB PEFCQ LC PRMMIV QL  
QEB IBQ @>RBP >K F J J BAF>QB >MMOB@F>QFLK FK QEB BU@E>KDB O>QB

<:HEB >IPL FIIRPQ>QBP PL J B MB@RIF>O QO>FQP LC PRMMIV >KA AB J >KA AF>DO> J P FK QEB CLOBFDK BU@E>KDB J >OHBQ (K  
@LKKQ>PQ QL >II QEB LQEBO @>PBP LC PRMMIV >KA AB J >KA VLR E>SB @LKPFABOBA FK QEB CLOBFDK BU@E>KDB J >OHBQ PRMMIV >KA  
AB J >KA QVMF@>IIV ?LQE J LSB >Q QEB P> J B QF J B &QLRMP LC M>OQF@FM>KQP FK QEB CLOBFDK BU@E>KDB J >OHBQ IFHB CFO J P >KA  
FKSBPQLQOP FK@IRAB PL J B TEL >OB ?RVBOP >KA PL J B TEL >OB PBIIBOP K BUMB@Q>QFLK LC > CRQROB PEFCQ FK QEB BU@E>KDB O>QB  
>CCB@QP ?LQE ?RVBOP >KA PBIIBOP b QE>Q FP FQ >CCB@QP ?LQE AB J >KA >KA PRMMIV CLO > @ROOBK@V

3EB PEFCQ FK AB J >KA >KA PRMMIV @ROSBP ?LQE @>RBP QEB BU@E>KDB O>QB QL PEFCQ FK QEB P> J B AFOB@QFLK (K QEFP BU> J MIB  
QEBV ?LQE J >HB QEB MBPL BU@E>KDB O>QB PQQLKDBO 'LTBSBO QEB PEFCQ FK AB J >KA >KA PRMMIV TLOH FK LMLLPFKD  
AFOB@QFLK LK QEB NR>KQFQV QO>ABA (K QEFP BU> J MIB QEB OFPKD AB J >KA CLO MBPL FP @>RPFKD QEB NR>KQFQV QL OFPB TEFIB QEB  
>IIFKD PRMMIV LC MBPL FP @>RPFKD NR>KQFQV QL C>II (K QEFP PMB@FCF@ BU> J MIB QEB OBPRIQ FP > EFDEBO NR>KQFQV 'LTBSBO FK  
LQEBO @>PBP QEB OBPRIQ @LRIA ?B QE>Q NR>KQFQV OB J >FKP RK@E>KDBA LO AB@IFKBP

3EFP BU> J MIB >IPL EBIMP QL BUMI>FK TEV BU@E>KDB O>QBP LCQBK J LSB NRFQB PR?PQ>KQF>IIV FK >PELOQ MBOFLA LC >CBT TBBHP  
LO J LKQEP 6EBK FKSBPQLQOP BUMB@Q > @LRKQOV@P @ROOBK@V QL PQQBKDQEBK FK QEB CRQROB QEBV ?RV QEB @ROOBK@V >KA @>RBP  
FQ QL >MMOB@F>QB F J J BAF>QBIV 3EB @ROOBK@V P >MMOB@F>QFLK @>K IB>A LQEBO FKSBPQLQOP QL ?BIFBSB QE>Q CRQROB >MMOB@F>QFLK  
FP IFHBIV b >KA QERP IB>A QL BSBK CROQEBO >MMOB@F>QFLK 2F J FI>OIV >CB>O QE>Q > @ROOBK@V might TB>HBK NRF@HIV IB>AP QL  
>K actual TB>HBKFKD LC QEB @ROOBK@V TEF@E LCQBK OBFKCLQ@BP QEB ?BIFBC QE>Q QEB @ROOBK@V TFII TB>HBK CROQEBO 3ERP  
?BIFBCP >?LRQ QEB CRQROB M>QE LC BU@E>KDB O>QBP @>K ?B PBIC OBFKCLQ@FKD >Q IB>PQ CLO > QF J B >KA > I>ODB PE>OB LC QEB  
QO>AFKD FK CLOBFDK BU@E>KDB J >OHBQP FKSLISBP AB>IBOP QOVFKD QL LRQDRBPP B>@E LQEBO LK TE>Q AFOB@QFLK BU@E>KDB O>QBP  
TFII J LSB KBUQ

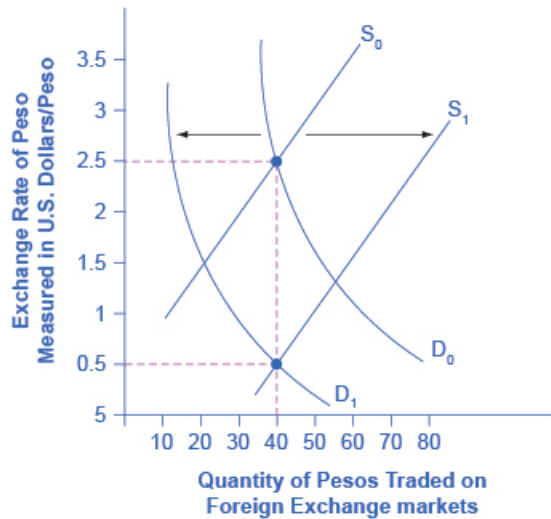
<998E8A68F 46EBFF BHAGE<8F <A \*4G8F B9 \*8GHEA

3EB J LQFS>QFLK CLO FKSBPQ J BKQ TEBQEBO AL J BPQF@ LO CLOBFDK FP QL B>OK > OBQROK (C O>QBP LC OBQROK FK > @LRKQOV ILLH  
OBI>QFSBIV EFDE QEBK QE>Q @LRKQOV TFII QBKA QL >QQ>@Q CRKAP COL J >?OL>A "LKSBOBPBIV FC O>QBP LC OBQROK FK > @LRKQOV  
ILLH OBI>QFSBIV ILT QEBK CRKAP TFII QBKA QL CIBB QL LQEBO B@LKL J FBP "E>KDBP FK QEB BUMB@QBA O>QB LC OBQROK TFII PEFCQ  
AB J >KA >KA PRMMIV CLO > @ROOBK@V %LO BU> J MIB F J >DFKB QE>Q FKQBOBPQ O>QBP OFPB FK QEB 4KFQBA 2Q>QBP >P @L J M>OBA TFQE  
, BUFL 3ERP CFK>K@F>I FKSBPQ J BKQP FK QEB 4KFQBA 2Q>QBP MOL J FPB > EFDEBO OBQROK QE>K MOBSFLRPV P > OBPRIQ J LOB  
FKSBPQLQOP TFII AB J >KA 4 2 ALII>OP PL QE>Q QEBV @>K ?RV FKQBOBPQ ?B>OFKD >PPBQP >KA CBTBO FKSBPQLQOP TFII ?B TFIIFKD QL  
PRMMIV 4 2 ALII>OP QL CLOBFDK BU@E>KDB J >OHBQP #B J >KA CLO QEB 4 2 ALII>O TFII PEFCQ QL QEB OFDEQ COL J # QL #  
>KA PRMMIV TFII PEFCQ QL QEB IBQ COL J 2 QL 2 >P <:HEB PELTP 3EB KBT BNRHIF?OFR J \$ TFII L@>RO >Q >K  
BU@E>KDB O>QB LC KFKB MBPL ALII>O >KA QEB P> J B NR>KQFQV LC ?FIIFLK 3ERP > EFDEBO FKQBOBPQ O>QB LO O>QB LC OBQROK  
OBI>QFSB QL LQEBO @LRKQOFBP IB>AP > K>QFLK@P @ROOBK@V QL >MMOB@F>QB LO PQQBKDQEBK >KA > ILTBO FKQBOBPQ O>QB OBI>QFSB QL  
LQEBO @LRKQOFBP IB>AP > K>QFLK@P @ROOBK@V QL ABMOB@F>QB LO TB>HBK 2FK@B > K>QFLK@P @BKQO>I ?>KH @>K RPB J LKBQ>OV  
MLIF@V QL >CCB@Q FQP FKQBOBPQ O>QBP > @BKQO>I ?>KH @>K >IPL @>RBP @E>KDBP FK BU@E>KDB O>QBP b > @LKKB@QFLK QE>Q TB TFII  
AFP@RPP FK J LOB ABQ>FI I>QBO FK QEFP @E>M@B0

<:HE8 K6;4A:8 \*4G8 %4E>8G 9BE - + B?4EF \*846GF GB <:;8E !A68E8FG \*4G8F ! EFDEBO O>QB LC OB@R0K CLO  
5 3 ALII>OP J>HBP ELIAFKD ALII>OP J LOB >@Q@>@QFSB 4ERP QEB AB J>KA CLO ALII>OP FK QEB CLOBFDK BU@E>KDB J>OHBQ PEF@Q  
QL QEB OFDEQ COL J \$ QL \$ TEFIB QEB PRMMIV LC ALII>OP PEF@Q QL QEB IBCQ COL J 3 QL 3 4EB KBT BNRHF?OFR J % E>P >  
P@QLKDBO BU@E>KDB O>QB QE>K QEB LOFDK>I BNRHF?OFR J % ?RQ FK QEF BU>J MIB QEB BNRHF?OFR J NR>KQFQV QO>ABA ALBP KLQ  
@E>KDB

### \*8?4G<I8 !A9?4G<BA

(C > @LRKQOV BUMBOFBK@BP > OBI>QFSBIV EFDE FKCI>@FLK O>QB @L J M>OBA TFQE LQEBO B@LKL J FBP QEBK QEB ?RVFKD MLTBO LC FQP  
@ROOBK@V FP BOLAFKD TEF@E TFII QBKA QL AFP@LRO>DB >KVLKB COL J T>KQFKD QL >@NRFOB LO QL ELIA QEB @ROOBK@V <:HE8  
PELTP >K BU>J MIB ?>PBA LK >K >@QR>I BMFPLAB @LK@BOKFKD QEB , BU@>K MBPL (K a , BU@L BUMBOFBK@BA  
>K FKCI>@FLK O>QB LC LSBO - LQ PROMOFPKDIV >P FKCI>@FLK AO>J >QF@>IIV AB@OB>PBA QEB MBPL P MRO@E>PFKD MLTBO  
FK , BU@L 3EB MBPL P BU@E>KDB O>QB S>IRB AB@IFKBA >P TBII <:HE8 PELTP QE>Q QEB AB J>KA CLO QEB MBPL LK  
CLOBFDK BU@E>KDB J>OHBQP AB@OB>PBA COL J # QL # TEFIB QEB MBPL P PRMMIV FK@OB>PBA COL J 2 QL 2 3EB BNRHF?OFR J  
BU@E>KDB O>QB CBII COL J MBO MBPL >Q QEB LOFDK>I BNRHF?OFR J \$ QL MBO MBPL >Q QEB KBT BNRHF?OFR J \$  
(K QEF BU>J MIB QEB NR>KQFQV LC MBPLP QO>ABA LK CLOBFDK BU@E>KDB J>OHBQP OB J>FKBA QEB P>J B BSBK >P QEB BU@E>KDB  
O>QB PEFQBA



<:HE8 K6;4A:8 \*4G8 %4E>8GF \*846G GB <:;8E !A9?4G<BA )C > @ROOBK@V FP BUMBOFBK@FKD OBI>QFSBIV EFDE  
FKCI>@FLK QEBK FQP ?RVFKD MLTBO FP AB@OB>PFKD >KA FK@BOK>@FLK>I FKSBP@LOP TFII ?B IBPP B>DBO QL ELIA FQ 4ERP > QFPB FK  
FKCI>@FLK FK QEB - BU@>K MBPL TLRIA IB>A AB J>KA QL PEF@Q COL J \$ QL \$ >KA PRMMIV QL FK@OB>PB COL J 3 QL 3 "LQE  
J LSB J BKQP FK AB J>KA >KA PRMMIV TLRIA @>RPB QEB @ROOBK@V QL ABMOB@F>QB (BOB TB AO>T QEB BCCB@Q LK QEB NR>KQFQV  
QO>ABA >P > AB@OB>PB ?RQ FK QORQE FQ @LRIA ?B >K FK@OB>PB LO KL @E>KDB ABMBKAFKD LK QEB >@QR>I J LSB J BKQP LC  
AB J>KA >KA PRMMIV

# Link It Up

6F@FQ QEF@ TB?P@B EQM LMBKP@>U@LIIBDB L@D I ?@D J >@ Q@ IB>@K >?LRQ QEB "FD - >@ FKABU

## (HE6;4F<A: (BJ8E (4E<GL

. SBO QEB ILKD @B0 J BU@E>KDB 0>@BP JRPQ ?B>0 PL J B OBI>@FLKPEFM Q@ QEB @R00BK@VP ?RVFKD MLTBO FK @B0 J P LC FK@BOK>@FLK>IIV Q0>ABA DLLAP (C >Q > @B0Q>FK BU@E>KDB 0>@BP FQ T>P J R@E @EB>MBO Q@ ?RV FK@BOK>@FLK>IIV Q0>ABA DLLAP b PR@E >P LFI PQBBI @L J MRQ@BOP >KA @>@P b FK LKB @LRKQOV QE>K FK >KLQEB0 @LRKQOV ?RPFKBPPBP TLRIA PQ>@Q ?RVFKD FK QEB @EB>M @LRKQOV PBIIFKD FK LQEB0 @LRKQ@FBP >KA ML@HBQFKD QEB MOLCFQ

%LO BU> J MIB FC > 4 2 ALII>@ FP TLOQE FK ">K>AF>K @R00BK@V QEBK >@>@ QE>Q PBIIP CLO FK QEB 4KFQBA 2Q>@BP PELRIA PBII CLO FK ">K>A> (C QEB MOF@B LC @>@P FK ">K>A> TBOB J R@E ILTBO QE>K QEBK >Q IB>PQ PL J B 4 2 @>@ ?RVBOP TLRIA @LKSBOQ QEBFO 4 2 ALII>@P Q@ ">K>AF>K ALII>@P >KA ?RV QEBFO @>@P FK ">K>A> (C QEB MOF@B LC @>@P TBOB J R@E EFDEBO QE>K FK QEF@ BU> J MIB QEBK >Q IB>PQ PL J B ">K>AF>K ?RVBOP TLRIA @LKSBOQ QEBFO ">K>AF>K ALII>@P Q@ 4 2 ALII>@P >KA DL Q@ QEB 4KFQBA 2Q>@BP Q@ MRO@E>PB QEBFO @>@P 3EFP FP HKLTK >P **arbitrage** QEB MOL@BPP LC ?RVFKD >KA PBIIFKD DLLAP LO @R00BK@FBP >@OLPP FK@BOK>@FLK>I ?LOABOP >Q > MOLCFQ (Q J >V L@@RO PILTIV ?RQ LSBO QF J B FQ TFII CLO@B MOF@BP >KA BU@E>KDB 0>@BP Q@ >IFDK PL QE>Q QEB MOF@B LC FK@BOK>@FLK>IIV Q0>ABA DLLAP FP PF J FI>@ FK >II @LRKQ@FBP

6B @>II QEB BU@E>KDB 0>@BP QE>Q BNR>IFWBP QEB MOF@BP LC FK@BOK>@FLK>IIV Q0>ABA DLLAP >@OLPP @LRKQ@FBP QEB **purchasing power parity (PPP)** BU@E>KDB 0>@BP DOLRM LC B@LKL J FPQP >Q QEB (K@BOK>@FLK>I "L J M>@FPLK /@LDO> J ORK ?V QEB 6LOIA !>KH E>SB @>I@RI>@BA QEB /// BU@E>KDB 0>@BP CLO >II @LRKQ@FBP ?>PBA LK ABQ>FIBA PQRAF@BP LC QEB MOF@BP >KA NR>K@F@FBP LC FK@BOK>@FLK>IIV Q0>A>?IB DLLAP

3EB MRO@E>PFKD MLTBO M>@FQV BU@E>KDB 0>@BP E>P QTL CRK@QFLK %FOPQ B@LKL J FPQP LC@BK RPB /// BU@E>KDB 0>@BP CLO FK@BOK>@FLK>I @L J M>@FPLK LC &# / >KA LQEB0 B@LKL J F@ PQ>@FP@P ( J >DFKB QE>Q VLR >@B MOB@>@FKD > Q>?IB PELTFKD QEB PFWB LC &# / FK J >KV @LRKQ@FBP FK PBSBO>I OB@BKQ VB>@P >KA CLO B>PB LC @L J M>@FPLK VLR >@B @LKSBOQFKD >II QEB S>IRBP FKQL 4 2 ALII>@P 6 EBK VLR FKP@Q QEB S>IRB CLO )>M>K VLR KBBA Q@ RPB > VBK ALII>@ BU@E>KDB 0>@BP 'LTBSBO PELRIA VLR RPB QEB J >@HBQ BU@E>KDB 0>@BP LO QEB /// BU@E>KDB 0>@BP , >@HBQ BU@E>KDB 0>@BP ?LRK@B >@LRKA (K QEB BU@E>KDB 0>@BP T>P VBK ALII>@ ?RQ FK I>@B QEB 4 2 ALII>@ BU@E>KDB 0>@BP SBOPRP QEB VBK T>P VBK ALII>@ %LO PF J MIF@FQV P>V QE>Q )>M>K@P &# / T>P [ Q@FIIFLK FK ?LQE >KA (C VLR RPB QEB J >@HBQ BU@E>KDB 0>@BP QEBK )>M>K@P &# / TFII ?B Q@FIIFLK FK QE>Q FP [ Q@FIIFLK [ ALII>@ >KA Q@FIIFLK FK QE>Q FP [ Q@FIIFLK [ ALII>@

3EB J FPIB>AFKD >MMB>@>K@B LC > @E>KDFKD )>M>K@PB B@LKL J V L@@R@P LKIV ?B@>R@B TB RPBA QEB J >@HBQ BU@E>KDB 0>@BP TEF@E LC@BK E>P PEL@Q ORK @FPBP >KA C>IIP 'LTBSBO /// BU@E>KDB 0>@BP PQ>V C>@FIV @LKPQ>KQ >KA @E>KDB LKIV J LABPQIV FC >Q >II COL J VB>@ Q@ VB>@

3EB PB@LKA CRK@QFLK LC /// FP QE>Q BU@E>KDBP 0>@BP TFII LC@BK DBQ @ILPBO Q@ FQ >P QF J B M>PPBP (Q FP QORB QE>Q FK QEB PEL@Q >KA J B@FR J ORK >P BU@E>KDB 0>@BP >AGRPQ Q@ OBI>@FSB FKCI>@FLK 0>@BP 0>@BP LC OB@ROK >KA Q@ BUMB@>@FLK >?LRQ ELT FK@BOPQ 0>@BP >KA FKCI>@FLK TFII PEFQ QEB BU@E>KDB 0>@BP TFII LC@BK J LSB >T>V COL J QEB /// BU@E>KDB 0>@BP CLO > QF J B 'LTBSBO HKLTFKD QEB /// TFII >IILT VLR Q@ Q0>@H >KA MOB@F@Q BU@E>KDB 0>@BP OBI>@FLKPEFMP

# N %46EB86BAB@<6 9986GF B9 K6;4A:8 \*4G8F

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK ELT BU@E>KDB 0>@B PEFCQFKD FK CIRBK@BP >DDBD>@B AB J >KA >KA PRMMIV
- d \$UMI>FK ELT PEFCQFKD BU@E>KDB 0>@BP >IPL @>K FK CIRBK@B IL>KP >KA ?>KHP

@BKQ>I ?>KH TFII ?B @LK@BOKBA >?LRQ QEB BU@E>KDB 0>@B CLO J RIQFMIB OB>PLKP , LSB J BKQP FK QEB BU@E>KDB 0>@B TFII >CCB@Q QEB NR>KQFQV LC >DDBD>@B AB J >KA FK >K B@LKL J V COBNRBKQ PR?PQ>KQF>I CIR@QR>QFLKP FK QEB BU@E>KDB 0>@B @>K AFPORMQ FK@BOK>QFLK>I QO>AB >KA @>RPB MOL?IB J P FK > K>QFLK@P ?>KHFKD PVPQB J aQEF J >V @LKQOF?RQB QL >K RKPRPQ>FK>?IB ?>I>K@B LC QO>AB >KA I>ODB FK CIL TP LC FK@BOK>QFLK>I CFK>K@F>I @>M@>I TEF@E @>K PBQ RM QEB B@LKL J V CLO > ABBM OB@BPPFLK FC FK@BOK>QFLK>I FKSBP@LOP AB@FAB QL J LSB QEBFO J LKBV QL >KLQEB @LRKQOV +B@P AFP@RPP QEBPB P@BK>OFLP FK QROK

## K6;4A:8 \*4G8F ::E8:4G8 8@4A7 4A7 ::E8:4G8 +HCC?L

%LOBFDK QO>AB FK DLLAP >KA PBOF@BP QVMF@>IIV FKSLISBP FK@ROOFKD QEB @LPQ LC MOLAR@QFLK FK LKB @ROOBK@V TEFIB OB@BFSFKD OBSBKRBP COL J P>IBP FK >KLQEB @ROOBK@V P > OBPRJ J LSB J BKQP FK BU@E>KDB 0>@BP @>K E>SB > MLTBOCRI BCCB@Q LK FK@BOK@FSBP QL BUMLOQ >KA F J MLOQ >KA QERP LK >DDBD>@B AB J >KA FK QEB B@LKL J V >P > TELIB

%LO BU>J MIB FK TEBK QEB BROL CFOPQ ?B@>J B > @ROOBK@V FQP S>IRB J B>PROBA FK 4 2 @ROOBK@V T>P BROL ! V QEB BKA LC QEB BROL E>A OFPBK >KA QEB 4 2 ALII>O E>A @LOOBPMLKAFKDIV TB>HBKBA QL BROL ' LTBSBO ?V QEB BKA LC %B?OR>OV QEB BU@E>KDB 0>@B T>P LK@B >D>FK BROL " LKPFABO QEB PFQR>QFLK LC > %OBK@E CFO J QE>Q B>@E VB>O FK@ROP i J FIIFLK FK @LPQ >KA PBIIP FQP MOLAR@QF FK QEB 4KFQBA 2Q>@BP CLO J FIIFLK (K TEBK QEFB CFO J @LKSBOQBA J FIIFLK ?>@H QL BROLP >Q QEB BU@E>KDB 0>@B LC BROL QE>Q FP J FIIFLK ^ :i ; FQ OB@BFSBA i J FIIFLK >KA PRCCBOBA > ILPP (K TEBK QEFB P>J B CFO J @LKSBOQBA J FIIFLK ?>@H QL BROLP >Q QEB BU@E>KDB 0>@B LC BROL QE>Q FP J FIIFLK ^ :i BROL ; FQ OB@BFSBA >MMOLUF J >QIV i J FIIFLK >KA >K BSBK I>ODBO ILPP (K QEB ?BDFKFKD LC TFQE QEB BU@E>KDB 0>@B ?>@H >Q BROL QEB CFO J TLRIA PRCCBO > ILPP LK@B >D>FK 3EFP BU>J MIB PEL TP ELT > P@QKDBO BROL AFP@LRO>DBP BUMLOQ ?V QEB %OBK@E CFO J ?B@>RPB FQ J >HBP QEB @LPQ LC MOLAR@QFLK FK QEB AL J BPQF@ @ROOBK@V EFDEBO OBI>QFSB QL QEB P>IBP OBSBKRBP B>OKBA FK >KLQEB @LRKQOV %OL J QEB MLFK LC SFBT LC QEB 4 2 B@LKL J V QEB BU>J MIB >IPL PEL TP ELT > TB>HBO 4 2 ALII>O BK@LRO>DBP BUMLOQ

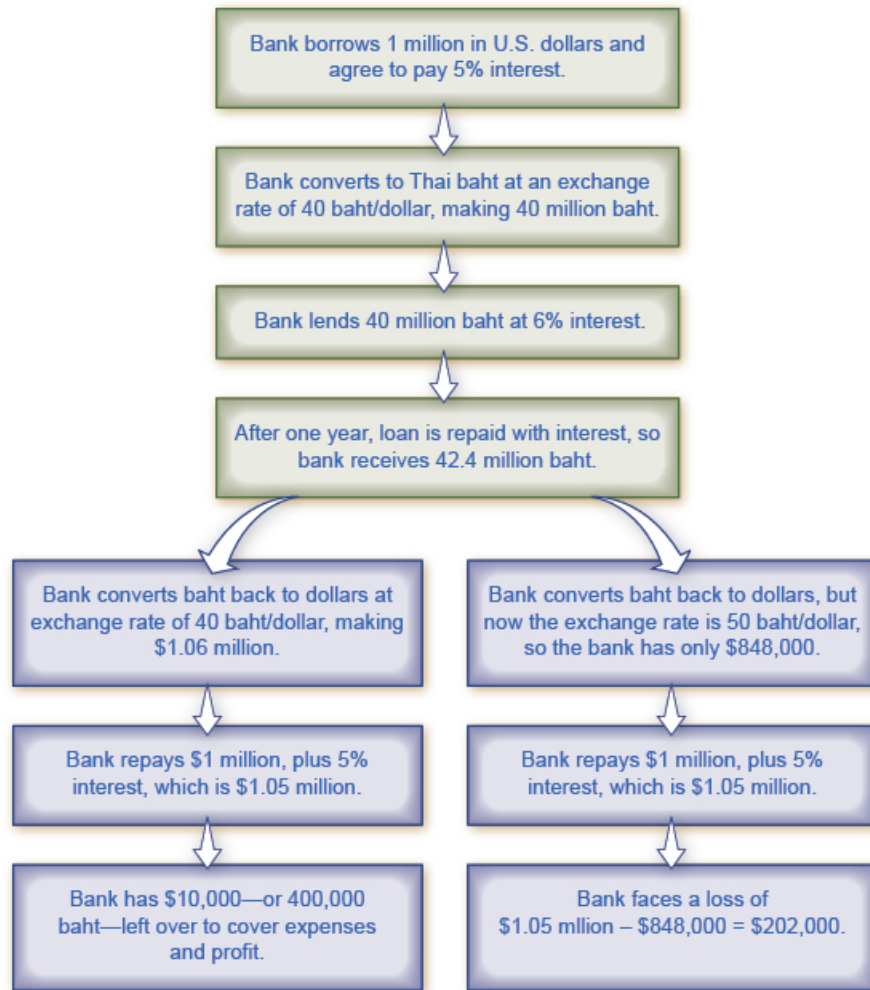
2FK@B >K FK@OB>PB FK BUMLOQ OBPRIP FK J LOB ALII>OP CILTFKD FK QL QEB B@LKL J V >KA >K FK@OB>PB FK F J MLOQ J B>KP J LOB ALII>OP >OB CILTFKD LRQ FQ FP B>PV QL @LK@IRAB QE>Q BUMLOQ >OB eDLLAf CLO QEB B@LKL J V >KA F J MLOQ >OB e?>A f ?RQ QEFB LSOILLHP QEB OLIB LC BU@E>KDB 0>@BP (C >K J BOF@>K @LKPR J BO ?RVP > )>M>KBPB @>O CLO FKPB>A LC >K J BOF@>K @>O CLO FQ J >V ?B QJ M@FKD QL >ODR QE>Q QEB J BOF@>K B@LKL J V E>P ILPQ LRQ ' LTBSBO QEB )>M>KBPB @L J M>KV TFII E>SB QL @LKSBOQ QELPB ALII>OP QL VBK QL M>V FQP TLOHBOP >KA LMBO>QB FQP C>@QLOFBP 6 ELBSBO ?RVP QELPB ALII>OP TFII E>SB QL RPB QEB J QL MRO@E>PB J BOF@>K DLLAP >KA PBOF@BP PL QEB J LKBV @L J BP OFDEQ ?>@H FK QL QEB J BOF@>K B@LKL J V Q QEB P>J B QF J B QEB @LKPR J BO >SBP J LKBV ?V ?RVFKD > IBPP BUMBK@FSB F J MLOQ >KA @>K RPB QEB BUQO> J LKBV CLO LQEB MROMLBPB

## ?H6GH4G<BAF <A K6;4A:8 \*4G8F

\$U@E>KDB 0>@BP @>K CIR@QR>@B > DOB>Q AB>I FK QEB PELOQ ORK P VBQ LKB J LOB BU>J MIB QEB (KAF>K ORMBB J LSBA COL J ORMBBP ALII>O FK %B?OR>OV QL ORMBBP ALII>O FK , >@E > AB@IFKB LC J LOB QE>K LKB CLROQE FK QEB S>IRB LC QEB ORMBB LK CLOBFDK BU@E>KDB J >OHBQP <:HE8 B>OIFBO PEL TBA QE>Q BSBK TTL B@LKL J F@>IIV ABSBILMBA KBFDE?LOFKD B@LKL J FBP IFHB QEB 4KFQBA 2Q>@BP >KA ">K>A> @>K PBB PFDKCF@>KQ J LSB J BKQP FK BU@E>KDB 0>@BP LSOB > CBT VB>OP %LO CFO J P QE>Q ABMBKA LK BUMLOQ P>IBP LO CFO J P QE>Q OBIV LK F J MLOQBA FKMRQP QL MOLAR@QFLK LO BSBK MROBIV AL J BPQF@ CFO J P QE>Q @L J MBQV TFQE CFO J P QFBA FK QL FK@BOK>QFLK>I QO>AB b TEF@E FK J >KV @LRKQOFBP >AAP RM QL E>IC LO J LOB LC > K>QFLK@P &# / b PE>OM J LSB J BKQP FK BU@E>KDB 0>@BP @>K IB>A QL AO>J >QF@ @E>KDBP FK MOLCFQP >KA ILPPBP @BKQ>I ?>KH J >V ABPFOB QL HBBM BU@E>KDB 0>@BP COL J J LSFKD QLL J R@E >P M>QO LC MOLSFAFKD > P Q>?IB ?RPFKBPP @IF J >QB TEBOB CFO J P @>K CL@RP LK MOLAR@QFSQV >KA FK KLS>QFLK KLQ LK OB>@QFKD QL BU@E>KDB 0>@BP CIR@QR>QFLKP

. KB LC QEB J LPQ B@LKL J F@>IIV ABP@OR@QFSB BCCB@Q LC BU@E>KDB 0>@BP CIR@QR>QFLKP @>K E>MMBK QEOLRDE QEB ?>KHFKD PVPQB J %FK>K@F>I FKP@Q@QFLKP J B>PROB J LPQ FK@BOK>QFLK>I IL>KP >OB J B>PROBA FK > CBT I>ODB @ROOBK@FBP IFHB 4 2 ALII>OP \$ROLMB>K BROLP >KA )>M>KBPB VBK (K @LRKQOFBP QE>Q AL KLQ RPB QEBPB @ROOBK@FBP ?>KHP LC@BK ?LOOLT CRKAP FK QEB @ROOBK@FBP LC LQEB @LRKQOFBP IFHB 4 2 ALII>OP ?RQ QEBK IBKA FK QEBFO LTK AL J BPQF@ @ROOBK@V 3EB IBCQ E>KA @E>FK LC BSBKQP FK <:HE8 PEL TP ELT QEFB M>@BOK LC FK@BOK>QFLK>I ?LOOLT FKD @>K TLOH ?>KH FK 3E>FI>KA ?LOOLT P LKB J FIIFLK FK 4 2 ALII>OP 3EBK QEB ?>KH @LKSBOQ QEB ALII>OP QL FQP AL J BPQF@ @ROOBK@V b FK QEB @>PB LC 3E>FI>KA QEB

@ROOBK@V FP QEB ?>EQ b >q > O>QB LC ?>EQ ALII>O 3EB ?>KH QEBK IBKAP QEB ?>EQ QL > CFO J FK 3E>FI>KA 3EB ?RPFKBPB  
OBM>VP QEB IL>K FK ?>EQ >KA QEB ?>KH @LKSBOQP FQ ?>@H QL 4 2 ALII>OP QL M>V LCC FQP LOFDK>I 4 2 ALII>O IL>K



<:HE8 !A68EA4@BA4? BEEBJ<A: 4EB P@BK>@FL LC FK@BOK>@FLK>I ?LOOLTFKD QE>Q BKAP LK QEB IBQ FP > PR@BPP  
PQLQV ?RQ QEB P@BK>@FL QE>Q BKAP LK QEB @FDEQ PELTP TE>Q E>MMBKP TEBK QEB BU@E>KDB O>QB TB>HBKP

3EFP MOL@BPP LC ?LOOLTFKD FK > CLOBFDK @ROOBK@V >KA IBKAFKD FK > AL JBPQ@ @ROOBK@V @>K TLOH GRPQ CFKB >P ILKD >P QEB  
BU@E>KDB O>QB ALBP KLQ PEFCQ (K QEB P@BK>@FL LRQIFKBA FC QEB ALII>O PQ@BKDQEBKP >KA QEB ?>EQ TB>HBKP > MOL?IB J >@FPBP  
3EB @FDEQ E>KA @E>FK LC BSBKQP FK <:HE8 FIIRPQ>@BP TE>Q E>MMBKP TEBK QEB ?>EQ RKBUMB@QBAIV TB>HBKP COL J  
?>EQ ALII>O QL ?>EQ ALII>O 3EB 3E>F CFO J PQFII OBM>VP QEB IL>K FK CRII QL QEB ?>KH 'LTBSBO ?B@>RPB LC QEB PEFCQ  
FK QEB BU@E>KDB O>QB QEB ?>KH @>KKLQ OBM>V FQP IL>K FK 4 2 ALII>OP . C @LROPB FC QEB BU@E>KDB O>QB E>A @E>KDBA FK  
QEB LQEB O AFOB@QFLK J >HFKD QEB 3E>F @ROOBK@V PQLKDBO QEB ?>KH @LRIA E>SB OB>IFWBA >K RKBUMB@QBAIV I>ODB MOLCFQ

(K a @LRKQ@FBP >@QLPP B>PQBOK PF> IFHB 3E>FI>KA \*LOB> , >I>VPF> >KA (KALKBPF> BUMBOFBK@BA > PE>OM  
ABMOB@F>@FLK LC QEBFO @ROOBK@FBP FK PL JB @>PBP LO JLOB 3EBPB @LRKQ@FBP E>A ?BBK BUMBOFBK@FKD PR?PQ>KQF>I  
FKCILTP LC CLOBFDK FKSBBPQ J BKQ @>MFQ>I TFQE ?>KH IBKAFKD FK@OB>PFKD ?V QL MBO VB>O QEOLRDE QEB JFA P  
6 EBK QEBFO BU@E>KDB O>QB ABMOB@F>@QBA QEB ?>KHFKD PVPQB J P FK QEBPB @LRKQ@FBP TBOB ?>KHORMQ ODBKQFK> BUMBOFBK@BA  
> PF JFI>O @E>FK LC BSBKQP FK 6 EBK QEB ODBKQFKB MBPL ABMOB@F>@QBA ODBKQFK>@P ?>KHP CLRKA QEB JPBISBP RK>?IB  
QL M>V ?>@H TE>Q QEBV E>A ?LOOLTBA FK 4 2 ALII>OP

!>KHP MI>V > SFQ>I OLIB FK >KV B@LKL J V FK C>@FIFQ>QFKD QO>KP>@QFLKP >KA FK J >HFKD IL>KP QL CFO J P >KA @LKPR J BOP 6 EBK  
JLPQ LC > @LRKQ@V@P I>@DBPQ ?>KHP ?B@L JB ?>KHORMQ PF JRIQ>KBLRPV > PE>OM AB@IFKB FK >DDBD>QB AB J >KA >KA > ABBM  
OB@BPPFLK OBPRIQP 2FK@B QEB J >FK OBPMLKPF?FIFQ@FBP LC > @BKQ>I ?>KH >OB QL @LKQOLI QEB J LKVB PRMMIV >KA QL BKPROB QE>Q  
QEB ?>KHFKD PVPQB J P PQ>?IB > @BKQ>I ?>KH JRPQ ?B @LK@BOKBA >?LRQ TEBQEBO I>ODB >KA RKBUMB@QBA BU@E>KDB O>QB  
ABMOB@F>@FLK TFII A@FSB JLPQ LC QEB @LRKQ@V@P BUFPQFKD ?>KHP FKQL ?>KHORMQ@V %LO JLOB LK QEP @LK@BOK OBQROK QL QEB

#E>MqB0 X %U@E>KDB 2>QBP >KA )KqBOK>QFLK>I #>Mq>I &ILT P

@E>MqB0 LK , ; 8 IAG8EA4G<BA4? ,E478 4A7 4C<G4? ?BJF

+H@@<A: -C (H5?<6 (B?<6L 4A7 K6;4A:8 \*4G8F

\$SBOV K>QFLK TLRIA MOBCBO > PQ>?IB BU@E>KDB 0>QB QL C>@FIFQ>QB FKQBOK>QFLK>I QO>AB >KA OBAR@B QEB ABDOBB LC OFPH >KA RK@BOQ>FKQV FK QEB B@LKL J V 'LTBSBO > K>QFLK J>V PL J BQF J BP T>KQ > TB>HBO BU@E>KDB 0>QB QL PQF J RI>QB >DDOBD>QB AB J >KA >KA OBAR@B > OB@BPPFLK LO > PQQLKDBO BU@E>KDB 0>QB QL CFDEQ FKCI>QFLK 3EB @LRKQOV J RPQ >IPL ?B @LK@BOKBA QE>Q 0>MFA J LSB J BKQP COL J > TB>H QL > PQQLKD BU@E>KDB 0>QB J >V @OFMMIB FQP BUMLOQ FKARPQOFBP TEFIB 0>MFA J LSB J BKQP COL J > PQQLKD QL > TB>H BU@E>KDB 0>QB @>K @OFMMIB FQP ?>KHFKD PB@QLO (K PELOQ BSBOV @ELF@B LC >K BU@E>KDB 0>QB b TEBQEBO FQ PELRIA ?B PQQLKDBO LO TB>HBO LO CFUBA LO @E>KDFKD b OBMOBPBKQP MLQBKQF>I QO>ABLCCP

N K6;4A:8 \*4G8 (B?<6<8F

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d #FCCBOBKQF>QB > J LKD > CIL>QFKD BU@E>KDB 0>QB > PLCQ MBD > E>OA MBD >KA > J BODBA @ROOBK@V
- d (ABKQFCV QEB QO>ABLCCP QE>Q @L J B TFQE > CIL>QFKD BU@E>KDB 0>QB > PLCQ MBD > E>OA MBD >KA > J BODBA @ROOBK@V

\$U@E>KDB 0>QB MLIF@FBP @L J B FK > 0>KDB LC AFCCBOBKQ CLO J P IFPQBA FK <:HE8 IBQ QEB CLOBFDK BU@E>KDB J >OHBQ ABQO J FKQ QEB BU@E>KDB 0>QB IBQ QEB J >OHBQ PBQ QEB S>IRB LC QEB BU@E>KDB 0>QB J LPQ LC QEB QF J B ?RQ E>SB QEB @BKQO>I ?>KH PL J BQF J BP FKQBOBOKB QL MOBSBKQ CIR@QR>QFLKQ QE>Q PBB J QLL I>ODB E>SB QEB @BKQO>I ?>KH DR>O>KQBB > PMB@FCF@ BU@E>KDB 0>QB LO PE>OB > @ROOBK@V TFQE LQEBO @LRKQOFBP +BQdP AFP@RPP B>@E QVMB LC BU@E>KDB 0>QB MLIF@V >KA FQP QO>ABLCCP

<:HE8 +C86GEH@ B9 K6;4A:8 \*4G8 (B?<6<8F ! K>QFLK J>V >ALMQ LKB LC > S>QFBQV LC BU@E>KDB 0>QB OBDQ J BP COL J CIL>QFKD 0>QBP FK TEF@E QEB CLOBFDK BU@E>KDB J >OHBQ ABQO J FKBP QEB 0>QBP QL MBDDBA 0>QBP TEBOB DLSBOK J BKQP FKQBOBOKB QL J >K>DB QEB BU@E>KDB 0>QB P S>IRB QL > @L J J LK @ROOBK@V TEBOB QEB K>QFLK >ALMQP >KLQEBO @LRKQOV LO DOLRM LC @LRKQOFBP @ROOBK@V

?B4G<A: K6;4A:8 \*4G8F

6 B OBCBO QL > MLIF@V TEF@E >IILT P QEB CLOBFDK BU@E>KDB J >OHBQ QL PBQ BU@E>KDB 0>QBP >P > floating exchange rate 3EB 4 2 ALII>O FP > CIL>QFKD BU@E>KDB 0>QB >P >OB QEB @ROOBK@FBP LC >?LRQ LC QEB @LRKQOFBP FK QEB TLOIA B@LKL J V 3EB J >GLO @LK@BOK TFQE QEFP MLIF@V FP QE>Q BU@E>KDB 0>QBP @>K J LSB > DOB>Q AB>I FK > PELOQ QF J B

" LKPFABO QEB 4 2 BU@E>KDB 0>QB BUMOBPPBA FK QBO J P LC >KLQEBO C>FOIV PQ>?IB @ROOBK@V QEB )>M>KBPB VBK >P <:HE8 PELTP . K )>KR>OV QEB BU@E>KDB 0>QB T>P VBK ALII>O . K )>KR>OV FQ T>P VBK ALII>O . K )RKB FQ T>P VBK ALII>O LK )>KR>OV FQ T>P VBK MBO ALII>O >KA LK , >O@E FQ T>P VBK MBO ALII>O P FKSBPQLO PBKQF J BKQ PTFKDP ?>@H >KA CLOQE AOFSEKD BU@E>KDB 0>QBP RM >KA ALTK BUMLOQBOP F J MLOQBOP >KA ?>KHP FKSLISBA FK FKQBOK>QFLK>I IBKAFKD >OB >II >CCB@QBA Q TLOPQ I>ODB J LSB J BKQP FK BU@E>KDB 0>QBP @>K AOFSEB @L J M>KFBP FKQL ?>KHORMQ@V LO QOFDDBO > K>QFLKTFAB ?>KHFKD @LII>MPB ' LTBSBO BSBK FK QEB J LABO>QB @>PB LC QEB VBK ALII>O BU@E>KDB 0>QB QEBPB J LSB J BKQP LC OLRDEIV MBO@BKQ ?>@H >KA CLOQE F J MLPB PQOBPP LK ?LQE B@LKL J FBP >P CFO J P J RPQ >IQBO QEBFO BUMLOQ >KA F J MLOQ MI>KP QL Q>HB QEB KBT BU@E>KDB 0>QBP FKQL >@@LRKQ \$PMB@F>IIV FK P J >IIBO @LRKQOFBP TEBOB FKQBOK>QFLK>I QO>AB FP > OBI>QFSBIV I>ODB PE>OB LC &# / BU@E>KDB 0>QB J LSB J BKQP @>K 0>QQIB QEBFO B@LKL J FBP



<:HE8 - + B?4E K6;4A:8 \*468 <A "4C4A8F8 18A %SBK PBB JFKDIV P@>?IB BU@E>KDB 0>@BP PR@E >P QEB  
 \*>M>KBPB 9BK QL QEB 5 3 \$LII>0 @>K S>OV TEBK @ILPBIV BU> J FKBA LSB0 QF JB 4EFP CFDR0B PEL TP > 0BI>@FSBIV P@>?IB 0>@BP  
 ?BQTBBK >KA )K QEB0B T>P > A0>P@F@ ABM0B@F>@FLK LC QEB 9BK 0BI>@FSB QL QEB 5 3 \$LII>0 ?V >?LRQ  
 >KA >D>FK >Q QEB BKA LC QEB VB>0 FK >IPL ?V >?LRQ 3LR0@B &BAB0>I 2BPB0SB %@LKL J F@ \$>Q> &2%\$  
 EQQM P 0BPB>0@E P@ILR@PCBA LOD COBA P@FBP \$%8\*053

' LTBSB0 J LSB J BKQP LC CIL>@FKD BU@E>KDB 0>@BP E>SB >AS>KQ>DBP QLL CQBO >II MOF@BP LC DLLAP >KA PBOF@BP OFPB >KA  
 C>II QE0LRDEL RQ > J >0HBQ B@LKL J V >P AB J >KA >KA PRMMIV PEFCQ (C >K B@LKL J V BUMBOFBK@BP P@QLKD FKCIL TP LO LRQCIL TP  
 LC FKQBOK>@FLK>I CFK>K@F>I @>MF@>I LO E>P 0BI>@FSBIV EFDE FKCI>@FLK LO FC FQ BUMBOFBK@BP P@QLKD MOLAR@QFSFV DOLTQE PL QE>Q  
 MRQ@E>PFKD ML TBO @E>KDBP 0BI>@FSB QL LQEB0 B@LKL J FBP QEBK FQ J >HBP B@LKL J F@ PBKPB CLO QEB BU@E>KDB 0>@BP QL PEFCQ >P  
 TBII

%IL>@FKD BU@E>KDB 0>@BP >ASL@>@BP LCQBK >ODRB QE>Q FC DLSBOK J BKQ MLIF@FBP TBOB J LOB MOBAF@Q>?IB >KA P@>?IB QEBK  
 FKCI>@FLK 0>@BP >KA FKQB0BPQ 0>@BP TLRIA ?B J LOB MOBAF@Q>?IB >KA P@>?IB \$U@E>KDB 0>@BP TLRIA ?LRK@B >0LRKA IBPP QLL  
 3EB B@LKL J FPQ , FIQLK %0FBA J >K a CLO BU> J MIB T@LQB > ABCBKP LC CIL>@FKD BU@E>KDB 0>@BP FK FK EFP  
 ?LLH Capitalism and Freedom

! BFKD FK C>SLO LC CIL>@FKD BU@E>KDB 0>@BP ALBP KLQ J B>K ?BFD FK C>SLO LC RKPQ>?IB BU@E>KDB 0>@BP 6 EBK  
 TB PRMMLQ > COBB MOF@BP PVPQB J :CLO DLLAP >KA PBOF@BP; >Q EL J B QEFP ALBP KLQ F J MIV QE>Q TB C>SLO >  
 PVPQB J FK TEF@E MOF@BP CIR@QR>QB TFAIV RM >KA ALTK 6 E>Q TB T>KQ FP > PVPQB J FK TEF@E MOF@BP >OB COBB  
 QL CIR@QR>QB ?RQ FK TEF@E QEB CLO@BP ABQBO J FKFKD QEB J >OB PRCCF@FBKQIV P@>?IB PL QE>Q FK C>@Q MOF@BP J LSB  
 TFQEFK J LABO>QB 0>KDBP 3EFP FP BNR>IIV QORB FK > PVPQB J LC CIL>@FKD BU@E>KDB 0>@BP 3EB RIQF J >QB L?GB@QFSB  
 FP > TLOIA FK TEF@E BU@E>KDB 0>@BP TEFIB COBB QL S>OV >OB FK C>@Q EFDEIV P@>?IB ?B@>RBP ?>PF@ B@LKL J F@  
 MLIF@FBP >KA @LKA@FLK >OB P@>?IB

ASL@>@BP LC CIL>@FKD BU@E>KDB 0>@BP >A J FQ QE>Q VBP BU@E>KDB 0>@BP J >V PL J BQF J BP CIR@QR>QB 3EBV MLFKQ LRQ  
 EL TBSB0 QE>Q FC > @BKQ>I ?>KH CL@RBP LK MOBSBK@FKD BFQEB0 EFDE FKCI>@FLK LO ABM 0B@BPPFLK TFQE ILT >KA 0B>PLK>?IV  
 PQB>AV FKQB0BPQ 0>@BP QEBK BU@E>KDB 0>@BP TFII E>SB IBPP 0B>PLK QL S>OV

-F<A: +B9G (8:F 4A7 4E7 (8:F

6 EBK > DLSBOK J BKQ FKQBOSBKP FK QEB CLOBFDK BU@E>KDB J >0HBQ PL QE>Q QEB @ROOBK@V P BU@E>KDB 0>@BP AFCCBOBKQ COL J  
 TE>Q QEB J >0HBQ TLRIA E>SB MOLAR@BA FQ BPQ>?IFPEBP > eMBDF CLO FQP @ROOBK@V **soft peg** FP QEB K> J B CLO >K BU@E>KDB  
 0>@BP MLIF@V TEB0B QEB DLSBOK J BKQ RPR>IIV >IIL TP QEB J >0HBQ QL PBQ BU@E>KDB 0>@BP ?RQ FK PL J B @>PBP BPMB@F>IIV FC QEB  
 BU@E>KDB 0>@BP PBB J P QL ?B J LSFKD 0>MFAIV FK LKB AFOB@FLK QEB @BKQ>I ?>KH TFII FKQBOSBKB FK QEB J >0HBQ 6 FQE > **hard**  
**peg** BU@E>KDB 0>@BP MLIF@V QEB @BKQ>I ?>KH PBQP > CFUBA >KA RK@E>KDFKD S>IRB CLO QEB BU@E>KDB 0>@BP @BKQ>I ?>KH  
 @>K F J MIB J BKQ PLCQ MBD >KA E>0A MBD MLIF@FBP

2RMMLPB QEB J >0HBQ BU@E>KDB 0>@BP CLO QEB ! 0>WFIF>K @ROOBK@V QEB 0B>I TLRIA ?B @BKQP 0B>I TFQE > A>FIV NR>KQFQV LC  
 ?FIIFLK 0B>I Q0>ABA FK QEB J >0HBQ >P QEB BNRIF@FJR J \$ FK <:HE8 > >KA <:HE8 ? PELT ' LTBSB0  
 ! 0>WFIP DLSBOK J BKQ AB@FABP QE>Q QEB BU@E>KDB 0>@BP PELRIA ?B @BKQP 0B>I >P <:HE8 > PELTP /BOE>MP



#E>M@B0 X %U@E>KDB 2>@BP >KA )K@BOK>@FLK>I #>M@>I &ILTP

!O>WFI PBQP QEFP ILTBO BU@E>KDB O>QB QL ?BKBCFQ FQP BUMLOQ FKARPOFBP /BOE>MP FQ FP >K >QQB J MQ QL PQF J RI>QB >DDOBD>QB  
AB J >KA ?V PQF J RI>QFKD BUMLOQP /BOE>MP !O>WFI ?BIFBSBP QE>Q QEB @ROOBKQ J >OHBQ BU@E>KDB O>QB FP EFDEBO QE>K QEB ILKD  
QBO J MRO@E>PFKD MLTBO M>OFQV S>IRB LC QEB OB>I PL FQ FP J FKF J FFKD CIR@QR>@FLKP FK QEB OB>I ?V HBBMFKD FQ >Q QEFP ILTBO  
O>QB /BOE>MP QEB DLSBOK J BKQ PBQ QEB Q>ODBQ BU@E>KDB O>QB PL J BQF J B FK QEB M>PQ >KA FQ FP KLT J >FKQ>FKFKD FQ CLO QEB  
P>HB LC PQ>?FIFQV 6 E>QBSBO QEB OB>PLK FC !O>WFI@P @BKQO>I ?>KH TFPFBP QL HBBM QEB BU@E>KDB O>QB ?BILT QEB J >OHBQ  
IBSBI FQ J RPQ C>@B QEB OB>IFQV QE>Q >Q QEFP TB>HBO BU@E>KDB O>QB LC @BKQP OB>I QEB NR>KQFQV AB J >KABA LC FQP @ROOBK@V  
>Q ?FIIFLK OB>IP FP DOB>QBO QE>K QEB NR>KQFQV PRMMIFBA LC ?FIIFLK OB>IP FK QEB CLOBFDK BU@E>KDB J >OHBQ

<:HEB (8::A:4A K6;4A:8 \*4@8 >)C >K BU@E>KDB O>QB FP MBDDBA ?BILT TE>Q TLRIA LQEBOTFPB ?B QEB  
BNRHF?@FR J QEBK QEB @ROOBK@V P NR>KQFQV AB J >KABA THII BU@BBA QEB NR>KQFQV PRMMIFBA ? )C >K BU@E>KDB O>QB FP  
MBDDBA >?LSB TE>Q TLRIA LQEBOTFPB ?B QEB BNRHF?@FR J QEBK QEB @ROOBK@V P NR>KQFQV PRMMIFBA BU@BBAP QEB NR>KQFQV  
AB J >KABA

3EB !O>WFIF>K @BKQO>I ?>KH @LRIA TB>HBK FQP BU@E>KDB O>QB FK QTL T>VP .KB >MMOL>@E FP QL RPB >K BUM>KPFLK>OV  
J LKBQ>OV MLIF@V QE>Q IB>AP QL ILTBO FKQBOPQ O>QB (K CLOBFDK BU@E>KDB J >OHBQ QEB ILTBO FKQBOPQ O>QB TFII OBAR@B  
AB J >KA >KA FK@OB>PB PRMMIV LC QEB OB>I >KA IB>A QL ABMOB@F>@FLK "BKQO>I ?>KHP AL KLQ RPB QEFP QB@EKFNRB LCQBK  
?B@>RPB ILTBOFKD FKQBOPQ O>QB QL TB>HBK QEB @ROOBK@V J >V ?B FK @LKCIF@Q TFQE QEB @LRKQOV@P J LKBQ>OV MLIF@V DL>IP  
IQBOK>@FSBIV !O>WFI@P @BKQO>I ?>KH @LRIA QO>AB AFOB@QIV FK QEB CLOBFDK BU@E>KDB J >OHBQ 3EB @BKQO>I ?>KH @>K BUM>KA  
QEB J LKBV PRMMIV ?V @OB>@FKD OB>IP RPB QEB OB>IP QL MRO@E>PB CLOBFDK @ROOBK@FBP >KA >SLFA PBIIFKD >KV LC FQP LTK  
@ROOBK@V (K QEFP T>V FQ @>K CFII QEB D>M ?BQTBK NR>KQFQV AB J >KABA >KA NR>KQFQV PRMMIFBA LC FQP @ROOBK@V

<:HEB ? PELTP QEB LMMLPFQB PFQR>@FLK ' BOB QEB !O>WFIF>K DLSBOK J BKQ ABPFBP > PQOLKDBO BU@E>KDB O>QB LC  
@BKQP OB>I QE>K QEB J >OHBQ O>QB LC @BKQP OB>I /BOE>MP !O>WFI ABPFBP QEB PQOLKDBO @ROOBK@V QL OBAR@B >DDOBD>QB  
AB J >KA >KA QL CFDEQ FKCI>@FLK LO MBOE>MP !O>WFI ?BIFBSBP QE>Q QE>Q @ROOBKQ J >OHBQ BU@E>KDB O>QB FP QB J MLO>OFIV ILTBO  
QE>K QEB ILKD QBO J O>QB 6 E>QBSBO QEB OB>PLK >Q QEB EFDEBO ABPFOBA BU@E>KDB O>QB QEB NR>KQFQV PRMMIFBA LC ?FIIFLK  
OB>IP BU@BBAP QEB NR>KQFQV AB J >KABA LC ?FIIFLK OB>IP

!O>WFI@P @BKQO>I ?>KH @>K RPB > @LKQO>@@FLK>OV J LKBQ>OV MLIF@V QL O>FPB FKQBOPQ O>QB TEF@E TFII FK@OB>PB AB J >KA  
>KA OBAR@B @ROOBK@V PRMMIV LK CLOBFDK BU@E>KDB J >OHBQ >KA IB>A QL >K >MMOB@F>@FLK IQBOK>@FSBIV !O>WFI@P @BKQO>I  
?>KH @>K QO>AB AFOB@QIV FK QEB CLOBFDK BU@E>KDB J >OHBQ (K QEFP @>PB TFQE >K BU@BPP PRMMIV LC FQP LTK @ROOBK@V FK  
CLOBFDK BU@E>KDB J >OHBQ QEB @BKQO>I ?>KH J RPQ RPB OBPBOSBP LC CLOBFDK @ROOBK@V IFHB 4 2 ALII>OP QL AB J >KA FQP LTK  
@ROOBK@V >KA QERP @>RBP >K >MMOB@F>@FLK LC FQP BU@E>KDB O>QB

!LQE > PLCQ MBD >KA > E>OA MBD MLIF@V OBNRFOB QE>Q QEB @BKQO>I ?>KH FKQBOSBKB FK QEB CLOBFDK BU@E>KDB J >OHBQ ' LTBSBO  
> E>OA MBD MLIF@V >QB J MQP QL MOBPBOSB > CFUBA BU@E>KDB O>QB >Q >II QF J BP PLCQ MBD MLIF@V QVMF@>IIV >IILTP QEB  
BU@E>KDB O>QB QL J LSB RM >KA ALTK ?V OBI>@FSBIV P J >II > J LRKQP FK QEB PELOQ ORK LC PBSBO>I J LKQEP LO > VB>O >KA QL  
J LSB ?V I>ODBO > J LRKQP LSBQ QF J B ?RQ PBBHP QL >SLFA BU@QB J B PELOQ QBO J CIR@QR>@FLKP

**,E478B99F B9 +B9G (8:F 4A7 4E7 (8:F**

6 EBK > @LRKQOV AB@FABP QL >IQBO QEB J >OHBQ BU@E>KDB O>QB FQ C>@BP > KR J ?BO LC QO>ABLCCP (C FQ RPBP J LKBQ>OV MLIF@V QL  
>IQBO QEB BU@E>KDB O>QB FQ QEBK @>KKLQ >Q QEB P> J B QF J B RPB J LKBQ>OV MLIF@V QL >AAOBPP FPPRBP LC FKCI>@FLK LO OB@BPPFLK  
(C FQ RPBP AFOB@Q MRO@E>PBP >KA P>IBP LC CLOBFDK @ROOBK@FBP FK BU@E>KDB O>QB QEBK FQ J RPQ C>@B QEB FPPRBP LC ELT FQ TFII

E>KAIB FQP OBPBOSBP LC CLOBFDK @ROOBK@V %FK>IIV > MBDDBA BU@E>KDB 0>QB @>K BSBK @OB>QB >AAF@FLK>I JLSB J BKQP LC QEB BU@E>KDB 0>QB %LO BU> J MIB BSBK QEB MLPPF?FIFV LC DLSBOK J BKQ FKQBOSBK@FLK FK BU@E>KDB 0>QB J >OHBQP TFII IB>A QL OR J LOP >?LRQ TEBQEBO >KA TEBK QEB DLSBOK J BKQ TFII FKQBOSBKB >KA AB>IBOP FK QEB CLOBFDK BU@E>KDB J >OHBQ TFII OB>@Q QL QELPB OR J LOP +B@QP @LKPFABO QEBPB FPPRBP FK QROK

. KB @LK@BOK TFQE MBDDBA BU@E>KDB 0>QB MLIF@FBP FP QE>Q QEBV F J MIV > @LRKQOV@P J LKBQ>OV MLIF@V FP KL ILKDBO CL@RPBA LK @LKQ@LIIFKD FKCI>@FLK LO PELOQBKFKD OB@BPPFLK ?RQ KL T J RPQ >IPL Q>HB QEB BU@E>KDB 0>QB FKQL >@@LRKQ %LO BU> J MIB TEBK > @LRKQOV MBDP FQP BU@E>KDB 0>QB FQ TFII PL J BQF J BP C>@B B@LKL J F@ PFQR>@FLK TEBOB FQ TLRIA IFHB QL E>SB >K BUM>KPFK>OV J LKBQ>OV MLIF@V QL CFDEQ OB@BPPFLK b ?RQ FQ @>KKLQ AL PL ?B@>RPB QE>Q MLIF@V TLRIA ABMOB@F>QB FQP BU@E>KDB 0>QB >KA ?OB>H FQP E>OA MBD 6 FQE > PLCQ MBD BU@E>KDB 0>QB MLIF@V QEB @BKQO>I ?>KH @>K PL J BQF J BP FDKLOB QEB BU@E>KDB 0>QB >KA CL@RP LK AL J BPQF@ FKCI>@FLK LO OB@BPPFLK b ?RQ FK LQEBO @>PBP QEB @BKQO>I ?>KH J >V FDKLOB FKCI>@FLK LO OB@BPPFLK >KA FKPB>A CL@RP LK FQP PLCQ MBD BU@E>KDB 0>QB 6 FQE > E>OA MBD MLIF@V AL J BPQF@ J LKBQ>OV MLIF@V FP BCCB@QFSBIV KL ILKDBO ABQBO J FKBA ?V AL J BPQF@ FKCI>@FLK LO RKB J MILV J BKQ ?RQ LKIV ?V TE>Q J LKBQ>OV MLIF@V FP KBBABA QL HBBM QEB BU@E>KDB 0>QB >Q QEB E>OA MBD

KLQEBO FPPRB >@FBP TEBK > @BKQO>I ?>KH FKQBOSBKB AFOB@QIV FK QEB BU@E>KDB 0>QB J >OHBQ (C > @BKQO>I ?>KH BKAP RM FK > PFQR>@FLK TEBOB FQ FP MBOMBQR>IIV @OB>QFKD >KA PBIFKD FQP LTK @ROOBK@V LK CLOBFDK BU@E>KDB J >OHBQP FQ TFII ?B ?RVFKD QEB @ROOBK@V LC LQEBO @LRKQ@FBP IFHB 4 2 ALII>OP LO BROL QL ELIA >P OBPBOSBP ' LIAFKD I>ODB OBPBOSBP LC LQEBO @ROOBK@FBP E>P >K LMLQQRKFV @LPQ >KA @BKQO>I ?>KHP TFII KLQ TFPE QL ?LLPQ PR@E OBPBOSBP TFQELRQ IF J FQ

(K >AAF@FLK > @BKQO>I ?>KH QE>Q @>RPBP > I>ODB FK@OB>PB FK QEB PRMIV LC J LKBV FP >IPL OFPHFKD >K FKCI>@FLK>OV PRODB FK >DDBD>QB AB J >KA "LKSOPBIV TEBK > @BKQO>I ?>KH TFPEBP QL ?RV FQP LTK @ROOBK@V FQ @>K AL PL ?V RPFKD FQP OBPBOSBP LC FKQBOK>@FLK>I @ROOBK@V IFHB QEB 4 2 ALII>O LO QEB BROL ' L TBSBO FC QEB @BKQO>I ?>KH ORKP LRQ LC PR@E OBPBOSBP FQ @>K KL ILKDBO RPB QEFP J BQELA QL PQQBKQEBK FQP @ROOBK@V 3ERP ?RVFKD CLOBFDK @ROOBK@FBP FK BU@E>KDB 0>QB J >OHBQP @>K ?B BUMBKPSB >KA FKCI>@FLK>OV TEFIB PBIFKD CLOBFDK @ROOBK@FBP @>K TLOH LKIV RKQFI > @BKQO>I ?>KH ORKP LRQ LC OBPBOSBP

8BQ >KLQEBO FPPRB FP QE>Q TEBK > DLSBOK J BKQ MBDP FQP BU@E>KDB 0>QB FQ J >V RKFQ@BK@FLK>IIV @OB>QB >KLQEBO OB>PLK CLO >AAF@FLK>I CIR@QR>@FLK 6 FQE > PLCQ MBD MLIF@V CLOBFDK BU@E>KDB AB>IBOP >KA FKQBOK>@FLK>I FKSBP@LOP OB>@Q QL BSOV OR J LO >?LRQ ELT LO TEBK QEB @BKQO>I ?>KH FP IFHBIV QL FKQBOSBKB QL FKCIRBK@B QEB BU@E>KDB 0>QB >KA >P QEBV OB>@Q QL OR J LOP QEB BU@E>KDB 0>QB TFII PEFQ RM >KA ALTK 3ERP BSBK QELRDE QEB DL>I LC > PLCQ MBD MLIF@V FP QL OBAR@B PELOQ QBO J CIR@QR>@FLK LC QEB BU@E>KDB 0>QB QEB BUFPQB@B LC QEB MLIF@V b TEBK >KQF@FM>QBA FK QEB CLOBFDK BU@E>KDB J >OHBQ b J >V PL J BQF J BP FK@OB>PB PELOQ QBO J CIR@QR>@FLK >P FKQBOK>@FLK>I FKSBP@LOP QOV QL >KQF@FM>QB ELT >KA TEBK QEB @BKQO>I ?>KH TFII >@Q 3EB CLIL TFKD "IB>O (Q 4M CB>QROB AFP@RPPBP QEB BCCB@QP LC **international capital flows** b @>M@>I QE>Q CIL TP >@OLPP K>@FLK>I ?LRKA>@FBP >P BFQEBO MLOQCILFL FKSBPQ J BKQ LO AFOB@Q FKSBPQ J BKQ

# Clear It Up

## BJ 7B ,B5<A G4K8F 6BAGEB? G ; 8 9?B J B9 64C<G4?

3LJB @LRKQ@FBP IFHB #EFIB >KA ->I>VPF> E>SB PLRDEQ QL OBAR@B JLSB J BKQP FK BU@E>KDB 0>QB ?V IF J FQFKD FKQBOK>@FLK>I CFK>K@F>I @>M@>I FKILTP >KA LRQCILTP 4EB DLSBOK J BKQ @>K BK>@Q QEFP MLIF@V BFQEBO QEOLRDE Q>ODBQBA Q>UBP LO ?V OBDRI>@FLK

4>UBP LK FKQBOK>@FLK>I @>M@>I CILTP >OB PL J BQF J BP HKLTK >P ,B5<A G4K8F K> JBA >@QBO \*> JBP 4L?FK QEB . L?BI I>ROB>QB FK B@LKL J F@P TEL MOLMLPBA PR@E > Q>U FK > IB@QROB &LO BU> J MIB > DLSBOK J BKQ J FDEQ Q>U >II CLOBFDK BU@E>KDB QO>KP>@@FLK LO >@QB J MQ QL Q>U PELOQ QBO J MLOQCILFL FKSBPQ J BKQ TEFIB BUB J MQFKD ILKD QBO J CLOBFDK AFOB@Q FKSBPQ J BKQ #LRKQ@FBP @>K >IPL RPB OBDRI>@FLK QL CLO?FA @BQ>FK HFAP LC CLOBFDK FKSBPQ J BKQ FK QEB CFOPQ MI>@B LO QL J >HB FQ AFCCF@RIQ CLO FKQBOK>@FLK>I CFK>K@F>I FKSBP@LOP QL TFQEAO>T QEBFO CRKAP COL J > @LRKQOV

4EB DL>I LC PR@E MLIF@FBP FP QL OBAR@B FKQBOK>@FLK>I @>M@>I CILTP BPMB@F>IIV PELOQ QBO J MLOQCILFL CILTP FK QEB ELMB QE>Q ALFKD PL TFII OBAR@B QEB @E>K@B LC I>ODB JLSB J BKQP FK BU@E>KDB 0>QB QE>Q @>K ?QFKD J >@OLB@LKL J F@ AFP>P@BO

(L TBSBO MOLMLP>IP QL IF J FQ FKQBOK>@FLK>I CFK>K@F>I CILTP E>SB PBSOB MO>@QF>I AFCCF@RIQ@FBP .>@FLK>I DLSBOK J BKQP F J MLPB Q>UBP KLQ FKQBOK>@FLK>I LKBP )C LKB DLSBOK J BKQ F J MLPBP > 4L?FK Q>U LK BU@E>KDB 0>QB QO>KP>@@FLK @>OOFBA LRQ TFQEFK FQP QBOOF@LOV > CFQ J ?>PBA PL J BMI>@B IFHB QEB ' O>KA #>V J >KP >K FPI>KA K>@FLK FK QEB #>@F??>B K TBII HKLTK CLO >IIL TFKD PL J B CFK>K@F>I TEBBIFKD >KA AB>IFKD J FDEQ B>P@IV LMBO>QB QEB BU@E>KDB 0>QB J >OHBQ )K >K FKQB@LKKB@QBA DIL?>I B@LKL J V FC DLLAP >KA PBOSF@BP >OB >IIL TBA QL CILTP >@OLPP K>@FLK>I

?LOABOP QEBK M>V J BKQP KBBA QL CILT >@OLPP ?LOABOP QLL )Q FP SBOV AFCCF@RIQ \_FK C>@Q @ILPB QL F J MLPPF?IB \_CLO  
> K>QFLK QL >IILT LKIV QEB CILTP LC M>V J BKQP QE>Q OBI>QB QL DLLAP >KA PBOF@BP TEHIB @I> J MFKD ALTK LO  
>UFKD LQEBQ CILTP LC CFK>K@F>I @>M@>I )C > K>QFLK M>OQF@FM>QBP FK FK@BOK>QFLK>I QO>AB FQ J RPQ >IPL M>OQF@FM>QB FK  
FK@BOK>QFLK>I @>M@>I J LSB J BKQP

&FK>IIV @LRKQ@FBP >II LSBO QEB TLOIA BPMB@F>IIV ILT FK@L J B @LRKQ@FBP >OB @OVFKD LRQ CLO CLOBFDK FKSBPQ J BKQ QL  
EBIM ABSBILM QEBFO B@LKL J FBP OLIF@FBP QE>Q AFP@LRQ>DB FK@BOK>QFLK>I CFK>K@F>I FKSBPQ J BKQ J >V MOBSBKQ PL J B  
MLPPF?IB E>O J ?RQ QEBV ORIB LRQ MLQBKQF>IIV PR?PQ>KQF>I B@LKL J F@ ?BKB@FBP >P TBII

E>OA MBD BU@E>KDB O>QB MLIF@V TFII KLQ >IILT PELOQ QBO J CIR@QR>QFLKP FK QEB BU@E>KDB O>QB (C QEB DLSBOK J BKQ CFOPQ  
>KKLRK@BP > E>OA MBD >KA QEBK I>QBO @E>KDBP FQP J FKA b MBOE>MP QEB DLSBOK J BKQ ?B@L J BP RKTFIIFKD QL HBBM FKQBOPQ  
O>QBP EFDE LO QL ELIA EFDE IBSBIP LC CLOBFDK BU@E>KDB OBPBOSBP b QEBK QEB OBPRIQ LC >?>KALKFKD > E>OA MBD @LRIA ?B >  
AO> J >QF@ PEFCQ FK QEB BU@E>KDB O>QB

(K QEB J FA P >?LRQ LKB QEFOA LC QEB @LRKQ@FBP FK QEB TLOIA RPBA > PLCQ MBD >MMOL>@E >KA >?LRQ LKB NR>OQBO RPBA  
> E>OA MBD >MMOL>@E 3EB DBKBO>I QOBKA FK QEB P T>P QL PEFCQ >T>V COL J > PLCQ MBD >MMOL>@E FK C>SLO LC BFQEBO  
CIL>QFKD O>QBP LO > E>OA MBD 3EB @LK@BOK FP QE>Q > PR@BPPCRI PLCQ MBD MLIF@V J >V CLO > QF J B IB>A QL SBOV IFQIB S>OF>QFLK  
FK BU@E>KDB O>QBP PL QE>Q CFO J P >KA ?>KHP FK QEB B@LKL J V ?BDFK QL >@Q >P FC > E>OA MBD BUFPQP 6 EBK QEB BU@E>KDB O>QB  
ALBP J LSB QEB BCCB@Q >OB BPMB@F>IIV M>FKCRI ?B@>RPB CFO J P >KA ?>KHP E>SB KLQ MI>KKBA >KA EBADBA >D>FKP > MLPPF?IB  
@E>KDB 3ERP QEB >ODR J BKQ TBKQ FQ FP ?BQBO BFQEBO QL ?B @IB>O QE>Q QEB BU@E>KDB O>QB FP >IT>VP CIBUF?IB LO QE>Q FQ FP  
CFUBA ?RQ @ELLPFKD >K FK ?BQTBKK PLCQ MBD LMQFLK J >V BKA RM ?BFKD TLOPQ LC >II

### %8E : 87 HEE8A6L

CFK>I >MMOL>@E QL BU@E>KDB O>QB MLIF@V FP CLO > K>QFLK QL @ELLPB > @L J J LK @ROOBK@V PE>OBA TFQE LKB LO J LOB K>QFLKP  
FP >IPL @>IIBA > **merged currency** J BODBA @ROOBK@V >MMOL>@E BIF J FK>QBP CLOBFDK BU@E>KDB OFPH >IQLDBQEBO )RPQ >P KL  
LKB TLOOFBP >?LRQ BU@E>KDB O>QB J LSB J BKQP TEBK ?RVFKD >KA PBIIIFKD ?BQTBKK - BT 8LOH >KA " >IFCLOKF \$ROLMB>KP  
HKL T QE>Q QEB S>IRB LC QEB BROL TFII ?B QEB P> J B FK &B O J >KV >KA %O>K@B >KA LQEBQ \$ROLMB>K K>QFLKP QE>Q E>SB >ALMQBA  
QEB BROL

' L TBSBO > J BODBA @ROOBK@V >IPL MLPBP MOL ?IB J P +FHB > E>OA MBD > J BODBA @ROOBK@V J B>KP QE>Q > K>QFLK E>P DFSBK  
RM >IQLDBQEBO LK AL J BPQF@ J LKBQ>OV MLIF@V >KA FKPQB>A E>P MRQ FQP FKQBOPQ O>QB MLIF@FBP FK LQEBQ E>KAP 6 EBK \$@R>ALO  
RPBP QEB 4 2 ALII>O >P FQP @ROOBK@V FQ E>P KL SLF@B FK TEBQEBO QEB %BABO>I 1 BPBOSB O>FPBP LO IL T BOP FKQBOPQ O>QBP 3EB  
\$ROLMB>K " BKQO>I ! >KH QE>Q ABQBO J FKBP J LKBQ>OV MLIF@V CLO QEB BROL E>P OBMOBPKQ>QFSBP COL J >II QEB BROL K>QFLKP  
' L TBSBO COL J QEB PQ>KAMLFKQ LC P>V /LOQRD>I QEBOB TFII ?B QF J BP TEBK QEB AB@FPFLK LC QEB \$ROLMB>K " BKQO>I ! >KH  
>?LRQ J LKBQ>OV MLIF@V AL KLQ J >Q@E QEB AB@FPFLK QE>Q / LOQRDRBPB @BKQO>I ?>KH TLRIA E>SB J >AB

3EB IFKBP ?BQTBKK QEBBP CLRO AFCCBOKQ BU@E>KDB O>QB MLIF@FBP @>K ?IBKA FKQL B>@E LQEBQ %LO BU>J MIB > PLCQ MBD  
BU@E>KDB O>QB MLIF@V FK TEF@E QEB DLSBOK J BKQ >I J LPQ KBSBO >@QP QL FKQBOSBKB FK QEB BU@E>KDB O>QB J >OHBQ TFII ILLH  
> DOB>Q AB>I IFHB > CIL>QFKD BU@E>KDB O>QB " LKSOPBIV > PLCQ MBD MLIF@V FK TEF@E QEB DLSBOK J BKQ FKQBOSBKB LCQBK QL  
HBBM QEB BU@E>KDB O>QB KB>O > PMB@FCF@ IBSBI TFII ILLH > ILQ IFHB > E>OA MBD AB@FPFLK QL J BODB @ROOBK@FBP TFQE >KLQEBQ  
@LRKQOV FP FK BCCB@Q > AB@FPFLK QL E>SB > MBO J >KBKQIV CFUBA BU@E>KDB O>QB TFQE QELPB @LRKQ@FBP TEF@E FP IFHB > SBOV  
E>OA BU@E>KDB O>QB MBD ,45?8 PR J J >OFWBP QEB O>KDB LC BU@E>KDB O>QBP MLIF@V @ELF@BP TFQE QEBFO >AS>KQ>DBP  
>KA AFP>AS>KQ>DBP

+<GH4G<BA	?B4G<A: K6 ; 4A : 8 * 4G8F	+B9G ( 8 :	4E7 ( 8 :	%8E : 87 HEE8A6L
, >ODB PELOQ ORK CIR@QR>QFLKP FK BU@E>KDB O>QBP	/ CQBK @LKPfABO>?IB FK QEB PELOQ QBO J	- >V?B IBPP FK QEB PELOQ ORK ?RQ PQFII I>ODB @E>KDBP LSBO QF J B	. LKB RKIBPP > @E>KDB FK QEB CFUBA O>QB	. LKB

+<GH4G<BA	?B4G<A: K6 ; 4A : 8 * 4G8F	+B9G ( 8 :	4E7 ( 8 :	%8E : 87 HEE8A6L
, >0DB ILKD QBO J CIR@QR>@FLKP FK BU@E>KDB 0>@BP	#>K LCQBK E>MMBK	#>K LCQBK E>MMBK	#>KKLQ E>MMBK RKIBPP E>0A MBD @E>KDBP FK TEF@E @>PB PR?PQ>KQF>I SLI>@FQV @>K L@@R0	#>KKLQ E>MMBK
OLTBO LC @BKQ>I ?>KH QL @LKAR@Q @LRKQB0@V@F@>I J LKBQ>OV MLIF@V	&IBUF?IB BU@E>KDB 0>@BP J>HB J LKBQ>OV MLIF@V PQOLKDB0	3L J B MLTBO >IQELRDE @LKCIF@QP J>V >@FPB ?BQTBBK BU@E>KDB 0>QB MLIF@V >KA @LRKQB0@V@F@>I MLIF@V	6BOV IFQ@IB @BKQ>I ?>KH J RPQ HBBM BU@E>KDB 0>QB CFUBA	. LKB K>@FLK ALBP KLQ E>SB FQP LTK @R00BK@V
#LPQP LC ELIAFKD CLOBFDK BU@E>KDB 0BPB0SBP	\$L KLQ KBBA QL ELIA 0BPB0SBP	( LIA J LABO>QB 0BPB0SBP QE>Q @FPB >KA C>II LSBO QF J B	( LIA I>0DB 0BPB0SBP	. L KBBA QL ELIA 0BPB0SBP
2FPH LC BKA@KD RM TFQE >K BU@E>KDB 0>QB QE>Q @>RPBP > I>0DB QO>AB F J ?>I>K@B >KA SBOV EFDE FKIL TP L0 LRQCIL TP LC CFK>K@F>I @>MF@>I	! A@RPQP LCQBK	! A@RPQP LSBO QEB J BAFR J QBO J FC KLQ QEB PELQQ QBO J	- >V BKA RM LSBO QF J B BFQEBO C>0 >?LSB L0 ?BILT QEB J>0HBQ IBSBI	#>KKLQ >A@RPQ

,45?8 ,E478B99F B9 K6 ; 4A : 8 \* 4G8 ( B?<6<8F

&IL?>I J>@OLB@LKL JF@P TLRIA ?B B>PFB0 FC QEB TELIB TLOIA E>A LKB @R00BK@V >KA LKB @BKQ>I ?>KH 3EB BU@E>KDB  
0>@BP ?BQTBBK AFCCBOBKQ @R00BK@FBP @L J MIF@>QB QEB MF@QROB (C CFK>K@F>I J>0HBQP PLIBIV PBQ BU@E>KDB 0>@BP QEBV CIR@QR>QB  
PR?PQ>KQF>IIV >P PELQQ QBO J MLQQCLIFL FKSBPQLOP QOV QL >KQF@FM>QB QL J L00LT@P KBTP (C QEB DLSBOK J BKQ >QQB J MQP QL  
FKQBOSBKB FK BU@E>KDB 0>QB J>0HBQP QEOLRDE PLCQ MBDP L0 E>0A MBDP FQ DFSBP RM >Q IB>PQ PL J B LC QEB MLTBO QL RPB  
J LKBQ>OV MLIF@V QL CL@RP LK AL JBPQF@ FKCI>@FLKP >KA 0B@BPPFLKP >KA FQ @FPHP @>RPFKD BSBK DOB>QBO CIR@QR>@FLKP FK  
CLOBFDK BU@E>KDB J>0HBQP

3EB0B FP KL @LKPBPBP > J LKD B@LKL JFPQ >?LRQ TEF@E BU@E>KDB 0>QB MLIF@FBP >0B ?BPQ CIL>QFKD PLCQ MBD E>0A MBD L0  
J BODBA @R00BK@FBP 3EB @ELF@B ABMBKAP ?LQE LK ELT TBII > K>@FLK@P @BKQ>I ?>KH @>K F J MIB J BKQ > PMB@FCF@ BU@E>KDB  
0>QB MLIF@V >KA LK ELT TBII > K>@FLK@P CFO J P >KA ?>KHP @>K >A>MQ QL AFCCBOBKQ BU@E>KDB 0>QB MLIF@FBP K>@FLK>I  
B@LKL J V QE>Q ALBP > C>FOIV DLLA GL? >Q >@EFBSFKD QEB CLRO J>FK B@LKL JF@ DL>IP LC DOLTQE ILT FKCI>@FLK ILT  
RKB J MILV J BKQ >KA > PRPQ>FK>?IB ?>I>K@B LC QO>AB TFII MOL?>?IV AL GRPQ CFKB J LPQ LC QEB QF J B TFQE >KV BU@E>KDB 0>QB  
MLIF@V "LKSOPBIV KL BU@E>KDB 0>QB MLIF@V FP IFHBIV QL P>SB >K B@LKL J V QE>Q @LKPFPQBQIV C>FIP >Q >@EFBSFKD QEBPB  
DL>IP IQBOK>@FSBIV > J BODBA @R00BK@V >MMIFBA >@OLPP TFAB DBLDO>MEF@ >KA @RIQRO>I >0B>P @>00FBP TFQE FQ FQP LTK PBQ  
LC MOL?IB J P PR@E >P QEB >?FIFQV CLO @LRKQ@FBP QL @LKAR@Q QEBFO LTK FKABMBKABKQ J LKBQ>OV MLIF@FBP

# Bring it Home

!F 4 +GEBA : 8E B??4E BB7 9BE G ; 8 - + 6BAB@L

4EB CLOBFDK BU@E>KDB S>IRB LC QEB ALII>0 FP > MOF@B >KA TEBQEBO > EFDEBO MOF@B FP DLLA LO ?>A ABMBKAP LK  
TEBOB VLR >0B P@>KAFKD PBIIBOP ?BKBCFQ COL J EFDEBO MOF@BP >KA ?RVBOP >0B E>0 JBA ! P@QLKDBO ALII>0 FP DLLA  
CLO 5 3 FJMLQ@P >KA MBLMIB TLOHFKD CLO 5 3 FJMLQ@BOP >KA 5 3 FKSBP@JBKQ >?0L>A )Q FP >IPL DLLA CLO 5 3  
QLROFP@P DLFKD QL LQEBO @LRK@Q@FBP PFK@B QEBFO ALII>0 DLBP CROQEBO (LTBSBO > P@QLKDBO ALII>0 FP ?>A CLO 5 3  
BUMLO@P >KA MBLMIB TLOHFKD FK 5 3 BUMLO@ FKARP@Q@FBP FQ FP ?>A CLO CLOBFDK FKSBP@JBKQ FK QEB 5KFQBA 3Q>@BP  
IB>AFKD CLO BU>JMIB QL EFDEBO 5 3 FKQBOP@P 0>@BP >KA FQ FP ?>A CLO CLOBFDK QLROFP@P >P TBII >P 5 3 ELQBIP  
QBP@>RO>K@P >KA LQEBOP FK QEB QLROFP@ FKARP@Q@V )K PELO@ TEBQEBO QEB 5 3 ALII>0 FP DLLA LO ?>A FP > JLOB  
@L J MIBU NRBP@FLK QE>K VLR J>V E>SB QELRDE@ 4EB B@LKL JF@ >KPTBO FP bFQ ABMBKAP c

# # 1 , \*%+

4CCE86<4G<A: TEBK > @R00BK@V FP T L O Q E J L O B F K Q B O J P L C L Q E B O @R00BK@FBP >IPL @>IIBA ePQ@BOKDQEBKFKDf

4E5<GE4: 8 QEB MOL@BPP LC ?RVFKD > DLLA >KA PBIIFKD DLLAP >@OLPP ?LOABOP QL Q>HB >AS>KQ>DB LC FKQBOK>@FLK>I MOF@B AFCCBOK@BP

78CE86<4G<A: TEBK > @R00BK@V FP T L O Q E IBPP FK Q B O J P L C L Q E B O @R00BK@FBP >IPL @>IIBA eTB>HBKFKDf

7B??4E<M8 > @LRKQOV QE>Q FP KLQ QEB 4 KFQBA 2Q>QBP RPBP QEB 4 2 ALII>O >P FQP @R00BK@V

9?B4G<A: 8K6; 4A: 8 E4G8 > @LRKQOV IBQP QEB BU@E>KDB O>QB J >OHBQ ABQBO J FKB FQP @R00BK@V P S>IRB

9BE8<: A 7<E86G <A18F6@8AG ! MRO@E>PFKD J L O B Q E >K Q B K M B O @B K Q L C > C F O J L O P Q >O Q F K D > K B T B K Q B O M O F P B F K >K L Q E B O @LRKQOV

9BE8<: A 8K6; 4A: 8 @4E>8G QEB J >OHBQ FK TEF@E MBLMIB RPB LKB @R00BK@V QL ?RV >KLQEB O @R00BK@V

; 4E7 C8: >K BU@E>KDB O>QB MLIF@V FK TEF@E QEB @BKQO>I ?>KH PBQP > CFUBA >KA RK@E>KDFKD S>IRB CLO QEB BU@E>KDB O>QB

; 87: 8 RPFKD > CFK>K@F>I QO>KP>@QFLK >P MOLQB@QFLK >D>FKPQ OFPH

<AG8EA4G<BA4? 64C<G4? 9?B JF CILT LC CFK>K@F>I @>MFQ>I >@OLPP K>@FLK>I ?LRKA>OFBP BFQEB O >P MLOQCLIFL FKSBPQ J BKQ LO AFOB@Q FKSBPQ J BKQ

@8E: 87 6HEE8A6L TEBK > K>@FLK @ELLPPB QL RPB >KLQEB O K>@FLK P @R00BK@V

CBEG9B?<B <A18FG@8AG >K FKSBPQ J BKQ FK >KLQEB O @LRKQOV QE>Q FP MROBIV CFK>K@F>I >KA ALBP KLQ FKSLISB >KV J >K>DB J BKQ OBPMLKPF?FIFQV

CHE6; 4F<A: CB J 8E C4E<GL ( ( ( QEB BU@E>KDB O>QB QE>Q BNR>IFWBP QEB MOF@BP LC FKQBOK>@FLK>IIV QO>ABA DLLAP >@OLPP @LRKQOFBP

FB9G C8: >K BU@E>KDB O>QB MLIF@V FK TEF@E QEB DLSBOK J BKQ RPR>IIV >IILTP QEB J >OHBQ QL PBQ QEB BU@E>KDB O>QB ?RQ FK PL J B @>PBP BPMB@F>IIV FC QEB BU@E>KDB O>QB PBB J P QL ?B J L SFKD O>MFAIV FK LKB AFOB@QFLK QEB @BKQO>I ?>KH TFII FKQBOSBKB

, B5<A 64K8F PBB FKQBOK>@FLK>I @>MFQ>I CILTP

# # 1 ' & ( , + & + - % % \* 1

BJ G; 8 BE8<: A K6; 4A: 8 %4E>8G / BE>F

(K QEB CLOBFDK BU@E>KDB J >OHBQ MBLMIB >KA CFO J P BU@E>KDB LKB @R00BK@V QL MRO@E>PB >KLQEB O @R00BK@V 3EB AB J >KA CLO ALII>OP @L J BP COL J QELPB 4 2 BUMLOQ CFO J P PBBHFKD QL @LKSBOQ QEBFO B>OKFKDP FK CLOBFDK @R00BK@V ?>@H FKQL 4 2 ALII>OP CLOBFDK QLROFPQP @LKSBOQFKD QEBFO B>OKFKDP FK > CLOBFDK @R00BK@V ?>@H FKQL 4 2 ALII>OP >KA CLOBFDK FKSBPQLP PBBHFKD QL J >HB CFK>K@F>I FKSBPQ J BKQP FK QEB 4 2 B@LKL J V . K QEB PRMMIV PFAB LC QEB CLOBFDK BU@E>KDB J >OHBQ CLO QEB QO>AFKD LC 4 2 ALII>OP >OB CLOBFDK CFO J P QE>Q E>SB PLIA F J MLOQP FK QEB 4 2 B@LKL J V >KA >OB PBBHFKD QL @LKSBOQ QEBFO B>OKFKDP ?>@H QL QEBFO EL J B @R00BK@V 4 2 QLROFPQP ?>OL>A >KA 4 2 FKSBPQLP PBBHFKD QL J >HB CFK>K@F>I FKSBPQ J BKQP FK CLOBFDK B@LKL J FBP 6 EBK @R00BK@V @>K ?RV J L O B L C @R00BK@V ! QEBK @R00BK@V E>P P@BOKDQEBKBA LO >MMOB@F>QBA OBI>QFSB QL ! 6 EBK @R00BK@V @>K ?RV IBPP LC @R00BK@V ! QEBK @R00BK@V E>P TB>HBKBA LO ABMOB@F>QBA OBI>QFSB QL ! (C @R00BK@V P@BOKDQEBK LO >MMOB@F>QBP OBI>QFSB QL @R00BK@V ! QEBK @R00BK@V ! J RPQ KB@BPP>OFIV TB>HBK LO ABMOB@F>QB TFQE OBD>OA QL @R00BK@V P@LKDBO @R00BK@V ?BKBCFP QELPB TEL >OB ?RVFKD TFQE QE>Q @R00BK@V >KA FKGROBP QELPB TEL >OB PBIIFKD TB>HBO @R00BK@V FKGROBP QELPB IFHB F J MLOQBOP TEL >OB ?RVFKD TFQE QE>Q @R00BK@V >KA ?BKBCFP QELPB TEL >OB PBIIFKD TFQE FQ IFHB BUMLOQBOP

8@4A7 4A7 +HCC?L + ;<@GF <A BE8<:A K6;4A:8 %4E>8GF

(K QEB BU@QB J B PELO@ ORK O>KDFKD COL J > CBT J FKR@BP QL > CBT TBBHP PMB@RI>@LOP TEL >OB @OVFKD QL FKS@BP FK @RO@BK@FBP QE>Q TFII DOLT P@QLKDBO >KA QL PBII @RO@BK@FBP QE>Q TFII DOLT TB>HBO FKCIRBK@B BU@E>KDB O>@BP 2R@E PMB@RI>@FLK @>K @OB>@B > PBIC CRICFIFKD MOLMEB@V >Q IB>P@ CLO > QF J B TEB@B >K BUMB@QBA >MMOB@F>@FLK IB>AP QL > P@QLKDBO @RO@BK@V >KA SF@B SBOP> (K QEB OBI>@FSBIV PELO@ ORK AFCCB@BK@BP FK O>@BP LC OB@ROK FKCIRBK@B BU@E>KDB O>@B J >OHB@P "LRK@QFBP TFQE OBI>@FSBIV EFDE OB>I O>@BP LC OB@ROK CLO BU> J MIB EFDE FK@BOBP O>@BP TFII @BKA QL BUMB@FBK@B P@QLKDBO @RO@BK@FBP >P QEBV >@Q>@Q J LK@V COL J >?@L>A TEFIB @LRK@QFBP TFQE OBI>@FSBIV ILT O>@BP LC OB@ROK TFII @BKA QL BUMB@FBK@B TB>HBO BU@E>KDB O>@BP >P FKS@BP@LOP @LKS@B@Q QL L@EBO @RO@BK@FBP

(K QEB J B@FR J ORK LC > CBT J LK@QEP LO > CBT VB>@P FKCI>@FLK O>@BP FKCIRBK@B BU@E>KDB O>@B J >OHB@P "LRK@QFBP TFQE OBI>@FSBIV EFDE FKCI>@FLK TFII @BKA QL BUMB@FBK@B IBPP AB J >KA CLO @E@B@ @RO@BK@V QE>K @LRK@QFBP TFQE ILT@O FKCI>@FLK >KA @ERP @RO@BK@V ABM@B@F>@FLK . SBO ILKD M@O@L@P LC J >KV VB>@P BU@E>KDB O>@BP @BKA QL >AGRP@ QL T>@A QEB MRO@E>@PKD MLT@O M>@F@V /// O>@B TEF@E FP QEB BU@E>KDB O>@B PR@E QE>Q QEB M@F@BP LC FK@BOK>@FLK>IIV @Q>A>?IB DLLAP FK AFCCB@BK@ @LRK@QFBP TEBK @LKS@B@QBA >Q QEB /// BU@E>KDB O>@B QL > @L J J LK @RO@BK@V >OB PF J FI>@ FK >II B@LKL J BFP

%46EB86B@B@<6 9986GF B9 K6;4A:8 \*4@8F

@BK@O>I ?>KH TFII ?B @LK@B@KBA >?LR@ QEB BU@E>KDB O>@B CLO PBS@B>I OB>@LKP \$U@E>KDB O>@BP TFII >CCB@Q F J MLO@P >KA BUMLO@P >KA @ERP >CCB@Q >DDOBD>@B AB J >KA FK QEB B@LKL J V %IR@QR>@FLK@P FK BU@E>KDB O>@BP J >V @>R@P AFCC@RI@FBP CLO J >KV @F@ J P ?R@ B@P@B@F>IIV ?>KHP 3EB BU@E>KDB O>@B J >V @>@L J M>KV RKPR@P>FK>?IB CILTP LC FK@BOK>@FLK>I CFK>K@F>I @>M@Q>I

K6;4A:8 \*4@8 (B?<6<8F

(K > CIL>@FKD BU@E>KDB O>@B MLIF@V > DLS@BK J BK@ AB@B@ J FKBP F@P @LRK@Q@P BU@E>KDB O>@B FK QEB CLO@FDK BU@E>KDB J >OHB@P (K > PLC@ MBD BU@E>KDB O>@B MLIF@V QEB CLO@FDK BU@E>KDB J >OHB@P RPR>IIV AB@B@ J FKBP > @LRK@Q@P BU@E>KDB O>@B ?R@ QEB DLS@BK J BK@ PL J B@F J BP FK@B@SBKBP QL P@B@K@D@E@K LO TB>HBK FQ (K > E>@A MBD BU@E>KDB O>@B MLIF@V QEB DLS@BK J BK@ @ELL@P >K BU@E>KDB O>@B @BK@O>I ?>KH @>K FK@B@SBK@B FK BU@E>KDB J >OHB@P FK QTL T>VP (Q @>K O>@P@ LO ILT@O FK@BOBP O>@BP QL J >HB QEB @RO@BK@V P@QLKDBO LO TB>HBO (Q >IPL @>K AF@B@QIV MRO@E>@P@ LO PBII F@P @RO@BK@V FK CLO@FDK BU@E>KDB J >OHB@P II BU@E>KDB O>@BP MLIF@FBP C>@B QO>@BLCCP E>@A MBD BU@E>KDB O>@B MLIF@V TFII OBAR@B BU@E>KDB O>@B CIR@QR>@FLK@P ?R@ J B>KP QE>Q > @LRK@Q@V J R@P CL@RP F@P J LK@B@>OV MLIF@V LK QEB BU@E>KDB O>@B KL@ LK CFDE@FKD OB@BPP@L@ LO @L@K@L@H@FKD FKCI>@FLK 6 EBK > K>@FLK J B@DBP F@P @RO@BK@V TFQE >KL@EBO K>@FLK FQ D@SBP RM LK K>@FLK>IIV LO@B@K@BA J LK@B@>OV MLIF@V >IQLD@EBO

PLC@ MBD BU@E>KDB O>@B J >V @OB>@B >AA@F@L@>I SLI>@FIF@V >P BU@E>KDB O>@B J >OHB@P @OV QL >K@F@FM>@B TEBK >KA ELT QEB DLS@BK J BK@ TFII FK@B@SBK@B CIBU@?IB BU@E>KDB O>@B MLIF@V >IILT@P J LK@B@>OV MLIF@V QL CL@RP LK FKCI>@FLK >KA RKB J MILV J BK@ >KA >IILT@P QEB BU@E>KDB O>@B QL @E>KDB TFQE FKCI>@FLK >KA O>@BP LC OB@ROK ?R@ >IPL O>@P@P > @FPH QE>Q BU@E>KDB O>@BP J >V PL J B@F J BP J >HB I>@DB >KA >?ORM@ J L@B J BK@P 3EB PMB@Q@R J LC BU@E>KDB O>@B MLIF@FBP FK@IRABP > > CIL>@FKD BU@E>KDB O>@B ? > MBDD@BA BU@E>KDB O>@B PLC@ LO E>@A >KA @ > J B@DBA @RO@BK@V , LK@B@>OV MLIF@V @>K CL@RP LK > S>@FB@V LC DL>IP > FKCI>@FLK ? FKCI>@FLK LO RKB J MILV J BK@ ABM@B@K@FKD LK TEF@E FP QEB J L@P A>KDB@L@RP L?P@>@B >KA @ > ILKD @B@ J ORIB ?>PBA MLIF@V ABP@FDK@BA QL H@B@M QEB J LK@V PRMMIV P@>?IB >KA M@B@F@Q>?IB

+ \$ # ) - + , ! ' & +

- ' LT TFII > P@QLKDBO BR@L >CCB@Q QEB CLILTFKD B@LKL J F@ >DBK@P
- > !@F@PE BUMLO@B@ QL &@B@ J >KV
- ? #R@Q@E @LROFP@ SFPP@FKD "EFIB
- @ &@BBH ?>KH FKS@BP@FKD FK > " >K>AF>K DLS@BK J BK@ ?LKA
- A %@BK@E BUMLO@B@ QL &@B@ J >KV

2RMLP@B QE>Q MLIF@Q@>I RK@BP@ FK \$DVM@Q IB>AP CFK>K@F>I J >OHB@P QL >K@F@FM>@B > ABM@B@F>@FLK FK QEB \$DVM@Q>K MLRKA ' LT TFII QE>Q >CCB@Q QEB AB J >KA CLO MLR@K@P PRMMIV LC MLR@K@P >KA BU@E>KDB O>@B CLO MLR@K@P @L J M>@BA QL P>V 4 2 ALII>@P

2RMLP@B 4 2 FK@BOBP O>@BP AB@IFKB @L J M>@BA QL QEB OBP@ LC QEB TLOIA 6 E>Q TLRIA ?B QEB IFHBIV F J M>@Q LK QEB AB J >KA CLO ALII>@P PRMMIV LC ALII>@P >KA BU@E>KDB O>@B CLO ALII>@P @L J M>@BA QL P>V BR@LP

2RMMLPB ODBKQFK> DBQP FKCI>@FLK RKABO @LK@OLI >KA QEB ODBKQFKB FKCI>@FLK O>QB AB@OB>PBP PR?PQ>KQF>IIV 6 E>Q  
TLRIA IFHBIV E>MMBK QL QEB AB J >KA CLO ODBKQFKB MBPLP QEB PRMMIV LC ODBKQFKB MBPLP >KA QEB MBPL 4 2 ALII>O  
BU@E>KDB O>QB

3EFP @E>M@B0 E>P BUMI>FKBA QE>Q eLKB LC QEB J LPQ B@LKL J F@>IIV ABPQOR@QFSB BCCB@QP LC BU@E>KDB O>QB CIR@QR>@FLKP  
>K E>MMBK QEOLRDE QEB ?>KHFKD PVPQB J f FC ?>KHP ?L00LT COL J >?OL>A QL IBKA AL J BPQF@>IIV 6 EV FP QEFP IBPP IFHBIV QL  
?B > MOL?IB J CLO QEB 4 2 ?>KHFKD PVPQB J

?LL J FKD B@LKL J V @>K >QQ>@Q CFK>K@F>I @>MFQ>I FKCIL TP TEF@E MOL J LQB CROQEBO DOLTQE ' LTBSBO @>MFQ>I @>K  
GRPQ >P B>PFIV CILT LRQ LC QEB @LRKQOV IB>AFKD QL B@LKL J F@ OB@BPPFLK (P > @LRKQOV TELPB B@LKL J V FP ?LL J FKD ?B@>RPB  
FQ AB@FABA QL PQF J RI>QB @LKP R J BO PMBKAFKD J LOB LO IBPP IFHBIV QL BUMBOFBK@B @>MFQ>I CIFDEQ QE>K >K B@LKL J V TELPB  
?LL J FP @>RPBA ?V B@LKL J F@ FKSBPQ J BKQ BUMBKAFQROB

' LT TLRIA > @LKQ>@@FLK>OV J LKBQ>OV MLIF@V >CCB@Q QEB BU@E>KDB O>QB KBQ BUMLOQP >DDOBD>QB AB J >KA >KA  
>DDOBD>QB PRMMIV

@BKQ>I ?>KH @>K >ILT FQP @ROOBK@V QL C>II FKABCFFKQIV ?RQ FQ @>KKLQ >ILT FQP @ROOBK@V QL OFPB FKABCFFKQIV 6 EV  
KLQ

(P > @LRKQOV CLO TEF@E F J MLOQP >KA BUMLOQP @L J MOFPB > I>ODB CO>@@FLK LC QEB &# / J LOB IFHBIV QL >ALMQ > CIBUF?IB  
BU@E>KDB O>QB LO > CFUBA E>OA MBD BU@E>KDB O>QB

\* .! / ) - + ,!' &+

6 E>Q FP QEB CLOBFDK BU@E>KDB J >OHBQ

#BP@OF?B PL J B ?RVBOP >KA PL J B PBIBOP FK QEB  
J >OHBQ CLO 4 2 ALII>OP

6 E>Q FP QEB AFCCBOBK@B ?BQTB BK CLOBFDK AFOB@Q  
FKSBPQ J BKQ >KA MLOQCLIFL FKSBPQ J BKQ

6 E>Q ALBP FQ J B>K QL EBADB > CFK>K@F>I  
QO>KP>@@FLK

6 E>Q ALBP FQ J B>K QL P>V QE>Q > @ROOBK@V  
>MMOB@F>QBP #BMOB@F>QBP !B@L J BP PQOLKDBO !B@L J BP  
TB>HBO

#LBP >K BUMB@Q>@FLK LC > PQOLKDBO BU@E>KDB O>QB FK  
QEB CRQROB >CCB@Q QEB BU@E>KDB O>QB FK QEB MOBPBKQ (C PL  
ELT

#LBP > EFDEBO O>QB LC OBQROK FK > K>@FLKdP B@LKL J V  
>II LQEBO QEFKDP ?BFKD BNR>I >CCB@Q QEB BU@E>KDB O>QB LC  
FQP @ROOBK@V (C PL ELT

\*!,! \$ , !&#!& ) - + ,!' &+

6 EV TLRIA > K>@FLK eALII>OFWbf b QE>Q FP >ALMQ  
>KLQEBO @LRKQOVdP @ROOBK@V FKPQB>A LC E>SFKD FQP LTK

">K VLR QEFKH LC >KV J >GLO AFP>AS>KQ>DBP QL  
ALII>OFW>@FLK 'LT TLRIA > @BKQ>I ?>KH TLOH FK >  
@LRKQOV QE>Q E>P ALII>OFWBA

#LBP > EFDEBO FKCI>@FLK O>QB FK >K B@LKL J V LQEBO  
QEFKDP ?BFKD BNR>I >CCB@Q QEB BU@E>KDB O>QB LC FQP  
@ROOBK@V (C PL ELT

6 E>Q FP QEB MRO@E>PKD MLTBO M>OFQV BU@E>KDB  
O>QB

6 E>Q >OB PL J B LC QEB OB>PLKP > @BKQ>I ?>KH FP  
IFHBIV QL @>OB >Q IB>PQ QL PL J B BUQBKQ >?LRQ QEB BU@E>KDB  
O>QB

' LT @>K >K RKBUMB@QBA C>II FK BU@E>KDB O>QB  
FKGROB QEB CFK>K@F>I EB>IQE LC > K>@FLKdP ?>KHP

6 E>Q FP QEB AFCCBOBK@B ?BQTB BK > CIL>@FKD BU@E>KDB  
O>QB > PLCQ MBD > E>OA MBD >KA ALII>OFW>@FLK

+FPQ PL J B >AS>KQ>DBP >KA AFP>AS>KQ>DBP LC QEB  
AFCCBOBKQ BU@E>KDB O>QB MLIF@FBP

(C > @LRKQOVdP @ROOBK@V FP BUMB@QBA QL >MMOB@F>QB  
FK S>IRB TE>Q TLRIA VLR QEFKH TFII ?B QEB F J M>@Q LC  
BUMB@QBA BU@E>KDB O>QB LK VFBIAP B D QEB FKQBOBPQ O>QB  
M>FA LK DLSBOK J BKQ ?LKAP FK QE>Q @LRKQOV Hint 3EFKH  
>?LRQ ELT BUMB@QBA BU@E>KDB O>QB @E>KDBP >KA FKQBOBPQ  
O>QB >CCB@Q > @ROOBK@V P AB J >KA >KA PRMMIV



#E>MqB0 X %U@E>KDB 2>QBP >KA )KqBOK>QFLK>I #>Mq>I &ILT P

#L VLR QEFKH QE>Q > @LRKQOV BUMBOFBK@FKD  
EVMBOFKCI>QFLK FP J LOB LO IBPP IFHBIV QL E>SB >K BU@E>KDB  
O>QB BNR>I QL FQP MRO@E>PFKD MLTBO M>OFQV S>IRB TEBK  
@L J M>OBA QL > @LRKQOV TFQE > ILT FKCI>QFLK O>QB

2RMMLPB > @LRKQOV E>P >K LSB0>II ?>I>K@B LC QO>AB  
PL QE>Q BUMLOQP LC DLLAP >KA PBOSF@BP BNR>I F J MLOQP LC  
DLLAP >KA PBOSF@BP #LBP QE>Q F J MIV QE>Q QEB @LRKQOV E>P  
?>I>K@BA QO>AB TFQE each LC FQP QO>AFKD M>OQKBOP

6B IB>OKBA QE>Q @E>KDBP FK BU@E>KDB O>QBP >KA QEB  
@L00BPMLKAFKD @E>KDBP FK QEB ?>I>K@B LC QO>AB > J MIFCV  
J LKBQ>OV MLIF@V %OL J QEB MBOPMB@QFSB LC > K>QFLKdP  
@BKQO>I ?>KH FP QEFP > DLLA QEFKD LO > ?>A QEFKD

(C > ABSBILMFKD @LRKQOV KBBAP CLOBFDK @>Mq>I  
FKCILTP J >K>DB J BKQ BUMBOQFPB >KA QB@EKLILDV ELT  
@>K FQ BK@LRO>DB CLOBFDK FKSBPQLOP TEFIB >Q QEB P> J B QF J B  
MOLQB@Q FQP BIC >D>FKPQ @>Mq>I CIFDEQ >KA ?>KHFKD PVPQB J  
@LII>MPB >P E>MMBKBA AROFKD QEB PF>K CFK>K@F>I @OFPPP

, >KV ABSBILMFKD @LRKQOV IFHB , BU@L E>SB  
J LABO>QB QL EFDE O>QBP LC FKCI>QFLK Q QEB P> J B QF J B  
FKQBOK>QFLK>I QO>AB MI>VP >K F J MLOQ>KQ OLIB FK QEBFO  
B@LKL JFBP 6 E>Q QVMB LC BU@E>KDB O>QB OBDF J B TLRIA  
?B ?BPQ CLO PR@E > @LRKQOVdP @ROOBK@V vis à vis QEB 4 2  
ALII>O

6 E>Q TLRIA J >HB > @LRKQOV AB@FAB QL @E>KDB COL J  
> @L J J LK @ROOBK@V IFHB QEB BROL ?>@H QL FQP LTK  
@ROOBK@V

( \* ' \$ %+

! OFQFPE MLRKA @LPQ FK 4 2 ALII>OP FK  
?RQ FK 4 2 ALII>OP FK 6 >P QEB MLRKA TB>HB0  
LO PQOLKDBO >D>FKPQ QEB ALII>O #FA QEB ALII>O >MMOB@F>QB  
LO ABMOB@F>QB SBOPRP QEB MLRKA

#E>M{B0 X %U@E>KDB 2>{BP >KA )K{B0K>{FLK>I #>M{>I &LTP

N B I 8EA@8AG H7 : 8GF  
4A7 <F64? ( B?<6L



<:HEB +;HG B JAF 4A7 (4E>F 9BIILT PQLKB .>@FLK>I O>OH FP LKB LC QEB J >KV K>@FLK>I M>OHP CLO@BA QL @ILPB  
ALTK AROFKD QEB DLSBOK J BKQ PERQ ALTK FK / @QL?B0 #0BAFQ J LAF@>@FLK LC TLOH ?V bA>SBVKFKc Cif@HO #0B>@FSB  
#L J J LKP

## Bring it Home

### &B 18??B JFGBA8 (4E>

9LR E>A Q0BHHA >II QEB T>V QL PBB 9BIILT PQLKB .>@FLK>I O>OH FK QEB ?B>R@FCRI J LKQE LC / @QL?B0 LKIV QL  
CFKA FQ e @ILPBA #ILPBA 7 EV

&LQ QTL TBBHP FK / @QL?B0 QEB 5 3 CBABO>I DLSBOK J BKQ PERQ ALTK ->KV CBABO>I PBOSF@BP IFHB QEB  
K>@FLK>I M>OHP @ILPBA >KA CBABO>I B J MILVBBP TBOB CROILRDEBA 4LR@FPQP TBOB PEL@HBA >KA PL T>P  
QEB OBPQ LC QEB TLOIA #LKD0BPP >KA QEB OOBPFABKQ @LRIA KLQ >DOBB LK > ?RADBQ )KPFAB QEB #>M@QLI 2BMR?IF@>KP  
>KA \$B J L@>QP >ODRBA >?LRQ PMBKAFKD M@FLO@FBP >KA TEBQEBO QL FK@OB>PB QEB K>@FLK>I AB?Q IF J FQ %>@E VB>0 P  
?RADBQ TEF@E FP LSBO Q@FIFLK LC PMBKAFKD J RPQ ?B >MMOLSBA ?V #LKD0BPP >KA PFDKBA ?V QEB OOBPFABKQ  
4TL QEF@AP LC QEB ?RADBQ >0B BK@F@IB J BKQP >KA LQEBO J >KA>QL@OV PMBKAFKD TEF@E L@>RO T@ELRQ @LKD0BPPFLK>I L0  
MOBPFABKQF>I >@@FLK LK@B QEB MOLDO> J P >0B BPQ>?IFPEBA 4FBA QL QEB ?RADBQ AB?>QB T>P QEB FPPRB LC FK@OB>P@FKD  
QEB AB?Q @BFHFD \_ ELT EFDE QEB 5 3 DLSBOK J BKQ P K>@FLK>I AB?Q @>K ?B 4EB ( LRPB LC 2BMOBPKQ>@FSBP OBCRPBA  
QL PFDK LK QL QEB ?HIP QL CRKA QEB DLSBOK J BKQ RKIBPP QEBV FK@IRABA MOLS@PFLKP QL PQLM L0 @E>KDB QEB ! CLOA>?IB  
( B>IQE #>0B !@Q J L0B @LILNRF>IIV HKLTK >P / ?> J>@>0B !P QEB A>VP MOLDOBPPBA QEB 5K@QBA 3Q>@BP @> J B  
SBOV @ILPB QL ABC>RI@FKD LK F@P AB?Q

7 EV ALBP QEB CBABO>I ?RADBQ @OB>QB PR@E FK@BKP AB?>@BP 7 E>Q TLRIA E>MMBK FC QEB 5K@QBA 3Q>@BP @>@R>IIV  
ABC>RI@QBA LK F@P AB?Q )K QEFP @E>M@B0 TB THII BU> JFKB QEB CBABO>I ?RADBQ Q>U>@FLK >KA CFP@>I MLIF@V 7 B THII  
>IPL ILLH >Q QEB >KKR>I CBABO>I ?RADBQ ABC@F@F@P >KA QEB K>@FLK>I AB?Q

# !AGEB7H6G<BA GB B I8EA@8AG H7:8GF 4A7 <F64? (B?<6L

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g &LSBOK J BKQ 2MBKAFKD
- g 3>U>QFLK
- g %BABO>I #BCF@FQP >KA QEB ->QFLK>I #B?Q
- g 4PFKD %FP@>I /LIF@V QL %FDEQ 1B@BPPFLKP 4KB J MILV J BKQ >KA (KCI>QFLK
- g RQL J >QF@ 2Q>?FIFWBOP
- g /O>@QF@>I /OL?IB J P TFQE #FP@OBQFLK>OV %FP@>I /LIF@V
- g 3EB ORBPQFLK LC > !>I>K@BA !RADBQ

II IBSBIP LC DLSBOK J BKQ b CBABO>I PQ>QB >KA IL@>I b E>SB ?RADBQP QE>Q PELT ELT J R@E OBSBKR B QEB DLSBOK J BKQ BUMB@QP QL OB@BFSB FK Q>UBP >KA LQEBO FK@L J B >KA ELT QEB DLSBOK J BKQ MI>KP QL PMBKA FQ !RADBQP EL TBSBO @>K PEFCQ AO> J >QF@>IIV TFQEFK >CBT VB>OP >P MLIF@V AB@FPFLK >KA RKBUMB@QBA BSBKQP AFPORMQ B>OIFBO Q>U >KA PMBKAFKD MI>KP

(K QEFP @E>MQB0 TB OBSFPPQ CFP@>I MLIF@V TEF@E TB CFOPQ @LSBOBA FK / 8?6B@8 GB 6BAB@<6F %FP@>I MLIF@V FP LKB LC QTL MLIF@V QLLIP CLO CFKB QRKFKD QEB B@LKL J V QEB LQEBO FP J LKBQ>OV MLIF@V 6 EFIB MLIF@V J >HBOP >Q QEB %BABO>I 1BPBOSB J >HB J LKBQ>OV MLIF@V " LKDOBPP >KA QEB /OBPFABKQ J >HB CFP@>I MLIF@V

3EB AFP@RPPFLK LC CFP@>I MLIF@V CL@RPBP LK ELT CBABO>I DLSBOK J BKQ Q>UFGD >KA PMBKAFKD >CCB@QP >DDOBD>QB AB J >KA  
 II DLSBOK J BKQ PMBKAFKD >KA Q>UBP >CCB@Q QEB B@LKL J V ?RQ CFP@>I MLIF@V CL@RPBP PQ@F@QIV LK CBABO>I DLSBOK J BKQ MLIF@FBP 6B ?BDFK TFQE >K LSBOSFBT LC 4 2 DLSBOK J BKQ PMBKAFKD >KA Q>UBP 6B QEBK AFP@RPP CFP@>I MLIF@V COL J >PELOQ ORK MBOPMB@QFSB QE>Q FP ELT DLSBOK J BKQ RPBQ Q>U >KA PMBKAFKD MLIF@FBP QL >AAOBPP OB@BPPFLK RKB J MILV J BKQ >KA FKCI>QFLK ELT MBOFLAP LC OB@BPPFLK >KA DOLTQE >CCB@Q DLSBOK J BKQ ?RADBQP >KA QEB J BOFQP LC ?>I>K@BA ?RADBQ MOLMLP>IP

## N B I8EA@8AG +C8A7<A:

!V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d (ABKQFCV 4 2 ?RADBQ ABCF@FQ >KA PROMIRP QOBKAP LSBQ QEB M>PQ CFSB AB@>ABP
- d \$UMI>FK QEB AFCCBOK@BP ?BQTBKQ QEB 4 2 CBABO>I ?RADBQ >KA PQ>QB >KA IL@>I ?RADBQP

&LSBOK J BKQ PMBKAFKD @LSBOP > O>KDB LC PBOSE@BP QE>Q QEB CBABO>I PQ>QB >KA IL@>I DLSBOK J BKQ MOLSFAB 6EBK QEB CBABO>I DLSBOK J BKQ PMBKAP J LOB J LKBV QE>K FQ OB@BFSBP FK Q>UBP FK > DFSBK VB>O FQ ORKP > **budget deficit** "LKSBOBPBIV TEBK QEB DLSBOK J BKQ OB@BFSBP J LOB J LKBV FK Q>UBP QE>K FQ PMBKAP FK > VB>O FQ ORKP > **budget surplus** (C DLSBOK J BKQ PMBKAFKD >KA Q>UBP >OB BNR>I FQ E>P > **balanced budget** %LO BU> J MIB FK QEB 4 2 DLSBOK J BKQ BUMB@FBK@BA FQP I>ODBPQ ?RADBQ ABCF@FQ BSBO >P QEB CBABO>I DLSBOK J BKQ PMBKQ QOFIIFLK J LOB QE>K FQ @LIIB@QBA FK Q>UBP 3EFP ABCF@FQ T>P >?LRQ LC QEB PFWB LC QEB 4 2 &# / FK J >HFKD FQ ?V C>O QEB I>ODBPQ ?RADBQ ABCF@FQ OBI>QFSB QL &# / PFK@B QEB J > J J LQE ?LOOLTFKD QEB DLSBOK J BKQ RPBQ QL CFK>K@B 6 LOIA 6>O ((

3EFP PB@QFLK MOBPBKPQ >K LSBOSFBT LC DLSBOK J BKQ PMBKAFKD FK QEB 4KFQBA 2Q>QBP

## ,B64? - + B I8EA@8AG +C8A7<A:

%BABO>I PMBKAFKD FK KL J FK>I ALII>OP QE>Q FP ALII>OP KLQ >AGRPQBA CLO FKCI>QFLK E>P DOLT'K ?V > J RIQFMIB LC J LOB QE>K LSBQ QEB I>PQ CLRO AB@>ABP COL J ?FIIFLK FK QL QOFIIFLK FK "L J M>OFKD PMBKAFKD LSBQ QF J B FK KL J FK>I ALII>OP FP J FPIB>AFKD ?B@>RBP FQ ALBP KLQ Q>HB FKQL >@@LRKQ FKCI>QFLK LO DOLTQE FK MLMRI>QFLK >KA QEB OB>I B@LKL J V J LOB RPBARI J BQELA LC @L J M>OFPLK FP QL BU> J FKB DLSBOK J BKQ PMBKAFKD >P > MBO@BKQ LC &# / LSBQ QF J B

3EB QLM IFKB FK <:HE8 PELT P QEB CBABO>I PMBKAFKD IBSBI PFK@B BUMOBPPBA >P > PE>OB LC &# / #BPMFQB >TFABPMOB>A PBKPB > J LKD J >KV J BOF@>KP QE>Q QEB CBABO>I DLSBOK J BKQ E>P ?BBK DOLT'FKD PQB>AFIV I>ODBO QEB DO>ME PELT P QE>Q CBABO>I PMBKAFKD E>P ELSBOBA FK > O>KDB COL J QL LC &# / J LPQ LC QEB QF J B PFK@B 3EB LQEBO IFKBP FK <:HE8 PELT QEB J >GLO CBABO>I PMBKAFKD @>QBDLOFBP K>QFLK>I ABCBKP B 2L@F>I 2B@ROFQV EB>IQE

MOLDO>JP >KA FKQBOBPQ M>V JBKQP %OLJ QEB DO>ME TB PBB QE>Q K>QLK>I ABCBKP PMBKAFKD >P > PE>OB LC &#x27; / E>P  
DBKB0>IIV AB@IFKBA PFK@B QEB P >IQELRDE QEB0B TBOB PL JB RMT>0A ?R J MP FK QEB P ?RFIARM RKABO /OBPFABKQ  
1LK>IA 1B>D>K >KA FK QEB >CQBO J>QE LC QEB QBOOLOFPQ >QQ>@HP LK 2BMQB J ?B0 (K @LKQ0>PQ 2L@F>I 2B@ROFQV  
>KA EB>IQE@>OB E>SB DOLTK PQB>AFIV >P > MBO@BKQ LC &#x27; / ' B>IQE@>OB BUMBKAFQROBP FK@IRAB ?LQE M>V JBKQP CLO PBKFL0  
@FQFWBKP , BAF@>OB >KA M>V JBKQP CLO ILT FK@L JB JBOF@>KP , BAF@>FA 2Q>QB DLSBOK JBKQP >IPL M>0QF>IIV CRKA  
, BAF@>FA (KQBOBPQ M>V JBKQP >OB QEB CFK>I J >FK @>QBDLOV LC DLSBOK JBKQ PMBKAFKD FK %FDROB

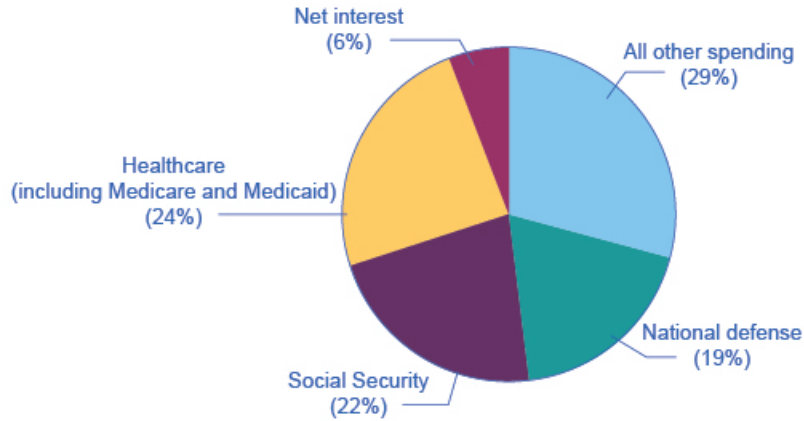
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QE>Q QEB DLSBOK JBKQ E>P PMBKQ LK K>QLK>I ABCBKP E>P DBKB0>IIV AB@IFKBA TEFIB QEB PE>OB FQ E>P PMBKQ LK 3L@F>I  
3B@ROFQV >KA LK EB>IQE@>OB BUMBKBPB J >F KIV - BAF@>OB >KA - BAF@>FA E>P FK@OB>PBA 3LR0@B *Economic Report of  
the President, 4->?IBP " >KA " EQQM TTT DML DLS CAPVP MHD %20 @LKQBKQ ABQ>FI EQ JI*

\$>@E VB>0 QEB DLSBOK JBKQ ?LOOLTP CRKAP COL J 4 2 @FQFWBKP >KA CLOBFDKBP QL @LSBO FQP ?RADBQ ABCF@FQP (Q ALBP QEFP  
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FK >I J LPQ BSOV VB>0 (Q E>A ?RADBQ PROMIRPBP COL J QL >KA QEBK OBQROKBA QL ABCF@FQP

3EB FKQBOBPQ M>V JBKQP LK M>PQ CBAB0>I DLSBOK JBKQ ?LOOLTFKD TBOB QVMF@>IIV a LC &#x27; / FK QEB P >KA P  
?RQ QEBK @IF J ?BA >?LSB LC &#x27; / FK QEB P >KA PQ>VBA QEB0B RKQFI QEB I>QB P 3EB DLSBOK JBKQ T>P >?IB QL  
OBM>V PL JB LC FQP M>PQ ?LOOLTFKD ?V ORKFKD PROMIRPBP COL J QL >KA TFQE EBIM COL J ILT FKQBOBPQ 0>QB QEB  
FKQBOBPQ M>V JBKQP LK M>PQ CBAB0>I DLSBOK JBKQ ?LOOLTFKD E>A C>IIBK ?>@H QL LC &#x27; / ?V

6B FKSBPQFD>QB QEB DLSBOK JBKQ ?LOOLTFKD >KA AB?Q M>QQBOKP FK JLOB ABQ>FI I>QBO FK QEFP @E>MQBO ?RQ CFOPQ TB KBBA  
QL @I>QFCV QEB AFCCBOK@B ?BQTBBK QEB ABCF@FQ >KA QEB AB?Q *The deficit is not the debt* 3EB AFCCBOK@B ?BQTBBK QEB  
ABCF@FQ >KA QEB AB?Q IFBP FK QEB QF JB CO> JB 3EB DLSBOK JBKQ ABCF@FQ LO PROMIRP OBCBOP QL TE>Q E>MMBKP TFQE QEB CBAB0>I  
DLSBOK JBKQ ?RADBQ B>@E VB>0 3EB DLSBOK JBKQ AB?Q FP >@R J RI>QBA LSBO QF JB (Q FP QEB PR J LC >II M>PQ ABCF@FQP >KA  
PROMIRPBP (C VLR ?LOOLT MBO VB>0 CLO B>@E LC QEB CLRO VB>OP LC @LIIBDB VLR J FDEQ P>V QE>Q VLRO >KKR>I ABCF@FQ  
T>P ?RQ VLRO >@R J RI>QBA AB?Q LSBO QEB CLRO VB>OP FP

3EBPB CLRO @>QBDLOFBP b K>QLK>I ABCBKP 2L@F>I 2B@ROFQV EB>IQE@>OB >KA FKQBOBPQ M>V JBKQP b >@LRKQ CLO OLRDEIV  
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 CBABO>I PMBKAFKD CLO >II LQEBO CRK@QFLKP LC QEB 5 3 DLSBOK J BKQ 3LR0@B EQQMP TTT TEF@BELRPB DLS LJ ? ?RADBQ  
 (FPQL0F@>IP

**+G4G8 4A7 \$B64? B18EA@8AG +C8A7<A:**

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 FP >IPL PR?PQ>KQF>I b >Q >?LRQ QOFIIFLK FK <:HE8 PELTP QE>Q PQ>QB >KA IL@>I DLSBOK J BKQ PMBKAFKD E>P  
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 LC ' \$O FK QEB B>OIV P QL ^ ?V QEB J FA P )Q E>P OB J >FKBA >Q OLRDEIV QE>Q IBSBI PFK@B 4EB PFKDIB  
 ?FDDBPQ PMBKAFKD FQB J FP BAR@>QFLK FK@IRAFKD ?LQE +^ PMBKAFKD >KA PRMML0Q CLO MR?IF@ @LIIBDBP >KA RKFSBOPPF@BP  
 TEF@E E>P ?BBK >?LRQ ^ LC ' \$O FK 0B@BKQ AB@>ABP 3LR0@B 3LR0@B "ROB>R LC %@LKL J f@ !K>IVPF@

4 2 MOBPFABKQF>I @>KAF@>QBP LCQBK ORK CLO LCCF@B MIBADFKD QL F J MOLSB QEB MR?IF@ P@ELLIP LO QL DBQ QLRDE LK @OF J B  
 'LTBSBO FK QEB 4 2 DLSBOK J BKQ PVPQB J QEBPB Q>PHP >OB MOF J >OFIV PQ>QB >KA IL@>I DLSBOK J BKQ OBPMLKPF?FIFQFBP  
 (K CFP@>I VB>O PQ>QB >KA IL@>I DLSBOK J BKQP PMBKQ >?LRQ ?FIIFLK MBO VB>O LK BAR@>QFLK FK@IRAFKD \*a  
 >KA @LIIBDB >KA RKFSBOPFQV BAR@>QFLK @L J M>OBA QL LKIV ?FIIFLK ?V QEB CBABO>I DLSBOK J BKQ >@>LOAFKD QL  
 RPDLSBOK J BKQPMBKAFKD @L J (K LQEBO TLOAP >?LRQ @BKQP LC BSBOV ALII>O PMBKQ LK BAR@>QFLK E>MMBKP >Q QEB PQ>QB >KA

IL@>I IBSBI MLIF@F>K TEL OB>IIV T>KQP E>KAP LK OBPMLKPF?FIFV CLO OBCL0 J FKD BAR@>QFLK LO OBAR@FKD @OF J B J FDEQ AL ?BQQBO QL ORK CLO J >VLO LC > I>ODB @FQV LO CLO PQ>QB DLSBOKLO 0>QEBO QE>K CLO MOBPFABKQ LC QEB 4KFQBA 2Q>QBP

## N ,4K4G<BA

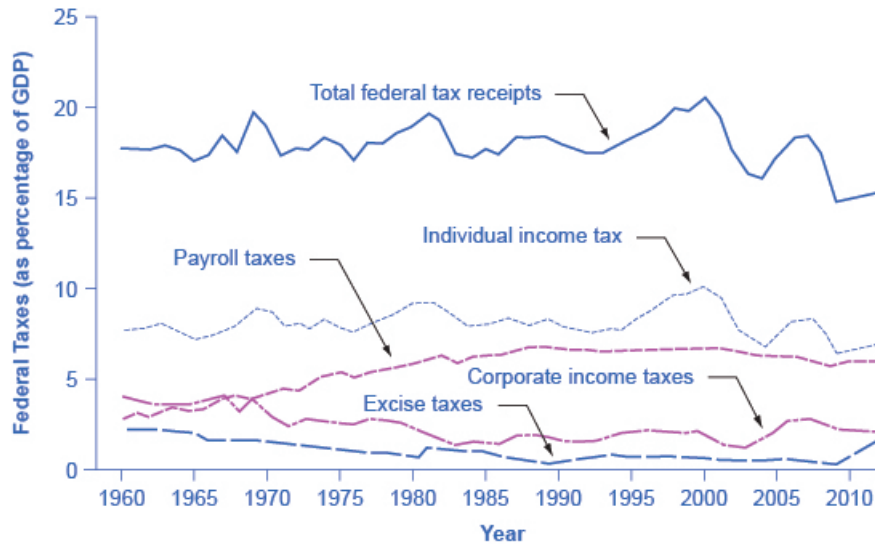
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- d (ABKQFCV J >GLO OBSBKRB PLR0@BP CLO QEB 4 2 CBAB0>I ?RADBQ

3EB0B >OB QTL J >FK @>QBDLOFBP LC Q>UBP QELPB QE>Q QEB CBAB0>I DLSBOK JBKQ @LIIB@QP >KA QELPB QE>Q QEB PQ>QB >KA IL@>I DLSBOK JBKQ @LIIB@Q 6 E>Q MBO@BKQ>DB QEB DLSBOK JBKQ @LIIB@QP >KA CLO TE>Q FQ RPBP QE>Q OBSBKRB S>OFBP DOB>QIV 3EB CLIL TFKD PB@QFLK TFII ?OFBCIV BUMI>FK QEB Q>U>QFLK PVPQB J FK QEB 4KFQBA 2Q>QBP

## 878E4? ,4K8F

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<: HE8 878E4? ,4K8F P &BAB0>I Q>U OBSBKRB E>SB ?BBK >?LRQ ^ LC '\$0 AROFKD J LPQ MBOFLAP FK OB@BKQ AB@>ABP 4EB MOF J>OV PLR0@BP LC CBAB0>I Q>UBP >OB FKA'FSAR>I FK@L J B Q>UBP >KA QEB M>VOLII Q>UBP QE>Q CFK>K@B 3L@F>I 3B@ROFQV >KA - BAF@>OB #LOMLO>QB FK@L J B Q>UBP >KA PL@F>I FKPRO>K@B Q>UBP MOLSFAB P J >IIBO PE>OB LC OBSBKRB 3LR0@B Economic Report of the President, 2015. 4>?IB " EQMP TTT TEFQBELRPB DLS >AJ FK'FPQ>QFLK BLM @B> B@LKL J F@ QBMLQ LC QEB OOBPFABKQ

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3EB PB@LKA I>ODBPQ PLR0@B LC CBAB0>I OBSBKRB FP QEB payroll tax @>MQROBA FK PL@F>I FKPRO>K@B >KA OBQFOB J BKQ OB@BFMQP TEF@E MOLSFABP CRKAP CLO 2L@F>I 2B@ROFQV >KA , BAF@>OB />VOLII Q>UBP E>SB FK@OB>PBA PQB>AFIV LSBO QF J B 3LDBQEBO QEB MBOPLK>I FK@L J B Q>U >KA QEB M>VOLII Q>U >@LRKQBA CLO >?LRQ LC CBAB0>I Q>U OBSBKRB FK IQELRDE MBOPLK>I FK@L J B Q>U OBSBKRB >@LRKQ CLO J LOB QLQ>I OBSBKRB QE>K QEB M>VOLII Q>U KB>OIV QE0BB NR>OQBOP LC ELRPBELIAP M>V J LOB FK M>VOLII Q>UBP QE>K FK FK@L J B Q>UBP

3EB FK@L J B Q>U FP > progressive tax TEF@E J B>KP QE>Q QEB Q>U 0>QBP FK@OB>PB >P > ELRPBELIAP FK@L J B FK@OB>PBP 3>UBP

>IPL S>OV TFQE J >OFQ>I PQ>QRP C> J FIV PFWB >KA LQEBO C>@QLOP 3EB **marginal tax rates** QEB Q>U ARB LK >II VB>OIV FK@L J B CLO > PFKDIB Q>UM>VBO O>KDB COL J QL ABMBKAFKD LK FK@L J B >P QEB CLILTFKD " IB>O (Q 4M CB>QROB BUMI>FKP

# Clear It Up

## BJ 7B8F G; 8 @4E: <A4? E4G8 JBE>

3RMMLPB QE>Q > PFKDIB Q>UM>VBOaP FK@L J B FP	MBO VB>O !IPL PRMMLPB QE>Q FK@L J B COL J	QL	FP
Q>UBA >Q FK@L J B COL J QL	FP Q>UBA >Q >KA CFK>IIV FK@L J B COL J		>KA ?BVLKA
FP Q>UBA >Q 3FK@B QEFP MBOPLK B>OKP	QEBFO J >ODFK>I Q>U O>QB FP		

3EB HBV C>@Q EBOB FP QE>Q QEB CBABO>I FK@L J B Q>U FP ABPFDKBA PL QE>Q Q>U Q>QBP FK@OB>PB >P FK@L J B FK@OB>PBP RM QL > @BOQ>FK IBSBI 3EB M>VOLII Q>UBP QE>Q PRMMLQ 2L@F>I 2B@ROFQV >KA , BAF@>OB >OB ABPFDKBA FK > AFCCBOBKQ T>V %FOPQ QEB M>VOLII Q>UBP CLO 2L@F>I 2B@ROFQV >OB F J MLPBA >Q > O>QB LC RM QL > @BOQ>FK T>DB IF J FQ PBQ >Q FK , BAF@>OB LK QEB LQEBO E>KA M>VP CLO BIABOIV EB>IQE@>OB >KA FP CFUBA >Q TFQE KL RMMBO @BFIFKD

(K ?LQE @>PBP QEB B J MILVBO >KA QEB B J MILVBB PMIFQ QEB M>VOLII Q>UBP K B J MILVBB LKIV PBBP ABAR@QBA COL J EFP LO EBO M>V@EB@H CLO 2L@F>I 2B@ROFQV >KA COL J , BAF@>OB ' LTBSBO >P B@LKL J FPQ >OB NRF@H QL MLFKQ LRQ QEB B J MILVBOaP E-IC LC QEB Q>UBP >OB MOL?>?IV M>PPBA >ILKD QL QEB B J MILVBBP FK QEB CLO J LC ILTBO T>DBP PL FK OB>IFQV QEB TLOHBO M>VP >II LC QEB M>VOLII Q>UBP

6B >IPL @>II QEB , BAF@>OB M>VOLII Q>U > **proportional tax** QE>Q FP > CI>Q MBO@BKQ>DB LC >II T>DBP B>OKBA 3EB 2L@F>I 2B@ROFQV M>VOLII Q>U FP MOLMLQFLK>I RM QL QEB T>DB IF J FQ ?RQ >?LSB QE>Q IBSBI FQ ?B@L J BP > **regressive tax** J B>KFKD QE>Q MBLMIB TFQE EFDEBO FK@L J BP M>V > P J >IIBO PE>OB LC QEBFO FK@L J B FK Q>U

3EB QEFOA I>ODBPQ PLRQ@B LC CBABO>I Q>U OBSBKR B >P <: **HE8** PELTP FP QEB **corporate income tax** 3EB @L J J LK K> J B CLO @LOMLO>QB FK@L J B FP eMOLCFQP f . SBO QF J B @LOMLO>QB FK@L J B Q>U OB@BFMQP E>SB AB@IFKBA >P > PE>OB LC &# / COL J >?LRQ FK QEB P QL >K >SBO>DB LC QL LC &# / FK QEB CFOPQ AB@>AB LC QEB P

3EB CBABO>I DLSBOK J BKQ E>P > CBT LQEBO P J >IIBO PLRQ@BP LC OBSBKR B (Q F J MLPBP >K **excise tax** b QE>Q FP > Q>U LK > M>OQF@RI>O DLLA b LK D>PLIFKB QL?>@L >KA >I@LELI P > PE>OB LC &# / QEB > J LRKQ QEB DLSBOK J BKQ @LIIB@QP COL J QEBPB Q>UBP E>P P Q>VBA KB>OIV @LKPQ>KQ LSBO QF J B COL J >?LRQ LC &# / FK QEB P QL OLRDEIV ?V >@L@OAFKD QL QEB KLKM>OQFP>K " LKDOBPPFLK>I !RADBQ . CCF@B 3EB DLSBOK J BKQ >IPL F J MLPBP >K **estate and gift tax** LK MBLMIB TEL M>PP I>ODB > J LRKQ LC >PPBP QL QEB KBUQ DBKBO>QFLK b BFQEBO >CQBO AB>QE LO AROFKD IFCB FK QEB CLO J LC DFCQP 3EBPB BPQ>QB >KA DFCQ Q>UBP @LIIB@QBA >?LRQ LC &# / FK QEB CFOPQ AB@>AB LC QEB P !V > NRFOH LC IBDFFI>QFLK QEB DLSBOK J BKQ OBMB>IBA QEB BPQ>QB >KA DFCQ Q>U FK ?RQ OBFKQ>QBA FQ FK . QEBO CBABO>I Q>UBP TEF@E >OB >IPL OBI>QFSBIV P J >II FK J >DKFQ@RAB FK@IRAB Q>OFCCP QEB DLSBOK J BKQ @LIIB@QP LK F J MLOQBA DLLAP >KA @E>ODBP CLO FKPMB@QFLKP LC DLLAP BKQBOFKD QEB @LRKQOV

## +G4G8 4A7 \$B64? ,4K8F

Q QEB PQ>QB >KA IL@>I IBSBI Q>UBP E>SB ?BBK OFPKD >P > PE>OB LC &# / LSBO QEB I>PQ CBT AB@>ABP QL J >Q@E QEB DO>AR>I OFPB FK PMBKAFKD >P <: **HE8** FIIRPQO>QB 3EB J >FK OBSBKR B PLRQ@BP CLO PQ>QB >KA IL@>I DLSBOK J BKQ >OB P>IBP Q>UBP MOLMBOQV Q>UBP >KA OBSBKR B M>PPBA >ILKD COL J QEB CBABO>I DLSBOK J BKQ ?RQ J >KV PQ>QB >KA IL@>I DLSBOK J BKQ >IPL IBSV MBOPLK>I >KA @LOMLO>QB FK@L J B Q>UBP >P TBII >P F J MLPB > TFAB S>OFBQV LC CBBP >KA @E>ODBP 3EB PMB@FCF@ PLRQ@BP LC Q>U OBSBKR B S>OV TFABIV >@OLPP PQ>QB >KA IL@>I DLSBOK J BKQ 2L J B PQ>QB OBIV J LOB LK MOLMBOQV Q>UBP PL J B LK P>IBP Q>UBP PL J B LK FK@L J B Q>UBP >KA PL J B J LOB LK OBSBKRBP COL J QEB CBABO>I DLSBOK J BKQ



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## N 878E4? 89<6<GF 4A7 G ;8 &4G<BA4? 85G

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d \$UMI>FK QEB 4 2 CBABO>I ?RADBQ FK QBO J P LC >KKR>I AB?Q >KA >@R J RI>QBA AB?Q

d 4KABOPQ>KA ELT B@LKL Jf@ DOLTQE LO AB@IFKB @>K fKfCIRBK@B > ?RADBQ PROMIRP LO ?RADBQ ABCF@FQ

' >SFKD AFP@RPPBA QEB OBSBKRBP Q>UBP >KA BUMBKPB PMBKAFKD PFAB LC QEB ?RADBQ TB KLT QROK QL QEB >KKR>I ?RADBQ  
ABCF@FQ LO PROMIRP TEF@E FP QEB AFCCBOBK@B ?BQTBBK QEB Q>U OBSBKRBP @LIIB@QBA >KA PMBKAFKD LSBO > CFP@>I VB>0 TEF@E  
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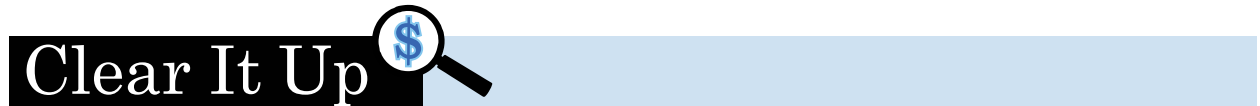
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QEB CFPQ AB@>AB LC QEB P\_\_>KA BPMB@f>IIV ABBM ABCF@FQ FK QEB OB@BPPFLK 3LR0@B &BABO>I 2BPB0SB  
>KH LC 3Q ,LRFP &2%\$ EQQM OBPB>0@E PQLRfPCBA LOD COBA PBOFBP &9&3 ' \$! 3

# 85G ( \* 4G<B

KLQEB0 RPBCRI T>V QL SFBT QEB ?RADBQ ABCF@FQ FP QEOLRDE QEB MOFP J LC >@R J RI>QBA AB?Q O>QEBO QE>K >KKR>I ABCF@FQP  
3EB **national debt** OBCBOP QL QEB QLQ>I > J LRKQ QE>Q QEB DLSBOK J BKQ E>P ?LOOLTBA LSBO QF J B (K @LKQO>PQ QEB ?RADBQ  
ABCF@FQ OBCBOP QL ELT J R@E QEB DLSBOK J BKQ E>P ?LOOLTBA FK LKB M>OQF@RI>0 VB>0 <:HE8 PELTP QEB O>QFL LC  
AB?Q &# / PFK@B 4KQFI QEB P QEB AB?Q &# / O>QFL OBSB>IBA > C>FOIV @IB>0 M>QQBOK LC CBABO>I ?LOOLTFKD 3EB  
DLSBOK J BKQ O>K RM I>ODB ABCF@FQP >KA O>FPBA QEB AB?Q &# / O>QFL FK 6 LOIA 6 >0 (( ?RQ COL J QEB P QL QEB P QEB  
DLSBOK J BKQ O>K BFQEBO PROMIRPBP LO OBI>QFSBIV P J >II ABCF@FQP >KA PL QEB AB?Q &# / O>QFL AOFQBA ALTK +>ODB ABCF@FQP FK  
QEB P >KA B>OIV P @>RPBA QEB O>QFL QL OFPB PE>OMIV 6 EBK ?RADBQ PROMIRPBP >OQFSBA COL J QL QEB AB?Q  
&# / O>QFL AB@IFKBA PR?PQ>KQF>IIV 3EB ?RADBQ ABCF@FQP PQ>OQFKD FK QEBK QRDDBA QEB AB?Q &# / O>QFL EFDEBO b TFQE >  
?FD GR J M TEBK QEB OB@BPPFLK QLLH ELIA FK a

<:HE8 878E4? 85G 4F 4 (8E68AG4: 8 B9 ( P &BABO>I AB?Q FP QEB PR J LC >KKR>I ?RADBQ ABCF@FQP  
>KA PROMIRPBP !KKR>I ABCF@FQP AL KLQ >IT>VP J B>K QE>Q QEB AB?Q ' \$0 O>QFL FP OFPKD \$ROFKD QEB P >KA P QEB  
DLSBOK J BKQ LQ@BK O>K P J >II ABCF@FQP ?RQ PFK@B QEB AB?Q T>P DOLTFKD J LOB PILTIV QE>K QEB B@LKL J V QEB AB?Q ' \$0  
O>QFL T>P AB@IFKFKD LSBO QEF@F J B )K QEB ^ OB@BPPFLK QEB AB?Q ' \$0 O>QFL OLPB PE>OMIV 3LR0@B *Economic  
Report of the President, Table B-20, EQM* TTT DML DLS CAPVP MHD %20 @LKQ@BKQ ABQ>FI EQ J I

3EB KBUQ " IB>0 FQ 4M CB>QROB AFP@RPPBP ELT QEB DLSBOK J BKQ E>KAIBP QEB K>QFLK>I AB?Q



## / ; 4G <F G ; 8 A4G<BA4? 785G

/ KB VB>0@P CBABO>I ?RADBQ ABCF@FQ @>RPBP QEB CBABO>I DLSBOK J BKQ QL PBII 40B>PROV ?LKAP QL J >HB RM QEB  
AFCCB0BK@B ?BQTBBK PMBKAFKD MOLDO>JP >KA Q>U OBSBKRB 4EB ALII>0 S>IRB LC >II QEB LRQPQ>KAFKD 40B>PROV  
?LKAP LK TEF@E QEB CBABO>I DLSBOK J BKQ LTBP J LKBV FP BNR>I QL QEB K>QFLK>I AB?Q

## , ; 8 (4G; 9EB@ 89<6<GF GB +HEC?HF8F GB 89<6<GF

6 EV AFA QEB ?RADBQ ABCF@FQP PRAABKIV QROK QL PROMIRPBP COL J QL >KA TEV AFA QEB PROMIRPBP OBQROK QL ABCF@FQP  
FK 6 EV AFA QEB ABCF@FQ ?B@L J B PL I>ODB >CQBO <:HE8 PRDDBPQ PL J B >KPTBOP 3EB DO>ME @L J ?FKBP  
QEB B>OIFBO FKLO J >QFLK LK QLQ>I CBABO>I PMBKAFKD >KA Q>UBP FK > PFKDIB DO>ME ?RQ CL@RPBP LK QEB CBABO>I ?RADBQ PFK@B

<:HEB ,BG4? B18EA@8AG +C8A7<A: 4A7 ,4K8F 4F 4 +; 4E8 B9 ( P 7 EBK DLSBOK JBKQ PMBKAFKD  
BU@BBAP Q>UBP QEB D>M FP QEB ?RADBQ ABCf@FQ 7 EBK Q>UBP BU@BBA PMBKAFKD QEB D>M FP > ?RADBQ PROMIRP 4EB  
OB@BPPFLK>OV MB@FLA Pq>OQFKD FK I>QB P>T EFDEBO PMBKAFKD >KA ILTB0 Q>UBP @L J ?FKFKD QL @OB>QB > I>ODB ABCf@FQ FK  
3LR0@B Economic Report of the President, Tables B-21 and B-1, EQQM TTT DML DLS CAPVP MHD %20  
@LKQBKQ ABQ>FI EQ J I

&LSBOK JBKQ PMBKAFKD >P > PE>OB LC &# / AB@IFKBA PQB>AFIV QEOLRDE QEB P 3EB ?FDDBPQ PFKDIB OB>PLK T>P QE>Q  
ABCBKPB PMBKAFKD AB@IFKBA COL J LC &# / FK QL FK ?RQ FKQB0BPQ M>V J BKQP ?V QEB CBABO>I  
DLSBOK JBKQ >IPL CBII ?V >?LRQ LC &# / 'LTBSBO CBABO>I Q>U @LIIB@QFLKP FK@OB>PBA PR?PQ>KQf>IIV FK QEB I>QB0  
P GR J MFKD COL J LC &# / FK QL FK /LTB0CRI B@LKL J F@ DOLTQE FK QEB I>QB P CRBIBA  
QEB ?LL J FK Q>UBP /BOPLK>I FK@L J B Q>UBP OFPB >P FK@L J B DLBP RM M>VOLII Q>UBP OFPB >P GL?P >KA M>VOLIIP DL RM  
@LOML0>QB FK@L J B Q>UBP OFPB >P MOLCFQP DL RM Q QEB P> J B QF J B DLSBOK JBKQ PMBKAFKD LK Q0>KPCB0 M>V J BKQP PR@E >P  
RKB J MILV J BKQ ?BKBCFQP CLLAP PQ> J MP >KA TBIC>OB AB@IFKBA TFQE J LOB MBLMIB TLOHFKD

3EFP PE>OM FK@OB>PB FK Q>U OBSBKRBP >KA AB@OB>PB FK BUMBKAFQROBP LK Q0>KPCB0 M>V J BKQP T>P I>ODBIV RKBUMB@QBA BSBK  
?V BUMBOFBK@BA ?RADBQ >K>IVPQP >KA PL ?RADBQ PROMIRPBP @> J B >P > PROMOFPB 'LTBSBO FK QEB B>OIV P J >KV LC  
QEBPB C>@QL0P PQ>OQBA ORKKFKD FK OBSBOPB 3>U OBSBKRBP P>DDBA ARB I>ODBIV QL QEB OB@BPPFLK QE>Q PQ>OQBA FK , >0@E  
TEF@E OBAR@BA OBSBKRBP "LKDOBPP BK>@QBA > PBOFBP LC Q>U @RQP >KA /OBPFABKQ &BL0DB 6 !RPE PFDKBA QEB J FKQL I>T  
PQ>OQFKD FK (K >AAFQFLK DLSBOK JBKQ PMBKAFKD PTBIIBA ARB QL FK@OB>PBP FK ABCBKPB EB>IQE@>OB BAR@>QFLK 2L@F>I  
2B@ROFQV >KA PRMML0Q MOLDO> J P CLO QELPB TEL TBOB EROQ ?V QEB OB@BPPFLK >KA QEB PILT DOLTQE QE>Q CLILITBA #BCF@FQP  
OBQROKBA 6 EBK QEB PBSB0B OB@BPPFLK EFQ FK I>QB PMBKAFKD @TF J ?BA >KA Q>U @LIIB@QFLKP CBII QL EFPQL0F@>IIV RKRPR>I  
IBSBIP OBPRIQFKD FK BKLO J LRP ABCF@FQP

+LKDBO QB0 J 4 2 ?RADBQ CLOB@>PQP > AB@>AB LO J LOB FKQL QEB CRQROB MOBAF@Q BKLO J LRP ABCF@FQP 3EB EFDEBO ABCF@FQP  
AROFKD QEB OB@BPPFLK E>SB OBMB0@RPPFLKP >KA QEB AB J LDO>MEF@P TFII ?B @E>IIBKDFKD 3EB MOF J >OV OB>PLK FP  
QEB e?>?V ?LL J f b QEB BU@BMQFLK>IIV EFDE ?FOEQ0>QBP QE>Q ?BD>K FK OFDEQ >CQBO 6 LOIA 6>0 (( >KA I>PQBA CLO >?LRQ  
QTL AB@>ABP 2Q>OQFKD FK QEB COLKQ BADB LC QEB ?>?V ?LL J DBKBO>QFLK ?BD>K QL OB>@E >DB >KA FK QEB KBUQ QTL  
AB@>ABP QEB MOLML0QFLK LC J BOF@>KP LSBO QEB >DB LC TFII FK@OB>PB PR?PQ>KQf>IIV 3EB @RO0BKQ IBSBI LC QEB M>VOLII  
Q>UBP QE>Q PRMML0Q 2L@F>I 2B@ROFQV >KA , BAF@>OB TFII C>II TBII PELOQ LC QEB MOLGB@QBA BUMBKPB LC QEBPB MOLDO> J P >P QEB  
CLILITFKD "IB>0 (Q 4M CB>QROB PELTP QERP QEB CLOB@>PQ FP CLO I>ODB ?RADBQ ABCF@FQP AB@FPFLK QL @LIIB@Q J LOB OBSBKR  
QL PRMML0Q QEBPB MOLDO> J P LO QL AB@OB>PB ?BKBCFQ IBSBIP TLRIA >IQB0 QEFP ILKD QB0 J CLOB@>PQ

# Clear It Up



/ ;4G <F G;8 ?BA: G8E@ 5H7:8G BHG?BB> 9BE +B6<4? +86HE<GL 4A7 %87<64E8

JK GRPQ LKB ! JBOF@>K FK T>P LSBO >DB "V FQ T>P LKB FK BFDEQ "V LKB ! JBOF@>K FK CFSB TFII ?B LSBO >DB 4TL BKLO JLRP 5 3 CBABO>I MOLDO>JP CL@RP LK QEB BIABOIV \_ 3L@F>I 3B@ROFQV >KA -BAF@>OB 4EB DOLTFKD KRJ ?BOP LC BIABOIV ! JBOF@>KP TFII FK@OB>PB PMBKAFKD LK QEBPB MOLDO>JP >P TBII >P LK -BAF@>FA 4EB @R00BKQ M>VOLII Q>U IBSFBA LK TLOHBOP TEF@E PRMMLQOP >II LC 3L@F>I 3B@ROFQV >KA QEB ELPMPQ>IFW>QLK FKPRO>K@B M>OQ LC -BAF@>OB TFII KLQ ?B BKLRDE QL @LSBO QEB BUMB@QBA @LPQP PL TE>Q >OB QEB LMQLKP

, LKD QBO J MOLGB@QFLKP COL J QEB #LKDOBPFLK>I "RADBQ / CCF@B FK >OB QE>Q -BAF@>OB >KA 3L@F>I 3B@ROFQV PMBKAFKD @LJ ?FKBA TFII OFPB COL J LC ' \$0 FK QL >?LRQ ?V >KA >?LRQ FK )C QEFP OFPB FK PMBKAFKD L@@R0P TRQELRQ >KV @L00BPMLKAFKD OFPB FK Q>U @LIIB@QFLKP QEBK PLJB JFU LC @E>KDBP JRPQ L@@RO Q>UBP TFII KBBA QL FK@OB>PB A0>J>QF@>IIV LQEBO PMBKAFKD TFII KBBA QL ?B @RQ A0>J>QF@>IIV QEB OBQFOB J BKQ >DB >KA L0 >DB OB@BFSFKD -BAF@>OB ?BKB@CFP TFII KBBA QL FK@OB>PB L0 QEB CBABO>I DLBOK J BKQ TFII KBBA QL ORK BUQB J BIV I>ODB ?RADBQ ABC@F@P

3LJB MOLMLP>IP PRDDBPQ OB JLSFKD QEB @>M LK T>DBP PR?B@Q QL QEB M>VOLII Q>U PL QE>Q QELPB TRQE SBOV EFDE FK@LJBP TLRIA E>SB QL M>V QEB Q>U LK QEB BKQFOB >JLRKQ LC QEBFO T>DBP /QEBO MOLMLP>IP PRDDBPQ JLSFKD 3L@F>I 3B@ROFQV >KA -BAF@>OB COL J PVPQB JP FK TEF@E TLOHBOP M>V CLO OBQFOBBP QLT>OA MOLDO>JP QE>Q PBQ RM >@LRKQP TEBOB TLOHBOP P>SB CRKAP LSBO QEBFO IFBQF JBP >KA QEBK A0>T LRQ >QBO OBQFOB J BKQ QL M>V CLO EB>IQE@>OB

4EB 5KRQBA 3Q>QP FP KLQ >ILKB FK QEFP MOL?IB J OOLSF@FKD QEB MOL JFPBA IBSBI LC OBQFOB J BKQ >KA EB>IQE ?BKB@CFP QL >DOLTFKD MOLMLQ@FLK LC BIABOIV TRQE >C>IFKD MOLMLQ@FLK LC TLOHBOP FP >K BSBK JLOB PBSBOB MOL?IB J FK J>KV %R0LMB>K K>QFLKP >KA FK \*>M>K (LT QL M>V MOL JFPBA IBSBIP LC ?BKB@CFP QL QEB BIABOIV TFII ?B >AFC@RIQ MR?IF@ MLIF@V AB@FPFLK

(K QEB KBUQ J LARIB TB PEFCQ QL QEB RPB LC CFP@>I MLIF@V QL @LRKQBO>@Q ?RPFKBPP @V@IB CIR@QR>QFLKP (K >AAFQFLK TB TFII BUMILOB MOLMLP>IP OBNRF0FKD > ?>I>K@BA ?RADBQ b QE>Q FP CLO DLBOK J BKQ PMBKAFKD >KA Q>UBP QL ?B BNR>I B>@E VB>0 , ; !@C46GF B9 B18EA@8AG BEEBJ<A: TFII >IPL @LSBO ELT CFP@>I MLIF@V >KA DLBOK J BKQ ?LOOLTFKD TFII >CCB@Q K>QFLK>I P>SFKD b >KA QERP >CCB@Q B@LKL J F@ DOLTQE >KA QO>AB F J ?>I>K@BP

N -F<A: <F64? (B?<6L GB <: ;G \*868FF<BA -A8@C?BL@8AG 4A7 !A9?4G<BA

!V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK ELT BUM>KPFLK>OV CFP@>I MLIF@V @>K PEFCQ >DDOBD>QB AB J >KA >KA FKCIRBK@B QEB B@LKL J V
- d \$UMI>FK ELT @LKO>@QFLK>OV CFP@>I MLIF@V @>K PEFCQ >DDOBD>QB AB J >KA >KA FKCIRBK@B QEB B@LKL J V

%FP@>I MLIF@V FP QEB RPB LC DLBOK J BKQ PMBKAFKD >KA Q>U MLIF@V QL FKCIRBK@B QEB M>QE LC QEB B@LKL J V LSBO QF J B &O>MEF@>IIV TB PBB QE>Q CFP@>I MLIF@V TEBQEBO QEOLRDE @E>KDBP FK PMBKAFKD L0 Q>UBP PEFCQ QEB >DDOBD>QB AB J >KA LRQT>OA FK QEB @>PB LC **expansionary fiscal policy** >KA FKT>OA FK QEB @>PB LC **contractionary fiscal policy** 6B HKLT COL J QEB @E>M@B0 LK B@LKL J F@ DOLTQE QE>Q LSBO QF J B QEB NR>KQFQV >KA NR>IFQV LC LRO OBPLRO@BP DOLT >P QEB MLMRI>QFLK >KA QERP QEB I>?LO CLO@B DBQ I>ODBO >P ?RPFKBPPB FKSBPQ FK KBT @>MFQ>I >KA >P QB@EKLILDV F J MOLSBP 3EB OBPRIQ LC QEFP FP OBDRI>O PEFCQ QL QEB OFDEQ LC QEB >DDOBD>QB PRMMIV @ROSBP >P <:HEB FIIRPQO>QBP

3EB LOFDFK>I BNRFF?OFR J L@@ROP >Q \$ QEB FKQBOPB@QFLK LC >DDOBD>QB AB J >KA @ROSB # >KA >DDOBD>QB PRMMIV @ROSB 21 2 >Q >K LRQMRQ IBSBI LC >KA >MOF@B IBSBI LC .KB VB>O I>QBO >DDOBD>QB PRMMIV E>P PEFCQBA QL QEB OFDEQ QL 21 2 FK QEB MOL@BPP LC ILKD QBO J B@LKL J F@ DOLTQE >KA >DDOBD>QB AB J >KA E>P >IPL PEFCQBA QL QEB OFDEQ QL # HBBMFKD QEB B@LKL J V LMBO>QFKD >Q QEB KBT IBSBI LC MLQBKQF>I &# / 3EB KBT BNRFF?OFR J \$ FP >K LRQMRQ IBSBI LC

>KA > MOF@B IBSBI LC . KB JLOB VB>0 I>QBO >DDOBD>QB PRMMIV E>P >D>FK PEFCQBA QL QEB OFDEQ KLT QL 21 2 >KA >DDOBD>QB AB J >KA PEFCQP OFDEQ >P TBII QL # -LT QEB BNRHF?OFR J FP \$ TFQE >K LRQMRQ IBSBI LC >KA > MOF@B IBSBI LC (KPELOQ QEB CFDRQB PELTP >K B@LKL J V QE>Q FP DOLTFKD PQB>AFIV VB>0 QL VB>0 MOLAR@FKD >Q FQP MLQBKQF>I &# / B>@E VB>0 TFQE LKIV P J >II FKCI>QFLK>OV FK@OB>PBP FK QEB MOF@B IBSBI

<:HEB 84%G;L EBJA: 6BAB@L )K QEFP TBII CRK@QFLKFKD B@LKL J V B>@E VB>0 >DDOBD>QB PRMMIV >KA >DDOBD>QB AB J >KA PEFCQ QL QEB OFDEQ PL QE>Q QEB B@LKL J V MOL@BBAP COL J BNRHF?OFR J % QL % QL % %>@E VB>0 QEB B@LKL J V MOLAR@BP >Q MLQBKQF>I ' \$O TFQE LKIV > P J >II FKCI>QFLK>OV FK@OB>PBP FK QEB MOF@B IBSBI (LTBSBO FC >DDOBD>QB AB J >KA ALBP KLQ P J LLQEIV PEFCQ QL QEB OFDEQ >KA J >Q@E FK@OB>PBP FK >DDOBD>QB PRMMIV DOLTQE TFQE ABCI>QFLK @>K ABSBILM

DDOBD>QB AB J >KA >KA >DDOBD>QB PRMMIV AL KLQ >IT>VP JLSB KB>QIV QLDBQEBO 3EFKH >?LRQ TE>Q @>RPBP PEFCQP FK >DDOBD>QB AB J >KA LSBO QF J B P >DDOBD>QB PRMMIV FK@OB>PBP FK@L J BP QBKA QL DL RM 3EFP QBKAP QL FK@OB>PBP @LKPR J BO >KA FKSBPQ J BKQ PMBKAFKD PEFCQFKD QEB >DDOBD>QB AB J >KA @ROSB QL QEB OFDEQ ?RQ FK >KV DFBK MBOFLA FQ J >V KLQ PEFCQ QEB P> J B > J LRKQ >P >DDOBD>QB PRMMIV 6 E>Q E>MMBKP QL DLSBOK J BKQ PMBKAFKD >KA Q>UBP &LSBOK J BKQ PMBKAP QL M>V CLO QEB LOAFK>OV ?RPFKBPP LC DLSBOK J BKQ FQB J P PR@E >P K>QFLK>I ABCBKP PL@F>I PB@ROFQV >KA EB>IQE@>OB >P <:HEB PELTP 3>U OBSBKRBP FK M>OQ M>V CLO QEBPB BUMBKAFQROBP 3EB OBPRIQ J >V ?B >K FK@OB>PBP FK >DDOBD>QB AB J >KA JLOB QE>K LO IBPP QE>K QEB FK@OB>PBP FK >DDOBD>QB PRMMIV DDOBD>QB AB J >KA J >V C>FI QL FK@OB>PBP >ILKD TFQE >DDOBD>QB PRMMIV LO >DDOBD>QB AB J >KA J >V BSBK PEFCQ IBCQ CLO > KR J ?BO LC MLPPF?IB OB>PLKP ELRPBELIAP ?B@L J B EBPQ>KQ >?LRQ @LKPR J FKD CFO J P AB@FAB >D>FKPQ FKSBPQFKD >P J R@E LO MBOE>MP QEB AB J >KA COL J LQEBO @LRKQOFBP CLO BUMLOQP AF J FKFPBPP

%LO BU> J MIB FKSBPQ J BKQ ?V MOFS>QB CFO J P FK MEVPF@>I @>MFQ>I FK QEB 4 2 B@LKL J V ?LL J BA AROFKD QEB I>QB P OFPFKD COL J LC &# / FK QL FK ?BLOB C>IIFKD ?>@H QL ?V "LKSBOPBIV FC PEFCQP FK >DDOBD>QB AB J >KA ORK >EB>A LC FK@OB>PBP FK >DDOBD>QB PRMMIV FKCI>QFLK>OV FK@OB>PBP FK QEB MOF@B IBSBI TFII OBPRIQ !RPFKBPP @V@IBP LC OB@BPPFLK >KA OB@LSBOV >OB QEB @LKPNRNBK@B LC PEFCQP FK >DDOBD>QB PRMMIV >KA >DDOBD>QB AB J >KA P QEBPB L@>RO QEB DLSBOK J BKQ J >V @ELLPB QL RPB CFP@>I MLIF@V QL >AAOBPP QEB AFCCBOBK@B

%BA8G4EL (B?6L 4A7 4A> \*8:H?4G<BA PELTP RP QE>Q > @BKQO>I ?>KH @>K RPB FQP MLTBOP LSBO QEB ?>KHFKD PVPQB J QL BKD>DB FK @LRKQB@V@IF@>I b LO e>D>FKPQ QEB ?RPFKBPP @V@IBf b >@QFLKP (C OB@BPPFLK QEOB>QBKP QEB @BKQO>I ?>KH RPB >K BUM>KPFLK>OV J LKBQ>OV MLIF@V QL FK@OB>PBP QEB J LKBV PRMMIV FK@OB>PBP QEB NR>KQFQV LC IL>KP OBAR@B FKQBOBPQ O>QBP >KA PEFCQ >DDOBD>QB AB J >KA QL QEB OFDEQ (C FKCI>QFLK QEOB>QBKP QEB @BKQO>I ?>KH RPB @LKQO>@QFLK>OV J LKBQ>OV MLIF@V QL OBAR@B QEB J LKBV PRMMIV OBAR@B QEB NR>KQFQV LC IL>KP O>FPB FKQBOBPQ O>QBP >KA PEFCQ >DDOBD>QB AB J >KA QL QEB IBCQ %FP@>I MLIF@V FP >KLQEBO J >@OLB@LKL J F@ MLIF@V QLLI CLO >AGRPFKD >DDOBD>QB AB J >KA ?V RPFKD BFQEBO DLSBOK J BKQ PMBKAFKD LO Q>U>QFLK MLIF@V

KC4AF<BA4EL <F64? (B?6L

\$UM>KPFLK>OV CFP@>I MLIF@V FK@OB>PBP QEB IBSBI LC >DDOBD>QB AB J >KA QEOLRDE BFQEBO FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD LO OBAR@QFLKP FK >U O>QBP \$UM>KPFLK>OV MLIF@V @>K AL QEFP ?V FK@OB>PFKD @LKPR J MQFLK ?V O>FPFKD AFPMLP>?IB FK@L J B QEOLRDE @RQP FK MBOPLK>I FK@L J B Q>UBP LO M>VOLII Q>UBP FK@OB>PFKD FKSBPQ J BKQ PMBKAFKD ?V O>FPFKD >CQBO Q>U MOLCFQP QEOLRDE @RQP FK ?RPFKBPP Q>UBP >KA FK@OB>PFKD DLSBOK J BKQ MRO@E>PBP QEOLRDE FK@OB>PBA CBABO>I DLSBOK J BKQ

PMBKAFKD LK CFK>I DLLAP >KA PBOSF@BP >KA O>PFKD CBABO>I DO>KQP QL PQ>QB >KA IL@>I DLSBOK J BKQP QL FK@OB>PB QEBFO BUMBKAFQROBP LK CFK>I DLLAP >KA PBOSF@BP "LKQO>@QFLK>OV CFP@>I MLIF@V ALBP QEB OBSBOPB FQ AB@OB>PBP QEB IBSBI LC >DDOBD>QB AB J >KA ?V AB@OB>PFKD @LKPR J MQFLK AB@OB>PFKD FKSBPQ J BKQ >KA AB@OB>PFKD DLSBOK J BKQ PMBKAFKD BFQEBO QEOLRDE @RQP FK DLSBOK J BKQ PMBKAFKD LO FK@OB>PBP FK Q>UBP 3EB >DDOBD>QB AB J >KA >DDOBD>QB PRMMIV J LABI FP RPBORI FK GRADFKD TEBQEBO BUM>KPFLK>OV LO @LKQO>@QFLK>OV CFP@>I MLIF@V FP >MMOLMOF>QB

" LKPFABO CFPQ QEB PFQR>QFLK FK <: HE8 TEF@E FP PF J FI>O QL QEB 4 2 B@LKL J V AROFKD QEB OB@BPPFLK 3EB FKQBOPB@QFLK LC >DDOBD>QB AB J >KA # >KA >DDOBD>QB PRMMIV 2 1 2 FP L@>ROOFKD ?BILT QEB IBSBI LC MLQBKF>I &# / >P QEB +1 2 @ROSB FKAFA@>QBP Q QEB BNRFF?OFR J \$ >OB@BPPFLK L@>ROP >KA RKB J MILV J BKQ OFPBP (K QEFP @>PB BUM>KPFLK>OV CFP@>I MLIF@V RPFKD Q>U @RQP LO FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD @>K PEFCQ >DDOBD>QB AB J >KA QL # @ILPBO QL QEB CRII B J MILV J BKQ IBSBI LC LRQMRQ (K >AAQFLK QEB MOF@B IBSBI TLRIA OFPB ?>@H QL QEB IBSBI / >PPL@F>QBA TFQE MLQBKF>I &# /

<: HE8 KC4AF<BA4EL <F64? (B?<6L 4EB LOFDK>I BNRFF?OFR J % OBMOBPBKQP >OB@BPPFLK L@>ROOFKD >Q > NR>KQFV LC LRQMRQ 9 ?BILT MLQBKF>I ' \$O (LTBSBO >PEFCQ LC >DDOBD>QB AB J >KA COL J ! \$ QL ! \$ BK>@QBA QEOLRDE >K BUM>KPFLK>OV CFP@>I MLIF@V @>K J LSB QEB B@LKL J V QL > KBT BNRFF?OFR J LRQMRQ LC % >Q QEB IBSBI LC MLQBKF>I ' \$O TEF@E QEB , 2 ! 3 @ROSB PELTP 3FK@B QEB B@LKL J V T>P LOFDK>IIV MOLAR@FKD ?BILT MLQBKF>I ' \$O >KV FKCI>QFLK>OV FK@OB>PB FK QEB MOF@B IBSBI COL J O QL O QE>Q OBPRIQ PELRIA ?B OBI>QFSBIV P J >II

2ELRIA QEB DLSBOK J BKQ RPB Q>U @RQP LO PMBKAFKD FK@OB>PBP LO > J FU LC QEB QTL QL @>OOV LRQ BUM>KPFLK>OV CFP@>I MLIF@V #ROFKD QEB &OB>Q 1B@BPPFLK TEF@E PQ>OQBA >@QR>IIV FK I>QB QEB 4 2 B@LKL J V PRCCBOBA > @R J RI>QFSB ILPP LC &# / 3E>Q J >V KLQ PLRKA IFHB J R@E ?RQ FQdP J LOB QE>K LKB VB>OdP >SBO>DB DOLTQE O>QB LC &# / . SBO QE>Q QF J B CO> J B QEB RKB J MILV J BKQ O>QB ALR?IBA COL J QL 3EB @LKPBP RP SFBT FP QE>Q QEFP T>P MLPPF?IV QEB TLOPQ B@LKL J F@ ALTKRQOK FK 4 2 EFPQLOV PFK@B QEB dP &OB>Q #BMOBPPFLK 3EB @ELF@B ?BQTBBK TEBQEBO QL RPB Q>U LO PMBKAFKD QLLIP LCQBK E>P > MLIF@>I QFKDB P > DBKBO>I PQ>QB J BKQ @LKPBO>QFSBP >KA 1BMR?IF@>KP MOBCBO QL PBB BUM>KPFLK>OV CFP@>I MLIF@V @>OOFBA LRQ ?V Q>U @RQP TEFIF IF?BO>IP >KA #B J L@>QP MOBCBO QE>Q QEB DLSBOK J BKQ F J MIB J BKQ BUM>KPFLK>OV CFP@>I MLIF@V QEOLRDE PMBKAFKD FK@OB>PBP (K > ?FM>OQFP>K BCCLQ QL >AAOBPP QEB BUQOB J B PFQR>QFLK QEB . ?> J >A J FKFPQ>QFLK >KA " LKDOBPP M>PPBA >K ?FIIFLK BUM>KPFLK>OV MLIF@V FK B>OIV FKSLISFKD ?LQE Q>U @RQP >KA FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD Q QEB P> J B QF J B ELTBSBO QEB CBABO>I PQF J RIRP T>P M>OQF>IIV LCCPBQ TEBK PQ>QB >KA IL@>I DLSBOK J BKQP TELPB ?RADBP TBOB E>OA EFQ ?V QEB OB@BPPFLK ?BD>K @RQFKD QEBFO PMBKAFKD

3EB @LKCIF@Q LSBO TEF@E MLIF@V QLLI QL RPB @>K ?B CORPQO>QFKD QL QELPB TEL T>KQ QL @>QBDLOFWB B@LKL J F@>P eIF?BO>IF LO e@LKPBO>QFSB f LO TEL T>KQ QL RPB B@LKL J F@ J LABIP QL >ODRB >D>FKPQ QEBFO MLIF@>I LMLLKBKQP ' LTBSBO >ASL@>QBP LC P J >IIBO DLSBOK J BKQ TEL PBBH QL OBAR@B Q>UBP >KA DLSBOK J BKQ PMBKAFKD @>K RPB QEB # 2 J LABI >P TBII >P >ASL@>QBP LC ?FDDBO DLSBOK J BKQ TEL PBBH QL O>FPB Q>UBP >KA DLSBOK J BKQ PMBKAFKD \$@LKL J F@ PQRAFBP LC PMB@FCF@ Q>UFKD >KA PMBKAFKD MOLDO> J P @>K EBIM FKLO J AB@FPFLK ?>LRQ TEBQEBO QEB DLSBOK J BKQ PELRIA @E>KDB Q>UBP LO PMBKAFKD >KA FK TE>Q T>VP 4IQF J >QBIV AB@FPFLK ?>LRQ TEBQEBO QL RPB Q>U LO PMBKAFKD J B@E>KFP J P QL F J MIB J BKQ J >@OLB@LKL J F@ MLIF@V FP > MLIF@>I AB@FPFLK O>QEBO QE>K > MROBIV B@LKL J F@ LKB

**BAGE46G<BA4EL <F64? (B?<6L**

%FP@>I MLIF@V @>K >IPL @LKQOF?RQB QL MRPEFKD >DDOBD>QB AB J >KA ?BVLKA MLQBKF>I &# / FK > T>V QE>Q IB>AP QL FKCI>QFLK

P <:HE8 PELTP > SBOV I>ODB ?RADBQ ABCF@FQ MRPEBP RM >DDOBD>QB AB J >KA PL QE>Q QEB FKQBOPB@QFLK LC >DDOBD>QB AB J >KA # >KA >DDOBD>QB PRMMIV 21 2 L@>ROP >Q BNRHIF?OFR J \$ TEF@E FP >K LRQMRQ IBSBI >?LSB MLQBKQ>I &# / \$@LKL J FPQP PL J BQF J BP @>II QEFP >K eLSBOEB>QFKD B@LKL J V f TEBOB AB J >KA FP PL EFDE QE>Q QEBOB FP RMT>0A MOBPPROB LK T>DBP >KA MOF@BP @>RPFKD FKCI>QFLK (K QEFP PFQR>QFLK @LKKQ>@QFLK>OV CFP@>I MLIF@V FKSLISFKD CBABO>I PMBKAFKD @RQP LO Q>U FK@OB>PBP @>K EBIM QL OBAR@B QEB RMT>0A MOBPPROB LK QEB MOF@B IBSBI ?V PEFCQFKD >DDOBD>QB AB J >KA QL QEB IBCQ QL # >KA @>RPFKD QEB KBT BNRHIF?OFR J \$ QL ?B >Q MLQBKQ>I &# / TEBOB >DDOBD>QB AB J >KA FKQBOPB@QP QEB +1 2 @ROSB

<:HE8 BAGE46G<BA4EL <F64? (B?6L 4EB B@LKL J V Pq>OQP >Q QEB BNRHIF?OFR J NR>KQFV LC LRQMRQ 9 TEF@E FP >?LSB MLQBKQ>I ' \$0 4EB BUQOB J BIV EFDE IBSBI LC >DDOBD>QB AB J >KA TFII DBKBO>QB FKCI>QFLK>OV FK@OB>PBP FK QEB MOF@B IBSBI ! @LKKQ>@QFLK>OV CFP@>I MLIF@V @>K PEFCQ >DDOBD>QB AB J >KA ALTK COL J ! \$ QL ! \$ IB>AFKD QL > KBT BNRHIF?OFR J LRQMRQ % TEF@E L@>ROP >Q MLQBKQ>I ' \$0 TEBOB ! \$ FKQBOPB@QP QEB , 2 ! 3 @ROSB

D>FK QEB #a 2 J LABI ALBP KLQ AF@Q>QB ELT QEB DLSBOK J BKQ PELRIA @>00V LRQ QEFP @LKKQ>@QFLK>OV CFP@>I MLIF@V 2L J B J >V MOBCBO PMBKAFKD @RQP LQEBOP J >V MOBCBO Q>U FK@OB>PBP PQFII LQEBOP J >V P>V QE>Q FQ ABMBKAP LK QEB PMB@FCF@ PFQR>QFLK 3EB J LABI LKIV >ODRBP QE>Q FK QEFP PFQR>QFLK QEB DLSBOK J BKQ KBBAP QL OBAR@B >DDOBD>QB AB J >KA

## N HGB@4G<6 +G45?<M8EF

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d #BP@OF?B ELT QEB CBABO>I DLSBOK J BKQ @>K RPB AFP@OBQFLK>OV CFP@>I MLIF@V QL PQ>?FIFWB QEB B@LKL J V
- d (ABKQFCV BU> J MIBP LC >RQL J >QF@ PQ>?FIFWBOP
- d 4 KABOPQ>KA ELT > DLSBOK J BKQ @>K RPB PQ>KA>0AFWBA B J MILV J BKQ ?RADBQ QL FABKQFCV >RQL J >QF@ PQ>?FIFWBOP

3EB J FIIFLKP LC RKB J MILVBA FK a @LRIA @LIIB@Q RKB J MILV J BKQ FKPRO>K@B ?BKBCFQP QL OBMI>@B PL J B LC QEBFO P>I>OFPB %BABO>I CFP@>I MLIF@FBP FK@IRAB **discretionary fiscal policy** TEBK QEB DLSBOK J BKQ M>PPBP > KBT I>T QE>Q BUMIF@FQIV @E>KDBP Q>U LO PMBKAFKD IBSBIP 3EB PQF J RIRP M>@H>DB FP >K BU> J MIB "E>KDBP FK Q>U >KA PMBKAFKD IBSBIP @>K >IPL L@>RO >RQL J >QF@>IIV ARB QL **automatic stabilizers** PR@E >P RKB J MILV J BKQ FKPRO>K@B >KA CLLA PQ> J MP TEF@E >OB MOLDO> J P QE>Q >OB >IOB>AV I>TP QE>Q PQF J RI>QB >DDOBD>QB AB J >KA FK > OB@BPPFLK >KA ELIA ALTK >DDOBD>QB AB J >KA FK > MLQBKQ>IIV FKCI>QFLK>OV ?LL J

## BHA@8E54?4A6<A: \*868FF<BA 4A7 BB@

"LKPFABO CFOPQ QEB PFQR>QFLK TEBOB >DDOBD>QB AB J >KA E>P OFPBK PE>OMIV @>RPFKD QEB BNRHIF?OFR J QL L@>RO >Q > IBSBI LC LRQMRQ >?LSB MLQBKQ>I &# / 3EFP PFQR>QFLK TFII FK@OB>PB FKCI>QFLK>OV MOBPPROB FK QEB B@LKL J V 3EB MLIF@V MOBP@OFMQFLK FK QEFP PBQFKD TLRIA ?B > ALPB LC @LKKQ>@QFLK>OV CFP@>I MLIF@V F J MIB J BKQBA QEOLRDE PL J B @L J ?FK>QFLK LC EFDEBO Q>UBP >KA ILTBO PMBKAFKD 3L PL J B BUQBKQ *both* @E>KDBP E>MMBK >RQL J >QF@>IIV . K QEB Q>U PFAB > OFPB FK >DDOBD>QB AB J >KA J B >KP QE>Q TLOHOB >KA CFO J P QEOLRDEL RQ QEB B@LKL J V B>OK J LOB !B@>RPB Q>UBP >OB ?>PBA LK MBOPK>I FK@L J B >KA

@LOMLQ>QB MOLCFQP > OFPB FK >DDOBD>QB AB J >KA >RQL J >QF@>IIV FK@OB>PBP Q>U M>V J BKQP . K QEB PMBKAFKD PFAB PQQLKDBO >DDOBD>QB AB J >KA QVMF@>IIV J B>KP ILTBO RKB J MILV J BKQ >KA CBTBO I>VLCCP >KA PL QEBQB FP IBPP KBBA CLO DLSBOK J BKQ PMBKAFKD LK RKB J MILV J BKQ ?BKBCFP TBIC>OB , BAF@>FA >KA LQEBQ MOLDO> J P FK QEB PL@F>I P>CBQV KBQ

3EB MOL@BPP TLOHP FK OBSBOPB QLL (C >DDOBD>QB AB J >KA TBOB QL C>II PE>OMIV PL QE>Q > OB@BPPFLK L@>RQP QEBK QEB MOBP@OFM@FLK TLRIA ?B CLO BUM>KPFLK>OV CFP@>I MLIF@V b PL J B J FU LC Q>U @RQP >KA PMBKAFKD FK@OB>PBP 3EB ILTBO IBSBI LC >DDOBD>QB AB J >KA >KA EFDEBO RKB J MILV J BKQ TFII QBKA QL MRII ALTK MBOPLK>I FK@L J BP >KA @LOMLQ>QB MOLCFQP >K BCCB@Q QE>Q TFII OBAR@B QEB > J LRKQ LC Q>UBP LTBA >RQL J >QF@>IIV ' FDEBO RKB J MILV J BKQ >KA > TB>HBO B@LKL J V PELRIA IB>A QL FK@OB>PBA DLSBOK J BKQ PMBKAFKD LK RKB J MILV J BKQ ?BKBCFP TBIC>OB >KA LQEBQ PF J FI>O AL J BPQF@ MOLDO> J P (K QEB PQF J RIRP M>@H>DB FK@IRABA >K BUQBKPFK FK QEB QF J B >IILTBA QL @LIIB@Q RKB J MILV J BKQ FKPRO>K@B (K >AAFQFLK QEB >RQL J >QF@ PQ>?FIFWBOP OB>@Q QL > TB>HBKFKD LC >DDOBD>QB AB J >KA TFQE BUM>KPFLK>OV CFP@>I MLIF@V >KA OB>@Q QL > PQQBKDQEBKFKD LC >DDOBD>QB AB J >KA TFQE @LKKQ>@QFLK>OV CFP@>I MLIF@V GRPQ >P QEB # 2 >K>IVFP PRDDBQP

@L J ?FK>QFLK LC >RQL J >QF@ PQ>?FIFWBOP >KA AFP@OBQFLK>OV CFP@>I MLIF@V MOLAR@BA QEB SBOV I>ODB ?RADBQ ABCF@FQ FK 3EB &OB>Q 1B@BPPFLK PQ>OQFKD FK I>QB J B>KQ IBPP Q>U DBKBO>QFKD B@LKL J F@ >@QFSFQV TEFE@E QOFDDBOBA QEB >RQL J >QF@ PQ>?FIFWBOP QE>Q OBAR@B Q>UBP , LPQ B@LKL J FPQP BSBK QELPB TEL >OB @LKB@BOKBA >?LRQ > MLPPF?IB M>QQBOK LC MBOPFPQBKQIV I>ODB ?RADBQ ABCF@FQ >OB J R@E IBPP @LKB@BOKBA LO BSBK NRFQB PRMMLQFSB LC I>ODBO ?RADBQ ABCF@FQ FK QEB PELOQ ORK LC > CBT VB>OP AROFKD >KA F J J BAF>QBIV >CQBO > PBSBOP OB@BPPFLK

DI>K@B ?>@H >Q B@LKL J F@ EFPQLOV MOLSFABP > PB@LKA FIIRPQ>QFLK LC QEB MLTBO LC >RQL J >QF@ PQ>?FIFWBOP 1B J B J ?BO QE>Q QEB IBKDQE LC B@LKL J F@ RMPTFKDP ?BQTBBK OB@BPPFLK E>P ?B@L J B ILKDBO FK QEB 4 2 B@LKL J V FK OB@BKQ AB@>ABP >P TB AFP@RPPBA FK -A8@C?BL@8AG 3EB QEBOB ILKDBPQ B@LKL J F@ ?LL J P LC QEB QTBKQFBQE @BKQROV E>MMBKBA FK QEB P QEB P >KA QEB a QF J B MBOFLA . KB OB>PLK TEV QEB B@LKL J V E>P QFMBA FKQL OB@BPPFLK IBPP COBNRKBKQIV FK OB@BKQ AB@>ABP FP QE>Q QEB PFWB LC DLSBOK J BKQ PMBKAFKD >KA Q>UBP E>P FK@OB>PBA FK QEB PB@LKA E>IC LC QEB QTBKQFBQE @BKQROV 3ERP QEB >RQL J >QF@ PQ>?FIFWKD BCCB@Q COL J PMBKAFKD >KA Q>UBP >OB KLT I>ODBO QE>K QEBV TBOB FK QEB CFOPQ E>IC LC QEB QTBKQFBQE @BKQROV OLRKA CLO BU> J MIB CBABO>I PMBKAFKD T>P LKIV >?LRQ LC &# / (K GRPQ ?BCLQB QEB &OB>Q #BMOBPPFLK EFQ DLSBOK J BKQ PMBKAFKD T>P PQH GRPQ LC &# / (K QELPB B>OIFBO QF J BP QEB P J >IIBO PFWB LC DLSBOK J BKQ J >AB >RQL J >QF@ PQ>?FIFWBOP C>O IBPP MLTBOCRI QE>K FK QEB I>PQ CBT AB@>ABP TEBK DLSBOK J BKQ PMBKAFKD LCQBK ELSBOP >Q LC &# / LO J LOB

, ; 8 +G4A74E7<M87 @C?BL@8AG 89<6<G BE +HEC?HF

\$>@E VB>O QEB KLKM>OQFP>K " LKDOBPPFLK>I ! RADBQ . CCF@B " ! . @>I@RI>QBP QEB **standardized employment budget** b QE>Q FP TE>Q QEB ?RADBQ ABCF@FQ LO PROMIRP TLRIA ?B FC QEB B@LKL J V TBOB MOLAR@FKD >Q MLQBKQF>I &# / TEBOB MBLMIB TEL ILLH CLO TLOH TBOB CFKAFKD GL?P FK > OB>PLK>?IB MBOFLA LC QF J B >KA ?RPFKBPPBP TBOB J >HFKD KLO J >I MOLCFQP TFQE QEB OBPRIQ QE>Q ?LQE TLOHBOP >KA ?RPFKBPPBP TLRIA ?B B>OKFKD J LOB >KA M>VFKD J LOB Q>UBP (K BCCB@Q QEB PQ>KA>OAFWBA B J MILV J BKQ ABCF@FQ BIF J FK>QBP QEB F J M>@Q LC QEB >RQL J >QF@ PQ>?FIFWBOP <: HE8 @L J M>OBP QEB >@QR>I ?RADBQ ABCF@FQ LC OB@BKQ AB@>ABP TFQE QEB " ! . dP PQ>KA>OAFWBA ABCF@FQ



6fPQ QEFP TB?PFB EQM LMBKPQ>U@LIIBDB LOD I # " / QL IB>OK J LOB COL J QEB #LKD0BPPFLK>I " RADBQ / CCF@B



<:HE8 B@C4E<FBA B9 6GH4? H7:8G 89<6<G J<G; G;8 +G4A74E7<M87 @C?BL@8A6 89<6<G 7 EBK QEB B@LKL J V FP FK OB@BPPFLK QEB PQ>KA>0AFWBA B J MILV J BKQ ?RADBQ ABCF@FQ FP IBPP QE>K QEB >@QR>I ?RADBQ ABCF@FQ ?B@>RPB QEB B@LKL J V FP ?BILT MLQBKF>I ' \$0 >KA QEB >RQL J >QF@ PQ>?FIFWBOP >OB OBAR@FKD Q>UBP >KA FK@OB>PFKD PMBKAFKD 7 EBK QEB B@LKL J V FP MBOCLO J FKD BUQOB J BIV TBII QEB PQ>KA>0AFWBA B J MILV J BKQ ABCF@FQ LO PROMIRP FP EFDEBO QE>K QEB >@QR>I ?RADBQ ABCF@FQ LO PROMIRP ?B@>RPB QEB B@LKL J V FP MOLAR@FKD >?LRQ MLQBKF>I ' \$0 PL QEB >RQL J >QF@ PQ>?FIFWBOP >OB FK@OB>PFKD Q>UBP >KA OBAR@FKD QEB KBBA CLO DLSBOK J BKQ PMBKAFKD 3LR0@BP Actual and Cyclically Adjusted Budget Surpluses/Deficits, EQM TTT @?L DLS MR?F@>QFLK >KA Economic Report of the President, Table B-1, EQM TTT DML DLS CAPVP MHD %20 @LKQBKQ ABQ>FI EQ J I

- LQF@B QE>Q FK OB@BPPFLK VB>OP IFHB QEB B>OIV P LO QEB PQ>KA>0AFWBA B J MILV J BKQ ABCF@FQ FP P J >IIBO QE>K QEB >@QR>I ABCF@FQ #ROFKD OB@BPPFLK QEB >RQL J >QF@ PQ>?FIFWBOP QBKA QL FK@OB>PB QEB ?RADBQ ABCF@FQ PL FC QEB B@LKL J V T>P FKPQB>A >Q CRII B J MILV J BKQ QEB ABCF@FQ TLRIA ?B OBAR@BA ' LTBSBO FK QEB I>QB P QEB PQ>KA>0AFWBA B J MILV J BKQ ?RADBQ PROMIRP T>P ILTBO QE>K QEB >@QR>I ?RADBQ PROMIRP 3EB D>M ?BQTBKK QEB PQ>KA>0AFWBA ?RADBQ ABCF@FQ LO PROMIRP >KA QEB >@QR>I ?RADBQ ABCF@FQ LO PROMIRP PELTP QEB F J M>@Q LC QEB >RQL J >QF@ PQ>?FIFWBOP , LOB DBKBO>IIV QEB PQ>KA>0AFWBA ?RADBQ CFDR0BP >IILT VLR QL PBB TE>Q QEB ?RADBQ ABCF@FQ TLRIA ILLH IFHB TFQE QEB B@LKL J V EBIA @LKPQ>KQ b >Q FQP MLQBKF>I &# / IBSBI LC LRQMRQ

RQL J >QF@ PQ>?FIFWBOP L@RO NRF@HIV +LTBO T>DBP J B>KP QE>Q > ILTBO > J LRKQ LC Q>UBP FP TFQEEDIA COL J M>V@EB@HP OFDEQ >T>V ' FDEBO RKB J MILV J BKQ LO MLSBOQV J B>KP QE>Q DLSBOK J BKQ PMBKAFKD FK QELPB >OB>P OFPBP >P NRF@HIV >P MBLMIB >MMIV CLO ?BKBCFQP ' LTBSBO TEFIB QEB >RQL J >QF@ PQ>?FIFWBOP LCCPBQ M>OQ LC QEB PEFQPK FK >DDOBD>QB AB J >KA QEBV AL KLQ LCCPBQ >II LO BSBK J LPQ LC FQ ' FPQLQF@>IIV >RQL J >QF@ PQ>?FIFWBOP LK QEB Q>U >KA PMBKAFKD PFAB LCCPBQ >?LRQ LC >KV FKFQ>I J LSB J BKQ FK QEB IBSBI LC LRQMRQ 3EFP LCCPBQ J >V KLQ PBB J BKLO J LRP ?RQ FQ FP PQFII RPBCRI RQL J >QF@ PQ>?FIFWBOP IFHB PEL@H >?PLO?BOP FK > @>0 @>K ?B RPBCRI FC QEBV OBAR@B QEB F J M>@Q LC QEB TLOPQ ?R J MP BSBK FC QEBV AL KLQ BIF J FK>QB QEB ?R J MP >IQLDBQEBO

## N (E46G<64? (EB5?8@F J<G; <F6E8G<BA4EL <F64? (B?<6L

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d 4KABOP>KA ELT CFP@>I MLIF@V >KA J LKBQ>OV MLIF@V >OB FKQB0@LKKB@QBA
- d \$UMI>FK QEB QE0BB I>D QF J BP QE>Q LCQBK L@RO TEBK PLISFKD B@LKL J F@ MOL?IB J P
- d (ABKQFCV QEB IBD>I >KA MLIFQF@>I @E>IIBKDBP LC OBPMLKAFKD QL >K B@LKL J F@ MOL?IB J

(K QEB B>OIV P J >KV IB>AFKD B@LKL J FPQP ?BIFBSBA QE>Q QEB MOL?IB J LC QEB ?RPFKBPP @V@IB >KA QEB PTFKDP ?BQTBKK @V@IF@>I RKB J MILV J BKQ >KA FKCI>QFLK TB0B > QEFKD LC QEB M>PQ . K QEB @LSBO LC FQP #B@B J ?BO FPPRB Time J >D>WFKB QEBK QEB MOB J FBO KBTP J >D>WFKB FK QEB 4KFQBA 2Q>QBP 0>K > MF@QROB LC )LEK , >VK>0A \*BVKBP >KA QEB PQLOV FKPFB FABKQCFBA \*BVKBP>K QEBLOFBP >P eQEB MOF J B FKIRBK@B LK QEB TLOIADP B@LKL J FBP f 3EB >OQF@IB OBMLOQBA QE>Q MLIF@V J >HBOP E>SB eRPBA \*BVKBP>K MOFK@FMIBP KLQ LKIV QL >SLFA QEB SFLIBKQ :?RPFKBPP; @V@IBP LC MOBT>0 A>VP ?RQ QL MOLAR@B MEBKL J BK>I B@LKL J F@ DOLTQE >KA QL >@EFBSB OB J >OH>?IV PQ>?IB MOF@BP f

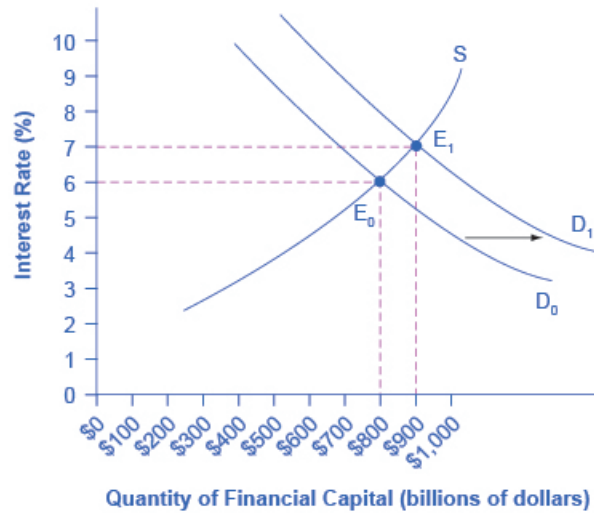
3EFP E>MMV @LKPBKPRP ELTBSBO AFA KLQ I>PQ 3EB 4 2 B@LKL J V PRCCBOBA LKB OB@BPPFLK COL J #B@B J ?BO QL -LSB J ?BO > ABBMBO OB@BPPFLK COL J -LSB J ?BO QL , >0@E >KA QEBK ALR?IB AFM OB@BPPFLK COL J

)>KR>OV (L )RKB >KA COL J )RIV QL -LSB J ?B0 Q S>OFLRP QF J BP FKCI>QLK >KA RKB J MILV J BKQ ?LQE PL>OBA "IB>OIV QEB MOL?IB J P LC J>@OLB@LKL J F@ MLIF@V E>A KLQ ?BBK @L J MIBQ BIV PLISBA P B@LKL J FPQP ?BD>K QL @LKPFABO TE>Q E>A DLKB TOLKD QEBV FABKQFCFBA >KR J ?B0 LC FPPRBP QE>Q J >HB AFP@OBQFLK>OV CFP@>I MLIF@V J LOB AFCCF@RIQ QE>K FQ E>A PBB J BA FK QEB OLPV LMQF J FP J LC QEB J FA P

<F64? (B?<6L 4A7 !AG8E8FG \*4G8F

! B@>RPB CFP@>I MLIF@V >CCB@QP QEB NR>KQFQV QE>Q QEB DLSBOK J BKQ ?LOOL TP FK CFK>K@F>I @>MFQ>I J >OHBQP FQ KLQ LKIV >CCB@QP >DDOBD>QB AB J >KA b FQ @>K >IPL >CCB@Q FKQBOPQ O>QBP (K <:HE8 QEB LOFDFK>I BNRHF?OFR J \$ FK QEB CFK>K@F>I @>MFQ>I J >OHBQ L@>ROP >Q >NR>KQFQV LC ?FIIFLK >KA >K FKQBOPQ O>QB LC 'LTBSBO >K FK@OB>PB FK DLSBOK J BKQ ?RADBQ ABCF@FQP PEFCQP QEB AB J >KA CLO CFK>K@F>I @>MFQ>I COL J # QL # 3EB KBT BNRHF?OFR J \$ L@>ROP >Q >NR>KQFQV LC ?FIIFLK >KA >K FKQBOPQ O>QB LC

@LKPBPBP BPQF J >QB ?>PBA LK >KR J ?B0 LC PQRAFP FP QE>Q >K FK@OB>PB FK ?RADBQ ABCF@FQP LO >C>II FK ?RADBQ PROMIRP ?V LC &# / TFII @>RPB >K FK@OB>PB LC a FK QEB ILKD QB0 J FKQBOPQ O>QB



<:HE8 <F64? (B?<6L 4A7 !AG8E8FG \*4G8F 7 EBK > DLSBOK J BKQ ?LOOL TP J LKBV FK QEB CFK>K@F>I @>MFQ>I J >OHBQ FQ @>RPBP > PEFCQ FK QEB AB J >KA CLO CFK>K@F>I @>MFQ>I COL J \$ QL \$ !P QEB BNRHF?OFR J JLSBP COL J % QL % QEB BNRHF?OFR J FKQBOPQ O>QB OFPBP COL J QL FK QEF BU >J MIB )K QEF T >V >K BUM>KPFLK>OV CFP@>I MLIF@V FKQBKABA QL PEFCQ >DDOBD>QB AB J >KA QL QEB OFDEQ @>K >IPL IB>A QL > EFDEBO FKQBOPQ O>QB TEF@E E>P QEB BCCB@Q LC PEFCQFKD >DDOBD>QB AB J >KA ?>@H QL QEB IBQ

MOL?IB J >OFPBP EBOB K BUM>KPFLK>OV CFP@>I MLIF@V TFQE Q>U @RQP LO PMBKAFKD FK@OB>PBP FP FKQBKABA QL FK@OB>PB >DDOBD>QB AB J >KA (C >K BUM>KPFLK>OV CFP@>I MLIF@V >IPL @>RPBP EFDEBO FKQBOPQ O>QBP QEBK CFO J P >KA ELRPBELIAP >OB AFP@LRO>DBA COL J ?LOOLTFKD >KA PMBKAFKD >P L@>ROP TFQE QFDEQ J LKBQ>OV MLIF@V QERP OBAR@FKD >DDOBD>QB AB J >KA \$SBK FC QEB AFOB@Q BCCB@Q LC BUM>KPFLK>OV CFP@>I MLIF@V LK FK@OB>PKD AB J >KA FP KLQ QLQ>IIV LCCPBQ ?V ILTBO >DDOBD>QB AB J >KA COL J EFDEBO FKQBOPQ O>QBP CFP@>I MLIF@V @>K BKA RM IBPP MLTBOCRI QE>K T>P LOFDFK>IIV BUMB@QBA 6B OBCBO QL QEFP >P **crowding out** TEBOB DLSBOK J BKQ ?LOOLTFKD >KA PMBKAFKD OBPRIQP FK EFDEBO FKQBOPQ O>QBP TEF@E OBAR@BP ?RPFKBPP FKSBPQ J BKQ >KA ELRPBELIA @LKPR J MQFLK

3EB ?OL>ABO IBPPLK FP QE>Q QEB DLSBOK J BKQ J RPQ @LLOAFK>QB CFP@>I >KA J LKBQ>OV MLIF@V (C BUM>KPFLK>OV CFP@>I MLIF@V FP QL TLOH TBII QEBK QEB @BKQ>I ?>KH @>K >IPL OBAR@B LO HBBM PELQO QB0 J FKQBOPQ O>QBP ILT "LKSOPBIV J LKBQ>OV MLIF@V @>K >IPL EBIM QL BKPROB QE>Q @LQO>@QFLK>OV CFP@>I MLIF@V ALBP KLQ IB>A QL > OB@BPPFLK

\$BA: 4A7 .4E<45?8 , <@8 \$4: F

3EB DLSBOK J BKQ @>K @E>KDB J LKBQ>OV MLIF@V PBSBO>I QF J BP B>@E VB>O ?RQ FQ Q>HBP J R@E ILKDDB QL BK>@Q CFP@>I MLIF@V (J >DFKB QE>Q QEB B@LKL J V PQ>OQP QL PILT ALTK (QLCQBK Q>HBP PL J B J LKQEP ?BCLQB QEB B@LKL J F@ PQ>QFP@P PFDK>I @IB>OIV QE>Q >ALTKQROK E>P PQ>OQBA >KA >CBT J LKQEP J LOB QL @LKCFO J QE>Q FQ FP QORIV >OB@BPPFLK >KA KLQ GRPQ >LKB LO TTL J LKQE ?IFM \$@LKL J FPQP LCQBK @>II QEB QF J B FQ Q>HBP QL ABQO J FKB QE>Q >OB@BPPFLK E>P L@>ROOBA QEB **recognition lag** CQBO QEFP I>D MLIF@V J >HBOB ?B@L J B >T>OB LC QEB MOL?IB J >KA MOLMLPB CFP@>I MLIF@V ?FIIP 3EB ?FIIP DL FKQL S>OFLRP @LKDOPPPFLK>I @L J J FQBBP CLO EB>OFKDP KBDLQ>QFLK SLQBP >KA QEBK FC M>PPBA BSBQR>IIV CLO QEB MOBPFABKQ@P

PFDK>QROB , >KV CFP@>I MLIF@V ?FIIP >?LRQ PMBKAFKD LO Q>UBP MOLMLPB @E>KDBP QE>Q TLRIA PQ>OQ FK QEB KBUQ ?RADBQ VB>O  
LO TLRIA ?B ME>PBA FK DO>AR>IIV LSBO QF J B \$@LKL J FPQP LCQBK OBCBO QL QEB QF J B FQ Q>HBP QL M>PP > ?FII >P QEB **legislative  
lag** %FK>IIV LK@B QEB DLSBOK J BKQ M>PPBP QEB ?FII FQ Q>HBP PL J B QF J B QL AFPMBOPB QEB CRKAP QL QEB >MMOLMOF>QB >DBK@FBP  
QL F J MIB J BKQ QEB MOLDO> J P \$@LKL J FPQP @>II QEB QF J B FQ Q>HBP QL PQ>OQ QEB MOLGB@QP QEB **implementation lag**

, LOBLSBO QEB BU>@Q IBSBI LC CFP@>I MLIF@V QE>Q QEB DLSBOK J BKQ PELRIA F J MIB J BKQ FP KBSBO @L J MIBQBIV @IB>O 2ELRIA  
FQ FK@OB>PB QEB ?RADBQ ABCF@FQ ?V LC &# / !V LC &# / !V LC &# / (K >K # 2 AF>DO>J FQ FP  
PQ>FDEQCLOT>OA QL PHBQ@E >K >DDOBD>QB AB J >KA @ROSB PEFCQFKD QL QEB MLQBKQF>I &# / IBSBI LC LRQMRQ (K QEB OB>I TLOIA  
TB LKIV HKLT QLRDEIV KLQ MOB@FPBIV QEB >@QR>I IBSBI LC MLQBKQF>I LRQMRQ >KA BU>@QIV ELT > PMBKAFKD @RQ LO Q>U  
FK@OB>PB TFII >CCB@Q >DDOBD>QB AB J >KA FP >IT>VP PL J B TE>Q @LKL@LSBOPF>I IPL RKHKLT K FP QEB PQ>QB LC QEB B@LKL J V  
>Q >KV MLFKQ FK QF J B #ROFKD QEB B>OIV A>VP LC QEB . ?> J >A J FKFPQ>QFLK CLO BU> J MIB KL LKB HKBT QEB QORB BUQBK LC  
QEB B@LKL J V P ABCF@FQ #ROFKD QEB CFK>K@F>I @OFFPP QEB O>MFA @LII>MPB LC QEB ?>KHFKD PVPQB J >KA >RQL J LQFSB  
PB@QL O J >AB FQ AFCCF@RIQ QL >PPBP ELT NRF@HIV QEB B@LKL J V T>P @LII>MPFKD

3ERP FQ @>K Q>HB J >KV J LKQEP LO BSBK J LOB QE>K > VB>O QL ?BDFK >K BUM>KPFLK>OV CFP@>I MLIF@V >CQBO > OB@BPPFLK E>P  
PQ>OQBA b >KA BSBK QEBK RK@BOQ>FKQV TFII OB J >FK LSBO BU>@QIV ELT J R@E QL BUM>KA LO @LKLQ>@Q Q>UBP >KA PMBKAFKD  
6 EBK MLIFQ@F>KP >QJ B M Q QL RPB @LRKQBO@V@IF@>I CFP@>I MLIF@V QL CFDEQ OB@BPPFLK LO FKCI>QFLK QEBV ORK QEB OFPH LC  
OBPMLKAFKD QL QEB J >@OLB@LKL J F@ PFQ>QFLK LC QTL LO QE0BB VB>OP >DL FK > T>V QE>Q J >V ?B BU>@QIV TOLKD CLO QEB  
B@LKL J V >Q QE>Q QF J B &BLODB / 2@ERIQW > MOLCBPPL O LC B@LKL J F@P CLO J BO 2B@OBQ>OV LC QEB 3OB>PROV >KA #FOB@QL O LC  
QEB . CCF@B LC , >K>DB J BKQ >KA !RADBQ LK@B TOLQB e 6 EFIB QEB B@LKL J FPQ FP >@@RPQL J BA QL QEB @LKL@BMQ LC I>DP QEB  
MLIFQ@F>K IFHBP FKQ>KQ OBPRIQP 3EB QBKPFK @L J BP ?B@>RBP >P ( E>SB PBBK LK J >KV L@>PFLK QEB B@LKL J FPQDP I>D FP  
QEB MLIFQ@F>KdP KFDEQ J >OB f


**,8@CBE4EL 4A7 (8E@4A8AG <F64? (B?<6L**

QB J MLO>OV Q>U @RQ LO PMBKAFKD FK@OB>PB TFII BUMIF@FQIV I>PQ LKIV CLO > VB>O LO QTL >KA QEBK OBSBOQ QL FQP LOFDK>I  
IBSBI MBO J >KBKQ Q>U @RQ LO PMBKAFKD FK@OB>PB FP BUMB@QBA QL PQ>V FK MI>@B CLO QEB CLOBPBB>?IB CRQROB 3EB BCCB@Q LC  
QB J MLO>OV >KA MBO J >KBKQ CFP@>I MLIF@FBP LK >DDOBD>QB AB J >KA @>K ?B SBOV AFCCBOBKQ " LKPFABO ELT VLR TLRIA OB>@Q  
FC QEB DLSBOK J BKQ >KKLRK@BA > Q>U @RQ QE>Q TLRIA I>PQ LKB VB>O >KA QEBK ?B OBMB>IBA FK @L J M>OFFPK TFQE ELT VLR  
TLRIA OB>@Q FC QEB DLSBOK J BKQ >KKLRK@BA > MBO J >KBKQ Q>U @RQ , LPQ MBLMIB >KA CFO J P TFII OB>@Q J LOB PQQLKDIV QL >  
MBO J >KBKQ MLIF@V @E>KDB QE>K > QB J MLO>OV LKB

3EFP C>@Q @B>QBP >K RK>SLFA>?IB AFCCF@RIQV CLO @LRKQBO@V@IF@>I CFP@>I MLIF@V 3EB >MMOLMOF>QB MLIF@V J >V ?B QL E>SB >K  
BUM>KPFLK>OV CFP@>I MLIF@V TFQE I>ODB ?RADBQ ABCF@FQ AROFKD > OB@BPPFLK >KA QEBK > @LKLQ>@QFLK>OV CFP@>I MLIF@V TFQE  
?RADBQ PROMIRPBP TEBK QEB B@LKL J V FP DOLTTFKD TBII ' LTBSBO FC ?LQE MLIF@FBP >OB BUMIF@FQIV QB J MLO>OV LKBP QEBV  
TFII E>SB > IBPP MLTBOCRI BCCB@Q QE>K > MBO J >KBKQ MLIF@V

**+GEH6GHE4? 6BAB@<6 ;4A:8 ,4>8F ,<@8**

6 EBK >K B@LKL J V OB@LSBOP COL J > OB@BPPFLK FQ ALBP KLQ RPR>IIV OBSBOQ QL FQP BU>@Q B>OIFBO PE>MB (KPQB>A QEB  
B@LKL J V P FKQBOK>I PQOR@QROB BSLISBP >KA @E>KDBP >KA QEFP MOL@BPP @>K Q>HB QF J B %LO BU> J MIB J R@E LC QEB B@LKL J F@  
DOLTQE LC QEB J FA P T>P FK QEB @LKPQOR@QFLK PB@QL O BPMB@F>IIV LC ELRPFKD >KA CFK>K@B ' LTBSBO TEBK ELRPFKD  
MOF@BP PQ>OQBA C>IIFKD FK >KA QEB OBPRIQFKD CFK>K@F>I @ORK@E IBA FKQL OB@BPPFLK >P TB AFP@RPBA FK **%BA8G4EL  
(B?<6L 4A7 4A> \*8:H?4G<BA** ?LQE PB@QL O @LKLQ>@QBA 3EB J >KRC>@QROFKD PB@QL O LC QEB 4 2 B@LKL J V E>P ?BBK  
ILPFKD GL?P FK OB@BKQ VB>OP >P TBII RKABO MOBPPROB COL J QB@EKLILDF@>I @E>KDB >KA CLOFDK @L J MBQFQFLK , >KV LC QEB  
MBLMIB TEL ILPQ TLOH COL J QEBPB PB@QL O FQ QEB &OB>Q 1B@BPPFLK TFII KBSBO OBQROK QL QEB P> J B GL?P FK  
QEB P> J B PB@QL O LC QEB B@LKL J V (KPQB>A QEB B@LKL J V TFII KBBA QL DOLT FK KBT >KA AFCCBOBKQ AFOB@QFLK >P QEB  
CLILTFKD " IB>O (Q 4M CB>QROB PELTP %FP@>I MLIF@V @>K FK@OB>PB LSBO>II AB J >KA ?RQ QEB MOL@BPP LC PQOR@QRO>I B@LKL J F@  
@E>KDB b QEB BUM>KPFLK LC > KBT PBQ LC FKARPQFBP >KA QEB J LSB J BKQ LC TLOHBOP QL QELPB FKARPQFBP b FKBSFQ>?IV Q>HBP  
QF J B

**Clear It Up** 

**/ ;L 7B =B5F I4A<F ;**

OBLMIB @>K ILPB GL?P CLO > S>OFBQV LC OB>PLKP ?B@>RBP LC > OB@BPPFLK ?RQ >IPL ?B@>RBP LC ILKDBO ORK @E>KDBP  
FK QEB B@LKL J V PR@E >P KBT QB@EKLILDV OOLAR@QFSQV F J MOLSB J BKQP FK >RQL J >KRC>@QROFKD CLO BU> J MIB @>K

OBAR@B QEB KR J ?B0 LC TLOHB0P KBBABA >KA BIFJFK>QB QEBPB GL?P FK QEB ILKD ORK 4EB FKQB0KBQ E>P @0B>QBA  
GL?P ?RQ >IPL @>RPBA GL? ILPP COL J Q0>SBI >DBKQP QL ?LLH PQL0B @IB0HP - >KV LC QEBPB GL?P J>V KBSBO @L J B  
?>@H 3EL0Q ORK CFP@>I MLIF@V QL OBAR@B RKB J MILV J BKQ @>K @0B>QB GL?P ?RQ FQ @>KKLQ 0BMI>@B GL?P QE>Q TFI KBSBO  
0BQR0K

### , ; 8 \$<@<G4G<BAF B9 <F64? (B?<6L

%FP@>I MLIF@V @>K EBIM >K B@LKL J V QE>Q FP MOLAR@FKD ?BILT FQP MLQBKF>I &# / QL BUM>KA >DD0BD>QB AB J >KA PL QE>Q  
FQ MOLAR@BP @ILPBO QL MLQBKF>I &# / QERP ILTBOFKD RKB J MILV J BKQ ' LTBSBO CFP@>I MLIF@V @>KKLQ EBIM >K B@LKL J V  
MOLAR@B >Q >K LRQMRQ IBSBI >?LSB MLQBKF>I &# / TFQELRQ @>RPFKD FKCI>QLK Q QEFP MLFKQ RKB J MILV J BKQ ?B@L J BP PL  
ILT QE>Q TLOHBOP ?B@L J B P@>0@B >KA T>DBP OFPB 0>MFAIV

## Link It Up

6FPFQ QEFP TB?PFB EQM LMBKPQ>U@LIIBDB LOD I CFP@>IMLIF@V QL 0B>A >?LRQ ELT CFP@>I MLIF@FBP >0B >CCB@QFKD QEB  
0B@LSB0V

### (B?<G<64? \*84?G<8F 4A7 <F6E8G<BA4EL <F64? (B?<6L

CFK>I MOL?IB J CLO AFP@0BQFLK>0V CFP@>I MLIF@V >0FPBP LRQ LC QEB AFCCF@RIQFBP LC BUMI>FKFKD QL MLIFQF@F>KP ELT  
@LRKQBO@V@IF@>I CFP@>I MLIF@V QE>Q ORKP >D>FKPQ QEB QFAB LC QEB ?RPFKBP @V@IB PELRIA TLOH 2L J B MLIFQF@F>KP E>SB > DRQ  
IBSBI ?BIFBC QE>Q TEBK QEB B@LKL J V >KA Q>U OBSBKRBP PILT ALTK FQ FP QF J B QL ERKHBO ALTK MFK@E MBKKFBP >KA QOF J  
BUMBKBPB "LRKQBO@V@IF@>I MLIF@V ELTBSBO P>VP QE>Q TEBK QEB B@LKL J V E>P PILTBA FQ FP QF J B CLO QEB DLSBOK J BKQ QL  
PQF J RI>QB QEB B@LKL J V 0>FPFKD PMBKAFKD >KA @RQFKD Q>UBP 3EFP LCCBPQ QEB AOLM FK QEB B@LKL J V FK QEB LQEB0 PB@QL0P  
"LKSOPBIV TEBK B@LKL J F@ QF J BP >0B DLLA >KA Q>U OBSBKRBP >0B OLIFKD FK MLIFQF@F>KP LCQBK CBBI QE>Q FQ FP QF J B CLO Q>U  
@RQP >KA KBT PMBKAFKD ' LTBSBO @LRKQBO@V@IF@>I MLIF@V P>VP QE>Q QEFP B@LKL J F@ ?LL J PELRIA ?B >K >MMOLMOF>QB QF J B  
CLO HBBMFKD Q>UBP EFDE >KA 0BPQ0>FKFKD PMBKAFKD

/LIFQF@F>KP QBKA QL M0CBCO BUM>KPFLK>0V CFP@>I MLIF@V LSBO @LKQ0>@QFLK>0V MLIF@V 3EBOB FP 0>0BIV >PELOQ>DB LC MOLMLP>IP  
CLO Q>U @RQP >KA PMBKAFKD FK@0B>PBP BPMB@F>IIV AROFKD 0B@BPPFLKP ' LTBSBO MLIFQF@F>KP >0B IBPP TFIIFKD QL EB>0 QEB  
JBPP>DB QE>Q FK DLLA B@LKL J F@ QF J BP QEBV PELRIA MOLMLPB Q>U FK@0B>PBP >KA PMBKAFKD IF J FQ (K QEB B@LKL J F@  
RMPTFKD LC QEB I>QB P >KA B>0IV P CLO BU>J MIB QEB 4 2 &# / DOBT 0>MFAIV \$PQF J >QBP COL J 0BPMB@QBA  
DLSBOK J BKQ B@LKL J F@ CLOB@>PQBOP IFHB QEB KLKM>QFP>K "LKDOBPPFLK>I !RADBQ .CCF@B >KA QEB .CCF@B LC , >K>DB J BKQ  
>KA !RADBQ PQ>QBA QE>Q QEB &# / T>P >?LSB MLQBKF>I &# / >KA QE>Q RKB J MILV J BKQ 0>QBP TBOB RKPRPQ>FK>?IV ILT  
' LTBSBO KL J >FKPQ0B> J MLIFQF@F>K QLLH QEB IB>A FK P>VFKD QE>Q QEB ?LL J FKD B@LKL J F@ QF J BP J FDEQ ?B >K >MMOLMOF>QB  
QF J B CLO PMBKAFKD @RQP LO Q>U FK@0B>PBP P LC %B?0R>0V /0BPFABKQ 30R JM E>P BUMOBPPBA MI>KP QL FK@0B>PB  
PMBKAFKD LK K>QFLK>I ABCBKP ?V LO ?FIIFLK FK@0B>PB FKCO>PQR@QROB FKSBPQ J BKQ ?V QOFIIFLK @RQ @LOML0>QB  
>KA MBOPLK>I FK@L J B Q>UBP >II TEFIB J >FKQ>FKFKD QEB BUFPQFKD PMBKAFKD LK 2L@F>I 2B@ROFQV >KA , BAF@>0B 3EB LKIV  
T>V QEFP J >QE >AAP RM FP TFQE >PFWB>?IB FK@0B>PB FK QEB %BABA>I ?RADBQ ABCF@FQ

### <F6E8G<BA4EL <F64? (B?<6L +H@@<A: -C

\$UM>KPFLK>0V CFP@>I MLIF@V @>K EBIM QL BKA 0B@BPPFLK >KA @LKQ0>@QFLK>0V CFP@>I MLIF@V @>K EBIM QL OBAR@B FKCI>QLK  
&FSBK QEB RK@B0Q>FKQFBP LSBO FKQB0BPQ 0>QB BCCB@QP QF J B I>DP QB J MLO>0V >KA MBO J >KBKQ MLIF@FBP >KA RKM0BAF@Q>?IB  
MLIFQF@>I ?BE>SFL0 J >KV B@LKL J FQP >KA HKL TIBADB>?IB MLIF@V J >HBOP E>A @LK@IRABA ?V QEB J FA P QE>Q  
AFP@0BQFLK>0V CFP@>I MLIF@V T>P > ?IRKQ FKPQR J BKQ J LOB IFHB > @IR? QE>K > P@>IMBI (Q J FDEQ PQFII J >HB PBKPB QL RPB

FQ FK BUQOB J B B@LKL J F@ PFQR>QLKP IFHB >K BPMB@F>IIV ABBM LO ILKD OB@BPPFLK %LO IBPP BUQOB J B PFQR>QLKP FQ T>P LCQBK MOBCBO>?IB QL IBQ CFP@>I MLIF@V TLOH QEOLRDE QEB >RQL J >QF@ PQ>?FIFWBOP >KA CL@RP LK J LKBQ>OV MLIF@V QL PQBBO PELOQ QBO J @LRKQBO@V@IF@>I BCCLQOP

## N , ; 8 ) H8FG<BA B9 4 4?4A687 H7 : 8G

! V QEB BKA LC QEFB PB@QLFK VLR TFII ?B >?IB QL

- d 4KABOP>KA QEB >ODR J BKQP CLO >KA >D>FKPQ OBNRFOFKD QEB 4 2 CBABO>I ?RADBQ QL ?B ?>I>K@BA
- d "LKPFBABO QEB ILKD ORK >KA PELOQ ORK BCCB@QP LC > CBABO>I ?RADBQ ABCF@FQ


%LO J >KV AB@>ABP DLFKD ?>@H QL QEB P S>OFLRP IBDFPI>QLOP E>SB MRQ CLO T>OA MOLMLP>IP QL OBNRFOB QE>Q QEB 4 2 DLSBOK JBKQ ?>I>K@B FQP ?RADBQ BSOV VB>O (K > MOLMLPBA @LKPQFQRQFLK>I > J BKA JBKQ QE>Q TLRIA OBNRFOB > ?>I>K@BA ?RADBQ M>PPBA QEB 4 2 'LRPB LC 1BMOBPPKQ>QFSBP ?V > TFAB J >ODFK >KA C>FIBA FK QEB 4 2 2BK>QB ?V LKIV > PFKDIB SLQB %LO QEB ?>I>K@BA ?RADBQ QL E>SB ?B@L J B >K > J BKA JBKQ QL QEB "LKPQFQRQFLK TLRIA E>SB OBNRFOBA > QTL QEFQAP SLQB ?V "LKDOBPP >KA M>PP>DB ?V QE0BB NR>OQBOP LC QEB PQ>QB IBDFPI>QROBP

, LPQ B@LKL J FQP SFBT QEB MOLMLP>IP CLO > MBOMBQR>IIV ?>I>K@BA ?RADBQ TFQE ?B J RPB JBKQ CQBO >II FK QEB PELOQ QBO J B@LKL J FQP TLRIA BUMB@Q QEB ?RADBQ ABCF@FQP >KA PROMIRPBP QL CIR@QR>QB RM >KA ALTK TFQE QEB B@LKL J V >KA QEB >RQL J >QF@ PQ>?FIFWBOP \$@LKL J F@ OB@BPPFLK PELRIA >RQL J >QF@>IIV IB>A QL I>ODBO ?RADBQ ABCF@FQP LO P J >IIBO ?RADBQ PROMIRPBP TEFIB B@LKL J F@ ?LL J P IB>A QL P J >IIBO ABCF@FQP LO I>ODBO PROMIRPBP OBNRFOB JBKQ QE>Q QEB ?RADBQ ?B ?>I>K@BA B>@E >KA BSOV VB>O TLRIA MOBSBKQ QEBPB >RQL J >QF@ PQ>?FIFWBOP COL J TLOHFKD >KA TLRIA TLOPBK QEB PBSBOFQV LC B@LKL J F@ CIR@QR>QFLKP

2L J B PRMMLQOBOP LC QEB ?>I>K@BA ?RADBQ > J BKA JBKQ IFHB QL >ODRB QE>Q PFK@B ELRPBELIAP J RPQ ?>I>K@B QEBFO LTK ?RADBQ QEB DLSBOK JBKQ PELRIA QLL 'LTBSBO QEFB >K>ILDV ?BQTBBK ELRPBELIA >KA DLSBOK JBKQ ?BE>SFLO FP PBSBOBIV CI>TBA , LPQ ELRPBELIAP AL KLQ ?>I>K@B QEBFO ?RADBQ BSOV VB>O 2L J B VB>OP ELRPBELIAP ?LOOLT QL ?RV ELRPBP LO @>OP LO QL M>V CLO J BAF@>I BUMBKPPB LO @LIIBDB QRQFLK . QEBO VB>OP QEBV OBM>V IL>KP >KA P>SB CRKAP FK OBQFOB JBKQ >@@LRKQP CQBO OBQFOB JBKQ QEBV TFQEAO>T >KA PMBKA QELPB P>SFKDP IPL QEB DLSBOK JBKQ FP KLQ > ELRPBELIA CLO J >KV OB>PLKP LKB LC TEF@E FP QE>Q QEB DLSBOK JBKQ E>P J >@OLB@LKL J F@ OBPMLKPF?FIFQFBP 3EB >ODR JBKQ LC \*BVKBPF>K J >@OLB@LKL J F@ MLIF@V FP QE>Q QEB DLSBOK JBKQ KBBAP QL IB>K >D>FKPQ QEB TFKA PMBKAFKD TEBK QF J BP >OB E>OA >KA P>SFKD TEBK QF J BP >OB DLLA CLO QEB P>HB LC QEB LSBO>II B@LKL J V

3EBOB FP >IPL KL M>OQF@RI>O OB>PLK QL BUMB@Q > DLSBOK JBKQ ?RADBQ QL ?B ?>I>K@BA FK QEB J BAFR J QBO J LC > CBT VB>OP %LO BU> J MIB > DLSBOK JBKQ J >V AB@FAB QE>Q ?V ORKKFKD I>ODB ?RADBQ ABCF@FQP FQ @>K J >HB @OR@F>I ILKD QBO J FKSBPQ JBKQ FK ER J >K @>MFQ>I >KA MEVPF@>I FKCO>PQOR@QROB QE>Q TFII ?RHIA QEB @LRKQOV P ILKD QBO J MOLAR@QFSQV 3EBPB AB@FPFLKP J >V TLOH LRQ TBII LO MLLQIV ?RQ QEBV >OB KLQ >IT>VP FOO>QFLK>I 2R@E MLIF@FBP LC LKDLFKD DLSBOK JBKQ ?RADBQ ABCF@FQP J >V MBOPFPQ CLO AB@>ABP P QEB 4 2 BUMBOFBK@B COL J QEB BKA LC 6LOIA 6>O (( RM QL >?LRQ PELTP FQ FP MBOCB@QIV MLPPF?IB QL ORK ?RADBQ ABCF@FQP >I J LPQ BSOV VB>O CLO AB@>ABP ?RQ >P ILKD >P QEB MBO@BKQ>DB FK@OB>PBP FK AB?Q >OB P J >IIBO QE>K QEB MBO@BKQ>DB DOLTQE LC &# / QEB AB?Q &# / O>QL TFII AB@IFKB >Q QEB P> J B QF J B

- LQEFKD FK QEFB >ODR J BKQP FP > @I>F J QE>Q ?RADBQ ABCF@FQP >OB >IT>VP > TFPB MLIF@V (K QEB PELOQ ORK > DLSBOK JBKQ QE>Q ORKP > SBOV I>ODB ?RADBQ ABCF@FQ @>K PEFCQ >DDOBD>QB AB J >KA QL QEB OFDEQ >KA QOFDDBO PBSBOB FKCI>QLK AAFQFLK>IIV DLSBOK JBKQ J >V ?LOOLT CLO CLLIFPE LO F J M O>@QF@>I OB>PLKP , ; 8 !@C46GF B9 B18EA@8AG BEEBJ<A: TFII AFP@RPP ELT I>ODB ?RADBQ ABCF@FQP ?V OBAR@FKD K>QFLK>I P>SFKD @>K FK @BOQ>FK @>PBP OBAR@B B@LKL J F@ DOLTQE >KA BSBK @LKKQF?RQB QL FKQBOK>QFLK>I CFK>K@F>I @OFPBP OBNRFOB JBKQ QE>Q QEB ?RADBQ ?B ?>I>K@BA FK B>@E @>IBKA>O VB>O ELTBSBO FP > J FPDFRABA LSBBOB>@QFLK QL QEB CB>O QE>Q FK PL J B @>PBP ?RADBQ ABCF@FQP @>K ?B@L J B QLL I>ODB



### &B 18??B J F G B A 8 ( 4E>

4EB CBABO>I ?RADBQ PERQALTK FIIRPQ>QBA QEB J >KV PFBAP QL CFP@>I MLIF@V >KA QEB CBABO>I ?RADBQ )K 2BMR?IF@>KP >KA \$B J L @>QP @LRIA KLQ >DOBB LK TEF@E PMBKAFKD MLIF@FBP QL CRKA >KA ELT I>ODB QEB DLSBOK JBKQ AB?Q PELRIA ?B \$RB QL QEB PBSBOFQV LC QEB OB@BPPFLK QEB CFP@>I PQF J RIRP >KA MOBSFLRP

MLIF@FBP QEB CBAB0>I ?RADBQ ABCf@fQ >KA AB?Q T>P EFPQLOf@>IIV EFDE / KB T>V QL QOV QL @RQ CBAB0>I PMBKAFKD >KA  
?L00LTFKD T>P QL OBCRPB QL O>FPB QEB IBD>I CBAB0>I AB?Q IF J FQ LO QFB LK @LKAfQfLKP QL >MMOLMOF>QFLK ?FIIP QL PQLM  
QEB !CCLOA>?IB ( B>IQE #>OB !@Q 4EFP AFP>DOBB J BKQ IBA QL > QTL TBBH CBAB0>I DLSB0K J BKQ PERQALTK >KA DLQ  
@ILPB QL QEB AB>AIFKB TEB0B QEB CBAB0>I DLSB0K J BKQ TLRIA ABC>RIQ LK fQP 40B>PROV ?LKAP &fK>IIV ELTBSB0 >  
@L J MOL J fPB B J B0DBA >KA QEB DLSB0K J BKQ >SLFABA ABC>RIQ 4EFP PELTP @IB>OIV ELT @ILPBIV fP@>I MLIF@FBP >OB  
QfBA QL MLIF@fP

# # 1 , \*%+

4HG6@46<6 F645<?<M8EF Q>U >KA PMBKAFKD ORIBP QE>Q E>SB QEB BCCB@Q LC PIL TFKD AL TK QEB 0>QB LC AB@OB>PB FK >DDOBD>QB  
AB J >KA TEBK QEB B@LKL J V PIL TP AL TK >KA OBPQ0>FKFKD >DDOBD>QB AB J >KA TEBK QEB B@LKL J V PMBBAP RM T FQELRQ  
>KV >AAFQFLK>I @E>KDB FK IBDFPI>QFLK

54?4A687 5H7 : 8G TEBK DLSBOK J BKQ PMBKAFKD >KA Q>UBP >OB BNR>I

5H7 : 8G 789<6<G TEBK QEB CBAB0>I DLSBOK J BKQ PMBKAP J L0B J LKBV QE>K FQ OB@BFSBP FK Q>UBP FK > DFSBK VB>0

5H7 : 8G FHEC?HF TEBK QEB DLSBOK J BKQ OB@BFSBP J L0B J LKBV FK Q>UBP QE>K FQ PMBKAP FK > VB>0

6BAGE46G<BA4EL 9<F64? CB?<6L CFP@>I MLIF@V QE>Q AB@OB>PBP QEB IBSBI LC >DDOBD>QB AB J >KA BFQEBO QEOLRDE @RQP FK  
DLSBOK J BKQ PMBKAFKD L0 FK@OB>PBP FK Q>UBP

6BECBE468 <A6B@8 64K > Q>U F J MLPBA LK @LOML0>QB MOLCFQP

6EB J 7<A : BHG CBAB0>I PMBKAFKD >KA ?L0OL TFKD @>RPBP FKQBOBPQ 0>QBP QL OFPB >KA ?RPFKBPP FKSBPQ J BKQ QL C>II

7<F6E8<BA4EL 9<F64? CB?<6L QEB DLSBOK J BKQ M>PPBP > KBT I>T QE>Q BUMIF@FQIV @E>KDBP L\$B0>II Q>U L0 PMBKAFKD IBSBIP  
TFQE QEB FKQBKQ LC FKCIRBK@FKD QEB IBSBI L0 L\$B0>II B@LKL J F@ >@QFSFQV

8F64G8 4A7 : <9G 64K > Q>U LK MBLMIB TEL M>PP >PPBP QL QEB KBUQ DBKB0>QFLK b BFQEBO >CQBO AB>QE L0 AROFKD IFCB FK QEB CLO J  
LC DFCQP

8K6<F8 64K > Q>U LK > PMB@FCF@ DLLA b LK D>PLIFKB QL?>@@L >KA >I@LELI

8KC4AF<BA4EL 9<F64? CB?<6L CFP@>I MLIF@V QE>Q FK@OB>PBP QEB IBSBI LC >DDOBD>QB AB J >KA BFQEBO QEOLRDE FK@OB>PBP FK  
DLSBOK J BKQ PMBKAFKD L0 @RQP FK Q>UBP

<@C?8@8AG4<BA ?4 : QEB QF J B FQ Q>HBP CLO QEB CRKAP OBI>QFKD QL CFP@>I MLIF@V QL ?B AFPMBOPBA QL QEB >MMOLMOF>QB >DBK@FBP QL  
F J MIB J BKQ QEB MOLDO> J P

<A7<I<7H4? <A6B@8 64K > Q>U ?>PBA LK QEB FK@L J B LC >II CLO J P OB@BFSBA ?V FKAF\$FAR>IP

?8 : <F?4G<I8 ?4 : QEB QF J B FQ Q>HBP QL DBQ > CFP@>I MLIF@V ?FII M>PPBA

@4E : <A4? 64K E4G8F L0 QEB Q>U QE>Q J RPQ ?B M>FA LK >II VB>OIV FK@L J B

A4G<BA4? 785G QEB QLQ>I >@@R J RI>QBA > J LRKQ QEB DLSBOK J BKQ E>P ?L0OLTBA L\$B0 QF J B >KA KLQ VBQ M>FA ?>@H

C4LEB?? 64K > Q>U ?>PBA LK QEB M>V OB@BFSBA COL J B J MILVBOP QEB Q>UBP MOL\$FAB CRKAP CLO 2L@F>I 2B@ROFQV >KA , BAF@>OB

CEB : E8FF<I8 64K > Q>U QE>Q @LIIB@QP > DOB>QBO PE>OB LC FK@L J B COL J QELPB TFQE EFDE FK@L J BP QE>K COL J QELPB TFQE IL TBO  
FK@L J BP

CEBCBEG<BA4? 64K > Q>U QE>Q FP > CI>Q MBO@BKQ>DB LC FK@L J B B>OKBA OBD>OAI\$BPP LC IBSBI LC FK@L J B

E86B : A<G<BA ?4 : QEB QF J B FQ Q>HBP QL ABQBO J FKB QE>Q > OB@BPPFLK E>P L@>R0OBA

E8 : E8FF<I8 64K > Q>U FK TEF@E MBLMIB TFQE EFDEBO FK@L J BP M>V > P J >IIBO PE>OB LC QEBFO FK@L J B FK Q>U

F64A74E7<M87 8@C?BL@8AG 5H7 : 8G QEB ?RADBQ ABCF@FQ L0 PROMIRP FK >KV DFSBK VB>0 >AGRPQBA CLO TE>Q FQ TLRIA E>SB  
?BBK FC QEB B@LKL J V TBOB MOLAR@FKD >Q MLQBKF>I &# /

# # 1 ' & ( , + & + - % % \* 1

## B18EA@8A@ +C8A7<A:

%FP@>I MLIF@V FP QEB PBQ LC MLIF@FBP QE>Q OBI>QB QL CBABO>I DLSBOK J BKQ PMBKAFKD Q>U>QLK >KA ?LOOLTFKD (K OB@BKQ AB@>ABP QEB IBSBI LC CBABO>I DLSBOK J BKQ PMBKAFKD >KA Q>UBP BUMOBPPBA >P > PE>OB LC &# / E>P KLQ @E>KDBA JR@E QVMF@>IIV CIR@QR>QFKD ?B@TBBK >?LRQ QL LC &# / ' LTBSBO QEB IBSBI LC PQ>QB PMBKAFKD >KA Q>UBP >P > PE>OB LC &# / E>P OFPBK COL J >?LRQ a QL >?LRQ LC &# / LSBO QEB I>PQ CLRO AB@>ABP 3EB CLRO J >FK >OB>P LC CBABO>I PMBKAFKD >OB K>QLK>I ABCBKP 2L@F>I 2B@ROFQV EB>IQE@>OB >KA FKQBOBPQ M>V J BKQP TEF@E QLDBQEBO >@@LRKQ CLO >?LRQ LC >II CBABO>I PMBKAFKD 6EBK > DLSBOK J BKQ PMBKAP J LOB QE>K FQ @LIIB@QP FK Q>UBP FQ FP P>FA QL E>SB > ?RADBQ ABCF@FQ 6EBK > DLSBOK J BKQ @LIIB@QP J LOB FK Q>UBP QE>K FQ PMBKAP FQ FP P>FA QL E>SB > ?RADBQ PROMIRP (C DLSBOK J BKQ PMBKAFKD >KA Q>UBP >OB BNR>I FQ FP P>FA QL E>SB > ?>I>K@BA ?RADBQ 3EB PR J LC >II M>PQ ABCF@FQ >KA PROMIRPBP J >HB RM QEB DLSBOK J BKQ AB?Q

## ,4K4@BA

3EB QTL J >FK CBABO>I Q>UBP >OB FKAFSFAR>I FK@L J B Q>UBP >KA M>VOLII Q>UBP QE>Q MOLSFAB CRKAP CLO 2L@F>I 2B@ROFQV >KA , BAF@>OB QEBPB Q>UBP QLDBQEBO >@@LRKQ CLO J LOB QE>K LC CBABO>I OBSBKRBP .QEBO CBABO>I Q>UBP FK@IRAB QEB @LOMLO>QB FK@L J B Q>U BU@FPB Q>UBP LK >I@LELI D>PLIFKB >KA QL?>@L >KA QEB BPQ>QB >KA DFCQ Q>U MOLDOBPPFSB Q>U FP LKB IFHB QEB CBABO>I FK@L J B Q>U TEBOB QELPB TFQE EFDEBO FK@L J BP M>V > EFDEBO PE>OB LC Q>UBP LRQ LC QEBFO FK@L J B QE>K QELPB TFQE ILTBO FK@L J BP MOLMLQFLK>I Q>U FP LKB IFHB QEB M>VOLII Q>U CLO , BAF@>OB TEBOB BSOVLKB M>VP QEB P> J B PE>OB LC Q>UBP OBD>OAIPPP LC FK@L J B IBSBI OBDOPPPFSB Q>U FP LKB IFHB QEB M>VOLII Q>U >?LSB > @BQ>FK QEOPPELIA QE>Q PRMMLQOP 2L@F>I 2B@ROFQV TEBOB QELPB TFQE EFDE FK@L J B M>V > ILTBO PE>OB LC FK@L J B FK Q>UBP QE>K QELPB TFQE ILTBO FK@L J BP

## 878E4? 89<6<6F 4A7 G ; 8 &4@BA? 85@

%LO J LPQ LC QEB QTBKQFBQE @BKQROV QEB 4 2 DLSBOK J BKQ QLLH LK AB?Q AROFKD T>OQF J B >KA QEBK M>FA ALTK QE>Q AB?Q PILTIV FK MB>@BQF J B ' LTBSBO FQ QLLH LK NRFQB PR?PQ>KQF>I AB?Q FK MB>@BQF J B FK QEB P >KA B>OIV P ?BCLOB > ?OFBC MBOFLA LC ?RADBQ PROMIRPBP COL J QL CLILITBA ?V > OBQROK QL >KKR>I ?RADBQ ABCF@FQ PFK@B TFQE SBOV I>ODB ABCF@FQ FK QEB OB@BPPFLK LC >KA ?RADBQ ABCF@FQ LO ?RADBQ PROMIRP FP J B>PROBA >KKR>IIV 3LQ>I DLSBOK J BKQ AB?Q LO K>QLK>I AB?Q FP QEB PR J LC ?RADBQ ABCF@FQ >KA ?RADBQ PROMIRPBP LSBO QF J B

## -F<A: <F64? (B?<6L GB <: ; G \*868FF<BA -A8@C?BL@8A@ 4A7 !A9?4@BA

\$UM>KPFLK>OV CFP@>I MLIF@V FK@OB>PBP QEB IBSBI LC >DDOBD>QB AB J >KA BFQEBO QEOLRDE FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD LO QEOLRDE OBAR@QLFKP FK Q>UBP \$UM>KPFLK>OV CFP@>I MLIF@V FP J LPQ >MMOLMOF>QB TEBK >K B@LKL J V FP FK OB@BPPFLK >KA MOLAR@FKD ?BILT FQ MLQBKF>I &# / "LKQ@>QLK>OV CFP@>I MLIF@V AB@OB>PBP QEB IBSBI LC >DDOBD>QB AB J >KA BFQEBO QEOLRDE @RQP FK DLSBOK J BKQ PMBKAFKD LO FK@OB>PBP FK Q>UBP "LKQ@>QLK>OV CFP@>I MLIF@V FP J LPQ >MMOLMOF>QB TEBK >K B@LKL J V FP MOLAR@FKD >?LSB FQ MLQBKF>I &# /

## HGB@4@<6 +G45<?M8EF

%FP@>I MLIF@V FP @LKAR@QBA ?LQE QEOLRDE AFP@OBQFLK>OV CFP@>I MLIF@V TEF@E L@@ROP TEBK QEB DLSBOK J BKQ BK>@P Q>U>QLK LO PMBKAFKD @E>KDBP FK OBPMMLKPB QL B@LKL J F@ BSBKQP LO QEOLRDE >RQL J >QF@ PQ>?HFWBOP TEF@E >OB Q>UFKD >KA PMBKAFKD J B@E>KFP J P QE>Q ?V QEBFO ABPFDK PEFQ FK OBPMMLKPB QL B@LKL J F@ BSBKQP TFQELRQ >KV CROQEBO IBDFPI>QLK 3EB PQ>KA>OAFWBA B J MILV J BKQ ?RADBQ FP QEB @>I@RI>QLK LC TE>Q QEB ?RADBQ ABCF@FQ LO ?RADBQ PROMIRP TLRIA E>SB ?BBK FK > DFSBK VB>O FC QEB B@LKL J V E>A ?BBK MOLAR@FKD >Q FQ MLQBKF>I &# / FK QE>Q VB>O , >KV B@LKL J FPQP >KA MLIF@F>KP @OFQF@FWB QEB RPB LC CFP@>I MLIF@V CLO > S>OFBQV LC OB>PLKP FK@IRAFKD @LK@BOKP LSBO QF J B I>DP QEB F J M>@Q LK FKQBOBPQ O>QBP >KA QEB FKEBOBKQIV MLIF@F>I K>QROB LC CFP@>I MLIF@V 6B @LSBO QEB @OFQFNRB LC CFP@>I MLIF@V FK QEB KBUQ J LARIB

## (E46@64? (EB5?8@F J G ; <F6E8@BA4EL <F64? (B?<6L

!B@>RPB CFP@>I MLIF@V >CCB@QP QEB NR>KQFQV LC J LKVB QE>Q QEB DLSBOK J BKQ ?LOOLTP FK CFK>K@F>I @>MFQ>I J >OHBQP FQ KLQ LKIV >CCB@QP >DDOBD>QB AB J >KA b FQ @>K >IPL >CCB@Q FKQBOBPQ O>QBP (C >K BUM>KPFLK>OV CFP@>I MLIF@V >IPL @>RPBP EFDEBO FKQBOBPQ O>QBP QEBK CFO J P >KA ELRPBELIAP >OB AFP@LRO>DBA COL J ?LOOLTFKD >KA PMBKAFKD OBAR@FKD >DDOBD>QB AB J >KA FK > PFR>QLK @>IIBA @QLTAFKD LRQ &#SBK QEB RK@BOQ>FKQFBP LSBO FKQBOBPQ O>QB BCCB@QP QF J B I>DP F J MIB J BKQ>QLK I>D IBDFPI>QFSB I>D >KA OB@LDKQFLK I>D QB J MLO>OV >KA MBO J >KBKQ MLIF@FBP >KA RKMBAF@Q>?IB MLIF@F>I ?BE>SFLO J >KV B@LKL J FPQP >KA HKLTIBADB>?IB MLIF@V J >HBOP E>SB @LK@IRABA QE>Q AFP@OBQFLK>OV CFP@>I MLIF@V FP > ?IRKQ FKPQOR J BKQ >KA ?BQQBO RPBA LKIV FK BUQOB J B PFR>QLK



, ; 8 ) H8FG<BA B9 4 4?4A687 H7 : 8G

!>I>K@BA ?RADBQ >J BKA J BKQP >OB > MLMRI>O MLIF@>I FAB> ?RQ QEB B@LKL J F@ J BOFQP ?BEFKA PR@E MOLMLP>IP >OB NRBPF@FLK>?IB , LPQ B@LKL J FQP >@BMQ QE>Q CFP@>I MLIF@V KBBAP QL ?B CIBUF?IB BKL RDE QL >@L J J LA>QB RKCLOBPBBK BUMBKAFQROBP PR@E >P T>OP LO OB@BPPFLKP 6 EFIB MBOPFPQBKQ I>ODB ?RADBQ ABCF@FQP @>K FKABBA ?B > MOL?IB J > ?>I>K@BA ?RADBQ >J BKA J BKQ MOBSBKQP BSBK P J >II QB J MLO>OV ABCF@FQP QE>Q J FDEQ FK PL J B @>PBP ?B KB@BPP>OV

+ \$ # ) - + , ! ' & +

6 EBK DLSBOK J BKQP ORK ?RADBQ ABCF@FQP ELT AL QEBV J >HB RM QEB AFCCBOK@BP ?BQTBBK Q>U OBSBKRB >KA PMBKAFKD

6 EBK DLSBOK J BKQP ORK ?RADBQ PROMIRPBP TE>Q FP ALKB TFQE QEB BUQO> CRKAP

(P FQ MLPPF?IB CLO > K>QFLK QL ORK ?RADBQ ABCF@FQP >KA PQFII E>SB FQP AB?Q &# / O>QFL C>II \$UMI>FK VLRO >KPTBO (P FQ MLPPF?IB CLO > K>QFLK QL ORK ?RADBQ PROMIRPBP >KA PQFII E>SB FQP AB?Q &# / O>QFL OFPB \$UMI>FK VLRO >KPTBO

2RMLPB QE>Q DFCQP TBOB Q>UBA >Q > O>QB LC CLO > J LRKQP RM QL >KA CLO >KVQEFKD LSBO QE>Q > J LRKQ 6 LRIA QEFP Q>U ?B OBDOPPPFSB LO MOLDOPPPFSB

(C >K FKAFSFAR>I LTKP > @LOMLO>QFLK CLO TEF@E EB FP QEB LKIV B J MILVBB TEF@E AFCCBOKQ QVMBP LC CBABO>I Q>U TFII EB E>SB QL M>V

6 E>Q Q>UBP TLRIA >K FKAFSFAR>I M>V FC EB TBOB PBIC B J MILVBA >KA QEB ?RPFKBPP FP KLQ FK@LOMLO>QBA

3EB PL@F>I PB@ROFQV Q>U FP LK B J MILVBBP@ FK@L J B B>OKBA ?BILT (P QEFP Q>U MOLDOPPPFSB OBDOPPPFSB LO MOLMLQFLK>I

#B?Q E>P > @BOQ>FK PBIC OBFKCLO@FKD NR>IFQV QL FQ 3EBOB FP LKB @>QBDLOV LC DLSBOK J BKQ PMBKAFKD QE>Q >RQL J >QF@>IIV FK@OB>PBP >ILKD TFQE QEB CBABO>I AB?Q 6 E>Q FP FQ

3ORB LO %>IPB

> %BABO>I PMBKAFKD E>P DOLTK PR?PQ>KQF>IIV FK OB@BKQ AB@>ABP

? !V TLOIA PQ>KA>OAP QEB 4 2 DLSBOK J BKQ @LKLQOLIP > OBI>QFSBIV I>ODB PE>OB LC QEB 4 2 B@LKL J V

@ J >GLOFV LC QEB CBABO>I DLSBOK J BKQP OBSBKRB FP @LIIB@QBA QEOLRDE MBOPLK>I FK@L J B Q>UBP

A \$AR@>QFLK PMBKAFKD FP PIFDEQIV I>ODBO >Q QEB CBABO>I IBSBI QE>K >Q QEB PQ>QB >KA IL@>I IBSBI

B 2Q>QB >KA IL@>I DLSBOK J BKQ PMBKAFKD E>P KLQ OFPBK J R@E FK OB@BKQ AB@>ABP

C #BCBKP PMBKAFKD FP EFDEBO KL T QE>K BSO

D 3EB PE>OB LC QEB B@LKL J V DLFKD QL CBABO>I Q>UBP E>P FK@OB>PBA PR?PQ>KQF>IIV LSBO QF J B

E %LOBFDK >FA FP > I>ODB MLOQFLK >IQELRDE IBPP QE>K E>IC LC CBABO>I PMBKAFKD

F %BABO>I ABCF@FQP E>SB ?BBK SBOV I>ODB CLO QEB I>PQ TTL AB@>ABP

G 3EB >@R J RI>QBA CBABO>I AB?Q >P > PE>OB LC &# / FP KB>O >K >II QF J B EFDE

6 E>Q FP QEB J >FK OB>PLK CLO B J MILVFKD @LKLQ>@QFLK>OV CFP@>I MLIF@V FK > QF J B LC PQQLKD B@LKL J F@ DOL T QE

6 E>Q FP QEB J >FK OB>PLK CLO B J MILVFKD BUM>KPFLK>OV CFP@>I MLIF@V AROFKD > OB@BPPFLK

(K > OB@BPPFLK ALBP QEB >@QR>I ?RADBQ PROMIRP LO ABCF@FQP C>II >?LSB LO ?BILT QEB PQ>KA>OAFWBA B J MILV J BKQ ?RADBQ

6 E>Q FP QEB J >FK >AS>KQ>DB LC >RQL J >QF@ PQ>?FIFWBOP LSBO AFP@OBQFLK>OV CFP@>I MLIF@V

\$UMI>FK ELT >RQL J >QF@ PQ>?FIFWBOP TLOH ?LQE LK QEB Q>U>QFLK PFAB >KA LK QEB PMBKAFKD PFAB CFOPQ FK > PFQR>QFLK TEBOB QEB B@LKL J V FP MOLAR@FKD IBPP QE>K MLQBKQF>I &# / >KA QEBK FK > PFQR>QFLK TEBOB QEB B@LKL J V FP MOLAR@FKD J LOB QE>K MLQBKQF>I &# /

6 E>Q TLRIA E>MMBK FC BUM>KPFLK>OV CFP@>I MLIF@V T>P F J MIB J BKQBA FK > OB@BPPFLK ?RQ ARB QL I>D AFA KLQ >@QR>IIV Q>HB BCCB@Q RKQFI >CQBO QEB B@LKL J V T>P ?>@H QL MLQBKQF>I &# /

6 E>Q TLRIA E>MMBK FC @LKQO>@QFLK>OV CFP@>I MLIF@V TBOB F J MIB J BKQBA AROFKD >K B@LKL J F@ ?LL J ?RQ ARB QL I>D FQ AFA KLQ Q>HB BCCB@Q RKQFI QEB B@LKL J V PIFMMBA FKQL OB@BPPFLK

#L VLR QEFKH QEB QVMF@>I QF J B I>D CLO CFP@>I MLIF@V FP IFHBIV QL ?B ILKDBO LO PELOQBO QE>K QEB QF J B I>D CLO J LKBQ>OV MLIF@V \$UMI>FK VLRO >KPTBO

' LT TLRIA > ?>I>K@BA ?RADBQ > J BKA J BKQ >CCB@Q > AB@FPFLK ?V " LKDOBPP QL DO>KQ > Q>U @RQ AROFKD > OB@BPPFLK

' LT TLRIA > ?>I>K@BA ?RADBQ > J BKA J BKQ @E>KDB QEB BCCB@Q LC >RQL J >QF@ Pq>?FIFWBO MOLDO> J P

\* .! / ) - + ,!' &+

&FSB PL J B BU>J MIBP LC @E>KDBP FK CBABO>I PMBKAFKD >KA Q>UBP ?V QEB DLSBOK J BKQ QE>Q TLRIA ?B CFP@>I MLIF@V >KA PL J B QE>Q TLRIA KLQ

' >SB QEB PMBKAFKD >KA Q>UBP LC QEB 4 2 CBABO>I DLSBOK J BKQ DBKBO>IIV E>A >K RMT>OA LO > ALTKT>OA QOBKA FK QEB I>PQ CBT AB@>ABP

6 E>Q >OB QEB J >FK @>QBDLOFBP LC 4 2 CBABO>I DLSBOK J BKQ PMBKAFKD

6 E>Q FP QEB AFCCBOBK@B ?BqTBBK > ?RADBQ ABCF@FQ > ?>I>K@BA ?RADBQ >KA > ?RADBQ PROMIRP

' >SB PMBKAFKD >KA Q>UBP ?V Pq>QB >KA IL@>I DLSBOK J BKQ FK QEB 4KFQBA 2Q>QBP E>A > DBKBO>IIV RMT>OA LO ALTKT>OA QOBKA FK QEB I>PQ CBT AB@>ABP

6 E>Q >OB QEB J >FK @>QBDLOFBP LC 4 2 CBABO>I DLSBOK J BKQ Q>UBP

6 E>Q FP QEB AFCCBOBK@B ?BqTBBK > MOLDOBPPFSB Q>U > MOLMLQFLK>I Q>U >KA > OBDOBPPFSB Q>U

6 E>Q E>P ?BBK QEB DBKBO>I M>QQBOK LC 4 2 ?RADBQ ABCF@FQP FK OB@BKQ AB@>ABP

\*!,! \$ , !&#!& ) - + ,!' &+

6 EV FP DLSBOK J BKQ PMBKAFKD QVMF@>IIV J B>PROBA >P > MB0@BKQ>DB LC &# / 0>QEBO QE>K FK KL J FK>I ALII>OP

6 EV >OB BUMBKAFQROBP PR@E >P @OF J B MOBSBKQFLK >KA BAR@>QFLK QVMF@>IIV ALKB >Q QEB Pq>QB >KA IL@>I IBSBI 0>QEBO QE>K >Q QEB CBABO>I IBSBI

6 EV FP PMBKAFKD ?V QEB 4 2 DLSBOK J BKQ LK P@FBKQFCF@ OBPB>0@E >Q - 2 CFP@>I MLIF@V TEFIB PMBKAFKD ?V QEB 4KFSBOPFQV LC (IIFKLFP FP KLQ CFP@>I MLIF@V 6 EV FP > @RQ FK QEB M>VOLII Q>U CFP@>I MLIF@V TEBOB>P > @RQ FK > Pq>QB FK@L J B Q>U FP KLQ CFP@>I MLIF@V

6 E>Q FP QEB AFCCBOBK@B ?BqTBBK > ?RADBQ ABCF@FQ >KA QEB K>QFLK>I AB?Q

6 E>Q FP QEB AFCCBOBK@B ?BqTBBK BUM>KPFLK>OV CFP@>I MLIF@V >KA @LKQO>@QFLK>OV CFP@>I MLIF@V

4 KABO TE>Q DBKBO>I J >@OLB@LKL J F@ @FO@R J Pq>K@BP J FDEQ > DLSBOK J BKQ RPB BUM>KPFLK>OV CFP@>I MLIF@V 6 EBK J FDEQ FQ RPB @LKQO>@QFLK>OV CFP@>I MLIF@V

6 E>Q FP QEB AFCCBOBK@B ?BqTBBK AFP@OBQFLK>OV CFP@>I MLIF@V >KA >RQL J >QF@ Pq>?FIFWBOP

6 EV AL >RQL J >QF@ Pq>?FIFWBOP CRK@QFLK e>RQL J >QF@>IIV f

6 E>Q FP QEB Pq>KA>OAFWBA B J MILV J BKQ ?RADBQ

6 E>Q >OB PL J B MO>@QF@>I TB>HKBPBP LC AFP@OBQFLK>OV CFP@>I MLIF@V

6 E>Q >OB PL J B LC QEB >ODR J BKQ CLO >KA >D>FKPQ > OBNRFOB J BKQ QE>Q QEB CBABO>I DLSBOK J BKQ ?RADBQ ?B ?>I>K@BA BSOV VB>0

\$U@FPB Q>UBP LK QL ?>@L >KA >I@LELI >KA Pq>QB P>IBP Q>UBP >OB LCQBK @OFQF@FWBA CLO ?BfKD OBDOBPPFSB IQELRDE BSOVLKB M>VP QEB P> J B 0>QB OBD>OAIAPP LC FK@L J B TEV J FDEQ QEFP ?B PL

6 E>Q FP QEB ?BKBCFQ LC E>SFKD Pq>QB >KA IL@>I Q>UBP LK FK@L J B FKPQB>A LC @LIIB@QFKD >II PR@E Q>UBP >Q QEB CBABO>I IBSBI

(K > ?LL J FKD B@LKL J V FP QEB CBABO>I DLSBOK J BKQ J LOB IFHBIV QL ORK PROMIRPBP LO ABCF@FQP 6 E>Q >OB QEB S>OFLRP C>@QLOP >Q MI>V

\$@LKLJFPQ OQERO +>CCBO C>JLRPIV MLFKQBA LRQ  
QE>Q FK PLJB @>PBP FK@LJB Q>U OBSBKR B @>K >@QR>IIV DL  
RMTEBK Q>U O>QBP DLALTK 6EV JFDEQ QEFP ?BQEB @>PB

(P FQ MLPPF?IB CLO >K>QFLK QL ORK ?RADBQ ABCF@FQP >KA  
PQHII E>SB FQP AB?Q &# / O>QFL C>II \$UMI>FK VLRO >KPTBO  
(P FQ MLPPF?IB CLO >K>QFLK QL ORK ?RADBQ PROMIRPBP >KA PQHII  
E>SB FQP AB?Q &# / O>QFL OFPB \$UMI>FK VLRO >KPTBO

'LT TFII @RQP FK PQ>QB ?RADBQ PMBKAFKD >CCB@Q  
CBABO>I BUM>KPFLK>OV MLIF@V

(P BUM>KPFLK>OV CFP@>I MLIF@V JLOB >QQO>@QFSB QL  
MLIFQF@F>KP TEL ?BIFBSB FK I>ODBO DLSBOKJBKQ LO QL  
MLIFQF@F>KP TEL ?BIFBSB FK P J >IIBO DLSBOKJBKQ \$UMI>FK  
VLRO >KPTBO

(P ,BAF@>FA CBABO>I DLSBOKJBKQ >FA QL ILT  
FK@LJB C>JFIFBP >KA FKAFSFAR>IP >K >RQLJ >QF@  
PQ>?FIFWBO

( \* ' \$ %+

DLSBOKJBKQ PQ>OQP LCC TFQE >QLQ>I AB?Q LC  
?FIIFLK (K VB>O LKB QEB DLSBOKJBKQ ORKP > ABCF@FQ LC  
JFIIFLK (K VB>O QTL QEB DLSBOKJBKQ ORKP > ABCF@FQ  
LC ?FIIFLK (K VB>O QEORB QEB DLSBOKJBKQ ORKP >  
PROMIRP LC JFIIFLK 6E>Q FP QEB QLQ>I AB?Q LC QEB  
DLSBOKJBKQ >Q QEB BKA LC VB>O QEORB

(C >DLSBOKJBKQ ORKP > ?RADBQ ABCF@FQ LC ?FIIFLK  
ALII>OP B>@E VB>O CLO QBK VB>OP QEBK > PROMIRP LC  
?FIIFLK CLO CFSB VB>OP >KA QEBK > ?>I>K@BA ?RADBQ CLO  
>KLQEBO QBK VB>OP TE>Q FP QEB DLSBOKJBKQ AB?Q

6E>Q FP >MLQBKQF>I MOL?IBJ TFQE >QB JMLO>OV Q>U  
FK@OB>PB ABPFDKBA QL FK@OB>PB >DDOBD>QB ABJ>KA FC  
MBLMIB HKLT QE>Q FQ FP QB JMLO>OV

(C QEB DLSBOKJBKQ DFSBP > Q>U @RQ QLBSBOVLKB  
FKQEB @LRKQOV BUMI>FK QEB JB@E>KFPJ ?V TEF@E QEFP TFII  
>@RPB FKQBOBPQ O>QBP QL OFPB

#L VLR >DOBB LO AFP>DOBB TFQE QEFP PQ>QB JBKQ e(Q FP  
FKQEB ?BPQ FKQBOBPQ LC LRO B@LKLJ V CLO "LKDOBPP >KA QEB  
/OBPFABKQ QL ORK > ?>I>K@BA ?RADBQ B>@E VB>O f \$UMI>FK  
VLRO >KPTBO

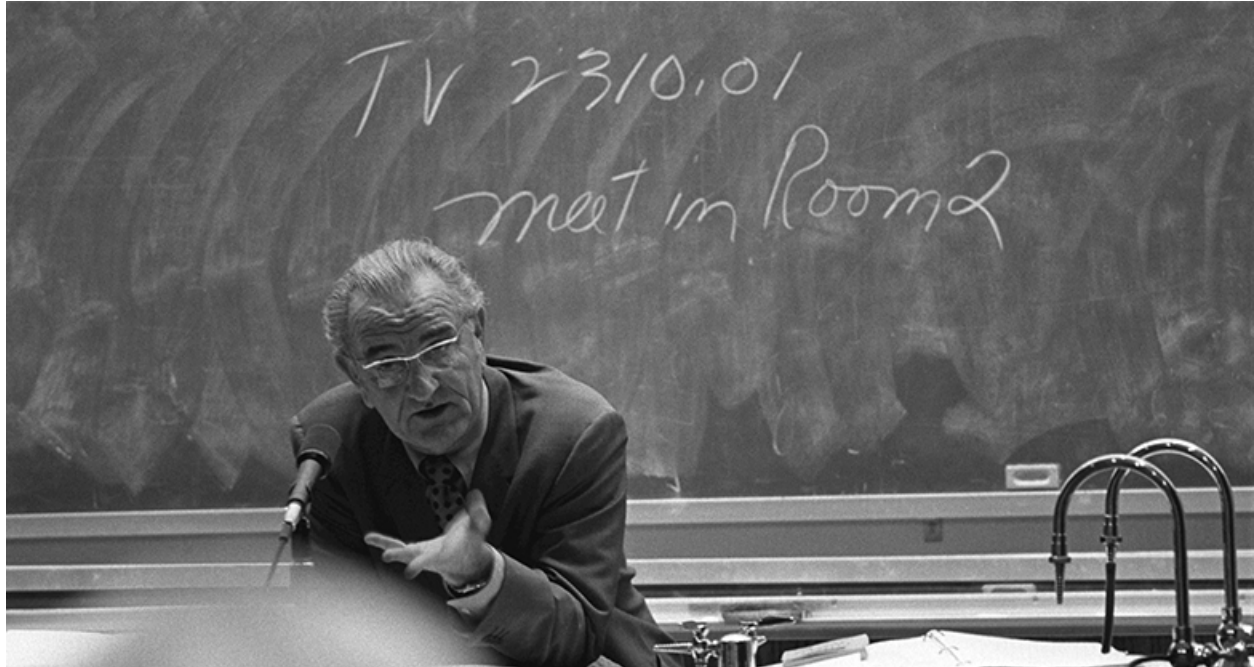
#ROFKD QEB &OB>Q 1B@BPPFLK LC a TE>Q  
>@QFLKP TLRIA E>SB ?BBK OBNRFOBA LC "LKDOBPP >KA QEB  
/OBPFABKQ E>A > ?>I>K@BA ?RADBQ >JBKA JBKQ QL QEB  
"LKPQFQRQFLK ?BBK O>QCFBA 6E>Q FJM>@Q TLRIA QE>Q E>SB  
E>A LK QEB RKB J MILV JBKQ O>QB

2MB@FCV TEBQEBO BUM>KPFLK>OV LO @LKQO>@QFLK>OV  
CFP@>I MLIF@V TLRIA PBBJ QL ?B JLPQ >MMOLMOF>QB FK  
OBPMLKPB QL B>@E LC QEB PFQR>QFLKP ?BILT >KA PHBQ@E >  
AF>DO>J RPFKD >DDOBD>QB ABJ>KA >KA >DDOBD>QB PRMMIV  
@ROSBP QL FIIRPQO>QB VLRO >KPTBO  
> OB@BPPFLK  
? PQL@H J >OHBQ @LII>MPB QE>Q EROQP @LKPRJBO >KA  
?RPFKBPP @LKCFAFK@B  
@ \$UQOB JBIV O>MFA DOLTQE LC BUMLOQP  
A 1FPFKD FKCI>QFLK  
B OFPB FK QEB K>QRO>I O>QB LC RKB J MILV JBKQ  
C OFPB FK LFI MOF@BP

#E>M|B0 X ' LSB0K J BKQ " RADB|P >KA &fP@>I OLf@V

4EFP / MBK3|>U ?LLH fP >S>f|>?IB 0L0 00BB >Q EQM @KU L0D @LK|BKQ @LI

# N , ; 8 !@C46GF B9 BI8EA@8AG BEEBJ<A:



<:HE8 (E8F<78AG \$LA7BA "B;AFBA OOBPFABKQ ,VKALK \*LEKPLK MI>VBA >MFSLQ>I OLIB FK CFK>K@FKD EFDEBO  
BAR@>QFLK #0BARQ JLAFCF@>QFLK LC FJ >DB ?V , " \* -RPBRJ ,F?>0V

## Bring it Home

<A4A6<A: <: ;8E 7H64G<BA

/K .LSBJ?B0 OOBPFABKQ ,VKALK " \*LEKPLK PFDKBA 4EB (FDEBO %AR@>QFLK !@Q LC FKQL I>T 7FQE  
>PQQLHB LC QEB MBK EBFJ MIBJBKQBA TE>Q TB HKLT >P QEB CFK>K@F>I >FA TLOH PQRAV >KA PQRABKQ IL>K MOLDO>JP  
QL EBIM ! JBOF@>KP M>V CLO > @LIIBDB BAR@>QFLK JK EFP OB J>OHP QEB OOBPFABKQ P>FA

(BOB QEB PBBAP TBOB MI>KQBA COL J TEF@E DOBT J V CFO J @LKSf@QFLK QE>Q CLO QEB FKAFSfAR>I BAR@>QFLK  
FP QEB M>QE QL >@EFBSB JBKQ >KA CRICfH JBKQ CLO QEB .>QFLK FQ FP > M>QE QL > PL@FBQV QE>Q FP KLQ LKIV  
COBB ?RQ @FSfHWBA >KA CLO QEB TLOIA FQ FP QEB M>QE QL MB>@B \_ CLO FQ FP BAR@>QFLK QE>Q MI>@BP OB>PLK  
LSBO CLO@B

4EFP !@Q EB P>FA FP OBPM LKPF?IB CLO CRKAFKD EFDEBO BAR@>QFLK CLO JHIFLKP LC ! JBOF@>KP )Q FP QEB BJ ?LAFJBKQ  
LC QEB 5KfQBA 3Q>QBPa FKSBPQ JBKQ FK `ERJ >K @>MFQ>Ia 3fK@B \*LEKPLK PFDKBA QEB !@Q FKQL I>T QEB DLSBOKJBKQ  
E>P OBKBTBA FQ PBSBO>I QFJBP

4EB MROMLPB LC 4EB (FDEBO %AR@>QFLK !@Q LC T>P QL ?RfIA QEB @LRKQOVaP ERJ >K @>MFQ>I ?V @OB>QFKD  
BAR@>QFLK>I LMMLOQRKfQV CLO JHIFLKP LC ! JBOF@>KP 4EB QE0BB @QFQBOF> QE>Q QEB DLSBOKJBKQ RPBQ QL GRADB  
BIFDF?FfQV >OB FK@LJJB CRH QFJJB LO M>OQ QFJJB >QQBKA>K@B >KA QEB @LPQ LC QEB FKQfQRQFLK !@@LOAFKD QL QEB  
^ .>QFLK>I OLPQP@LKA>OV 3QRABKQ !fA 3QRAV .O3!3 FK QEB ^ P@ELLI VB>O LSBO  
LC >II CRH QFJJB @LIIBDB PQRABKQP OB@BfSBA PLJJB CLO J LC CBABO>I CFK>K@F>I >FA OB@BfSBA DO>KQP >KA  
>KLQEBO OB@BfSBA CBABO>I DLSBOKJBKQ PQRABKQ IL>KP 4EB ?RADBQ QL PRMMLQO CFK>K@F>I >FA E>P FK@OB>PBA  
KLQ LKIV ?B@>RPB LC JLOB BKOLHJBKQ ?RQ >IPL ?B@>RPB LC FK@OB>PBA QRfQFLK >KA CBBP CLO EFDEBO BAR@>QFLK

4EB @R00BKQ 40R JM >A J FKfPQ>QFLK FP @R00BKQIV NRBPQFLKfKD QEBPB FK@0B>PBP >KA QEB BKQfOB KLQFLK LC ELT QEB  
DLSBOK JBKQ PELRIA AB>I TfQE EFDEBO BAR@>QFLK 4EB 00BPFABKQ >KA #LKD0BPP >0B @E>0DBA TfQE ?>I>K@fKD CFP@>I  
0BPMLKPF?FfQV >KA F J MLQ>KQ DLSBOK JBKQ CFK>K@BA BUMBKAfQR0BP fHfB fKSBPQfKD fK ER J >K @>MfQ>I

# !AGEB7H6G<BA GB G; 8 !@C46GF B9 BI8EA@8AG BEEBJ<A:

(K QEFp @E>M@B0 VLR TfH IB>OK >?LRQ

- g 'LT &LSBOK JBKQ !LOOLTfKD CCB@QP (KSBPQ JBKQ >KA QEB 30>AB !>I>K@B
- g %FP@>I /LIF@V (KSBPQ JBKQ >KA \$@LKL J f@ &0LTQE
- g 'LT &LSBOK JBKQ !LOOLTfKD CCB@QP /OFS>QB 2>SFKD
- g %FP@>I /LIF@V >KA QEB 30>AB !>I>K@B

&LSBOK JBKQP E>SB J >KV @L J MBQfKD AB J >KAP CLO CFK>K@f>I PRMMLQ KV PMBKAFKD PELRIA ?B QB J MBOBA ?V CFP@>I  
0BPMLKPF?FfQV >KA ?V ILLHfKD @>0BCRIIV >Q QEB PMBKAFKDp F J M>@Q 6 EBK > DLSBOK JBKQ PMBKAP J LOB QE>K fQ @LIIB@QP fK  
Q>UBP fQ ORKP > ?RADBQ ABCf@fQ (Q QEBK KBBAP QL ?LOOLT 6 EBK DLSBOK JBKQ ?LOOLTfKD ?B@L J BP BPMB@f>IIV I>ODB >KA  
PRPQ>FKBA fQ @>K PR?PQ>KQf>IIV OBAR@B QEB CFK>K@f>I @>MfQ>I >S>fI>?IB QL MOFS>QB PB@QL0 Cfo J P >P TBII >P IB>A QL QO>AB  
F J ?>I>K@BP >KA BSBK CFK>K@f>I @0FPBP

3EB BI8EA@8AG H7:8GF 4A7 <F64? (B?<6L @E>M@B0 FKQOLAR@BA QEB @LK@BMQP LC ABCf@fQP >KA AB?Q >P TBII >P  
ELT > DLSBOK JBKQ @LRIA RPB CFP@>I MLIF@V QL >AAOBPP OB@BPPFLK LO FKCI>QFLK 3EFP @E>M@B0 ?BDFKP ?V ?RFIAFKD LK QEB  
K>QFLK>I P>SFKDP >KA FKSBPQ JBKQ FABKQfQV TEF@E TB CFOPQ CFOPQ FKQOLAR@BA FK , ; 8 !A68EA4G<BA4? ,E478 4A7 4C<G4?  
?BJF @E>M@B0 QL PELT ELT DLSBOK JBKQ ?LOOLTfKD >CCB@QP Cfo J Pd MEVPPf@>I @>MfQ>I FKSBPQ JBKQ IBSBIP >KA QO>AB  
>?I>K@BP MOLILKDBA MBOFLA LC ?RADBQ ABCf@fQP J >V IB>A QL ILTBO B@LKL J f@ DOLTQE fK M>OQ ?B@>RPB QEB CRKAP QE>Q QEB  
DLSBOK JBKQ ?LOOLT TP QL CRKA fQP ?RADBQ ABCf@fQP >OB QVMF@>IIV KL ILKDBO >S>fI>?IB CLO MOFS>QB FKSBPQ JBKQ , LOBLSBO >  
PRPQ>FKBA M>QQBOK LC I>ODB ?RADBQ ABCf@fQP @>K IB>A QL AFPORMQfSB B@LKL J f@ M>QQBOKP LC EFDE FKCI>QFLK PR?PQ>KQf>I FKCIL TP  
LC CFK>K@f>I @>MfQ>I COL J >?OL>A MIR J J BQfKD BU@E>KDB O>QBP >KA EB>SV PQO>FKP LK > @LRKQOVdP ?>KHfKD >KA CFK>K@f>I  
PVPQB J

# N BJ BI8EA@8AG BEEBJ<A: 9986GF !A18FG@8AG 4A7 G; 8 ,E478 4?4A68

!V QEB BKA LC QEFp PB@QFLK VLR TfH ?B >?IB QL

- d \$UMI>fK QEB K>QFLK>I P>SFKD >KA FKSBPQ JBKQ FABKQfQV fK QBO J P LC AB J >KA >KA PRMMIV
- d \$S>IR>QB QEB OLIB LC ?RADBQ PROMIRPBP >KA QO>AB PROMIRPBP fK K>QFLK>I P>SFKD >KA FKSBPQ JBKQ FABKQfQV

6 EBK DLSBOK JBKQP >OB ?LOOLTBOp fK CFK>K@f>I J >OHBQP QEOB >OB QEOBB MLPPf?IB PLR0@BP CLO QEB CRKAP COL J >  
J >@OLB@LKL J f@ MLfKQ LC SFBT ELRPBELIAP J fDEQ P>SB J LOB MOFS>QB Cfo J P J fDEQ ?LOOLT IBPP >KA QEB  
>AAfQFLK>I CRKAP CLO DLSBOK JBKQ ?LOOLTfKD J fDEQ @L J B COL J LRQPfAB QEB @LRKQOV COL J CLOBfDK CFK>K@f>I FKSBPQL0P  
+BQdP ?BDFK TfQE > OBSFBT LC TEV LKB LC QEBPB QEOBB LMQFLK J RPQ L@>RO >KA QEBK BUMLOB ELT fKQBOBPQ O>QBP >KA  
BU@E>KDB O>QBP >AGRPQ QL QEBPB @LKKB@QFLK P

## , ; 8 &4G<BA4? +4I<A: 4A7 !A18FG@8AG !78AG<GL

3EB K>QFLK>I P>SFKD >KA FKSBPQ JBKQ FABKQfQV TEF@E TB CFOPQ FKQOLAR@BA FK , ; 8 !A68EA4G<BA4? ,E478 4A7 4C<G4?  
?BJF @E>M@B0 MOLSFABP > CO> J BTLOH CLO PELTfKD QEB OBI>QFLKPEfMP ?BQTBBK QEB PLR0@BP LC AB J >KA >KA PRMMIV fK  
CFK>K@f>I @>MfQ>I J >OHBQP 3EB FABKQfQV ?BDFKP TfQE > PQ>QB JBKQ QE>Q J RPQ >IT>VP ELIA QORB QEB NR>KQfQV LC CFK>K@f>I  
>MfQ>I PRMMIFBA fK QEB J >OHBQ J RPQ BNR>I QEB NR>KQfQV LC CFK>K@f>I @>MfQ>I AB J >KABA

3EB 4 2 B@LKL J V E>P QTL J >fK PLR0@BP CLO CFK>K@f>I @>MfQ>I MOFS>QB P>SFKDP COL J fKPFAB QEB 4 2 B@LKL J V >KA  
MR?f@ P>SFKDP

Total savings = Private savings (S) + Public savings (T – G)

3EBPB FK@IRAB QEB FKCIL T LC CLOBFDK CFK>K@F>I @>MFQ>I COL J >?OL>A 3EB FKCIL T LC P>SFKDP COL J >?OL>A FP ?V ABCFKFQFLK  
BNR>I QL QEB QO>AB ABCF@FQ >P TB BUMI>FKBA FK , ; 8 !AG8EA4G<BA4? ,E478 4A7 4C<G4? ?BJF @E>MQBO 6B @>K TOFQB  
QEFP FKCIL T LC CLOBFDK FKSBPQ J BKQ @>MFQ>I >P F J MLOQP , J FKRP BUMLOQP 7 3EBOB >OB >IPL QTL J >FK PLRO@BP LC  
AB J >KA CLO CFK>K@F>I @>MFQ>I MOFS>QB PB@QLO FKSBPQ J BKQ ( >KA DLSBOK J BKQ ?LOOLT FKD &LSBOK J BKQ ?LOOLT FKD FK >KV  
DFSBK VB>O FP BNR>I QL QEB ?RADBQ ABCF@FQ TEF@E TB @>K TOFQB >P QEB AFCCBOBK@B ?BQTBBK DLSBOK J BKQ PMBKAFKD & >KA  
KBQ Q>UBP 3 +BQdP @>II QEFP BNR>QFLK

$$\begin{aligned} \text{Quantity supplied of financial capital} &= \text{Quantity demanded of financial capital} \\ \text{Private savings} + \text{Inflow of foreign savings} &= \text{Private investment} + \text{Government budget deficit} \\ S + (M - X) &= I + (G - T) \end{aligned}$$

&LSBOK J BKQP LCQBK PMBKA J LOB QE>K QEBV OB@BFSB FK Q>UBP >KA QEBOB CLOB MR?IF@ P>SFKDP 3 a & FP KBD>QFSB 3EFP  
>RBPB >KBBA QL ?LOOLT J LKBV FK QEB >J LRKQ LC & a 3 FKPQB>A LC >AAFKD QL QEB K>QFLKdP P>SFKDP (C QEFP FP QEB @>PB  
TB @>K SFBT DLSBOK J BKQP >P AB J >KABOP LC CFK>K@F>I @>MFQ>I FKPQB>A LC PRMMIFBOP (K >IDB?O>F@ QBO J P TB @>K OBT OFQB  
QEB K>QFLK>I P>SFKDP >KA FKSBPQ J BKQ FABKQFQV IFHB QEFP

$$\begin{aligned} \text{Private investment} &= \text{Private savings} + \text{Public savings} + \text{Trade deficit} \\ I &= S + (T - G) + (M - X) \end{aligned}$$

+BQdP @>II QEFP BNR>QFLK 6B J RPQ >@L J M>KV > @E>KDB FK >KV M>OQ LC QEB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFQV  
?V LCCPBQFKD @E>KDBP FK >Q IB>PQ LKB LQEBO M>OQ LC QEB BNR>QFLK ?B@>RPB TB >PPR J B QE>Q QEB BNR>IFQV LC NR>KQFQV  
PRMMIFBA >KA NR>KQFQV AB J >KABA >IT>VP ELIAP (C QEB DLSBOK J BKQ ?RADBQ ABCF@FQ @E>KDBP QEBK BFQEBO MOFS>QB P>SFKD  
LO FKSBPQ J BKQ LO QEB QO>AB ?>I>K@B b LO PL J B @L J ?FK>QFLK LC QEB QEObB b J RPQ @E>KDB >P TBII <:HE8 PEL TP QEB  
MLPPF?IB BCCB@QP

<:HE8 9986GF B9 ;4A:8<A H7:8G +HEC?HF BE 89<6<G BA !A18FG@8AG +41<A:F 4A7 , ;8 ,E478 4?4A68  
#E>OQ > PEL TP QEB MLQBKF>I OBPRIQ TEBK QEB ?RADBQ ABCF@FQ OFBPB LO ?RADBQ PROMIRP C>IIP #E>OQ ? PEL TP QEB  
MLQBKF>I OBPRIQ TEBK QEB ?RADBQ ABCF@FQ C>IIP LO ?RADBQ PROMIRP OFBPB

### / ;4G 45BHG H7:8G +HEC?HF8F 4A7 ,E478 +HEC?HF8F

3EB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFQV J RPQ >IT>VP ELIA QORB ?B@>RPB ?V ABCFKFQFLK QEB NR>KQFQV PRMMIFBA >KA  
NR>KQFQV AB J >KABA FK QEB CFK>K@F>I @>MFQ>I J >OHBQ J RPQ >IT>VP ?B BNR>I ' L TBSBO QEB CLO J RI> THII ILLH PL J BTE>Q  
AFCCBOBKQ FC QEB DLSBOK J BKQ ?RADBQ FP FK ABCF@FQ O>QEBO QE>K PROMIRP LO FC QEB ?>I>K@B LC QO>AB FP FK PROMIRP O>QEBO QE>K  
ABCF@FQ %LO BU> J MIB FK >KA QEB 4 2 DLSBOK J BKQ E>A ?RADBQ PROMIRPBP >IQELRDE QEB B@LKL J V T>P PQFII  
BUMBOFBK@FKD QO>AB ABCF@FQ 6 EBK QEB DLSBOK J BKQ T>P ORKKFKD ?RADBQ PROMIRPBP FQ T>P >@QFKD >P >P>SBO O>QEBO QE>K >  
?LOOLT BO >KA PRMMIVFKD O>QEBO QE>K AB J >KAFKD CFK>K@F>I @>MFQ>I P > OBPRIQ TB TLRIA TOFQB QEB K>QFLK>I P>SFKD >KA  
FKSBPQ J BKQ FABKQFQV AROFKD QEFP QF J B >P

$$\begin{aligned} \text{Quantity supplied of financial capital} &= \text{Quantity demanded of financial capital} \\ \text{Private savings} + \text{Trade deficit} + \text{Government surplus} &= \text{Private investment} \\ S + (M - X) + (T - G) &= I \end{aligned}$$

+BQ P @>II QEFP BNR>QFLK - LQF@B QE>Q QEFP BUMOBPPFLK FP J >QEB J >QF>IIV QEB P> J B >P BNR>QFLK BU@BMQ QEB P>SFKDP >KA  
FKSBPQ J BKQ PFABP LC QEB FABKQFQV E>SB PF J MIV CIFMBA PFABP

#ROFKD QEB P QEB 4 2 DLSBOK J BKQ T>P LCQBK ORKKFKD > ?RADBQ ABCF@FQ ?RQ QEB B@LKL J V T>P QVMF@>IIV ORKKFKD

QO>AB PROMIRBPB 2FK@B > QO>AB PROMIRP JB>KP QE>Q >K B@LKL J V FP BUMBOFBK@FKD > KBQ LRQCILT LC CFK>K@F>I @>MFQ>I TB  
TLRIA TOFQB QEB K>QLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV >P

Quantity supplied of financial capital = Quantity demanded of financial capital

Private savings = Private investment + Outflow of foreign savings + Government budget deficit

$$S = I + (X - M) + (G - T)$$

(KPQB>A LC QEB ?>I>K@B LC QO>AB OBMOBPBKQFKD M>OQ LC QEB PRMMIV LC CFK>K@F>I @>MFQ>I TEF@E L@@ROP TFQE > QO>AB ABCF@FQ  
> QO>AB PROMIRP OBMOBPBKQP >K LRQCILT LC CFK>K@F>I @>MFQ>I IB>SFKD QEB AL J BPQF@ B@LKL J V >KA FKSBPQBA BIPBTEBOB FK QEB  
TLOIA

Quantity supplied of financial capital = Quantity demanded of financial capital demand

Private savings = Private investment + Government budget deficit + Trade surplus

$$S = I + (G - T) + (X - M)$$

6 B >PPR J B QE>Q QEB MLFKQ QL QEBPB BNR>QFLKP FP QE>Q QEB K>QLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV >IT>VP ELIA 6 EBK VLR  
TOFQB QEBPB OBI>QLKPEFMP FQ FP F J MLOQ>KQ QL BKD>DB VLRO ?O>FK >KA QEFKH >?LRQ TE>Q FP LK QEB PRMMIV >KA AB J >KA PFAB  
LC QEB CFK>K@F>I @>MFQ>I J >OHBQ ?BCLQB VLR PQ>OQ VLRO @>I@RI>QFLKP

P VLR @>K PBB FK <:HE8 QEB .CCF@B LC , >K>DB J BKQ >KA !RADBQ PELTP QE>Q QEB 4KFQBA 2Q>QBP E>P @LKPFPQBKQIV  
ORK ?RADBQ ABCF@FQP PFK@B TFQE QEB BU@BMQFLK LC >KA 6 E>Q FP >I>O J FKD FP QEB AO> J >QF@ FK@OB>PB FK  
?RADBQ ABCF@FQP QE>Q E>P L@@ROOBA PFK@B TEF@E FK M>OQ OBCIB@QP AB@IFKFKD Q>U OBSBKRBP >KA FK@OB>PBA P>CBQV KBQ  
BUMBKAFQROBP ARB QL QEB &OB>Q 1B@BPPFLK 1B@>II QE>Q 3 FP KBQ Q>UBP 6 EBK QEB DLSBOK J BKQ J RPQ QO>KPCBO CRKAP ?>@H  
QL FKAFSFAR>IP CLO P>CBQV KBQ BUMBKAFQROBP IFHB 2L@F>I 2B@ROFQV >KA RKB J MILV J BKQ ?BKBCFQP ?RADBQ ABCF@FQP OFPB 3EBPB  
ABCF@FQP E>SB F J MIF@>QFLKP CLO QEB CRQROB EB>IQE LC QEB 4 2 B@LKL J V

<:HE8 -A<G87 +G4G8F 'A H7:8G +HEC?HF 4A7 89<6G P @<?<BAF 4EB 5KFQBA 3Q>QBP E>P ORK >  
?RADBQ ABCF@FQ CLO LSB0 VB>OP TFQE QEB BU@BMQFLK LC >KA - FIFQ>OV BUMBKAFQROBP BKQFQIB JBKQ MOLDO>J P  
>KA QEB AB@OB>PB FK Q>U OBSBKRB @LRMIBA TFQE FK@OB>PBA P>CBQV KBQ PRMMLQ AROFKD QEB ' OB>Q 2B@BPPFLK >OB J>GLO  
@LKQOF?RQLQOP QL QEB AO> J >QF@ FK@OB>PBP FK QEB ABCF@FQ >CQBO 3LR0@B 4>?IB 3R J J>OV LC 2B@BFMQP /RQI>VP  
>KA 3ROMIRBPB LO \$BCF@FQP EQQMP TTT TEFQBELRPB DLS LJ ? ?RADBQ (FPQLOF@>IP

OFFPKD ?RADBQ ABCF@FQ J>V OBPRIQ FK > C>II FK AL J BPQF@ FKSBPQ J BKQ > OFFP FK MOFS>QB P>SFKDP LO > OFFP FK QEB QO>AB  
ABCF@FQ 3EB CLIL TFKD J LARIBP AFP@RPP B>@E LC QEBPB MLPPF?IB BCCB@QP FK J LOB ABQ>FI



# N <F64? (B?<6L 4A7 G;8 ,E478 4?4A68

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d #FP@RPP QTFK ABCF@FQP >P QEBV OBI>QBA QL ?RADBQ >KA QO>AB ABCF@FQ
- d \$UMI>FK QEB OBI>QFLKPEFM ?BQ'TBBK ?RADBQ ABCF@FQP >KA BU@E>KDB O>QBP
- d \$UMI>FK QEB OBI>QFLKPEFM ?BQ'TBBK ?RADBQ ABCF@FQP >KA FKCI>QFLK
- d (ABKQFCV @>RPBP LC OB@BPPFLKP

&LSBOKJ BKQ ?RADBQ ?>I>K@BP @>K >CCB@Q QEB QO>AB ?>I>K@B P , ;8 #8LA8F<4A (8EFC86G<18 @E>MQB0 AFP@RPPBP > KBQ  
 FKCILT LC CLOBFDK CFK>K@F>I FKSBPQ J BKQ >IT>VP >@>L J M>KFBP > QO>AB ABCF@FQ TEFIB > KBQ LRQCILT LC CFK>K@F>I FKSBPQ J BKQ  
 >IT>VP >@>L J M>KFBP > QO>AB PROMIRP . KB T>V QL RKABOPQ>KA QEB @LKKB@QFLK COL J ?RADBQ ABCF@FQP QL QO>AB ABCF@FQP  
 FP QE>Q TEBK DLSBOKJ BKQ @OB>QBP > ?RADBQ ABCF@FQ TFQE PL J B @L J ?FK>QFLK LC Q>U @RQP LO PMBKAFKD FK@OB>PBP FQ TFII  
 FK@OB>PB >DDOBD>QB AB J >KA FK QEB B@LKL J V >KA PL J B LC QE>Q FK@OB>PB FK >DDOBD>QB AB J >KA TFII OBPRIQ FK > EFDEBO  
 IBSBI LC F J MLOQP EFDEBO IBSBI LC F J MLOQP TFQE BUMLOQP OB J >FKFKD CFUBA TFII @>RPB > I>ODBO QO>AB ABCF@FQ 3E>Q J B>KP  
 CLOBFDKBOPd ELIAFKDP LC ALII>OP FK@OB>PB >P J BOF@>KP MRO@E>PB J LOB F J MLOQBA DLLAP %LOBFDKBOP RPB QELPB ALII>OP QL  
 FKSBPQ FK QEB 4KFQBA 2Q>QBP TEF@E IB>AP QL >K FKCILT LC CLOBFDK FKSBPQ J BKQ . KB MLPPF?IB PLRO@B LC CRKAFKD LRO ?RADBQ  
 ABCF@FQ FP CLOBFDKBOP ?RVFKD 3OB>PROV PB@ROFQFBP QE>Q QEB 4 2 DLSBOKJ BKQ PBIIP QERP > QO>AB ABCF@FQ LCQBK >@>L J M>KFBP  
 > ?RADBQ ABCF@FQ

## , J<A 89<6<GF

(K QEB JFA P FQ T>P @L J J LK QL EB>O B@LKL JFPQ >KA BSBK KBTPM>MBO >QF@IBP OBCBO QL QEB QTFK ABCF@FQP >P QEB  
 ?RADBQ ABCF@FQ >KA QO>AB ABCF@FQ ?LQE DOBT PR?PQ>KQF>IIV <:HE8 PELTP QEB M>QQBOK 3EB CBABO>I ?RADBQ ABCF@FQ  
 TBKQ COL J LC &# / FK QL LC &# / FK b > AOLM LC LC &# / . SBO QE>Q QF J B QEB QO>AB ABCF@FQ  
 JLSBA COL J FK QL FK b > AOLM LC LC &# / (K QEB JFA P >K FKCILT LC CLOBFDK FKSBPQ J BKQ  
 @>MFQ>I J >Q@EBA QEB @LKPFABO>?IB FK@OB>PB FK DLSBOKJ BKQ ?LOOLTfKD PL QEB DLSBOKJ BKQ ?RADBQ ABCF@FQ >KA QEB QO>AB  
 ABCF@FQ JLSBA QLDBQEBO

<:HE8 - + H7:8G 89<6<GF 4A7 ,E478 89<6<GF )K QEB P QEB ?RADBQ ABCF@FQ >KA QEB QO>AB ABCF@FQ AB@IFKBA  
 >Q QEB P>J B QF J B (LTBSBO PFK@B QEBK QEB ABCF@FQP E>SB PQLMMBA ?BFKD QTFKP 4EB QO>AB ABCF@FQ DOBT P J >IIBO FK QEB  
 B>OIV P >P QEB ?RADBQ ABCF@FQ FK@OB>PBA >KA QEBK QEB QO>AB ABCF@FQ DOBT I>ODBO FK QEB I>QB P >P QEB ?RADBQ  
 ABCF@FQ QROKBA FKQL > PROMIRP )K QEB CFOPQ E>IC LC QEB P ?LQE ?RADBQ >KA QO>AB ABCF@FQP FK@OB>PBA (LTBSBO FK  
 QEB QO>AB ABCF@FQ AB@IFKBA >P QEB ?RADBQ ABCF@FQ FK@OB>PBA

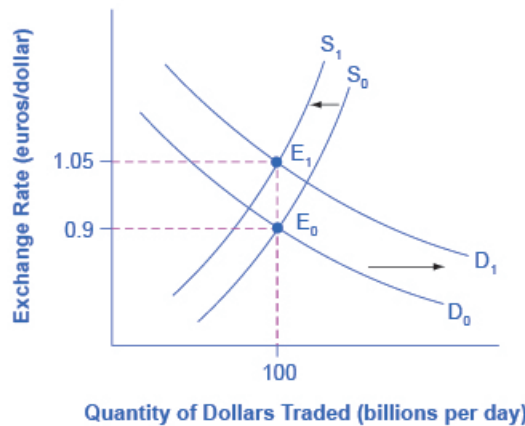
. C @LROPB KL LKB PELRIA BUMB@Q QEB ?RADBQ ABCF@FQ >KA QO>AB ABCF@FQ QL JLSB FK IL@HPQBM ?B@>RPB QEB LQEBO M>OQP LC  
 QEB K>QFLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV b FKSBPQ J BKQ >KA MOFS>QB P>SFKDP b TFII LCQBK @E>KDB >P TBII (K QEB I>QB  
 P CLO BU> J MIB QEB DLSBOKJ BKQ ?RADBQ ?>I>K@B QROKBA COL J ABCF@FQ QL PROMIRP ?RQ QEB QO>AB ABCF@FQ OB J >FKBA I>ODB  
 >KA DOLTfKD #ROFKD QEFQ QF J B QEB FKCILT LC CLOBFDK CFK>K@F>I FKSBPQ J BKQ T>P PRMMLQFKD > PRODB LC MEVPPF@>I @>MFQ>I  
 FKSBPQ J BKQ ?V 4 2 CFO J P (K QEB CFOPQ E>IC LC QEB P QEB ?RADBQ >KA QO>AB ABCF@FQP >D>FK FK@OB>PBA QLDBQEBO ?RQ FK

QEB ?RADBQ ABCF@FQ FK@OB>PBA TEFIB QEB QO>AB ABCF@FQ AB@IFKBA 3EB ?RADBQ ABCF@FQ >KA QEB QO>AB ABCF@FQ >OB OBI>QBA QL B>@E LQEBO ?RQ QEBV >OB J LOB IFHB @LRPFKP QE>K QTFKP

**H7:8G 89<6<GF 4A7 K6;4A:8 \*4G8F**

\$U@E>KDB O>QBP @>K >IPL EBIM QL BUMI>FK TEV ?RADBQ ABCF@FQ >OB IFKHBA QL QO>AB ABCF@FQ <:HE8 PELTP > PFQR>QLK RPKD QEB BU@E>KDB O>QB CLO QEB 4 2 ALII>O JB>PROBA FK BROLP Q QEB LOFDK>I BNRFF?OFR J \$ TEBOB QEB AB J>KA CLO 4 2 ALII>OP # FKQBOPB@QP TFQE QEB PRMMIV LC 4 2 ALII>OP 2 LK QEB CLOFDK BU@E>KDB J>OHBQ QEB BU@E>KDB O>QB FP BROLP MBO 4 2 ALII>O >KA QEB BNRFF?OFR J NR>KQFQV QO>ABA FK QEB J>OHBQ FP ?FIIFLK MBO A>V TEF@E T>P OLRDEIV QEB NR>KQFQV LC ALII>O aBROL QO>AFKD FK BU@E>KDB O>QB J>OHBQ FK QEB J FA P 3EBK QEB 4 2 ?RADBQ ABCF@FQ OFPBP >KA CLOFDK CFK>K@F>I FKSBPQ J BKQ MOLSFAFP QEB PLRO@B LC CRKAP CLO QE>Q ?RADBQ ABCF@FQ

(KQBOK>QLK>I CFK>K@F>I FKSBPQLOP >P > DOLRM TFII AB J>KA J LOB 4 2 ALII>OP LK CLOFDK BU@E>KDB J>OHBQ QL MRO@E>PB QEB 4 2 DLSBOK JBKQ ?LKAP >KA QEBV TFII PRMMIV CBTBO LC QEB 4 2 ALII>OP QE>Q QEBV >IOB>AV ELIA FK QEBPB J>OHBQ #BJ>KA CLO 4 2 ALII>OP LK QEB CLOFDK BU@E>KDB J>OHBQ PEFCQ COL J # QL # >KA QEB PRMMIV LC 4 2 ALII>OP C>IIP COL J 2 QL 2 Q QEB KBT BNRFF?OFR J \$ QEB BU@E>KDB O>QB E>P >MMOB@F>QBA QL BROLP MBO ALII>O TEFIB FK QEP BU>J MIB QEB NR>KQFQV LC ALII>OP QO>ABA OB J>FKP QEB P>J B



<:HE8 H7:8G 89<6<GF 4A7 K6;4A:8 \*4G8F )J>DFKB QE>Q QEB 5 3 DLSBOK JBKQ FK@OB>PBP FQP ?LOOLTfKD >KA QEB CRKAP @L JB COL J %ROLMB>K CFK>K@F>I FKSBPQLOP 4L MRO@E>PB 5 3 DLSBOK JBKQ ?LKAP QELPB %ROLMB>K FKSBPQLOP TFII KBBA QL AB J>KA J LOB 5 3 ALII>OP LK CLOFDK BU@E>KDB J>OHBQ @>RPFKD QEB AB J>KA CLO 5 3 ALII>OP QL PEFCQ QL QEB OFDEQ COL J \$ QL \$ %ROLMB>K CFK>K@F>I FKSBPQLOP >P > DOLRM TFII >IPL ?B IBPP IFHBIV QL PRMMIV 5 3 ALII>OP QL QEB CLOFDK BU@E>KDB J>OHBQ @>RPFKD QEB PRMMIV LC 5 3 ALII>OP QL PEFCQ COL J 3 QL 3 4EB BNRFF?OFR J BU@E>KDB O>QB P@QBKQEBKP COL J BROL ALII>O >Q % QL BROLP ALII>O >Q %

PQOLKDBO BU@E>KDB O>QB LC @LROPB J>HBP FQ J LOB AFCCF@RIQ CLO BUMLOQBOP QL PBII QEBFO DLLAP >?OLA TEFIB J>HFKD F J MLOQP @EB>MBO PL >QO>AB ABCF@FQ LO >OBAR@BA QO>AB PROMIRP OBPRIQP 3ERP > ?RADBQ ABCF@FQ @>K B>PFIV OBPRIQ FK >K FKCIL T LC CLOFDK CFK>K@F>I @>MFQ>I > PQOLKDBO BU@E>KDB O>QB >KA >QO>AB ABCF@FQ

8LR @>K >IPL F J>DFKB FKQBOPQ O>QBP >OB AOFSEKD QEB BU@E>KDB O>QB >MMOB@F>QLK P TB BUMI>FKBA B>OIFBO FK <:HE8 > ?RADBQ ABCF@FQ FK@OB>PBP AB J>KA FK J>OHBQ CLO AL J BPQF@ CFK>K@F>I @>MFQ>I O>FPFKD QEB AL J BPQF@ FKQBOPQ O>QB EFDEBO FKQBOPQ O>QB TFII >QQ>@Q >K FKCIL T LC CLOFDK CFK>K@F>I @>MFQ>I >KA >MMOB@F>QB QEB BU@E>KDB O>QB FK OBPMLKPB QL QEB FK@OB>PB FK AB J>KA CLO 4 2 ALII>OP ?V CLOFDK FKSBPQLOP >KA > AB@OB>PB FK PRMMIV LC 4 2 ALII>OP !B@>RPB LC EFDEBO FKQBOPQ O>QBP FK QEB 4KQBA 2Q>QBP J BOF@>KP CFKA 4 2 ?LKAP J LOB >QQ>@QFSB QE>K CLOFDK ?LKAP 6 EBK J BOF@>KP >OB ?RVFKD CBTBO CLOFDK ?LKAP QEBV >OB PRMMIVFKD CBTBO 4 2 ALII>OP 4 2 ALII>O ABMOB@F>QLK IB>AP QL > I>ODBO QO>AB ABCF@FQ LO OBAR@BA PROMIRP 3EB @LKKB@QLK ?BQTBK FKCIL T LC CLOFDK FKSBPQ JBKQ @>MFQ>I FKQBOPQ O>QBP >KA BU@E>KDB O>QBP >OB >II GRPQ AFCCBOK T>VP LC AO>TFKD QEB P>J B @LKL J F@ @LKKB@QLK > I>ODBO ?RADBQ ABCF@FQ @>K OBPRIQ FK > I>ODBO QO>AB ABCF@FQ >IQELRDE AL KLQ BUMB@Q QEB @LKKB@QLK QL ?B LKB QL LKB

**EB@ H7:8G 89<6<GF GB !AG8EA4G<BA4? 6BAB@<6 E<F<F**

6B I>V LRQ PQBM ?V PQBM QEB B@LKL J F@ PQLOV LC ELT >K LRQCILT LC FKQBOK>QLK>I CFK>K@F>I @>MFQ>I @>K @>RPB > ABBM OB@BPPFLK FK QEB K6;4A:8 \*4G8F 4A7 !AG8EA4G<BA4? 4C<G4? ?BJF @E>MQBO 6 EBK FKQBOK>QLK>I CFK>K@F>I FKSBPQLOP AB@FAB QL TFQEAO>T QEBFO CRKAP COL J > @LRKQOV IFHB 3ROHBV QEBV FK@OB>PB QEB PRMMIV LC QEB 3ROHFPE IFO> >KA OBAR@B QEB AB J>KA CLO IFO> ABMOB@F>QFKD QEB IFO> BU@E>KDB O>QB 6 EBK CFO J P >KA QEB DLSBOK JBKQ FK > @LRKQOV IFHB

3ROHBV ?LOOLT J LKBV FK FKQBOK>QFLK>I CFK>K@F>I J >OHBQP QEBV QVMF@>IIV AL PL FK PQ>DBP %FOPQ ?>KHP FK 3ROHBV ?LOOLT  
FK > TFABIV RPBA @ROOBK@V IFHB 4 2 ALII>OP LO BROLP QEBK @LKSBQ QELPB 4 2 ALII>OP QL IFO> >KA QEBK IBKA QEB J LKBV  
QL ?LOOLTBP FK 3ROHBV (C QEB IFO> P BU@E>KDB O>QB S>IRB ABMOB@F>QBP QEBK 3ROHBVdP ?>KHP TFII CFKA FQ F J MLPPF?IB QL  
OBM>V QEB FKQBOK>QFLK>I IL>KP QE>Q >OB FK 4 2 ALII>OP LO BROLP

3EB @L J ?FK>QFLK LC IBPP CLOBFDK FKSBPQ J BKQ @>MFQ>I >KA ?>KHP QE>Q >OB ?>KHORMQ @>K PE>OMIV OBAR@B >DDOBD>QB AB J >KA  
TEF@E @>RBPB > ABBM OB@BPPFLK , >KV @LRKQOFBP >OLRKA QEB TLOIA E>SB BUMBOFBK@BA QEFP HFKA LC OB@BPPFLK FK OB@BKQ  
VB>OP >ILKD TFQE 3ROHBV FK , BUFL@L CLIIILTBA QEFP DBKBO>M I>QQBOK FK 3E>FI>KA >KA @LRKQOFBP >@OLPP \$>PQ  
PF> FK a 1RPPF> FK >KA ODBKQFK> FK (K J >KV LC QEBPB @LRKQOFBP I>ODB DLSBOK J BKQ ?RADBQ  
ABCF@FQP MI>VBA > OLIB FK PBQFKD QEB PQ>DB CLO QEB CFK>K@F>I @OFPPF J LABO>QB FK@OB>PB FK > ?RADBQ ABCF@FQ QE>Q IB>AP QL  
> J LABO>QB FK@OB>PB FK > QO>AB ABCF@FQ >KA > J LABO>QB >MMOB@F>QFLK LC QEB BU@E>KDB O>QB FP KLQ KB@BPP>OFIV > @>RBP CLO  
@LK@BOK 'L TBSBO ?BVLKA PL J B MLFKQ QE>Q FP E>OA QL ABCFKB FK >AS>K@B > PBOFBP LC I>ODB ?RADBQ ABCF@FQP @>K ?B@L J B  
> @>RBP CLO @LK@BOK > J LKD FKQBOK>QFLK>I FKSBPQLOP

. KB OB>PLK CLO @LK@BOK FP QE>Q BUQOB J BIV I>ODB ?RADBQ ABCF@FQP J B>K QE>Q >DDOBD>QB AB J >KA J >V PEFCQ PL C>O QL  
QEB OFDEQ >P QL @>RBP EFDE FKCI>QFLK 3EB BU> J MIB LC 3ROHBV FP > PFQR>QFLK TEBOB SBOV I>ODB ?RADBQ ABCF@FQP ?OLRDEQ  
FKCI>QFLK O>QB TBII FKQL ALR?IB AFDFQP (K >AAQFLK SBOV I>ODB ?RADBQ ABCF@FQP >Q PL J B MLFKQ ?BDFK QL O>FPB > CB>O QE>Q  
QEB DLSBOK J BKQ TLRIA KLQ OBM>V QEB ?LOOLTFKD (K QEB I>PQ VB>OP QEB DLSBOK J BKQ LC 3ROHBV E>P ?BBK RK>?IB QL  
M>V FQP AB?QP >KA ABC>RIQBA LK FQP IL>KP PFU QF J BP !O>WFIDP DLSBOK J BKQ E>P ?BBK RK>?IB QL M>V FQP AB?QP >KA ABC>RIQBA  
LK FQP IL>KP PBSBK QF J BP 5BKWBWBI> KFKB QF J BP >KA ODBKQFK> CFSB QF J BP 3EB OFPH LC EFDE FKCI>QFLK LO > ABC>RIQ LK  
OBM>VFKD FKQBOK>QFLK>I IL>KP TFII TLOOV FKQBOK>QFLK>I FKSBPQLOP PFK@B ?LQE C>@QLOP F J MIV QE>Q QEB O>QB LC OBQROK LK QEBFO  
FKSBPQ J BKQ FK QE>Q @LRKQOV J >V BKA RM ILTBO QE>K BUMB@QBA (C FKQBOK>QFLK>I FKSBPQLOP PQ>OQ TFQEAO>TFKD QEB CRKAP  
COL J > @LRKQOV O>MFAIV QEB P@BK>OFL LC IBPP FKSBPQ J BKQ > ABMOB@F>QBA BU@E>KDB O>QB TFABPMOB>A ?>KH C>FIROB >KA  
ABBM OB@BPPFLK @>K L@>RO 3EB CLIIILTFKD "IB>O (Q 4M CB>QROB BUMI>FKP LQEBO F J M>@QP LC I>ODB ABCF@FQP

# Clear It Up

/ ; 4G 4E8 G ; 8 E<F>F B9 6 ; EBA<6 ?4E : 8 789<6<GF <A G ; 8 - A<G87 +G4G8F

JC > DLSBOK J BKQ ORKP I>ODB ?RADBQ ABCF@FQP CLO > PRPQ>FKBA MBOFLA LC QF J B TE>Q @>K DL TOLKD !@>LOAFKD QL  
> OB@BKQ "OLLHFKDP )KPFQRQFLK OBMLQ > HBV OFPH LC > I>ODB ?RADBQ ABCF@FQ FP QE>Q DLSBOK J BKQ AB?Q J >V DOLT  
QLL EFDE @L J M>OBA QL QEB @LRKQOVaP ' \$O DOLTQE !P AB?Q DOLT P QEB K>QFLK>I P>SfKDP O>QB TFII AB@IFKB IB>SfKD  
IBPP >S>FI>?IB FK CFK>K@F>I @>MFQ>I CLO MOFS>QB FKSBPQ J BKQ 4EB F J M>@Q LC @EOLKF@>IIV I>ODB ?RADBQ ABCF@FQP FP >P  
CLIIILT P

d !P QEB MLMRI>QFLK >DBP QEBOB TFII ?B >K FK@OB>PFKD AB J >KA CLO DLSBOK J BKQ PBOF@BP QE>Q J >V @>RBP  
EFDEBO DLSBOK J BKQ ABCF@FQP ' LSBOK J BKQ ?LOOLTFKD >KA FQP FKQBOBPQ M>V J BKQ TFII MRII OBPLR@BP >T>V  
COL J AL J BPQ@F FKSBPQ J BKQ FK ER J >K @>MFQ>I >KA MEVP@>I @>MFQ>I QE>Q FP BPPBKQ>I QL B@LKL J F@ DOLTQE

d )KQBOBPQ O>QB J >V PQ>OQ QL OFPB PL QE>Q QEB @LPQ LC CFK>K@FKD DLSBOK J BKQ AB?Q TFII OFPB >P TBII @OB>QFKD  
MOBPPROB LK QEB DLSBOK J BKQ QL OBAR@B FQP ?RADBQ ABCF@FQP QEOLRDE PMBKAFKD @RQP >KA Q>U FK@OB>PBP  
4EBPB PQBMP TFII ?B MLIFQ@>IIV M>FKCRI >KA QEBV TFII >IPL E>SB > @LKQ>@QFLK>OV BCCB@Q LK >DDOBD>QB  
AB J >KA FK QEB B@LKL J V

d 2FPFKD MBO@BKQ>DB LC AB?Q QL ' \$O TFII @OB>QB RK@BOQ>FKQV FK QEB CFK>K@F>I >KA DIL?>I J >OHBQP QE>Q J FDEQ  
@>RBP > @LRKQOV QL OBPLQ QL FKCI>QFLK>OV Q>@Q@P QL OBAR@B QEB OB>I S>IRB LC QEB AB?Q LRQPQ>KAFKD 4EFP  
TFII AB@OB>PB OB>I TB>IQE >KA A> J >DB @LKFABK@B FK QEB @LRKQOVaP >?HFQV QL J >K>DB FQP PMBKAFKD !CQBO  
>II FC QEB DLSBOK J BKQ E>P ?LOOLTBA >Q > CFUBA FKQBOBPQ O>QB LC P>V >KA FQ IBQP FKCI>QFLK OFPB >?LSB  
QE>Q QEBK FQ TFII BCCB@QFSBIV ?B >?IB QL OBM>V FQP AB?Q >Q > KBD>QFSB OB>I FKQBOBPQ O>QB

4EB @LKSBKQFLK>I OB>PLKFKD PRDDBPQ QE>Q QEB OBI>QFLKPEFM ?BQTBBK PRPQ>FKBA ABCF@FQP QE>Q IB>A QL EFDE IBSBIV  
LC DLSBOK J BKQ AB?Q >KA ILKD QBO J DOLTQE FP KBD>QFSB (LT PFDKFCF@>KQ QEFP OBI>QFLKPEFM FP ELT ?FD >K FPPRB FQ  
FP @L J M>OBA QL LQEBO J >@OLB@LKL J F@ FPPRBP >KA QEB AFOB@QFLK LC @>RP>IFQV FP IBPP @IB>O

7 E>Q OB J >FKP F J MLQ>KQ QL >@HKLTIABADB FP QE>Q QEB OBI>QFLKPEFM ?BQTBBK AB?Q >KA DOLTQE FP KBD>QFSB >KA QE>Q  
CLO PL J B @LRKQOFBP QEB OBI>QFLKPEFM J >V ?B PQOLKDBO QE>K FK LQEBOP )Q FP >IPL F J MLQ>KQ QL >@HKLTIABADB QEB  
AFOB@QFLK LC @>RP>IFQV ALBP EFDE AB?Q @>RBP PILT DOLTQE PILT DOLTQE @>RBP EFDE AB?Q LO >OB ?LQE EFDE AB?Q  
>KA PILT DOLTQE QEB OBPRIQ LC QEFOA C>@QLOP )K LRO >K>IVPP TB E>SB >ODRBA PF J MIV QE>Q EFDE AB?Q @>RBP PILT

DOLTE 4EB0B J>V ?B JLOB QL QEFB AB?>QB QE>K TB E>SB PM>@B QL AFP@RPP EB0B

-F<A: <F64? (B?<6L GB 77E8FF ,E478 !@54?4A68F

(C > K>QLK FP BUMBOFBK@FKD QEB FKCIL T LC CLOBFDK FKSBPQ J BKQ @>MFQ>I >PPL@F>QBA TFQE > QO>AB ABCF@FQ ?B@>RPB CLOBFDK FKSBPQLOP >OB J>HFKD ILKD QBO J AFOB@Q FKSBPQ J BKQP FK CFO J P QEB0B J >V ?B KL PR?PQ>KQF>I OB>PLK CLO @LK@BOK CQBO >II J >KV ILT FK@L J B K>QLKP >OLRKA QEB TLOIA TLRIA TBI@L J B AFOB@Q FKSBPQ J BKQ ?V J RIQFK>QLK>I CFO J P QE>Q QFBP QEB J JLOB @ILPBIV FKQL QEB DIL?>I KBQ TLOHP LC MOLAR@QFLK >KA AFPQF?RQFLK LC DLLAP >KA PB0SF@BP (K QEFB @>PB QEB FKCIL TP LC CLOBFDK FKSBPQ J BKQ @>MFQ>I >KA QEB QO>AB ABCF@FQ >OB >QQ>@QBA ?V QEB LMML0QRKFQFBP CLO > DLLA 0>QB LC OBQROK LK MOFS>QB PB@QL0 FKSBPQ J BKQ FK >K B@LKL J V

' L TBSBO DLSBOK JBKQP PELRIA ?BT>OB LC > PRPQ>FKBA M>QQBOK LC EFDE ?RADBQ ABCF@FQP >KA EFDE QO>AB ABCF@FQP 3EB A>KDBO >OFFBP FK M>QF@RI>O TEBK QEB FKCIL T LC CLOBFDK FKSBPQ J BKQ @>MFQ>I FP KLQ CRKAFKD ILKD QBO J MEVPF@>I @>MFQ>I FKSBPQ J BKQ ?V CFO J P ?RQ FKPQB>A FP PELOQ QBO J MLOQCLIFL FKSBPQ J BKQ FK DLSBOK J BKQ ?LKAP 6 EBK FKCIL TP LC CLOBFDK CFK>K@F>I FKSBPQ J BKQ OB>@E EFDE IBSBIP CLOBFDK CFK>K@F>I FKSBPQLOP TFII ?B LK QEB >IBOQ CLO >KV OB>PLK QL CB>O QE>Q QEB @LRKQOVdP BU@E>KDB 0>QB J >V AB@IFKB LO QEB DLSBOK J BKQ J >V ?B RK>?IB QL OBM>V TE>Q FQ E>P ?LOOLTBA LK QF J B )RPQ >P > CBT C>IIFKD QL@HP @>K QOFDDBO >K >S>I>K@EB > OBI>QFSBIV P J >II MFB@B LC ?>A KBTP ?>LRQ >K B@LKL J V @>K QOFDDBO >K BKLO J LRP LRQCILT LC PELOQ QBO J CFK>K@F>I @>MFQ>I

1BAR@FKD > K>QLKdP ?RADBQ ABCF@FQ TFII KLQ >IT>VP ?B > PR@BPPCRI J BQELA LC OBAR@FKD FQP QO>AB ABCF@FQ ?B@>RPB LQEBO BIB J BKQP LC QEB K>QLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV IFHB MOFS>QB P>SFKD LO FKSBPQ J BKQ J >V @E>KDB FKPQB>A (K QELPB @>PBP TEBK QEB ?RADBQ ABCF@FQ FP QEB J >FK @>RPB LC QEB QO>AB ABCF@FQ DLSBOK J BKQP PELRIA Q>HB PQBMP QL OBAR@B QEBFO ?RADBQ ABCF@FQP IBPQ QEBV J >HB QEBFO B@LKL J V SRIKBO>?IB QL > O>MFA LRQCILT LC FKQBOK>QFLK>I CFK>K@F>I @>MFQ>I QE>Q @LRIA ?QFKD > ABMM OB@BPPFLK



<A4A6<A: <: ;8E 7H64G<BA

"BQTBBK >KA QEB FK@OB>PBP FK QEB @LPQ LC > @LIIBDB BAR@>QFLK E>A C>O LRQM>@BA QE>Q LC QEB FK@L J B LC QEB QVMF@>I ! J B0F>K C> J FIV ! @L0AFKD QL OOBPFABKQ / ?> J >aP OBPB>0@E PQ>CC QEB @LPQ LC BAR@>QFLK >Q > CLRO VB>0 MR?IF@ @LIIBDB FK@OB>PBA ?V @L J M>OBA QL >K FK@OB>PB FK C> J FIV FK@L J BP LC LKIV LSBO QEB MOFLO VB>0P 4EB LKDLFKD AB?>QB LSBO > ?>I>K@BA ?RADBQ >KA MOLMLPBA @RQ?>@HP >@>BKQR>QBA QEB KBBA QL FK@OB>PB FKSBPQ J BKQ FK ER J >K @>MFQ>I QL DOLT QEB B@LKL J V SBOPRP ABBMBKFKD QEB >IOB>AV PFDKFC@>KQ AB?Q IBSBIP LC QEB 5 3 DLSBOK JBKQ )K PR J JBO OOBPFABKQ / ?> J > MOBPBKQBA > MI>K QL J >HB @LIIBDB JLOB >CLOA>?IB QE>Q FK@IRABA FK@OB>PFKD OBII ' 0>KQ >T>0AP >KA QEB KR J ?BO LC OB@FMFBKQP @>MP LK FKQB0BPQ 0>QBP CLO PQRABKQ IL>KP >KA MOLSF@FKD BAR@>QFLK Q>U @OBAFQ )K >AAQFLK QEB MI>K FK@IRABP >K >@>LRKQ>?HFQV J BQELA CLO FKPQFQFLK LC EFDEBO BAR@>QFLK QE>Q CL@RPPB LK @L J MIBQFLK 0>QBP >KA @OB>QBP > #LIIBDB 3@LOB@>0A 7EBQEBO LO KLQ >II QEBPB FKFQ>QFSBP @L J B QL CORQFLK OB J >FKP QL ?B PBBK ?RQ QEBV >OB FKA@>QFSB LC @OB>QFSB >MMOL>@EBP QE>Q DLSBOK JBKQ @>K Q>HB QL J BBQ FQP L?IFD>QFLK COL J ?LQE > MR?IF@ >KA CFP@>I MLIF@V MBOPMB@QFSB

N BJ BI8EA@8AG BEEBJ<A: 9986GF (E<I4G8 +4I<A:

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

d MMIV 1F@>OAF>K BNRFS>IBK@B QL BS>IR>QB ELT DLSBOK J BKQ ?LOOLTFKD >CCB@QP MOFS>QB P>SFKD

d (KQBOMOBQ > DO>MEF@ OBM0BPBKQ>QFLK LC 1F@>OAF>K BNRFS>IBK@B

@E>KDB FK DLSBOK JBKQP ?RADBQ J >V F J M>@Q MOFS>QB P>SFKD (J >DFKB QE>Q MBLMIB T>Q@E DLSBOK JBKQ ?RADBQ >KA >AGRPQ QEBFO P>SFKD >@L0AFKDIV %LO BU> J MIB TEBKBSBO QEB DLSBOK JBKQ ORKP > ?RADBQ ABCF@FQ MBLMIB J FDEQ OB>PLK e 6BII > EFDEBO ?RADBQ ABCF@FQ J B>KP QE>Q (d J GRPQ DLFKD QL LTB JLOB Q>UBP FK QEB CRQROB QL M>V LCC >II QE>Q DLSBOK JBKQ ?LOOLTFKD PL (dII PQ>OQ P>SFKD KL T f (C QEB DLSBOK JBKQ ORKP ?RADBQ PROMIRBPB MBLMIB J FDEQ OB>PLK e 6 FQE QEBPB ?RADBQ PROMIRBPB LO ILTBO ?RADBQ ABCF@FQP FKQB0BPQ 0>QBP >OB C>IIFKD PL QE>Q P>SFKD FP IBPP >QQ>@QFSB , LOBSBO TFQE

> ?RADBQ PROMIRP QEB @LRKQOV TFII ?B >?IB QL >CCLOA > Q>U @RQ PL J BQF J B FK QEB CRQROB ( TLKdQ ?LQEBO P>SFKD >P J R@E KLT f

3EB QEBLOV QE>Q O>QLK>I MOFS>QB ELRPBELIAP J FDEQ PEFCQ QEBFO P>SFKD QL LCCPBQ DLSBOK J BKQ P>SFKD LO ?LOOLTfKD FP HKLTK >P **Ricardian equivalence** ?B@>RPB QEB FAB> E>P FKQBIIB@QR>I OLLQP FK QEB TOfQFKDP LC QEB B>OIV KFKBQBBKQE @BKQROV B@LKL J FPQ #>SFA 1F@>OAL a (C 1F@>OAF>K BNRFS>IBK@B ELIAP @L J MIBQIV QORB QEBK FK QEB K>QLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFQV >KV @E>KDB FK ?RADBQ ABCF@FQP LO ?RADBQ PROMIRPBP TLRIA ?B @L J MIBQIV LCCPBQ ?V > @L00BPMLKAFKD @E>KDB FK MOFS>QB P>SFKD P > OBPRIQ @E>KDB FK DLSBOK J BKQ ?LOOLTfKD TLRIA E>SB KL BCCB@Q >Q >II LK BFQEBO MEVPF@>I @>MFQ>I FKSBPQ J BKQ LO QO>AB ?>I>K@BP

(K MO>@QF@B QEB MOFS>QB PB@QL0 LKIV PL J BQF J BP >KA M>OQF>IIV >AGRPQP FQP P>SFKDP ?BE>SFL0 QL LCCPBQ DLSBOK J BKQ ?RADBQ ABCF@FQP >KA PROMIRPBP <:HE8 PELTP QEB M>QQBOKP LC 4 2 DLSBOK J BKQ ?RADBQ ABCF@FQP >KA PROMIRPBP >KA QEB O>QB LC MOFS>QB P>SFKD b TEF@E FK@IRABP P>SFKD ?V ?LQE ELRPBELIAP >KA CFO J P b PFK@B 3EB @LKKB@QLK ?BQTBBK QEB QTL FP KLQ >Q >II L?SFLRP (K QEB J FA P CLO BU> J MIB DLSBOK J BKQ ?RADBQ ABCF@FQP TBOB NRFQB I>ODB ?RQ QEBOB FP KL @L00BPMLKAFKD PRODB LC MOFS>QB P>SFKD 'LTBSBO TEBK ?RADBQ ABCF@FQP QROK QL PROMIRPBP FK QEB I>QB P QEBOB FP > PF J RIQ>KBLRP AB@IFKB FK MOFS>QB P>SFKD 6EBK ?RADBQ ABCF@FQP DBQ SBOV I>ODB FK >KA QEBOB FP PL J B PFDK LC > OFPB FK P>SFKD S>OFBQV LC PQ>QFPQF@>I PQRAFBP ?>PBA LK QEB 4 2 BUMBOFBK@B PRDDBQP QE>Q TEBK DLSBOK J BKQ ?LOOLTfKD FK@OB>PBP ?V MOFS>QB P>SFKD OFPBP ?V >?LRQ @BKQP 6LOIA !>KH PQRAV COL J QEB I>QB P ILLHFKD >Q DLSBOK J BKQ ?RADBQ >KA MOFS>QB P>SFKD ?BE>SFL0 FK @LRKQOFBP >OLRKA QEB TLOIA CLRKA > PF J FI>O OBPRIQ

<:HE8 - + H7:8G 89<6GF 4A7 (E<I4G8 +4I<A:F 4EB QEBLOV LC 2F@>OAF>K BNRFS>IBK@B PRDDBQP QE>Q >AAFQLK>I MOFS>QB P>SFKD TFII LCCPBQ >KV FK@OB>PB FK DLSBOK J BKQ ?LOOLTfKD TEFIB OBAR@BA MOFS>QB P>SFKD TFII LCCPBQ >KV AB@OB>PB FK DLSBOK J BKQ ?LOOLTfKD 3L J BQF J BP QEF QEBLOV ELIAP QORB >KA PL J BQF J BP FQ ALBP KLQ 3LR0@B "ROB>R LC %@LKL J F@ !K>IVPFP >KA &BAB0>I 2BPB0SB %@LKL J F@ \$>Q>

/OFS>QB P>SFKD ALBP FK@OB>PB QL PL J B BUQBKQ TEBK DLSBOK J BKQP ORK I>ODB ?RADBQ ABCF@FQP >KA MOFS>QB P>SFKD C>IIP TEBK DLSBOK J BKQP OBAR@B ABCF@FQP LO ORK I>ODB ?RADBQ PROMIRPBP 'LTBSBO QEB LCCPBQFKD BCCB@QP LC MOFS>QB P>SFKD @L J M>OBA QL DLSBOK J BKQ ?LOOLTfKD >OB J R@E IBPP QE>K LKB QL LKB (K >AAFQLK QEF BCCB@Q @>K S>OV > DOB>Q AB>I COL J @LRKQOV QL @LRKQOV COL J QF J B QL QF J B >KA LSBO QEB PELOQ >KA QEB ILKD ORK

(C QEB CRKAFKD CLO > I>ODBO ?RADBQ ABCF@FQ @L J BP COL J FKQBOK>QLK>I CFK>K@F>I FKSBPQL0P QEBK > QO>AB ABCF@FQ J >V >@@L J M>KV > ?RADBQ ABCF@FQ (K PL J B @LRKQOFBP QEF M>QQBOK LC **twin deficits** E>P PBQ QEB PQ>DB CLO FKQBOK>QLK>I CFK>K@F>I FKSBPQL0P CFOPQ QL PBKA QEBFO CRKAP QL > @LRKQOV >KA @>RPB >K >MMOB@F>QLK LC FQP BU@E>KDB O>QB >KA QEBK QL MRII QEBFO CRKAP LRQ >KA @>RPB > ABMOB@F>QLK LC QEB BU@E>KDB O>QB >KA > CFK>K@F>I @OFPP >P TBII (Q ABMBKAP LK TEBQEBO CRKAFKD @L J BP COL J FKQBOK>QLK>I CFK>K@F>I FKSBPQL0P

# N <F64? (B?<6L !A18FG@8AG 4A7 6BAB@<6 EBJG;

! V QEB BKA LC QEFP PB@QFLK VLR TFII ?B >?IB QL

- d \$UMI>FK @OLTAFKD LRQ >KA FQP BCCB@Q LK MEVPF@>I @>MFQ>I FKSBPQ J BKQ
- d \$UMI>FK QEB OBI>QFLKPEFM ?BQTBK ?RADBQ ABCF@FQP >KA FKQBOBPQ O>QBP
- d (ABKQFCV TEV B@LKL J F@ DOLTQE FP QFBA QL FKSBPQ J BKQP FK MEVPF@>I @>MFQ>I ER J >K @>MFQ>I >KA QB@EKLILDV

3EB RKABOMFKKFKDP LC B@LKL J F@ DOLTQE >OB FKSBPQ J BKQP FK MEVPF@>I @>MFQ>I ER J >K @>MFQ>I >KA QB@EKLILDV >II PBQ FK >K B@LKL J F@ BKSFOFK J BKQ TEBOB CFO J P >KA FKAFSFAR>IP @>K OB>@Q QL QEB FK@BKQFSBP MOLSFAFA ?V TBII CRK@QFLKFKD J >OHBQP >KA CIBUF?IB MOF@BP &LSBOK J BKQ ?LOOLTFKD @>K OBAR@B QEB CFK>K@F>I @>MFQ>I >S>FI>?IB CLO MOFS>QB CFO J P QL FKSBPQ FK MEVPF@>I @>MFQ>I 'LTBSBO DLSBOK J BKQ PMBKAFKD @>K >IPL BK@LRQ>DB @BQQ>FK BIB J BKQP LC ILKD QBO J DOLTQE PR@E >P PMBKAFKD LK OL>AP LO T>QBO PVPQB J P LK BAR@>QFLK LO LK OBPB>Q@E >KA ABSBILM J BKQ QE>Q @OB>QBP KBT QB@EKLILDV

## EBJ7<A: 'HG ( ;LF<64? 4C<G4? !A18FG@8AG

I>ODBO ?RADBQ ABCF@FQ TFII FK@OB>PB AB J >KA CLO CFK>K@F>I @>MFQ>I (C MOFS>QB P>SFKD >KA QEB QO>AB ?>I>K@B OB J >FK QEB P> J B QEBK IBPP CFK>K@F>I @>MFQ>I TFII ?B >S>FI>?IB CLO MOFS>QB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I 6 EBK DLSBOK J BKQ ?LOOLTFKD PL>HP RM >S>FI>?IB CFK>K@F>I @>MFQ>I >KA IB>SBP IBPP CLO MOFS>QB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I B@LKL J FQP @>II QEB OBPRIQ @OLTAFKD LRQ

3L RKABOPQ>KA QEB MLQBKF>I F J M>@Q LC @OLTAFKD LRQ @LKPFABO QEB 4 2 B@LKL J V P PFQR>QFLK ?BCLQB QEB BU@BMQFLK>I @FO@R J P Q>K@BP LC QEB OB@BPPFLK QE>Q P Q>QBA FK I>QB (K CLO BU> J MIB QEB ?RADBQ ABCF@FQ T>P OLRDEIV LC &# / /OFS>QB FKSBPQ J BKQ ?V CFO J P FK QEB 4 2 B@LKL J V E>P ELSBOBA FK QEB O>KDB LC QL LC &# / FK OB@BKQ AB@>ABP 'LTBSBO FK >KV DFSBK VB>O OLRDEIV E>IC LC 4 2 FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I GRPQ OBMI>@BP J>@EFKBOV >KA BNRFM J BKQ QE>Q E>P TLOK LRQ LO ?B@L J B QB@EKLILDF>IIV L?PLIBQB . KIV >?LRQ E>IC OBMOBPKQP >K FK@OB>PB FK QEB QLQ>I NR>KQFV LC MEVPF@>I @>MFQ>I FK QEB B@LKL J V (KSBPQ J BKQ FK KBT MEVPF@>I @>MFQ>I FK >KV VB>O FP >?LRQ QL LC &# / (K QEFP PFQR>QFLK BSBK 4 2 ?RADBQ ABCF@FQP FK QEB O>KDB LC LC &# / @>K MLQBKF>IIV @OLTA LRQ > PR?PQ>KQF>I PE>OB LC KBT FKSBPQ J BKQ PMBKAFKD "LKSBOBPBIV > P J >IIBO ?RADBQ ABCF@FQ LO >K FK@OB>PBA ?RADBQ PROMIRP FK@OB>PBP QEB MLLI LC CFK>K@F>I @>MFQ>I >S>FI>?IB CLO MOFS>QB FKSBPQ J BKQ



6FQP QEFP TB?P@QB EQQM LMBKPQ>U@LIIBDB LOD I AB?Q@IL@H QL S@BT QEB b5 3 \$B?Q #IL@H c

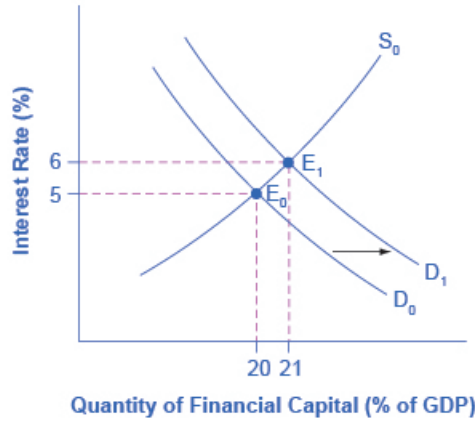
<:HE8 PELTP QEB M>Q@BOKP LC 4 2 ?RADBQ ABCF@FQP >KA MOFS>QB FKSBPQ J BKQ PFK@B (C DOB>QBO DLSBOK J BKQ ABCF@FQP IB>A QL IBPP MOFS>QB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I >KA OBAR@BA DLSBOK J BKQ ABCF@FQP LO ?RADBQ PROMIRPBP IB>A QL J LOB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I QEBBP QTL IFKBP PELRIA J LSB RM >KA ALTK PF J RIQ>KBLRPV 3EFP M>Q@BOK L@>ROOBA FK QEB I>QB P >KA B>OIV P 3EB 4 2 CBABO>I ?RADBQ TBKQ COL J > ABCF@FQ LC LC &# / FK QL > ?RADBQ PROMIRP LC LC &# / FK b >PTFKD LC LC &# / %QL J QL MOFS>QB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I OLPB COL J QL LC &# / b >OFPB LC LC &# / 3EBK TEBK QEB 4 2 DLSBOK J BKQ >D>FK P Q>QBA ORKKFKD ?RADBQ ABCF@FQP FK QEB B>OIV P IBPP CFK>K@F>I @>MFQ>I ?B@> J B >S>FI>?IB CLO MOFS>QB FKSBPQ J BKQ >KA QEB O>QB LC MOFS>QB FKSBPQ J BKQ CBII ?>@H QL >?LRQ LC &# / ?V

<:HE8 - + H7:8G 89<6<GF +HEC?HF8F 4A7 (E<14G8 !A18FG@8AG 4EB @LKKB@QFLK ?BQTBBK MOFS>QB P>SFKDP  
>KA CILTP LC FKQBOK>QFLK>I @>MfQ>I MI>VP > OLIB FK ?RADBQ ABCf@FQP >KA PROMIRPBP #LKPBNRBKQIV DLSBOK JBKQ ?LOOLTfKD  
>KA MOFS>QB FKSBPQ JBKQ PL J BQf J BP OFPB >KA >II QLDBQEBO &LO BU> J MIB QEB P PELT > M>QQBOK FK TEF@E OBAR@BA  
DLSBOK JBKQ ?LOOLTfKD EBIMBA QL OBAR@B @OLTAfKD LRQ PL QE>Q J LOB CRKAP TBOB >S>fI>?IB CLO MOFS>QB FKSBPQ JBKQ

3EFP >ODR JBKQ ALBP KLQ @I>F J QE>Q > DLSBOK JBKQ P ?RADBQ ABCf@FQP TFII BU>@QIV PE>ALT FQP K>QFLK>I O>QB LC MOFS>QB  
FKSBPQ JBKQ >CQBO >II TB JRPQ >@LRKQ CLO MOFS>QB P>SFKD >KA FKCILTP LC CLOBFDK CFK>K@F>I FKSBPQ JBKQ (K QEB  
J FA P CLO BU> J MIB DLSBOK JBKQ ?RADBQ ABCf@FQP FK@OB>PBA PR?PQ>KQF>IIV TfQELRQ > @LOOBPMLKAFKD AOLM LCC FK  
MOFS>QB FKSBPQ JBKQ (K KLKOBPFABKQF>I MOFS>QB CFUBA FKSBPQ JBKQ AOLMMBA ?V ?FIIFLK COL J FQP MOBSFLRP IBSBI  
LC ?FIIFLK FK MOF J >OFIV ?B@>RPB AROFKD > OB@BPPFLK CFO J P I>@H ?LQE QEB CRKAP >KA QEB FK@BKQFSB QL  
FKSBPQ (KSBPQ JBKQ DOLtQE ?BQTBBK >KA >SBO>DBA >MMOLUF J >QBIV QL ?FIIFLK b LKIV PIFDEQIV  
>?LSB FQP IBSBI >@LOAFKD QL QEB !ROB>R LC \$@LKL J F@ K>IVPPF #ROFKD QE>Q P> J B MBOFLA FKQBOBPQ O>QBP AOLMMBA  
COL J QL IBPP QE>K > NR>OQBO MBO@BKQ >P QEB %BABO>I 1BPBOSB QLLH AO> J >QF@ >@QFLK QL MOBSBKQ > ABMOBPPFLK ?V  
FK@OB>PFKD QEB J LKBV PRMMIV QEOLRDE ILTBOFKD PELOQ QBO J FKQBOBPQ O>QBP 3EB @OLTAfKD LRQ LC MOFS>QB FKSBPQ JBKQ  
ARB QL DLSBOK JBKQ ?LOOLTfKD QL CFK>K@B BUMBKAFQROBP >MMB>OP QL E>SB ?BBK PRPMBKABA AROFKD QEB &OB>Q 1B@BPPFLK  
'LTBSBO >P QEB B@LKL J V F J MOLSBP >KA FKQBOBPQ O>QBP OFPB DLSBOK JBKQ ?LOOLTfKD J >V MLQBKQF>IIV @OB>QB MOBPPROB LK  
FKQBOBPQ O>QBP

, ; 8 !AG8E8FG \*4G8 BAA86G<BA

PPR J B QE>Q DLSBOK JBKQ ?LOOLTfKD LC PR?PQ>KQF>I > J LRKQP TFII E>SB >K BCCB@Q LK QEB NR>KQFQV LC MOFS>QB FKSBPQ JBKQ  
'LT TFII QEFP >CCB@Q FKQBOBPQ O>QBP FK CFK>K@F>I J >OHBQP (K <:HE8 QEB LOFDK>I BNRfIF?OFR J \$ TEBOB QEB  
AB J >KA @ROSB # CLO CFK>K@F>I @>MfQ>I FKQBOPB@QP TfQE QEB PRMMIV @ROSB 2 L@>ROP >Q >K FKQBOBPQ O>QB LC >KA >K  
BNRfIF?OFR J NR>KQFQV BNR>I QL LC &# / 'LTBSBO >P QEB DLSBOK JBKQ ?RADBQ ABCf@FQ FK@OB>PBP QEB AB J >KA @ROSB  
CLO CFK>K@F>I @>MfQ>I PEFCQP COL J # QL # 3EB KBT BNRfIF?OFR J \$ L@>ROP >Q >K FKQBOBPQ O>QB LC >KA >K BNRfIF?OFR J  
NR>KQFQV LC LC &# /



<:HEB H7:8G 89<6<GF 4A7!AG8E8FG \*4G8F )K QEB CFK>K@F>I J>0HBQ >K FK@OB>PB FK DLSBOK J BKQ ?LOOLTFKD @>K PEFQ QEB AB J>KA @ROSB CLO CFK>K@F>I @>MFQ>I QL QEB OFDEQ COL J \$ QL \$ !P QEB BNRFF?OFR J FKQBOPBQ O>QB PEFQ COL J % QL % QEB FKQBOPBQ O>QB OFPB COL J QL FK QEP BU>J MIB 4EB EFDEBO FKQBOPBQ O>QB FP LKB B@LKL J F@ JB@E>KFP J ?V TEF@E DLSBOK J BKQ ?LOOLTFKD @>K @OLTA LRQ MOFS>QB FKSBPQ J BKQ

PROSBV LC B@LKL J F@ PQRAFBP LK QEB @LKKB@QFLK ?BQTBKB DLSBOK J BKQ ?LOOLTFKD >KA FKQBOPBQ O>QB FK QEB 4 2 B@LKL J V PRDDBPQP QE>Q >K FK@OB>PB LC FK QEB ?RADBQ ABCF@FQ TFIH IB>A QL > OFPB FK FKQBOPBQ O>QB LC ?BQTBKB >KA LQEBO C>@QLOP EBIA BNR>I (K QROK > EFDEBO FKQBOPBQ O>QB QBKAP QL AFP@LRO>DB CFO J P COL J J >HEKD MEVPF@>I @>MFQ>I FKSBPQ J BKQ . KB OB>PLK DLSBOK J BKQ ?RADBQ ABCF@FQ @OLTA LRQ MOFS>QB FKSBPQ J BKQ QEBOBCLQB FP QEB FK@OB>PB FK FKQBOPBQ O>QB 3EBOB >OB ELTBSBO B@LKL J F@ PQRAFBP QE>Q PELT > IF J FQBA @LKKB@QFLK ?BQTBKB QEB QTL >Q IB>PQ FK QEB 4KFQBA 2Q>QB ?RQ >P QEB ?RADBQ ABCF@FQ DOLTP QEB A>KDBOP LC OFPKD FKQBOPBQ O>QB ?B@L J B J LOB OB>I

Q QEP MLFKQ VLR J>V TLKABO >?LRQ QEB %BABO>I 1BPBOSB CQBO >II @>K QEB %BABO>I 1BPBOSB KLQ RPB BUM>KPKL>OV J LKBQ>OV MLIF@V QL OBAR@B FKQBOPBQ O>QB LO FK QEP @>PB QL MOBSBKQ FKQBOPBQ O>QB COL J OFPKD 3EFP RPBRI NRBQFLK B J ME>PFWBP QEB F J MLOQ>K@B LC @LKPFAOFKD ELT CFP@>I >KA J LKBQ>OV MLIF@FBP TLOH FK OBI>QFLK QL B>@E LQEBO (J >DFKB > @BKQ>I ?>KH C>@BA TFQE > DLSBOK J BKQ QE>Q FP ORKKFKD I>ODB ?RADBQ ABCF@FQ @>RPFKD > OFPB FK FKQBOPBQ O>QB >KA @OLTAFKD LRQ MOFS>QB FKSBPQ J BKQ (C QEB ?RADBQ ABCF@FQ >OB FK@OB>PKD >DDBD>QB AB J >KA TEBK QEB B@LKL J V FP >IOB>AV MOLAR@FKD KB>O MLQBKF>I &# / QEOB>QBKFKD >K FKCI>QFLK>OV FK@OB>PB FK MOF@B IBSBIP QEB @BKQ>I ?>KH J >V OB>@Q TFQE > @LQO>@QFLK>OV J LKBQ>OV MLIF@V (K QEP PFQR>QFLK QEB EFDEBO FKQBOPBQ O>QB COL J QEB DLSBOK J BKQ ?LOOLTFKD TLRIA ?B J >AB BSBK EFDEBO ?V @LQO>@QFLK>OV J LKBQ>OV MLIF@V >KA QEB DLSBOK J BKQ ?LOOLTFKD J FDEQ @OLTA LRQ > DOB>Q AB>I LC MOFS>QB FKSBPQ J BKQ

IQBOK>QFSBIV FC QEB ?RADBQ ABCF@FQ >OB FK@OB>PKD >DDBD>QB AB J >KA TEBK QEB B@LKL J V FP MOLAR@FKD PR?P>KQF>IIV IBPP QE>K MLQBKF>I &# / >K FKCI>QFLK>OV FK@OB>PB FK QEB MOF@B IBSBIP FP KLQ J R@E LC > A>KDBO >KA QEB @BKQ>I ?>KH J FDEQ OB>@Q TFQE BUM>KPKL>OV J LKBQ>OV MLIF@V (K QEP PFQR>QFLK EFDEBO FKQBOPBQ O>QB COL J DLSBOK J BKQ ?LOOLTFKD TLRIA ?B I>ODBIV LCCPBQ ?V ILTBO FKQBOPBQ O>QB COL J BUM>KPKL>OV J LKBQ>OV MLIF@V >KA QEBOB TLRIA ?B IFQIB @OLTAFKD LRQ LC MOFS>QB FKSBPQ J BKQ

'LTBSBO BSBK > @BKQ>I ?>KH @>KKLQ BO>PB QEB LSBO>II J BPP>DB LC QEB K>QFLK>I P>SFKDP >KA FKSBPQ J BKQ FABKQFV (C DLSBOK J BKQ ?LOOLTFKD OFPB QEBK MOFS>QB FKSBPQ J BKQ J RPQ C>II LO MOFS>QB P>SFKD J RPQ OFPB LO QEB QO>AB ABCF@FQ J RPQ C>II !V OB>@QFQD TFQE @LQO>@QFLK>OV LO BUM>KPKL>OV J LKBQ>OV MLIF@V QEB @BKQ>I ?>KH @>K LKIV EBIM QL ABQBO J FK B TEF@E LC QEBPB LRQ@L J BP FP IFHBIV

**(H5?<6 !A18FG@8AG <A ( ;LF<64? 4C<G4?**

&LSBOK J BKQ @>K FKSBPQ FK MEVPF@>I @>MFQ>I AFOB@QIV OL>AP >KA ?OFADBP T>QBO PRMMIV >KA PBTBOP PB>MLOQP >KA >FOMLOQP P@ELLIP >KA ELPMFQ>IP MI>KQP QE>Q DBKBO>QB BIB@QF@FQV IFHB EVAOLBIB@QF@ A> J P LO TFKA J FIIP QBIB@L J J RKF@>QFLKP C>@FIFQFBP >KA J FIFQ>OV TB>MLKP (K QEB 4 2 CBABO>I DLSBOK J BKQ ?RADBQ CLO %FP@>I 8B>O PELTP QE>Q QEB 4KFQBA 2Q>QB PMBKQ >?LRQ ?FIIFLK LK QO>KPMLOQ>QFLK FK@IRAFKD EFDET>VP J >PP QO>KPFQ >KA >FOMLOQP ,45?8 PELTP QEB CBABO>I DLSBOK J BKQ P QLQ>I LRQI>V CLO CLO J >GLO MR?IF@ MEVPF@>I @>MFQ>I FKSBPQ J BKQ FK QEB 4KFQBA 2Q>QB 6 B E>SB L J FQQA MEVPF@>I @>MFQ>I OBI>QBA QL QEB J FIFQ>OV LO QL OBPFAK@BP TEBOB MBLMIB IFSB COL J QEP Q>?IB ?B@>RBP QEB CL@RP EBOB FP LK MR?IF@ FKSBPQ J BKQ QE>Q E>SB > AFOB@Q BCCB@Q LK O>FPFKD LRQMRQ FK QEB MOFS>QB PB@QLLO



,LC8 B9 (H5?6 ( ;LF<64? 4C<G4?	878E4? 'HG?4LF	@<?<BAF
40>KPMLQ>QFLK		
#L J J RKfQV >KA 0BDFLK>I ABSBILM J BKQ		
.>QR0>I 0BPLR0@BP >KA QEB BKSf0LK J BKQ		
%AR@>QFLK Q0>FKFKD B J MILV J BKQ >KA PL@f>I PB0Sf@BP		
/ QEB0		
4LQ>I		

,45?8 E4AGf 9BE %4=BE ( ;LF<64? 4C<G4? !A18FG@8AG

/R?IF@ MEVPF@>I @>MFQ>I FKSBPQ J BKQ LC QEF PLOQ @>K FK@OB>PB QEB B@LKL J V P LRQMRQ >KA MOLAR@QFSFQV K B@LKL J V TFQE OBIF>?IB OL>AP >KA BIB@QOF@FQV TFII ?B >?IB QL MOLAR@B J LOB 'LTBSBO FQ FP E>0A QL NR>KQFCV ELT J R@E DLSBOK J BKQ FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I TFII ?BKBCFQ QEB B@LKL J V ?B@>RBP DLSBOK J BKQ 0BPMLKAP QL MLIFQF@>I >P TBII >P B@LKL J F@ FK@BKQFSBP 6 EBK > CFO J J >HBP >K FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I FQ FP PR?GB@Q QL QEB AFP@FMIFKB LC QEB J >0HBQ (C FQ ALBP KLQ 0B@BFSB > MLPFQFSB 0BQROK LK FKSBPQ J BKQ QEB CFO J J >V ILPB J LKBV LO BSBK DL LRQ LC ?RPFKBPP

(K PL J B @>PBP I>T J >HBOP J >HB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I >P > T>V LC PMBKAFKD J LKBV FK HBV MLIFQF@>KP AFPQOF@QP 3EB 0BPRIQ J >V ?B RKKB@BPP>0V OL>AP LO LCCF@B ?RFIAFKDP \$SBK FC > MOLGB@Q FP RPBRI >KA KB@BPP>0V FQ J FDEQ ?B ALKB FK > T>V QE>Q FP BU@BPPFSBIV @LPQIV ?B@>RBP IL@>I @LQKQ>@QL0P TEL J >HB @> J M>FDK @LQKQF?RQFLKP QL MLIFQF@>KP >MMOB@F>QB QEB BUQ0? ?RPFKBPP IQBOK>QFSBIV DLSBOK J BKQ PL J BQF J BP AL KLQ J >HB QEB FKSBPQ J BKQ QEBV PELRIA ?B@>RBP > AB@FPFLK QL PMBKA LK FKCO>PQOR@QROB ALBP KLQ KBBA QL GRPQ J >HB B@LKL J F@ PBKPB (Q J RPQ ?B MLIFQF@>IIV MLMRI>0 >P TBII , >K>DFKD MR?IF@ FKSBPQ J BKQ @LPQ BCCB@QFSBIV @>K ?B AFCCF@RIQ

(C > DLSBOK J BKQ AB@FABP QL CFK>K@B >K FKSBPQ J BKQ FK MR?IF@ MEVPF@>I @>MFQ>I TFQE EFDEBO Q>UBP LO ILTBO DLSBOK J BKQ PMBKAFKD FK LQEBO >OB>P FQ KBBA KLQ TLOOV QE>Q FQ FP AFOB@QIV @OLTAFKD LRQ MOFS>QB FKSBPQ J BKQ (KAF0B@QIV ELTBSBO EFDEBO ELRPBELIA Q>UBP @LRIA @RQ ALTK LK QEB IBSBI LC MOFS>QB P>SFKDP >S>FI>?IB >KA E>SB > PF J FI>0 BCCB@Q (C > DLSBOK J BKQ AB@FABP QL CFK>K@B >K FKSBPQ J BKQ FK MR?IF@ MEVPF@>I @>MFQ>I ?V ?LOOLTfKD FQ J >V BKA RM FK@OB>PFKD QEB NR>KQFQV LC MR?IF@ MEVPF@>I @>MFQ>I >Q QEB @LPQ LC @OLTAFKD LRQ FKSBPQ J BKQ FK MOFS>QB MEVPF@>I @>MFQ>I TEF@E @LRIA ?B J LOB ?BKBCF@>I QL QEB B@LKL J V

### (H5?6 !A18FG@8AG <A H@4A 4C<G4?

(K J LPQ @LRKQOFBP QEB DLSBOK J BKQ MI>VP > I>0DB OLIB FK PL@FBQV P FKSBPQ J BKQ FK ER J >K @>MFQ>I QEOLRDE QEB BAR@>QFLK PVPQB J EFDEIV BAR@>QBA >KA PHFIIBA TLOHCL0@B @LQKQF?RQBP QL > EFDEBO 0>QB LC B@LKL J F@ DOLTQE %LO QEB ILT FK@L J B K>QFLKP LC QEB TLOIA >AAFQFLK>I FKSBPQ J BKQ FK ER J >K @>MFQ>I PBB J P IFHBIV QL FK@OB>PB MOLAR@QFSFQV >KA DOLTQE %LO QEB 4KFQBA 2Q>QBP @OFQF@P E>SB 0>FPBA QLRDE NRBPQFLKP >?LRQ ELT J R@E FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD LK BAR@>QFLK TFII F J MOLSB QEB >@QR>I IBSBI LC BAR@>QFLK

J LKD B@LKL J FPQP AFP@RPPFLKP LC BAR@>QFLK 0BCLO J LCQBK ?BDFK TFQE PL J B RK@L J CLOQ>?IB C>@QP P <:HE8 PELTP PMBKAFKD MBO PQRABKQ CLO HFKABOD>QQBK QEOLRDE D0>AB \*a FK@OB>PBA PR?PQ>KQF>IIV FK OB>I ALII>0P QEOLRDE 3EB 4 2 "BKPRP !ROB>R 0BML0QP QE>Q @ROOBKQ PMBKAFKD MBO MRMFI CLO BIB J BKQ>0V >KA PB@LKA>0V BAR@>QFLK 0LPB COL J FK QL FK 'LTBSBO >P J B>PROBA ?V PQ>KA>0AFWBA QBPQP IFHB QEB 2 3 QEB IBSBI LC PQRABKQ >@>AB J F@ >@EFBSB J BKQ E>P ?>0BIV ?RADBA FK OB@BKQ AB@>ABP .K FKQBOK>QFLK>I QBPQP 4 2 PQRABKQ I>D ?BEFKA PQRABKQ COL J J >KV LQEBO @LRKQOFBP .C @LROPB QBPQ P@LOBP >OB >K F J MBOCB@Q J B>PROB LC BAR@>QFLK CLO > S>0FBQV LC OB>PLKP (Q TLRIA ?B AFCCF@RIQ ELTBSBO QL >ODRB QE>Q QEB0B >OB KLQ OB>I MOL?IB J P FK QEB 4 2 BAR@>QFLK PVPQB J >KA QE>Q QEB QBPQP >OB GRPQ FK>@>RO>QB

<:HEB ,B64? +C8A7A: 9BE ?8@8AG4EL +86BA74EL 4A7 .B64G<BA4? 7H64G<BA P <A G;8 -A<G87 +G4G8F 4EB DO>ME PELTP QE>Q DLSBOK JBKQ PMBKAFKD LK BAR@>QFLK T>P @LKQFKR>IIV FK@OB>PFKD RM RKQFI TEBOB FQ IBSBIBA LCC RKQFI TEBK FQ FK@OB>PBA AO> J>QF@>IIV 3FK@B PMBKAFKD E>P PQB>AFIV AB@OB>PBA 3LR0@B /CCF@B LC ->K>DB JBKQ >KA "RADBQ

3EB C>@Q QE>Q FK@OB>PBA CFK>K@F>I OBPLRO@BP E>SB KLQ ?OLRDEQ DOB>QBO J B>PRO>?IB D>FKP FK PQRABKQ MBOCLO J >K@B E>P IBA PL J B BAR@>QFLK BUMBOQP QL NRBPOFLK TEBQEBO QEB MOL?IB J P J >V ?B ARB QL PQOR@QROB KLQ GRPQ QL QEB OBPLRO@BP PMBKQ

. QEBQ DLSBOK JBKQ MOLDO> J P PBBH QL FK@OB>PB ER J >K @>MFQ>I BFQEBO ?BCLOB LO >CQBO QEB \*a BAR@>QFLK PVPQBJ /OLDO> J P CLO B>OIV @EFIAELLA BAR@>QFLK IFHB QEB CBABO>I **Head Start program** >OB AFOB@QBA >Q C> J FIFBP TEBOB QEB M>OBKQP J >V E>SB IF J FQBA BAR@>QFLK>I >KA CFK>K@F>I OBPLRO@BP &LSBOK JBKQ >IPL LCCBOP PR?PQ>KQF>I PRMMLQ CLO RKFSBOPFQFBP >KA @LIIBDBP %LO BU> J MIB FK QEB 4KFQBA 2Q>QBP >?LRQ LC PQRABKQP Q>HB >Q IB>PQ > CBT @LIIBDB LO RKFSBOPFQV @I>PPBP ?BVLKA QEB EFDE P@ELLI IBSBI (K &B0 J >KV >KA )>M>K >?LRQ E>IC LC >II PQRABKQP Q>HB @I>PPBP ?BVLKA QEB @L J M>O>?IB EFDE P@ELLI IBSBI (K QEB @LRKQOFBP LC +>QFK J BOF@> LKIV >?LRQ LKB PQRABKQ FK CLRO Q>HBP @I>PPBP ?BVLKA QEB EFDE P@ELLI IBSBI >KA FK QEB K>QFLKP LC PR? 2>E>O>K COF@> LKIV >?LRQ LKB PQRABKQ FK

- LQ >II PMBKAFKD LK BAR@>QFLK>I ER J >K @>MFQ>I KBBAP QL E>MMBK QEOLRDE QEB DLSBOK JBKQ J >KV @LIIBDB PQRABKQP FK QEB 4KFQBA 2Q>QBP M>V > PR?PQ>KQF>I PE>OB LC QEB @LPQ LC QEBFO BAR@>QFLK (C ILT FK@L J B @LRKQOFBP LC QEB TLOIA >OB DLFKD QL BUMBOFBK@B > TFABPMOB>A FK@OB>PB FK QEBFO BAR@>QFLK IBSBIP CLO DO>AB P@ELLI @EFIAOBK DLSBOK JBKQ PMBKAFKD PBB J P IFHBIV QL MI>V > PR?PQ>KQF>I OLIB %LO QEB 4 2 B@LKL J V >KA CLO LQEBQ EFDE FK@L J B @LRKQOFBP QEB MOF J >OV CL@RP >Q QEPF QF J B FP J LOB LK ELT QL DBQ > ?FDDBO OBQROK COL J BUFPQFKD PMBKAFKD LK BAR@>QFLK >KA ELT QL F J MOLSB QEB MBOCLO J >K@B LC QEB >SBO>DB EFDE P@ELLI DO>AR>QB O>QEBQ QE>K AO> J >QF@ FK@OB>PBP FK BAR@>QFLK PMBKAFKD

### BJ <F64? (B?<6L 4A !@CEB18 ,86;AB?B:L

1BPB>O@E >KA ABSBILM JBKQ 1 # BCLOQP >OB QEB IFCB?ILLA LC KBT QB@EKLILDV @@LOAFKD QL QEB ->QFLK>I 2@FBK@B %LRKA>QFLK CBABO>I LRQI>VP CLO OBPB>O@E ABSBILM JBKQ >KA MEVPF@>I MI>KQ F J MOLSB JBKQP QL S>OFLRP DLSBOK JBKQ>I >DBK@FBP E>SB OB J >FKBA >Q >K >SBO>DB LC LC &# / ?LRQ LKB CFCQE LC 4 2 1 # PMBKAFKD DLBP QL ABCBKP >KA PM>@B LOFBKQBA OBPB>O@E IQELRDE ABCBKP LOFBKQBA 1 # PMBKAFKD J >V PL J BQF J BP MOLAR@B @LKPR J BO LOFBKQBA PMFKLCCP 1 # QE>Q FP >F J BA >Q MOLAR@FKD KBT TB>MLKP FP IBPP IFHBIV QL ?BKBCFQ QEB @FSFIF>K B@LKL J V QE>K AFOB@Q @FSFIF>K 1 # PMBKAFKD

%FP@>I MLIF@V @>K BK@LRO>DB 1 # RPFKD BFQEBO AFOB@Q PMBKAFKD LO Q>U MLIF@V &LSBOK JBKQ @LRIA PMBKA J LOB LK QEB 1 # QE>Q FQ @>OOFBP LRQ FK DLSBOK JBKQ I>?LO>QLOFBP >P TBII >P BUM>KAFKD CBABO>I 1 # DO>KQP QL RKFSBOPFQFBP >KA @LIIBDBP KLKMLCFQ LOD>KFW>QFLKP >KA QEB MOFS>QB PB@QLO !V QEB CBABO>I PE>OB LC 1 # LRQI>VP QLQ>IBA ?FIIFLK LO >?LRQ LC QEB CBABO>I DLSBOK JBKQ P QLQ>I ?RADBQ LRQI>VP >@@LOAFKD QL A>Q> COL J QEB ->QFLK>I 2@FBK@B %LRKA>QFLK %FP@>I MLIF@V @>K >IPL PRMMLQ 1 # QEOLRDE Q>U FK@BKQFSBP TEF@E >IILT CFO J P QL OBAR@B QEBFO Q>U ?FII >P QEBV FK@OB>PB PMBKAFKD LK OBPB>O@E >KA ABSBILM JBKQ

### +H@@@4EL B9 <F64? (B?<6L !A18FG@8AG 4A7 6BAB@<6 EBJG;

(KSBPQ JBKQ FK MEVPF@>I @>MFQ>I ER J >K @>MFQ>I >KA KBT QB@EKLILDV FP BPPBKQF>I CLO ILKD QBO J B@LKL J F@ DOLTQE >P ,45?8 PR J J>OFWBP (K > J >OHBQ LOFBKQBA B@LKL J V MOFS>QB CFO J P TFII RKABOQ>HB J LPQ LC QEB KSBPQ JBKQ FK MEVPF@>I @>MFQ>I >KA CFP@>I MLIF@V PELRIA PBBH QL >SLFA > ILKD PBOFBP LC LRQPFWBA ?RADBQ ABCF@FQ QE>Q J FDEQ @OLT A LRQ

#E>M@B0 X 4EB )JM>@QP LC 'LSB0KJ BKQ "L00LTFKD

PR@E FKSBPQ J BKQ 6 B TFII PBB QEB BCCB@QP LC J >KV D0LTQE L0FBKQBA MLIF@FBP SBOV D0>AR>IIV LSB0 QF J B >P PQRABKQP >OB  
?BQQB0 BAR@>QBA TB J >HB MEVPF@>I @>MFQ>I FKSBPQ J BKQP >KA J >K FKS BKQP >KA F J MIB J BKQP KBT QB@EKLILDFBP

	( ;LF<64? 4C<G4?	H@4A 4C<G4?	&8J ,86 ;AB?B :L
O0FS>QB 3B@QL0	. BT FKSBPQ J BKQ FK M0LMBOQV >KA BNRFM J BKQ	/ K QEB GL? Q0>FKFKD	2BPB>0@E >KA ABSBILM J BKQ
OR?IF@ 3B@QL0	OR?IF@ FKCO>PQOR@QR0B	OR?IF@ BAR@>QFLK *L? Q0>FKFKD	2BPB>0@E >KA ABSBILM J BKQ BK@LR0>DBA QE0LRDE MOFS>QB PB@QL0 FK@BKQFSBP >KA AF0B@Q PMBKAFKD

,45?8 !A I 8FG@8AG \*B?8 B9 (H5?<6 4A7 (E<I4G8 +86G6E <A 4 %4E>8G 6BAB@L

# # 1 , \*%+

847 +G4EG CEB :E4@ > MOLDO>J CLO B>OIV @EFIAELLA BAR@>QLK AFOB@QBA >Q C> J FIFBP TFQE IF J FQBA BAR@>QLK>I >KA  
CFK>K@F>I OBPLRO@BP

\*<64E7<4A 8DH<I4?8A68 QEB QEBLOV QE>Q O>QLK>I MOFS>QB ELRPBELIAP J FDEQ PEFCQ QEBFO P>SFKD QL LCCPBQ DLSBOK J BKQ P>SFKD  
LO ?LOOLTFKD

GJ<A 789<6<GF ABCF@FQP QE>Q L@@RO TEBK > @LRKQOV FP ORKKFKD ?LQE > QO>AB >KA > ?RADBQ ABCF@FQ

# # 1 ' & ( , + & + - % % \* 1

BJ B18EA@8AG BEEBJ<A: 9986GF !A18FG@8AG 4A7 G;8 ,E478 4?4A68

@E>KDB FK >KV M>OQ LC QEB K>QLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV PRDDBPQP QE>Q FC QEB DLSBOK J BKQ ?RADBQ  
ABCF@FQ @E>KDBP QEBK BQEBQ MOFS>QB P>SFKD MOFS>QB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I LO QEB QO>AB ?>I>K@B b LO PL J B  
@L J ?FK>QLK LC QEB QEOBB b J RPQ @E>KDB >P TBII

<F64? (B?<6L 4A7 G;8 ,E478 4?4A68

3EB DLSBOK J BKQ KBBA KLQ ?>I>K@B FQP ?RADBQ BSOV VB>O ' LTBSBO > PRPQ>FKBA M>QQBOK LC I>ODB ?RADBQ ABCF@FQP LSBO  
QF J B OFPHP @>RPFKD PBSBO>I KBD>QFSB J >@OLB@LKL J F@ LRQ@L J BP > PEFCQ QL QEB OFDEQ FK >DDOBD>QB AB J >KA QE>Q @>RPBP >K  
FKCI>QLK>OV FK@OB>PB FK QEB MOF@B IBSBI @OLTAFKD LRQ MOFS>QB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I FK > T>V QE>Q PILTP ALTK  
B@LKL J F@ DOLTQE >KA @OB>QFKD > ABMBKABK@B LK FKCILTP LC FKQBOK>QLK>I MLOQLIFL FKSBPQ J BKQ TEF@E @>K PL J BQF J BP  
QRQK FKQL LRQCILTP LC CLOBFDK CFK>K@F>I FKSBPQ J BKQ QE>Q @>K ?B FKGROFLRP QL > J>@OLB@LKL J V

BJ B18EA@8AG BEEBJ<A: 9986GF (E<I4G8 +4I<A:

3EB QEBLOV LC 1F@>OAF>K BNRFS>IBK@B ELIAP QE>Q @E>KDBP FK MOFS>QB P>SFKD TFII LCCPBQ @E>KDBP FK DLSBOK J BKQ ?LOOLTFKD  
LO P>SFKD 3ERP DOB>QBO MOFS>QB P>SFKD TFII LCCPBQ EFDEBO ?RADBQ ABCF@FQP TEFIB DOB>QBO MOFS>QB ?LOOLTFKD TFII LCCPBQ  
I>ODBO ?RADBQ PROMIRBP (C QEB QEBLOV ELIAP QORB QEBK @E>KDBP FK DLSBOK J BKQ ?LOOLTFKD LO P>SFKD TLRIA E>SB KL  
BCCB@Q LK MOFS>QB FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I LO LK QEB QO>AB ?>I>K@B ' LTBSBO B J MFOF@>I BSFABK@B PRDDBPQP QE>Q QEB  
QEBLOV ELIAP QORB LKIV M>OQF>IIV

<F64? (B?<6L !A18FG@8AG 4A7 6BAB@<6 EBJG;

\$@LKL J F@ DOLTQE @L J BP COL J > @L J ?FK>QLK LC FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I ER J >K @>MFQ>I >KA QB@EKLILDV  
&LSBOK J BKQ ?LOOLTFKD @>K @OLTA LRQ MOFS>QB PB@QLO FKSBPQ J BKQ FK MEVPF@>I @>MFQ>I ?RQ CFP@>I MLIF@V @>K >IPL  
FK@OB>PB FKSBPQ J BKQ FK MR?IF@IV LTKBA MEVPF@>I @>MFQ>I ER J >K @>MFQ>I BAR@>QLK >KA OBPB>O@E >KA ABSBILM J BKQ  
/LPPF?IB J BQELAP CLO F J MOLSFKD BAR@>QLK >KA PL@FBQV@P FKSBPQ J BKQ FK ER J >K @>MFQ>I FK@IRAB PMBKAFKD J LOB J LKBV  
LK QB>@EBOP >KA LQEBQ BAR@>QLK>I OBPLRO@BP >KA OBLQD>KFWFKD QEB BAR@>QLK PVPQB J QL MOLSFAB DOB>QBO FK@BKQFSBP  
CLO PR@>BPP , BQELAP CLO FK@OB>PFKD OBPB>O@E >KA ABSBILM J BKQ PMBKAFKD QL DBKBO>QB KBT QB@EKLILDV FK@IRAB AFOB@Q  
DLSBOK J BKQ PMBKAFKD LK 1 # >KA Q>U FK@BKQFSBP CLO ?RPFKBPBP QL @LKR@Q >AAFQLK>I 1 #

# + \$ # ) - + , ! ' & +

(K > @LRKQOV MOFS>QB P>SFKD BNR>IP QEB DLSBOK J BKQ ?RADBQ PROMIRP BNR>IP >KA QEB QO>AB PROMIRP BNR>IP  
6 E>Q FP QEB IBSBI LC MOFS>QB FKSBPQ J BKQ FK QEFP B@LKL J V

PPR J B >K B@LKL J V E>P > ?RADBQ PROMIRP LC MOFS>QB P>SFKD LC >KA FKSBPQ J BKQ LC

> 6 OFQB LRQ > K>QLK>I P>SFKD >KA FKSBPQ J BKQ FABKQFV CLO QEFP B@LKL J V

? 6 E>Q TFII ?B QEB ?>I>K@B LC QO>AB FK QEFP B@LKL J V

@ (C QEB ?RADBQ PROMIRP @E>KDBP QL > ?RADBQ ABCF@FQ LC TFQE MOFS>QB P>SFKD >KA FKSBPQ J BKQ RK@E>KDBA TE>Q  
FP QEB KBT ?>I>K@B LC QO>AB FK QEFP B@LKL J V

(K QEB I>QB P QEB 4 2 DLSBOKJBKQ JLSBA COL J > ?RADBQ ABCF@FQ QL > ?RADBQ PROMIRP >KA QEB QO>AB ABCF@FQ FK QEB 4 2 B@LKL J V DOBT PR?PQ>KQF>IIV 4 PFKD QEB K>QFLK>I P>SFKD >KA FKSBPQJBKQ FABKQFQV TE>Q @>K VLR P>V >?LRQ QEB AFOB@QFLK FK TEF@E P>SFKD >KA LO FKSBPQJBKQ JRPQ E>SB @E>KDBA FK QEFP B@LKL J V

(J >DFKB >K B@LKL J V FK TEF@E 1F@>OAF>K BNRFS>IBK@B ELIAP 3EFP B@LKL J V E>P > ?RADBQ ABCF@FQ LC > QO>AB ABCF@FQ LC MOFS>QB P>SFKDP LC >KA FKSBPQJBKQ LC (C QEB ?RADBQ ABCF@FQ OFPBP QL ELT >OB QEB LQEBO QBO J P FK QEB K>QFLK>I P>SFKD >KA FKSBPQJBKQ FABKQFQV >CCB@QBA

6 EV E>SB J >KV BAR@>QFLK BUMBOQP OB@BKQIV MI>@BA >K B J ME>PFP LK >IQBOFKD QEB FK@BKQFSBP QE>Q 4 2 P@ELLIP C>@B O>QEBO QE>K LK FK@OB>PFKD QEBFO ?RADBQP 6 FQELRQ BKALOPFKD >KV LC QEBPB MOLMLP>IP >P BPMB@F>IIV DLLA LO ?>A IFPQ PL J B LC QEB T>VP FK TEF@E FK@BKQFSBP CLO P@ELLIP J FDEQ ?B >IQBOBA

6 E>Q >OB PL J B P@BMP QEB DLSBOK JBKQ @>K Q>HB QL BK@LRO>DB OBPB>Q@E >KA ABSBILM JBKQ

\* .! / ) - + ,!'&+

!>PBA LK QEB K>QFLK>I P>SFKD >KA FKSBPQJBKQ FABKQFQV TE>Q >OB QEB QEBOB T>VP QEB J >@OLB@LKL J V J FDEQ OB>@Q QL DOB>QBO DLSBOK JBKQ ?RADBQ ABCF@FQ

'LT TLRIA VLR BUMB@Q I>ODBO ?RADBQ ABCF@FQ QL >CCB@Q MOFS>QB PB@QLO FKSBPQJBKQ FK MEVPF@>I @>MFQ>I 6 EV

4KABO TE>Q @LKAQFLKPF THII > I>ODBO ?RADBQ ABCF@FQ @>RPB > QO>AB ABCF@FQ

6 E>Q FP QEB QEBLOV LC 1F@>OAF>K BNRFS>IBK@B

6 E>Q ALBP QEB @LK@BMQ LC O>QFLK>IFQV E>SB QL AL TFQE 1F@>OAF>K BNRFS>IBK@B

\*!,! \$ , !&#!& ) - + ,!'&+

PPRJB QEBOB FP KL AFP@OBQFLK>OV FK@OB>PB FK DLSBOKJBKQ PMBKAFKD \$UMI>FK ELT >K FJMOLSFKD B@LKL J V THII >CCB@Q QEB ?RADBQ ?>I>K@B >KA FK QROK FKSBPQJBKQ >KA QEB QO>AB ?>I>K@B

\$UMI>FK ELT AB@OB>PBA AL JBPQF@ FKSBPQJBKQ QE>Q L@>RO ARB QL > ?RADBQ ABCF@FQ THII >CCB@Q CRQROB B@LKL J F@ DOLTQE

3EB 4 2 DLSBOKJBKQ E>P PERQ ALTK > KRJ ?BO LC QF JBP FK OB@BKQ EFPQLOV \$UMI>FK ELT > DLSBOKJBKQ PERQALTK THII >CCB@Q QEB S>OF>?IBP FK QEB K>QFLK>I FKSBPQJBKQ >KA P>SFKDP FABKQFQV "LRIA QEB PERQALTK >CCB@Q QEB DLSBOK JBKQ ?RADBQ ABCF@FQ

\$UMI>FK ELT > PEFCO COL J > DLSBOKJBKQ ?RADBQ ABCF@FQ QL > ?RADBQ PROMIRP J FDEQ >CCB@Q QEB BU@E>KDB O>QB

#BP@OF?B ELT > MI>K CLO OBAR@FKD QEB DLSBOK JBKQ ABCF@FQ J FDEQ >CCB@Q > @LIIBDB PQRABKQ > VLRKD MOLCBPPFLK>I >KA > JFAAIB FK@LJB C> JFIV

6 E>Q >OB PL J B LC QEB T>VP CFP@>I MLIF@V J FDEQ BK@LRO>DB B@LKL J F@ DOLTQE

6 E>Q >OB PL J B CFP@>I MLIF@FBP CLO FJMOLSFKD > PL@FBQV@P ERJ >K @>MFQ>I

6 E>Q >OB PL J B CFP@>I MLIF@FBP CLO FJMOLSFKD QEB QB@EKLILDFBP QE>Q QEB B@LKL J V THII E>SB QL AO>T RMLK FK QEB CRQROB

\$UMI>FK ELT @RQP FK CRKAFKD CLO MOLDO>JP PR@E >P 'B>A 2Q>OQ J FDEQ >CCB@Q QEB ABSBILM JBKQ LC ERJ >K @>MFQ>I FK QEB 4KQBA 2Q>QBP

\$UMI>FK TEBQEBO LO KLQ VLR >DOBB TFQE QEB MOB JFPB LC QEB 1F@>OAF>K BNRFS>IBK@B QEBLOV QE>Q O>QFLK>I MBLMIB J FDEQ OB>PLK e 6BII > EFDEBO ?RADBQ ABCF@FQ PROMIRP J B>KP QE>Q (d J GRPQ DLFKD QL LTB JLOB IBPP Q>UBP FK QEB CRQROB QL M>V LCC >II QE>Q DLSBOK JBKQ ?LOOLTfKD PL (dII PQ>OQ P>SFKD PMBKAFKD KLT f 6 EV LO TEV KLQ

\$UMI>FK TEV QEB DLSBOKJBKQ J FDEQ MOBCBO QL MOLSFAB FK@BKQFSBP QL MOFS>QB CFOJP QL AL FKSBPQJBKQ LO OBPB>Q@E >KA ABSBILM JBKQ O>QEBO QE>K PF J MIV ALFKD QEB PMBKAFKD FQPBC

4KABO TE>Q @LKAQFLK TLRIA @OLTAFKD LRQ KLQ FKEF?FQ ILKD ORK B@LKL J F@ DOLTQE 4KABO TE>Q @LKAQFLK TLRIA @OLTAFKD LRQ FJMBAB ILKD ORK B@LKL J F@ DOLTQE

6 E>Q JRPQ Q>HB MI>@B CLO QEB DLSBOK JBKQ QL ORK ABCF@FQ TFQELRQ >KV @OLTAFKD LRQ

( \* ' \$ %+

2HBQ@E > AF>D0> J LC ELT > ?RADBQ ABCF@FQ @>RPBP  
> Q0>AB ABCF@FQ Hint !BDFK TFQE TE>Q TFII E>MMBK QL  
QEB BU@E>KDB 0>QB TEBK CLOBFDKBP AB J>KA JLOB 4 2  
DLSBOK JBKQ AB?Q

2HBQ@E > AF>D0> J LC ELT PRPQ>FKBA ?RADBQ ABCF@FQ  
@>RPB ILT B@LKL JF@ D0LTQE

PPR JB QE>Q QEB KBTIV FKABMBKABKQ DLSBOK JBKQ LC  
3>KW>KF> B J MILVBA VLR FK -LT COBB COL J !0FQFPE  
ORIB QEB 3>KW>KF>K M>0IF> JBKQ E>P AB@FABA QE>Q FQ TFII  
PMBKA JFIIFLK PEFIFKDP LK P@ELLIP 0L>AP >KA  
EB>IQE@>OB CLO QEB VB>0 8LR BPQF J>QB QE>Q QEB KBQ Q>UBP  
CLO QEB VB>0 >OB BFDEQ JFIIFLK PEFIFKDP 3EB DLSBOK JBKQ  
TFII CFK>K@B QEB AFCCBOK@B ?V PBIFKD VB>0  
DLSBOK JBKQ ?LKAP >Q FKQB0BPQ MBO VB>0 />0IF> JBKQ  
JRPQ >AA QEB FKQB0BPQ LK LRQPQ>KAFKD ?LKAP QL  
DLSBOK JBKQ BUMBKAFQROB B>@E VB>0 PPR JB QE>Q  
/>0IF> JBKQ MI>@BP >AAFQFLK>I Q>UBP QL CFK>K@B QEFP  
FK@OB>PB FK DLSBOK JBKQ BUMBKAFQROB PL QEB D>M ?BQTBK  
DLSBOK JBKQ PMBKAFKD FP >IT>VP QTL JFIIFLK (C QEB  
P@ELLI 0L>A >KA EB>IQE@>OB ?RADBQ >OB RK@E>KDBA  
@L J MRQB QEB S>IRB LC QEB >@R J RI>QBA AB?Q FK VB>0P

(IIRPQ0>QB QEB @LK@BMQ LC 1F@>0AF>K BNRFS>IBK@B  
RPFKD QEB AB J >KA >KA PRMMIV LC CFK>K@F>I @>MFQ>I D0>ME

#ROFKD QEB J LPQ OB@BKQ OB@BPPFLK PL J B B@LKL J FPQP  
>ODRBA QE>Q QEB @E>KDB FK QEB FKQB0BPQ 0>QBP QE>Q @L J BP  
>?LRQ ARB QL ABCF@FQ PMBKAFKD F J MIFBA FK QEB AB J >KA >KA  
PRMMIV LC CFK>K@F>I @>MFQ>I D0>ME TLRIA KLQ L@RO  
PF J MIB OB>PLK T>P QE>Q QEB DLSBOK JBKQ T>P PQBMMFKD FK  
QL FKSBPQ TEBK MOFS>QB CFO J P TBOB KLQ 4PFKD > D0>ME  
BUMI>FK ELT QEB RPB ?V DLSBOK JBKQ FK FKSBPQ JBKQ LCCPBQP  
QEB ABCF@FQ AB J >KA

# N %46EB86BAB@<6 ( B?<6L EBHA7 G ; 8 / BE?7



<:HEB \$BB>A: 9BE / BE> \*L? C>FOP >KA GL? @BKQBOP >OB LCQBK >S>FI>?IB QL EBIM J >Q@E MBLMIB QL GL?P 4EFP C>FO  
QLLH MI>@B FK QEB 5 3 (>T>FF > EFDE FK@L J B @LRKQOV TFQE MLIF@FBP QL HBBM RKB J MILV J BKQ IBSBIP FK @EB@H  
5KB J MILV J BKQ FP >K FPPRB QE>Q E>P AFCCBOBKQ @>RPBP FK AFCCBOBKQ @LRKQOFBP >KA FP BPMB@F>IV PBSBOP FK QEB ILT >KA  
J FAAIB FK@L J B B@LKLJFBP >OLRKA QEB TLOIA #0BARQ J LAFCF@>QLK LC TLOH ?V \$>KFB I 2>J FOBW &IF@HO #OB>QFSB  
#L J J LKP

## Bring it Home

1BHG; -A8@C?BL@8AG , ;E88 4F8F

#E>A (>OAFKD >VLRKD J>K COL J #>MB 4LTK 3LRQE !COF@> @L J MIBQBA P@ELLI E>SFKD ALKB TBII LK EFP BU> J P  
( B E>A EFDE ELMBP CLO QEB CRQROB , FHB J>KV VLRKD 3LRQE !COF@>KP ELTBSBO EB E>A AFCCF@RIQV CFKAFKD > GL?  
b) T>P GRPQ PQR@H >Q EL J B T>FQFKD T>FQFKD CLO PL J BQEFKD QL @L J B RM c EB P>FA FK > " " # FKQBOSFBT FK )K  
3LRQE !COF@> LC VLRKD CB J >IBP >KA LC J >IBP >OB RKB J MILVBA )K C>@Q QEB MOL?IB J FP KLQ IF J RQBA  
QL 3LRQE !COF@> 3BSBKQV QE0BB J FIIFLK LC QEB TLOIA@P VLRQE >DBA QL >OB @ROOBKQIV RKB J MILVBA >@>LQAFKD  
QL QEB )KQBOK>QLK>I ,>?LRO / OD>KFW>QLK

!@>LQAFKD QL QEB Wall Street Journal, FK )KAF> LC QEB I>?LO CLO@B FP PBIC B J MILVBA I>ODBIV ?B@>RPB LC  
I>?LO J >OHBQ OBDRI>QLK ! OB@BKQ 7 LOIA ">KH 7 LOIA \$BSBILM J BKQ 2BMLQ P>VP QE>Q )KAF>@P RKB J MILVBA VLRQE  
>@>LRKQBA CLO LC QEB VLRQE TLOH CLO@B FK )K 3M>FK > C>O OF@EBO @LRKQOV FK QEB P>J B VB>O QEB  
CB J >IB J >IB VLRQE RKB J MILV J BKQ O>QB T>P >KA OBPMB@QFSBIV

9LRQE RKB J MILV J BKQ FP > PFDKFCF@>KQ FPPRB FK J >KV M>OQP LC QEB TLOIA (LTBSBO ABPMFQB QEB >MM>OBKQ

PF J FI>OQFBP FK O>QBP ?BQTBBK 3LRQE !COF@> 3M>FK >KA )KAF> J>@0LB@LKL J F@ MLIF@V PLIRQFLKP QL AB@OB>PB  
VLRQE RKB J MILV J BKQ FK QEBPB QE0BB @LRKQFBP >OB AFCCB0BKQ 4EFP @E>MqB0 TFII ILLH >Q J>@0LB@LKL J F@ MLIF@FBP  
>0LRKA QEB TLOIA PMB@FCF@>IIV QELPB OBI>QBA QL OBAR@FKD RKB J MILV J BKQ MOL J LQFKD B@LKL J F@ DOLTQE >KA  
PQ>?IB FKCI>QLK >KA BU@E>KDB O>QBP 4EBK TB TFII ILLH >D>FK >Q QEB QE0BB @>PBP LC 3LRQE !COF@> 3M>FK >KA  
)KAF>

## !AGEB7H6G<BA GB %46EB86BAB@<6 (B?<6L 4EBHA7 G;8 / BE?7

(K QEF@E>MqB0 VLR TFII IB>OK >?LRQ

- g 3EB #FSBOPFV LC "LRKQFBP >KA \$@LKL J FBP >@OLPP QEB 6 L0IA
- g ( J MOLSFKD "LRKQFBP 2Q>KA>0AP LC +FSFKD
- g ">RPBP LC 4KB J MILV J BKQ >0LRKA QEB 6 L0IA
- g ">RPBP LC (KCI>QLK FK 5>OFLRP "LRKQFBP >KA 1BDFLKP
- g !>I>K@B LC 30>AB "LK@BOKP

3EB0B >OB BUQ>LOAFK>OV AFCCB0BK@BP FK QEB @L J MLPFQFLK >KA MBOCLO J>K@B LC B@LKL J FBP >@OLPP QEB TLOIA 6 E>Q  
BUMI>FKP QEBPB AFCCB0BK@BP @B @LRKQFBP J LQFS>QBA ?V PF J FI>O DL>IP TEBK FQ @L J BP QL J>@0LB@LKL J F@ MLIF@V ">K  
TB >MMIV QEB P> J B J>@0LB@LKL J F@ CO> J BTLOH QE>Q TB ABSBILMBA FK QEF@BUQ QL RKABOPQ>KA QEB MBOCLO J>K@B LC QEBPB  
@LRKQFBP +BQdp Q>HB B>@E LC QEBPB NRBPQLKP FK QROK

*Explaining differences* 1B@>II COL J -A8@C?BL@8A@ QE>Q TB BUMI>FKBA QEB AFCCB0BK@B FK @L J MLPFQFLK >KA  
MBOCLO J>K@B LC B@LKL J FBP ?V >MMB>IFKD QL >K >DDOBD>QB MOLAR@QLK CRK@QLK 6B >ODRBA QE>Q AFCCB0BK@BP FK  
MOLAR@QFSFQV BUMI>FK QEB AFSBOPFV LC >SBO>DB FK@L J BP >@OLPP QEB TLOIA TEF@E FK QROK TBOB >CCB@QBA ?V FKMQR PR@E >P  
>MFQ>I ABBMBKFKD ER J >K >MFQ>I >KA eQB@EKLILDV f \$SSOV B@LKL J V E>P FQP LTK AFPQFK@QFSB B@LKL J F@ @E>O>@QBOPF@P  
FKPQFQRQLKP EFPQLOV >KA MLIF@F@>I OB>IFQFBP TEF@E F J MIV QE>Q >@BPP QL QEBPB eFKDOBAFBKQPf TFII S>OV ?V @LRKQOV >KA PL  
TFII B@LKL J F@ MBOCLO J>K@B

%LO BU> J MIB 2LRQE \*LOB> FKSBPQBA EB>SFIV FK BAR@>QLK >KA QB@EKLILDV QL FK@OB>PB >DOF@RIQRO>I MOLAR@QFSFQV FK QEB  
B>OIV P 2L J B LC QEF@FKSBPQ J BKQ @> J B COL J FQP EFPQLOF@>I OBI>QLKPEFM TFQE QEB 4KFQBA 2Q>QBP P > OBPRIQ LC QEBPB  
>KA J>KV LQEB0 FKPQFQRQLKP FQP B@LKL J V E>P J>K>DBA QL @LKSBOB QL QEB IBSBIP LC FK@L J B FK IB>AFKD B@LKL J FBP IFHB  
)>M>K >KA QEB 4KFQBA 2Q>QBP

*Similar goals and frameworks* , >KV B@LKL J FBP QE>Q E>SB MBOCLO J BA TBII FK QBO J P LC MBO @>MFQ> FK@L J B E>SB b CLO  
?BQQBO LO TLOPB b ?BBK J LQFS>QBA ?V > PF J FI>O DL>I QL J>FKQ>FK QEB NR>IFQV LC IFCB LC QEBFO @FQFWBKP OR>IFQV LC IFCB FP >  
?OL>A QBO J ?RQ >P VLR @>K F J >DFKB FQ FK@IRABP ?RQ FP KLQ IF J FQBA QL PR@E QEFKDP >P ILT IBSBI LC RKB J MILV J BKQ MOF@B  
PQ>?FIRQV ILT IBSBIP LC FKCI>QLK >KA QEB >?FIFQV QL QO>AB 3EBPB PBB J QL ?B RKFSBOP>I J>@0LB@LKL J F@ DL>IP >P TB  
AFP@RPPBA FK , ; 8 %46EB86BAB@<6 (8EFC86<18 -L @LRKQOV TLRIA >ODRB >D>FKPQ QEB J 3L PQRV J >@0LB@LKL J F@  
MLIF@V >0LRKA QEB TLOIA TB ?BDFK ?V @L J M>OFKD PQ>KA>0AP LC IFSFKD (K HBBMFKD TFQE QEBPB DL>IP TB >IPL ILLH >Q  
FKAF@>QLOP PR@E >P RKB J MILV J BKQ FKCI>QLK >KA QEB ?>I>K@B LC QO>AB MLIF@FBP >@OLPP @LRKQFBP 1B J B J ?BO QE>Q BSBOV  
@LRKQOV E>P E>A > AFSBOPB PBQ LC BUMBOFBK@BP QEB0BCL0B >IQELRDE LRO DL>IP J >V ?B PF J FI>O B>@E @LRKQOV J >V TBII  
OBNRFOB J >@0LB@LKL J F@ MLIF@FBP Q>FILOBA QL FQP @FO@R J PQ>K@BP



&L0 JLOB OB>AFKD LK QEB QLMF@ LC VLRQE RKB J MILV J BKQ SFPPQ QEF@ TB?PQ@B EQM LMBKPQ>U@LIIBDB LOD I  
DBK@L?IBPP QL OB>A b ' BKBO>QLK \*L?IBPPc FK QEB Economist





# N , ; 8 < I8EF<GL B9 BHAGE<8F 4A7 6BAB@<8F 46EBFF G ; 8 / BE?7

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d K>IVWB &# / MBO @>MFQ> >P > J B>PROB LC QEB AFSBOPFV LC FKQBOK>QFLK>I PQ>KA>OAP LC IFSFKD
- d (ABKQFCV TE>Q @I>PPFCFBP > @LRKQOV >P ILT FK@L J B J FAAIB FK@L J B LO EFDE FK@L J B
- d \$UMI>FK ELT DBLDO>MEV AB J LDO>MEF@P FKARPQOV PQOR@QROB >KA B@LKL J F@ FKPQFQRQFLKP FKCIRBK@B  
PQ>KA>OAP LC IFSFKD

3EB K>QFLK>I B@LKL J FBP QE>Q @L J MOFPB QEB DIL?>I B@LKL J V >OB OB J >OH>?IV AFSBOPB +BQ RP RPB LKB HBV FKA@>QLO LC  
QEB PQ>KA>OA LC IFSFKD &# / MBO @>MFQ> QL NR>KQFCV QEFB AFSBOPFV 8LR TFII NRF@HIV PBB QE>Q NR>KQFCVFKD QEFB AFSBOPFV  
FP CO>RDEQ TFQE @E>IIBKDBP >KA IF J FQ>QFLK P TB BUMI>FKBA FK , ; 8 %46EB86BAB@<6 (8EFC86G<18 TB J RPQ  
@LKPFABO RPFKD MRO@E>PFKD MLTBO M>OFQV LO eFKQBOK>QFLK>I ALII>OPF QL @LKSBOQ >SBO>DB FK@L J BP FKQL @L J M>O>?IB RKFQP  
/RO@E>PFKD MLTBO M>OFQV >P TB CLO J >IIV ABCFKBA FK K6 ; 4A : 8 \*468F 4A7 !A68EA4G<BA4? 4C<G4? ?B JF Q>HBP  
FKQL >@@LRKQ QE>Q MOF@BP LC QEB P> J B DLLA >OB AFCCBOBKQ >@OLPP @LRKQOFBP

, ; 8 %46EB86BAB@<6 (8EFC86G<18 BUMI>FKBA ELT QL J B>PROB &# / QEB @E>IIBKDBP LC RPFKD &# / QL @L J M>OB  
PQ>KA>OAP LC IFSFKD >KA QEB AFCC@RIQV LC @LKCRRPFKD B@LKL J F@ PFWB TFQE AFPQOF?RQFLK (K "EFK>P @>PB CLO BU> J MIB  
"EFK> O>KHP >P QEB PB@LKA I>ODBPQ DIL?>I B@LKL J V PB@LKA QL LKIV QEB 4KFQBA 2Q>QBP TFQE )>M>K O>KHFKD QEFOA  
' LTBBSO TEBK TB Q>HB "EFK>P &# / LC QOFIIFLK >KA AFSFAB FQ ?V FQP MLMRI>QFLK LC ?FIIFLK QEBK QEB MBO  
>@MFQ> &# / FP LKIV TEF@E FP PFDKFCF@>KQIV ILTBO QE>K QE>Q LC )>M>K >Q >KA QE>Q LC QEB 4KFQBA 2Q>QBP  
>Q , B>PROB J BKQ FPPRBP >PFAB FQdP TLOQE OMB>QFKD QE>Q QEB DL>I QEBK FP QL KLQ LKIV FK@OB>PB &# / ?RQ QL  
PQOFBSB QLT>OA FK@OB>PBA &# / MBO @>MFQ> QL FK@OB>PB LSBO>II IFSFKD PQ>KA>OAP CLO FKAFFAR>IP P TB E>SB IB>OKBA COL J  
6BAB@<6 EB JG ; @LRKQOFBP @>K >@EFBSB QEFB >Q QEB K>QFLK>I IBSBI ?V ABPDKFKD MLIF@FBP QE>Q FK@OB>PB TLOHBO  
MOLAR@QFSFQV ABBMBK @>MFQ>I >KA >AS>K@B QB@EKLILDV

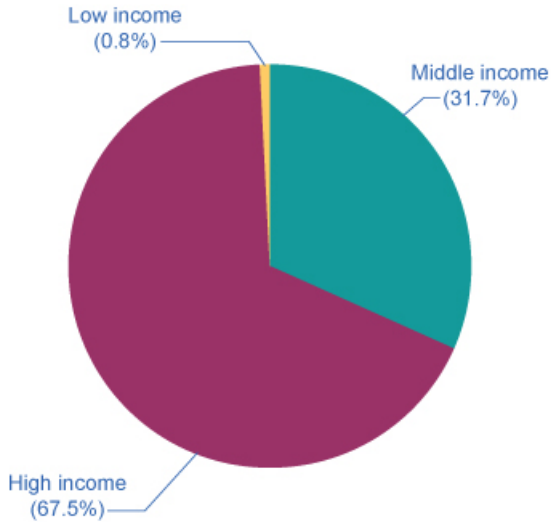
&# / MBO @>MFQ> >IPL >IILTP RP QL O>KH @LRKQOFBP FKQL EFDE J FAAIB LO ILT FK@L J B DOLRMP +LT FK@L J B @LRKQOFBP  
>OB QELPB TFQE MBO @>MFQ> &# / MBO VB>O J FAAIB FK@L J B @LRKQOFBP E>SB > MBO @>MFQ> &# / ?BQTBBK >KA  
TEFIB EFDE FK@L J B @LRKQOFBP E>SB LSBO MBO VB>O MBO @>MFQ> FK@L J B P ,45?8 >KA <:HE8  
PELT EFDE FK@L J B @LRKQOFBP B>OK LC TLOIA FK@L J B ?RQ OBMOBPBKQ GRPQ LC QEB DIL?>I MLMRI>QFLK +LT  
FK@L J B @LRKQOFBP B>OK LC QLQ>I TLOIA FK@L J B ?RQ OBMOBPBKQ LC DIL?>I MLMRI>QFLK

*4A>A: 54F87 BA ( 64C<G4	( <A 5<??<BAF	B9 ?B54? (	(BCH?4G<BA	B9 ?B54? (BCH?4G<BA
,LT FK@L J B IBPP	LO			
- FAAIB FK@L J B				

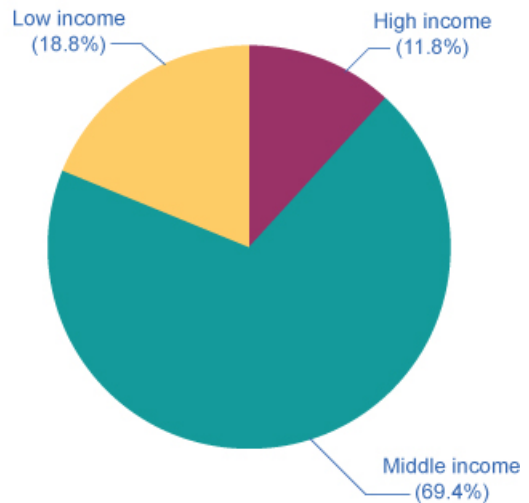
,45?8 / BE?7 !A6B@8 I8EFHF ?B54? (BCH?4G<BA 3LR0@B EQQM A>Q>?>KH TLOIA?>KH LOD A>Q>  
SFBTP OBMLQOP Q>?IBSFBT >PMU FPPE>OBA QORB FPLMRI>O PB0FBP MFA

*4A>A: 54F87 BA ( 64C<G4	( <A 5<??<BAF	B9 ?B54? (	(BCH?4G<BA	B9 ?B54? (BCH?4G<BA
(FDE FK@L J B J L0B QE>K				
<i>World Total income</i>	\$75,592,941		7,162,119,434	

,45?8 / BE?7 !A6B@8 I8EFHF ?B54? (BCH?4G<BA 3LR0@B EQQM A>Q>?>KH TLOIA?>KH LOD A>Q>  
SFBTP OBMLQPP Q>?IBSFBT >PMU FPPE>0BA Q0RB FPMLMRI>0 PBOFBP MFA



(a) Percentage of global GDP by country income



(b) Percentage of population by country income

<: HE8 (8E68AG B9 ?B54? ( 4A7 (8E68AG B9 (BCH?4G<BA 4EB MFB @E>QQP PELT QEB ' \$0 COL J CLO  
@LRKQOFBP @>QBDLOFWBA FKQL ILT JFAAIB LO EFDE FK@L J B ,LT FK@L J B >OB QELPB B>OKFKD IBPP QE>K IBPP QE>K  
LC DIL?>I FK@L J B 4EBV OBM0BPBKQ LC QEB TLOIA MLMRI>QFLK - FAAIB FK@L J B @LRKQOFBP >OB QELPB TRQE MBO @>MFQ>  
FK@L J B LC ^ LC DIL?>I FK@L J B 4EBV OBM0BPBKQ LC TLOIA MLMRI>QFLK (FDE FK@L J B  
@LRKQOFBP E>SB LC DIL?>I FK@L J B >KA LC QEB TLOIAp MLMRI>QFLK 3LR0@B EQQM A>Q>?>KH TLOIA?>KH LOD  
A>Q> SFBTP OBMLQPP Q>?IBSFBT >PMU FPPE>0BA Q0RB FPMLMRI>0 PBOFBP MFA

K LSBOSFBT LC QEB OBDFLK>I >SBO>DBP LC &# / MBO MBOPLK CLO ABSBILMFKD @LRKQOFBP JB>PROBA FK @L J M>O>?IB  
FKQBOK>QFLK>I ALII>OP >P TBII >P MLMRI>QFLK FK <: HE8 PELTP QE>Q QEB AFCCB0BK@BP >@OLPP QEBPB OBDFLK >OB  
PQ>OH P ,45?8 PELTP KL J FK>I &# / MBO @>MFQ> FK CLO QEB J FIFLK MBLMIB IFSFKD FK +>QFK J BOF@>  
>KA QEB ">OF??>B>K OBDFLK T>P TEF@E C>O BU@BBAP QE>Q LC 2LRQE PF> >KA PR? 2>E>O>K COF@> (K QROK MBLMIB  
FK QEB TLOIA P EFDE FK@L J B K>QFLKP PR@E >P QELPB TEL IFSB FK QEB \$ROLMB>K 4KFLK K>QFLKP LO - LOQE J BOF@> E>SB >  
MBO @>MFQ> &# / QE0BB QL CLRO QF J BP QE>Q LC QEB MBLMIB LC +>QFK J BOF@> 3L MRQ QEFKDP FK MBOPMB@QFSB - LOQE J BOF@>  
>KA QEB \$ROLMB>K 4KFLK E>SB PIFDEQIV J LOB QE>K LC QEB TLOIAp MLMRI>QFLK ?RQ QEBV MOLAR@B >KA @LKPR J B @ILPB  
QL LC QEB TLOIAp &# /

<:HEB ( (8E 4C<G4 <A - + B??4EF 4EB0B FP > @IB>0 F J ?>I>K@B FK QEB ' \$O >@0LPP QEB TLOIA . LQQE ! J BOF@> ! RPQO>F> >KA 7 BPQBOK %ROLMB E>SB QEB EFDEBPQ ' \$OP TEFIB I>0DB >0B>P LC QEB TLOIA E>SB A0> J >QF@>IIV ILTBO ' \$OP #0BAFQ J LAFcf@>QFLK LC TLOH ?V " P0?LV 7 FHF J BAF> #L J J LKP

(BCH?4G<BA <A @<??<BAF		( (8E 4C<G4
%>PQ ! Pf> >KA O>@FCF@		
3LRQE ! Pf>		
3R? 3>E>0>K ! COF@>		
,>QFK ! J BOF@> >KA #>OF??B>K		
- FAAIB %>PQ >KA . LQQE ! COF@>		
%ROLMB >KA #BKQO>I ! Pf>		

,45?8 \*8:<BA4? B@C4E<FBAF B9 &B@<A4? ( C8E 4C<G4 4A7 (BCH?4G<BA <A 3LR0@B EQQM A>Q>?>KH TLOIA?>KH LOD A>Q> EL J B >PMU

2R@E @L J M>OFPLKP ?BQTBBK OBDFLKP >0B >A J FQQBAIV OLRDE CQBO >II MBO @>MFQ> &# / @>KKLQ CRIIV @>MQROB QEB NR>IFQV LC IFCB , >KV LQEBO C>@QLOP E>SB > I>0DB F J M>@Q LK QEB PQ>KA>0A LC IFSFKD IFHB EB>IQE BAR@>QFLK ER J >K OFDEQP @OF J B >KA MBOPLK>I P>CBQV >KA BKSFOLK J BKQ>I NR>IFQV 3EBPB J B>PROBP >IPL OBSB>I SBOV TFAB AFCCBOBK@BP FK QEB PQ>KA>0A LC IFSFKD >@0LPP QEB OBDFLKP LC QEB TLOIA , R@E LC QEFP FP @L00BI>QBA TFQE MBO @>MFQ> FK@L J B ?RQ QEB0B >0B BU@BMQFLKP %LO BU> J MIB IFCB BUMB@>K@V >Q ?FOQE FK J >KV ILT FK@L J B OBDFLKP >MMOLUF J >QBP QELPB TEL >0B J LOB >CCIRBKQ 3EB A>Q> >IPL FIIRPQO>QB QE>Q KL?LAV @>K @I>F J QL E>SB MBOCB@Q PQ>KA>0AP LC IFSFKD %LO FKPQ>K@B ABPMFQB SBOV EFDE FK@L J B IBSBIP QEB0B FP PQFII RKABOKLROFPE J BKQ FK \$ROLMB >KA - LQQE J BOF@>

# Link It Up

%@LKL J FPQP HKLT QE>Q QEB0B >0B J >KV C>@QLOP QE>Q @LKKQF?RQB QL VLRO PQ>KA>0A LC IFSFKD OBLMIB FK EFDE FK@L J B @LRKQOFBP J >V E>SB SBOV IFQQIB QF J B ARB QL EB>SV TLOHIL>AP >KA J >V CBBI Afp@LKKB@QBA COL J QEBFO @L J J RKFQV , LTBO FK@L J B @LRKQOFBP J >V ?B J LOB @L J J RKFQV @BKQBOBA ?RQ E>SB IFQQIB FK QEB T>V LC J >QBOf>I TB>IQE )Q FP E>0A QL J B>PROB QEBPB @E>0>@QBOfP@P LC PQ>KA>0A LC IFSFKD 4EB /OD>KFW>QFLK CLO %@LKL J F@ #L / MBO>QFLK >KA \$BSBILM J BKQ E>P ABSBILMBA QEB b / %#\$ " BQQBO , FCB )KABU c 6FPFQ QEFP TB?PFQB EQQM LMBKPQ>U@LIIBDB LOD I PQ>KALCIFSFKD QL PBB ELT @LRKQOFBP J B>PROB RM QL VLRO BUMB@QBA PQ>KA>0A LC IFSFKD



3EB AFCCBOBK@BP FK B@LKL J F@ P Q>QFPQF@P >KA LQEBO J B>PROBP LC TBII ?BFKD PR?PQ>KQF>I QELRDE QEBV >OB AL KLQ CRIIV @>MQR0B QEB OB>PLKP CLO QEB BKLO JLRP AFCCBOBK@BP ?BQTBBK @LRKQF@BP PFAB COL J QEB KBL@I>PPF@>I ABQBO J FK>KQP LC DOLTQE CLRO >AAFQFLK>I ABQBO J FK>KQP >OB PFDKFCF@>KQ FK > TFAB O>KDB LC P Q>QFPQF@>I PQRAF@BP >KA >OB TLOQE J BKQFLKFKD DBLDO>MEV AB J LDO>MEV FKARPQF>I PQOR@QROB >KA FKPFQRF@LKP

### Geographic and Demographic Differences

"LRKQF@BP E>SB DBLDO>MEF@ AFCCBOBK@BP PL J B E>SB BUQBK@PSB @L>PQIFKBP PL J B >OB I>KAIL@HBA 2L J B E>SB I>ODB OFSBOP QE>Q E>SB ?BBK > M>QE LC @L J J BO@B CLO @BKQROF@BP LO J LRKQ>FKP QE>Q E>SB ?BBK > ?>OOFBO QL QO>AB 2L J B E>SB ABPBOQP PL J B E>SB O>FK CLOBPQP 3EBPB AFCCBOBK@BP @OB>QB AFCCBOBKQ MLPF@FSB >KA KBD>QFSB LMMLOQRK@F@BP CLO @L J J BO@B EB>IQE >KA QEB BKS@OLK J BKQ

"LRKQF@BP >IPL E>SB @LKP@FABO>?IB AFCCBOBK@BP FK QEB >DB AFPQF@R@FLK LC QEB MLMRI>QFLK , >KV EFDE FK@L J B K>QFLKP >OB >MMOL>@EFKD > PFQR>QFLK ?V LO PL FK TEF@E QEB BIABOIV TFII CLO J > J R@E I>ODBO PE>OB LC QEB MLMRI>QFLK , LPQ ILT FK@L J B @LRKQF@BP PQFII E>SB > EFDEBO MOLMLQ@FLK LC VLRQE >KA VLRKD >ARIQP ?RQ ?V >?LRQ QEB BIABOIV MLMRI>QFLK FK QEBPB ILT FK@L J B @LRKQF@BP >OB BUMB@QBA QL ?LL J >P TBII 3EBPB AB J LDO>MEF@ @E>KDBP TFII E>SB @LKP@FABO>?IB F J M>@Q LK QEB PQ>KA>OA LC IFSFKD LC QEB VLRKD >KA QEB LIA

### Differences in Industry Structure and Economic Institutions

"LRKQF@BP E>SB AFCCBOBK@BP FK FKARPQOV PQOR@QROB (K QEB TLOIA P EFDE FK@L J B B@LKL J FBP LKIV >?LRQ LC &# / @L J BP COL J >DOF@RIQROB QEB >SBO>DB CLO QEB OBPQ LC QEB TLOIA FP "LRKQF@BP E>SB PQOLKD AFCCBOBK@BP FK ABD0BB LC RO?>KFW>QFLK

"LRKQF@BP >IPL E>SB PQOLKD AFCCBOBK@BP FK B@LKL J F@ FKPFQRF@LKP PL J B K>QFLKP E>SB B@LKL J FBP QE>Q >OB BUQOB J BIV J >OHBQ LOFBKQBA TEFIB LQEBO K>QFLKP E>SB @L J J >KA B@LKL J FBP 2L J B K>QFLKP >OB LMBK QL FKQBOK>QFLK>I QO>AB TEFIB LQEBO P RP Q>OFCCP >KA F J MLOQ NRLQ>P QL IF J FQ QEB F J M>@Q LC QO>AB 2L J B K>QFLKP >OB QLOK ?V ILKD PQ>KAFKD >O J BA @LKCIF@QP LQEBO K>QFLKP >OB I>ODBIV >Q MB>@B 3EBOB >OB >IPL AFCCBOBK@BP FK MLIF@F>I OBIFD@L@P >KA PL@F>I FKPFQRF@LKP

-L K>QFLK FKQBK@FLK>IIV >F J P CLO > ILT P Q>KA>OA LC IFSFKD EFDE O>QB LC RKB J MILV J BKQ >KA FKCI>QFLK LO >K RKPRPQ>FK>?IB QO>AB F J ?>I>K@B 'LTBSBO K>QFLKP TFII AFCCBO FK QEBFO MOFLOF@BP >KA FK QEB PFQR>QFLK FK TEF@E QEBV CFKA QEB J PBISBP >KA PL QEBFO MLIF@V @ELF@BP @>K OB>PLK>?IV S>OV QLL 3EB KBUQ J LARIBP TFII AFP@RPP ELT K>QFLKP >OLRKA QEB TLOIA COL J EFDE FK@L J B QL ILT FK@L J B >MMOL>@E QEB CLRO J >@0LB@LKL J F@ DL>IP LC B@LKL J F@ DOLTQE ILT RKB J MILV J BKQ ILT FKCI>QFLK >KA > PRPQ>FK>?IB ?>I>K@B LC QO>AB

## N !@CEBI<A: BHAGE<8FR +G4A74E7F B9 \$<I<A:

! V QEB BKA LC QEF@PB@QFLK VLR TFII ?B >?IB QL

- d K>IVWB QEB DOLTQE MLIF@F@BP LC ILT FK@L J B @LRKQF@BP PBBHFKD QL F J MOLSB P Q>KA>OAP LC IFSFKD
- d K>IVWB QEB DOLTQE MLIF@F@BP LC J FAAIB FK@L J B @LRKQF@BP M>OQF@RI>OIV QEB \$>PQ PF>K 3FDBOP TFQE QEBFO CL@RP LK QB@EKLILDV >KA J >OHBQ LOFBKQBA FK@BKQ@FSBP
- d K>IVWB QEB PQORDDIBP C>@FKD B@LKL J F@>IIV @E>IIBKDBA @LRKQF@BP TFPEFKD QL BK>@Q DOLTQE MLIF@F@BP
- d \$S>IR>QB QEB PR@BPP LC PBKAFKD >FA QL ILT FK@L J B @LRKQF@BP

JL?P >OB @OB>QBA FK B@LKL J FBP QE>Q DOLT 6 E>Q FP QEB LOFDFK LC B@LKL J F@ DOLTQE @>LOAFKD QL J LPQ B@LKL J F@ TEL ?BIFBSB FK QEB **growth consensus** B@LKL J F@ DOLTQE >P TB AFP@RPPBA FK 6BAB@<6 EB JG; FP ?RIQ LK > CLRKA>QFLK

LC MOLAR@QFSFQV F J MOLSB J BKQP (K QROK MOLAR@QFSFQV FK@OB>PBP >OB QEB OBPRIQ LC DOB>QBO ER J >K >KA MEVPF@>I @>MFQ>I >KA QB@EKLILDV >II FKQB@>QFKD FK > J >OHBQ AOFBKB B@LKL J V (K QEB MROPRFQ LC B@LKL J F@ DOLTQE ELTBSBO PL J B @LRKQOFBP >KA OBDFLKP PQ>OQ COL J AFCCBOBKQ IBSBIP >P QEB AFCCBOBK@BP FK MBO @>MFQ> &# / MOBPKQBA B>OIFBO FK ,45?8 FIIRPQ>QB

EB JG; (B?<6<8F 9BE G;8 <; !A6B@8 BHAGE<8F

%LO QEB EFDE FK@L J B @LRKQOFBP QEB @E>IHBKDB LC B@LKL J F@ DOLTQE FP QL MRPE @LKQFKR>IIV CLO > JLOB BAR@>QBA TLOHCLQ@B QE>Q @>K @OB>QB FKSBPQ FK >KA >MMIV KBT QB@EKLILDV (K BCCB@Q QEB DL>I LC QEBFO DOLTQE LOFBKQBA MR?IF@ MLIF@V FP QL PEFQ QEBFO >DDOBD>QB PRMMIV @ROSBP QL QEB OFDEQ OBCBO QL ,;8 ::E8:4G8 8@4A7 ::E8:4G8 +HCC?L %B78? 3EB J >FK MR?IF@ MLIF@FBP Q>ODBQBA >Q @>EFBSFKD QEP DL>I >OB CFP@>I MLIF@FBP CL@RPBA LK FKSBPQ J BKQ FK@IRAFKD FKSBPQ J BKQ FK ER J >K @>MFQ>I FK QB@EKLILDV >KA FK MEVPF@>I MI>KQ >KA BNRFM J BKQ 3EBPB @LRKQOFBP >IPL OB@LDKFWB QE>Q B@LKL J F@ DOLTQE TLOHP ?BPQ FK > PQ>?IB >KA J >OHBQ LOFBKQBA B@LKL J F@ @IF J >QB %LO QEP OB>PLK QEBV RPB J LKBQ>OV MLIF@V QL HBBM FKCI>QLK ILT >KA PQ>?IB >KA QL J FKF J FWB QEB OFPH LC BU@E>KDB O>QB CIR@QR>QLKP TEFIB >IPL BK@LRO>DFKD AL J BPQF@ >KA FKQBOK>QLK>I @L J MBQFQLK

' L TBSBO B>OIV FK QEB PB@LKA AB@>AB LC QEB P J >KV EFDE FK@L J B @LRKQOFBP CLRKA QEB J PBISBP J LOB CL@RPBA LK QEB PELOQ QBO J QE>K LK QEB ILKD QBO J 3EB 4KFQBA 2Q>QBP 6BPQBOK \$ROLMB >KA )>M>K >II BUMBOFBK@BA > @L J ?FK>QLK LC CFK>K@F>I @OFFP >KA ABM OB@BPPFLK >KA QEB >CQBO BCCB@Q LC QEB OB@BPPFLK b IFHB EFDE RKB J MILV J BKQ O>QBP b PBB J BA IFHBIV QL IFKDBO CLO PBSBO>I VB>OP , LPQ LC QEBPB DLSBOK J BKQP QLLH >DDOBBPFSB >KA FK PL J B @>PBP @LKQOLSOPF>I PQBMP QL GR J M PQ>OQ QEBFO B@LKL J FBP ?V ORKKFKD SBOV I>ODB ?RADBQ ABCF@FQP >P M>OQ LC BUM>KPFLK>OV CFP@>I MLIF@V 3EBPB @LRKQOFBP J RPQ >ALM Q > @LROPB QE>Q @L J ?FKBP ILTBO DLSBOK J BKQ PMBKAFKD >KA EFDEBO Q>UBP

2F J FI>OIV J >KV @BKQ>I ?>KHP O>K EFDEIV BUM>KPFLK>OV J LKBQ>OV MLIF@FBP TFQE ?LQE KB>O WBOL FKQBOPQ O>QBP >KA RK@LKSQBQFLK>I IL>KP >KA FKSBPQ J BKQP %LO BU> J MIB FK 2EFKWL ?B PBB <:HE8 QEBK KBTIV BIB@QBA /OF J B , FKFPQBO LC )>M>K RKSBFIBA > MI>K QL MR II EFP @LRKQOV LRQ LC FQP QTL AB@>AB ILKD PIR J M FK B@LKL J F@ DOLTQE (Q FK@IRABA ?LQE CFP@>I PQF J RIRP >KA >K FK@OB>PB FK QEB J LKBV PRMMIV 3EB MI>K T>P NRFQB PR@>BPPCRI FK QEB PELOQ ORK ' L TBSBO >@>LOAFKD QL QEB Economist TFQE MR?IF@ AB?Q eBUMB@QBA QL >MMOL>@E LC &# / f >P LC FQ T>P LC &# / MOFKQFKD J LKBV >KA MR?IF@ TLOHP PMBKAFKD TBOB LKIV PELOQ QBO J PLIRQFLK



<:HE8 "4C4ARF (E<@8 %<A<F68E + ;<AMB 58 \*>M>KaP OOF J B - FKFPQBO RPBA CFP@>I >KA J LKBQ>OV MLIF@FBP QL PQF J RI>QB EFP @LRKQOVaP B@LKL J V TEF@E E>P TLOHBA FK LKIV QEB PELOQ ORK #OBAFQ J LAF@>QLK LC TLOH ?V #E>QE>J (LRPB &f@HO #OB>QFSB #L J J LKP

P TB AFP@RPPBA FK LQEBQ @E>MQBOP J >@0LB@LKL J F@P KBBAP QL E>SB ?LQE > PELOQ ORK >KA > ILKD ORK CL@RP 3EB @E>IHBKDB CLO J >KV LC QEB ABSBILMBA @LRKQOFBP FK QEB KBUQ CBT VB>OP TFII ?B QL BUHQ COL J QEB PELOQ QBO J MLIF@FBP QE>Q QEBV RPBA QL @L0OB@Q QEB a OB@BPPFLK 2FK@B QEB OBQROK QL DOLTQE E>P ?BBK PIRDDFPE FQ E>P ?BBK MLIF@>IIV @E>IHBKDFKD CLO QEBPB DLSBOK J BKQP QL OBCL@RP QEBFO BCCLOQP LK KBT QB@EKLILDV BAR@>QLK >KA MEVPF@>I @>MFQ>I FKSBPQ J BKQ

EB JG; (B?<6<8F 9BE G;8 %<77?8 !A6B@8 6BAB@<8F

3EB TLOIAaP DOB>Q B@LKL J F@ PR@>BPP PQLOFBP FK QEB I>PQ CBT AB@>ABP ?BD>K FK QEB P TFQE QE>Q DOLRM LC K>QLKP PL J BQF J BP HKLTK >P QEB East Asian Tigers 2LRQE \*LOB> 3E>FI>KA , >I>VPF> (KALKBPF> >KA 2FKD>MLOB 3EB IFPQ PL J BQF J BP FK@IRABP ' LKD \*LKD >KA 3>FT>K >IQELRDE LCQBK RKABO FKQBOK>QLK>I I>T QEBV >OB QOB>QBA >P M>OQ LC "EFK> O>QEBO QE>K >P PBM>O>QB @LRKQOFBP 3EB B@LKL J F@ DOLTQE LC QEB 3FDBOP E>P ?BBK MEBKL J BK>I QVMF@>IIV >SBO>DFKD OB>I MBO @>MFQ> DOLTQE CLO PBSBO>I AB@>ABP (K QEB P LQEBQ @LRKQOFBP ?BD>K QL PELT PFDKP LC @LKSBOBDBK@B "EFK> ?BD>K DOLTFKD O>MFAIV LCQBK >Q >KKR>I O>QBP LC QL MBO VB>O (KAF? ?BD>K DOLTFKD O>MFAIV CFOPQ >Q O>QBP LC >?LRQ MBO VB>O FK QEB P ?RQ QEBK EFDEBO PQFII FK QEB CFOPQ AB@>AB LC QEB P

6B HKLT QEB RKABOIVFKD @>RPBP LC QEBPB O>MFA DOLTQE O>QBP

d "EFK> >KA QEB \$>PQ PF>K 3FDBOP FK M>OQF@RI>O E>SB ?BBK > J LKD QEB EFDEBPQ P>SBOP FK QEB TLOIA LCQBK P>SFKD LKB QEFOA LO J LOB LC &# / >P @L J M>OBA QL QEB OLRDEIV LKB CFCQE LC &# / TEF@E TLRJA ?B > J LOB QVMF@>I P>SFKD O>QB FK +>QFK J BOF@> >KA COF@> 3EBPB @LRKQOFBP E>OKBPPBA EFDEBO P>SFKDP CLO AL J BPQF@ FKSBBPQ J BKQ QL ?RFIA MEVVF@>I @>MFQ>I

d 3EBPB @LRKQOFBP E>A MLIF@FBP QE>Q PRMML0QBA EB>SV FKSBBPQ J BKQP FK ER J >K @>MFQ>I CFOPQ ?RFIAFKD RM MOF J >OV IBSBI BAR@>QLK >KA QEBK BUM>KAFKD PB@LKA>OV IBSBI BAR@>QLK , >KV CL@RPBA LK BK@LRO>DFKD J >QE >KA P@FBK@B BAR@>QLK TEF@E FP RPBCRI FK BKDFKBB0FKD >KA ?RPFKBP

d &LSBOK J BKQP J >AB > @LK@BOQBA BCCL0Q QL PBBH LRQ >MMIF@>?IB QB@EKLILDV ?V PBKAFKD PQRABKQP >KA DLSBOK J BKQ @L J J FPPFLKP >?OL>A QL ILLH >Q QEB J LPQ BCCF@FBKQ FKARPQF>I LMB0>QLKP BIPBTEB0B 3EBV >IPL @OB>QBA MLIF@FBP QL PRMML0Q FKKLS>QFSB @L J M>KFBP QE>Q TFPEBA QL ?RFIA MOLAR@QLK C>@FIF@FBP QL Q>HB >AS>KQ>DB LC QEB >?RKA>KQ >KA FKBUMBKPFBSB ER J >K @>MFQ>I

d "EFK> >KA (KAF> FK M>OQF@RI>O >IPL >IILTBA C>O DOB>QBO COBBAL J CLO J >OHBQ CLO@BP ?LQE TFQEFK QEBFO LTK AL J BPQF@ B@LKL J FBP >KA >IPL FK BK@LRO>DFKD QEBFO CFO J P QL M>OQF@FM>QB FK TLOIA J >OHBQP

3EFP @L J ?FK>QLK LC QB@EKLILDV ER J >K @>MFQ>I >KA MEVVF@>I @>MFQ>I @L J ?FKBA TFQE QEB FK@BKQFSBP LC > J >OHBQ LOFBKQBA B@LKL J F@ @LKQBUQ MOLLSBA >K BUQOB J BIV MLTBOCRI PQF J RI>KQ QL DOLTQE "E>IIBKDBP QE>Q QEBPB J FAAIB FK@L J B @LRKQOFBP C>@BA >OB > IBD>@V LC DLSBOK J BKQ B@LKL J F@ @LKQOLIP QE>Q CLO MLIF@>I OB>PLKP @>K ?B AFP J >KQIBA LKIV PILTIV LSBO QF J B (K J >KV LC QEB J QEB DLSBOK J BKQ EB>SFIV OBDRI>QBP QEB ?>KHFKD >KA CFK>K@F>I PB@QLO &LSBOK J BKQP E>SB >IPL PL J BQF J BP PBIB@QBA @BOQ>FK FKARPQF@FBP QL OB@BFSB ILT FKQB0BP IL>KP LO DLSBOK J BKQ PR>PFAFBP 3EBPB B@LKL J FBP E>SB CLRKA QE>Q >K FK@OB>PBA ALPB LC J >OHBQ LOFBKQBA FK@BKQFSBP CLO CFO J P >KA TLOHBOP E>P ?BBK > @OF@>I FKDOBAFBKQ FK QEB OB@FMB CLO C>PQBO DOLTQE 3L IB>OK J LOB >?LRQ J B>PROFKD B@LKL J F@ DOLTQE OB>A QEB CLILTFKD "IB>O (Q 4M CB>QROB

# Clear It Up

## / ; 4G <F G ; 8 EH?8 B9

)C FP TLOQE M>RPFKD > J L J BKQ QL J >OSBI >Q QEB %>PQ !PF>K 4FDBOP DOLTQE O>QBP )C MBO @>MFQ> ' \$O DOLT P >Q P>V MBO VB>O QEBK VLR @>K >MMIV QEB CLO J RI> CLO @L J MLRKA DOLTQE O>QBP \_ QE>Q FP \_ JB>KFKD > K>QLK@P IBSBI LC MBO @>MFQ> ' \$O TFII OFPB ?V > J RI@FMB LC >I J LPQ PFU LSBO VB>OP !KLQEB0 PQO>QBDV FP QL >MMIV QEB ORIB LC 4EB ORIB LC FP >K >MMOLUF J >QLK QL CDFROB LRQ ALR?IFKD QF J B 7 B AFSAB QEB ORIB KR J ?BO ?V QEB >KKR>I DOLTQE O>QB QL L?>FK QEB >MMOLUF J >QB KR J ?BO LC VB>OP FQ TFII Q>HB CLO FK@L J B (QL ALR?IB )C TB E>SB > DOLTQE O>QB FQ TFII Q>HB LO VB>OP CLO FK@L J BP QL ALR?IB 5PFKD QEFP ORIB EB0B PRDDBPQP QE>Q > 4FDBO QE>Q DOLT P >Q TFII ALR?IB FQP ' \$O BSOV VB>OP )K @LKQO>PQ > QB@EKLILDV@>I IB>ABO @ERDDFKD >ILKD TFQE MBO @>MFQ> DOLTQE O>QBP LC >?LRQ MBO VB>O TLRJA ALR?IB FQP FK@L J B FK VB>OP

## EBJG; (B?<6<8F 9BE 6BAB@<64??L ; 4??8A: 87 BHAGE<8F

, >KV B@LKL J F@>IIV @E>IIBKDBA LO ILT FK@L J B @LRKQOFBP >OB DBLD0>MEF@>IIV IL@>QBA FK 2R? 2>E>O>K COF@> . QEB0 ML@HBQP LC ILT FK@L J B >OB FK QEB CLO J BO 2LSFBQ !IL@ >KA FK M>OQP LC "BKQO>I J BOF@> >KA QEB ">OF??>B>K

3EB0B >OB J >@0LB@LKL J F@ MLIF@FBP >KA MOBP@OFMQFLKP QE>Q J FDEQ >IIBSF>QB QEB BUQOB J B MLSBOQV >KA ILT PQ>KA>OA LC IFSFKD 'LTBSBO J >KV LC QEBPB @LRKQOFBP I>@H QEB B@LKL J F@ >KA IBD>I PQ>?FIFV >ILKD TFQE J >OHBQ LOFBKQBA FKPFQRFQFLKP KBBABA QL MOLSFAB > CBOQFIB @IF J >QB CLO AL J BPQF@ B@LKL J F@ DOLTQE >KA QL >QQO>@Q CLOBFDK FKSBBPQ J BKQ 3ERP J >@0LB@LKL J F@ MLIF@FBP CLO ILT FK@L J B B@LKL J FBP >OB S>PQIV AFCCBOBKQ COL J QELPB LC QEB EFDE FK@L J B B@LKL J FBP 3EB 6LOIA !>KH E>P J >AB FQ > MOFLOFQV QL @L J ?>Q MLSBOQV >KA O>FPB LSBO>II FK@L J B IBSBIP QEOLRDE . KB LC QEB HBV L?PQ>@IBP QL >@EFBSFKD QEFP FP QEB MLIF@>I FKPQ>?FIFV QE>Q PBB J P QL ?B > @L J J LK CB>QROB LC ILT FK@L J B @LRKQOFBP

<: HE8 PELTP QEB QBK ILTBPQ FK@L J B @LRKQOFBP >P O>KHBA ?V 3EB 6LOIA !>KH FK 3EBPB @LRKQOFBP PE>OB PL J B @L J J LK QO>FQP QEB J LPQ PFDKFCF@>KQ LC TEF@E FP QEB OB@BKQ C>FIROBP LC QEBFO DLSBOK J BKQP QL MOLSFAB > IBD>I CO>J BTLOH CLO B@LKL J F@ DOLTQE \$QEFLMF> >KA \$OFQOB> OB@BKQIV BKABA > ILKD PQ>KAFKD T>O FK "FSFI >KA BQEKF@ T>OP E>SB MI>DRBA @LRKQOFBP PR@E >P !RORKAF >KA +F>BOF> "L J J >KA B@LKL J FBP @L0ORMQFLK >P TBII >P MLIF@>I C>@QLK>IFP J >KA FKCFDEQFKD >OB @L J J LKIV >ALMQBA BIB J BKQP FK QEBPB ILT FK@L J B @LRKQOFBP 3EB #B J L@>QF@ 1BMR?IF@ LC QEB "LKDL LCQBK OBCBOOBA QL >P e" LKDLf FP > OBPLRO@B TB>IQEV @LRKQOV QE>Q E>P KLQ ?BBK >?IB QL FK@OB>PB FQP PR?PFPQBK@B PQ>KA>OA LC IFSFKD ARB QL QEB MLIF@>I BKSFOLK J BKQ

<:HE8 ;8 ,8A \$BJ8F@A6B@8 BHAGE<8F 4EFP ?>@E>0Q QE>Q PELTP QBK ILT FK@L J B @LRKQOFBP TEF@E FK@IRAB  
COL J ILTBPQ FK@L J B QL EFDEBPQ \$B J L@0>QF@ 2BMR?IF@ LC QEB #LKD L :F J ?>?TB "RORKAF ,F?B0F> %0FQ0B> #BKQ0>I  
!0CF@>K 2BMR?IF@ . FDB0 ->A>D>P@>0 >KA !0DE>KFPQ>K 3LR0@B EQM A>Q>?>KH TL0IA?>KH LOD A>Q> SFBTP 0BML0QP  
J>M>PMU

+LT FK@L J B @LRKQOFBP >0B >Q > AFP>AS>KQ>DB ?B@>RPB >KV FK@L J BP QE>Q MBLMIB 0B@BFSB >0B PMBKQ F J J BAF>Q BIV LK  
KB@BPPFQFBP PR@E >P CLLA /BLMIB FK QEBPB @LRKQOFBP IFSB LK IBPP QE>K MBO VB>0 TEF@E FP IBPP QE>K MBO  
J LKQE +>@H LC P>SFKD J B>KP > I>@H LC @>MFQ>I @>@R J RI>QFLK >KA > I>@H LC IL>K>?IB CRKAP CLO FKSBPQ J BKQ FK MEVFP@>I  
>KA ER J >K @>MFQ>I 1B@BKQ 0BPB>0@E ?V QTL , (3 B@LKL J FFP ?EFGQ !>KKBOGBB >KA \$PQEBO #RCIL E>P @LKCFO J BA QE>Q  
QEB ELRPBELIAP FK QEBPB B@LKL J FBP >0B Q0>MMBA FK ILT FK@L J BP ?B@>RPB QEBV @>KKLQ J RPQBO BKL RDE FKSBPQ J BKQ QL MRPE  
QEB J PBISBP LRQ LC MLSBOQV

%LO BU> J MIB QEB >SBO>DB @FQFWBK LC !RORKAF QEB ILTBPQ FK@L J B @LRKQOV PR?PFPQ LK MBO VB>0 >AGRPQA QL  
ALII>OP @>LOAFKD QL "BKQ>I (KQBIFDBK@B DBK@V A>Q> FK FQP "( %>@Q?LLH >P LC LC !RORKAF@P MLMRI>QFLK  
FP >D0>0F>K TFQE @LCCBB >KA QB> >P QEB J >FK FK@L J B MOLAR@FKD @OLM . KIV LKB FK QTL @EFIAOBK >QQBKAP P@ELLI >KA >P  
<:HE8 PELTP J >KV >0B KLQ FK P@ELLIP @L J M>0>?IB QL TE>Q L@>ROP FK ABSBILMBA @LRKQOFBP 3EB "( %>@Q?LLH  
>IPL BPQF J >QBP QE>Q LC !RORKAF@P MLMRI>QFLK PRCCBOP COL J '(5 (#2 /LIFQF@>I FKPQ>?FIFQV E>P J >AB FQ AFCCE@RIQ CLO  
!RORKAF QL J >HB PFDKFCF@>KQ EB>AT>V QLT>0A DOLTQE >P SBOFCFBA ?V QEB BIB@QFCE@>QFLK LC LKIV LC ELRPBELIAP >KA  
LC FQP K>QFLK>I FK@L J B @L J FKD COL J CLOBFDK >FA



<:HE8 \$46> B9 HA7F 9BE !A18F@<A: <A H@4A 4C<G4? )K ILT FK@L J B @LRKQOFBP MBLMIB LQ0BK PMBKA >II FK@L J B  
LK KB@BPPFQFBP CLO IFSFKD >KA @>KKLQ >@>R J RI>QB LO FKSBPQB FK MEVFP@>I LO ER J >K @>MFQ>I 4EB PQRABKQP FK QEFP  
MELQLD0>ME IB>OK FK >K LRQPFB b@I>PP0LL J c SLFA LC KLQ LKIV QB@EKLILDV ?RQ BSBK @E>FOP >KA ABPH #0BAFQ 2>C>BI>  
00FKQBP &IF@HO #0B>QFSB #L J J LKP

# Link It Up

4EB 7 LOIA &>@Q?LLH TB?PFQB EQQM LMBKPQ>U@LIIBDB LOD I TLOIAC>@Q?LLH FP IL>ABA TFQE J>MP CI>DP >KA LQEB0  
FKCLO J>QFLK >?LRQ @LRKQOFBP >@OLPP QEB DIL?B



. QEB0 ILT FK@L J B @LRKQOFBP PE>OB PF J FI>O PQLQFBP 3EBPB @LRKQOFBP E>SB CLRKA FQ AFCCF@RIQ QL DBKBO>QB FKSBBPQ J BKQP CLO  
QEB J PBISBP LO QL CFKA CLOBFDK FKSBBPQLOP TFIIFKD QL MRQ RM QEB J LKBV CLO J LOB QE>K QEB ?>PF@ KBBAP %LOBFDK >FA >KA  
BUQBOK>I FKSBBPQ J BKQ @L J MOFPB PFDKFCF@>KQ MLQQLKP LC QEB FK@L J B FK QEBPB B@LKL J FBP ?RQ >OB KLQ PRCCF@FBKQ QL >IILT  
CLO QEB @>MFQ>I >@R J RI>QFLK KB@BPP>OV QL FKSBBPQ FK MEVPF@>I >KA ER J >K @>MFQ>I ' LTBSBO FP CLOBFDK >FA >IT>VP >  
@LKQOF?RQLO QL B@LKL J F@ DOLTQE (Q @>K ?B > @LKQLSBOPF>I FPPRB >P QEB KBUQ " IB>O FQ 4M CB>QROB MLFKQP LRQ

# Clear It Up

B8F 9BE8<: A 4<7 GB ?B J <A6B@8 6BHAGE<8F JBE>

!@@LOAFKD QL QEB /OD>KFW>QFLK LC %@LKL J F@ #LLMBO>QFLK >KA \$BSBILMJ BKQ /%#\$ >?LRQ ?HIIFLK MBO  
VB>O FK CLOBFDK >FA CILTP COL J QEB EFDE FK@L J B @LRKQOFBP LC QEB TLOIA QL QEB ILT FK@L J B LKBP 2BI>QFSB QL QEB  
PPWB LC QEBFO MLMRI>QFLKP LO B@LKL J FBP QEFP FP KLQ > I>ODB >J LRKQ CLO BFQEBO ALKLOP LO OB@FMFBKQP &LO ILT  
FK@L J B @LRKQOFBP >FA >SBO>DBP >?LRQ MBO@BKQ LC QEBFO ' \$O (LTBSBO BSBK QEFP OBI>QFSBIV PJ>II >J LRKQ  
E>P ?BBK EFDEIV @LKQLSBOPF>I

3RMMLOQBOP LC >AAQFLK>I CLOBFDK >FA MLFKQ QL QEB BUQO>LOAFK>OV ER J >K PRCCBQFKD FK QEB TLOIA P ILT >KA JFAAIB  
FK@L J B @LRKQOFBP 4EBV PBB LMMLQQRKQFBP >II >@OLPP !COF@> !PF> >KA ,>QFK ! JBOF@> QL PBQ RM EB>IQE @IFKF@P >KA  
P@ELLIP 4EBV T>KQ QL EBIM TFQE QEB Q>PH LC ?RFIAFKD B@LKL J F@ FKCO>PQOR@QROB @IB>K T>QBO MIR J ?FKD BIB@QOF@FQV  
>KA OL>AP 3RMMLOQBOP LC QEFP >FA FK@IRAB CLO J >I PQ>QB PMLKPLQBA FKQFQRFQFLKP IFHB QEB 5KFQBA +FKDAL J aP  
\$BM>OQ J BKQ CLO )KQBOK>QFLK>I \$BSBILMJ BKQ \$&)\$ LO FKABMBKABKQ KKL DLSBOK J BKQ>I LOD>KFW>QFLKP . ' / P  
IFHB # ! 2% )KQBOK>QFLK>I QE>Q >IPL OB@BFSB ALKLO DLSBOK J BKQ CRKAP &LO BU>JMIB ?B@>RPB LC >K LRQ?OB>H LC  
J BKFKDQFP FK %QEFLMF> FK \$&)\$ @E>KKBIBA PFDKFCF@>KQ CRKAP QL QEB %QEFLMF>K - FKFPQOV LC (B>IQE QL QO>FK  
ORO>I EB>IQE @>OB TLOHBOP >KA >IPL CLO S>@@FKBP 4EBPB J LKFBP EBIMBA QEB - FKFPQOV LCCPBQ PELQCC>IIP FK QEBFO  
?RADBQ

/ MMLKKBKQP LC FK@OB>PBA >FA AL KLQ NR>OBI TFQE QEB DL>I LC OBAR@FKD ER J >K PRCCBQFKD ?RQ QEBV PRDDBPQ QE>Q  
CLOBFDK >FA E>P LCCBK MOLSBA > MLLO QLLI CLO >AS>K@FKD QE>Q DL>I &LO BU>JMIB >@LOAFKD QL >K >OQF@IB FK QEB  
*Attaché Journal of International Affairs* QEB #>K>A>K CLOBFDK >FA LOD>KFW>QFLK #)\$! MOLSFABA J FIIFLK QL  
4>KW>KF> QL DOLT TEB>Q 4EB MOLGB@Q aFA MOLAR@B TEB>Q ?RQ KL J >AF@ M>PQLO>IFPQP >KA LQEB0 SFII>DBOP TEL E>A  
IFSBA LK QEB I>KA TBOB AOFBSK LCC >@OBP LC I>KA QL J>HB T>V CLO QEB MOLGB@Q 4EB A>J>DB FK QBO J P LC  
ER J >K OFDEQP >KA ILPQ IFSBIFELLAP T>P PFDKFCF@>KQ 6FII>DBOP TBOB ?B>QBK >KA HFIIBA ?B@>RPB PL J B OBCRPBA QL  
IB>SB QEB I>KA !Q QF JBP QEB RKFKQBKABA @LII>QBO>I A>J>DB COL J CLOBFDK >FA @>K ?B PFDKFCF@>KQ

7 FIIF>J %>PQBOIV MOLCBPPO LC B@LKL J F@P >Q . BT 9LOH 5KFSBOPQV >KA >RQELO LC *The White Man's Burden*  
>ODRBP QE>Q @LRKQOFBP LCCBK OB@BFSB >FA CLO MLIFQF@>I OB>PLKP >KA BKAP RM ALFKD J LOB E>O J QE>K DLLA )C >  
@LRKQOV P DLSBOK J BKQ @OB>QBP > OB>PLK>?IV PQ>?IB >KA J >OHBQ LOFBKQBA J>@OLB@LKL J F@ @IF J >QB QEBK CLOBFDK  
FKSBBPQLOP TFII ?B IFHBIV QL MOLSFAB CRKAP CLO J >KV MOLCFQ>?IB >@QFSQFBP &LO BU>JMIB >@LOAFKD QL *The New  
York Times* &>@B?LLH FP M>OQKBOFKD TFQE J RIQFMIB LOD>KFW>QFLKP FK > MOLGB@Q @>IIBA )KQBOKBQ LOD QL MOLSFAB  
>@BPP FK OB J LQB >KA ILT FK@L J B >OB>P LC QEB TLOIA >KA ' LLDIB ?BD>K FQP LTK FKQF>QFSB @>IIBA OOLGB@Q , LLK



&>@B?LLH@P CFOPQ CLO>VP FKQL MOLSF@FKD FKQBOKBQ >@BPP SF> J L?HIB MELKBP ?BD>K FK PQ>?IB J>0HBQ L@fBKQBA @LRKQ@FBP IFHB )KAf> "0>WFI )KALKBPF> 4R0HBV >KA QEB OEFHFMFKBP

OLIF@V J>HBOP >0B KLT TF@PBO >?LRQ CLOB@FKD >FA IF J F@>QLFKP QE>K QEBV TB0B > CBT AB@>ABP >DL JK Q>0DBQBA >KA PMB@FCF@ @>PBP BPMB@F>IIV FC CLOB@FKD >FA FP @E>KKBIBA QL ILKD QBO J FKSBPQ J BKQ MOL@B@QP CLOB@FKD >FA @>K E>SB > J LABPQ OLIB QL MI>V FK 0BAR@FKD QEB BUQ0B J B IBSBIP LC ABMOFS>QLK QE>Q ERKA0BAP LC J HIFLKP LC MBLMIB >0LRKA QEB TL0IA BUMB@FKB@B

# Link It Up

7>Q@E QEF@ SFABL EQQM LMBKPQ>U@LIIBDB LOD I CLLA>COF@> LK QEB @L J MIBU@FBP LC MOLSF@FKD B@LKL J F@ >FA FK !COF@>



## N 4HF8F B9 - A8@C?BL@8AG 4EBHA7 G ; 8 / BE?7

! V QEB BKA LC QEF@ PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB K>QROB >KA @>RPBP LC RKB J MILV J BKQ
- d K>IVWB QEB K>QRO>I 0>QB LC RKB J MILV J BKQ >KA QEB C>@QLOP QE>Q >CCB@Q FQ
- d (ABKQFCV ELT RKABSILMBA I>?LO J >0HBQP @>K 0BPRIQ FK QEB P> J B E>0APEFMP >P RKB J MILV J BKQ

6B @>K @>QBDLOFWB QEB @>RPBP LC RKB J MILV J BKQ FK QEB TLOIA P EFDE FK@L J B @LRKQ@FBP FK QTL T>VP BFQEB0 @V@IF@>I RKB J MILV J BKQ @>RPBA ?V QEB B@LKL J V TEBK FK > 0B@BPPFLK LO QEB K>QRO>I 0>QB LC RKB J MILV J BKQ @>RPBA ?V C>@QLOP FK I>?LO J >0HBQP PR@E >P DLSBOK J BKQ 0BDRI>QLKPB 0BD>0AFKD EFQFKD >KA PQ>0QFKD ?RPFKBPPBP

### - A8@C?BL@8AG 9EB@ 4 \* 868FF<BA

%LO RKB J MILV J BKQ @>RPBA ?V > 0B@BPPFLK QEB \*BVKBPF>K B@LKL J F@ J LABI MLFKQP LRQ QE>Q ?LQE J LKBQ>0V >KA CFP@>I MLIF@V QLLIP >0B >S>FI>?IB 3EB J LKBQ>0V MLIF@V MOBP@OFMQFLK CLO AB>IFKD TFQE 0B@BPPFLK FP PQ>FDEQCL0T>0A ORK >K BUM>KPFLK>0V J LKBQ>0V MLIF@V QL FK@0B>PB QEB NR>KQFV LC J LKBV >KA IL>KP A@FSB ALTK FKQBOBPQ 0>QBP >KA FK@0B>PB >DD0BD>QB AB J >KA (K > 0B@BPPFLK QEB0B FP RPR>IIV 0BI>QFSBIV IFQIB A>KDBO LC FKCI>QLK Q>HFKD LCC >KA PL BSBK > @BKQ>I ?>KH TFQE CFDEQFKD FKCI>QLK >P FQP QLM MOFLOFV @>K RPR>IIV GRP@FCV PL J B 0BAR@QLK FK FKQBOBPQ 0>QBP

6 FQE 0BD>0A QL CFP@>I MLIF@V QEB >RQL J >QF@ PQ>?FIFWBOP QE>Q TB AFP@RPPBA FK B18EA@8AG H7:8GF 4A7 <F64? (B?6L PELRIA ?B >IILTBA QL TLOH BSBK FC QEF@ J B>KP I>0DBO ?RADBQ ABCF@FQ FK QF J BP LC 0B@BPPFLK 3EB0B FP IBPP >DOBB J BKQ LSBO TEBQEB0 FK >AAQFLK QL >RQL J >QF@ PQ>?FIFWBOP DLSBOK J BKQ FK > 0B@BPPFLK PELRIA QOV QL >ALMQ AFP@0BQFLK>0V CFP@>I MLIF@V LC >AAQFLK>I Q>U @RQP LO PMBKAFKD FK@0B>PBP (K QEB @>PB LC QEB &0B>Q 1B@BPPFLK QEB @>PB CLO QEF@ HFKA LC BUQO> >DD0BPPFSB BUM>KPFLK>0V CFP@>I MLIF@V FP PQ@LKDBO ?RQ CLO > P J >IIBO 0B@BPPFLK DFSBK QEB QF J B I>DP LC F J MIB J BKQFKD CFP@>I MLIF@V @LRKQ@FBP PELRIA RPB AFP@0BQFLK>0V CFP@>I MLIF@V TFQE @>RQLK

' L TBSBO QEB >CQBO J >QE LC QEB 1B@BPPFLK B J ME>PFWBP QE>Q BUM>KPFLK>0V CFP@>I >KA J LKBQ>0V MLIF@FBP AL KLQ QROK LCC > 0B@BPPFLK IFHB CIFMMFKD > PTFQ@E QROKP LCC > I> J M \$SBK >CQBO > 0B@BPPFLK FP LCCF@F>IIV LSBO >KA MLPF@FSB DOLTQE E>P 0BQROKBA FQ @>K Q>HB PL J B J LKQEP b LO BSBK > @LRMB LC VB>0P b ?BCL0B MOFS>QB PB@QL0 CFO J P ?BIFBSB QEB B@LKL J F@ @IF J >QB FP EB>IQEV BKL RDE QE>Q QEBV @>K BUM>KA QEBFO TLOHCL0@B

, ; 8 &4GHE4? \* 4G8 B9 - A8@C?BL@8AG

4KB J MILV J BKQ 0>QB FK \$ROLMB>K K>QLFKP E>SB QVMF@>IIV ?BBK EFDEBO QE>K FK QEB 4KFQBA 2Q>QB (K ?BCLOB QEB PQ>OQ LC QEB &OB>Q 1B@BPPFLK QEB 4 2 RKB J MILV J BKQ 0>QB T>P @L J M>OBA TFQE FK %0>K@B FK &B0 J >KV >KA FK 2TBABK 6 B @>K >QQF?RQB QEB M>QOBOK LC DBKBO>IIV EFDEBO RKB J MILV J BKQ 0>QB FK \$ROLMB TEF@E A>QBP ?>@H QL QEB P QL QEB C>@Q QE>Q \$ROLMB>K B@LKL J FBP E>SB > EFDEBO K>QRO>I 0>QB LC RKB J MILV J BKQ ?B@>RPB QEBV E>SB > DOB>QBO KR J ?B0 LC ORIBP >KA OBPQOF@QFLKP QE>Q AFP@LR0>DB CFO J P COL J EFOFKD >KA RKB J MILVBA TLOHBOP COL J Q>HFKD GL?P

AAOBPPFKD QEB K>QRO>I 0>QB LC RKB J MILV J BKQ FP PQ>FDEQCL0T>0A FK QEBLOV ?RQ AFCCF@RIQ FK MO>@QF@B &LSBOK J BKQ @>K MI>V > RPBRCI OLIB FK MOLSFAPKD RKB J MILV J BKQ >KA TBIC>OB M>V J BKQP CLO BU> J MIB ?V M>PPFKD ORIBP >?LRQ TEB0B >KA TEBK ?RPFKBPPBP @>K LMB0>QB >KA >PPROFKD QE>Q QEB TLOHMI>@B FP P>CB ' LTBSBO QEBPB TBII FKQKQFLKBA I>TP @>K FK PL J B @>PBP ?B@L J B PL FKQORPFSB QE>Q ?RPFKBPPBP AB@FAB QL MI>@B IF J FQP LK QEBFO EFOFKD

%LO BU> J MIB > I>T QE>Q F J MLPBP I>ODB @LQP LK > ?RPFKBPP QE>Q QOFBP QL CFOB LO I>V LCC TLOHBOP TFII J B>K QE>Q ?RPFKBPPBP QOV QL >SLFA EFOFKD FK QEB CFOQ MI>@B >P FP QEB @>PB FK %0>K@B @L0AFKD QL Business Week e%0>K@B E>P QF J BP >P J >KV @L J M>KFBP TFQE B J MILVBBP >P TFQE @L0AFKD QL QEB %0BK@E I>?LO @LAB LK@B > @L J M>KV E>P >Q IB>PQ B J MILVBBP FKPFAB %0>K@B J >K>DB J BKQ J RPQ @OB>QB QE0BB TLOHBO @LRK@FIP FKQQLAR@B MOLCFQ PE>OFKD >KA PR? J FQ OBPQOR@QROFKD MI>KP QL QEB @LRK@FIP FC QEB @L J M>KV AB@FABP QL CFOB TLOHBOP CLO B@LKL J F@ OB>PLKP f 3EFP I>?LO I>T BPPBKQ>IIV IF J FQP B J MILV J BKQ LO 0>FPBP QEB K>QRO>I 0>QB LC RKB J MILV J BKQ

- A78 I8?BC87 \$45BE %4E>8GF

+LT FK@L J B >KA J FAAIB FK@L J B @LRKQFBP C>@B B J MILV J BKQ FPPRBP QE>Q DL ?BVLKA RKB J MILV J BKQ >P FQ FP RKABOQLLA FK QEB EFDE FK@L J B B@LKL J FBP PR?PQ>KQF>I KR J ?B0 LC TLOHBOP FK QEBPB B@LKL J FBP MOLSFAB J >KV LC QEBFO LTK KBBAP ?V C>0 J FKD CFPEFKD LO ERKQFKD 3EBV ?>QBO >KA QO>AB TFQE LQEBOP >KA J >V Q>HB > PR@BPPFLK LC PELOQ QBO J LO LKB A>V GL?P PL J BQF J BP OB@BFSFKD M>V TFQE CLLA LO PEBIQBO PL J BQF J BP TFQE J LKBV 3EBV >OB KLQ eRKB J MILVBA f FK QEB PBKPB QE>Q TB RPB QEB QBO J FK QEB 4KFQBA 2Q>QB >KA \$ROLMB ?RQ KBFQEBO >OB QEBV B J MILVBA FK > OBDRI>0 T>DB M>VFKD GL?

3EB PQ>OQFKD MLFKQ LC B@LKL J F@ >@QFSFQV >P TB AFP@RPPBA FK / 8?6B@8 6B 6BAB@<6F FP QEB AFSFPFLK LC I>?LO FK TEF@E TLOHBOP PMB@F>IFWB FK @B0>FK Q>PHP >KA QO>AB QEB CORFQ LC QEBFO I>?LO TFQE LQEBOP 6 LOHBOP TEL >OB KLQ @LKKB@QBA QL > I>?LO J >OHBQ >OB LCQBK RK>?IB QL PMB@F>IFWB SBOV J R@E ! B@>RPB QEBPB TLOHBOP >OB KLQ eLCCF@F>IIV f B J MILVBA QEBV >OB LCQBK KLQ BIFDF?IB CLO PL@F>I ?BKBCFQP IFHB RKB J MILV J BKQ FKPRO>K@B LO LIA >DB M>V J BKQP b FC PR@E M>V J BKQP >OB BSBK >S>FI>?IB FK QEBFO @LRKQOV ' BIMFKD QEBPB TLOHBOP QL ?B@L J B J LOB @LKKB@QBA QL QEB I>?LO J >OHBQ >KA QEB B@LKL J V FP >K F J MLQO>KQ MLIF@V DL>I 1B@BKQ OBPB>0@E ?V ABSBILM J BKQ B@LKL J FQP PRDDBPQ QE>Q LKB LC QEB HBV C>@QLOP FK 0>FPFKD MBLMIB FK ILT FK@L J B @LRKQFBP LRQ LC QEB TLOPQ HFKA LC MLSBOQV FP TEBQEBO QEBV @>K J >HB > @LKKB@QFLK QL > PL J BTE>Q OBDRI>0 T>DB M>VFKD GL?

N 4HF8F B9 !A9?4G<BA <A .4E<BHF BHAGE<8F 4A7

\* 8 : <BAF

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL  
d (ABKQFCV QEB @>RPBP >KA BCCB@QP LC FKCI>QFLK FK S>OFLRP B@LKL J F@ J >OHBQP  
d \$UMI>FK QEB PFDKFCF@>K@B LC > @LKSBOFKD B@LKL J V

/LIF@V J >HBOP LC QEB EFDE FK@L J B B@LKL J FBP >MMB>0 QL E>SB IB>OKBA PL J B IBPPLKP >?LRQ CFDEQFKD FKCI>QFLK %FOPQ TE>QBSBO E>MMBKP TFQE >DDOBD>QB PRMMIV >KA >DDOBD>QB AB J >KA FK QEB PELOQ ORK @LRKQFBP @>K RPB J LKBQ>OV MLIF@V QL MOBSBKQ FKCI>QFLK COL J ?B@L J FKD BKQOBK@EBA FK QEB B@LKL J V FK QEB J BAFR J >KA ILKD QBO J 2B@LKA QEB0B FP KL ILKD ORK D>FK QL IBQQFKD FKCI>QFLK ?B@L J B BPQ>?IFPEBA (K C>@Q >IILTFKD FKCI>QFLK QL ?B@L J B I>PQFKD >KA MBOPFPQBKQ MLPBP RKABPFO>?IB OPHP >KA QO>ABLCCP 6 EBK FKCI>QFLK FP EFDE ?RPFKBPPBP >KA FKAFSAR>IP KBBA QL PMBKA QF J B >KA BCCLOQ TLOOVFKD >?LRQ MOLQB@QFKD QEB J PBISBP >D>FKPQ FKCI>QFLK 0>QEBO QE>K PBBHFKD ?BQBO T>VP QL PBOSB @RPQL J BOP (K PELOQ QEB EFDE FK@L J B B@LKL J FBP >MMB>0 QL E>SB ?LQE > MLIF@F@>I @LKPBKPRP QL ELIA FKCI>QFLK ILT >KA QEB B@LKL J F@ QLLIP QL AL PL

(K > KR J ?B0 LC J FAAIB >KA ILT FK@L J B B@LKL J FBP >OLRKA QEB TLOIA FKCI>QFLK FP C>0 COL J > PLISBA MOL?IB J (K QEB B>OIV P 3ROHBV BUMBOFBK@BA FKCI>QFLK LC J LOB QE>K MBO VB>0 CLO PBSBO>I VB>0P !BI>ORP E>A FKCI>QFLK LC >?LRQ MBO VB>0 COL J QL %0L J QL 5BKBRBI> >KA , V>K J >0 E>A FKCI>QFLK 0>QB LC QL

MBO VB>0 (KALKBP<> (0>K - FDBOF<> QEB 1RPPF<>K %BABO>QLK >KA 4HO>FKB >II E>A ALR?IB AFDFQ FKCI>QLK CLO J LPQ LC QEB VB>OP COL J QL 9F J ??>TB E>A EVMBOFKCI>QLK TFQE FKCI>QLK O>QBP QE>Q TBKQ COL J J LOB QE>K MBO VB>0 FK QEB J FA P QL > O>QB LC PBSBO>I J FIFLKB MBO@BKQ FK

(K QEBPB @LRKQOFBP QEB MOL?IB J LC SBOV EFDE FKCI>QLK DBKB>IIV >OFPBP COL J ERDB ?RADBQ ABCF@FQP TEF@E QEB DLSBOK J BKQ CFK>K@BP ?V MOFKQFKD FQP AL J BPQF@ @ROOBK@V 3EFP FP > @>PB LC eQLL J R@E J LKBV @E>PFKD QLL CBT DLLAP f (K QEB @>PB LC 9F J ??>TB QEB DLSBOK J BKQ @LSBOBA FQP TFABKFKD ABCF@FQP ?V MOFKQFKD BSBO EFDEBO @ROOBK@V KLQBP FK@IRAFKD > QOIFHLK ?FII !V I>QB QEB J LKBV T>P KB>OIV TLOQEIBPP TEF@E IBA 9F J ??>TB QL >ALMQ QEB 4 2 ALII>0 F J J BAF>QIV E>IQFKD QEBFO EVMBOFKCI>QLK (K PL J B @LRKQOFBP QEB @BKQO>I ?>KH J >HBP IL>KP QL MLIFQF@>IIV C>SLOBA CFO J P BPPBKQF>IIV MOFKQFKD J LKBV QL AL PL >KA QEFP QLL IB>AP QL EFDEBO FKCI>QLK

KR J ?BO LC @LRKQOFBP E>SB J >K>DBA QL PRPQ>FK PLIFA IBSBIP LC B@LKL J F@ DOLTQE CLO PRPQ>FKBA MBOFLAP LC QF J B TFQE FKCI>QLK IBSBIP QE>Q TLRIA PLRKA EFDE ?V OB@BKQ 4 2 PQ>KA>OAP IFHB QL MBO VB>0 (K PR@E B@LKL J FBP QEB DLSBOK J BKQP FKABU J LPQ @LKQO>@QP T>DB IBSBIP >KA FKQBOPQ O>QBP QL FKCI>QLK (KABUFKD T>DB @LKQO>@QP >KA FKQBOPQ O>QBP J B>KP QE>Q QEBV TFII FK@OB>PB TEBK FKCI>QLK FK@OB>PBP QL OBQ>FK MRO@E>PFKD MLTBO 6 EBK T>DBP AL KLQ OFPB >P MOF@B IBSBIP OFPB QEFP IB>AP QL > AB@IFKB FK QEB OB>I T>DB O>QB >KA > AB@OB>PB FK QEB PQ>KA>OA LC IFSFKD +FHBTFPB FKQBOPQ O>QBP QE>Q >OB KLQ FKABUBA J B>K QE>Q J LKBV IBKABOP TFII OB@BFSB M>V J BKQ FK ABS>IRBA @ROOBK@V >KA TFII >IPL ILPB MRO@E>PFKD MLTBO LK J LKFBP QE>Q QEBV IBKQ (Q FP @IB>OIV MLPPF?IB b >KA MBOE>MP PL J BQF J BP KB@BPP>OV b CLO > **converging economy** QEB B@LKL J V LC > @LRKQOV QE>Q AB J LKPQO>QBP QEB >?FIFV QL @>Q@E RM QL QEB QB@EKLILDV IB>ABOP QL IFSB TFQE > ABDORB LC RK@BOQ>FKQV LSBO FKCI>QLK QE>Q TLRIA ?B MLIFQF@>IIV RK>@@BMQ?>IB FK QEB EFDE FK@L J B B@LKL J FBP

## N 4?4A68 B9 ,E478 BA68EAF

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB J B>KFKD LC QO>AB ?>I>K@B >KA FQP F J MIF@>QLKP CLO QEB CLOBFDK BU@E>KDB J >OHBQ
- d K>IVWB @LK@BOKP LSBO FKQBOK>QLK>I QO>AB FK DLLAP >KA PBOSF@BP >KA FKQBOK>QLK>I CIL TP LC @>MFQ>I
- d (ABKQFCV >KA BS>IR>QB J >OHBQ LOFBKQBA B@LKL J F@ OBCL0 J P

(K QEB P >KA P >KA BSBK FKQL QEB P ILT >KA JFAAIB FK@L J B @LRKQOFBP LCQBK SFBTBA LMBKKBPP QL DIL?>I CIL TP LC DLLAP PBOSF@BP >KA CFK>K@F>I @>MFQ>I FK > KBD>QFSB IFDEQ 3EBPB @LRKQOFBP CB>OBA QE>Q CLOBFDK QO>AB TLRIA J B>K ?LQE B@LKL J F@ ILPPBP >P EFDE FK@L J B QO>AFKD M>OQKBOP BUMILFQBA QEBFO B@LKL J V >KA QEBV ILPQ AL J BPQF@ MLIFQF@>I @LKQOLI QL ML TBOCRI ?RPFKBPP FKQBOPQP >KA J RIQFK>QLK>I @LOML0>QLKP

3EBPB KBD>QFSB CBBIFKDP >?LRQ FKQBOK>QLK>I QO>AB E>SB BSLISBA CQBO >II QEB DOB>Q B@LKL J F@ PR@BPP PQL0FBP LC OB@BKQ VB>OP IFHB )>M>K QEB \$>PQ PF>K 3FDBO B@LKL J FBP "EFK> >KA (KAF> >II QLLH >AS>KQ>DB LC LMMLQQRKQFBP QL PBII FK DIL?>I J >OHBQ \$ROLMB>K B@LKL J FBP QE0FSB TFQE EFDE IBSBIP LC QO>AB (K QEB - LQOE J BOF@>K %0BB 30>AB DOBB JBKQ - %3 QEB 4KFQA 2Q>QBP ">K>A> >KA , BUFL MIBADBA QEB J PBISBP QL OBAR@B QO>AB ?>OOFBOP , >KV @LRKQOFBP E>SB @IB>OIV IB>OKBA QE>Q OBAR@FKD ?>OOFBOP QL QO>AB FP >Q IB>PQ MLQBKF>IIV ?BKBCF@F>I QL QEB B@LKL J V , >KV P J >HBO TLOIA B@LKL J FBP E>SB IB>OKBA >K BSBK QLRDEBO IBPPLK FC QEBV AL KLQ M>OQF@FM>QB >@QFSBIV FK TLOIA QO>AB QEBV >OB RKIFHBIV QL GLFK QEB PR@BPP PQL0FBP > J LKD QEB @LKSBOFDK B@LKL J FBP 3EBOB >OB KL BU> J MIBP FK TLOIA EFPQLOV LC P J >II B@LKL J FBP QE>Q OB J >FKBA >M>OQ COL J QEB DIL?>I B@LKL J V ?RQ PQFII >Q>FKBA > EFDE PQ>KA>OA LC IFSFKD

IQELRDE >I J LPQ BSBOV @LRKQOV KLT @I>F J P QE>Q FQP DL>I FP QL M>OQF@FM>QB FK DIL?>I QO>AB QEB MLPPF?IB KBD>QFSB @LKPBNRBK@BP E>SB OB J >FKBA EFDEIV @LKQOLSBOPF>I (Q FP RPBCRI QL AFSFAB QEBPB MLPPF?IB KBD>QFSB @LKPBNRBK@BP FKQL FPPRBP FKSLSIFKD QO>AB LC DLLAP >KA PBOSF@BP >KA FPPRBP FKSLSIFKD FKQBOK>QLK>I @>MFQ>I CIL TP 3EBPB FPPRBP >OB OBI>QBA ?RQ KLQ QEB P>J B K B@LKL J V J >V E>SB > EFDE IBSBI LC QO>AB FK DLLAP >KA PBOSF@BP OBI>QFSB QL &# / ?RQ FC BUMLOQP >KA F J MLOQP >OB ?>I>K@BA QEB KBQ CIL T LC CLOBFDK FKSBPQ J BKQ FK >KA LRQ LC QEB B@LKL J V TFII ?B WBOL "LKSBOBPV >K B@LKL J V J >V E>SB LKIV > J LABO>QB IBSBI LC QO>AB OBI>QFSB QL &# / ?RQ CFKA QE>Q FQ E>P > PR?PQ>KQF>I @ROOBKQ >@LRKQ QO>AB F J ?>I>K@B 3ERP FQ FP RPBCRI QL @LKPFABO QEB @LK@BOKP LSBO FKQBOK>QLK>I QO>AB LC DLLAP >KA PBOSF@BP >KA FKQBOK>QLK>I CIL TP LC CFK>K@F>I @>MFQ>I PBM>O>QIV

## BA68EAF B I 8E !AG8EA4G<BA4? ,E478 <A BB7F 4A7 +8E I<68F

3EBOB FP > ILKD IFPQ LC TLOOFBP >?LRQ CLOBFDK QO>AB FK DLLAP >KA PBOSF@BP CB>0 LC GL? ILPP BKSFOLK J BKQ>I A>KDBOP RKC>FO I>?LO MO>@QF@BP >KA J >KV LQEBO @LK@BOKP 6 B AFP@RPP QEBPB >ODR J BKQP >Q PL J B IBKDQE FK QEB @E>MQBO LK , ; 8 !AG8EA4G<BA4? ,E478 4A7 4C<G4? ?BJF

. C >II LC QEB >ODR J BKQP CLO IF J FQ>QLKP LK QO>AB MBOE>MP QEB J LPQ @LKQOLSBOPF>I LKB > J LKD B@LKL J FQP FP QEB

FKC>KQ FKARPQOV >ODR J BKQ QE>Q FP PR?PFAFWFKD LO MOLQB@QFKD KBT FKARPQOFBP CLO > QF J B RKQFI QEBV ?B@L J B BPQ>?IFPEBA  
?B54?K4G<BA 4A7 (EBG86G<BA<F@ BUMI>FKP QEFP @LKB@BMQ FK J LOB ABQ>FI "LRKQOFBP E>SB RPBA PR@E MLIF@FBP TFQE  
PL J B PR@>BPP >Q @BOQ>FK MLFKQP FK QF J B ?RQ FK QEB TLOIA >P > TELIB PRMMLQ CLO HBV FKARPQOFBP FP C>O J LOB LCQBK AFOB@QBA  
>Q IILD BPQ>?IFPEBA FKARPQOFBP TFQE PR?PQ>KQF>I MLIFQF@>I MLTBO QE>Q >OB PRCCBOFKD ILPPBP >KA I>VFKD LCC TLOHBOP O>QEBO  
QE>K MLQBKQF>IIV SF?>O>K KBT FKARPQOFBP QE>Q >OB KLQ VBQ BPQ>?IFPEBA (C DLSBOK J BKQ FKQBKAP QL C>SLO @BOQ>FK FKARPQOFBP  
FQ KBBAP QL AL PL FK > T>V QE>Q FP QB J MLO>OV >KA QE>Q LOFBKQP QEB J QL T>OA > CRQROB LC J >OHBQ @L J MBQFQFLK O>QEBO QE>K >  
CRQROB LC RKBKAFKD DLSBOK J BKQ PR?PFAFBP >KA QQ>AB MOLQB@QFLK

**BA68EAF B I 8E !AG8EA4G<BA4? ?B J F B9 4C<G4?**

1B@>II COL J , ; 8 %46EB86B@<6 (8EFC86G<I8 QE>Q > QO>AB ABCF@FQ BUFPQP TEBK > K>QFLKdP F J MLOQP BU@BBA FQP  
BUMLOQP (K LOABO CLO > QO>AB ABCF@FQ QL Q>HB MI>@B CLOBFDK @LRKQOFBP J RPQ MOLSFA B IL>KP LO FKSBPQ J BKQP TEF@E QEBV >OB  
TFHIFKD QL AL ?B@>RPB QEBV BUMB@Q BSBKQR>I OBM>V J BKQ QE>Q QEB ABCF@FQ TFHII ?B@L J B > PROMIRP QO>AB PROMIRP VLR  
J >V OB J B J ?BO BUFPQP TEBK > K>QFLKdP BUMLOQP BU@BBA FQP F J MLOQP 3ERP FK LOABO CLO > QO>AB ABCF@FQ QL PTTFQ@E QL > QO>AB  
PROMIRP > K>QFLKdP BUMLOQP J RPQ OFPB >KA FQP F J MLOQP J RPQ C>II 2L J BQF J BP QEFP E>MMBKP TEBK QEB @R00BK@V AB@OB>PBP FK  
S>IRB %LO BU> J MIB FC QEB 4 2 E>A > QO>AB ABCF@FQ >KA QEB ALII>O ABMOB@F>QBA F J MLOQP TLRIA ?B@L J B J LOB BUMBKPFBS  
3EFP TLRIA FK QRK ?BKBCFQ QEB CLOBFDK @LRKQOFBP QE>Q MOLSFA B A QEB IL>KP LO FKSBPQ J BKQP

3EB BUMB@QBA M>QQBOK LC QO>AB F J ?>I>K@BP FK QEB TLOIA B@LKL J V E>P ?BBK QE>Q EFDE FK@L J B B@LKL J FBP TFHII ORK QO>AB  
PROMIRPBP TEF@E J B>KP QEBV TFHII BUMBOFBK@B > KBQ LRQCILT LC @>MFQ>I QL CLOBFDK ABPQFK>QFLKP LO BUMLOQ J LOB QE>K QEBV  
F J MLOQ TEFIB ILT >KA J FAAIB FK@L J B B@LKL J FBP TFHII ORK QO>AB ABCF@FQP TEF@E J B>KP QE>Q QEBV TFHII BUMBOFBK@B > KBQ  
FKCILT LC CLOBFDK @>MFQ>I

3EFP FKQBOK>QFLK>I FKSBPQFKD M>QQBOK @>K ?BKBCFQ >II PFABP (KSBPQLQO FK QEB EFDE FK@L J B @LRKQOFBP ?BKBCFQ ?B@>RPB QEBV  
>K OB@BFSB EFDE OBQRKPK LK QEBFO FKSBPQ J BKQP >KA >IPL ?B@>RPB QEBV >K AFSBOPFCV QEBFO FKSBPQ J BKQP PL QE>Q QEBV >OB  
>Q IBPP OFPH LC > ALTKQRK FK QEBFO LTK AL J BPQF@ B@LKL J V 3EB ILT FK@L J B B@LKL J FBP QE>Q OB@BFSB >K FK CILT LC  
>MFQ>I MOBPR J >?IV E>SB MLQBKQF>I CLO >MFA @>Q@E RM B@LKL J F@ DOLTQE >KA QEBV @>K RPB QEB FKQBOK>QFLK>I CFK>K@F>I  
>MFQ>I FK CILT QL EBIM PMRO QEBFO MEVPF@>I @>MFQ>I FKSBPQ J BKQ (K >AAFQFLK CFK>K@F>I @>MFQ>I FK CILT P LCQBK @L J B TFQE  
J >K>DB J BKQ >?FIFQFBP QB@EKLILDF@>I BUMBOFPB >KA QO>FKFKD

' L TBSO CLO QEB I>PQ @LRMIB LC AB@>ABP QEFP @EBBOCR P@BK>OFL E>P C>@BA QTL eA>OH @ILRAP f 3EB CFOPQ @ILRA FP QEB SBOV  
I>ODB QO>AB LO @R00BKQ >@LRKQ ABCF@FQP FK QEB 4 2 B@LKL J V 2BB , ; 8 !AG8EA4G<BA4? ,E478 4A7 4C<G4? ?B J F  
(KPB>A LC LCCBOFKD KBQ CFK>K@F>I FKSBPQ J BKQ >?OL>A QEB 4 2 B@LKL J V FP PL>HFKD RM P>SFKDP COL J >II LSBO QEB TLOIA  
3EBPB PR?PQ>KQF>I 4 2 QO>AB ABCF@FQP J >V KLQ ?B PRPQ>FK>?IB >@>LOAFKD QL 2B?>PQF>K \$AT>OAP TOFQFKD CLO QEB ->QFLK>I  
!ROB>R LC \$@LKL J F@ 1BPB>O@E 6 EFIB QO>AB ABCF@FQP LK QEBFO LTK >OB KLQ ?>A QEB NRBPQFLK FP TEBQEBO DLSBOK J BKQP  
TFHII OBAR@B QEB J DO>AR>IIV LO E>PQFIV (K QEB DO>AR>I P@BK>OFL 4 2 BUMLOQP @LRIA DOLT J LOB O>MFAIV QE>K F J MLOQP  
LSBO > MBOFLA LC VB>OP >FABA 4 2 ALII>O ABMOB@F>QFLK K RKFKQBKABA @LKPBNRBK@B LC QEB PILT DOLTQE PFK@B QEB &OB>Q  
1B@BPPFLK E>P ?BBK > AB@IFKB FK QEB 4 2 @R00BKQ >@LRKQ ABCF@FQ P COL J MOB OB@BPPFLK QL J LPQ OB@BKQIV

3EB LQEBO LMQFLK FP QE>Q QEB DLSBOK J BKQ @LRIA OBAR@B QEB 4 2 QO>AB ABCF@FQ FK > ORPE ' BOB FP LKB P@BK>OFL FC CLOBFDK  
FKSBPQLQO ?B@> J B IBPP TFHIFKD QL ELIA 4 2 ALII>O >PPBP QEB ALII>O BU@E>KDB O>QB @LRIA TB>HBK P PMB@RI>QLOP PBB  
QEFP MOL@BPP E>MMBKFKD QEBV J FDEQ ORPE QL RKIL>A QEBFO ALII>O >PPBP TEF@E TLRIA AOFBS QEB ALII>O ALTK PQFI CROQEBO

ILTBO 4 2 ALII>O TLRIA PQF J RI>QB >DDBD>QB AB J >KA ?V J >HFKD BUMLOQP @EB>MBO >KA F J MLOQP J LOB BUMBKPFBS (Q  
TLRIA J B>K EFDEBO MOF@BP CLO F J MLOQBA FKMRRP QEOLRDELQ QEB B@LKL J V PEFCQFKD QEB PELOQ QBO J >DDBD>QB PRMMIV @ROSB  
QL QEB IBCQ 3EB OBPRIQ @LRIA ?B > ?ROPQ LC FKCI>QFLK >KA FC QEB %BABO>I 1BPBOSB TBOB QL ORK > QFDEQ J LKBQ>OV MLIF@V QL  
OBAR@B QEB FKCI>QFLK FQ @LRIA >IPL IB>A QL OB@BPPFLK /BLMIB PL J BQF J BP Q>IH >P FC QEB 4 2 B@LKL J V TFQE FQP DOB>Q PFWB  
FP FKSRIKBO>?IB QL QEFP PLOQ LC MOBPPROB COL J FKQBOK>QFLK>I J >OHBQP 6 EFIB FQ FP AFCF@RIQ QL OL@H FQ FP KLQ F J MLPPF>IB CLO  
QEB QOFIIFLK 4 2 B@LKL J V QL C>@B QEBPB FKQBOK>QFLK>I MOBPPROBP

3EB PB@LKA eA>OH @ILRAF FP ELT QEB P J >IIBO TLOIA B@LKL J FBP PELRIA AB>I TFQE QEB MLPPF>FIFQV LC PRAABK CLOBFDK  
CFK>K@F>I @>MFQ>I FK CILT P >KA LRQCILT P /BOE>MP QEB J LPQ SFSFA OB@BKQ BU> J MIB LC QEB MLQBKQF>IIV ABPQR@QFSB CLO@BP LC  
FKQBOK>QFLK>I @>MFQ>I J LSB J BKQP L@>R00BA FK QEB \$>PQ PF>K 3FDBO B@LKL J FBP FK a 3E>KHP QL QEBFO BU@BIIBKQ  
DOLTQE MBOCLO J >K@B LSBO QEB MOBSFLRP CBT AB@>ABP QEBPB B@LKL J FBP E>A >QQO>@QBA @LKPFABO>?IB FKQBOPQ COL J CLOBFDK  
FKSBPQLQO (K QEB J FA P EL TBSO CLOBFDK FKSBPQ J BKQ FKQL QEBPB @LRKQOFBP PRODBA BSBK CROQEBO , R@E LC QEFP J LKBV  
CRKKBIBA QEOLRDE ?>KHP QE>Q ?LOOLTBA FK 4 2 ALII>OP >KA IL>KBA FK QEBFO K>QFLK>I @R00BK@FBP !>KH IBKAFKD PRODBA >Q  
O>QB LC MBO VB>O LO J LOB 3EFP FK CILT LC CLOBFDK @>MFQ>I J B>KQ QE>Q FKSBPQ J BKQ FK QEBPB B@LKL J FBP BU@BBABA QEB  
IBSBI LC AL J BPQF@ P>SFKDP PL QE>Q @R00BKQ >@LRKQ ABCF@FQP FK QEBPB @LRKQOFBP GR J MBA FKQL QEB a &# / O>KDB

3EB PRODB FK ?>KH IBKAFKD J B>KQ QE>Q J >KV >?KHP FK QEBPB \$>PQ PF>K @LRKQOFBP AFA KLQ AL >K BPMB@F>IIV DLLA GL? LC  
P@OBBKFKD LRQ P>CB >KA RKP>CB ?LOOLTBO P , >KV LC QEB IL>KP b >P EFDE >P QL LC >II IL>KP FK PL J B LC QEBPB

@LRKQOFBP b PQ>Q@BA QL QROK ?>A %B>OFKD ILPPBP CLOBFDK FKSBPQLOP PQ>Q@BA MRIIFKD LRQ QEBFO J LKBV P QEB CLOBFDK J LKBV IBCQ QEB BU@E>KDB O>QP LC QEBPB @LRKQOFBP @O>PEBA LCQBK C>IIFKD ?V LO J LOB FK > CBT J LKQEP 3EB ?>KHP TBOB PQR@H TFQE > J FP J >Q@E BSBK FC QEB OBPQ LC QEBFO AL J BPQ@ IL>KP TBOB OBM>FA QEBV @LRIA KBSBO M>V ?>@H QEB 4 2 ALII>OP QE>Q QEBV LTBA 3EB ?>KHFKD PB@QLO >P > TELIB TBKQ ?>KHORMQ 3EB I>@H LC @OBAFQ >KA IBKAFKD FK QEB B@LKL J V @LII>MPBA >DDOBD>QB AB J >KA ?OFKDFKD LK > ABBM OB@BPPFLK

(C QEB CILT >KA B?? LC FKQBOK>QFLK>I @>MFQ>I J >OHBQP @>K CIFM BSBK QEB B@LKL J FBP LC QEB \$>PQ PF>K 3FDBOP TFQE QEBFO PQBII>O DOLTQE OB@LOAP FKQL > OB@BPPFLK QEBK FQ FP KL TLKABO QE>Q LQEBQ J FAAIB >KA ILT FK@L J B @LRKQOFBP >OLRKA QEB TLOIA >OB @LK@BOKBA , LOBLSBO PF J FI>O BMEPLABP LC >K FKILT >KA QEBK >K LRQCILT LC CLOBFDK CFK>K@F>I @>MFQ>I E>SB OL@HBA > KR J ?BO LC B@LKL J FBP >OLRKA QEB TLOIA CLO BU> J MIB FK QEB I>PQ CBT VB>OP B@LKL J FBP IFHB (OBI>KA (@BI>KA >KA &OBB@B E>SB >II BUMBOFBK@BA PBSBOB PEL@HP TEBK CLOBFDK IBKABOP AB@FABA QL PQLM BUQBKAFKD CRKAP \$PMB@F>IIV FK &OBB@B QEPF @>RPBA QEB DLSBOK J BKQ QL BK>@Q >RPQBQFV J B>PROBP TEF@E IBA QL MOLQBQP QEOLRDELRLQ QEB @LRKQOV <:HE8



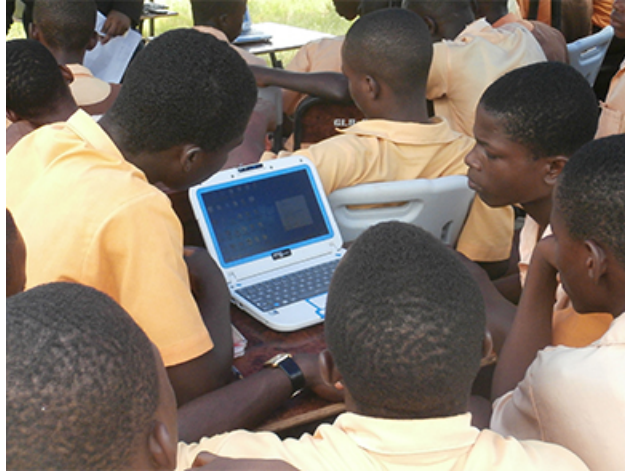
<:HE8 (EB68FGF <A E8868 4EB B@LKL J F@ @LKAQFLKP FK ' OBB@B E>SB ABQBOFLO>QBA COL J QEB ' OB>Q 2B@BPPFLK PR@E QE>Q QEB DLSBOK J BKQ E>A QL BK>@Q >RPQBQFV J B>PROBP PQF@Q ORIBP @RQQFKD T>DBP >KA FK@OB>PKD Q>UBP LK FQP MLMRI>QFLK ->PPFSB MOLQBQP >OB ?RQ LKB ?VMOLAR@Q #OBAFQ J LAFCE@>QFLK LC TLOH ?V !MLPQLILP &F@HO #OB>QFSB #L J J LKP

, >KV K>QFLKP >OB Q>HFKD PQBMP QL OBAR@B QEB OFPH QE>Q QEBFO B@LKL J V TFII ?B FKGROBA FC CLOBFDK CFK>K@F>I @>MFQ>I Q>HBP CIFDEQ FK@TRAFKD E>SKD QEBFO @BKQ>I ?>KHP ELIA I>ODB OBPBOSBP LC CLOBFDK BU@E>KDB >KA PQBMMFKD RM QEBFO OBDRI>QFLK LC AL J BPQF@ ?>KHP QL >SLFA > T>SB LC F J MORABKQ IBKAFKD 3EB J LPQ @LKQOLSBOPF>I PQBMP FK QEPF >OB> FKSLISB TEBQEBO @LRKQOFBP PELRIA QOV QL Q>HB PQBMP QL @LKQOLI LO OBAR@B QEB CILT TP LC CLOBFDK @>MFQ>I (C > @LRKQOV @LRIA AFP@LRO>DB PL J B PMB@RI>QFSB PELOQ QBO J @>MFQ>I FKILT >KA FKPQ>A LKIV BK@LRO>DB FKSBPQ J BKQ @>MFQ>I QE>Q FQ @L J J FQQA CLO QEB J BAFR J >KA QEB ILKD QBO J QEBK FQ @LRIA ?B >Q IB>PQ PL J BTE>Q IBPP PRP@BMQF?IB QL PTEKDP FK QEB PBKQF J BKQP LC DIL ?>I FKSBPQLOP

(C B@LKL J FBP M>QF@FM>QB FK QEB DIL ?>I QO>AB LC DLLAP >KA PBSF@BP QEBV TFII >IPL KBBA QL M>QF@FM>QB FK FKQBOK>QFLK>I CILT TP LC CFK>K@F>I M>V J BKQP >KA FKSBPQ J BKQP 3EBPB IFKH>DBP @>K LCCBO DOB>Q ?BKBCFQ QL >K B@LKL J V ' LTBSBO >KV K>QFLK QE>Q FP BUMBOFBK@FKD > PR?PQ>KQF>I >KA PRPQ>FKBA M>QQBOK LC QO>AB ABCF@FQP >ILKD TFQE QEB @LOOBPMLKAFKD KBQ FKILT LC FKQBOK>QFLK>I CFK>K@F>I @>MFQ>I E>P PL J B OB>PLK CLO @LK@BOK #ROFKD QEB PF>K %FK>K@F>I "OFFPP FK QEB I>QB P @LRKQOFBP QE>Q DOBT AO> J >QF@>IIV FK QEB VB>OP IB>AFKD RM QL QEB @OFFPP >P FKQBOK>QFLK>I @>MFQ>I CILTBA FK P>T QEBFO B@LKL J FBP @LII>MPB TEBK QEB @>MFQ>I SBOV NRF@HIV CILTBA LRQ

**%4E>8G 'E<8AG87 6BAB@<6 \*89BE@F**

3EB PQ>KA>OA LC IFSKD E>P FK@OB>PBA AO> J >QF@>IIV CLO ?FIIFLKP LC MBLMIB >OLRKA QEB TLOIA FK QEB I>PQ E>IC @BKQROV 2R@E FK@OB>PBP E>SB L@>R00BA KLQ LKIV FK QEB QB@EKLILDF@>I IB>ABOP IFHB QEB 4KFQBA 2Q>QBP ">K>A> QEB K>QFLKP LC \$ROLMB >KA )>M>K ?RQ >IPL FK QEB \$>PQ PF>K 3FDBOP >KA FK J >KV K>QFLKP LC +>QFK J BOF@> >KA \$>PQBOK \$ROLMB 3EB @E>IIBKDB CLO J LPQ LC QEBPB @LRKQOFBP FP QL J >FKQ>FK QEBPB DOLTQE O>QP 3EB B@LKL J F@>IIV @E>IIBKDBA OBDLKP LC QEB TLOIA E>SB PQ>DK>QBA >KA ?B@L J B PQR@H FK MLSBOQV QO>MP 3EBPB @LRKQOFBP KBBA QL CL@RP LK QEB ?>PF@P EB>IQE >KA BAR@>QFLK LO ER J >K @>MFQ>I ABSBILM J BKQ P <:HE8 FIIRPQO>QBP J LABOK QB@EKLILDV >IILT TP CLO QEB FKSBPQ J BKQ FK BAR@>QFLK >KA ER J >K @>MFQ>I ABSBILM J BKQ FK T>VP QE>Q TLRIA E>SB KLQ ?BBK MLPPF?IB GRP > CBT PELOQ VB>OP >DL



<:HEB +B?4E CBJ8E87 ,86;AB?B:L - LABOK QB@EKLILDFBP PR@E >P PLI>0 MLTBO >KA 7F &F BK>?IB PQRABKQP QL L?Q>FK BAR@>QFLK BSBK FK OB J LQB M>OQP LC > @LRKQOV T?ELRQ BIB@QOF@FV 4EBPB PQRABKQP FK ' E>K> >OB PE>OFKD > I>MQLM MOLSfABA ?V > S>K T?E PLI>0 MLTBO #0BAFq %) &, &f@HO #0B>QFSB #LJ J LKP

. QEB0 QE>K QEB FPPRB LC B@LKLJF@ DOLTQE QEB LQEB0 QEOBB J>FK DL>IP LC J>@0LB@LKLJF@ MLIF@V b QE>Q FP ILT RKB J MILV J BKQ ILT FKCI>QFLK >KA > PRPQ>FK>?IB ?>I>K@B LC QO>AB b >II FKSLISB PFQR>QFLKP FK TEF@E CLO PL J B OB>PLK QEB B@LKLJ V C>FIP QL @LLOAFK>QB QEB CLO@BP LC PRMMIV >KA AB J >KA (K QEB @>PB LC @V@IF@>I RKB J MILV J BKQ CLO BU> J MIB QEB FKQBOPB@QFLK LC >DDOBD>QB PRMMIV >KA >DDOBD>QB AB J >KA L@ROP >Q > IBSBI LC LRQMRQ ?BILT MLQBKF>I &# / (K QEB @>PB LC QEB K>QRO>I O>QB LC RKB J MILV J BKQ DLSBOK J BKQ OBDRI>QFLKP @OB>QB > PFQR>QFLK TEBOB LQEBOTFPB TFIIFKD B J MILVBOP ?B@L J B RKTFIIFKD QL EFOB LQEBOTFPB TFIIFKD TLOHBOP (KCI>QFLK FP > PFQR>QFLK FK TEF@E >DDOBD>QB AB J >KA LRQPQFMP >DDOBD>QB PRMMIV >Q IB>PQ CLO > QF J B PL QE>Q QLL J R@E ?RVFKD MLTBO FP @E>PFKD QLL CBT DLLAP QO>AB F J ?>I>K@B FP > PFQR>QFLK TEBOB ?B@>RPB LC > KBQ FKCIL T LO LRQCILT LC CLOBFDK @>MFQ>I AL J BPQF@ P>SFKDP >OB KLQ >IFDKBA TFQE AL J BPQF@ FKSBPQ J BKQ \$>@E LC QEBPB PFQR>QFLKP @>K @OB>QB > O>KDB LC B>PFBO LO E>OABO MLIF@V @ELF@BP

# Bring it Home

1BHG; -A8@C?BL@8AG , ;E88 4F8F

3M>FK >KA 3LRQE !COF@> E>A QEB P>JB EFDE VLRQE RKB J MILV J BKQ FK ?RQ QEB OB>PLKP CLO QEFP RKB J MILV J BKQ >OB AFCCBOKBQ 3M>FKaP VLRQE RKB J MILV J BKQ PRODBA ARB QL QEB 'OB>Q 2B@BPPFLK >KA EB>SV FKAB?QBAKBPP LK QEB M>OQ LC FQP @FQWBKP >KA FQP DLSBOK J BKQ 3M>FKaP @R00BKQ >@LRKQ ?>I>K@B FP KBD>QFSB TEF@E J B>KP FQ FP ?LOOLTfKD EB>SHV 4L @R0B @V@IF@>I RKB J MILV J BKQ AROfKD > OB@BPPFLK QEB +BVKBPF>K J LABI PRDDBPQP FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD \_CFP@>I BUM>KPFLLK LO J LKBQ>OV BUM>KPFLLK . B?QEBO LMQFLK FP LMBK QL 3M>FK )Q @R00BKQIV @>K ?LOOLT >Q LKIV EFDE FKQBOBPQ O>QBP TEF@E TFI ?B > OB>I MOL?IB J FK QBO J P LC AB?Q PBOSf@B )K >AAfQFLK QEB OBPQ LC QEB %R0LMB>K 5KFLK %5 E>P AO>DDBA FQP CBBQ TEBK FQ @LJ BP QL AB?Q CLODFSBKBP - LKBQ>OV BUM>KPFLLK FP KLQ MLPPF?IB ?B@>RPB 3M>FK RPB QEB BR0L >KA @>KKLQ ABS>IRB FQP @R00BK@V RKIBPP FQ @LKSfK@BP >II LC QEB %5 QL AL PL 7E>Q @>K ?B ALKB 4EB Economist PR J J >OFWfKD PL J B FAB>P LC B@LKLJ FFPQP >KA MLIF@V J >HBOP PRDDBPQP QE>Q 3M>FKaP LKIV OB>IFPQF@ >IQELRDE M>FKCRI LMQFLK FP QL OBAR@B DLSBOK J BKQ J >KA>QBA T>DBP TEF@E TLRIA >IILT FQ QL OBAR@B DLSBOK J BKQ PMBKAFKD !P > OBPRIQ QEB DLSBOK J BKQ TLRIA ?B >?IB QL ILTBO Q>U O>QBP LK QEB TLOHfKD MLMRI>QFLK 7 FQE > ILTBO T>DB LO ILTBO Q>U BKSfOLK J BKQ CF0J P TFI EFOB J LOB TLOHBOP 4EFP TFI ILTBO RKB J MILV J BKQ >KA P?F J RI>QB QEB B@LKLJ V 3M>FK @>K >IPL BK@LR0>DB DOB>QBO CLOBFDK FKSBPQ J BKQ >KA QOV QL MOL J LQB MLIF@FBP QE>Q BK@LR0>DB AL J BPQF@ P>SFKDP

3LRQE !COF@> E>P J LOB LC > K>QRO>I O>QB LC RKB J MILV J BKQ MOL?IB J )Q FP >K FKQBOPBQfKD @>PB ?B@>RPB FQP VLRQE RKB J MILV J BKQ FP J LPQIV ?B@>RPB FQP VLRKD >OB KLQ OB>AV QL TLOH %@LKLJ FFPQP @LJ J LKIV OBCBO QL QEFP >P >K B J MILV>?HFVQ MOL?IB J !@@L0AFKD QL FKQBOSfBTP LC 3LRQE !COF@>K CF0J P >P OBMLQ0BA FK QEB Economist QEB VLRKD >OB @>AB J F@>IIV P J >OQ ?RQ I>@H MO>@QF@>I PHFIP CLO QEB TLOHMI>@B \$BPMFQB > ?D MRPE QL FK@OB>PB FKSBPQ J BKQ FK ER J >K @>MFQ>I QEB OBPRIQP E>SB KLQ VBQ ?LOKB CORQ 2B@BKQIV QEB DLSBOK J BKQ RKSfHBA > MI>K QL M>V RKB J MILVBA VLRQE TEFIB QEBV TBOB bQO>FKBA RMc LO >MMOBKQf@BA FK 3LRQE !COF@>K CF0J P 4EB DLSBOK J BKQ

E>P OLL J QL FK@OB>PB CFP@>I BUMBKAFQROB BK@LRQ>DB ALJBPQF@ P>SfKDP >KA @LKQFKRB QL CRKA FKSBPQJ BKQ FK  
BAR@>QFLK SL@>QFLK>I QO>FKFKD >KA >MMOBKQF@B MOLDO>JP 3LRQE !COF@> @>K >IPL FJ MOLSB QEB @IFJ >QB CLO CLOBFDK  
FKSBPQJ BKQ COLJ QB@EKLILDV IB>ABOP TEF@E TLRIA BK@LRQ>DB B@LKLJF@ DOLTQE

)KAF> E>P >PJ>IIBO VLRQE B JMILVJ BKQ MOL?IBJ FK QBOJPLC MBO@BKQ>DBP (LTBSBO ?B>Q FK JFKA QE>Q PFK@B QEFP  
FP >MLMRILRP @LRKQOV FQ QROKP LRQ QL ?B >PFDKFCF@>KQ MOL?IBJ FK Q>T KRJ?BOP !@@LOAFKD QL +>RPEFH ">PR  
TOFQFKD CLO QEB " " # bQEBOB >OB K>QFLK>I I>TP DLSBOKFKD QEB EFOFKD >KA CFOFKD AB@FPFLKP LC CFOJJP >KA @ILPB  
QL CLRO QFJBP QE>Q >JLRKQ >Q QEB PQ>QB IBSBIC 4EBPB I>TP J>HB FQ AFCCF@RIQ CLO @LJM>KFBP QL CFOB TLOHBOP 4L  
PQ>V KfJ?IB >KA OBPMLKPF@SB QL J>OHBQP )KAF>K @LJM>KFBP OBPMLKA QL QEBPB I>TP ?V EFOFKD CBTBO TLOHBOP 4EB  
)KAF>K DLSBOKJ BKQ @>K ALJR@E QL PLISB QEFP MOL?IBJ ?V >AGRPFQFKD FQP I>?LO I>TP %PPBKQF>IIV QEB DLSBOKJ BKQ  
E>P QL OBJLSB FQPBIC COLJ CFOJPa EFOFKD >KA CFOFKD AB@FPFLKP PLQE>Q DOLTQFKD )KAF>K CFOJJP @>K COBBIV BJMILVJLOB  
TLOHBOP )KAF>K TLOHBOP IFHB QELPB FK 3LRQE !COF@> ALKLQ E>SB TLOHCLO@B PHFIIP !D>FK QEB DLSBOKJ BKQ @>K  
FK@OB>PB FQP PMBKAFKD LK BAR@>QFLK SL@>QFLK>I QO>FKFKD >KA TLOHCLO@B OB>AFKBPP MOLDO>JP

&FK>IIV )KAF> E>P >PFDKFCF@>KQ @ROOBKQ >@@LRKQ ABCF@FQ 4EFP ABCF@FQ FP J>FKIV >OBPRIQ LC PELQQ >KA ILKD QBOJ  
@>MFQ>I CILTP 4L PLISB QEFP ABCF@FQ )KAF> E>P BUMBQFJ BKQBA ?V IFQFKD QEB IFJFQ>QFLK LK ALJBPQF@ P>SBOP COLJ  
FKSBPQFKD >?OL>A 4EFP FP >PQBM FK QEB QFDEQ AFOB@QFLK QE>Q J>V A>JMBK QEB DOLTQE FK QEB @ROOBKQ >@@LRKQ  
ABCF@FQ !CFK>I MLIF@V MLPPF?HFQV FP QL FJ MOLSB ALJBPQF@ @>MFQ>I J>OHBQP PL J>KV PBIC BJMILVBA )KAF>KP @>K  
L?Q>FK >@@BPP QL @>MFQ>I QL OB>IFWB QEBFO ?RPFKBPP FAB>P )C JLOB )KAF>KP @>K L?Q>FK >@@BPP QL @>MFQ>I QL PQ>OQ  
?RPFKBPPBP BJMILVJ BKQ JFDEQ FK@OB>PB

# # 1 , \*%+

6BA18E:<A: 86BAB@L B@LKL J V LC > @LRKQOV QE>Q E>P AB J LKPQO>QBA QEB >?FIFV QL @>Q@E RM QL QEB QB@EKLILDV IB>ABOP ?V FKSBPQFKD FK ?LQE MEVPF@>I >KA ER J >K @>MFQ>I

4FG F<4A ,<:8EF QEB B@LKL J FBP LC 3>FT>K 2FKD>MLOB ' LKD \*LKD >KA 2LRQE \*LOB> TEF@E J >FKQ>FKBA EFDE DOLTQE O>QP >KA O>MFA BUMLOQ IBA FKARPQOF>IFW>QFLK ?BQTBKK QEB B>OIV P >KA >IILTFKD QEB J QL @LKSBOBDB TFQE QEB QB@EKLILDV@>I IB>ABOP FK EFDE FK@L J B @LRKQOFBP

:EBJG; 6BAF8AFHF > PBOFBP LC PQRAFBP QE>Q PELT P Q>QFPQ@>IIV QE>Q LC QEB AFCCBOBK@BP FK FK@L J B MBO MBOPLK >@OLPP QEB TLOIA FP BUMI>FKBA ?V AFCCBOBK@BP FK MEVPF@>I @>MFQ>I P>SFKDP FKSBPQ J BKQ

<; : <A6B@8 6BHAGEL K>QFLK TFQE > MBO @>MFQ> FK@L J B LC LO J LOB QVMF@>IIV E>P EFDE IBSBIP LC ER J >K >KA MEVPF@>I @>MFQ>I

?BJ <A6B@8 6BHAGEL > K>QFLK QE>Q E>P > MBO @>MFQ> FK@L J B LC IBPP QE>K > QEFOA LC QEB TLOIA@P MLMRI>QFLK

@<77?8 <A6B@8 6BHAGEL > K>QFLK TFQE MBO @>MFQ> FK@L J B ?BQTBKK >KA >KA QE>Q E>P PELTK PL J B >?FIFV BSBK FC KLQ >IT>VP PRPQ>FKBA QL @>Q@E RM QL QEB QB@EKLILDV IB>ABOP FK EFDE FK@L J B @LRKQOFBP

# # 1 ' & ( , + & + - % % \* 1

, ; 8 <18EF<GL B9 BHAGE<8F 4A7 6BAB@<8F 46EBFF G; 8 / BE?7

, >@0LB@LKL J F@ MLIF@V DL>IP CLO J LPQ @LRKQOFBP PQQFSB QLT>OA ILT IBSBIP LC RKB J MILV J BKQ >KA FKCI>QFLK >P TBII >P PQ>?IB QO>AB ?>I>K@BP \$@LKL J FPQP >K>IVWB @LRKQOFBP ?>PBA LK QEBFO &# / MBO MBOPLK >KA >KHBA >P ILT J FAAIB >KA EFDE FK@L J B @LRKQOFBP +LT FK@L J B >OB QELPB B>OKFKD IBPP QE>K IBPP QE>K LC DIL?>I FK@L J B 3EBV @R00BKQIV E>SB LC QEB TLOIA MLMRI>QFLK , FAAIB FK@L J B @LRKQOFBP >OB QELPB TFQE MBO @>MFQ>I FK@L J B LC a LC DIL?>I FK@L J B 3EBV E>SB LC TLOIA MLMRI>QFLK ' FDE FK@L J B @LRKQOFBP >OB QELPB TFQE MBO @>MFQ> FK@L J B DOB>QBO QE>K LC DIL?>I FK@L J B 3EBV E>SB LC QEB TLOIA@P MLMRI>QFLK 1BDFLK>I @L J M>OFPLK QPKA QL ?B FK>@R0>QB ?B@>RBP BSBK @LRKQOFBP TFQEFK QELPB OBDFLK QPKA QL AFCCBO COL J B>@E LQEBO

!@CEBI<A: BHAGE<8FR +G4A74E7F B9 \$<I<A:

3EB CRKA> J BKQ>IP LC DOLTQE >OB QEB P> J B FK BSOV @LRKQOV F J MOLS B J BKQP FK ER J >K @>MFQ>I MEVPF@>I @>MFQ>I >KA QB@EKLILDV FKQBO>@QFKD FK > J >OHBQ LOFBKQBA B@LKL J V "LRKQOFBP QE>Q >OB EFDE FK@L J B QPKA QL CL@RP LK ABSBILMFKD >KA RPFKD KBT QB@EKLILDV "LRKQOFBP QE>Q >OB J FAAIB FK@L J B CL@RP LK FK@OB>PFKD ER J >K @>MFQ>I >KA ?B@L J FKD J LOB @LKKB@QBA QL QB@EKLILDV >KA DIL?>I J >OHBQP 3EBV E>SB @E>OQBA RK@LKSBBKQFLK>I M>QEP ?V OBIVFKD J LOB LK PQ>QB IBA PRMMLQ O>QEBO QE>K OBIVFKD PLIBIV LK J >OHBQP +LT FK@L J B B@LKL J F@>IIV @E>IIBKDBA @LRKQOFBP E>SB J >KV EB>IQE >KA ER J >K ABSBILM J BKQ KBBAP ?RQ QEBV >OB >IPL @E>IIBKDBA ?V QEB I>@H LC FKSBPQ J BKQ >KA CLOBFDK >FA QL ABSBILM FKCO>PQOR@QROB IFHB OL>AP 3EBOB >OB PL J B ?OFDEQ PMLQP TEBK FQ @L J BP QL CFK>K@F>I ABSBILM J BKQ >KA J L?FIB @L J J RKF@>QFLK TEF@E PRDDBPQ QE>Q ILT FK@L J B @LRKQOFBP @>K ?B@L J B QB@EKLILDV IB>ABOP FK QEBFO LTK OFDEQ ?RQ FQ FP QLL B>OIV QL @I>F J SF@QLOV 3EBPB @LRKQOFBP J RPQ AL J LOB QL @LKKB@Q QL QEB OBPQ LC QEB DIL?>I B@LKL J V >KA CFKA QEB QB@EKLILDVBP QE>Q TLOH ?BPQ CLO QEB J

4HF8F B9 -A8@C?BL@8AG 4EBHA7 G; 8 / BE?7

6B @>K >AA0BPP @V@IF@>I RKB J MILV J BKQ ?V BUM>KPFLK>OV CFP@>I >KA J LKBQ>OV MLIF@V 3EB K>QR0>I O>QB LC RKB J MILV J BKQ @>K ? B E>OABO QL PLISB ?B@>RBP FQ FKSLISBP QEFKHFKD @>OBCRIIV ?>LRQ QEB QO>ABLCCP FKSLISBA FK I>TP QE>Q >CCB@Q B J MILV J BKQ >KA EFOFKD 4KB J MILV J BKQ FP RKABOPQLLA AFCCBOBKQIV FK EFDE FK@L J B @LRKQOFBP @L J M>OBA QL ILT >KA J FAAIB FK@L J B @LRKQOFBP /BLMIB FK QEBPB @LRKQOFBP >OB KLQ eRKB J MILVBAF FK QEB PBKPB QE>Q T'B RPB QEB QBO J FK QEB 4KFQBA 2Q>QB >KA \$ROLMB ?RQ KBFQEBO >OB QEBV B J MILVBA FK > OBDRI>O T>DB M>VFKD GL? 6 EFIB PL J B J >V E>SB OBDRI>O T>DB M>VFKD GL?P LQEBOP >OB M>OQ LC > ?>QBO B@LKL J V

4HF8F B9 !A9?4G<BA <A .4E<BHF BHAGE<8F 4A7 \*8:<BAF

, LPQ EFDE FK@L J B B@LKL J FBP E>SB IB>OKBA QE>Q QEBFO @BKQ>I ?>KHP @>K @LKQOLI FKCI>QFLK FK QEB J BAFR J >KA QEB ILKD



QBO J (K >AAFQLK QEBV E>SB IB>OKBA QE>Q FKCI>QLK E>P KL ILKD QBO J ?BKBCFP ?RQ MLQBKF>IIV PR?PQ>KQF>I ILKD QBO J @LPQ  
FC FQ AFPQ>@P ?RPFKBPBP COL J CL@RPFKD LK OB>I MOLAR@QFSFV D>FKP ' LTBSBO P J >IIBO B@LKL J FBP >0LRKA QEB TLOIA J >V  
>@B J LOB SLI>QFIB FKCI>QLK ?B@>RPB QEBFO P J >IIBO B@LKL J FBP @>K ?B RKPBPQIBA ?V FKQBOK>QLK>I J LSB J BKQP LC @>MFQ>I  
>KA DLLAP

4?4A68 B9 ,E478 BA68EAF

3EBOB >OB J >KV IBDFQF J >QB @LK@BOKP LSBO MLPPF?IB KBD>QFSB @LKPBNRBK@BP LC COBB QO>AB /BOE>MP QEB PFKDIB PQOLKDBPQ  
OBPMLKPB QL QEBPB @LK@BOKP FP QE>Q QEBOB >OB DLLA T>VP QL >AAOBPP QEB J TFQELRQ OBPQF@QFKD QO>AB >KA QERP ILPKD FQP  
?BKBCFP 3EBOB >OB QTL J >GLO FPPRBP FKSLISFKD QO>AB F J ?>I>K@BP . KB FP TE>Q TFII E>MMBK TFQE QEB I>ODB 4 2 QO>AB  
ABCF@FQP >KA TEBQEBO QEBV TFII @L J B ALTK DO>AR>IIV LO TFQE > ORPE 3EB LQEBO FP TEBQEBO P J >IIBO @LRKQFBP >0LRKA  
QEB TLOIA PELRIA Q>HB PL J B PQBMP QL IF J FQ CILTP LC FKQBOK>QLK>I @>MFQ>I FK QEB ELMB QE>Q QEBV TFII KLQ ?B NRFQB PL  
PRP@BMQF?IB QL B@LKL J F@ TEFMI>PE COL J FKQBOK>QLK>I CFK>K@F>I @>MFQ>I CILTFKD FK >KA LRQ LC QEBFO B@LKL J FBP

+ \$ # ) - + , ! ' & +

4PFKD QEB A>Q> FK ,45?8 0>KH QEB PBSBK OBDFLK LC QEB TLOIA >@L0AFKD QL &# / >KA QEBK >@L0AFKD QL &# /  
MBO @>MFQ>

(BCH?4G<BA <A @<??<BAF	( (8E 4C<G4	( (BCH?4G<BA O (8E <A @<??<BAF	4C<G4 (
%>PQ ! Pf> >KA O>@FCF@			
3LRQE ! Pf>			
3R? 3>E>O>K ! COF@>			
,>QFK ! J BOF@> >KA #>OF??B>K			
- FAAIB %>PQ >KA . LQEQ ! COF@>			
%ROLMB >KA #BKQO>I ! Pf>			

,45?8 ( 4A7 (BCH?4G<BA B9 +818A \*8:<BAF B9 G;8 / BE?7

6 E>Q >OB QEB A0>T?>@HP QL >K>IVWFKD QEB DIL?>I B@LKL J V LK > OBDFLK>I ?>PFP

"OB>QB > Q>?IB QE>Q FABKQCFBP QEB J >@0LB@LKL J F@ MLIF@FBP CLO > EFDE FK@L J B @LRKQOV > J FAAIB FK@L J B @LRKQOV  
>KA > ILT FK@L J B @LRKQOV

4PB QEB A>Q> FK QEB QBUQ QL @LKQO>PQ QEB MLIF@V MOBP@QFMQLKP LC QEB EFDE FK@L J B J FAAIB FK@L J B >KA ILT FK@L J B  
@LRKQFBP

6 E>Q >OB QEB AFCCBOBKQ MLIF@V QLLIP CLO AB>IFKD TFQE @V@IF@>I RKB J MILV J BKQ

\$UMI>FK ELT QEB K>QR0>I 0>QB LC RKB J MILV J BKQ J >V ?B EFDEB0 FK ILT FK@L J B @LRKQFBP

' LT ALBP FKABUFKD T>DB @LKQO>@QP QL FKCI>QLK EBIM TLOHBOP

4PB QEB # 2 J LABI QL PELT ELT FK@OB>PBP FK DLSBOK J BKQ PMBKAFKD @>K IB>A QL J LOB FKCI>QLK

2ELT RPFKD QEB # 2 J LABI ELT DLSBOK J BKQP @>K RPB J LKBQ>OV MLIF@V QL AB@OB>PB QEB MOF@B IBSBI

6 E>Q AL FKQBOK>QLK>I CILTP LC @>MFQ>I E>SB QL AL TFQE QO>AB F J ?>I>K@BP

4PB QEB AB J >KA >KA PRMMIV LC CLOBFDK @R00BK@V D0>ME QL ABQBO J FKB TE>Q TLRIA E>MMBK QL > P J >II LMBK B@LKL J V QE>Q BUMBOFBK@BA @>MFQ>I LRQCILTP

\* .! / ) - + ,!'&+

6 E>Q FP QEB MOF J >OV T>V FK TEF@E B@LKL J FPQP J B>PROB PQ>KA>OAP LC IFSFKD

6 E>Q >OB PL J B LC QEB LQEBO T>VP LC @L J M>OFKD QEB PQ>KA>OA LC IFSFKD FK @LRKQOFBP >OLRKA QEB TLOIA

6 E>Q >OB QEB CLRO LQEBO C>@QLOP QE>Q ABQBO J FKB QEB B@LKL J F@ PQ>KA>OA LC IFSFKD >OLRKA QEB TLOIA

6 E>Q LQEBO C>@QLOP >PFAB COL J I>?LO MOLAR@QFSFQV @>MFQ>I FKSBBPQ J BKQ >KA QB@EKLILDV F J M>@Q QEB B@LKL J F@ DOLTQE LC > @LRKQOV ' LT

6 E>Q PQQ>QDBFBP AFA QEB \$>PQ PF>K 3FDBOP B J MILV QL PQF J RI>QB B@LKL J F@ DOLTQE

6 E>Q >OB QEB QTL QVMBP LC RKB J MILV J BKQ MOL?IB J P

\*!,! \$ , !&#!& ) - + ,!'&+

# B J LDO>MEV @>K E>SB F J MLOQ>KQ B@LKL J F@ BCCB@QP 3EB 4KFQBA 2Q>QBP E>P >K >DFKD MLMRI>QFLK \$UMI>FK LKB B@LKL J F@ ?BKBCFQ >KA LKB B@LKL J F@ @LPQ LC >K >DFKD MLMRI>QFLK >P TBII >P LC > MLMRI>QFLK QE>Q FP SBOV VLRKD

\$UMI>FK TEV FP FQ AFCCF@RIQ QL PBQ >PFAB CRKAP CLO FKSBBPQ J BKQ TEBK VLR >OB FK MLSBOQV

6 EV AL VLR QEFKH FQ FP AFCCF@RIQ CLO EFDE FK@L J B @LRKQOFBP QL >@EFBSB EFDE DOLTQE O>QBP

(P FQ MLPPF?IB QL MOLQB@Q TLOHBOP COL J ILPFKD QEBFO GL?P TFQELRQ AFPQLOQFKD QEB I>?LO J >OHBQ

(K ILT FK@L J B @LRKQOFBP ALBP FQ J >HB PBKPB QL >ODRB QE>Q J LPQ LC QEB MBLMIB TFQELRQ ILKD QBO J GL?P >OB RKB J MILVBA

(P FKCI>QFLK IFHBIV QL ?B > PBSBOB MOL?IB J CLO >Q IB>PQ PL J B EFDE FK@L J B B@LKL J FBP FK QEB KB>O CRQROB

(P FKCI>QFLK IFHBIV QL ?B > MOL?IB J CLO >Q IB>PQ PL J B ILT >KA J FAAIB FK@L J B B@LKL J FBP FK QEB KB>O CRQROB

6 E>Q >OB QEB J >GLO FPPRBP TFQE OBD>OA QL QO>AB F J ?>I>K@BP CLO QEB 4 2 B@LKL J V

6 E>Q >OB QEB J >GLO FPPRBP TFQE OBD>OA QL QO>AB F J ?>I>K@BP CLO ILT >KA J FAAIB FK@L J B @LRKQOFBP

\$UMI>FK TE>Q TFII E>MMBK FK > K>QFLK QE>Q QOFBP QL PLISB > PQOR@QRO>I RKB J MILV J BKQ MOL?IB J RPFKD BUM>KPFLK>OV J LKBQ>OV >KA CFP@>I MLIF@V #0>T LKB # 2 AF>DO> J ?>PBA LK QEB \*BVKBPF>K J LABI CLO TE>Q QEB K>QFLK ELMBP TFII E>MMBK 3EBK AO>T > PB@LKA # 2 AF>DO> J ?>PBA LK QEB KBL@I>PPF@>I J LABI CLO TE>Q FP J LOB IFHBIV QL E>MMBK

6 EV >OB FKCI>QFLK>OV A>KDBOP ILTBO FK QEB EFDE FK@L J B B@LKL J FBP QE>K FK ILT FK@L J B >KA J FAAIB FK@L J B B@LKL J FBP

\$UMI>FK TEV @LKSBOBDFKD B@LKL J FBP J >V MOBPBKQ > PQQLKD >ODR J BKQ CLO IF J FQFKD CILTP LC @>MFQ>I ?RQ KLQ CLO IF J FQFKD QO>AB

( \* ' \$ %+

1BQOFBSB QEB CLILTFKD A>Q> COL J 3EB 6 LOIA !>KH A>Q>?>PB EQQM A>Q>?>KH TLOIA?>KH LOD A>Q> EL J B >PMU CLO (KAF> 2M>FK >KA 2LRQE COF@> CLO QEB J LPQ OB@BKQ VB>0 >S>FI>?IB

- d &# / FK @LKPQ>KQ FKQBOK>QFLK>I ALII>OP LO ///
- d /LMRI>QFLK
- d &# / MBO MBOPLK FK @LKPQ>KQ FKQBOK>QFLK>I ALII>OP
- d , LQ>IFQV O>QB FK>KQ MBO IFSB ?FOQEP
- d ' B>IQE BUMBKAFQROB MBO @>MFQ> @ROOBKQ 4 2 ALII>OP
- d +FCB BUMB@Q>K@V >Q ?FOQE QLQ>I VB>OP

/OBM>OB > @E>OQ QE>Q @L J M>OBP (KAF> 2M>FK >KA 2LRQE COF@> ?>PBA LK QEB A>Q> VLR CFKA #BP@OF?B QEB HBV AFCCBOBK@BP ?BQTBBK QEB @LRKQOFBP 1>KH QEBPB >P EFDE J BAFR J >KA ILT FK@L J B @LRKQOFBP BUMI>FK TE>Q FP PROMOPFKD LO BUMB@QBA >?LRQ QEFP A>Q>

4PB QEB 1RIB LC QL BPQF J >QB ELT ILKD FQ THII Q>HB CLO (KAF> 2M>FK >KA 2LRQE COF@> QL ALR?IB QEBFO PQ>KA>OAP LC IFSFKD

4PFKD QEB OBPB>0@E PHFIIP VLR E>SB >@NRFOBA OBQOFBSB QEB CLILTFKD A>Q> COL J 3EB 6 LOIA !>KH A>Q>?>PB EQQM A>Q>?>KH TLOIA?>KH LOD A>Q> EL J B >PMU CLO (KAF> 2M>FK >KA 2LRQE COF@> CLO

- a FC >S>FI>?IB
- d 3BIBMELKB IFKBP
- d , L?FIB @BIIRI>0 PR?P@OFMQFLKP
- d 2B@ROB (KQBOKBQ PBOSBOP MBO LKB J FIFLK MBLMIB
- d \$IB@QOF@FQV MOLAR@QFLK H 6 E

/OBM>OB > @E>OQ QE>Q @L J M>OBP QEBPB QE0BB @LRKQOFBP #BP@OF?B QEB HBV AFCCBOBK@BP ?BQTBBK QEB @LRKQOFBP

1BQOFBSB QEB RKB J MILV J BKQ A>Q> COL J 3EB 6 LOIA !>KH A>Q>?>PB EQQM A>Q>?>KH TLOIA?>KH LOD A>Q> EL J B >PMU CLO (KAF> 2M>FK >KA 2LRQE COF@> CLO

/OBM>OB > @E>OQ QE>Q @L J M>OBP (KAF> 2M>FK >KA 2LRQE COF@> ?>PBA LK QEB A>Q> #BP@OF?B QEB HBV AFCCBOBK@BP ?BQTBBK QEB @LRKQOFBP 1>KH QEBPB @LRKQOFBP >P EFDE J BAFR J >KA ILT FK@L J B @LRKQOFBP \$UMI>FK TE>Q FP PROMOPFKD LO BUMB@QBA >?LRQ QEFP A>Q> ' LT AFA QEB &OB>Q 1B@BPPFLK F J M>@Q QEBPB @LRKQOFBP

1BQOFBSB FKCI>QFLK A>Q> COL J 3EB 6 LOIA !>KH A>Q>?>PB EQQM A>Q>?>KH TLOIA?>KH LOD A>Q> EL J B >PMU CLO (KAF> 2M>FK >KA 2LRQE COF@> CLO a /OBM>OB > @E>OQ QE>Q @L J M>OBP (KAF> 2M>FK >KA 2LRQE COF@> ?>PBA LK QEB A>Q> #BP@OF?B QEB HBV AFCCBOBK@BP ?BQTBBK QEB @LRKQOFBP 1>KH QEBPB @LRKQOFBP >P EFDE J BAFR J >KA ILT FK@L J B \$UMI>FK TE>Q FP PROMOPFKD LO BUMB@QBA >?LRQ QEB A>Q>

#E>M0B0 X ->@0LB@LKLJf@ OLIF@V !0LRKA QEB 7 L0IA

# N !AG8EA4G<BA4? ,E478



<:HEB CC?8 BE +4@FHA: <( ;BA8 7 EFIB QEB FOELKB FP OB>AFIV OB@LDKFWBA >P >K !MMIB MOLAR@Q LC QEB @L J MLKBKQ @LPQP FK FQ @L J B COL J @L J MLKBKQP J >AB ?V QFS>I MELKB J >HBO 3>J PRKD )K FK@BOK>@FLK>I QO>AB QEBQB >OB LQ@BK b@LKCIF@QPc IFHB QEFPP >P B>@E @LRKQOV LO @L J M>KV CL@RPBP LK TE>Q FQ ALBP ?BPQ #OBAFQ J LAFcf@>@FLK LC TLOH ?V 9RQ>H> 4PRQ>KL #OB>@FSB #L J J LKP

## Bring it Home

"HFG / ;BF8 <( ;BA8 !F !G

4EB FOELKB FP > DIL?>I MOLAR@Q !MMIB ALBP KLQ J >KRC>@QROB QEB FOELKB @L J MLKBKQP KLO ALBP FQ >PPBJ ?IB QEB J 4EB >PPBJ ?IV FP ALKB ?V &LU@LKK #LOMLO>@FLK > 4>FT>KBPB @L J M>KV >Q FQP C>@QLOV FK 3BKDWBKB #EFK> "RQ 3>J PRKD QEB BIB@QOLKF@P CFO J >KA @L J MBQFQLO QL !MMIB >@QR>IIV PRMMIFBP J >KV LC QEB M>OQP QE>Q J >HB RM >K FOELKB \_OBMOBPBKQFKD >?LRQ LC QEB @LPQP LC MOLAR@QFLK 4E>Q JB>KP QE>Q 3>J PRKD FP ?LQE QEB ?FDDBPQ PRMMIFBO >KA ?FDDBPQ @L J MBQFQLO CLO !MMIB 7 EV AL QEBPB QTL CFO J P TLOH QLDBQEBO QL MOLAR@B QEB FOELKB 4L RKABOP>KA QEB B@LKL J F@ ILDF@ ?BEFKA FK@BOK>@FLK>I QO>AB VLR E>SB QL >@@BMQ >P QEBPB CFO J P AL QE>Q QO>AB FP >?LRQ J RQR>IIV ?BKBCF@F>I BU@E>KDB 3>J PRKD FP LKB LC QEB TLOIA@P I>ODBPQ BIB@QOLKF@P M>OQP PRMMIFBOP !MMIB IBQP 3>J PRKD CL@RP LK J >HFKD QEB ?BPQ M>OQP TEF@E >IILT P !MMIB QL @LK@BKQO>QB LK FQP P@QBDKQE \_ABPDKFKD BIBD>KQ MOLAR@QP QE>Q >OB B>PV QL RPB )C B>@E @L J M>KV >KA ?V BUQBKPFK B>@E @LRKQOV CL@RPBP LK TE>Q FQ ALBP ?BPQ QEBQB TFII ?B D>FKP CLO >II QEOLRDE QO>AB

## !AGEB7H6G<BA GB !AG8EA4G<BA4? ,E478

(K QEFPP @E>M@B0 VLR TFII IB>OK >?LRQ

g ?PLIRQB >KA "L J M>O>@FSB AS>KQ>DB

g 6 E>Q ' >MMBKP 6 EBK > "LRKQOV ' >P >K ?PLIRQB AS>KQ>DB FK II &LLAP

g (KQO> FKARPQOV 30>AB ?BQTBBK 2F J FI>0 \$@LKL J FBP

g 3EB !BKBCFP LC 1BAR@FKD !>00FBOP QL (KQBOK>QLK>I 30>AB

6B IFSB FK > DIL?>I J>0HBQMI>@B 3EB CLLA LK VLRO Q>?IB J FDEQ FK@IRAB COBPE CORFQ COL J " EFIB @EBBPP COL J %0>K@B >KA ?LQQIBA T>QB0 COL J 2@LQI>KA 8LRO TFOBIBPP MELKB J FDEQ E>SB ?BBK J>AB FK 3>FT>K LO \*LOB> 3EB @ILQEBP VLR TB>0 J FDEQ ?B ABPFDKBA FK (Q>IV >KA J>KRC>@QROBA FK "EFK> 3EB QLVP VLR DFSB QL > @EFIA J FDEQ E>SB @L J B COL J (KAF> 3EB @>0 VLR AOFBS J FDEQ @L J B COL J )>M>K &B0 J>KV LO \*LOB> 3EB D>PLIFKB FK QEB Q>KH J FDEQ ?B OBCFKBA COL J @ORAB LFI COL J 2>RAF 0>?F> , BUFL L LO -FDBOF> P > TLOHBO FC VLRO GL? FP FKSLISBA TFQE C>0 J FKD J>@EFKBOV >FOMI>KBP @>0P P@FBKQFCF@ FKPQOR J BKQP LO J>KV LQEB0 QB@EKLILDV OBI>QBA FKARPQFBP QEB LAAP >OB DLLA QE>Q > EB>0QV MOLMLQFLK LC QEB P>IBP LC VLRO B J MILVBO b >KA EBK@B QEB J LKBV QE>Q M>VP VLRO P>I>0V b @L J BP COL J BUMLOQ P>IBP 6B >OB >II IFKHBA ?V FKQBOK>QLK>I QO>AB >KA QEB SLIR J B LC QE>Q QO>AB E>P DOLTK AO> J >QF@>IIV FK QEB I>PQ CBT AB@>ABP

3EB CFOPQ T>SB LC DIL?>IFW>QLK PQ>0QBA FK QEB KFKQBKKQE @BKQROV >KA I>PQBA RM QL QEB ?BDFKFKD LC 6LOIA 6>0 ( . SBO QE>Q QF J B DIL?>I BUMLOQP >P > PE>OB LC DIL?>I &# / OLPB COL J IBPP QE>K LC &# / FK QL LC &# / FK P QEB -L?BI /OFWB TFKKFKD B@LKL J FPQ />RI \*ORD J>K LC /OFK@BQLK 4KFSBOPFV TOLQB FK

(Q FP > I>QB QTBKQFBQE @BKQROV @LKB@BFQ QE>Q TB FKSQBQBA QEB DIL?>I B@LKL J V GRPQ VBPQBOA>V (K C>@Q TLOIA J>0HBQP >@EFBSBA >K F J MOBPPFSB ABDOBB LC FKQBD0>QLK AROFKD QEB PB@LKA E>IC LC QEB KFKQBKKQE @BKQROV (KABBA FC LKB T>KQP > PMB@FCF@ A>QB CLO QEB ?BDFKFKD LC > QORIV DIL?>I B@LKL J V LKB J FDEQ TBII @ELLPB QEB VB>0 FK TEF@E ?LQE QEB 2RBW ">K>I >KA QEB 4KFLK />@FCF@ 0>FIOL>A TBOB @L J MIBQBA !V QEB BSB LC QEB %FOPQ 6LOIA 6>0 PQB> J PEFMP >KA 0>FIOL>AP E>A @OB>QBA J>0HBQP CLO PQ>KA>0AFWBA @L J J LAFQFBP IFHB TEB>Q >KA TLLI QE>Q TBOB CRIIV DIL?>I FK QEBFO OB>@E \$SBK QEB DIL?>I CILT LC FKCL0 J>QLK T>P ?BQQBO QE>K J LABOK L?PBOSBOP CL@RPBA LK BIB@QOLKF@ QB@EKLILDV QBKA QL OB>IFWB QEB CFOPQ PR? J>OFKB QIBD0>ME @>?IB T>P I>FA RKABO QEB QI>KQF@ FK >KA ?V >II LC QEB TLOIA d P J>GLO B@LKL J F@ OBDFLKP @LRIA BCCB@QFSBIV @L J J RKF@>QB FKPQ>KQ>KBLRPV

3EFP CFOPQ T>SB LC DIL?>IFW>QLK @0>PEBA QL > E>IQ B>0IV FK QEB QTBKQFBQE @BKQROV 6LOIA 6>0 ( PBSBOBA J>KV B@LKL J F@ @LKKB@QLKP #ROFKD QEB &OB>Q #BMOBPPFLK LC QEB P J>KV K>QLKP J FPDFABAIV QOFBA QL CFU QEBFO LTK B@LKL J FBP ?V OBAR@FKD CLOBFDK QO>AB TFQE LQEBOP 6LOIA 6>0 (( CROQEBO EFKABOBA FKQBOK>QLK>I QO>AB &IL?>I CILT P LC DLLAP >KA CFK>K>F>I @>MFQ>I TBOB OB?RFIQ LKIV PILTIV >CQBO 6LOIA 6>0 (( (Q T>P KLQ RKQFI QEB B>0IV P QE>Q DIL?>I B@LKL J F@ CLO@BP >D>FK ?B@> J B >P F J MLOQ>KQ OBI>QFSB QL QEB PFWB LC QEB TLOIA B@LKL J V >P QEBV TBOB ?BCL0B 6LOIA 6>0 (

## N 5FB?HG8 4A7 B@C4E4G<I8 714AG4:8

!V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

d #BCFKB >?PLIRQB >AS>KQ>DB @L J M>0>QFSB >AS>KQ>DB >KA LMMLOQRKFQV @LPQP

d \$UMI>FK QEB D>FKP LC QO>AB @OB>QBA TEBK > @LRKQOV PMB@F>IFWBP

3EB J BOF@>K PQ>QBP J >K !BKQ> J FK %0>KHIFK a LK@B TOLQB e - L K>QLK T>P BSBO ORFKBA ?V QO>AB f , >KV B@LKL J FPQP TLRIA BUMOBPP QEBFO >QFQRABP QL T>0A FKQBOK>QLK>I QO>AB FK >K BSBK J LOB MLPQFBSB J >KKBO 3EB BSFABK@B QE>Q FKQBOK>QLK>I QO>AB @LKBOP LSBO>II ?BKBCFP LK B@LKL J FBP FP MOBQQV PQQLKD 30>AB E>P >@L J M>KFBA B@LKL J F@ DOLTQE FK QEB 4KFQBA 2Q>QBP >KA >OLRKA QEB TLOIA , >KV LC QEB K>QLK>I B@LKL J FBP QE>Q E>SB PELTK QEB J LPQ 0>MFA DOLTQE FK QEB I>PQ PBSBO>I AB@>ABP b CLO BU> J MIB )>M>K 2LRQE \*LOB> "EFK> >KA (KAF> b E>SB ALKB PL ?V AO> J>QF@>IIV LOFBKQFKD QEBFO B@LKL J FBP QL T>0A FKQBOK>QLK>I QO>AB 3EBOB FP KL J LABOK BU> J MIB LC > @LRKQOV QE>Q E>P PERQ FQPBIC LCC COL J TLOIA QO>AB >KA VBQ MOLPMBOBA 3L RKABOPQ>KA QEB ?BKBCFP LC QO>AB LO TEV TB QO>AB FK QEB CFOPQ MI>@B TB KBBA QL RKABOPQ>KA QEB @LKB@MQP LC @L J M>0>QFSB >KA >?PLIRQB >AS>KQ>DB

(K #>SEA 1F@>OAL > ?RPFKBPP J>K B@LKL J FPQ >KA J B J ?BO LC QEB !OFQPE />OIF> J BKQ TOLQB > QOB>QFPB @>IIBA *On the Principles of Political Economy and Taxation* (K QEFP QOB>QFPB 1F@>OAL >ODRBA QE>Q PMB@F>IFW>QLK >KA COBB QO>AB ?BKBCFQ >II QO>AFKD M>0QKBOP BSBK QELPB QE>Q J >V ?B OBI>QFSBIV FKBCCF@FBKQ 3L PBB TE>Q EB J B>KQ TB J RPQ ?B >?IB QL AFPQFKDRFPE ?BQTBBK >?PLIRQB >KA @L J M>0>QFSB >AS>KQ>DB

@LRKQOV E>P >K **absolute advantage** LSBO >KLQEB0 @LRKQOV FK MOLAR@FKD > DLLA FC FQ RPBP CBTBO OBPRLRO@BP QL MOLAR@B QE>Q DLLA ?PLIRQB >AS>KQ>DB @>K ?B QEB OBPRIQ LC > @LRKQOV d P K>QRO>I BKALT J BKQ %LO BU> J MIB BUQO>@QFKD LFI FK

2>RAF 0>?F> FP MOBQV J R@E GRPQ > J>QQBO LC eAOFIIFKD > ELIB f /OLAR@FKD LFI FK LQEBO @LRKQOFBP @>K OBNRFOB @LKPFABO>?IB BUMILO>@FLK >KA @LPQIV QB@EKLILDFBP CLO AOFIIFKD >KA BUQO>@QFLK b FC QEBV E>SB >KV LFI >Q>II 3EB 4KFQBA 2Q>QBP E>P PL J B LC QEB OF@EBPQ C>0 J I>KA FK QEB TLOIA J>HFKD FQ B>PFB QL DOLT @LOK >KA TEB>Q QE>K FK J>KV LQEBO @LRKQOFBP &R>QB J >I> >KA "LIL J ?F> E>SB @IF J >QBP BPMB@F>IIV PRFQBA CLO DOLT@LCCBB " EFIB >KA 9> J ?F> E>SB PL J B LC QEB TLOIA@P OF@EBPQ @LMMBO J FKBP P PL J B E>SB >ODRBA eDBLDO>MEV FP ABPQFKV f " EFIB TFII MOLSFAB @LMMBO >KA &R>QB J >I> TFII MOLAR@B @LCCBB >KA QEBV TFII QO>AB 6 EBK B>@E @LRKQOV E>P > MOLAR@Q LQEBOB KBBA >KA FQ @>K MOLAR@B FQ TFQE CBTBO OBPLRO@BP FK LKB @LRKQOV QE>K FK >KLQEBO QEBK FQ FP B>PV QL F J >DFKB >II M>OQFBP ?BKBCFQFKD COL J QO>AB 'LTBSBO QEFKHFKD >?LRQ QO>AB GRPQ FK QBO J P LC DBLDO>MEV >KA >?PLIRQB >AS>KQ>DB FP FK@L J MIBQB 3O>AB OB>IIV L@>RQB ?B@>RPB LC @L J M>O>QFSB >AS>KQ>DB

1B@>II COL J QEB @E>M@B0 ;B<68 <A 4 / BE?7 B9 +64E6<GL QE>Q > @LRKQOV E>P > @L J M>O>QFSB >AS>KQ>DB TEBK FQ @>K MOLAR@B > DLLA >Q > IL TB0 @LPQ FK QBO J P LC LQEBO DLLAP 3EB NRBPQFLK B>@E @LRKQOV LO @L J M>KV PELRIA ?B >PHFKD TEBK FQ QO>ABP FP QEFP e 6 E>Q AL TB DFSB RM QL MOLAR@B QEFP DLLA f (Q PELRIA ?B KL PROMOFPB QE>Q QEB @LK@BMQ LC @L J M>O>QFSB >AS>KQ>DB FP ?>PBA LK QEFP FAB> LC LMMLOQRKFQV @LPQ COL J ;B<68 <A 4 / BE?7 B9 +64E6<GL %LO BU> J MIB FC 9> J ?F> CL@RPBP FQP OBPLRO@BP LK MOLAR@FKD @LMMBO FQ @>KKLQ RPB FQP I>?LO I>KA >KA CFK>K@F>I OBPLRO@BP QL MOLAR@B LQEBO DLLAP PR@E >P @LOK P > OBPRIQ 9> J ?F> DFSB RM QEB LMMLOQRKFQV QL MOLAR@B @LOK 'LT AL TB NR>KQFCV QEB @LPQ FK QBO J P LC LQEBO DLLAP 2F J MIFCV QEB MOL?IB J >KA >PPR J B QE>Q 9> J ?F> GRPQ KBBAP I>?LO QL MOLAR@B @LMMBO >KA @LOK 3EB @L J M>KFBP QE>Q MOLAR@B BFQEBO @LMMBO LO @LOK QBII VLR QE>Q FQ Q>HBP QTL ELROP QL J FK B >QLK LC @LMMBO >KA LKB ELRO QL E>OSBPQ > ?RPEBI LC @LOK 3EFP J B>KP QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD >QLK LC @LMMBO FP QTL ?RPEBIP LC @LOK 3EB KBUQ PB@QFLK ABSBILMP >?PLIRQB >KA @L J M>O>QFSB >AS>KQ>DB FK DOB>QBO ABQ>FI >KA OBI>QBP QEB J QL QO>AB

# Link It Up

6FPQ QEFP TB?PQB EQQM LMBKPQ>U@LIIBDB LOD I 74 / CLO > IFPQ LC >OQF@IBP >KA MLA@>PQP MBOQ>FKFKD QL FKQBOK>@FLK>I QO>AB QLMF@P

## &H@8E<64? K4@C?8 B9 5FB?HG8 4A7 B@C4E4G<I8 714AG4:8

"LKPFABO >EVMLQEBQF@>I TLOIA TFQE QTL @LRKQOFBP 2>RAF 0>?F> >KA QEB 4KFQBA 2Q>QBP >KA QTL MOLAR@QP LFI >KA @LOK %ROQEBO >PPR J B QE>Q @LKPR J BOP FK ?LQE @LRKQOFBP ABPFOB ?LQE QEBPB DLLAP 3EBPB DLLAP >OB EL J LDBKBLRP J B>KFKD QE>Q @LKPR J BOP MOLAR@BOP @>KKLQ AFCCBOKQF>QB ?BQTBKK @LOK LO LFI COL J BFQEBO @LRKQOV 3EBOB FP LKIV LKB OBPLRO@B >S>FI>?IB FK ?LQE @LRKQOFBP I>?LO ELROP 2>RAF 0>?F> @>K MOLAR@B LFI TFQE CBTBO OBPLRO@BP TEFIB QEB 4KFQBA 2Q>QBP @>K MOLAR@B @LOK TFQE CBTBO OBPLRO@BP ,45?8 FIIRPQ>QBP QEB >AS>KQ>DBP LC QEB QTL @LRKQOFBP BUMOBPPBA FK QBO J P LC ELT J >KV ELROP FQ Q>HBP QL MOLAR@B LKB RKFQ LC B>@E DLLA

BHAGEL	' <? ;BHEF C8E 54EE8?	BEA ; BHEF C8E 5HF ; 8?
3>RAF !0>?F>		
5KFQBA 3Q>QBP		

,45?8 BJ %4AL BHEF !G ,4>8F GB (EB7H68 ' <? 4A7 BEA

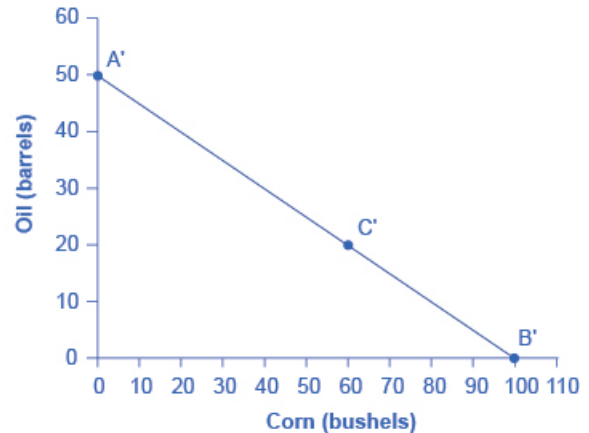
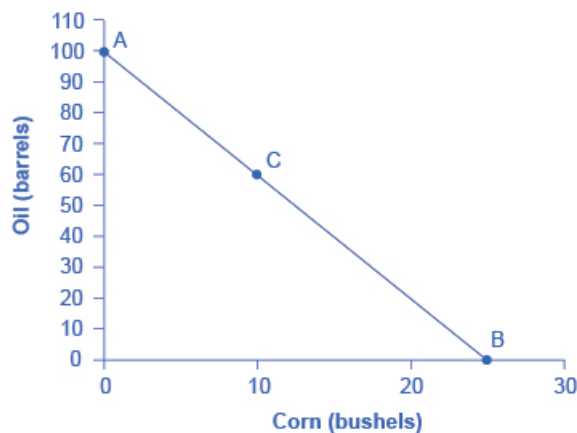
(K ,45?8 2>RAF 0>?F> E>P >K >?PLIRQB >AS>KQ>DB FK MOLAR@FKD LFI ?B@>RPB FQ LKIV Q>HBP >K ELRO QL MOLAR@B > ?>OBI LC LFI @L J M>OBA QL QTL ELROP FK QEB 4KFQBA 2Q>QBP 3EB 4KFQBA 2Q>QBP E>P >K >?PLIRQB >AS>KQ>DB FK MOLAR@FKD

@L0K

3L PF J MIFCV IBQdP P>V QE>Q 2>RAF 0>?F> >KA QEB 4KFQBA 2Q>QBP B>@E E>SB TLOHBO ELROP PBB ,45?8 <:HE8  
 FIIRPQ0>QBP TE>Q B>@E @LRKQOV FP @>M>?IB LC MOLAR@FKD LK FQP LTK RPKD > MOLAR@QLK MLPPF?FIFQV COLKQFBO // %  
 D0>ME 1B@>II COL J ;B<68 <A 4 / BE?7 B9 +64E6<GL QE>Q QEB MOLAR@QLK MLPPF?FIFQFBP COLKQFBO PELTP QEB J >UF J R J  
 > J LRKQ QE>Q B>@E @LRKQOV @>K MOLAR@B DFSBK FQP IF J FQBA OBPLR0@BP FK QEFP @>PB TLOHB0P >KA FQP IBSBI LC QB@EKLILDV

BHAGEL	' <? (EB7H6G<BA HF<A : JBE>8E ;BHEF 54EE8?F	BEA (EB7H6G<BA HF<A : JBE>8E ;BHEF 5HF ;8?F
3>RAF !0>?F>		L0
5KFQBA 3Q>QBP		L0

,45?8 (EB7H6G<BA (BFF<5<?<G<8F 589BE8 ,E478



(a) Saudi Arabia

(b) The United States

<:HE8 (EB7H6G<BA (BFF<5<?<G<8F EBAG<8EF > 3>RAF !0>?F> @>K MOLAR@B ?>00BIP LC LFI >Q J >UF J R J >KA  
 WBOL @L0K MLFKQ ! L0 ?RPEBIP LC @L0K >KA WBOL LFI MLFKQ " )Q @>K >IPL MOLAR@B LQEB0 @L J ?FK>QLK L0 LFI >KA @L0K  
 FC FQ T>KQP QL @LKPR JB ?LQE DLLAP PR@E >P >Q MLFKQ # (BOB FQ @ELLBPB QL MOLAR@B @LKPR JB ?>00BIP LC LFI IB>SFKD  
 TLOH ELROP QE>Q QL >IIL@>QB QL MOLAR@B ?RPEBIP LC @L0K RPKD QEB A>Q> FK ,45?8 ? )C QEB 5KFQBA 3Q>QBP  
 MOLAR@BP LKIV LFI FQ @>K MOLAR@B >Q J >UF J R J ?>00BIP >KA WBOL @L0K MLFKQ ! L0 >Q QEB LQEB0 BUQ0B JB FQ @>K  
 MOLAR@B > J >UF J R J LC ?RPEBIP LC @L0K >KA KL LFI MLFKQ " / QEB0 @L J ?FK>QLK L0 ?LQE LFI >KA @L0K >OB MLPPF?IB  
 PR@E >P MLFKQ # ! II MLFKQP >?LSB QEB COLKQFBOP >OB F J MLPPF?IB QL MOLAR@B DFSBK QEB @R00BKQ IBSBI LC OBPLR0@BP >KA  
 QB@EKLILDV

ODR>?IV 2>RAF >KA 4 2 @LKPR J BOP ABPFOB ?LQE LFI >KA @L0K QL IFSB +BQdP P>V QE>Q ?BCL0B Q0>AB L@>ROP ?LQE @LRKQ0FBP  
 MOLAR@B >KA @LKPR JB >Q MLFKQ " L0 " 3ERP ?BCL0B Q0>AB QEB 2>RAF 0>?F>K B@LKL J V TFII ABSLQB TLOHBO ELROP  
 QL MOLAR@B LFI >P ,45?8 PELTP &FSBK QEB FKCL0 J >QLK FK ,45?8 QEFP @ELF@B F J MIFBP QE>Q FQ MOLAR@BP  
 @LKPR J BP ?>00BIP LC LFI 6 FQE QEB OB J >FKFKD TLOHBO ELROP PFK@B FQ KBBAP CLRO ELROP QL MOLAR@B > ?RPEBI LC @L0K  
 FQ @>K MOLAR@B LKIV ?RPEBIP 3L ?B >Q MLFKQ " QEB 4 2 B@LKL J V ABSLQBP TLOHBO ELROP QL MOLAR@B ?>00BIP LC  
 LFI >KA FQ @>K >IIL@>QB QEB OB J >FKFKD TLOHBO ELROP QL MOLAR@B ?RPEBIP LC @L0K

BHAGEL	' <? (EB7H6G<BA 54EE8?F	BEA (EB7H6G<BA 5HF ;8?F
3>RAF !0>?F> #		

,45?8 (EB7H6G<BA 589BE8 ,E478



BHAGEL	' <? (EB7H6G<BA 54EE8?F	BEA (EB7H6G<BA 5HF ;8?F
5KFQBA 3Q>QBP #		
,BG4? / BE?7 (EB7H6G<BA		

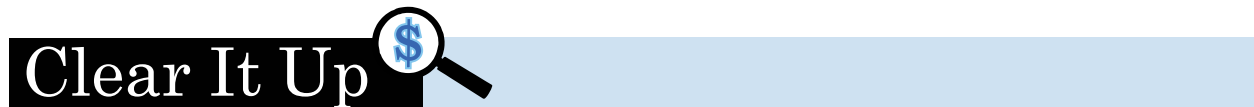
,45?8 (EB7H6G<BA 589BE8 ,E478

3EB PILMB LC QEB MOLAR@QFLK MLPPF?FIFQV COLKQFBO FIIRPQO>QBP QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD LFI FK QBO J P LC @LOK 4PFKD >II FQP OBPLRO@BP QEB 4KFQBA 2Q>QBP @>K MOLAR@B ?>00BIP LC LFI or ?RPEBIP LC @LOK QEBOBLOB QEB LMMLOQRKFQV @LPQ LC LKB ?>00BI LC LFI FP QTL ?RPEBIP LC @LOK b LO QEB PILMB FP 3ERP FK QEB 4 2 MOLAR@QFLK MLPPF?FIFQV COLKQFBO DO>ME BSBOV FK@OB>PB FK LFI MOLAR@QFLK LC LKB ?>00BI F J MIFBP > AB@OB>PB LC QTL ?RPEBIP LC @LOK 2>RAF 0>?F> @>K MOLAR@B ?>00BIP LC LFI or ?RPEBIP LC @LOK 3EB LMMLOQRKFQV @LPQ LC MOLAR@FKD LKB ?>00BI LC LFI FP QEB ILPP LC LC > ?RPEBI LC @LOK QE>Q 2>RAF TLOHBOP @LRIA LQEBOTFPB E>SB MOLAR@BA (K QBO J P LC @LOK KLQF@B QE>Q 2>RAF 0>?F> DFSBP RM QEB IB>PQ QL MOLAR@B > ?>00BI LC LFI ,45?8 PR J J >OFWBP QEBPB @>I@RI>QFLKP

BHAGEL	' CCBEHGA<GL 6BFG B9 BA8 HA<G Q ' <? <A G8E@F B9 6BEA	' CCBEHGA<GL 6BFG B9 BA8 HA<G Q BEA <A G8E@F B9 B<?
3>RAF !0>?F>	Z	
5KFQBA 3Q>QBP		[

,45?8 ' CCBEHGA<GL BFG 4A7 B@C4E4G<I8 714A64:8

D>FK OB@>II QE>Q TB ABCFKBA @L J M>0>QFSB >AS>KQ>DB >P QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD DLLAP 2FK@B 2>RAF 0>?F> DFSBP RM QEB IB>PQ QL MOLAR@B > ?>00BI LC LFI  $\frac{1}{4}$  2 FK ,45?8 FQ E>P > @L J M>0>QFSB >AS>KQ>DB FK LFI MOLAR@QFLK 3EB 4KFQBA 2Q>QBP DFSBP RM QEB IB>PQ QL MOLAR@B > ?RPEBI LC @LOK PL FQ E>P > @L J M>0>QFSB >AS>KQ>DB FK @LOK MOLAR@QFLK (K QEF BU> J MIB QEBOB FP PV J J BQOV ?BQTBBK >?PLIRQB >KA @L J M>0>QFSB >AS>KQ>DB 2>RAF 0>?F> KBBAP CBTBO TLOHBO ELROP QL MOLAR@B LFI >?PLIRQB >AS>KQ>DB PBB ,45?8 >KA >IPL DFSBP RM QEB IB>PQ FK QBO J P LC LQEBO DLLAP QL MOLAR@B LFI @L J M>0>QFSB >AS>KQ>DB PBB ,45?8 2R@E PV J J BQOV FP KLQ >IT>VP QEB @>PB >P TB THII PELT >CQBO TB E>SB AFP@RPPBA D>FKP COL J QO>AB CRII? ?RQ CFOPQ OB>A QEB CLILTFKD "IB>0 (Q 4M CB>QROB QL J >HB PROB VLR RKABOP>KA TEV QEB / / % IFKB FK QEB DO>MEP FP PQO>FDEQ



### 4A 4 CEB7H6G<BA CBFF<5<?<GL 9EBAG<8E 58 FGE4< ;G

7 EBK VLR CFOPQ J BQ QEB MOLAR@QFLK MLPPF?FIFQV COLKQFBO OO& FK QEB @E>M@B0 LK ;B<68 <A 4 / BE?7 B9 +64E6<GL TB AOBT FQ T@QE >K LRQT>0A ?BKA@KD PE>MB 4EFP PE>MB FIIRPQO>QBA QE>Q >P TB QO>KPCBOOBA FKMRQP COL J MOLAR@FKD LKB DLLA QL >KLQEB0 \_IFHB COL J BAR@>QFLK QL EB>IQE PBOSF@BP \_QEBOB TBOB FK@OB>PFKD LMMLOQRKFQV @LPQP )K QEB BU> J MIBP FK QEFP @E>M@B0 TB A0>T QEB OO&P >P PQO>FDEQ IFKBP TEF@E J B>KP QE>Q LMMLOQRKFQV @LPQP >OB @LKPQ>KQ 7 EBK TB QO>KPCBO > J>0DFK>I RKFQ LC I>?LO >T>V COL J DOLTFKD @LOK >KA QLT>0A MOLAR@FKD LFI QEB AB@IFKB FK QEB NR>KQFQV LC @LOK >KA QEB FK@OB>PB FK QEB NR>KQFQV LC LFI FP >IT>VP QEB P>J B )K OB>IFQV QEFP FP MLPPF?IB LKIV FC QEB @LKOQF?RQFLK LC >AAQFLK>I TLOHBOP QL LRQMRQ AFA KLQ @E>KDB >P QEB P@>IB LC MOLAR@QFLK @E>KDBA 4EB IFKB>0 MOLAR@QFLK MLPPF?FIFQFB COLKQFBO FP > IBPP OB>IFQF@ J LABI ?RQ > PQO>FDEQ IFKB PF J MIFCFBP @>I@RI>QFLKP )Q >IPL FIIRPQO>QBP B@LKL J F@ QEB J BP IFHB >?PLIRQB >KA @L J M>0>QFSB >AS>KQ>DB GRPQ >P @IB>0IV

### 4<AF 9EB@ ,E478

" LKPFABO QEB QO>AFKD MLPFQFLK LC QEB 4KFQBA 2Q>QBP >KA 2>RAF 0>?F> >CQBO QEBV E>SB PMB@F>IFWBA >KA QO>ABA ! BCL0B QO>AB 2>RAF 0>?F> MOLAR@BP @LKPR JBP ?>00BIP LC LFI >KA ?RPEBIP LC @L0K 3EB 4KFQBA 2Q>QBP MOLAR@BP @LKPR JBP ?>00BIP LC LFI >KA ?RPEBIP LC @L0K &FSBK QEBFO @RO0BKQ MOLAR@QFLK IBSBIP FC QEB 4KFQBA 2Q>QBP @>K QO>AB >K > J LRKQ LC @L0K CBTBO QE>K ?RPEBIP >KA OB@BFSBP FK BU@E>KDB >K > J LRKQ LC LFI DOB>QBO QE>K ?>00BIP FQ TFII **gain from trade** 6 FQE QO>AB QEB 4KFQBA 2Q>QBP @>K @LKPR J B J LOB LC ?LQE DLLAP QE>K FQ AFA TFQELRQ PMB@F>IFW>QFLK >KA QO>AB 1B@>II QE>Q QEB @E>M0B0 / 8'6B@8 GB 6BAB@<6F ABCFKBA PMB@F>IFW>QFLK >P FQ >MMIFBP QL T'LOHBOP >KA CFO J P \$@LKL J FPQP >IPL RPB PMB@F>IFW>QFLK QL ABP@OF?B QEB L@RO0BK@B TEBK > @LRKQOV PEFCQP OBPLRO@BP QL CL@RP LK MOLAR@FKD > DLLA QE>Q LCCBOP @L J M>O>QFSB >AS>KQ>DB 2F J FI>OIV FC 2>RAF 0>?F> @>K QO>AB >K > J LRKQ LC LFI IBPP QE>K ?>00BIP >KA OB@BFSB FK BU@E>KDB >K > J LRKQ LC @L0K DOB>QBO QE>K ?RPEBIP FQ TFII E>SB J LOB LC ?LQE DLLAP QE>K FQ AFA ?BCL0B PMB@F>IFW>QFLK >KA QO>AB ,45?8 FIIRPQO>QBP QEB 0>KDB LC QO>ABP QE>Q TLRIA ?BKBCFQ ?LQE PFABP

, ; 8 - + 86BAB@L 49G8E FC86<4?<M4G<BA J<?? 58A89G <9 <G	, ; 8 +4H7< E45<4A 86BAB@L 49G8E FC86<4?<M4G<BA J<?? 58A89G <9 <G
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%UMLQPP KL J LOB QE>K ?RPEBIP LC @L0K	) J MLQPP >Q IB>PQ ?RPEBIP LC @L0K
) J MLQPP >Q IB>PQ ?>00BIP LC LFI	%UMLQPP IBPP QE>K ?>00BIP LC LFI

,45?8 , ; 8 \*4A:8 B9 ,E478F , ; 4G 8A89G BG ; G ; 8 -A<G87 +G4G8F 4A7 +4H7< E45<4

3EB RKABOIVFKD OB>PLK TEV QO>AB ?BKBCFQ ?LQE PFABP FP OLLQBA FK QEB @LK@BMQ LC LMMLOQRKFQV @LPQ >P QEB CLILTFKD "IB>0 (Q 4M CB>QROB BUMI>FKP (C 2>RAF 0>?F> TFPEBP QL BUM>KA AL J BPQF@ MOLAR@QFLK LC @L0K FK > T'LOIA TFQELRQ FKQBOK>QFLK>I QO>AB QEBK ?>PBA LK FQP LMMLOQRKFQV @LPQP FQ J RPQ DFSB RM CLRO ?>00BIP LC LFI CLO BSOV LKB >AAFQFLK>I ?RPEBI LC @L0K (C 2>RAF 0>?F> @LRIA CFKA > T>V QL DFSB RM IBPP QE>K CLRO ?>00BIP LC LFI CLO >K >AAFQFLK>I ?RPEBI LC @L0K LO BNRFS>IBKQIV QL OB@BFSB J LOB QE>K LKB ?RPEBI LC @L0K CLO CLRO ?>00BIP LC LFI FQ TLRIA ?B ?BQQBO LCC

## Clear It Up

### / ; 4G 4E8 G ; 8 BCCBEGHA<GL 6BFGF 4A7 : 4<AF 9EB@ GE478

4EB 0>KDB LC QO>ABP QE>Q TFII ?BKBCFQ B>@E @LRKQOV FP ?>PBA LK QEB @LRKQOV@P LMMLOQRKFQV @LPQ LC MOLAR@FKD B>@E DLLA 4EB 5KFQBA 3Q>QBP @>K MOLAR@B ?RPEBIP LC @L0K LO ?>00BIP LC LFI &L0 QEB 5KFQBA 3Q>QBP QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD LKB ?>00BI LC LFI FP QTL ?RPEBIP LC @L0K )C TB AFSFAB QEB KR J ?BOP >?LSB ?V TB DBQ QEB P> J B 0>QFL LKB ?>00BI LC LFI FP BNRFS>IBKQ QL QTL ?RPEBIP LC @L0K LO >KA )K > QO>AB T'QE 3>RAF !0>?F> FC QEB 5KFQBA 3Q>QBP FP DLFKD QL DFSB RM ?RPEBIP LC @L0K FK BUMLOQP FQ J RPQ F J MLQQ >Q IB>PQ ?>00BIP LC LFI QL ?B GRPQ >P TBII LCC #IB>OIV QL D>FK COL J QO>AB FQ KBBAP QL ?B >?IB QL D>FK J LOB QE>K >E>IC ?>00BI LC LFI CLO FQP ?RPEBI LC @L0K \_ LO TEV QO>AB >Q >II

1B@>II QE>Q #>SFA 1F@>OAL >ODRBA QE>Q FC B>@E @LRKQOV PMB@F>IFWBP FK FQP @L J M>O>QFSB >AS>KQ>DB FQ TFII ?BKBCFQ COL J QO>AB >KA QLQ>I DIL ?>I LRQMRQ TFII FK@OB>PB 'LT @>K TB PELT D>FKP COL J QO>AB >P > OBPRIQ LC @L J M>O>QFSB >AS>KQ>DB >KA PMB@F>IFW>QFLK ,45?8 PELTP QEB LRQMRQ >PPR J FKD QE>Q B>@E @LRKQOV PMB@F>IFWBP FK FQP @L J M>O>QFSB >AS>KQ>DB >KA MOLAR@BP KL LQEBO DLLA 3EFP FP PMB@F>IFW>QFLK 2MB@F>IFW>QFLK IB>AP QL >K FK@OB>PB FK QLQ>I T'LOIA MOLAR@QFLK "L J M>OB QEB QLQ>I T'LOIA MOLAR@QFLK FK ,45?8 QL QE>Q FK ,45?8

BHAGEL	) H4AG<GL CEB7H687 49G8E FC86<4?<M4G<BA Q ' <? 54EE8?F	) H4AG<GL CEB7H687 49G8E FC86<4?<M4G<BA Q BEA 5HF ; 8?F
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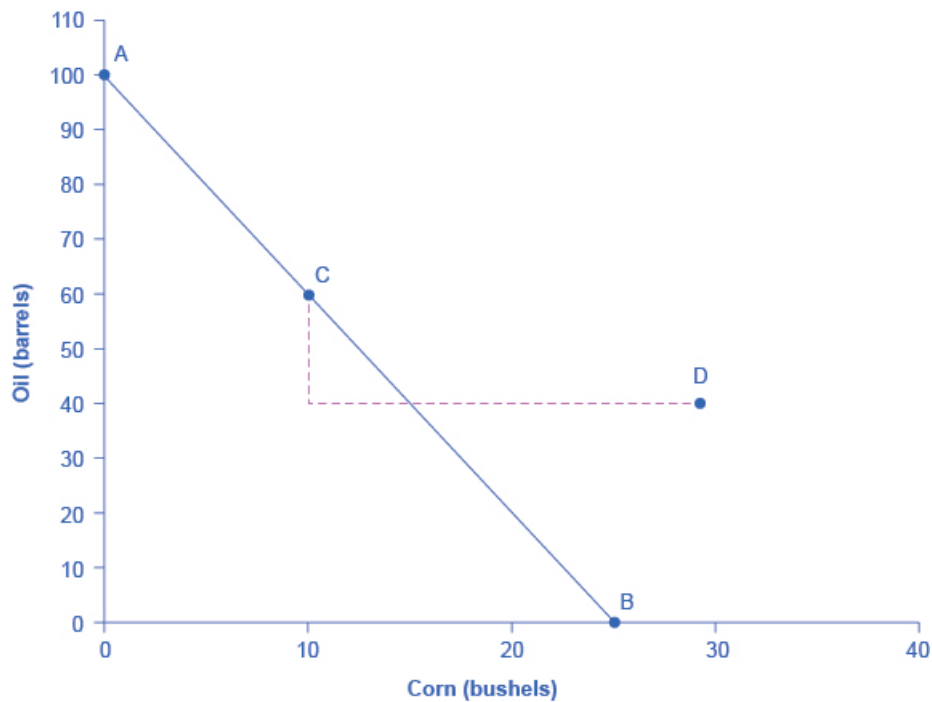
3>RAF !0>?F>

,45?8 BJ +C86<4?<M4G<BA KC4A7F 'HGCHG

BHAGEL	) H4AG<GL CEB7H687 49G8E FC86<4?<M4G<BA Q ' <? 54EE8?F	) H4AG<GL CEB7H687 49G8E FC86<4?<M4G<BA Q BEA 5HF; 8?F
5 KfQBA 3Q>QBP		
,BG4? / BE?7 (EB7H6G<BA		

,45?8 BJ +C86<4?<M4G<BA KC4A7F ' H6CHG

6 E>Q FC TB AFA KLQ E>SB @L J MIBQB PMB@F>IFW>QFLK >P FK ,45?8 6 LRIA QEB0B PQFII ?B D>FKP COL J QO>AB " LKPFABO  
>KLQEBO BU> J MIB PR@E >P TEBK QEB 4KfQBA 2Q>QBP >KA 2>RAF 0>?F> PQ>OQ >Q " >KA " 0BPMB@QFSBIV >P <: HE8  
PELTP " LKPFABO TE>Q L@@ROP TEBK QO>AB FP >IILTBA >KA QEB 4KfQBA 2Q>QBP BUMLOQP ?RPEBIP LC @LOK QL 2>RAF 0>?F>  
FK BU@E>KDB CLO ?>00BIP LC LFI



<: HE8 (EB7H6G<BA (BFF<5<?<G<8F EBA@<8E <A +4H7< E45<4 40>AB >IILT P > @LRKQOV QL DL ?BVLKA FQP AL J BPQF@  
MOLAR@QFLK MLPPF?FIFQV COLKQFB0

2Q>0QFKD >Q MLFKQ " TEF@E PELTP 2>RAF LFI MOLAR@QFLK LC 0BAR@B 2>RAF LFI AL J BPQF@ LFI @LKPR J MQFLK ?V PFK@B  
FP BUMLOQBA QL QEB 4KfQBA 2Q>QBP >KA BU@E>KDBA CLO RKFQP LC @LOK 3EFP BK>?IBP 2>RAF QL OB>@E MLFKQ # TEB0B  
LFI @LKPR J MQFLK FP KLT ?>00BIP >KA @LOK @LKPR J MQFLK E>P FK@OB>PBA QL PBB <: HE8 - LQF@B QE>Q BSBK  
TFQELRQ PMB@F>IFW>QFLK FC QEB eQO>AFKD MOF@B f FK QEF @>PB ?>00BIP LC LFI CLO ?RPEBIP LC @LOK FP DOB>QBO QE>K  
QEB @LRKQOVdP LMMLOQRKFQV @LPQ QEB 2>RAFP TFII D>FK COL J QO>AB 2FK@B QEB MLPQ QO>AB @LKPR J MQFLK MLFKQ # FP ?BVLKA  
FQP MOLAR@QFLK MLPPF?FIFQV COLKQFB0 2>RAF 0>?F> E>P D>FKBA COL J QO>AB

# Link It Up

6FpFQ QEFp TB?P@QB EQQM TRQP TLOIA?>KH LOD QO>AB SFPR>IFW>QFLK >PMU CLO QO>AB OBI>QBA A>Q> SFPR>IFW>QFLKp

# N / ;4G 4CC8AF / ;8A 4 BHAGEL 4F 4A 5FB?HG8 714AG4:8 <A ?? BB7F

! V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL

- d 2ELT QEB OBI>QLKPEFM ?BQTBBK MOLAR@QLK @LPQP >KA @L J M>0>QFSB >AS>KQ>DB
- d (ABKQFCV PFQR>QLKP LC J RQR>IIV ?BKBCF@F>I QO>AB
- d (ABKQFCV QO>AB ?BKBCFQP ?V @LKPFA0FKD LMMLOQRKFQV @LPQP

6 E>Q E>MMBKP QL QEB MLPPF?FIFQFBP CLO QO>AB FC LKB @LRKQOV E>P >K >?PLIRQB >AS>KQ>DB FK BSB0VQEFKD 3EFP FP QVMF@>I CLO EFDE FK@L J B @LRKQ0FBP QE>Q LCQBK E>SB TBII BAR@>QBA TLOHBOP QB@EKLILDF@>IIV >AS>K@BA BNRFM J BKQ >KA QEB J LPQ RM QL A>QB MOLAR@QLK MOL@BPPBP 3EBPB EFDE FK@L J B @LRKQ0FBP @>K MOLAR@B >II MOLAR@QP TFQE CBTBO OBPLR0@BP QE>K > ILT FK@L J B @LRKQOV (C QEB EFDE FK@L J B @LRKQOV FP J LOB MOLAR@QFSB >@OLPP QEB ?L>0A TFII QEB0B PQFII ?B D>FKP COL J QO>AB &LLA PQRABKQP LC 1F@>0AL RKABOPQ>KA QE>Q QO>AB FP >?LRQ J RQR>IIV ?BKBCF@F>I BU@E>KDB \$SBK TEBK LKB @LRKQOV E>P >K >?PLIRQB >AS>KQ>DB FK >II MOLAR@QP QO>AB @>K PQFII ?BKBCFQ ?LQE PFABP 3EFP FP ?B@>RPB D>FKP COL J QO>AB @L J B COL J PMB@F>IFWFKD FK LKBdP @L J M>0>QFSB >AS>KQ>DB

## (EB7H6G<BA (BFF<5?<G<8F 4A7 B@C4E4G<I8 714AG4:8

"LKPFA0 QEB BU> J MIB LC QO>AB ?BQTBBK QEB 4KFQBA 2Q>QBP >KA , BUFL ABP@OF?BA FK ,45?8 (K QEFB BU> J MIB FQ Q>HBP CLRO 4 2 TLOHBOP QL MOLAR@B M>FOP LC PELBP ?RQ FQ Q>HBP CFSB , BUFL@>K TLOHBOP QL AL PL (Q Q>HBP LKB 4 2 TLOHBO QL MOLAR@B OBCOFDBO>QLOP ?RQ FQ Q>HBP CLRO , BUFL@>K TLOHBOP QL AL PL 3EB 4KFQBA 2Q>QBP E>P >K >?PLIRQB >AS>KQ>DB FK MOLAR@QFSFQV TFQE OBD>0A QL ?LQE PELBP >KA OBCOFDBO>QLOP QE>Q FP FQ Q>HBP CBTBO TLOHBOP FK QEB 4KFQBA 2Q>QBP QE>K FK , BUFL QL MOLAR@B ?LQE > DfSBK KR J ?BO LC PELBP >KA > DfSBK KR J ?BO LC OBCOFDBO>QLOP

BHAGEL	&H@58E B9 / BE>8EF A88787 GB CEB7H68 HA<GF Q + ; B8F	&H@58E B9 / BE>8EF A88787 GB CEB7H68 HA<GF Q * 89E< : 8E4GBEF
5KFQBA 3Q>QBP	TLOHBOP	TLOHBO
- BUFL	TLOHBOP	TLOHBOP

,45?8 \* 8FBHE68F &88787 GB (EB7H68 + ; B8F 4A7 \* 89E< : 8E4GBEF

?PLIRQB >AS>KQ>DB PF J MIV @L J M>0BP QEB MOLAR@QFSFQV LC > TLOHBO ?BQTBBK @LRKQ0FBP (Q >KPTBOP QEB NRBPQLK e ' LT J >KV FKMQR AL ( KBBA QL MOLAR@B PELBP FK , BUFL f "L J M>0>QFSB >AS>KQ>DB >PHP QEFB P> J B NRBPQLK PIFDEQIV AFCC0BKQIV (KPQB>A LC @L J M>0FKD ELT J >KV TLOHBOP FQ Q>HBP QL MOLAR@B > DLLA FQ >PHP e ' LT J R@E > J ( DfSEKD RM QL MOLAR@B QEFB DLLA FK QEFB @LRKQOV f KLQEBO T>V LC ILLHFKD >Q QEFB FP QE>Q @L J M>0>QFSB >AS>KQ>DB FABKQFCFBP QEB DLLA CLO TEF@E QEB MOLAR@B0dP >?PLIRQB >AS>KQ>DB FP OBI>QFSBIV I>ODBO LO TEB0B QEB MOLAR@B0dP >?PLIRQB MOLAR@QFSFQV AFP>AS>KQ>DB FP OBI>QFSBIV P J >IIBO 3EB 4KFQBA 2Q>QBP @>K MOLAR@B PELBP TFQE CLRO CFCQEP >P J >KV TLOHBOP >P , BUFL CLRO SBOPRP CFSB ?RQ FQ @>K MOLAR@B OBCOFDBO>QLOP TFQE LKIV LKB NR>0QBO >P J >KV TLOHBOP LKB SBOPRP CLRO 2L QEB @L J M>0>QFSB >AS>KQ>DB LC QEB 4KFQBA 2Q>QBP TEB0B FQP >?PLIRQB MOLAR@QFSFQV >AS>KQ>DB FP OBI>QFSBIV

DOB>QBPQ IFBP TFQE OBCOFDBO>QLOP >KA , BUFL@L@P @L J M>O>QFSB >AS>KQ>DB TEBOB FQP >?PLIRQB MOLAR@QFSFQV AFP>AS>KQ>DB FP IB>PQ FP FK QEB MOLAR@QFLK LC PELBP

**%HG4??L 8A89<6<4? ,E478 J<G; B@C4E4G<18 714AG4:8**

6 EBK K>QFLKP FK@QB>PB MOLAR@QFLK FK QEBFO >OB> LC @L J M>O>QFSB >AS>KQ>DB >KA QO>AB TFQE B>@E LQEBO ?LQE @LRKQOFBP @>K ?BKBCFQ D>FK QEB MOLAR@QFLK MLPPF?FIFQV COLKQFBO FP > RPBCRI QLLI QL SFR>IFWB QEFP ?BKBCFQ

"LKPFBAB > PFQR>QFLK TEBOB QEB 4KFQBA 2Q>QBP >KA , BUFL@L B>@E E>SB TLOHBOP %LO BU>J MIB >P ,45?8 PELTP FC QEB 4KFQBA 2Q>QBP AFSFABP FQP I>?LO PL QE>Q TLOHBOP >OB J>HFKD PELBP QEBK PFK@B FQ Q>HBP CLRO TLOHBOP FK QEB 4KFQBA 2Q>QBP QL J>HB PELBP >QLQ>I LC PELBP TFII ?B MOLAR@BA (C CLRO TLOHBOP @>K J>HB PELBP QEBK TLOHBOP TFII J>HB PELBP (C QEB TLOHBOP FK QEB 4KFQBA 2Q>QBP >OB J>HFKD OBCOFDBO>QLOP >KA B>@E TLOHBO @>K MOLAR@B OBCOFDBO>QLOP QEBK >QLQ>I LC OBCOFDBO>QLOP TFII ?B MOLAR@BA

BHAGEL	+ ;B8 (EB7H6G<BA Q HF<A: JBE>8EF	*89E<:8E4GBE (EB7H6G<BA Q HF<A: JBE>8EF
5KFQBA 3Q>QBP	PELBP	LO OBCOFDBO>QLOP
- BUFL@L	PELBP	LO OBCOFDBO>QLOP

**,45?8 (EB7H6G<BA (BFF<5<?<GL 589BE8 ,E478 J<G; B@C?8G8 +C86<4?<M4G<BA**

P >IT>VP QEB PILMB LC QEB MOLAR@QFLK MLPPF?FIFQV COLKQFBO CLO B>@E @LRKQOV FP QEB LMMLOQRKFQV @LPQ LC LKB OBCOFDBO>QLO FK QBO J P LC CLOBDLKB PELB MOLAR@QFLKa TEBK I>?LO FP QO>KPCB00BA COL J MOLAR@FKD QEB I>QBO QL MOLAR@FKD QEB CLO J BO PBB <:HE8

<:HE8 (EB7H6G<BA (BFF<5<?<GL EBA<8EF > 7 FQE TLOHBOP QEB 5KFQBA 3Q>QBP @>K MOLAR@B BFQEBO PELBP >KA WBOL OBCOFDBO>QLOP LO OBCOFDBO>QLOP >KA WBOL PELBP ? 7 FQE TLOHBOP - BUFL@L @>K MOLAR@B > J>UF J R J LC PELBP >KA WBOL OBCOFDBO>QLOP LO OBCOFDBO>QLOP >KA WBOL PELBP ! II LQEBO MLFKQP LK QEB MOLAR@QFLK MLPPF?FIFQV IFKB >OB MLPPF?IB @L J ?FK>QFLKP LC QEB QTL DLLAP QE>Q @>K ?B MOLAR@BA DFSBK @R00BKQ OBPLR0@BP OLFKQ ! LK ?LQE DO>MEP FP TEBOB QEB @LRKQOFBP PQ>OQ MOLAR@FKD >KA @LKPR J FKD ?BCL0B QO>AB OLFKQ " FP TEBOB QEBV BKA RM >QOBO QO>AB

+BQdP P>V QE>Q FK QEB PFQR>QFLK ?BCL0B QO>AB B>@E K>QFLK MOBCBOP QL MOLAR@B > @L J ?FK>QFLK LC PELBP >KA OBCOFDBO>QLOP QE>Q FP PELTK >Q MLFKQ ,45?8 PELTP QEB LRQMRQ LC B>@E DLLA CLO B>@E @LRKQOV >KA QEB QLQ>I LRQMRQ CLO QEB QTL @LRKQOFBP

BHAGEL	HEE8AG + ; B8 (EB7H6G<BA	HEE8AG * 89E< : 8E4GBE (EB7H6G<BA
5KFQBA 3Q>QBP		
- BUF@L		
,BG4?		

,45?8 ,BG4? (EB7H6G<BA 4G (B<AG 589BE8 ,E478

"LKQFKRFD TFQE QEFP P@BK>OFL PRMMLPB QE>Q B>@E @LRKQOV QO>KPCBOP PLJB >JLRKQ LC I>?LO QLT>OA FQP >OB> LC @LJM>O>QFSB >AS>KQ>DB %LO BU>JMIB QEB 4KFQBA 2Q>QBP QO>KPCBOP PFU TLOHBOP >T>V COLJ PELBP >KA QLT>OA MOLAR@FKD OBCOFDBO>QLOP P >OBPRIQ 4 2 MOLAR@QFLK LC PELBP AB@OB>PBP ?V RKFQP ^ TEFIB FQP MOLAR@QFLK LC OBCOFDBO>QLOP FK@OB>PBP ?V QE>Q FP ^ ,BUF@L >IPL JLSBP MOLAR@QFLK QLT>OA FQP >OB> LC @LJM>O>QFSB >AS>KQ>DB QO>KPCBOPFD TLOHBOP >T>V COLJ OBCOFDBO>QLOP >KA QLT>OA MOLAR@QFLK LC PELBP P >OBPRIQ MOLAR@QFLK LC OBCOFDBO>QLOP FK ,BUF@L C>IIP ?V ^ ?RQ MOLAR@QFLK LC PELBP FK@OB>PBP ?V M>FOP ^ -LQF@B QE>Q TEBK ?LQE @LRKQOFP PEFCQ MOLAR@QFLK QLT>OA B>@E LC QEBFO @LJM>O>QFSB >AS>KQ>DBP TE>Q QEBV >OB OBI>QFSBIV ?BQQBO >Q QEBFO @LJ ?FKBA MOLAR@QFLK LC ?LQE DLLAP OFPBP >P PELTK FK ,45?8 3EB OBAR@QFLK LC PELB MOLAR@QFLK ?V M>FOP FK QEB 4KFQBA 2Q>QBP FP JLOB QE>K LCCPBQ ?V QEB D>FK LC M>FOP LC PELBP FK ,BUF@L TEFIB QEB OBAR@QFLK LC OBCOFDBO>QLOP FK ,BUF@L FP JLOB QE>K LCCPBQ ?V QEB >AAFQFLK>I OBCOFDBO>QLOP MOLAR@BA FK QEB 4KFQBA 2Q>QBP

BHAGEL	+ ; B8 (EB7H6G<BA	* 89E< : 8E4GBE (EB7H6G<BA
5KFQBA 3Q>QBP		
- BUF@L		
,BG4?		

,45?8 + ;<9<A: (EB7H6G<BA ,BJ4E7 B@C4E4G<18 714AG4:8 \*4<F8F ,BG4? 'HGCHG

3EFP KRJB OF@>I BU>JMIB FIIRPQO>QBP QEB OB J>OH>?IB FKPFEQ LC @LJM>O>QFSB >AS>KQ>DB BSBK TEBK LKB @LRKQOV E>P >K >?PLIRQB >AS>KQ>DB FK >II DLLAP >KA >KLQEB @LRKQOV E>P >K >?PLIRQB AFP>AS>KQ>DB FK >II DLLAP ?LQE @LRKQOFPB @>K PFIH ?BKBCFQ COLJ QO>AB \$SBK QELRDE QEB 4KFQBA 2Q>QBP E>P >K >?PLIRQB >AS>KQ>DB FK MOLAR@FKD ?LQE OBCOFDBO>QLOP >KA PELBP FQ J>HBP B@LKL JF@ PBKPB CLO FQ QL PMB@F>IFWB FK QEB DLLA CLO TEF@E FQ E>P > @LJM>O>QFSB >AS>KQ>DB 3EB 4KFQBA 2Q>QBP TFII BUMLOQ OBCOFDBO>QLOP >KA FK OBQROK FJMLQ PELBP

### BJ 'CCBEGHA<GL BFG +8GF G;8 BHA74E<8F B9 ,E478

3EFP BU>JMIB PELTP QE>Q ?LQE M>OQFBP @>K ?BKBCFQ COLJ PMB@F>IFWFK QEBFO @LJM>O>QFSB >AS>KQ>DBP >KA QO>AFKD !V RPFKD QEB LMMLOQRKFQV @LPQP FK QEFP BU>JMIB FQ FP MLPPF?IB QL FABKQFCV QEB O>KDB LC MLPPF?IB QO>ABP QE>Q TLRIA ?BKBCFQ B>@E @LRKQOV

,BUF@L PQ>OQBA LRQ ?BCLOB PMB@F>IFW>QFLK >KA QO>AB MOLAR@FKD M>FOP LC PELBP >KA OBCOFDBO>QLOP PBB <:HE8 >KA ,45?8 3EBK FK QEB KRJB OF@>I BU>JMIB DFSBK ,BUF@L PEFCQBA MOLAR@QFLK QLT>OA FQP @LJM>O>QFSB >AS>KQ>DB >KA MOLAR@BA M>FOP LC PELBP ?RQ LKIV OBCOFDBO>QLOP 3ERP FC ,BUF@L @>K BUMLOQ KL JLOB QE>K M>FOP LC PELBP DFSFKD RM M>FOP LC PELBP FK BU@E>KDB CLO FJMLQ LC >Q IB>PQ OBCOFDBO>QLOP >D>FK LC OBCOFDBO>QLOP FQ TFII ?B >?IB QL @LKPRJB JLOB LC ?LQE DLLAP QE>K ?BCLOB QO>AB ,BUF@L TFII ?B RK>J ?FDRLRPV ?BQQBO LCC "LKSOPBIV QEB 4KFQBA 2Q>QBP PQ>OQBA LCC ?BCLOB PMB@F>IFW>QFLK >KA QO>AB MOLAR@FKD M>FOP LC PELBP >KA OBCOFDBO>QLOP (K QEB BU>JMIB FQ QEBK PEFCQBA MOLAR@QFLK QLT>OA FQP @LJM>O>QFSB >AS>KQ>DB MOLAR@FKD LKIV PELBP ?RQ OBCOFDBO>QLOP (C QEB 4KFQBA 2Q>QBP @>K BUMLOQ KL JLOB QE>K OBCOFDBO>QLOP FK BU@E>KDB CLO FJMLQ LC >Q IB>PQ M>FOP LC PELBP FQ TFII ?B >?IB QL @LKPRJB JLOB LC ?LQE DLLAP >KA TFII ?B RK>J ?FDRLRPV ?BQQBO LCC

3EB O>KDB LC QO>ABP QE>Q @>K ?BKBCFQ ?LQE K>QFLKP FP PELTK FK ,45?8 %LO BU>JMIB >QO>AB TEBOB QEB 4 2 BUMLOQ OBCOFDBO>QLOP QL ,BUF@L FK BU@E>KDB CLO M>FOP LC PELBP TLRIA ?BKBCFQ ?LQE PFABP FK QEB PBKPB QE>Q

?LQE @LRKQFBP TLRIA ?B >?IB QL @LKPR J B J LOB LC ?LQE DLLAP QE>K FK > TLOIA TFQELRQ QO>AB

, ; 8 - + 86BAB@L 49G8E FC86<4?<M4G<BA J<?? 58A89<G <9 <G	, ; 8 %8K<64A 86BAB@L 49G8E FC86<4?<M4G<BA J<?? 58A89<G <9 <G
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<i>Exports</i> CBTBO QE>K      OBCOFDBO>QLOP	<i>Imports</i> >Q IB>PQ      OBCOFDBO>QLOP
<i>Imports</i> >Q IB>PQ      M>FOP LC PELBP	<i>Exports</i> KL J LOB QE>K      M>FOP LC PELBP

,45?8      , ; 8 \*4A:8 B9 ,E478F , ; 4G 8A89<G B6; G; 8 -A<87 +G4G8F 4A7 %8K<6B

30>AB >ILTP B>@E @LRKQOV QL Q>HB >AS>KQ>DB LC ILTBO LMMLOQRKFQV @LPQ FK QEB LQEB @LRKQOV (C , BUFL T>KQP QL MOLAR@B J LOB OBCOFDBO>QLOP TFQELRQ QO>AB FQ J RPQ C>@B FQP AL J BPQF@ LMMLOQRKFQV @LPQ >KA OBAR@B PELB MOLAR@QLK (C , BUFL FKPQ>A MOLAR@BP J LOB PELBP >KA QEBK QO>ABP CLO OBCOFDBO>QLOP J >AB FK QEB 4KFQBA 2Q>QBP TEBOB QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD OBCOFDBO>QLOP FP ILTBO , BUFL @>K FK BCCB@Q Q>HB >AS>KQ>DB LC QEB ILTBO LMMLOQRKFQV @LPQ LC OBCOFDBO>QLOP FK QEB 4KFQBA 2Q>QBP "LKSBOBPV TEBK QEB 4KFQBA 2Q>QBP PMB@F>IFWB FK FQP @L J M>O>QFSB >AS>KQ>DB LC OBCOFDBO>QLO MOLAR@QLK >KA QO>ABP CLO PELBP MOLAR@BA FK , BUFL FKQBOK>QLK>I QO>AB >ILTP QEB 4KFQBA 2Q>QBP QL Q>HB >AS>KQ>DB LC QEB ILTBO LMMLOQRKFQV @LPQ LC PELB MOLAR@QLK FK , BUFL

3EB QEBLOV LC @L J M>O>QFSB >AS>KQ>DB BUMI>FKP TEV @LRKQFBP QO>AB QEBV E>SB AFCCBOBKQ @L J M>O>QFSB >AS>KQ>DBP (Q PELTP QE>Q QEB D>FKP COL J FKQBOK>QLK>I QO>AB OBPRIQ COL J MROPRFKD @L J M>O>QFSB >AS>KQ>DB >KA MOLAR@FKD >Q > ILTBO LMMLOQRKFQV @LPQ 3EB CLILTFKD 6LOH (Q . RQ CB>QROB PELTP ELT QL @>I@RI>QB >?PLIRQB >KA @L J M>O>QFSB >AS>KQ>DB >KA QEB T>V QL >MMIV QEB J QL > @LRKQOV@P MOLAR@QLK

# Work It Out

4?6H?4G<A: 5FB?HG8 4A7 B@C4E4G<I8 714AG4:8

JK #>K>A> > TLOHBO @>K MOLAR@B ?>00BIP LC LFI LO QLKP LC IR J ?BO JK 6BKBWRBI> > TLOHBO @>K MOLAR@B ?>00BIP LC LFI LO QLKP LC IR J ?BO

BHAGEL	' <? 54EE8?F	\$H@58E GBAF
#>K>A>	L0	
6BKBWRBI>	L0	

,45?8

> 7 EL E>P QEB >?PLIRQB >AS>KQ>DB FK QEB MOLAR@QLK LC LFI LO IR J ?BO (LT @>K VLR QBII

? 7 Ef@E @LRKQOV E>P > @L J M>O>QFSB >AS>KQ>DB FK QEB MOLAR@QLK LC LFI

@ 7 Ef@E @LRKQOV E>P > @L J M>O>QFSB >AS>KQ>DB FK MOLAR@FKD IR J ?BO

A )K QEF BU>J MIB FP >?PLIRQB >AS>KQ>DB QEB P>J B >P @L J M>O>QFSB >AS>KQ>DB L0 KLQ

B )K TE>Q MOLAR@Q PELRIA #>K>A> PMB@F>IFWB )K TE>Q MOLAR@Q PELRIA 6BKBWRBI> PMB@F>IFWB

3QBM ->HB >Q>?IB IFHB ,45?8

3QBM 4L @>I@RI>QB >?PLIRQB >AS>KQ>DB ILLH >Q QEB I>ODBO LC QEB KR J ?BOP CLO B>@E MOLAR@Q / KB TLOHBO FK #>K>A> @>K MOLAR@B J LOB IR J ?BO QLKP SB0PRP QLKP PL #>K>A> E>P QEB >?PLIRQB >AS>KQ>DB FK IR J ?BO / KB TLOHBO FK 6BKBWRBI> @>K MOLAR@B ?>00BIP LC LFI @L J M>O>BA QL > TLOHBO FK #>K>A> TEL @>K MOLAR@B LKIV

3QBM 4L @>I@RI>QB @L J M>O>QFSB >AS>KQ>DB CFKA QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD LKB ?>00BI LC LFI FK ?LQE @LRKQFBP 4EB @LRKQOV TFQE QEB ILTBPQ LMMLOQRKFQV @LPQ E>P QEB @L J M>O>QFSB >AS>KQ>DB 7 FQE QEB P>J B I>?L0

QF JB #>K>A> @>K MOLAR@B BRQEBO ?>00BIP LC LFI LO QLKP LC IR J?B0 3L FK B00B@Q ?>00BIP LC LFI FP  
BNRFS>IBKQ QL QLKP LC IR J?B0 LFI IR J?B0 \$FSFAB ?LQE PFABP LC QEB BNR>QFLK ?V QL @>I@RI>QB QEB  
LMMLOQRKFQV @LPQ LC LKB ?>00BI LC LFI FK #>K>A> LFI IR J?B0 LFI IR J?B0 4L MOLAR@B LKB  
>AAQFLK>I ?>00BI LC LFI FK #>K>A> E>P >K LMMLOQRKFQV @LPQ LC IR J?B0 #>I@RI>QB QEB P>J B T>V CLO 6BKBWRBI>  
LFI IR J?B0 \$FSFAB ?LQE PFABP LC QEB BNR>QFLK ?V / KB LFI FK 6BKBWRBI> E>P >K LMMLOQRKFQV @LPQ LC  
IR J?B0 "B@>RBP IR J?B0 IR J?B0 6BKBWRBI> E>P QEB @L J M>0>QFSB >AS>KQ>DB FK MOLAR@FKD LFI

3QBM #>I@RI>QB QEB LMMLOQRKFQV @LPQ LC LKB IR J?B0 ?V OBSBOPFKD QEB KR J?B0P TRQE IR J?B0 LK QEB IB0Q PFAB LC  
QEB BNR>QFLK )K #>K>A> IR J?B0 FP BNRFS>IBKQ FK I>?L0 QF JB QL ?>00BIP LC LFI IR J?B0 LFI \$FSFAB  
B>@E PFAB LC QEB BNR>QFLK ?V 4EB LMMLOQRKFQV @LPQ LC LKB IR J?B0 FP LFI )K 6BKBWRBI> QEB BNRFS>IBKQ  
I>?L0 QF JB TFI MOLAR@B IR J?B0 LO LFI IR J?B0 LFI \$FSFAB B>@E PFAB ?V / KB IR J?B0 E>P >K  
LMMLOQRKFQV @LPQ LC QTL LFI #>K>A> E>P QEB ILTBO LMMLOQRKFQV @LPQ FK MOLAR@FKD IR J?B0

3QBM )K QEP BU>J MIB >?PLIRQB >AS>KQ>DB FP QEB P>J B >P @L J M>0>QFSB >AS>KQ>DB #>K>A> E>P QEB >?PLIRQB  
>KA @L J M>0>QFSB >AS>KQ>DB FK IR J?B0 6BKBWRBI> E>P QEB >?PLIRQB >KA @L J M>0>QFSB >AS>KQ>DB FK LFI

3QBM #>K>A> PELRIA PMB@F>IFWB FK QEB @L J J LAFQV CLO TEF@E FQ E>P > OBI>QFSB ILTBO LMMLOQRKFQV @LPQ TEF@E  
FP IR J?B0 >KA 6BKBWRBI> PELRIA PMB@F>IFWB FK LFI #>K>A> TFI ?B BUMLOQFKD IR J?B0 >KA F J ML0QFKD LFI >KA  
6BKBWRBI> TFI ?B BUMLOQFKD LFI >KA F J ML0QFKD IR J?B0

### B@C4E4G<I8 714AG4:8 B8F 4@C<A:

3L ?RFIA >K FKQRQFSB RKABOPQ>KAFKD LC ELT @L J M>0>QFSB >AS>KQ>DB @>K ?BKBCFQ >II M>0QFBP PBQ >PFAB BU>J MIBP QE>Q  
FKSLISB K>QFLK>I B@LKL J FBP CLO > J L J BKQ >KA @LKPFA0 QEB PFQR>QFLK LC > DOLRM LC COFBKAP TEL AB@FAB QL DL @>J MFKD  
QLDBQEBO 3EB PFU COFBKAP E>SB > TFAB O>KDB LC PHFIIP >KA BUMBOFBK@BP ?RQ LKB MBOPLK FK M>0QF@RI>O )BQEOL E>P ALKB  
ILQP LC @>J MFKD ?BLOB >KA FP >IPL > DOB>Q >QEIBQB )BQEOL E>P >K >?PLIRQB >AS>KQ>DB FK >II >PMB@QP LC @>J MFKD EB FP  
C>PQBO >Q @>00VFKD > ?>@HM>@H D>QEBOFKD CFOBTLLA M>AAIFKD > @>KLB PBQQFKD RM QBKQP J>HFKD > J B>I >KA T>PEFKD RM  
2L EBOB FP QEB NRPBQFLK !B@>RBP )BQEOL E>P >K >?PLIRQB MOLAR@QFSFQV >AS>KQ>DB FK BSOVQEFKD PELRIA EB AL >II QEB  
TLOH

. C @LROPB KLQ \$SBK FC )BQEOL FP TFIIFKD QL TLOH IFHB > J RIB TEFIB BSOVLKB BIPB PFQP >OLRKA EB IFHB >II J L0Q>IP  
LKIV E>P ELROP FK >A>V (C BSOVLKB PFQP >OLRKA >KA T>FQP CLO )BQEOL QL AL BSOVQEFKD KLQ LKIV TFI )BQEOL ?B >K  
RKE>MMV @>J MBO ?RQ QEB0B TFI KLQ ?B J R@E LRQMRQ CLO EFP DOLRM LC PFU COFBKAP QL @LKP R J B 3EB QEBLOV LC @L J M>0>QFSB  
>AS>KQ>DB PRDDBQP QE>Q BSOVLKB TFI ?BKBCFQ FC QEBV CFDROB LRQ QEBFO >OB>P LC @L J M>0>QFSB >AS>KQ>DB b QE>Q FP QEB >OB>  
LC @>J MFKD TEB0B QEBFO MOLAR@QFSFQV AFP>AS>KQ>DB FP IB>PQ @L J M>0BA QL )BQEOL %L0 BU>J MIB FQ J>V ?B QE>Q )BQEOL FP  
C>PQBO >Q ?RFIAFKD CFOBP >KA @LLHEKD J B>IP QE>K >KVLKB BIPB ?RQ LKIV C>PQBO >Q D>QEBOFKD CFOBTLLA >KA  
C>PQBO >Q PBQQFKD RM QBKQP (K QE>Q @>PB )BQEOL PELRIA CL@RP LK ?RFIAFKD CFOBP >KA J>HFKD J B>IP >KA LQEBOB PELRIA >Q0BKA  
QL QEB LQEBO Q>PHP B>@E >@L0AFKD QL TEB0B QEBFO MOLAR@QFSFQV AFP>AS>KQ>DB FP P J >IIBPQ (C QEB @>J MBOP @LLOAFK>QB QEBFO  
BCCL0QP >@L0AFKD QL @L J M>0>QFSB >AS>KQ>DB QEBV @>K >II D>FK

### N !AGE4 <A7HFGEL ,E478 58G J88A +<@<?4E 6BAB@<8F

! V QEB BKA LC QEPB @QFLK VLR TFI ?B >?IB QL

d (ABKQFCV >Q IB>PQ QTL >AS>KQ>DBP LC FKQO> FKARPQOV QO>AFKD

d \$UMI>FK QEB OBI>QFLKPEFM ?BQTBBK B@LKL J FBP LC P@>IB >KA FKQO> FKARPQOV QO>AB

?PLIRQB >KA @L J M>0>QFSB >AS>KQ>DBP BUMI>FK > DOB>Q AB>I >?LRQ DIL?>I QO>AFKD M>QQBOKP %L0 BU>J MIB QEBV EBIM  
QL BUMI>FK QEB M>QQBOKP QE>Q TB KLQBA >Q QEB PQ>OQ LC QEPB @E>M0B0 IFHB TEV VLR J>V ?B B>QFKD COBPE CORFQ COL J  
"EFIB LO , BUFL LO TEV ILTBO MOLAR@QFSFQV OBDFLKP IFHB COF@> >KA +>QFK J BOF@> >OB >?IB QL PBII > PR?PQ>KQF>I  
MOLML0QFLK LC QEBFO BUMLOQP QL EDEBO MOLAR@QFSFQV OBDFLKP IFHB QEB \$ROLMB>K 4KFLK >KA -L0QE J BOF@> "L J M>0>QFSB  
>AS>KQ>DB ELTBSBO >Q IB>PQ >Q CFOPQ DI>K@B ALBP KLQ PBB J BPMB@F>IIV TBII PRFQBA QL BUMI>FK LQEBO @L J J LK M>0>Q0BOKP LC  
FKQBOK>QFLK>I QO>AB

### , ; 8 (E8I4?8A68 B9 !AGE4 <A7HFGEL ,E478 58G J88A +<@<?4E 6BAB@<8F

3EB QEBLOV LC @L J M>0>QFSB >AS>KQ>DB PRDDBQP QE>Q QO>AB PELRIA E>MMBK ?BQTBBK B@LKL J FBP TRQE I>ODB AFCCB0BK@BP FK  
LMMLOQRKFQV @LPQ LC MOLAR@QFLK 1LRDEIV E>IC LC >II TLOIA QO>AB FKSLISBP PEFMMFKD DLLAP ?BQTBBK QEB C>FOIV PF J FI>O



EFDE FK@L J B B@LKL J FBP LC QEB 4KFQBA 2Q>QBP ">K>A> QEB \$ROLMB>K 4KFLK )>M>K , BUFL >KA "EFK> PBB ,45?8

BHAGEL	- + KCBEGF B GB	- + !@CBEGF B@8 9EB@
%ROLMB>K 5KFLK		
#>K>A>		
*>M>K		
- BUFL		
#EFK>		

,45?8 / ;8E8 - + KCBEGF B 4A7 - + !@CBEGF 'E<:<A4G8 3LR0@B  
EQQM TTT @BKPRP DLS CLOBFDK QO>AB OOBPP 2BIB>PB @R00BKQ=M0BPP=0BIB>PB Q MAC

, LOBLSBO QEB QEBLOV LC @L J M>0>QFSB >AS>KQ>DB PRDDBQP QE>Q B>@E B@LKL J V PELRIA PMB@F>IFWB QL > ABD0BB FK @B0Q>FK MOLAR@QP >KA QEBK BU@E>KDB QELPB MOLAR@QP EFDE MOLML0QFLK LC QO>AB ELTBSBO FP **intra-industry trade** b QE>Q FP QO>AB LC DLLAP TFQEFK QEB P> J B FKARPQOV COL J LKB @LRKQOV QL >KLQEB0 %LO BU> J MIB QEB 4KFQBA 2Q>QBP MOLAR@BP >KA BUMLOQP >RQLP >KA F J MLOQP >RQLP ,45?8 PELTP PL J B LC QEB I>0DBPQ @>QBDLOFBP LC 4 2 BUMLOQP >KA F J MLOQP (K >II LC QEBPB @>QBDLOFBP QEB 4KFQBA 2Q>QBP FP ?LQE > PR?PQ>KQF>I BUMLOQBO >KA > PR?PQ>KQF>I F J MLOQBO LC DLLAP COL J QEB P> J B FKARPQOV (K >@>@LOAFKD QL QEB !ROB>R LC \$@LKL J F@ K>IVFPF QEB 4KFQBA 2Q>QBP BUMLOQBA ?FIIFLK TLOQE LC >RQLP >KA F J MLOQBA ?FIIFLK TLOQE LC >RQLP ?LRQ LC 4 2 QO>AB >KA LC \$ROLMB>K QO>AB FP FKQO> FKARPQOV QO>AB

+B@8 - + KCBEGF	)H4AG<GL B9 KCBEGF 5<??<BAF	)H4AG<GL B9 !@CBEGF 5<??<BAF
!RQLP		
&LLA >KA ?BSBO>DBP		
#>MFQ>I DLLAP		
#LKPR J B0 DLLAP		
)KARPQO>I PRMMIFBP		
/ QEBO QO>KPMLQ>QLK		

,45?8 +B@8 !AGE4 IA7HFGEL - + KCBEGF 4A7 !@CBEGF <A 3LR0@B EQM TTT ?B> DLS  
KBTP0BIB>PBP FKQBOK>QLK>I QO>AB QO>AKBTP0BIB>PB EQ J

6 EV AL PF J FI>0 EFDE FK@L J B B@LKL J FBP BKD>DB FK FKQO> FKARPQOV QO>AB 6 E>Q @>K ?B QEB B@LKL J F@ ?BKBCFQ LC E>SFKD TLOHBOP LC C>FOIV PF J FI>0 PHFIIP J >HFKD @>OP @L J MRQBOP J >@EFKBOV >KA LQEB0 MOLAR@QP TEF@E >OB QEBK PEFMMBA >@OLPP QEB L@B>KP QL >KA COL J QEB 4KFQBA 2Q>QBP QEB \$ROLMB>K 4KFLK >KA )>M>K 3EBOB >OB QTL OB>PLPK 3EB AFSFPLK LC I>?LO IB>AP QL IB>OKFKD FKCLS>QLK >KA RKFNRB PHFIIP >KA B@LKL J FBP LC P@>IB

**4<AF 9EB@ +C86<4?<M4G<BA 4A7 \$84EA<A :**

"LKPFABO QEB @>QBDLOV LC J >@EFKBOV TEB0B QEB 4 2 B@LKL J V E>P @LKPFABO>?IB FKQO> FKARPQOV QO>AB , >@EFKBOV @L J BP FK J >KV S>OFBQFBP PL QEB 4KFQBA 2Q>QBP J >V ?B BUMLOQFKD J >@EFKBOV CLO J >KRC>@QROFKD TFQE TLLA ?RQ F J MLOQFKD J >@EFKBOV CLO MELQLD0>MEF@ MOL@BPPFKD 3EB RKABOIVFKD OB>PLK TEV > @LRKQOV IFHB QEB 4KFQBA 2Q>QBP )>M>K LO &B0 J >KV MOLAR@BP LKB HFKA LC J >@EFKBOV O>QEBO QE>K >KLQEB0 FP RPR>IIV KLQ OBI>QBA QL 4 2 &B0 J >K LO )>M>KBPB CFO J P >KA TLOHBOP E>SFKD DBKBO>IIV EFDEBO LO ILTBO PHFIIP (Q FP GRPQ QE>Q FK TLOHFKD LK SBOV PMB@FCF@ >KA M>OQF@RI>0 MOLAR@QP CFO J P FK @B0Q>FK @LRKQOFBP ABSBILM RKFNRB >KA AFCCBOBKQ PHFIIP

2MB@F>IFW>QLK FK QEB TLOIA B@LKL J V @>K ?B SBOV CFKBIV PMIFQ (K C>@Q OB@BKQ VB>OP E>SB PBBK > QOBKA FK FKQBOK>QLK>I QO>AB TEF@E B@LKL J FPQP @>II **splitting up the value chain** 3EB value chain ABP@OF?BP ELT > DLLA FP MOLAR@BA FK PQ>DBP P FKAFA>QBA FK QEB ?BDFKFKD LC QEB @E>M0B0 MOLAR@FKD QEB F / ELKB FKSLISBP ABPFDKFKD >KA BKDFKBB0FKD QEB MELKB FK QEB 4KFQBA 2Q>QBP PRMMIVFKD M>OQP COL J \*LOB> >PPB J ?IFKD QEB M>OQP FK "EFK> >KA >ASB0QFPFKD >KA J >OHBQFKD FK QEB 4KFQBA 2Q>QBP 3E>KHP FK I>ODB M>OQ QL F J MOLSB J BKQP FK @L J J RKF@>QLK QB@EKLILDV PE>0FKD FKCL0 J>QLK >KA QO>KPMLOQ>QLK FQ E>P ?B@L J B B>PFBO QL PMIFQ RM QEB S>IRB @E>FK (KPQB>A LC MOLAR@QLK FK > PFKDIB I>ODB C>@QL0V AFCCB0BKQ CFO J P LMBO>QFKD FK S>OFLRP MI>@BP >KA BSBK AFCCB0BKQ @LRKQ0FBP @>K AFSFAB QEB S>IRB @E>FK !B@>RPB CFO J P PMIFQ RM QEB S>IRB @E>FK FKQBOK>QLK>I QO>AB LCQBK ALBP KLQ FKSLISB K>QLKP QO>AFKD TELIB CFKPEBA MOLAR@QP IFHB >RQL J L?FIBP LO OBCOFDBO>QLOP (KPQB>A FQ FKSLISBP PEFMMFKD J LOB PMB@F>IFWBA DLLAP IFHB P>V >RQL J L?FIB A>PE?L>OAP LO QEB PEBISFKD QE>Q CFQP FKPFAB OBCOFDBO>QLOP (KQO> FKARPQOV QO>AB ?BQTBBK PF J FI>O @LRKQ0FBP MOLAR@BP B@LKL J F@ D>FKP ?B@>RPB FQ >IILTP TLOHBOP >KA CFO J P QL IB>OK >KA FKKLS>QB LK M>OQF@RI>O MOLAR@QP b >KA LCQBK QL CL@RP LK SBOV M>OQF@RI>O M>OQP LC QEB S>IRB @E>FK

# Link It Up

6FPQ QEFP TB?PQQB EQQM LMBKPQ>U@LIIBDB L0D I #MELKB>PPB J ?IV CLO PL JB FKQB0BPQFKD FKCL0 J>QLK >?LRQ QEB >PPB J ?IV LC QEB FOELKB

## 6BAB@<8F B9 +64?8 B@C8G<G<BA .4E<8GL

PB@LKA ?OL>A OB>PLK QE>Q FKQO> FKARPQOV QO>AB ?BQTBBK PF J FI>O K>QLKP MOLAR@BP B@LKL J F@ D>FKP FKSLISBP B@LKL J FBP LC P@>IB 3EB @LK@BMQ LC B@LKL J FBP LC P@>IB >P TB FKQOLAR@BA FK (EB7H6G<BA BFGF 4A7 !A7HF6EL +GEH6GHE8 ;GGC 6AK BE: 6BA68AG @ ?4G8FG J B>KP QE>Q >P QEB P@>IB LC LRQMRQ DLBP RM >SBO>DB @LPQ LC MOLAR@QLK AB@IFKB b >Q IB>PQ RM QL > MLFKQ <: HE8 FIIRPQ0>QBP B@LKL J FBP LC P@>IB CLO > MI>KQ MOLAR@FKD QL>PQBO LSBK 3EB EL0FWLKQ>I >UFP LC QEB CFDR0B PELTP QEB NR>KQFV LC MOLAR@QLK ?V > @B0Q>FK CFO J LO >Q > @B0Q>FK J >KRC>@QROFKD MI>KQ 3EB SBOQF@>I >UFP J B>PROBP QEB >SBO>DB @LPQ LC MOLAR@QLK /OLAR@QLK MI>KQ 2 MOLAR@BP > P J >II IBSBI LC LRQMRQ >Q RKFQP >KA E>P >K >SBO>DB @LPQ LC MOLAR@QLK LC MBO QL>PQBO LSBK /I>KQ , MOLAR@BP >Q > J BAFR J IBSBI LC LRQMRQ >Q RKFQP >KA E>P >K >SBO>DB @LPQ LC MOLAR@QLK LC MBO QL>PQBO LSBK /I>KQ + MOLAR@BP RKFQP LC LRQMRQ TFQE >K >SBO>DB @LPQ LC MOLAR@QLK LC LKIV MBO QL>PQBO LSBK IQELRDE MI>KQ 5 @>K MOLAR@B RKFQP LC LRQMRQ FQ PQFII E>P QEB P> J B RKFQ @LPQ >P /I>KQ +

(K QEFP BU>J MIB > P J >II LO J BAFR J MI>KQ IFHB 2 LO , TFII KLQ ?B >?IB QL @L J MBQB FK QEB J >OHBQ TFQE > I>ODB LO > SBOV I>ODB MI>KQ IFHB + LO 5 ?B@>RPB QEB CFO J QE>Q LMBO>QBP + LO 5 TFII ?B >?IB QL MOLAR@B >KA PBII FQP LRQMRQ >Q > ILTBO MOF@B (K QEFP BU>J MIB B@LKL J FBP LC P@>IB LMBO>QB RM QL MLFKQ + ?RQ ?BVLKA MLFKQ + QL 5 QEB >AAFQLK>I P@>IB LC MOLAR@QLK ALBP KLQ @LKQFKRB QL 0BAR@B >SBO>DB @LPQ LC MOLAR@QLK

<:HE8 6BAB@<8F B9 +64?8 OOLAR@QLK OI>KQ 3 E>P >K >SBO>DB @LPQ LC MOLAR@QLK LC MBO QL>PQBO LSBK OOLAR@QLK MI>KQ - E>P >K >SBO>DB @LPQ LC MOLAR@QLK LC MBO QL>PQBO LSBK OOLAR@QLK MI>KQ , E>P >K >SBO>DB @LPQ LC MOLAR@QLK LC LKIV MBO QL>PQBO LSBK OOLAR@QLK MI>KQ 6 PQFII E>P >K >SBO>DB @LPQ LC MOLAR@QLK LC MBO QL>PQBO LSBK 4ERP MOLAR@QLK MI>KQ - @>K MOLAR@B QL>PQBO LSBKP JLOB @EB>MIV QE>K MI>KQ 3 ?B@>RPB LC B@LKL JFBP LC P@>IB >KA MI>KQP , LO 6 @>K MOLAR@B JLOB @EB>MIV QE>K 3 LO - ?B@>RPB LC B@LKL JFBP LC P@>IB (LTBSBO QEB B@LKL JFBP LC P@>IB BKA >Q >K LRQMRQ IBSBI LC OI>KQ 6 ABPMFQB ?BFD I>ODB @>KKLQ MOLAR@B JLOB @EB>MIV LK >SBO>DB QE>K MI>KQ ,

3EB @LK@BMQ LC B@LKL JFBP LC P@>IB ?B@L JBP BPMB@F>IIV OBIBS>KQ QL FKQBOK>QLK>I QO>AB TEBK FQ BK>?IBP LKB LO QTL I>ODB MOLAR@BOP QL PRMMIV QEB BKQFOB @LRKQOV %LO BU> J MIB > PFKDIB I>ODB >RQL J L?FIB C>@QLOV @LRIA MOL?>?IV PRMMIV >II QEB @>OP @LKPR J BOP MRQ@E>P FK > P J >IIBO B@LKL J V IFHB QEB 4KFQBA \*FKDAL J LO !BIDFR J FK > DFSBK VB>O 'LTBSBO FC > @LRKQOV E>P LKIV LKB LO QTL I>ODB C>@QLOFBP MOLAR@FKD @>OP >KA KL FKQBOK>QLK>I QO>AB QEBK @LKPR J BOP FK QE>Q @LRKQOV TLRIA E>SB OBI>QFSBIV IFQIB @ELF@B ?BQTTBBK HFKAP LC @>OP LQEBO QE>K QEB @LILQ LC QEB M>FKQ >KA LQEBO KLKBPBPKQF>I LMQLKP +FQIB LO KL @L J MBQFQLK TFIH BUFPQ ?BQTTBBK AFCCBOKQ @>O J >KRC>@QROBOP

(KQBOK>QLK>I QO>AB MOLSFAFP > T>V QL @L J ?FKB QEB ILTBO >SBO>DB MOLAR@QLK @LPQP QE>Q @L J B COL J B@LKL JFBP LC P@>IB >KA PQFII E>SB @L J MBQFQLK >KA S>OFBQV CLO @LKPR J BOP +>ODB >RQL J L?FIB C>@QLOFBP FK AFCCBOKQ @LRKQOFP @>K J >HB >KA PBII QEBFO MOLAR@QP >OLRKA QEB TLOIA (C &BKBO>I , LQLOP %LOA >KA "EOVPIBO TBOB QEB LKIV MI>VBOP FK QEB 4 2 >RQL J L?FIB J >OHBQ QEB IBSBI LC @L J MBQFQLK >KA @LKPR J BO @ELF@B TLRIA ?B @LKPFABO>?IV ILTBO QE>K TEBK 4 2 @>O J >HBOP J RPQ C>@B @L J MBQFQLK COL J 3LVLQ> 'LKA> 2RWRHF %F>Q , FQPR?FPEF -FPP>K 5LIHPT>DBK \*F> 'VRKA>F ! , 6 2R?>OR >KA LQEBOP &OB>QBO @L J MBQFQLK ?QFKDP TFQE FQ FKKLS>QLK>KA OBPMLKPFBSBKBP QL TE>Q @LKPR J BOP T>KQ J BOF@>@P @>O MOLAR@BOP J >HB C>O ?BQBO @>OP KLT QE>K QEBV AFA PBSBO>I AB@>ABP >DL >KA J R@E LC QEB OB>PLK FP @L J MBQFQFSB MOBPPROB BPMB@F>IIV COL J \$>PQ PF>K >KA \$ROLMB>K @>O J >HBOP

### LA4@<6 B@C4E4G<I8 714AG4:8

3EB PLRO@BP LC D>FKP COL J FKQO> FKARPQOV QO>AB ?BQTTBBK PF J FI>O B@LKL JFBP b K> J BIV QEB IB>OKFKD QE>Q @L J BP COL J > EFDE ABDDBB LC PMB@F>IFW>QLK >KA PMIFQFKD RM QEB S>IRB @E>FK >KA COL J B@LKL JFBP LC P@>IB b AL KLQ @LKQO>AF@Q QEB B>OIFBO QEBLOV LC @L J M>O>QFSB >AS>KQ>DB (KPQB>A QEBV EBIM QL ?OL>ABK QEB @LK@BMQ

(K FKQO> FKARPQOV QO>AB @IF J >QB LO DBLDO>MEV AL KLQ ABQBO J FKB QEB IBSBI LC TLOHBO MOLAR@QFSFQV \$SBK QEB DBKBO>I IBSBI LC BAR@>QLK LO PHFII ALBP KLQ ABQBO J FKB FQ (KPQB>A ELT CFO J P BKD>DB FK PMB@FCF@ IB>OKFKD >?LRQ PMB@F>IFWBA MOLAR@QP FK@IRAFKD Q>HFKD >AS>KQ>DB LC B@LKL JFBP LC P@>IB ABQBO J FKB QEB IBSBI LC TLOHBO MOLAR@QFSFQV (K QEFP SFPFLK @L J M>O>QFSB >AS>KQ>DB @>K ?B AVK> J F@ b QE>Q FP FQ @>K BSLISB >KA @E>KDB LSBO QF J B >P LKB ABSBILMP KBT PHFII >KA >P J >KRC>@QROBOP PMIFQ QEB S>IRB @E>FK FK KBT T>VP 3EFP IFKB LC QEFKHFKD >IPL PRDDBPQ QE>Q @LRKQOFP >OB KLQ ABPQFKBA QL E>SB QEB P> J B @L J M>O>QFSB >AS>KQ>DB CLOBSBO ?RQ J RPQ FKPQB>A ?B CIBUF?IB FK OBPMLKPB QL LKDLFKD @E>KDBP FK @L J M>O>QFSB >AS>KQ>DB

# N , ; 8 8A89<GF B9 \* 87H6<A : 4EE<8EF GB !AG8EA4G<BA4? ,E478

! V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL

d \$UMI>FK Q>OFCP >P ?>OOFBOP QL QO>AB

d (ABKQFCV >Q IB>PQ QTL ?BKBCFP LC OBAR@FKD ?>OOFBOP QL FKQBOK>QLK>I QO>AB

**Tariffs** >OB Q>UBP QE>Q DLSBOK J BKQP MI>@B LK F J MLOQBA DLLAP CLO > S>OFBQV LC OB>PLKP 2L J B LC QEBPB OB>PLKP FK@IRAB MOLQB@QFKD PBKPFQFSB FKARPOFBP CLO ER J >KQ>OF>K OB>PLKP >KA MOLQB@QFKD >D>FKPQ AR J MEKD 30>AFQFLK>IIV Q>OFCP TBOB RPBA PF J MIV >P > MLIFQF>I QLLI QL MOLQB@Q @BOQ>FK SBPQBA B@LKL J F@ PL@F>I >KA @RIQRO>I FKQBOPQP 3EB 6 LOIA 30>AB . OD>KFW>QFLK 6 3 . FP @L J J FQQA QL ILTBOFKD ?>OOFBOP QL QO>AB 3EB TLOIA@P K>QFLKP JBBQ QEOLRDE QEB 6 3 . QL KBDLQF>QB ELT QEBV @>K OBAR@B ?>OOFBOP QL QO>AB PR@E >P Q>OFCP 6 3 . KBDLQF>QFLKP E>MMBK FK eOLRKAP f TEBOB >II @LRKQFBP KBDLQF>QB LKB >DOBB J BKQ QL BK@LRO>DB QO>AB Q>HB > VB>O LO QTL LCC >KA QEBK PQ>OQ KBDLQF>QFKD > KBT >DOBB J BKQ 3EB @ROOBKQ OLRKA LC KBDLQF>QFLKP FP @>IIBA QEB #LE> 1LRKA ?B@>RPB FQ T>P LCCF@F>IIV I>RK@EBA FK #LE> QEB @>MQ>I @FQV LC O>Q>O FK -LSB J ?BO (K B@LKL J FQP COL J QEB 6 LOIA !>KH PR J J >OFWBA OB@BKQ OBPB>O@E >KA CLRKA QE>Q QEB #LE> OLRKA LC KBDLQF>QFLKP TLRIA FK@OB>PB QEB PFWB LC QEB TLOIA B@LKL J V ?V ?FIIFLK QL ?FIIFLK MBO VB>O ABMBKAFKD LK QEB MOB@FPB AB>I QE>Q BKABA RM ?BFKD KBDLQF>QBA

(K QEB @LKBQUQ LC > DIL ?>I B@LKL J V QE>Q @ROOBKQIV MOLAR@BP J LOB QE>K QOFIIFLK LC DLLAP >KA PBOSF@BP B>@E VB>O QEFP > J LRKQ FP KLQ ERDB FQ FP >K FK@OB>PB LC LO IBPP !RQ ?BCLOB AFP J FPPFKD QEB D>FKP COL J QO>AB QLL NRF@HIV FQ FP TLOQE OB J B J ?BOFKD QTL MLFKQP

d %FOPQ > D>FK LC > CBT ERKAQBA ?FIIFLK ALII>OP FP BKL RDE J LKBV QL ABPBOB >QKBQFLK , LOBLSBO OB J B J ?BO QE>Q QEFP FK@OB>PB FP KLQ > LKB QF J B BSBKQ FQ TLRIA MBOPFP B>@E VB>O FKQL QEB CRQROB

d 2B@LKA QEB BPQF J >QB LC D>FKP J >V ?B LK QEB ILT PFAB ?B@>RPB PL J B LC QEB D>FKP COL J QO>AB >OB KLQ J B>PROBA BPMB@F>IIV TBII FK B@LKL J F@ PQ>QFPQ@P %LO BU> J MIB FQ FP AFCCF@RIQ QL J B>PROB QEB MLQBKF>I >AS>KQ>DBP QL @LKP J BOP LC E>SFKD > S>OFBQV LC MOLAR@QP >S>FI>?IB >KA > DOB>QBO ABDOBB LC @L J MBQFQFLK > J LKD MOLAR@BOP /BOE>MP QEB J LPQ F J MLOQ>KQ RK J B>PROBA C>@QLO FP QE>Q QO>AB ?BQTBBK @LRKQFBP BPMB@F>IIV TEBK CFO J P >OB PMIFQFKD RM QEB S>IRB @E>FK LC MOLAR@QLK LCQBK FKSLISBP > QO>KPCBO LC HKLTIBADB QE>Q @>K FKSLISB PHFIIP FK MOLAR@QLK QB@EKLILDV J >K>DB J BKQ CFK>K@B >KA I>T

+LT FK@L J B @LRKQFBP ?BKBCFP J LOB COL J QO>AB QE>K EFDE FK@L J B @LRKQFBP AL (K PL J B T>VP QEB DF>KQ 4 2 B@LKL J V E>P IBPP KBBA CLO FKQBOK>QLK>I QO>AB ?B@>RPB FQ @>K >IOB>AV Q>HB >AS>KQ>DB LC FKQBOK>I QO>AB TFQEFK FQP B@LKL J V ' L TBSBO J >KV P J >IIBO K>QFLK>I B@LKL J FBP >OLRKA QEB TLOIA FK OBDLKP IFHB +>QFK J BOF@> COF@> QEB , FAAIB \$>PQ >KA PF> E>SB J R@E J LOB IF J FQBA MLPPF?FIFQFBP CLO QO>AB FKPFAB QEBFO @LRKQFBP LO QEBFO F J J BAF>QB OBDLKP 6 FQELRQ FKQBOK>QLK>I QO>AB QEBV J >V E>SB IFQIB >?FIFV QL ?BKBCFP COL J @L J M>O>QFSB >AS>KQ>DB PIF@FKD RM QEB S>IRB @E>FK LO B@LKL J FBP LC P@>IB , LOBLSBO P J >IIBO B@LKL J FBP LCQBK E>SB CBTBO @L J MBQFQFSB CFO J P J >HFKD DLLAP TFQEFK QEBFO B@LKL J V >KA QERP CFO J P E>SB IBPP MOBPPROB COL J LQEBQ CFO J P QL MOLSFAB QEB DLLAP >KA MOF@BP QE>Q @LKP J BOP T>KQ

3EB B@LKL J F@ D>FKP COL J BUM>KAFKD FKQBOK>QLK>I QO>AB >OB J B>PROBA FK ERKAOBAP LC ?FIIFLKP LC ALII>OP >KA QEB D>FKP COL J FKQBOK>QLK>I QO>AB >P > TELIB MOL?>?IV OB>@E TBII FQQL QEB QOFIIFLKP LC ALII>OP 3EB MLQBKF>I CLO D>FKP COL J QO>AB J >V ?B BPMB@F>IIV EFDE > J LKD QEB P J >IIBO >KA ILTBO FK@L J B @LRKQFBP LC QEB TLOIA



6FPQ QEFP TB?PQFB EQQM LMBKPQ>U@LIIBDB LOD I QO>AB?BKBCFP CLO > IFPQ LC PL J B ?BKBCFP LC QO>AB

## EB@ !AG8EC8EFBA4? GB !AG8EA4G<BA4? ,E478

, LPQ MBLMIB CFKA FQ B>PV QL ?BIFBSB QE>Q QEBV MBOPLK>IIV TLRIA KLQ ?B ?BQQBO LCC FC QEBV QOFBA QL DOLT >KA MOL@BPP >II LC QEBFO LTK CLLA QL J >HB >II LC QEBFO LTK @ILQEBP QL ?RFIA QEBFO LTK @>OP >KA ELRPBP COL J P@>Q@E >KA PL LK (KPQB>A TB >II ?BKBCFQ COL J IFSFKD FK B@LKL J FBP TEBOB MBLMIB >KA CFO J P @>K PMB@F>IFWB >KA QO>AB TFQE B>@E LQEBO

3EB ?BKBCFP LC QO>AB AL KLQ PQLM >Q K>QFLK>I ?LRKA>OFBP BFQEBO \$>OIFBO TB BUMI>FKBA QE>Q QEB AFSFPFLK LC I>?LO @LRIA FK@OB>PB LRQMRQ CLO QEBOB OB>PLKP TLOHBOP TFQE AFCCB@BKQ @E>O>@QBOFP@P @>K PMB@F>IFWB FK QEB QVMBP LC MOLAR@QFLK TEBOB QEBV E>SB > @L J M>O>QFSB >AS>KQ>DB CFO J P >KA TLOHBOP TEL PMB@F>IFWB FK > @BOQ>FK MOLAR@Q ?B@L J B J LOB MOLAR@QFSB TFQE IB>OKFKD >KA MO>@QF@B >KA B@LKL J FBP LC P@>IB 3EBPB QEBOB OB>PLKP >MMIV COL J QEB FKAFSFAR>I >KA @L J J RKFQV IBSBI OFDEQ RM QL QEB FKQBOK>QFLK>I IBSBI (C FQ J >HBP PBKPB QL VLR QE>Q FKQBOMB@PLK>I FKQBO@L J J RKFQV >KA FKQBOPQ>QB QO>AB LCCBO B@LKL J FQ D>FKP FQ PELRIA J >HB PBKPB QE>Q FKQBOK>QFLK>I QO>AB LCCBOP D>FKP QLL

(KQBOK>QFLK>I QO>AB @RO@BKQIV FKSLSIBP >?LRQ QOFIIFLK TLOQE LC DLLAP >KA PBO@F@BP J L@SKD >OLRKA QEB DIL?B KV B@LKL J F@ CLO@B LC QE>Q PFWB BSBK FC FQ @LKC@BOP LSBO>II ?BKBCFP FP @BOQ>FK QL @>RPB AFPORM@FLK >KA @LKQ@LSBOPV 3EFP @E>MQBO E>P LKIV J >AB QEB @>PB QE>Q QO>AB ?OFKDP B@LKL J F@ ?BKBCFP . QEBO @E>MQBOP AFP@RPP FK ABQ>FI QEB MR?IF@ MLIF@V >ODR J BKQP LSBO TEBQEBO QL OBPQ@F@Q FKQBOK>QFLK>I QO>AB



## !GRF CC?8RF ?B54? <( ;BA8

!MMIB #LOMLQ>QFLK RPPB > DIL?>I MI>QCLO J QL MOLAR@B QEB FOELKB . LT QE>Q VLR RKABOPQ>KA QEB @LK@BMQ LC @L J M>O>QFSB >AS>KQ>DB VLR @>K PBB TEV QEB BKDFKBB@FKD >KA ABPFDK LC QEB FOELKB FP ALKB FK QEB 5KQ@BA 3Q>QBP 4EB 5KQ@BA 3Q>QBP E>P ?RFHQ RM > @L J M>O>QFSB >AS>KQ>DB LSBO QEB VB>OP FK ABPFDKFKD >KA J >OHB@FKD MOLAR@QP >KA P>@OF@BP @BTBO OBPLR@BP QL ABPFDK EFDE QB@E ABS@BP OBI>QFSB QL LQEBO @LRKQ@FBP #EFK> E>P > @L J M>O>QFSB >AS>KQ>DB FK >PPB J ?IFKD QEB MELKB ARB QL FQP I>ODB PHHIBA I>?LO CLO@B +LOB> E>P > @L J M>O>QFSB >AS>KQ>DB FK MOLAR@FKD @L J MLKBKQP +LOB> CL@RPBP FQP MOLAR@QFLK ?V FK@OB>PFKD FQP P@>IB IB>OKFKD ?BQQBO T>VP QL MOLAR@B P@OBKBP >KA @L J MRQBO @EFMP >KA RPPB FKKLS>QFLK QL ILTBO >SBO>DB @LPQP LC MOLAR@QFLK !MMIB FK QR@K ?BKBCFP ?B@>RPB FQ @>K MRO@E>PB QEBPB NR>IFQV MOLAR@QP >Q ILTBO MOF@BP ORQ QEB DIL?>I >PPB J ?IV IFKB QLDBQEBO >KA VLR E>SB QEB ABS@B TFQE TEF@E TB >OB >II PL C> J FIF>O

# # 1 , \*%+

45FB?HG8 4714A64:8 TEBK LKB @LRKQOV @>K RPB CBTBO OBPLRO@BP QL MOLAR@B > DLLA @L J M>OBA QL >KLQEBO @LRKQOV TEBK  
> @LRKQOV FP J LOB MOLAR@QFSB @L J M>OBA QL >KLQEBO @LRKQOV

:4<A 9EB@ GE478 > @LRKQOV QE>Q @>K @LKPR J B J LOB QE>K FQ @>K MOLAR@B >P > OBPRIQ LC PMB@F>IFW>QLK >KA QO>AB

<AGE4 <A7HFGE L GE478 FKQBOK>QLK>I QO>AB LC DLLAP TFQEFK QEB P> J B FKARPQOV

FC?GG<A: HC G ; 8 14?H8 6 ; 4<A J >KV LC QEB AFCCB0BKQ PQ>DBP LC MOLAR@FKD > DLLA E>MMBK FK AFCCB0BKQ DBLD0>MEF@  
IL@>QLKP

G4E<99F Q>UBP QE>Q DLSBOK J BKQP MI>@B LK F J MLOQBA DLLAP

14?H8 6 ; 4<A ELT > DLLA FP MOLAR@BA FK PQ>DBP

# # 1 ' & ( , + & + - % % \* 1

## 5FB?HG8 4A7 B@C4E4G<18 714A64:8

@LRKQOV E>P >K >?PLIRQB >AS>KQ>DB FK QELPB MOLAR@QP FK TEF@E FQ E>P > MOLAR@QFSFQV BADB LSBO LQEBO @LRKQOFBP FQ  
Q>HBP CBTBO OBPLRO@BP QL MOLAR@B > MOLAR@Q @LRKQOV E>P > @L J M>O>QFSB >AS>KQ>DB TEBK FQ @>K MOLAR@B > DLLA >Q >  
ILTBO @LPQ FK QBO J P LC LQEBO DLLAP "LRKQOFBP QE>Q PMB@F>IFWB ?>PBA LK @L J M>O>QFSB >AS>KQ>DB D>FK COL J QO>AB

## / ; 4G 4CC8AF / ; 8A 4 BHAGEL 4F 4A 5FB?HG8 714A64:8 <A ?? BB7F

\$SBK TEBK > @LRKQOV E>P EFDE IBSBIP LC MOLAR@QFSFQV FK >II DLLAP FQ @>K PQFII ?BKBCFQ COL J QO>AB &>FKP COL J QO>AB  
@L J B >?LRQ >P > OBPRIQ LC @L J M>O>QFSB >AS>KQ>DB !V PMB@F>IFWFKD FK > DLLA QE>Q FQ DFSBP RM QEB IB>PQ QL MOLAR@B >  
@LRKQOV @>K MOLAR@B J LOB >KA LCCBO QE>Q >AAFQLK>I LRQMRQ CLO P>IB (C LQEBO @LRKQOFBP PMB@F>IFWB FK QEB >OB> LC QEBFO  
@L J M>O>QFSB >AS>KQ>DB >P TBII >KA QO>AB QEB EFDEIV MOLAR@QFSB @LRKQOV FP >?IB QL ?BKBCFQ COL J > ILTBO LMMLQQRKFQV  
@LPQ LC MOLAR@QLK FK LQEBO @LRKQOFBP

## !AGE4 <A7HFGE L ,E478 58G J88A +<@<74E 6BAB@<8F

I>ODB PE>OB LC DIL?>I QO>AB E>MMBK ?BQTBK EFDE FK@L J B B@LKL J FBP QE>Q >OB NRFQ PF J FI>O FK E>SFKD TBII BAR@>QBA  
TLOHBOP >KA >AS>K@BA QB@EKLILDV 3EBPB @LRKQOFBP MO>@QF@B FKQO> FKARPQOV QO>AB FK TEF@E QEBV F J MLOQ >KA BUMLOQ QEB  
P> J B MOLAR@QP >Q QEB P> J B QF J B IFHB @>QP J >@EFKBOV >KA @L J MRQBOP (K QEB @>PB LC FKQO> FKARPQOV QO>AB ?BQTBK  
B@LKL J FBP TFQE PF J FI>O FK@L J B IBSBIP QEB D>FKP COL J QO>AB @L J B COL J PMB@F>IFWBA IB>OKFKD FK SBOV M>OQF@RI>O Q>PHP  
>KA COL J B@LKL J FBP LC P@>IB 2MIFQFKD RM QEB S>IRB @E>FK J B>KP QE>Q PBSBO>I PQ>DBP LC MOLAR@FKD > DLLA Q>HB MI>@B FK  
AFCCB0BKQ @LRKQOFBP >OLRKA QEB TLOIA

## , ; 8 8A89<GF B9 \* 87H6<A: 4EE<8EF GB !A68EA4G<BA4? ,E478

3>OFCCP >OB MI>@BA LK F J MLOQBA DLLAP >P > T>V LC MOLQB@QFKD PBKPFQFSB FKARPQOFBP CLO ER J >KFQ>OF>K OB>PLKP >KA CLO  
MOLQB@QFLK >D>FKP AR J MFKD 3O>AFQFLK>IIV Q>OFCCP TBOB RPBA >P > MLIFQF@>I QLLI QL MOLQB@Q @BOQ>FK SBPQBA B@LKL J F@  
PL@F>I >KA @RIQRO>I FKQBOPQP 3EB 6 3 . E>P ?BBK >KA @LKQFKRBP QL ?B > T>V CLO K>QFLKP QL J BBQ >KA KBDLQF>QB FK LOABO  
QL OBAR@B ?>OOFBOP QL QO>AB 3EB D>FKP LC FKQBOK>QLK>I QO>AB >OB SBOV I>ODB BPMB@F>IIV CLO P J >IIBO @LRKQOFBP ?RQ >OB  
?BKBCF@F>I QL >II

# + \$ # ) - + , ! ' & +

3ORB LO %>IPB 3EB PLRO@B LC @L J M>O>QFSB >AS>KQ>DB J RPQ ?B K>QRO>I BIB J BKQP IFHB @IF J >QB >KA J FKBO>I ABMLPFQ  
\$UMI>FK

!O>WFI @>K MOLAR@B MLRKAP LC ?BBC LO >RQLP (K @LKQO>PQ QEB 4KFQBA 2Q>QBP @>K MOLAR@B MLRKAP LC  
?BBC LO >RQLP 6 EF@E @LRKQOV E>P QEB >?PLIRQB >AS>KQ>DB FK ?BBC 6 EF@E @LRKQOV E>P QEB >?PLIRQB >AS>KQ>DB FK  
MOLAR@FKD >RQLP 6 E>Q FP QEB LMMLQQRKFQV @LPQ LC MOLAR@FKD LKB MLRKA LC ?BBC FK !O>WFI 6 E>Q FP QEB LMMLQQRKFQV @LPQ  
LC MOLAR@FKD LKB MLRKA LC ?BBC FK QEB 4KFQBA 2Q>QBP

(K %0>K@B FQ Q>HBP LKB TLOHBO QL MOLAR@B LKB PTB>QBO >KA LKB TLOHBO QL MOLAR@B LKB ?LQQIB LC TFKB (K 3RKFPF> FQ Q>HBP QTL TLOHBOP QL MOLAR@B LKB PTB>QBO >KA QE0BB TLOHBOP QL MOLAR@B LKB ?LQQIB LC TFKB 6 EL E>P QEB >?PLIRQB >AS>KQ>DB FK MOLAR@QLK LC PTB>QBO 6 EL E>P QEB >?PLIRQB >AS>KQ>DB FK QEB MOLAR@QLK LC TFKB 'LT @>K VLR QBII

(K &B0 J >KV FQ Q>HBP QE0BB TLOHBOP QL J >HB LKB QBIBSFPLK >KA CLRO TLOHBOP QL J >HB LKB SFABL @> J B0> (K /LI>KA FQ Q>HBP PFU TLOHBOP QL J >HB LKB QBIBSFPLK >KA TLOHBOP QL J >HB LKB SFABL @> J B0>

> 6 EL E>P QEB >?PLIRQB >AS>KQ>DB FK QEB MOLAR@QLK LC QBIBSFPLK 6 EL E>P QEB >?PLIRQB >AS>KQ>DB FK QEB MOLAR@QLK LC SFABL @> J B0>P 'LT @>K VLR QBII

? ">I@RI>QB QEB LMMLQQRKFQV @LPQ LC MOLAR@FKD LKB >AAFQFLK>I QBIBSFPLK PBQ FK &B0 J >KV >KA FK /LI>KA 8LRO @>I@RI>QFLK J >V FKSLISB CO>@QLK TEF@E FP CFKB 6 EF@E @LRKQOV E>P > @L J M>0>QFSB >AS>KQ>DB FK QEB MOLAR@QLK LC QBIBSFPLK

@ ">I@RI>QB QEB LMMLQQRKFQV @LPQ LC MOLAR@FKD LKB SFABL @> J B0> FK &B0 J >KV >KA FK /LI>KA 6 EF@E @LRKQOV E>P > @L J M>0>QFSB >AS>KQ>DB FK QEB MOLAR@QLK LC SFABL @> J B0>P

A (K QEFB BU> J MIB FP >?PLIRQB >AS>KQ>DB QEB P> J B >P @L J M>0>QFSB >AS>KQ>DB LO KLQ

B (K TE>Q MOLAR@Q PELRIA &B0 J >KV PMB@F>IFWB (K TE>Q MOLAR@Q PELRIA /LI>KA PMB@F>IFWB

'LT @>K QEB0B ?B >KV B@LKL J F@ D>FKP CLO > @LRKQOV COL J ?LQE F J MLOQFKD >KA BUMLOQFKD QEB P> J B DLLA IFHB @>OP

,45?8 PELTP ELT QEB >SBO>DB @LPQP LC MOLAR@QLK CLO PB J F@LKLAR@QLQOP QEB e@EFMPF FK @L J MRQBO J B J LOFBP

@E>KDB >P QEB NR>KQFQV LC PB J F@LKLAR@QLQOP ?RFIQ >Q QE>Q C>@QLQV FK@OB>PBP

> !>PBA LK QEBPB A>Q> PHBQ@E > @ROSB TFQE NR>KQFQV MOLAR@BA LK QEB ELOFWLK>I >UFP >KA >SBO>DB @LPQ LC MOLAR@QLK LK QEB SBOQF@>I >UFP 'LT ALBP QEB @ROSB HIIRPQ>QB B@LKL J FBP LC P@>IB

? (C QEB BNRIF?OFR J NR>KQFQV LC PB J F@LKLAR@QLQOP AB J >KABA FP @>K QEFB B@LKL J V Q>HB CRII >AS>KQ>DB LC B@LKL J FBP LC P@>IB 6 E>Q >?LRQ FC NR>KQFQV AB J >KABA FP PB J F@LKLAR@QLQOP PB J F@LKLAR@QLQOP

@ \$UMI>FK ELT FKQBOK>QLK>I QO>AB @LRIA J >HB FQ MLPPF?IB CLO BSBK > P J >II B@LKL J V QL Q>HB CRII >AS>KQ>DB LC B@LKL J FBP LC P@>IB TEFIB >IPL ?BKBCFQFKD COL J @L J MBQFQFLK >KA QEB S>OFBQV LCCBOBA ?V PBSBO>I MOLAR@BOP

) H4AG<GL B9 +8@<6BA7H6GBEF	I 8E4 : 8 , B64? BFG
	B>@E
	B>@E
	B>@E
	B>@E
	B>@E

,45?8

(C QEB OB J L>S>I LC QO>AB ?>00FBOP FP PL ?BKBCF@F>I QL FKQBOK>QLK>I B@LKL J F@ DOLTQE TEV TLRIA > K>QLK @LKFQKRB QL OBPQOF@Q QO>AB LK PL J B F J MLOQBA LO BUMLOQBA MOLAR@QP

\* .! / ) - + ,!' &+

6 E>Q FP >?PLIRQB >AS>KQ>DB 6 E>Q FP @L J M>0>QFSB >AS>KQ>DB

4 KABO TE>Q @LKAQFLK ALBP @L J M>0>QFSB >AS>KQ>DB IB>A QL D>FKP COL J QO>AB

6 E>Q C>@QLQOP ALBP />RI \*ORD J >K FABKQFCV QE>Q PRMMLQQBA BUM>KAFKD FKQBOK>QLK>I QO>AB FK QEB P

(P FQ MLPPF?IB QL E>SB > @L J M>0>QFSB >AS>KQ>DB FK QEB MOLAR@QLK LC > DLLA ?RQ KLQ QL E>SB >K >?PLIRQB >AS>KQ>DB \$UMI>FK

'LT ALBP @L J M>0>QFSB >AS>KQ>DB IB>A QL D>FKP COL J QO>AB

6 E>Q FP FKQO> FKARPQOV QO>AB

6 E>Q >OB QEB QTL J >FK PLR0@BP LC B@LKL JF@ D>FKP  
COL J FKQ0> FKARPQOV Q0>AB

6 E>Q FP PMFQQFKD RM QEB S>IRB @E>FK

\*!,! \$ , !&#!& ) - +,! ' &+

OB AFCCB0BK@BP FK DBLD0>MEV ?BEFKA QEB  
AFCCB0BK@BP FK >?PLIRQB >AS>KQ>DBP

6 EV ALBP QEB 4KFQBA 2Q>QB KLQ E>SB >K >?PLIRQB  
>AS>KQ>DB FK @LCCBB

+LLH >Q **K8E6<F8** " L J MRQB QEB LMML0QRKFQV  
@LPQP LC MOLAR@FKD PTB>QBOP >KA TFKB FK ?LQE %0>K@B  
>KA 3RKEPF> 6 EL E>P QEB ILTBQP LMML0QRKFQV @LPQ LC  
MOLAR@FKD PTB>QBOP >KA TEL E>P QEB ILTBQP LMML0QRKFQV  
@LPQ LC MOLAR@FKD TFKB \$UMI>FK TE>Q FQ JB>KP QL E>SB >  
ILTB0 LMML0QRKFQV @LPQ

8LR GRPQ LSBOEB>0A VLRO COFBKA P>V QEB CLIILTFKD  
e/LL0 @LRKQ0FBP IFHB , >I>TF E>SB KL >?PLIRQB  
>AS>KQ>DBP 3EBV E>SB MLL0 PLFI ILT FKSBPQ JBKQP FK  
CLOJ>I BAR@>QLK >KA EBK@B ILT PHFII TLOHBOP KL  
@>MFQ>I >KA KL K>QR0>I OBPLR0@BP QL PMB>H LC !B@>RPB  
QEBV E>SB KL >AS>KQ>DB QEBV @>KKLQ ?BKBCFQ COL J Q0>AB f  
' LT TLRIA VLR OBPMLKA

+LLH >Q ,**45?8** (P QEB0B > 0>KDB LC Q0>ABP CLO  
TEF@E QEB0B TFII ?B KL D>FKP

OB QEB D>FKP COL J FKQB0K>QLK>I Q0>AB J LOB IFHBIV  
QL ?B OBI>QFSBIV J LOB FJML0Q>KQ QL I>0DB LO PJ>II  
@LRKQ0FBP

8LR GRPQ DLQ > GL? FK 6>PEFKDQLK # " 8LR JLSB  
FKQL >K >M>0Q JBKQ TFE PLJB >@NR>FKQ>K@BP II VLRO  
OLL J J>QB ELTBSBO >OB PI>@HBOP >KA AL KLQ @IB>K RM  
>CQBO QEB J PBISBP 8LR LK QEB LQEB0 E>KA @>K @IB>K C>PQBO  
QE>K B>@E LC QEB J 8LR ABQBO JFKB QE>Q VLR >OB  
C>PQBO >Q AFPEBP >KA C>PQBO TFE S>@RRJFKD II LC  
QEBPB Q>PHP E>SB QL ?B ALKB A>FIV 6 EF@E GL?P PELRIA  
VLR >PPFDK QL VLRO OLL J J>QB QL DBQ QEB J LPQ COBB QF JB  
LSBO>II PPR JB VLR E>SB QEB P> JB KR J ?B0 LC ELROP QL  
ABSLQB QL @IB>KFKD - LT PFK@B VLR >OB C>PQBO VLR PBB J  
QL DBQ ALKB NRF@HBO QE>K VLRO OLL J J>QB 6 E>Q PLOQP  
LC MOL?IB J P J >V QEFP @OB>QB ">K VLR F J >DFKB > Q0>AB  
OBI>QBA >K>ILDV QL QEFP MOL?IB J

#LBP FKQ0> FKARPQOV Q0>AB @LKQ0>AF@Q QEB QEBLOV LC  
@LJM>0>QFSB >AS>KQ>DB

#L @LKPR JBOP ?BKBCFQ COL J FKQ0> FKARPQOV Q0>AB

6 EV JFDEQ FKQ0> FKARPQOV Q0>AB PBB J PROM0PFKDP  
COL J QEB MLFKQ LC SFBT LC @LJM>0>QFSB >AS>KQ>DB

(K 6LOIA 30>AB .0D>KFW>QLK JB0FKKDP TE>Q AL  
VLR QEFKH ILT FK@L JB @LRKQ0FBP IL??V CLO

6 EV JFDEQ > ILT FK@L JB @LRKQOV MRQ RM ?>00FBOP  
QL Q0>AB PR@E >P Q>0FCCP LK FJML0QP

">K > K>QLKdP @LJM>0>QFSB >AS>KQ>DB @E>KDB LSBO  
QF JB 6 E>Q C>@QLOP TLRIA J >HB FQ @E>KDB



( \* ' \$ %+

%>K@B >KA 3RKFPF> ?LQE E>SB ,BAFQB00>KB>K @IFJ>QBP QE>Q >OB BU@BIIBKQ CLO MOLAR@FKD E>OSBPQFKD DOBBK ?B>KP >KA QLJ>QLBP (K %>K@B FQ Q>HBP QTL ELROP CLO B>@E TLOHBO QL E>OSBPQ DOBBK ?B>KP >KA QTL ELROP QL E>OSBPQ > QLJ>QL 3RKFPF>K TLOHBOP KBBA LKIV LKB ELRO QL E>OSBPQ QEB QLJ>QLBP ?RQ CLRO ELROP QL E>OSBPQ DOBBK ?B>KP PPRJB QEB0B >OB LKIV QTL TLOHBOP LKB FK B>@E @LRKQOV >KA B>@E TLOHP ELROP > TBBH

> #0>T > MOLAR@QLK MLPPF?FIFQFBP COLKQFBO CLO B>@E @LRKQOV Hint 1BJBJ?BO QEB MOLAR@QLK MLPPF?FIFQV COLKQFBO FP QEB J>UFJRJ QE>Q >II TLOHBOP @>K MOLAR@B >Q > RKFQ LC QFJB TEF@E FK QEFP MOL?IBJ FP > TBBH

? (ABKQFCV TEF@E @LRKQOV E>P QEB >?PLIRQB >AS>KQ>DB FK DOBBK ?B>KP >KA TEF@E @LRKQOV E>P QEB >?PLIRQB >AS>KQ>DB FK QLJ>QLBP

@ (ABKQFCV TEF@E @LRKQOV E>P QEB @LJM>0>QFSB >AS>KQ>DB

A 'LTJR@E TLRIA %>K@B E>SB QL DFSB RM FK QB0JPLC QLJ>QLBP QL D>FK COLJ QO>AB 'LTJR@E TLRIA FQ E>SB QL DFSB RM FK QB0JPLC DOBBK ?B>KP

(K)>M>K LKB TLOHBO @>K J>HB QLKP LC OR??BO LO 0>AFLP (K ,>I>VPF> LKB TLOHBO @>K J>HB QLKP LC OR??BO LO 0>AFLP

> 6EL E>P QEB >?PLIRQB >AS>KQ>DB FK QEB MOLAR@QLK LC OR??BO LO 0>AFLP 'LT @>K VLR QBII

? ">I@RI>QB QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD >AAFQFLK>I 0>AFLP FK )>M>K >KA FK ,>I>VPF> 8LRO @>I@RI>QLK J>V FKSLSB CO>@QLKP TEF@E FP CFKB 6EF@E @LRKQOV E>P > @LJM>0>QFSB >AS>KQ>DB FK QEB MOLAR@QLK LC 0>AFLP

@ ">I@RI>QB QEB LMMLOQRKFQV @LPQ LC MOLAR@FKD >AAFQFLK>I (QLKP LC OR??BO FK )>M>K >KA FK ,>I>VPF> 6EF@E @LRKQOV E>P > @LJM>0>QFSB >AS>KQ>DB FK MOLAR@FKD OR??BO

A (K QEFP BU>J MIB ALBP B>@E @LRKQOV E>SB >K >?PLIRQB >AS>KQ>DB >KA > @LJM>0>QFSB >AS>KQ>DB FK QEB P>JB DLLA

B (K TE>Q MOLAR@Q PELRIA )>M>K PMB@F>IFWB (K TE>Q MOLAR@Q PELRIA ,>I>VPF> PMB@F>IFWB

1BSFBT QEB KRJ?BOP CLO ">K>A> >KA 5BKBWRBI> COLJ ,45?8 TEF@E ABP@OF?BP ELT J>KV ?>00BIP LC LFI >KA QLKP LC IRJ?BO QEB TLOHBOP @>K MOLAR@B 4PB QEBPB KRJ?BOP QL >KPTBO QEB OBPQ LC QEFP NRBPQLK

> #0>T > MOLAR@QLK MLPPF?FIFQFBP COLKQFBO CLO B>@E @LRKQOV PPRJB QEB0B >OB TLOHBOP FK B>@E @LRKQOV ">K>AF>KP >KA 5BKBWRBI>KP ABP@OF?LQE LFI >KA IRJ?BO ">K>AF>KP T>KQ >Q IB>PQ QLKP LC IRJ?BO ,>OH >MLFKQ LK QEBFO MOLAR@QLK MLPPF?FIFQFBP TEB0B QEBV @>K DBQ >Q IB>PQ QLKP

? PPRJB QE>Q QEB ">K>AF>KP PMB@F>IFWB @LJMIBQBIV ?B>@>RBP QEBV CFDR0BA LRQ QEBV E>SB > @LJM>0>QFSB >AS>KQ>DB FK IRJ?BO 3EBV >OB THIFKD QL DFSB RM QLKP LC IRJ?BO 'LTJR@E LFI PELRIA QEBV >PH CLO FK OBQROK CLO QEFP IRJ?BO QL ?B >P TBII LCC >P QEBV TBOB TFQE KL QO>AB 'LTJR@E PELRIA QEBV >PH CLO FC QEBV T>KQ QL D>FK COLJ QO>AFKD TFQE 5BKBWRBI> Note 6B @>K QEFKH LC QEFP e>PHf >P QEB OBI>QFSB MOF@B LO QO>AB MOF@B LC IRJ?BO

@ (P QEB ">K>AF>K e>PHf VLR FABKQFCBFA FK ? >IPL ?BKBCF@F>I CLO 5BKBWRBI>KP 4PB QEB MOLAR@QLK MLPPF?FIFQFBP COLKQFBO DO>ME CLO 5BKBWRBI> QL PELT QE>Q 5BKBWRBI>KP @>K D>FK COLJ QO>AB

(K K8E6-F8 FP QEB0B >K e>PHf TEB0B 5BKBWRBI>KP J>V P>V eKL QE>KH VLRf QL QO>AFKD TFQE ">K>A>

%0LJ B>OIFBO @E>MQBOP VLR THII OB@>II QE>Q QB@EKLILDF@>I @E>KDB PEFCQP QEB >SBO>DB @LPQ @ROSBP #0>T > DO>ME PELTFKD ELT QB@EKLILDF@>I @E>KDB @LRIA FKCIRBK@B FKQO>FKARPQOV QO>AB

"LKPFABO QTL @LRKQOFBP 2LRQE \*LOB> >KA 3>FT>K 3>FT>K @>K MOLAR@B LKB JFIIFLK J L?FIB MELKBP MBO A>V >Q QEB @LPQ LC MBO MELKB >KA 2LRQE \*LOB> @>K MOLAR@B JFIIFLK J L?FIB MELKBP >Q MBO MELKB PPRJB QEBPB MELKBP >OB QEB P>JB QVMB >KA NR>IFQV >KA QEB0B FP LKIV LKB MOF@B 6E>Q FP QEB JFKFJRJ MOF@B >Q TEF@E ?LQE @LRKQOFBP THII BKD>DB FK QO>AB

(C Q0>AB FK@0B>PBP TLOIA &# / ?V MBO VB>0  
 TE>Q FP QEB DIL?>I F J M>@Q LC QEFP FK@0B>PB LSB0 VB>0P  
 ' LT ALBP QEFP FK@0B>PB @L J M>0B QL QEB >KKR>I &# / LC  
 > @LRKQOV IFHB 20F +>KH> #FP@RPP *Hint* 3L >KPTB0 QEFP  
 NRBPQLK EBOB >0B PQBMP VLR J>V T>KQ QL @LKPFB0 &L QL  
 QEB 6 LOIA #BSBILM J BKQ (KAF@>QLOP LKIFKB MR?IFPEBA ?V  
 QEB 6 LOIA !>KH %FKA QEB @R00BKQ IBSBI LC 6 LOIA &# / FK  
 @LKPQ>KQ FKQBOK>QLK>I ALII>OP IPL CFKA QEB &# / LC 20F  
 +>KH> FK @LKPQ>KQ FKQBOK>QLK>I ALII>OP . K@B VLR E>SB  
 QEBPB QTL KR J ?BOP @L J MRQB QEB > J LRKQ QEB >AAFQLK>I  
 FK@0B>PB FK DIL?>I FK@L J BP ARB QL Q0>AB >KA @L J M>0B QE>Q  
 KR J ?BO QL 20F +>KH>dP &# /

# N ?B54?<M4G<BA 4A7 (EBG86G<BA<F@



<:HEB ?4G +6E88A B@C8G<BA 4EB J>0HBQ CLO CI>Q M>KBI AFPMI>VP FK QEB 5KfQBA 3Q>QBP fP ERDB 4EB J>KRC>@QROBOP LC CI>Q P@0BBKf FK QEB 5KfQBA 3Q>QBP J RPQ @L J MBQB >D>fKPQ J>KRC>@QROBOP C0L J >0LRKA QEB TL0IA #0BAfQ J LAFcf@>QFLK LC TLOH ?V b\*B Jf J RfC &f@H0 #0B>QfSB #L J J LKP

## Bring it Home

/ ;4GRF G ;8 B JAF<78 B9 (EBG86G<BA

' LSBOK J BKQP >0B J LQfS>QBA QL fF J fQ >KA >IQB0 J >0HBQ LRQ@L J BP CLO MLfQf@>I LO PL@f>I BKAP 7 EfiB DLfBOK J BKQP @>K fF J fQ QEB OFPB fK MOF@BP LC PL J B MOLAR@QP QEBV @>KKLQ @LKQOLI ELT J R@E MBLMIB T>KQ QL ?RV LO ELT J R@E Cfo J P >0B TfiHfKD QL PBII 4EB I>TP LC AB J >KA >KA PRMMIV P@fII ELIA 40>AB MLf@V fP >K BU> J MIB TEB0B 0BDRI>QFLK P @>K 0BAfQB@Q B@LKL J f@ CLO@BP ?RQ fQ @>KKLQ P@LM QEB J C0L J J>KRCBPQfKD QEB J PBISBP BIPBTEB0B

&I>Q M>KBI AFPMI>VP QEB AFPMI>VP CLO I>MQLM @L J MRQBOP Q>?IBQP >KA CI>Q P@0BBK QBIBfPFLKP >0B >K BU> J MIB LC PR@E >K BKAROFKD MOF@fMIB )K QEB B>0IV P QEB S>PQ J>GLQfV LC CI>Q M>KBI AFPMI>VP RPBA fK 5 3 J>KRC>@QROBA I>MQLMP TB0B fJ MLQ@BA MOF J >0fV C0L J \*>M>K 4EB P J >II ?RQ MLfQf@>IIV MLTB0CRI 5 3 CI>Q M>KBI AFPMI>V fKARPQOV CfiBA > AR J MfKD @L J MI>fKQ TfQE QEB #L J J B0@B \$BM>0Q J BKQ 4EBV >0DRBA QE>Q \*>M>KBPB Cfo J P TB0B PBII fKD AFPMI>VP >Q bIBPP QE>K C>fo S>IRB c TEF@E J >AB fQ AfCCE@RIQ CLO 5 3 Cfo J P QL @L J MBQB 4EFf >0DR J BKQ CLO Q0>AB MOLQB@QFLK fP 0BCB00BA QL >P >KQf AR J MfKD / QEB0 >0DR J BKQP CLO MOLQB@QFLK fK QEFf @L J MI>fKQ fK@IRABA K>QFLK>I PB@ROfQV !CQ0 > MOBIF J fK>0V ABQBO J fK>QFLK ?V QEB #L J J B0@B \$BM>0Q J BKQ QE>Q QEB \*>M>KBPB Cfo J P TB0B AR J MfKD QEB 5 3 )KQfBOK>QFLK>I 40>AB #L J J fPFLK fJ MLPBA > AR J MfKD J >0DFK LO Q>U LK QEB f J MLOQ LC CI>Q M>KBI AFPMI>VP 7>P QEFf > PR@BPPCRI BUB0@fPB LC 5 3 Q0>AB MLf@V 3BB TE>Q VLR QEFKH >CQBO 0B>AfKD QEB @E>MqB0

# !AGEB7H6G<BA GB ?B54?<F@ 4A7 (EBG86G<BA<F@

(K QEFP @E>MQB0 VLR TFII IB>OK >?LRQ

- g /OLQB@QLKFP J K (KAFOB@Q 2R?PFAV COL J " LKPR J BOP QL /OLAR@BOP
- g (KQBOK>QLK>I 3O>AB >KA (QP \$CCB@QP LK )L?P 6>DBP >KA 6LOHFKD " LKAFQLKP
- g ODR J BKQP FK 2RMMLQ LC 1BPQF@QFKD ( J MLOQP
- g ' LT 3O>AB /LIF@V (P \$K>@QBA &IL?>IIV 1BDFLK>IIV >KA ->QLK>IIV
- g 3EB 3O>ABLCCP LC 3O>AB /LIF@V

3EB TLOIA E>P ?B@L J B J LOB @LKKB@QBA LK J RIQFMB IBSBIP BPMB@F>IIV B@LKL J F@>IIV (K F J MLOQP >KA BUMLOQP J>AB RM LC 4 2 &# / TEFIB KLT QEBV J>HB RM ' LTBSBO QEB 4KFQBA 2Q>QB ARB QL FQP PFWB FP IBPP FKQBOK>QLK>IIV @LKKB@QBA QE>K JLPQ @LRKQOFBP %LO BU>J MIB >@>LOAFKD QL QEB 6LOIA !>KH LC !LQPT>K>QP B@LKL J F@ >@QFSFV FP @LKKB@QBA QL QO>AB 3EFP @E>MQB0 BUMLOBP QO>AB MLIF@V b QEB I>TP >KA PQO>QDFBP > @LRKQOV RPBP QL OBDRI>QB FKQBOK>QLK>I QO>AB 3EFP QLMF@ FP KLQ TFQELRQ @LKLQLSBOPV

P QEB TLOIA E>P ?B@L J B J LOB DIL?>IIV @LKKB@QBA CFO J P >KA TLOHBOP FK EFDE FK@L J B @LRKQOFBP IFHB QEB 4KFQBA 2Q>QB )>M>K LO QEB K>QLKP LC QEB \$ROLMB>K 4KFLK MBO@BFSB > @L J MBQFQFSB QEOB>Q COL J CFO J P FK J BAFR J FK@L J B @LRKQOFBP IFHB , BU@L " EFK> LO 2LRQE COF@> QE>Q E>SB ILTBO @LPQP LC IFSFKD >KA QEBOBLOB M>V ILTBO T>DBP %FO J P >KA TLOHBOP FK ILT FK@L J B @LRKQOFBP CB>O QE>Q QEBV TFII PRCCBO FC QEBV J RPQ @L J MBQB >D>FKPQ J LOB MOLAR@QFSB TLOHBOP >KA >AS>K@BA QB@EKLILDV FK EFDE FK@L J B @LRKQOFBP

. K > AFCCBOBKQ Q>@H PL J B BKSFOLK J BKQ>IFPQP TLOOV QE>Q J RIQFK>QLK>I CFO J P J >V BS>AB BKSFOLK J BKQ>I MOLQB@QLK I>TP ?V JLSFKD QEBFO MOLAR@QLK QL @LRKQOFBP TFQE ILLPB LO KLKBUFFQBQ MLHQRQLK PQ>KA>OAP QO>AFKD > @IB>K BKSFOLK J BKQ CLO GL?P 2L J B MLIFQF@F>KP TLOOV QE>Q QEBFO @LRKQOV J >V ?B@L J B LSBOIV ABMBKABKQ LK HBV F J MLOQBA MOLAR@QP IFHB LFI TEF@E FK > QF J B LC T>O @LRIA QEOB>QB K>QLK>I PB@ROFQV II LC QEBPB CB>OP FKCIRBK@B DLSBOK J BKQP QL OB>@E QEB P> J B ?>PF@ MLIF@V @LK@IRPFLK QL MOLQB@Q K>QLK>I FKQBOPBP TEBQEBO ?RPFKBPPBP GL?P LO PB@ROFQV F J MLOQP LC CLOBFDK MOLAR@QP PELRIA ?B OBPQF@QBA 3EFP @E>MQB0 >K>IVWBP PR@E >ODR J BKQP %FOPQ ELTBSBO FQ FP BPPBKQF>I QL IB>OK > CBT HBV @LK@BMQP >KA RKABOP>KA ELT QEB AB J >KA >KA PRMMIV J LABI >MMIFBP QL FKQBOK>QLK>I QO>AB

## N (EBG86G<BA<F@ A !A7<E86G +H5F<7L 9EB@ BAFH@8EF GB (EB7H68EF

!V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK MOLQB@QLKFP J >KA FQP QEORB J >FK CLO J P
- d K>IVWB MOLQB@QLKFP J QEOLRDE @LK@BMQP LC AB J >KA >KA PRMMIV KLQFKD FQP BCCB@QP LK BNRIF?>OFR J
- d ">I@RI>QB QEB BCCB@QP LC QO>AB ?>OOFBOP

6 EBK > DLSBOK J BKQ IBDFPI>QB MLIF@FBP QL OBAR@B LO ?IL@H FKQBOK>QLK>I QO>AB FQ FP BKD>DFKD FK **protectionism** /OLQB@QLKFP MLIF@FBP LCQBK PBBH QL PEFBIA AL J BPQF@ MOLAR@BOP >KA AL J BPQF@ TLOHBOP COL J CLOBFDK @L J MBQFQLK /OLQB@QLKFP J >HBP QEORB J >FK CLO J P Q>OFCCP F J MLOQ NRLQ>P >KA KLKQ>OFCC ?>OOFBOP

1B@>II COL J !AG8EA4G<BA4? ,E478 QE>Q Q>OFCCP >OB Q>UBP QE>Q DLSBOK J BKQP F J MLPB LK F J MLOQBA DLLAP >KA PBOFS@BP 3EFP J >HBP F J MLOQP J LOB BUMBKPFBSB CLO @LKPR J BOP AFP@LRO>DFKD F J MLOQP %LO BU>J MIB FK OB@BKQ VB>OP I>ODB CI>Q P@OBBK QBIBSFPFLK F J MLOQBA QL QEB 4 2 COL J " EFK> E>SB C>@BA > Q>OFCC O>QB

KLQEBO T>V QL @LKLQLI QO>AB FP QEOLRDE **import quotas** TEF@E >OB KR J BOF@>I IF J FQ>QLK LK QEB NR>KQFV LC MOLAR@QP QE>Q > @LRKQOV >@K F J MLOQ %LO FKP>K@B AROFKD QEB B>OIV P QEB 1B>D>K A J FKPQO>QLK F J MLPBA > NRLQ> LK QEB F J MLOQ LC >M>KBPB >RQL J L?FIBP (K QEB P J >KV ABSBILMBA @LRKQOFBP FK@IRAFKD QEB 4KFQBA 2Q>QB CLRKA QEB J PBISBP TFQE AB@IFKFKD QBUQFIB FKARPQOFBP 3BUQFIB MOLAR@QLK ALBP KLQ OBNRFOB EFDEIV PHFIIBA TLOHBOP PL MOLAR@BOP TBOB >?IB QL PBQ RM ILTBO @LPQ C>@QLOFBP FK ABSBILMFKD @LRKQOFBP (K LOABO QL e J >K>DBf QEFP ILPP LC GL?P >KA FK@L J B QEB ABSBILMBA @LRKQOFBP BPQ>?IFPEBA >K FKQBOK>QLK>I , RIQCF?>BO DOBB J BKQ QE>Q BPPBKQF>IIV AFSFABA QEB J >OHBQ CLO QBUQFIB BUMLOQP ?BQTBK F J MLOQBOP >KA QEB OB J >FKFKD AL J BPQF@ MOLAR@BOP 3EB >DOBB J BKQ TEF@E O>K COL J QL

PMB@FCFBA QEB BU>@Q NRLQ> LC QBUQFIB F J MLOQP QE>Q B>@E ABSBILMBA @LRKQOV TLRIA >@BMQ COL J B>@E ILT FK@L J B @LRKQOV  
PF J FI>O PQLOV BUFPQP CLO PRD>O F J MLOQP FKQL QEB 4KFQBA 2Q>QBP TEF@E >OB PQFH DLSBOKBA ?V NRLQ>P

**Nontariff barriers** >OB >II QEB LQEBO T>VP QE>Q >K>QLK @>K A0>T RM ORIBP OBDRI>QLKP FKPMB@QLKP >KA M>MBO'TLOH QL  
J>HB FQ J LOB @LPQIV LO AFCCF@RIQ QL F J MLOQ MOLAR@QP ORIB OBNRFOFKD @BOQ>FK P>CBQV PQ>KA>OAP @>K IF J FQ F J MLOQP GRPQ >P  
BCCB@QFSBIV >P EFDE Q>OFCCP LO ILT F J MLOQ NRLQ>P CLO FKQ>K@B 3EB0B >OB >IPL KLKQ>OFCC ?>OOFBOP FK QEB CLO J LC eORIBP LC  
LOFDFKf OBDRI>QLKP QEBPB ORIBP ABP@OF?B QEB e , >AB FK " LRKQOV 7 f I>?BI >P QEB LKB FK TEF@E QEB I>PQ PR?PQ>KQF>I @E>KDB  
FK QEB MOLAR@Q QLLH MI>@B J>KRC>@QROBO TFPFQK QL BS>AB F J MLOQ OBPQOF@QLKP J >V QOV QL @E>KDB QEB MOLAR@QLK  
MOL@BPP PL QE>Q QEB I>PQ ?FD @E>KDB FK QEB MOLAR@Q E>MMBKP FK EFP LO EBO LTK @LRKQOV %LO BU> J MIB @BOQ>FK QBUQFIBP >OB  
J>AB FK QEB 4KFQBA 2Q>QBP PEFMBA QL LQEBO @LRKQOFBP @L J ?FKBA TFQE QBUQFIBP J>AB FK QELPB LQEBO @LRKQOFBP QL J>HB  
>MM>OBI b >KA QEBK OB BUMLOQBA ?>@H QL QEB 4KFQBA 2Q>QBP CLO >CFK>I >PPB J ?IV QL BP@>MB M>VFKD Q>OFCCP LO QL L?Q>FK >  
e , >AB FK QEB 42 f I>?BI

#BPMFQB F J MLOQ NRLQ>P Q>OFCCP >KA KLKQ>OFCC ?>OOFBOP QEB PE>OB LC >MM>OBI PLIA FK QEB 4KFQBA 2Q>QBP QE>Q FP F J MLOQBA  
OLPB COL J >?LRQ E>IC FK QL >?LRQ QE0BB NR>OQBOP QLA>V 3EB 4 2 !ROB>R LC ++?LO 2Q>QFPQF@P !+2 BPQF J>QBA  
QEB KR J ?BO LC 4 2 GL?P FK QBUQFIBP >KA >MM>OBI CBII COL J FK QL FK > AB@IFKB \$SBK  
J LOB 4 2 QBUQFIB FKARQOV GL?P TLRIA E>SB ?BBK ILPQ TFQELRQ Q>OFCCP ' LTBSBO AL J BPQF@ GL?P QE>Q >OB P>SBA ?V F J MLOQ  
NRLQ>P @L J B >Q > @LPQ !B@>RPB QBUQFIB >KA >MM>OBI MOLQB@QLKFP J >AAP QL QEB @LPQ LC F J MLOQP @LKPR J BOP BKA RM  
M>VFKD ?HIFLKP LC ALII>OP J LOB CLO @ILQEFKD B>@E VB>O

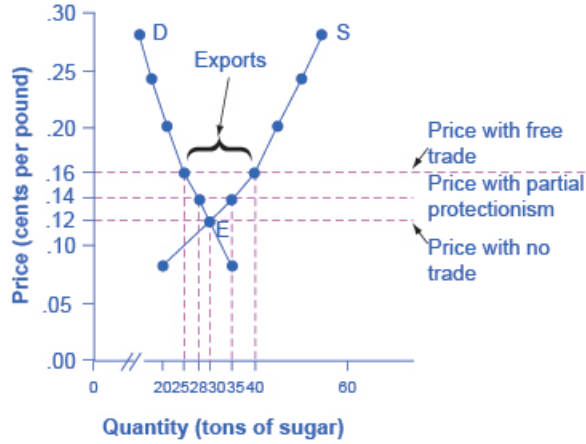
6 EBK QEB 4KFQBA 2Q>QBP BIF J FK>QBP QO>AB ?>OOFBOP FK LKB >OB> @LKPR J BOP PMBKA QEB J LKVB QEBV P>SB LK QE>Q MOLAR@Q  
BIBPTEBOB FK QEB B@LKL J V 3ERP TEFIB BIF J FK>QFKD QO>AB ?>OOFBOP FK LKB PB@QLO LC QEB B@LKL J V TFII IFHBIV OBPRIQ FK  
PL J B GL? ILPP FK QE>Q PB@QLO @LKPR J BOP TFII PMBKA QEB OBPRIQFKD P>SFKDP FK LQEBO PB@QLOP LC QEB B@LKL J V >KA EBK@B  
FK@OB>PB QEB KR J ?BO LC GL?P FK QELPB LQEBO PB@QLOP . C @LROPB TLOHBOP FK PL J B LC QEB MLOBPQ @LRKQOFBP LC QEB TLOIA  
TEL TLRIA LQEBO TFPB E>SB GL?P MOLAR@FKD QBUQFIBP TLRIA D>FK @LKPFABO>?IV FC QEB 4KFQBA 2Q>QBP OBAR@BA FQP ?>OOFBOP  
QL QO>AB FK QBUQFIBP 3E>Q P>FA QEB0B >OB DLLA OB>PLKQ QL ?B T>OV >?LRQ OBAR@FKD ?>OOFBOP QL QO>AB 3EB >KA  
!>KDI>ABPEF CFOBP FK QBUQFIB C>@QLOFBP TEF@E OBPRIQBA FK > ELOOFCF@ ILPP LC IFCB MOBPPBK @L J MIF@>QLKP QE>Q LRO PF J MIFCBA  
>K>IVPFP FK QEB @E>MQBO TFII KLQ @>MQROB

1B>IFWFKD QEB @L J MOL J FBPB ?BQTBK K>QLKP QE>Q @L J B >?LRQ ARB QL QO>AB MLIF@V J >KV @LRKQOFBP @> J B QLDBQEBO FK  
QL CLO J QEB &BKB0>I DOBB J BKQ LK 3>OFCCP >KA 30>AB & 33 6BdII @LSBO QEB & 33 FK J LOB ABQ>FI I>QBO FK QEB  
@E>MQBO 3EFP >DOBB J BKQ E>P PFK@B ?BBK PRMBOPBABA ?V QEB **World Trade Organization (WTO)** TELPB J B J ?BOPEFM  
FK@IRABP >?LRQ K>QLKP >KA J LPQ LC QEB TLOIA P B@LKL J FBP (Q FP QEB MOF J >OV FKQBOK>QLK>I J B@E>KFP J QEOLRDE  
TEF@E K>QLKP KBDLQF>QB QEBFO QO>AB ORIBP b FK@IRAFKD ORIBP >?LRQ Q>OFCCP NRLQ>P >KA KLKQ>OFCC ?>OOFBOP 3EB KBUQ PB@QLK  
BU> J FKBP QEB OBPRIQP LC PR@E MOLQB@QLKFP J >KA ABSBILMP > PF J MIB J LABI QL PELT QEB F J M>@Q LC QO>AB MLIF@V

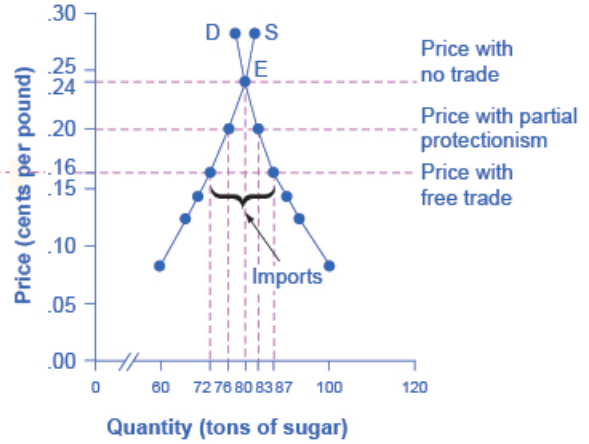
### 8@4A7 4A7 +HCC?L A4?LF<F B9 (EBG86G<BA<F@

3L QEB KLK B@LKL J FPQ OBPQOF@QFKD F J MLOQP J >V >MMB>O QL ?B KLQEFKD J LOB QE>K Q>HFKD P>IBP COL J CLOBFDK MOLAR@BOP  
>KA DFSFKD QEB J QL AL J BPQF@ MOLAR@BOP . QEB0 C>@QLOP >OB >Q TLOH ELTBSBO ?B@>RPB CFO J P AL KLQ LMB0>QB FK > S>@RR J  
(KPB>A CFO J P PBII QEBFO MOLAR@QP BFQEBO QL @LKPR J BOP LO QL LQEBO CFO J P FC QEBV >OB ?RPFKBP PRMMIFBOP TEL >OB >IPL  
>CCB@QBA ?V QEB QO>AB ?>OOFBOP AB J >KA >KA PRMMIV >K>IVPFP LC MOLQB@QLKFP J PELTP QE>Q FQ FP KLQ GRPQ > J >QBO LC  
AL J BPQF@ D>FKP >KA CLOBFDK ILPPBP ?RQ > MLIF@V QE>Q F J MLPBP PR?PQ>KQF>I AL J BPQF@ @LPQ >P TBII

"LKPFABO QTL @LRKQOFBP !O>WFI >KA QEB 4KFQBA 2Q>QBP TEL MOLAR@B PRD>O \$>@E @LRKQOV E>P > AL J BPQF@ PRMMIV >KA  
AB J >KA CLO PRD>O >P ,45?8 ABQ>FIP >KA <:HE8 FIIRPQO>QBP (K !O>WFI TFQELRQ QO>AB QEB BNRIF?OFR J MOF@B  
LC PRD>O FP @BKQP MBO MLRKA >KA QEB BNRIF?OFR J LRQMRQ FP QLKP 6 EBK QEB0B FP KL QO>AB FK QEB 4KFQBA 2Q>QBP QEB  
BNRIF?OFR J MOF@B LC PRD>O FP @BKQP MBO MLRKA >KA QEB BNRIF?OFR J NR>KQFV FP QLKP 6 B I>?BI QEBPB BNRIF?OFR J  
MLFKQ >P MLFKQ \$ FK B>@E M>OQ LC QEB CFDROB



(a) Brazil



(b) The United States

<:HE8 ;8 +H:4E ,E478 58G J88A E4M? 4A7 G;8 -A<G87 +G4G8F " BCL0B Q0>AB QEB BNRHF?0FR J MOF@B LC PRD>0 FK "0>WFI FP @BKQP > MLRKA >KA FQ FP @BKQP MBO MLRKA FK QEB 5KFQBA 3Q>QBP 7 EBK Q0>AB FP >ILTBA ?RPFKBPPBP TFII ?RV @EB>M PRD>0 FK "0>WFI >KA PBII FQ FK QEB 5KFQBA 3Q>QBP 4EFP TFII 0BPRIQ FK EFDEBO MOF@BP FK "0>WFI >KA ILTBO MOF@BP FK QEB 5KFQBA 3Q>QBP )DKLQFKD Q0>KP>@QLK @LPQP MOF@BP PELRIA @LKSBO DB QL @BKQP MBO MLRKA TFQE "0>WFI BUMLOQFKD QLKP LC PRD>0 >KA QEB 5KFQBA 3Q>QBP F J MLQFKD QLKP LC PRD>0 )C Q0>AB FP LKIV M>0QIV LMBK ?BQTBBK QEB @LRKQ0FBP FQ TFII IB>A QL >L LRQ@L JB ?BQTBBK QEB COBB Q0>AB >KA KL Q0>AB MLPPF?FIFQFBP

(E<68	E4M? )H4AG<GL +HCC?<87 GBAF	E4M? )H4AG<GL 8@4A787 GBAF	- + )H4AG<GL +HCC?<87 GBAF	- + )H4AG<GL 8@4A787 GBAF
@BKQP				
@BKQP				
@BKQP				
@BKQP				
@BKQP				
@BKQP				
@BKQP				


,45?8 ;8 +H:4E ,E478 58G J88A E4M? 4A7 G;8 -A<G87 +G4G8F

(C FKQBOK>QLK>I Q0>AB ?BQTBBK ! 0>WFI >KA QEB 4KFQBA 2Q>QBP KLT ?B@L J BP MLPPF?IB MOLCFQ PBBHFKD CFO J P TFII PMLQ >K LMMLOQRKFQV ?RV PRD>0 @EB>MIV FK ! 0>WFI >KA PBII FQ > EFDEBO MOF@B FK QEB 4KFQBA 2Q>QBP P PRD>0 FP PEFMMBA COL J ! 0>WFI QL QEB 4KFQBA 2Q>QBP QEB NR>KQFQV LC PRD>0 MOLAR@BA FK ! 0>WFI TFII ?B DOB>QBO QE>K ! 0>WFI>K @LKPR J MQFLK TFQE QEB BUQ0> MOLAR@QLK BUMLOQBA >KA QEB >J LRKQ MOLAR@BA FK QEB 4KFQBA 2Q>QBP TFII ?B IBPP QE>K QEB >J LRKQ LC 4 2 @LKPR J MQFLK TFQE QEB BUQ0> @LKPR J MQFLK F J MLQBA \$UMLQOP QL QEB 4KFQBA 2Q>QBP TFII 0BAR@B QEB PRD>0 PRMMIV FK

!0>WFI 0>FPFKD FQP MOF@B ( J ML0QP FKQL QEB 4KFQBA 2Q>QBP TFII FK@OB>PB QEB PRD>0 PRMMIV ILTB0FKD FQP MOF@B 6 EBK QEB PRD>0 MOF@B FP QEB P> J B FK ?LQE @LRKQ0FBP QEB0B FP KL FK@BKQFSB QL Q0>AB CROQEBO P <:HE8 PELTP QEB BNRIF?0FR J TFQE Q0>AB L@R0P >Q > MOF@B LC @BKQP MBO MLRKA Q QE>Q MOF@B QEB PRD>0 C>0 J BOP LC !0>WFI PRMMIV > NR>KQFQV LC QLKP TEFIB QEB @LKPR J BOP LC !0>WFI ?RV LKIV QLKP

3EB BUQ0> QLKP LC PRD>0 MOLAR@QFLK PELTK ?V QEB ELOFWLKQ>I D>M ?BQ'TBBK QEB AB J >KA @ROSB >KA QEB PRMMIV @ROSB FK !0>WFI FP BUML0QBA QL QEB 4KFQBA 2Q>QBP (K QEB 4KFQBA 2Q>QBP >Q > MOF@B LC @BKQP QEB C>0 J BOP MOLAR@B > NR>KQFQV LC QLKP >KA @LKPR J BOP AB J >KA > NR>KQFQV LC QLKP 3EB BU@BPP AB J >KA LC QLKP ?V J B0F@>K @LKPR J BOP PELTK ?V QEB ELOFWLKQ>I D>M ?BQ'TBBK AB J >KA >KA AL J BPQF@ PRMMIV >Q QEB MOF@B LC @BKQP FP PRMMIFBA ?V F J ML0QBA PRD>0 %0BB Q0>AB QVMF@>IIV 0BPRIQP FK FK@L J B AFPQ0F?RQFLK BCCB@QP ?RQ QEB HBV FP QL 0B@LDKFWB QEB LSBO>II D>FKP COL J Q0>AB >P <:HE8 PELTP !RHAFKD LK QEB @LK@BMQP QE>Q TB LRQIFKBA FK 8@4A7 4A7 +HCC?L >KA 8@4A7 +HCC?L 4A7 99<6<8A6L FK QBO J P LC @LKPR J B0 >KA MOLAR@B0 PROMIRP <:HE8 > PELTP QE>Q MOLAR@BOP FK !0>WFI D>FK ?V PBIIFKD J LOB PRD>0 >Q > EFDEBO MOF@B TEFIB <:HE8 ? PELTP @LKPR J BOP FK QEB 4KFQBA 2Q>QBP ?BKBCFQ COL J QEB ILTBO MOF@B >KA DOB>QBO >S>FI>?FIFV LC PRD>0 "LKPR J BOP FK !0>WFI >0B TLOPB LCC @L J M>0B QEBFO KL Q0>AB @LKPR J B0 PROMIRP TFQE QEB COBB Q0>AB @LKPR J B0 PROMIRP >KA 4 2 MOLAR@BOP LC PRD>0 >0B TLOPB LCC 3EB0B >0B D>FKP COL J Q0>AB b >K FK@OB>PB FK PL@F>I PROMIRP FK B>@E @LRKQ0V 3E>Q FP ?LQE QEB 4KFQBA 2Q>QBP >KA !0>WFI >0B ?BQQBO LCC QE>K QEBV TLRIA ?B TFQELRQ Q0>AB 3EB CLIIILTTFKD "IB>0 (Q 4M CB>QROB BUMI>FKP ELT Q0>AB MLIF@V @>K FK CIRBK@B ILT FK@L J B @LRKQ0FBP

<:HE8 E88 ,E478 B9 +H:4E &0BB Q0>AB 0BPRIQP FK D>FKP COL J Q0>AB 4LQ>I PROMIRP FK@OB>PBP FK ?LQE @LRKQ0FBP >P QEB QTL ?IRB PE>ABA >0B>P PELT (LTBSBO QEB0B >0B @IB>0 FK@L J B AFPQ0F?RQFLK BCCB@QP 00LAR@BOP D>FK FK QEB BUML0QFKD @LRKQ0V TEFIB @LKPR J BOP ILPB >KA FK QEB F J ML0QFKD @LRKQ0V @LKPR J BOP D>FK >KA MOLAR@BOP ILPB

**Link It Up** 

6fPfq QeFP TB?PfqB EQQM LMBKP>U@LIIBDB LOD I PRD>0Q0>AB QL 0B>A J LOB >?LRQ QEB DIL?>I PRD>0 Q0>AB

# Clear It Up



## / ;L 4E8 G ;8E8 ?B J <A6B@8 6BHAGE<8F

7 EV >0B QEB MLL0 @LRKQOFBP LC QEB TLOIA MLL0 4EB0B >0B > KR J ?B0 LC 0B>PLKP ?RQ LKB LC QEB J TFII PROMOFPB VLR QEB QO>AB MLIF@FBP LC QEB EFDE FK@L J B @LRKQOFBP &LIILTfKD FP > PQ>0H OBSfBT LC PL@f>I MOFLOfQFBP TEF@E QEB FKQBOK>qFLK>I >fA LOD>KfW>qFLK / UC> J )KQBOK>qFLK>I E>P TFABIV MR?IF@FWBA

(fDE FK@L J B @LRKQOFBP LC QEB TLOIA \_ MOF J >QFIV QEB 5KfQBA 3Q>QBP #>K>A> @LRKQOFBP LC QEB %R0LMB>K 5KfLK >KA \*>M>K \_ PR?PFAfWB QEBfO AL J BPQf@ C>0 J BOP @LIIB@QfSBIV ?V >?LRQ ?fIFLK MBO VB>0 "V @LKQO>PQ QEB QLQ>I >J LRKQ LC CLOBfDK >fA COL J QEBPB P>J B EFDE FK@L J B @LRKQOFBP QL QEB MLL0 @LRKQOFBP LC QEB TLOIA FP >?LRQ ?fIFLK MBO VB>0 LO IBPP QE>K LC QEB C>0 J PR?PFAfBP 7 EV ALBP QEFP J >QQBO

J) J >QQBOP ?B@>RPB QEB PRMMLQ LC C>0 J BOP FK EFDE FK@L J B @LRKQOFBP FP ABS>PQ>QfKD QL QEB IFSBIFELLAP LC C>0 J BOP FK ILT FK@L J B @LRKQOFBP %SBK TEBK QEBfO @fJ >QB >KA I>KA >0B TBII PRfQBA QL MOLAR@QP IFHB @LQQLK Of@B PRD>0 LO JfIH C>0 J BOP FK ILT FK@L J B @LRKQOFBP CfKA fQ Afccf@RIQ QL @L J MBQB &>0 J PR?PFAfBP FK QEB EFDE FK@L J B @LRKQOFBP @>RPB C>0 J BOP FK QELPB @LRKQOFBP QL FK@OB>PB QEB >J LRKQ QEBV MOLAR@B 4EFP FK@OB>PB FK PRMMIV AfSBP ALTK TLOIA MOF@BP LC C>0 J MOLAR@QP ?BILT QEB @LPQP LC MOLAR@qFLK !P - f@E>BI ' BOPLK LC QEB *Washington Post* ABP@Of?BP fQ b;4<EB BCCB@QP FK QEB @LQQLK DOLTFKD OBDfLKP LC 7 BPQ !COF@> >0B A0>J >Qf@ HBBM;fKD< JfIFLKP LC !COF@>KP LK QEB BADB LC J >IKRQOFqFLK )K PL J B LC QEB MLL0BPQ @LRKQOFBP LK %>QOE @LQQLK C>0 J BOP >0B PL J B LC QEB MLL0BPQ MBLMIB B>OKfKD >?LRQ > ALII>0 > A>V 7 EL ?BKBCfQP COL J QEB @ROOBKQ PVPQB J LC PR?PFAfBP !?LRQ ! J BOf@>K @LQQLK MOLAR@BOP TfQE >K >SBO>DB >KKR>I FK@L J B LC J LOB QE>K C

! P fC PR?PFAfBP TB0B KLQ BKLrDE LQQBK QEB EFDE FK@L J B @LRKQOFBP ?IL@H >DOf@RIQR0>I BUMLOQP COL J ILT FK@L J B @LRKQOFBP )K PL J B @>PBP QEB PfQR>qFLK DBQP BSBK TLOPB TEBK QEB DLsBOK J BKQP LC EFDE FK@L J B @LRKQOFBP E>SfKD ?LRDEQ >KA M>fA CLO >K BU@BPP PRMMIV LC C>0 J MOLAR@QP DfSB >T>V QELPB MOLAR@QP FK MLL0 @LRKQOFBP >KA AfSB IL@>I C>0 J BOP LRQ LC ?RPfKBPP >IQLDBQEB0

&L0 BU>J MIB PEFM J BKQP LC BU@BPP JfIH COL J QEB %R0LMB>K 5KfLK QL \*>J >f@> E>SB @>RPBA DOB>Q E>0APEfM CLO \*>J >f@>K A>fOV C>0 J BOP 3EFM J BKQP LC BU@BPP Of@B COL J QEB 5KfQBA 3Q>QBP QL (>fQf A0LSB QELRP>KAP LC ILT FK@L J B Of@B C>0 J BOP FK (>fQf LRQ LC ?RPfKBPP 4EB LMMLQfRKfQV @LPQP LC MOLQB@qFLKfP J >0B KLQ M>fA GRPQ ?V AL J BPQf@ @LKPR J BOP ?RQ >IPL ?V CLOBfDK MOLAR@BOP \_>KA CLO J >KV >DOf@RIQR0>I MOLAR@QP QELPB CLOBfDK MOLAR@BOP >0B QEB TLOIA@P MLL0

-LT IBQqP ILLH >Q TE>Q E>MMBKP TfQE MOLQB@qFLKfP J 4 2 PRD>0 C>0 J BOP >0B IFHBIV QL >ODRB QE>Q fC LKIV QEBV @LRIA ?B MOLQB@QBA COL J PRD>0 F J MLOQBA COL J !O>WfI QEB 4KfQBA 2Q>QBP TLRIA E>SB EFDEBO AL J BPQf@ PRD>0 MOLAR@qFLK J LOB GL?P FK QEB PRD>0 FKARPOV >KA J BOf@>K PRD>0 C>0 J BOP TLRIA OB@BfSB > EFDEBO MOF@B (C QEB 4KfQBA 2Q>QBP DLsBOK J BKQ PBQP > EFDE BKLrDE Q>OfCC LK F J MLOQBA PRD>0 LO PBQP >K F J MLOQ NRLQ> >Q WBOL QEB OBPRIQ TfII ?B QE>Q QEB NR>KQfQV LC PRD>0 QO>ABA ?BQTBBK @LRKQOFBP @LRIA ?B OBAR@BA QL WBOL >KA QEB MOF@BP FK B>@E @LRKQOV TfII OBQROK QL QEB IBSBIP ?BCLOB QO>AB T>P >IILTBA

! IL@HFKD LKIV PL J B QO>AB FP >IPL MLPPf?IB 2RMMLPB QE>Q QEB 4KfQBA 2Q>QBP M>PPBA > PRD>0 F J MLOQ NRLQ> LC PBSBK QLKP 3EB 4KfQBA 2Q>QBP TfII F J MLOQ KL J LOB QE>K PBSBK QLKP LC PRD>0 TEF@E J B>KP QE>Q !O>WfI @>K BUMLOQ KL J LOB QE>K PBSBK QLKP LC PRD>0 QL QEB 4KfQBA 2Q>QBP P > OBPRIQ QEB MOF@B LC PRD>0 FK QEB 4KfQBA 2Q>QBP TfII ?B @BKQP TEF@E FP



QEB MOF@B TEBOB QEB NR>KQFQV AB J >KABA FP PBSBK QLKP DOB>QBO QE>K QEB AL J BPQF@ NR>KQFQV PRMMIFBA " LKSBOPBIV FC !O>WFI @>K BUMLOQ LKIV PBSBK QLKP LC PRD>0 QEBK QEB MOF@B LC PRD>0 FK !O>WFI TFII ?B @BKQP MBO MLRKA TEF@E FP QEB MOF@B TEBOB QEB AL J BPQF@ NR>KQFQV PRMMIFBA FK !O>WFI FP PBSBK QLKP DOB>QBO QE>K AL J BPQF@ AB J >KA

(K DBKB0>I TEBK > @LRKQOV PBQP > ILT LO J BAFR J Q>OFCC LO F J MLOQ NRLQ> QEB BNRIF?OFR J MOF@B >KA NR>KQFQV TFII ?B PL J BTEBOB ?BQTTBBK QELPB QE>Q MOBS>FI TFQE KL QO>AB >KA QELPB TFQE @L J MIBQIV COBB QO>AB 3EB CLIILTFKD 6 LOH (Q . RQ BUMILOBP QEB F J M>@Q LC QEBPB QO>AB ?>OOFBOP

# Work It Out

## 9986GF B9 ,E478 4EE<8EF

, BQ@P ILLH @>0BCRIIV >Q QEB BCCB@QP LC Q>OFCCP LO NRLQ>P )C QEB 5 3 DLSBOK J BKQ F J MLPBP > Q>OFCC LO NRLQ> PROCF@FBKQ QL BIF J FK>QB QO>AB TFQE "O>WFI QTL QEFKDP L@R0 5 3 @LKPR J BOP M>V > EFDEBO MOF@B >KA QEB0BCL0B ?RV > P J >IIBO NR>KQFQV LC PRD>0 5 3 MOLAR@BOP L?Q>FK > EFDEBO MOF@B >KA QEBV PBII > I>0DBO NR>KQFQV LC PRD>0 7B @>K J B>PROB QEB BCCB@QP LC > Q>OFCC LK MOLAR@BOP >KA @LKPR J BOP FK QEB 5KQBA 3Q>QBP RPFKD QTL @LK@BMQP QE>Q TB ABSBILMBA FK 8@4A7 +HCC?L 4A7 99<6<8A6L @LKPR J BOP PROMIRP >KA MOLAR@BO PROMIRP

<:HE8 - +H:4E+HCC?L 4A7 8@4A7 7 EBK QEB0B FP COBB QO>AB QEB BNRIF?OFR J FP >Q MLFKQ !  
7 EBK QEB0B FP KL QO>AB QEB BNRIF?OFR J FP >Q MLFKQ %

3QBM ,LLH >Q <:HE8 TEF@E PELTP > EVMLEQB@>I SBOPFLK LC QEB AB J >KA >KA PRMMIV LC PRD>0 FK QEB 5KQBA 3Q>QBP

3QBM .LQB QE>Q TEBK QEB0B FP COBB QO>AB QEB PRD>0 J>0HBQ FP FK BNRIF?OFR J >Q MLFKQ ! TEBOB \$LJBPQF@ 1R>KQFQV \$BJ>KABA 1A 1R>KQFQV 3RMMIFBA \$LJBPQF@ 1P )JMLQCP COL J "O>WFI >Q > MOF@B LC O40>AB

3QBM .LQB >IPL QE>Q F J MLOQP >0B BNR>I QL QEB AFPQ>K@B ?BQTTBBK MLFKQ # >KA !

3QBM 2B@>II QE>Q @LKPR J BOP PROMIRP FP QEB S>IRB QE>Q @LKPR J BOP DBQ ?BVLKA TE>Q QEBV M>FA CLO TEBK QEBV ?RV > MOLAR@Q 'O>MEF@>IIV FQ FP QEB >0B> RKABO > AB J >KA @ROSB ?RQ >?LSB QEB MOF@B )K QEF@>PB QEB @LKPR J BOP PROMIRP FK QEB 5KQBA 3Q>QBP FP QEB >0B> LC QEB QOF>KDIB CLO J BA ?V QEB MLFKQ O40>AB ! >KA "

3QBM 2B@>II >IPL QE>Q MOLAR@BO PROMIRP FP >KLQEB0 K> J B CLO MOLCFQ\_ FQ FP QEB FK@L J B MOLAR@BOP DBQ >?LSB QEB @LPQ LC MOLAR@QLK TEF@E FP PELTK ?V QEB PRMMIV @ROSB EBOB )K QEF@>PB QEB MOLAR@BO PROMIRP TFQE QO>AB FP QEB >0B> LC QEB QOF>KDIB CLO J BA ?V QEB MLFKQ O40>AB # >KA \$

3QBM 3RMMILPB QE>Q QEB ?>OOFBOP QL QO>AB >0B F J MLPBA F J MLOQP >0B BU@IRABA >KA QEB MOF@B OFBOP QL O .L40>AB ,LLH TE>Q E>MMBKP QL MOLAR@BO PROMIRP >KA @LKPR J BOP PROMIRP !Q QEB EFDEBO MOF@B QEB AL J BPQF@ NR>KQFQV PRMMIFBA FK@0B>PBP COL J 1P QL 1 >Q MLFKQ % "B@>RPB MOLAR@BOP >0B PBIFKD J LOB NR>KQFQV >Q > EFDEBO MOF@B QEB MOLAR@BO PROMIRP FK@0B>PBP QL QEB >0B> LC QEB QOF>KDIB O .L40>AB % >KA \$

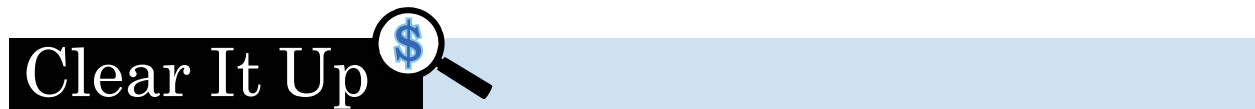
3QBM #L J M>0B QEB >0B>P LC QEB QTL QOF>KDIBP >KA VLR TFII PBB QEB FK@0B>PB FK QEB MOLAR@BO PROMIRP

3QBM %U> J FK B QEB @LKPR J BOP PROMIRP #LKPR J BOP >0B KLT M>VFKD > EFDEBO MOF@B QL DBQ > ILTBO NR>KQFQV 1

FKPQB>A LC 1A 4EBFO @LKPR J BO PROMIRP PEOfKHP QL QEB >OB> LC QEB QOf>KDIB O .L40>AB % >KA "
3QBm \$BQBO JfKB QEB KBQ BCCB@Q 4EB MOLAR@BO PROMIRP FK@OB>PBP ?V QEB >OB> OQO>AB # % O .L40>AB 4EB ILPP
LC @LKPR J BO PROMIRP ELTBSBO fP I>ODBO )Q fP QEB >OB> OQO>AB ! % O .L40>AB )K LQEB0 TLOAP @LKPR J BOP ILPP
J LOB QE>K MOLAR@BOP D>fK >P > OBPRIQ LC QEB QO>AB ?>00fBOP >KA QEB 5KfQBA 3Q>QBP E>P > ILTBO PL@f>I PROMIRP

/ ;B 8A89<GF 4A7 / ;B (4LF

4PFKD QEB AB J >KA >KA PRMMIV J LABI @LKPfABO QEB F J M>@Q LC MOLQB@QFLKFP J LK MOLAR@BOP >KA @LKPR J BOP FK B>@E LC
QEB QTL @LRKQOfBP %LO MOLQB@QBA MOLAR@BOP IFHB 4 2 PRD>O C>O J BOP OBpQOf@QFKD F J MLOQP FP @IB>OIV MLpFQFSB 6 FQELRQ >
KBBA QL C>@B F J MLOQBA MOLAR@QP QEBPB MOLAR@BOP >OB >?IB QL PBII J LOB >Q > EFDEBO MOF@B %LO @LKPR J BOP FK QEB @LRKQOV
TFQE QEB MOLQB@QBA DLLA FK QEFF @>PB 4 2 PRD>O @LKPR J BOP OBpQOf@QFKD F J MLOQP FP @IB>OIV KBD>QFSB 3EBV BKA RM ?RVFKD
> ILTBO NR>KQfQV LC QEB DLLA >KA M>VFKD > EFDEBO MOF@B CLO TE>Q QEBV AL ?RV @L J M>OBA QL QEB BNRfIF?OfR J MOF@B
>KA NR>KQfQV TFQE QO>AB 3EB CLILTFKD "IB>O (Q 4M CB>QROB @LKPfABOP TEV > @LRKQOV J fDEQ LRQPLRO@B GL?P BSBK CLO >
AL J BPQf@ MOLAR@Q



/ ;L 4E8 \$<98 +4I8EF 4A @8E<64A CEB7H6G ABG @478 <A @8E<64

JK #I>OBK@B #O>KB fKSBKQBA ,fCB 3>SBOP QEB E>OA @>KAV TFQE QEB ELIB FK QEB J fAAIB FK #IBSBI>KA / EFL
3Q>OQfKD FK QEB I>QB P >KA CLO VB>OP >CQBOT>OA > MI>KQ FK (LII>KA - f@EFD>K MOLAR@BA ?fIIFLK ,fCB
3>SBOP > VB>O FK JfIIFLK OLIIIP (LTBSBO FK QEB +>OQ #L J M>KV >KCLRK@BA QE>Q fQ TLRIA @ILPB QEB
-f@EFD>K MI>KQ >KA JLSB ,fCB 3>SBO MOLAR@QFLK >@OLPP QEB ?LOABO QL - LKQOB>I #>K>A>

/ KB OB>PLK FP QE>Q #>K>A>fK TLOHBOP >OB M>fA PfDEQIV IBPP BPMB@f>IIV FK EB>IQE@>OB >KA fKPRO>K@B @LPQP QE>Q
>OB KLQ IFKHBA QL B J MILV J BKQ QEBOB !KLQEB0 J>fK OB>PLK FP QE>Q QEB 5KfQBA 3Q>QBP DLSBOK J BKQ HBBMP QEB
PRD>O MOF@B EFDE CLO QEB ?BKBCfQ LC PRD>O C>O J BOP TFQE > @L J ?fK>QFLK LC > DLSBOK J BKQ MOF@B CILLO MOLDO>J >KA
PQOf@Q NRLQ>P LK F J MLOQBA PRD>O !@>LOAfKD QL QEB #L>IQfFLK CLO 3RD>O 2BCLO J COL J QL QEB MOF@B LC
OBfKBA PRD>O FK QEB 5KfQBA 3Q>QBP O>KDBA COL J QL EFDEBO QE>K QEB TLOIA MOF@B ,fCB 3>SBO MOLAR@QFLK
RPBP LSBO QLKP LC PRD>O B>@E A>V ?B@>RPB QEB @>KAfBP >OB PRD>O

! KR J ?BO LC LQEB0 @>KAV @L J M>KfBP E>SB >IPL OBAR@BA 5 3 MOLAR@QFLK >KA BUM>KABA CLOBfDK MOLAR@QFLK
&OL J QL PRD>O RPFKD fKARPQOfBP BIF J fK>QBA PL J B GL?P LO J LOB QE>K PBSBK Qf J BP QEB QLQ>I
B J MILV J BKQ FK PRD>O MOLAR@QFLK 7 EHIB QEB @>KAV fKARPQOV FP BPMB@f>IIV >CCB@QBA ?V QEB @LPQ LC PRD>O QEB
@LPQP >OB PMOB>A J LOB ?OL>AIV 5 3 @LKPR J BOP M>V OLRDEIV ?fIIFLK MBO VB>O FK EFDEBO CILLA MOF@BP ?B@>RPB
LC BIBS>QBA PRD>O @LPQP - B>KTEHIB PRD>O MOLAR@BOP FK ILT fK@L J B @LRKQOfBP >OB AOfSBK LRQ LC ?RPfKBPP
"B@>RPB LC QEB PRD>O PR?PfAfBP QL AL J BPQf@ MOLAR@BOP >KA QEB NRLQ>P LK F J MLOQP QEBV @>KKLQ PBII QEBfO LRQMRQ
MOLCFQ>?IV LO >Q >II FK QEB 5KfQBA 3Q>QBP J >OHBQ

3EB C>@Q QE>Q MOLQB@QFLKFP J MRPEBP RM MOF@BP CLO @LKPR J BOP FK QEB @LRKQOV BK>@QFKD PR@E MOLQB@QFLKFP J FP KLQ >IT>VP
>@HKL TIBADBA LMBKIV ?RQ fQ FP KLQ AFPMRQBA CQBO >II FC MOLQB@QFLKFP J AFA KLQ ?BKBCfQ AL J BPQf@ MOLAR@BOP QEBOB
TLRIA KLQ ?B J R@E MLfKQ FK BK>@QFKD PR@E MLIF@FBP FK QEB CFOPQ MI>@B /OLQB@QFLKFP J FP Pf J MIV > J BQELA LC OBNRfOFKD
@LKPR J BOP QL PR?PfAfWB MOLAR@BOP 3EB PR?PfAV FP fKAFOB@Q PFK@B @LKPR J BOP M>V CLO fQ QEOLRDE EFDEBO MOF@BP O>QEBO
QE>K > AFOB@Q DLSBOK J BKQ PR?PfAV M>fA TFQE J LKVB @LIIB@QBA COL J Q>UM>VBOP 'LTBSBO MOLQB@QFLKFP J TLOHP IFHB >
PR?PfAV KLKBQEBIBPP 3EB J BOF@>K P>QfOFPQ J ?OLPB !fBO@B ABCfKBA eQ>OfCCf QEFF T>V FK EFP ?LLH The Devil's
Dictionary e3>OfCC K P@>IB LC Q>UBP LK F J MLOQP ABPFDKBA QL MOLQB@Q QEB AL J BPQf@ MOLAR@BO >D>fKPQ QEB DOBBA LC EFP
@LKPR J BO f

3EB BCCB@Q LC MOLQB@QFLKFP J LK MOLAR@BOP >KA @LKPR J BOP FK QEB CLOBfDK @LRKQOV FP @L J MIBU 6 EBK > DLSBOK J BKQ RPB
>K F J MLOQ NRLQ> QL F J MLPB M>Qf>I MOLQB@QFLKFP J !O>WFIF>K PRD>O MOLAR@BOP OB@BfSB > ILTBO MOF@B CLO QEB PRD>O QEBV
PBII FK !O>WEI b ?RQ > EFDEBO MOF@B CLO QEB PRD>O QEBV >OB >IIL TBA QL BUMLOQ QL QEB 4KfQBA 2Q>QBP - LQf@B QE>Q PL J B LC
QEB ?ROABK LC MOLQB@QFLKFP J M>fA ?V AL J BPQf@ @LKPR J BOP BKAP RM FK QEB E>KAP LC CLOBfDK MOLAR@BOP FK QEFF @>PB
!O>WFIF>K PRD>O @LKPR J BOP PBB J QL ?BKBCfQ COL J 4 2 MOLQB@QFLKFP J ?B@>RPB fQ OBAR@BP QEB MOF@B LC PRD>O QE>Q QEBV M>V
@L J M>OBA QL QEB COBB QO>AB PfQR>QFLK . K QEB LQEB0 E>KA >Q IB>PQ PL J B LC QEBPB !O>WFIF>K PRD>O @LKPR J BOP >IPL TLOH

>P PRD>0 C>0 J BOP PL MOLQB@QFLKfP J OBAR@BP QEBFO FK@L J BP >KA GL?P , LOBLSBO FC QO>AB ?BqTBBK QEB @LRKQOFBP S>KFPEBP !O>Wfif>K @LKPR J BOP TLRIA J FPP LRQ LK ?BQQBO MOF@BP CLO F J MLOQBA DLLAP b TEF@E AL KLQ >MMB>0 FK LRO PFKDIB J >OHBQ BU> J MIB LC PRD>0 MOLQB@QFLKfP J

3EB BCCB@QP LC MOLQB@QFLKfP J LK CLOBFDK @LRKQOFBP KLQTFQEPQ>KAFKD MOLQB@QFLKfP J OBNRFQBP AL J BPQf@ @LKPR J BOP LC > MOLAR@Q @LKPR J BOP J >V FK@IRAB BFQEBQ ELRPBELIAP LO LQEBQ CFO J P QL M>V EFDEBO MOF@BP QL ?BKBCFQ AL J BPQf@ MOLAR@BOP LC QE>Q MOLAR@Q (K >AAfQFLK TEBK > @LRKQOV BK>@QP MOLQB@QFLKfP J FQ ILPBP QEB B@LKL J F@ D>FKP FQ TLRIA E>SB ?BBK >?IB QL >@EFBSB QEOLRDE > @L J ?FK>QFLK LC @L J M>O>QFSB >AS>KQ>DB PMB@F>IFWBA IB>OKFKD >KA B@LKL J FBP LC P@>IB @LK@BMQP QE>Q TB AFP@RPP FK !AG8EA4G<BA4? ,E478

## N !AG8EA4G<BA4? ,E478 4A7 !GF 9986GF BA "B5F / 4 : 8F 4A7 / BE><A: BA7<G<BAF

! V QEB BKA LC QEFB PB@QFLK VLR TFII ?B >?IB QL

- d #FP@RPP ELT FKQBOK>QFLK>I QO>AB FKCIRBK@BP QEB GL? J >OHBQ
- d K>IVWB QEB LMMLOQRKFQV @LPQ LC MOLQB@QFLKfP J
- d \$UMI>FK ELT FKQBOK>QFLK>I QO>AB F J M>@QP T>DBP I>?LO PQ>KA>OAP >KA TLOHFKD @LKAfQFLKfP

(K QEBLOV >Q IB>PQ F J MLOQP J FDEQ FKGROB TLOHBOP FK PBSBO>I AFCCBOBKQ T>VP CBTBO GL?P ILTBO T>DBP LO MLLQ TLOHFKD @LKAfQFLKfP +BQdP @LKPfABO QEBPB FK QRQK

### 8J8E "B5F

(K QEB B>OIV P QEB 4KFQBA 2Q>QBP T>P KBDLQF>QFKD QEB - LOQE JBOF@>K %0BB 3O>AB DOBB J BKQ - %3 TFQE , BUf@L >K >DOBB J BKQ QE>Q OBAR@BA Q>OFCCP F J MLOQ NRLQ>P >KA KLKQ>OFCC ?>OOFBOP QL QO>AB ?BqTBBK QEB 4KFQBA 2Q>QBP , BUf@L >KA ">K>A> ' 1LPP /BOLQ > @>KAFA>QB CLO 4 2 MOBPfABKQ @I>F J BA FK MOL J FKBKQ @> J M>FDK >ODR J BKQP QE>Q FC QEB 4KFQBA 2Q>QBP BUM>KABA QO>AB TFQE , BUf@L QEBQB TLRIA ?B > eDF>KQ PR@HFKD PLRKAf >P 4 2 B J MILVBOP OBIL@>QBA QL , BUf@L QL Q>HB >AS>KQ>DB LC ILTBO T>DBP CQBO >II >SBO>DB T>DBP FK , BUf@L TBOB >Q QE>Q QF J B >?LRQ LKB BFDEQE LC QELPB FK QEB 4KFQBA 2Q>QBP - %3 M>PPBA "LKDOBPP /OBPFABKQ !FII "IFKQLK PFDKBA FQ FKQL I>T >KA FQ QLLH BCCB@Q FK %LO QEB KBUQ PFU VB>OP QEB 4KFQBA 2Q>QBP B@LKL J V E>A PL J B LC QEB J LPQ O>MFA GL? DOLTQE >KA ILT RKB J MILV J BKQ FK FQP EFPQLOV 3ELPB TEL CB>OBA QE>Q LMBK QO>AB TFQE , BUf@L TLRIA IB>A QL > AO> J >Qf@ AB@OB>PB FK GL?P TBOB MOLS BK TOLKD

3EFP OBPRIQ T>P KL PROMOFBP QL B@LKL J FPQP CQBO >II QEB QOBKA QL T>OA DIL?>fW>QFLK E>P ?BBK DLFKD LK CLO AB@>ABP KLQ GRPQ PFK@B - %3 (C QO>AB AFA OBAR@B QEB KR J ?BO LC >S>FI>?IB GL?P QEBK QEB 4KFQBA 2Q>QBP PELRIA E>SB ?BBK PBBFKD > PQB>AV ILPP LC GL?P CLO AB@>ABP 6 EFIB QEB 4KFQBA 2Q>QBP B@LKL J V ALBP BUMBOFBK@B OFPBP >KA C>IIP FK RKB J MILV J BKQ O>QBP b >@>LOAFKD QL QEB !ROB>R LC >+?>LO 2Q>QFPQfP COL J PMOFKD QL I>QB QEB RKB J MILV J BKQ O>QB OLPB COL J QL (Q E>P PFK@B C>IIBK ?>@H QL RKABO >P LC QEB BKA LC b QEB KR J ?BO LC GL?P FP KLQ C>IIFKD LSBO BUQBKABA MBOFLAP LC QF J B 3EB KR J ?BO LC 4 2 GL?P OLPB COL J J FIIFLK FK QL J FIIFLK FK

/OLQB@QFLKfP J @BOQ>FKIV P>SBP GL?P FK QEB PMB@FCF@ FKARPQOV ?BFKD MOLQB@QBA ?RQ CLO QTL OB>PLKP FQ @LPQP GL?P FK LQEBQ RKMOLQB@QBA FKARPQOFBP %FOPQ FC @LKPR J BOP >OB M>VFKD EFDEBO MOF@BP QL QEB MOLQB@QBA FKARPQOV QEBV FKBSFQ>IV E>SB IBPP J LKBV QL PMBKA LK DLLAP COL J LQEBQ FKARPQOFBP >KA PL GL?P >OB ILPQ FK QELPB LQEBQ FKARPQOFBP 2B@LKA FC > CFO J PBIIP QEB MOLQB@QBA MOLAR@Q QL LQEBQ CFO J P PL QE>Q LQEBQ CFO J P J RPQ KL T M>V > EFDEBO MOF@B CLO > HBV FKMRQ QEBK QELPB CFO J P TFII ILPB P>IBP QL CLOBFDK MOLAR@BOP TEL AL KLQ KBBA QL M>V QEB EFDEBO MOF@B +LPQ P>IBP QO>KPI>QB FKQL ILPQ GL?P 3EB EFAABK LMMLOQRKFQV @LPQ LC RPFKD MOLQB@QFLKfP J QL P>SB GL?P FK LKB FKARPQOV FP GL?P P>@OFCF@BA FK LQEBQ FKARPQOFBP 3EFP FP TEV QEB 4KFQBA 2Q>QBP (KQBOK>QFLK>I 3O>AB "L J J FPPFLK FK FQP PQRVAV LC ?>OOFBOP QL QO>AB MOBAF@QP QE>Q OBAR@FKD QO>AB ?>OOFBOP TLRIA KLQ IB>A QL >K LSBO>II ILPP LC GL?P /OLQB@QFLKfP J OBPERCCIBP GL?P COL J FKARPQOFBP TFQELRQ F J MLOQ MOLQB@QFLKfP QL FKARPQOFBP QE>Q >OB MOLQB@QBA COL J F J MLOQP ?RQ FQ ALBP KLQ @OB>QB J LOB GL?P

, LOBLSBO QEB @LPQP LC P>SFKD GL?P QEOLRDE MOLQB@QFLKfP J @>K ?B SBOV EFDE KR J ?BO LC AFCCBOBKQ PQRVAV E>SB >QB J MQBA QL BPQF J >QB QEB @LPQ QL @LKPR J BOP FK EFDEBO MOF@BP MBO GL? P>SBA QEOLRDE MOLQB@QFLKfP J ,4578 PELTP > P> J MIB LC OBPRIQ @L J MFIBA ?V B@LKL J FPQP >Q QEB %BABO>I 1BPBOSB !>KH LC #>II>P 2>SFKD > GL? QEOLRDE MOLQB@QFLKfP J QVMF@>IIV @LPQP J R@E J LOB QE>K QEB >@QR>I TLOHBOdP P>I>OV %LO BU> J MIB > PQRVAV MR?IFPEBA FK @L J MFIBA BSFABK@B QE>Q RPFKD MOLQB@QFLKfP J QL P>SB >K >SBO>DB GL? FK QEB QBUQFIB >KA >MM>OBI FKARPQOV TLRIA @LPQ MBO GL? P>SBA (K LQEBQ TLOAP QELPB TLOHBOP @LRIA E>SB ?BBK M>FA MBO VB>O QL ?B RKB J MILVBA >KA QEB @LPQ TLRIA LKIV ?B E>IC LC TE>Q FQ FP QL HBBM QEB J TLOHFKD FK QEB QBUQFIB >KA >MM>OBI FKARPQOV 3EFP OBPRIQ FP KLQ RKFNRB QL QBUQFIB >KA

>MM>0BI

!A7HFGE (EBG86G87 J<G; !@CBEG ,4E99F BE )HBG4F	AAH4? BFG C8E "B5 +4187
3RD>0	
OLIVBQEVIBKB 0BPFKP	
\$>FOV MOLAR@QP	
&0LWBK @LK@BKQ>QBA LO>KDB GRf@B	
">II ?B>0FKDP	
->@EFKB QLLIP	
7 L J BKaP E>KA?>DP	
' I>PPT>0B	
!MM>0BI >KA QBUQfBP	
2R??B0 CLLQTB>0	
7 L J BKaP KLK>QEIBQf@ CLLQTB>0	

,4578 BFG GB - + BAFH@8EF B9 +41<A: 4 "B5 G;EBH: ; (EBG86G<BA<F@ 3LR0@B &BAB0>I  
 2BPB0SB ">KH LC \$>II>P

6 EV ALBP FQ @LPQ PL J R@E QL P>SB GL?P QEOLRDE MOLQB@qFLKfP J 3EB ?>PF@ OB>PLK FP QE>Q KLQ >II LC QEB BUQO> J LKBV QE>Q  
 @LKPR J BOP M>V ?B@>RPB LC Q>OFCCP LO NRLQ>P DLBP QL P>SB GL?P %LO BU> J MIB FC QEB DLSBOK J BKQ F J MLPBP Q>OFCCP LK PQBBI  
 F J MLOQP PL QE>Q PQBBI ?RVBOP M>V > EFDEBO MOF@B 4 2 PQBBI @L J M>KFBP B>OK DOB>QBO MOLCFQP ?RV J LOB BNRFM J BKQ M>V  
 ?FDDBO ?LKRBPB QL J >K>DBOP DFSB M>V O>FPBP QL BUFPQFKD B J MILVBBP b >KA >IPL >SLFA CFOFKD PL J B >AAFQFLK>I TLOHBOP  
 . KIV M>OQ LC QEB EFDEBO MOF@B LC MOLQB@QBA PQBBI DLBP QLT>QA P>SFKD GL?P IPL TEBK >K FKARPQOV FP MOLQB@QBA QEB  
 B@LKL J V >P > TELIB ILPBP QEB ?BKBCFQP LC MI>VFKD QL FQP @L J M>O>QFSB >AS>KQ>DB b FK LQEBO TLOAP MOLAR@FKD TE>Q FQ FP  
 ?BPQ >Q 3EB0BCL0B M>OQ LC QEB EFDEBO MOF@B QE>Q @LKPR J BOP M>V CLO MOLQB@QBA DLLAP FP ILPQ B@LKL J F@ BCCF@FBK@V TEF@E  
 TB @>K J B>PROB >P >KLQEBO AB>ATBFDEQ ILPP IFHB TE>Q TB AFP@RPPBA FK \$45BE 4A7 <A4A6<4? %4E>8GF

3EB0BdP > ?R J MBO PQF@HBO QE>Q PMB>HP QL QEB QEOB>Q PL J B 4 2 TLOHBOP CBBI COL J F J MLOQBA MOLAR@QP e!RV  
 J BOF@>K b 2>SB 4 2 )L?P f (C >K B@LKL J FPQ TBOB AOFsFKD QEB @>O QEB PQF@HBO J FDEQ AB@I>OB e!IL@H (J MLOQP b 2>SB  
 )L?P CLO 2L J B J BOF@>KP +LPB )L?P CLO . QEB0 J BOF@>KP >KA IPL />V ' FDE /OF@BP f

**,E478 4A7 / 4:8F**

\$SBK FC QO>AB ALBP KLQ OBAR@B QEB KR J ?BO LC GL?P FQ @LRIA >CCB@Q T>DBP ' BOB FQ FP F J MLOQ>KQ QL PBM>O>QB FPPRBP >?LRQ  
 QEB >SBO>DB IBSBI LC T>DBP COL J FPPRBP >?LRQ TEBQEBO QEB T>DBP LC @BOQ>FK TLOHBOP J >V ?B EBIMBA LO ERQ ?V QO>AB

!B@>RPB QO>AB O>FPBP QEB > J LRKQ QE>Q >K B@LKL J V @>K MOLAR@B ?V IBQQFKD CFO J P >KA TLOHBOP MI>V QL QEBFO @L J M>O>QFSB  
 >AS>KQ>DB QO>AB TFII >IPL @>RPB QEB >SBO>DB IBSBI LC T>DBP FK >K B@LKL J V QL OFPB 6 LOHBOP TEL @>K MOLAR@B J LOB  
 TFII ?B J LOB ABPFO>?IB QL B J MILVBOP TEF@E TFII PEFCQ QEB AB J >KA CLO QEBFO I>?LO LRQ QL QEB OFDEQ >KA FK@OB>PB T>DBP  
 FK QEB I>?LO J >OHBQ !V @LKQ>PQ ?>OOFBOP QL QO>AB TFII OBAR@B QEB >SBO>DB IBSBI LC T>DBP FK >K B@LKL J V

' L TBSBO BSBK FC QO>AB FK@OB>PBP QEB LSBO>II T>DB IBSBI FQ TFII PQFII ?BKBCFQ PL J B TLOHBOP >KA ERQ LQEBO 6 LOHBOP FK  
 FKARPQFBP QE>Q >OB @LKCOLKQBA ?V @L J MBQFQFLK COL J F J MLOQBA MOLAR@QP J >V CFKA QE>Q AB J >KA CLO QEBFO I>?LO AB@OB>PBP  
 >KA PEFCQ ?>@H QL QEB IBCQ PL QE>Q QEBFO T>DBP AB@IFKB TFQE > OFPB FK FKQBOK>QFLK>I QO>AB "LKSOPBIV TLOHBOP FK  
 FKARPQFBP QE>Q ?BKBCFQ COL J PBIIFKD FK DIL?>I J >OHBQ J >V CFKA QE>Q AB J >KA CLO QEBFO I>?LO PEFCQ LRQ QL QEB OFDEQ PL  
 QE>Q QO>AB O>FPBP QEBFO T>DBP

# Link It Up

6fBT QEFP TB?PqQB EQQM LMBKPq>U@LIIBDB LOD I C>fQqQ>AB@LCCBB QL OB>A >K >Qq@IB LK QEB fPpRBP PR00LRKAFKD C>fO Qq>AB @LCCBB

. KB @LK@BOK FP QE>Q TEFIB DIL?>fW>QLK J>V ?B ?BKBCFQFKD EFDE PHFIIBA EFDE T>DB TLOHBOP FK QEB 4KFQBA 2Q>QBP FQ J>V >IPL F J MLPB @LPQ LK ILT PHFIIBA ILT T>DB TLOHBOP CQBO >II EFDE PHFIIBA 4 2 TLOHBOP MOBPR J>?IV ?BKBCFQ COL J FK@OB>PBA P>IBP LC PLMEFPQf@>QBA MOLAR@QP IFHB @L J MRQBOP J>@EFKBOV >KA ME>O J>@BRQf@>IP FK TEF@E QEB 4KFQBA 2Q>QBP E>P >@L J M>O>QFSB >AS>KQ>DB , B>KTEFIB ILT PHFIIBA 4 2 TLOHBOP J RPQ KLT @L J MBQB >D>FKPQ BUQOB J BIV ILT T>DB TLOHBOP TLOIATfAB CLO J>HFKD PF J MIBO MOLAR@QP IFHB QLVP >KA @ILQEFKD P > OBPRIQ QEB T>DBP LC ILT PHFIIBA 4 2 TLOHBOP >OB IFHBIV QL C>II 3EBOB >OB ELTBSBO >KR J ?BO LC OB>PLKP QL ?BIFBSB QE>Q TEFIB DIL?>fW>QLK E>P EBIMBA PL J B 4 2 FKARPQOFBP >KA ERQ LQEBOP FQ E>P KLQ CL@RPBA FQP KBD>QFSB F J M>@Q LK QEB T>DBP LC ILT PHFIIBA J BOF@>KP %FOPQ >?LRQ E>IC LC 4 2 QO>AB FP FKQO> FKARPQOV QO>AB 3E>Q J B>KP QEB 4 2 QO>ABP PF J FI>O DLLAP TfQE LQEBO EFDE T>DB B@LKL J FBP IFHB ">K>A> )>M>K &B O J>KV >KA QEB 4KFQBA \*FKDAL J %LO FKPQ>K@B FK QEB 4 2 BUMLOQBA LSBO J FIIFLK @>OP COL J >II QEB J >GLO >RQL J >HBOP >KA >IPL F J MLOQBA PBSBO>I J FIIFLK @>OP COL J LQEBO @LRKQOFBP

, LPQ 4 2 TLOHBOP FK QEBPB FKARPQOFBP E>SB >?LSB >SBO>DB PHFIIP >KA T>DBP b >KA J>KV LC QEB J AL NRFQB TBII FK QEB TLOIA LC DIL?>fW>QLK 2L J B BSFABK@B PRDDBPQBA QE>Q FKQO> FKARPQOV QO>AB ?BQTB BK PF J FI>O @LRKQOFBP E>A > P J >II F J M>@Q LK AL J BPQf@ TLOHBOP ?RQ I>QBO BSFABK@B FKAF@>QBP QE>Q FQ >II ABMBKAP LK ELT CIBUF?IB QEB I>?LO J >OHBQ FP (K LQEBO TLOAP QEB HBV FP ELT CIBUF?IB TLOHBOP >OB FK CFKAFKD GL?P FK AFCCBOBKQ FKARPQOFBP 3EB BCCB@Q LC QO>AB LK ILT T>DB TLOHBOP ABMBKAP @LKPfABO>?IV LK QEB PQOR@QROB LC I>?LO J >OHBQ >KA FKAF@B@Q BCCB@QP CBIQ FK LQEBO M>OQP LC QEB B@LKL J V %LO BU> J MIB FK QEB 4KFQBA 2Q>QBP >KA QEB 4KFQBA \*FKDAL J ?B@>RBP I>?LO J >OHBQ COF@QLKFP >OB ILT QEB F J M>@Q LC QO>AB LK ILT FK@L J B TLOHBOP FP P J >II

2B@LKA J>KV ILT PHFIIBA 4 2 TLOHBOP ELIA PBOSF@B GL?P QE>Q F J MLOQP COL J ILT T>DB @LRKQOFBP @>KKLQ OBMI>@B %LO BU> J MIB TB @>KKLQ F J MLOQ I>TK @>OB PBOSF@BP LO J LSFKD >KA E>RIFKD PBOSF@BP LO ELQBI J >FAP COL J @LRKQOFBP ILKD AFPQ>K@BP >T>V IFHB "EFK> LO !>KDI>ABPE " L J MBQfQLK COL J F J MLOQBA MOLAR@QP FP KLQ QEB MOF J >OV ABQBO J FK>KQ LC QEBFO T>DBP

%FK>IIV TEFIB QEB CL@RP LC QEB AFP@RPPFLK EBOB FP LK T>DBP FQ FP TLOQE MLFKQFKD LRQ QE>Q ILT T>DB 4 2 TLOHBOP PRCCBO ARB QL MOLQ@QLKFP J FK >II QEB FKARPQOFBP b BSBK QELPB FK TEF@E QEBV AL KLQ TLOH %LO BU> J MIB CLLA >KA @ILQEFKD >OB MOLQ@QBA FKARPQOFBP 3EBPB ILT T>DB TLOHBOP QEBOB CLOB M>V EFDEBO MOF@BP CLO QEBPB ?>PF@ KB@BPPfQFBP >KA >P PR@E QEBFO ALII>O PQOB@EBP LSBO CBTBO DLLAP

3EB ?BKBCFQ >KA @LPQ LC FK@OB>PBA QO>AB FK QBO J P LC FQP BCCB@Q LK T>DBP >OB KLQ AFPQf?RQBA BSBKIV >@OLQP QEB B@LKL J V ' L TBSBO QEB DOLTQE LC FKQBOK>QLK>I QO>AB E>P EBIMBA QL O>FPB QEB MOLAR@QFSFV LC 4 2 TLOHBOP >P > TELIB b >KA QERP EBIMBA QL O>FPB QEB >SBO>DB IBSBI LC T>DBP

## \$45BE +G4A74E7F 4A7 / BE>A: BA7<G<BAF

6LOHBOP FK J>KV ILT FK@L J B @LRKQOFBP >OLRKA QEB TLOIA I>?LO RKABO @LKAfQLKFP QE>Q TLRIA ?B FIIBD>I CLO > TLOHBO FK QEB 4KFQBA 2Q>QBP 6LOHBOP FK @LRKQOFBP IFHB "EFK> 3E>FI>KA !>WFI 2LRQE COF@> >KA /LI>KA >OB LCQBK M>FA IBPP QE>K QEB 4KFQBA 2Q>QBP J FKF J R J T>DB %LO BU> J MIB FK QEB 4KFQBA 2Q>QBP QEB J FKF J R J T>DB FP MBO ELRO QVMF@>I T>DB FK J>KV ILT FK@L J B @LRKQOFBP J FDEQ ?B J LOB IFHB MBO A>V LO LCQBK J R@E IBPP , LOBLSBO TLOHFKD @LKAfQLKFP FK ILT FK@L J B @LRKQOFBP J >V ?B BUQOB J BIV RKMIB>P>KQ LO BSBK RKP>CB (K QEB TLOPQ @>PBP MOLAR@QLK J >V FKSLISB QEB @EFIA I>?LO LO BSBK TLOHBOP TEL >OB QOB>QBA KB>OIV IFHB PI>SBP 3EBPB @LK@BOKP LSBO CLOBFDK I>?LO PQ>KA>OAP AL KLQ >CCB@Q J LPQ LC 4 2 QO>AB TEF@E FP FKQO> FKARPQOV >KA @>OOFBA LRQ TfQE LQEBO EFDE FK@L J B @LRKQOFBP QE>Q E>SB I>?LO PQ>KA>OAP PF J FI>O QL QEB 4KFQBA 2Q>QBP ?RQ FQ FP KLKBQEBIBPP J LO>IIV >KA B@LKL J F@>IIV F J MLOQ>KQ

(K QEFKHFKD >?LRQ I->?LO PQ>KA>OAP FK LQEB0 @LRKQOFBP FQ FP F J MLOQ>KQ QL AO>T PL J B AFPQFK@QLKFP ?BQTB BK TE>Q FP QORIV  
RK>@BMQ>?IB >KA TE>Q FP M>FKCRI QL QEFKH >?LRQ , LPQ MBLMIB B@LKL J FPQP FK@IRABA E>SB IFQIB AFCCF@RIQV TFQE QEB FAB>  
QE>Q MOLAR@QLK ?V PFU VB>0 LIAP @LKCCKBA FK C>@QLOFBP LO ?V PI>SB I->?LO FP J LO>IIV RK>@BMQ>?IB 3EBV TLRIA PRMMLQ  
>DDOBPPFSB BCLLOP QL BIF J FK>QB PR@E MO>@QF@BP b FK@IRAFKD PERQFKD LRQ F J MLOQBA MOLAR@QP J >AB TFQE PR@E I->?LO , >KV  
>PBP ELTBSBO >OB IBPP @IB>0 @RQ K LMFKFLK >0QF@IB FK QEB New York Times PBSBO>I VB>OP >DL ABP@F@BA QEB @>PB LC  
E J BA 9F> > VB>0 LIA ?LV COL J />HFPQ>K ' B B>OKBA MBO A>V TLOHFKD FK > @>OMBQ C>@QLOV ' B AOLMBA LRQ LC  
P@ELLI FK PB@LKA DO>AB 2ELRIA QEB 4KFQBA 2Q>QBP >KA LQEB0 @LRKQOFBP OBCRPB QL MRO@E>PB ORDP J >AB ?V E J BA >KA EFP  
@L TLOHBOP (C QEB @>OMBQ C>@QLOFBP TBOB QL @ILPB QEB IFHBIV >IQBOK>QFSB GL? CLO E J BA FP C>0 J TLOH >KA >P E J BA  
P>VP LC EFP @>OMBQ TB>SFKD GL? e3EFP J >HBP J R@E J LOB J LKBV >KA FP J LOB @L J CLOQ>?IB f

. QEB0 TLOHBOP J >V E>SB BSBK IBPP >QO>@QFSB >IQBOK>QFSB GL?P MBOE>MP P@>SBKDFKD D>0?>DB LO MOLPQFQRQFLK 3EB OB>I  
MOL?IB J CLO E J BA >KA J >KV LQEBOP FK ILT FK@L J B @LRKQOFBP FP KLQ QE>Q DIL?>fW>QLK E>P J >AB QEBFO IFSBP TLOPB  
?RQ O>QEB0 QE>Q QEBV E>SB PL CBT DLLA IFCB >IQBOK>QFSBP 3EB 4KFQBA 2Q>QBP TBKQ QEOLRDE PF J FI>0 PFR>QLKFP AROFKD QEB  
KFKBQBBKQE >KA B>OIV QT BKQFBQE @BKQROFBP

(K @ILPFDK QEBOP FP PL J B FOLKV TEBK QEB 4KFQBA 2Q>QBP DLSBOK J BKQ LO 4 2 @FQFWBKP Q>HB FPPRB TFQE I->?LO PQ>KA>OAP  
FK ILT FK@L J B @LRKQOFBP ?B@>RBP QEB 4KFQBA 2Q>QBP FP KLQ > TLOIA IB>ABO FK DLSBOK J BKQ I>TP QL MOLQB@Q B J MILVBBP  
@LLOAFKD QL > OB@BKQ PQRVAV ?V QEB . OD>KFW>QLK CLO \$@LKL J F@ "LLMBO>QLK >KA #BSBILM J BKQ . \$"# QEB 4 2 FP  
QEB LKIV LKB LC @LRKQOFBP QE>Q ALBP KLQ MOLSFAB J >KA>QBA M>FA IB>SB CLO KBT M>OBKQP >KA > J LKD QEB @LRKQOFBP  
QE>Q AL J >KA>QB M>FA IB>SB QEB J FKF J R J ARO>QLK FP >?LRQ TTL J LKQEP , >KV \$R0LMB>K TLOHBOP OB@BFSB PFU TBBHP  
LO J LOB LC M>FA S>@>QLK MBO VB>0 (K QEB 4KFQBA 2Q>QBP S>@>QLKFP >OB LQCBK LKB QL QE0BB TBBHP MBO VB>0 (C \$R0LMB>K  
@LRKQOFBP >@>RPBA QEB 4KFQBA 2Q>QBP LC RPFKD RKC>FO I->?LO PQ>KA>OAP QL J >HB 4 2 MOLAR@QP @EB>MIV >KA >KCLR@BA  
QE>Q QEBV TLRIA PERQ LRQ >II 4 2 F J MLOQP RKQFI QEB 4KFQBA 2Q>QBP >ALMQBA M>FA M>OBKQ>I IB>SB >AABA J LOB K>QLK>I  
ELIFA>VP >KA ALR?IBA S>@>QLK QF J B J BOF@>KP TLRIA ?B LRQ>DBA 8BQ TEBK 4 2 MOLQB@QLKFPQP PQ>OQ Q>IHFKD >?LRQ  
OBPQOF@QFKD F J MLOQP COL J MLL0 @LRKQOFBP ?B@>RBP LC ILT T>DB IBSBIP >KA MLL0 TLOHFKD @LKAQFLKFP QEBV >OB J >HFKD >  
SBOV PF J FI>0 >ODR J BKQ 3EFP FP KLQ QL P>V QE>Q I->?LO @LKAQFLKFP FK ILT FK@L J B @LRKQOFBP >OB KLQ >K F J MLOQ>KQ FPPRB  
3EBV >OB ' LTBSBO IFKHFKD I->?LO @LKAQFLKFP FK ILT FK@L J B @LRKQOFBP QL QO>AB ABCIB@QP QEB B J ME>PFP COL J QEB OB>I  
NRBPQLK QL >PH e 6 E>Q >OB @>BMQ>?IB >KA BKCL0@B>?IB J FKF J R J I->?LO PQ>KA>OAP >KA MOLQB@QLKFP QL E>SB QEB TLOIA  
LSBO f

## N E:H@8AG<A +HCCBEG B9 \*8FG<6G<A: !@CBEGF

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK >KA >K>IVWB S>OFLRP >ODR J BKQP QE>Q >OB FK PRMMLQ LC OBPQOF@QFKD F J MLOQP FK@IRAFKD QEB FKC>KQ  
FKARPQOV >ODR J BKQ QEB >KQF AR J MFKD >ODR J BKQ QEB BKSFOLK J BKQ>I MOLQB@QLK >ODR J BKQ QEB RKP>CB  
@LKPR J BO MOLAR@QP >ODR J BKQ >KA QEB K>QLK>I FKQBOPQ >ODR J BKQ
- d \$UMI>FK AR J MFKD >KA O>@B QL QEB ?LQQL J
- d \$S>IR>QB QEB PFDKFCF>K@B LC @LRKQOFBPd MBO@BMQLKFP LK QEB ?BKBCFP LC DOLTFKD QO>AB

P TB MOBSFLRPV KLQBA MOLQB@QLKFP J OBNRFOBP AL J BPQF@ @LKPR J BOP LC > MOLAR@Q QL M>V EFDEBO MOF@BP QL ?BKBCFQ  
AL J BPQF@ MOLAR@BOP LC QE>Q MOLAR@Q "LRKQOFBP QE>Q FKPQFQRQB MOLQB@QLKFPQ MLIF@FBP ILPB QEB B@LKL J F@ D>FKP >@EFBSBA  
QEOLRDE > @L J ?FK>QLK LC @L J M>O>QFSB >AS>KQ>DB PMB@F>fWBA IB>OKFKD >KA B@LKL J FBP LC P@>IB 6 FQE QEBPB LSBO>II  
@LPPF FK J FKA IBQ RP KLT @LKPFABO LKB ?V LKB > KR J ?BO LC >ODR J BKQP QE>Q PRMMLQ OBPQOF@QFKD F J MLOQP

## , ; 8 !A94AG !A7HF&GEL E:H@8AG

(J >DFKB !ERQ>K T>KQP QL PQ>OQ FQP LTK @L J MRQBO FKARPQOV ?RQ FQ E>P KL @L J MRQBO CFO J P QE>Q @>K MOLAR@B >Q > ILT  
BKLRDE MOF@B >KA EFDE BKLRDE NR>fQV QL @L J MBQF FK TLOIA J >OHBQP ' LTBSBO !ERQ>KBPB MLIF@F>KP ?RPFKBPB IB>ABOP  
>KA TLOHBOP ELMB QE>Q FC QEB IL>I FKARPQOV E>A > @E>K@B QL DBQ BPQ>?IFPEBA ?BLOB FQ KBBABA QL C>@B FKQBOK>QLK>I  
@L J MBQFQLK QEBK > AL J BPQF@ @L J M>KV LO DOLRM LC @L J M>KFBP @LRIA ABSBILM QEB PHFIIP J >K>DB J BKQ QB@EKLILDV >KA  
B@LKL J FBP LC P@>IB QE>Q FQ KBBAP QL ?B@L J B > PR@>BPPCRI MOLCFQ B>OKFKD AL J BPQF@ FKARPQOV 3ERP QEB FKC>KQ FKARPQOV  
>ODR J BKQ CLO MOLQB@QLKFP J FP QL ?IL@H F J MLOQP CLO > IF J FQBA QF J B QL DFSB QEB FKC>KQ FKARPQOV QF J B QL J >QROB ?BLOB FQ  
PQ>OQP @L J MBQFKD LK BNR>I QBO J P FK QEB DIL?>I B@LKL J V 1BSFPFQ %46EB86BAB@<6 (B?6L EBHA7 G ; 8 / BE?7 CLO  
J LOB FKCL0 J >QLK LK QEB FKC>KQ FKARPQOV >ODR J BKQ

3EB FKC>KQ FKARPQOV >ODR J BKQ FP QEBLOBQF@>IIV MLPPF?IB BSBK PBKPF?IB DFSB >K FKARPQOV >PELOQ QBO J FKAFOB@Q PR?PFAV

QEOLRDE MOLQB@QFLK >KA QEBK OB>M QEB ILKD QBO J B@LKL J F@ ?BKBCFP LC E>SFKD > SF?O>KQ EB>IQEV FKARPQOV ( J MIB J BKQ>QFLK ELTBSBO FP QOF@HV (K J >KV @LRKQOFBP FK>KQ FKARPQOFBP E>SB DLKB COL J ?>?VELLA QL PBKFIQV >KA L?PLIBP@BK@B TFQELRQ BSBO E>SFKD OB>@EBA QEB MOLCFQ>?IB J>QRQFV PQ>DB , B>KTEFIB QEB MOLQB@QFLKFP J QE>Q T>P PRMMLPBA QL ?B PELOQ QBO J LCQBK QLLH > SBOV ILKD QF J B QL ?B OBMB>IBA

P LKB BU> J MIB ! O>WEI QOB>QBA FQP @L J MRQBO FKARPQOV >P >K FK>KQ FKARPQOV COL J QEB I>QB P RKQFI >?LRQ (K >K >QB J M QL BP>?IFPE FQP @L J MRQBO FKARPQOV FK QEB DIL?>I B@LKL J V ! O>WEI I>ODBIV ?>OBA F J MLOQP LC @L J MRQBO MOLAR@QP CLO PBSBO>I AB>ABP 3EFP MLIF@V DR>O>KQBBA FK@OB>PBA P>IBP CLO ! O>WFI>K @L J MRQBOP ' LTBSBO ?V QEB J FA P ARB QL I>@H LC FKQBOK>QFLK>I @L J MBQFQFLK ! O>WEI E>A > ?>@HT>OA >KA LRQ LC A>QB FKARPQOV QVMF@>IIV I>DDFKD ?BEFKA TLOIA PQ>KA>OAP CLO MOF@B >KA MBOCLO J >K@B ?V QEObB QL CFSB VB>OP b > ILKD QF J B FK QEFP C>PQ J LSKD FKARPQOV CQBO J LOB QE>K > AB>AB AROFKD TEF@E ! O>WFI>K @LKPR J BOP >KA FKARPQOFBP QE>Q TLRIA E>SB ?BKBCFQBA COL J RM QL A>QB @L J MRQBOP M>FA QEB @LPQP >KA ! O>WFI@P @L J MRQBO FKARPQOV KBSBO @L J MBQBA BCCB@QFSBIV LK TLOIA J >OHBQP ! O>WEI ME>PBA LRQ FQP FK>KQ FKARPQOV MLIF@V CLO QEB @L J MRQBO FKARPQOV

/OLQB@QFLKFP J CLO FK>KQ FKARPQOFBP >IT>VP F J MLPBP @LPQP LK AL J BPQF@ RPBOP LC QEB MOLAR@Q >KA QVMF@>IIV E>P MOLSFABA IFQIB ?BKBCFQ FK QEB CLO J LC PQOLKDBO @L J MBQFQFSB FKARPQOFBP ' LTBSBO PBSBO>I @LRKQOFBP FK \$>PQ PF> LCCBO >K BU@BMQFLK )>M>K \*LOB> 3E>FI>KA >KA LQEB @LRKQOFBP FK QEFP OBDFLK E>SB PL J BQF J BP MOLSFABA > M>@H>DB LC FKAFOB@Q >KA AFOB@Q PR?PFAFBP Q>ODBQBA >Q @BOQ>FK FKARPQOFBP FK@IRAFKD MOLQB@QFLK COL J CLOBFDK @L J MBQFQFLK >KA DLSBOK J BKQ IL>KP >Q FKQBOPQ O>QB ?BILT QEB J >OHBQ BNRFI?>OFR J (K )>M>K >KA \*LOB> CLO BU> J MIB PR?PFAFBP EBIMBA DBQ QEBFO AL J BPQF@ PQBBI >KA >RQL FKARPQOFBP RM >KA ORKKFKD

6 EV AFA QEB FK>KQ FKARPQOV MLIF@V LC MOLQB@QFLKFP J >KA LQEB PR?PFAFBP TLOH C>FOIV TBII FK \$>PQ PF> K B>OIV 6 LOIA ! >KH PQRVAV LCCBOBA QEObB DRFABIFKBP QL @LRKQOFBP QEFKHKD >?LRQ FK>KQ FKARPQOV MOLQB@QFLK

#L KLQ E>KA LRQ MOLQB@QFLKFP J >KA LQEB PR?PFAFBP QL >II FKARPQOFBP ?RQ CL@RP LK > CBT FKARPQOFBP TEBOB VLRO @LRKQOV E>P > OB>IFPQF@ @E>K@B QL ?B > TLOIA @I>PP MOLAR@BO

! B SBOV EBPQ>KQ >?LRQ RPFKD MOLQB@QFLKFP J FK >OB>P IFHB @L J MRQBOP TEBOB J >KV LQEB FKARPQOFBP OBIV LK E>SFKD QEB ?BPQ MOLAR@QP >S>FI>?IB ?B@>RPB FQ FP KLQ RPBQRI QL EBIM LKB FKARPQOV ?V F J MLPFKD EFDE @LPQP LK J >KV LQEB FKARPQOFBP

' >SB @IB>O DRFABIFKBP CLO TEBK QEB FK>KQ FKARPQOV MLIF@V TFII BKA

(K \*LOB> FK QEB P >KA P > @L J J LK MO>QF@B T>P QL IFKH MOLQB@QFLKFP J >KA PR?PFAFBP QL BUMLOQ P>IBP FK DIL?>I J >OHBQP (C BUMLOQ P>IBP OLPB QEBK QEB FK>KQ FKARPQOV E>A PR@BBABA >KA QEB DLSBOK J BKQ @LRIA ME>PB LRQ MOLQB@QFLKFP J (C BUMLOQ P>IBP AFA KLQ OFPB QEBK QEB FK>KQ FKARPQOV MLIF@V E>A C>FIBA >KA QEB DLSBOK J BKQ @LRIA ME>PB LRQ MOLQB@QFLKFP J \$FQEB T>V QEB MOLQB@QFLKFP J TLRIA ?B Q B J MLO>OV

%LILTFKD QEBPB ORIBP FP B>PFB P>FA QE>K ALKB /LIF@P LCQBK FKQORABP ?LQE FK @ELLPFKD TEF@E FKARPQOFBP TFII OB@BFSB QEB ?BKBCFP LC QOB>Q J BKQ >P eFK>KQPF >KA TEBK QL ME>PB LRQ F J MLOQ OBPQF@QFLKFP >KA LQEB PR?PFAFBP IPL FC QEB @LRKQOV P DLSBOK J BKQ TFPEBP QL F J MLPB @LPQP LK FQP @FQFWBKP PL QE>Q FQ @>K MOLSFAB PR?PFAFBP QL > CBT HBV FKARPQOFBP FQ E>P J >KV QLLIP CLO ALFKD PR@E >P AFOB@Q DLSBOK J BKQ M>V J BKQP IL>KP Q>ODBQBA Q>U OBAR@QFLKFP >KA DLSBOK J BKQ PRMMLQ LC OBPB>O@E >KA ABSBILM J BKQ LC KBT QB@EKLILDFBP (K LQEB TLOAP MOLQB@QFLKFP J FP KLQ QEB LKIV LO BSBK QEB ?BPQ T>V QL PRMMLQ HBV FKARPQOFBP

# Link It Up

6FPQ QEFP TB?PQ@B EQQM LMBKPQ>U@LIIBDB LOD I FKQBDQ>QFLK QL S@BT > MOBPBKQ>QFLK ?V O>KH>6 ' EB J >T>Q NRBPQFLKFKD ELT FKQBDQ>QBA QEB TLOIA OB>IIV FP

## , ; 8 AG< H@C<A: E:H@8AG

**Dumping** OBBCOP QL PBIIFKD DLLAP ?BILT QEBFO @LPQ LC MOLAR@QLK **Anti-dumping laws** ?IL@H F J MLOQP QE>Q >OB PLIA ?BILT QEB @LPQ LC MOLAR@QLK ?V F J MLPFKD Q>OFCCP QE>Q FK@OB>PB QEB MOF@B LC QEBPB F J MLOQP QL OBCIB@Q QEBFO @LPQ LC MOLAR@QLK 2FK@B AR J MFKD FP KLQ >IILTBA RKABO 6LOIA 30>AB .OD>KFW>QLK 6 3 . ORIBP K>QLKQ QE>Q ?BIFBSB QEBV >OB LK QEB OB@BFSFKD BKA LC AR J MBA DLLAP @>K CFIB > @L J MI>FKQ TFQE QEB 6 3 . KQF AR J MFKD @L J MI>FKQ E>SB OFPBK FK OB@BKQ VB>OP COL J >?LRQ @>PBP MBO VB>O FK QEB I>QB P QL >?LRQ KBT @>PBP B>@E VB>O ?V QEB I>QB P - LQB QE>Q AR J MFKD @>PBP >OB @LRKQB@V@IF@>I #ROFKD OB@BPPFLKP @>PB CFIFKDP FK@OB>PB #ROFKD B@LKL J F@ ?LL J P @>PB CFIFKDP DL ALTK (KAFSFAR>I @LRKQOFBP E>SB >IPL COBNRBKQIV P>OQBA QEBFO LTK >KQF AR J MFKD FKSBPQFD>QLK 3EB 4 2 DLSBOK J BKQ E>P ALWBKP LC >KQF AR J MFKD LOABOP FK MI>@B COL J M>PQ FKSBPQFD>QLK (K CLO BU> J MIB PL J B 4 2 F J MLOQP QE>Q TBOB RKABO >KQF AR J MFKD LOABOP FK@IRABA M>PQ> COL J 3ROHBV PQBBI MFMB CFQFKDP COL J 3E>FI>KA MOBPPROB PBKPFQFSB MI>PQF@ Q>MB COL J (Q>IV MOBPOBSBA J RPEOLL J P >KA IFKBA M>MBO MOLAR@QP COL J (KAF> >KA @RQ QL IBKDQE @>?LK PQBBI >KA KLK COLWBK >MMIB GRF@B @LK@BKQ>QB COL J "EFK>

### Why Might Dumping Occur?

6 EV TLRIA CLOBFDK CFO J P BUMLOQ > MOLAR@Q >Q IBPP QE>K FQP @LPQ LC MOLAR@QLK b TEF@E MOBPR J >?IV J B>KP Q>HFKD > ILPP 3EFP NRBPQLK E>P QTL MLPPF?IB >KPTBOP LKB FKKL@BKQ >KA LKB J LOB PFKFPQBO

3EB FKKL@BKQ BUMI>K>QLK FP QE>Q AB J >KA >KA PRMMIV PBQ J >OHBQ MOF@BP KLQ QEB @LPQ LC MOLAR@QLK /BOE>MP AB J >KA CLO > MOLAR@Q PEFQCP ?>@H QL QEB IBCQ LO PRMMIV PEFQCP LRQ QL QEB OFDEQ TEF@E AOFSPB QEB J >OHBQ MOF@B QL ILT IBSBIP b BSBK ?BILT QEB @LPQ LC MOLAR@QLK 6 EBK > IL@>I PQL@E >P > DLFKD LRQ LC ?RPFKBP P>IB CLO BU> J MIB FQ J >V PBII DLLAP >Q ?BILT QEB @LPQ LC MOLAR@QLK (C FKQBOK>QLK>I @L J M>KFBP CFKA QE>Q QEBOP FP BU@BPP PRMMIV LC PQBBI LO @L J MRQBO @EFMP LO J >@EFKB QLLIP QE>Q FP AOFSEKD QEB J >OHBQ MOF@B ALTK ?BILT QEBFO @LPQ LC MOLAR@QLK b QEFP J >V ?B QEB J >OHBQ FK >@QLK

3EB PFKFPQBO BUMI>K>QLK FP QE>Q AR J MFKD FP M>OQ LC > ILKD QBO J PQ>QBDV %LOBFDK CFO J P PBII DLLAP >Q MOF@BP ?BILT QEB @LPQ LC MOLAR@QLK CLO > PELOQ MBOFLA LC QF J B >KA TEBK QEBV E>SB AOFSPB LRQ QEB AL J BPQF@ 4 2 @L J MBQFQLK QEBV QEBK O>FPB MOF@BP \$@LKL J FPQ PL J BQF J BP @>II QEFP P@BK>OFL MOBA>QLOV MOF@FKD TEF@E TB AFP@RPP FK QEB %BACB?L ;GGC 6AK BE: 6BA8AG @ ?4G8FG @E>M@B0

### Should Anti-Dumping Cases Be Limited?

KQF AR J MFKD @>PBP MLPB QTL NRBPQLK 'LT J R@E PBKPB AL QEBV J >HB FK B@LKL J F@ QEBLOV 'LT J R@E PBKPB AL QEBV J >HB >P MQ>@QF@>I MLIF@V

(K QBO J P LC B@LKL J F@ QEBLOV QEB @>PB CLO >KQF AR J MFKD I>TP FP TB>H (K > J >OHBQ DLSBOKBA ?V AB J >KA >KA PRMMIV QEB DLSBOK J BKQ ALBP KLQ DR>O>KQB QEB>Q CFO J P TFIH ?B >?IB QL J >HB > MOLCFQ CQBO >II ILT MOF@BP >OB AFCCF@RIQ CLO MOLAR@BOP ?RQ ?BKBCF@ @LKPR J BOP , LOBLSBO >IQELRDE QEBOB >OB MIBKQV LC @>PBP FK TEF@E CLOBFDK MOLAR@BOP E>SB AOFSPB LRQ AL J BPQF@ CFO J P QEBOB >OB WBOL AL@R J BKQBA @>PBP FK TEF@E QEB CLOBFDK MOLAR@BOP QEBK G>@HBA RM MOF@BP (KQ>A CLOBFDK MOLAR@BOP QVMF@>IIV @LKQFKRB @L J MBQFKD E>OA >D>FKP B>@E LQEBO >KA MOLSFAFKD ILT MOF@BP QL @LKPR J BOP (K PELOQ FQ FP AFCCF@RIQ QL CFKA BSFABK@B LC MOBA>QLOV MOF@FKD ?V CLOBFDK CFO J P BUMLOQFKD QL QEB 4KFQBA 2Q>QBP

\$SBK FC LKB @LRIA J >HB > @>PB QE>Q QEB DLSBOK J BKQ PELRIA PL J BQF J BP BK>@Q >KQF AR J MFKD ORIBP FK QEB PELOQ QBO J >KA QEBK >IILT COBB QO>AB QL OBPR J B PELOQIV QEBOB>CQBO QEBOB FP > DOLTFKD @LK@BOK QE>Q >KQF AR J MFKD FKSBPQFD>QLK LPQBK FKSLSB J LOB MLIFQF@P QE>K @>OBCRI >K>IVPP 3EB 4 2 "L J J B@B #BM>OQ J BKQ FP @E>ODBA TFQE @>I@RI>QFKD QEB >MMOLMOF>QB e@LPQ LC MOLAR@QLK f TEF@E @>K ?B >P J R@E >K >OQ >P > P@FBK@B

%LO BU> J MIB FC > @L J M>KV ?RFIQ > KBT C>@QLOV QTL VB>OP >DL PELRIA FQ @LRKQ M>OQ LC QEB C>@QLOV@P @LPQ FK QEFP VB>O@P @LPQ LC MOLAR@QLK 6 EBK > @L J M>KV FP FK > @LRKQV TEBOB QEB DLSBOK J BKQ @LKQOLIP MOF@BP IFHB "EFK> CLO BU> J MIB ELT @>K LKB J B>PROB QEB QORB @LPQ LC MOLAR@QLK 6 EBK > AL J BPQF@ FKARPQOV @L J MI>FKP ILRAIV BKL RDE DLSBOK J BKQ OBDRI>QLOP PBB J SBOV IFHBIV QL CFKA QE>Q RKC>FO AR J MFKD E>P L@>ROOBA @L J J LK M>QQBOK E>P >OFPBK TEBOB > AL J BPQF@ FKARPQOV CFIBP >K >KQF AR J MFKD @L J MI>FKQ QEB DLSBOK J BKQ J BBQ >KA KBDLQF>QB > OBAR@QLK FK F J MLOQP >KA QEBK QEB AL J BPQF@ MOLAR@BOP AOLM QEB >KQF AR J MFKD PRFQ (K PR@E @>PBP >KQF AR J MFKD @>PBP LCQBK >MMB>O QL ?B IFQIB J LOB QE>K > @LSBO PQL@V CLO F J MLPFKD Q>OFCCP LO F J MLOQP NRLQ>P

(K QEB P QEB 4KFQBA 2Q>QBP ">K>A> QEB \$ROLMB>K 4KFLK RPQO>IF> >KA -BT 9B>I>KA F J MIB J BKQBA >I J LPQ >II QEB >KQF AR J MFKD @>PBP !V QEB P @LRKQOFBP IFHB ODBKQFK> !O>WFI 2LRQE \*LOB> 2LRQE COF@> , BUF@L >KA (KAF> TBOB CFIFKD QEB J >GLOFQV LC QEB >KQF AR J MFKD @>PBP ?BCLOB QEB 6 3 . P QEB KR J ?BO LC >KQF AR J MFKD @>PBP E>P FK@OB>PBA >KA >P @LRKQOFBP PR@E >P QEB 4KFQBA 2Q>QBP >KA QEB \$ROLMB>K 4KFLK CBBI Q>ODQBA ?V QEB >KQF AR J MFKD >@QLK LC LQEBOP QEB 6 3 . J >V TBII MOLMLPB PL J B >AAFQFLK>I DRFAFIBKBP QL IF J FQ QEB OB>@E LC >KQF AR J MFKD I>TP



### , ;8 AI<EBA@8AG4? (EBG86G<BA E :H@8AG

3EB MLQBKF>I CLO DIL?>I QO>AB QL >CCB@Q QEB BKSFOLK J BKQ E>P ?B@L J B @LTKQLSBOFP>I MOBPFABKQ LC QEB 2FB00> " IR? >K BKSFOLK J BKQ>I IL??VFKD LOD>KFW>QLK LK@B TOLQB e3EB @LKPBNRBK@BP LC DIL?>fW>QLK CLO QEB BKSFOLK J BKQ >OB KLQ DLLA h &IL?>fW>QLK FC TB >OB IR@HV TFII O>FPB >SBO>DB FK@L J BP BKL RDE QL M>V CLO @IB>KFKD RM PL J B LC QEB J BPP QE>Q TB E>SB J >AB !RQ ?BCLQB TB DBQ QEBQB DIL?>fW>QLK @LRIA >IPL ABPQOLV BKL RDE LC QEB MI>KBQDP ?>PF@ ?FLILDf@>I >KA MEVPf@>I PVPQB J P QE>Q MOLPMB@QP CLO IFCB FQP BIC TFII ?B O>AF@>IIV @L J MOL J FPBA f

(C COBB QO>AB J B>KQ QEB ABPQOR@QLK LC IFCB FQP BIC QEBK BSBK B@LKL J FPQ TLRIA @LKSBOQ QL MOLQB@QLKFP J 6 EFIB DIL?>fW>QLK b >KA B@LKL J f@ >@QFSFQV LC >II HFKA P b @>K MLPB BKSFOLK J BKQ>I A>KDBOP FQ PBB J P NRFQB MLP PPF?IB QE>Q TFQE QEB >MMOLMOF>QB P>CBDR>OAP FK MI>@B TB @>K J FKF J FWB QEB BKSFOLK J BKQ>I F J M>@QP LC QO>AB (K PL J B @>PBP QO>AB J >V BSBK ?OFKD BKSFOLK J BKQ>I ?BKB CFQ

(K DBKB>I EFDE FK@L J B @LRKQOFBP PR@E >P QEB 4KFQBA 2Q>QPB ">K>A> )>M>K >KA QEB K>QLK LC QEB \$R0LMB>K 4KFLK E>SB OBI>QFSBIV PQOF@Q BKSFOLK J BKQ>I PQ>KA>OAP (K @LTKQ>PQ J FAAIB >KA ILT FK@L J B @LRKQOFBP IFHB !O>WFI -FDBOF> (KAF> >KA "EFK> E>SB ILTBO BKSFOLK J BKQ>I PQ>KA>OAP 3EB DBKB>I SFBT LC QEB DLSBOK J BKQ LC PR@E @LRKQOFBP FP QE>Q BKSFOLK J BKQ>I MOLQB@QLK FP > IRUROV >P PLLK >P QEBFO MBLMIB E>SB BKL RDE QL B>Q AB@BKQ EB>IQE@>OB >KA ILKDBO IFCB BUMB@>K@FBP QEBK QEBV TFII PMBKA J LOB J LKVB LK FQB J P PR@E >P PBT>DB QOB>Q J BKQ MI>KQP P@OR?>BOP QL OBAR@B >FO MLIIRQLK COL J C>@QLOV P J LHBPQ>@HP >KA K>QLK>I M>OHP QL MOLQB@Q TFIAIFCB

3EFP D>M FK BKSFOLK J BKQ>I PQ>KA>OAP ?BQ TBBK EFDE FK@L J B >KA ILT FK@L J B @LRKQOFBP O>FPBP QTL TLOOFPL J B MLP PPF?FIQFBP FK > TLOIA LC FK@QB>PFKD DIL?>I QO>AB QEB eO>@B QL QEB ?LQL J f P@BK>OFL >KA QEB NRB@PFLK LC ELT NRF@HIV BKSFOLK J BKQ>I PQ>KA>OAP TFII F J MOLSB FK ILT FK@L J B @LRKQOFBP

### The Race to the Bottom Scenario

3EB race to the bottom P@BK>OFL LC DIL?>I BKSFOLK J BKQ>I ABDO>A>QLK ORKP IFHB QEFP /OLCFQ PBBHFKD J RIQFK>QLK>I @L J M>KFBP PEFQ QEBFO MOLAR@QLK COL J @LRKQOFBP TFQE PQOLKD BKSFOLK J BKQ>I PQ>KA>OAP QL @LRKQOFBP TFQE TB>H PQ>KA>OAP QERP OBAR@FKD QEBFO @LPQP >KA FK@OB>PFKD QEBFO MOLCFQP %>@BA TFQE PR@E ?BE>SFLQ @LRKQOFBP OBAR@B QEBFO BKSFOLK J BKQ>I PQ>KA>OAP QL >QO>@Q J RIQFK>QLK>I CFO J P TEF@E >CQB >II MOLSFAB GL?P >KA B@LKL J f@ @ILRQ P > OBPRIQ DIL?>I MOLAR@QLK ?B@L J BP @LK@BKQ>QBA FK @LRKQOFBP TEBQB CFO J P @>K MLIIRQB QEB J LPQ >KA BKSFOLK J BKQ>I I>TP BSOVTEBOB eO>@B QL QEB ?LQL J f

IQELRDE QEB O>@B QL QEB ?LQL J P@BK>OFL PLRKAP MI>RPF?IB FQ ALBP KLQ >MMB>O QL ABP@OF?B OB>IFQV (K C>@Q QEB CFK>K>F>I FK@BKQFSB CLO CFO J P QL PEFQ MOLAR@QLK QL MLLQ @LRKQOFBP QL Q>HB >AS>KQ>DB LC QEBFO TB>HBO BKSFOLK J BKQ>I ORIP ALBP KLQ PBB J BPMB@F>IIV MLTBQCRI 6 EBK CFO J P AB@FAB TEBQB QL IL>@QB > KBT C>@QLOV QEBV ILLH >Q J >KV AFCCBOBKQ C>@QLQO QEB @LPQP LC I>?LO >KA CFK>K>F>I @>MFQ>I TEBQEBO QEB IL>@QLK FP @ILPB QL > OBIF>?IB PRMMIFBOP LC QEB FKMRQP QE>Q QEBV KBBA TEBQEBO QEB IL>@QLK FP @ILPB QL @RPL J BOP QEB NR>IFQV LC QO>KPMLOQ>QLK @L J J RKF@>QLK >KA BIB@QOF>I MLTBO KBQ TLOHP QEB IBSBI LC Q>UBP >KA QEB @L J MBQBK@B >KA ELKBPQV LC QEB IL>@I DLSBOK J BKQ 3EB @LPQ LC BKSFOLK J BKQ>I OBDRI>QLK FP > C>@QLQ LQL ?RQ QVMF@>IIV BKSFOLK J BKQ>I @LPQP >OB KL J LOB QE>K QL LC QEB @LPQP QE>Q > I>ODB FKARPQOF>I MI>KQ C>@BP 3EB LQEBO C>@QLQO QE>Q ABQBO J FKB IL>@QLK >OB J R@E J LOB F J MLOQ>KQ QL QEBPB @L J M>KFBP QE>K QOVFKD QL PHF J M LK BKSFOLK J BKQ>I MOLQB@QLK @LPQP

6 EBK >K FKQBOK>QLK>I @L J M>KV ALBP @ELLPB QL ?RFIA > MI>KQ FK > ILT FK@L J B @LRKQOV TFQE I>U BKSFOLK J BKQ>I I>TP FQ QVMF@>IIV ?RFIAP > MI>KQ PF J FI>O QL QELPB QE>Q FQ LMBQ>QBP FK EFDE FK@L J B @LRKQOFBP TFQE PQOF@QB BKSFOLK J BKQ>I PQ>KA>OAP />OQ LC QEB OB>PLK CLO QEFP AB@FPFLK FP QE>Q ABPFDKFKD >K FKARPQOF>I MI>KQ FP > @L J MIBU >KA @LPQIV Q>PH >KA PL FC > MI>KQ TLOHP TBII FK > EFDE FK@L J B @LRKQOV @L J M>KFBP MOBCBO QL RPB QEB P> J B ABPFDK BSOVTEBOB IPL @L J M>KFBP OB>fWFB QE>Q FC QEBV @OB>QB >K BKSFOLK J BKQ>I AFP>PQBO FK > ILT FK@L J B @LRKQOV FQ FP IFHBIV QL @LPQ QEB J > PR?PQ>KQF>I > J LRKQ LC J LKVB FK M>VFKD CLO A> J >DBP ILPQ QORPQ >KA OBAR@BA P>IBP b ?V ?RFIAFKD RM QL A>QB MI>KQP BSOVTEBOB QEBV J FKF J FWB PR@E OFPH P > OBPRIQ LC QEBPB C>@QLQO CLOBFDK LTKBA MI>KQP FK ILT FK@L J B @LRKQOFBP LCQBK E>SB > ?BQQBO OB@LOA LC @L J MIF>K@B TFQE BKSFOLK J BKQ>I I>TP QE>K AL IL>@IIV LTKBA MI>KQP

### Pressuring Low-Income Countries for Higher Environmental Standards

(K PL J B @>PBP QEB FPPRB FP KLQ PL J R@E TEBQEBO DIL?>fW>QLK TFII MOBPPROB ILT FK@L J B @LRKQOFBP QL OBAR@B QEBFO BKSFOLK J BKQ>I PQ>KA>OAP ?RQ FKPQB>A TEBQEBO QEB QEOB>Q LC ?IL@HFKD FKQBOK>QLK>I QO>AB @>K MOBPPROB QEBPB @LRKQOFBP FKQL >ALMQFKD PQOLKDBO PQ>KA>OAP %LO BU> J MIB OBPQOF@QLK LK FLSOV F J MLOQP FK EFDE FK@L J B @LRKQOFBP >ILKD TFQE PQOLKDBO DLSBOK J BKQ BCCLOQP QL @>Q@E BIBME>KQ ML>@EBOP E>SB ?BBK @OBAFQBA TFQE EBIMFKD QL OBAR@B QEB FIIBD>I ML>@EFKD LC BIBME>KQP FK @BOQ>FK COF@>K @LRKQOFBP

' LTBSBO FQ TLRIA ?B EFDEIV RKAB J L@>QF@ CLO QEB TBII CBA @FQFWBKP LC EFDE FK@L J B @LRKQOFBP QL >QJB J MQ QL AF@Q>QB QL QEB FII CBA @FQFWBKP LC ILT FK@L J B @LRKQOFBP TE>Q AL J BPQ@M LIF@FBP >KA MOFLOFQFBP QEBV J RPQ >ALMQ LO ELT QEBV

PELRIA ?>I>K@B BKSFOLK J BKQ>I DL>IP >D>FKPQ LQEBQ MOFLOQFQBP CLO QEBFO @FQFWBKP %ROQEBO J LOB FC EFDE FK@L J B @LRKQOFBP T>KQ PQOLKDBO BKSFOLK J BKQ>I PQ>KA>OAP FK ILT FK@L J B @LRKQOFBP QEBV E>SB J >KV LMQFLK LQEBQ QE>K QEB QEBO>Q LC MOLQB@QLKFP J %LO BU> J MIB EFDE FK@L J B @LRKQOFBP @LRIA M>V CLO >KQF MLIIRQLK BNRFM J BKQ FK ILT FK@L J B @LRKQOFBP LO @LRIA EBIM QL M>V CLO K>QLK>I M>OHP ' FDE FK@L J B @LRKQOFBP @LRIA EBIM M>V CLO >KA @>OQV LRQ QEB P@FBKQFCF@ >KA B@LKL J F@ P@RAFQBP QE>Q TLRIA EBIM BKSFOLK J BKQ>IFPQ FK ILT FK@L J B @LRKQOFBP QL J >HB > J LOB MBOPR>PFSB @>PB CLO QEB B@LKL J F@ ?BKBCFP LC MOLQB@QFKD QEB BKSFOLK J BKQ

COBO >II BKSFOLK J BKQ>I MOLQB@QLK FP SFQ>I QL QTL FKARPQOFBP LC HBV FJ MLOQ>K@B FK J >KV ILT FK@L J B @LRKQOFBP b >DOF@RIQROB >KA QLROFP J \$KSFOLK J BKQ>I >ASL@>QBP @>K PBQ RM PQ>KA>OAP CLO I>?BIFKD MOLAR@QP IFHB eQEPF QRK> @>RDEQ FK > KBQ QE>Q HBMQ ALIMEFKP P>CBF LO eQEPF MOLAR@Q J >AB LKIV TFQE TLLA KLQ Q>HBK COL J O>FKCLOBPQ f PL QE>Q @LKPR J BO MOBPPROB @>K OBFKCLQ@B BKSFOLK J BKQ>IFPQ S>IRBP 3EB 4KFQBA ->QLKQ >IPL OBFKCLQ@BP QEBPB S>IRBP ?V PMLKPLQFKD QOB>QFQP QL >AAOBPP FPPRBP PR@E >P @IF J >QB @E>KDB >KA DIL?>I T>O J FKD QEB MOBPPBS>QLK LC ?FLAFSBOFPQV QEB PMOB>A LC ABPBOQP >KA QEB BKSFOLK J BKQ>I EB>IQE LC QEB PB>?BA "LRKQOFBP QE>Q PE>OB > K>QLK>I ?LOABO LO >OB TFQEFK > OBDFLK LC@BK PFDK BKSFOLK J BKQ>I >DOBB J BKQP >?LRQ >FO >KA T>QBO OFDEQP QLL 3EB 6 3 . FP >IPL ?B@L J FKD J LOB >T>OB LC BKSFOLK J BKQ>I FPPRBP >KA J LOB @>BCRI >?LRQ BKPROFKD QE>Q FK@OB>PBP FK QO>AB AL KLQ FKCF@Q BKSFOLK J BKQ>I A> J >DB %FK>IIV KLQB QE>Q QEBPB @LK@BOKP >?LRQ QEB O>@B QL QEB ?LQQL J LO MOBPPROFKD ILT FK@L J B @LRKQOFBP CLO J LOB PQOF@Q BKSFOLK J BKQ>I PQ>KA>OAP AL KLQ >MMIV SBOV TBII QL QEB OLRDEIV E>IC LC >II 4 2 QO>AB QE>Q L@@ROP TFQE LQEBQ EFDE FK@L J B @LRKQOFBP , >KV \$ROLMB>K @LRKQOFBP E>SB PQOF@QBO BKSFOLK J BKQ>I PQ>KA>OAP FK @BOQ>FK FKARPQOFBP QE>K QEB 4KFQBA 2Q>QBP

;, ; 8 - AF498 BAFH@8E (EB7H6GF E : H@8AG

. KB >ODR J BKQ CLO PERQFKD LRQ @BOQ>FK FJ MLOQBA MOLAR@QP FP QE>Q QEBV >OB RKP>CB CLO @LKPR J BOP "LKPR J BO OFDEQP DOLRMP E>SB PL J BQF J BP T>OKBA QE>Q QEB 6 LOIA 3O>AB . OD>KFW>QLK TLRIA OBNRFOB K>QLKQ QL OBAR@B QEBFO EB>IQE >KA P>CBQV PQ>KA>OAP CLO F J MLOQBA MOLAR@QP ' LTBSBO QEB 6 3 . BUMI>FKP FQP @ROOBKQ >DOBB J BKQ LK QEB PR>GB@Q FK QEPF T>V e(Q >IILTP @LRKQOFBP QL PBQ QEBFO LTK PQ>KA>OAP f (Q >IPL P>VP eOBDR>QLK J RPQ ?B ?>PBA LK P@FBK@B KA QEBV PELRIA KLQ >O?FQO>OFIV LO RKGRPQCF?>IV AFP@OF J FK>QB ?BQTBK @LRKQOFBP TEBQB FABKQF@>I LO PF J FI>O @LKAFLKFP MOBS>FI f 3ERP CLO BU> J MIB RKABO 6 3 . ORIBP FQ FP MBOCB@QIV IBDQF J >QB CLO QEB 4KFQBA 2Q>QBP QL M>PP I>TP OBNRFOFKD QE>Q all CLLA MOLAR@QP LO @>OP PLIA FK QEB 4KFQBA 2Q>QBP J BBQ @BOQ>FK P>CBQV PQ>KA>OAP >MMOLSBA ?V QEB 4KFQBA 2Q>QBP DLSBOK J BKQ TEBQEBO LO KLQ LQEBQ @LRKQOFBP @ELLPB QL M>PP PF J FI>O PQ>KA>OAP ' LTBSBO PR@E PQ>KA>OAP J RPQ E>SB PL J B P@FBKQFCF@ ?>PFP (Q FP F J MOLMBO QL F J MLPB LKB PBQ LC EB>IQE >KA P>CBQV PQ>KA>OAP CLO AL J BPQF@>IIV MOLAR@BA DLLAP ?RQ > AFCCBOBKQ PBQ LC PQ>KA>OAP CLO F J MLOQP LO LKB PBQ LC PQ>KA>OAP CLO F J MLOQP COL J \$ROLMB >KA > AFCCBOBKQ PBQ LC PQ>KA>OAP CLO F J MLOQP COL J ++>QFK J BOF@>

(K , >QQBI OB@>IIBA KB>OIV QTL J FIFLK QLVP F J MLOQBA COL J "EFK> ARB QL @LK@BOKP >?LRQ EFDE IBSBIP LC IB>A FK QEB M>FKQ >P TBII >P PL J B ILLPB M>OQP (Q FP RK@IB>O FC LQEBQ QLVP TBOB PR?GB@Q QL PF J FI>O PQ>KA>OAP , LOB OB@BKQIV FK )>M>K ?IL@HBA F J MLOQP LC 4 2 TEB>Q ?B@>RPB LC @LK@BOKP QE>Q DBKQF@>IIV J LAFCFBA & , . TEB>Q J FDEQ ?B FK@IRABA FK QEB PEFM J BKQ 3EB P@FBK@B LK QEB F J M>@Q LC & , . P LK EB>IQE FP PQFII ABSBILMFKD

;, ; 8 &4G<BA4? !AG8E8FG E : H@8AG

2L J B >ODRB QE>Q > K>QLK PELRIA KLQ ABMBKA QLL EB>SHIV LK LQEBQ @LRKQOFBP CLO PRMMIFBP LC @BOQ>FK HBV MOLAR@QP PR@E >P LFI LO CLO PMB@F>I J >QBQF>IP LO QB@EKLILDFBP QE>Q J FDEQ E>SB K>QLK>I PB@ROFQV >MMIF@>QLKFP . K @ILPBO @LKPFABO>QLK QEPF >ODR J BKQ CLO MOLQB@QLKFP J MOLSBP O>QEBQ TB>H

P >K BU> J MIB FK QEB 4KFQBA 2Q>QBP LFI MOLSFABP >?LRQ LC >II QEB BKBODV >KA LC QEB LFI RPBA FK QEB 4KFQBA 2Q>QBP B@LKL J V FP F J MLOQBA 2BSBO>I QF J BP FK QEB I>PQ CBT AB@>ABP TEBK AFPORMQLKFP FK QEB , FAAIB \$>PQ E>SB PFCQBA QEB PRMMIV @ROSB LC LFI ?>@H QL QEB IBCQ >KA PE>OMIV O>FPBA QEB MOF@B QEB BCCB@QP E>SB ?BBK CBIQ >@OLPP QEB 4KFQBA 2Q>QBP B@LKL J V 3EPF FP KLQ ELTBSBO > SBOV @LKSFK@FKD >ODR J BKQ CLO OBPQOF@QFKD LFI F J MLOQP (C QEB 4KFQBA 2Q>QBP KBBAP QL ?B MOLQB@QBA COL J > MLPPF?IB @RLCC LC CLOBFDK LFI QEBK > J LOB OB>PLK>?IB PQO>QBDV TLRIA ?B QL F J MLOQ LC QEB MBQOLIBR J PRMMIV KLT >KA P>SB 4 2 AL J BPQF@ LFI OBPLRO@BP CLO TEBK LO FC QEB CLOBFDK PRMMIV FP @RQ LCC (Q J FDEQ >IPL ?B RPBARI QL F J MLOQ BUQO> LFI >KA MRQ FQ FKQL > PQL@HMFIB CLO RPB FK >K B J BODBK@V >P QEB 4KFQBA 2Q>QBP DLSBOK J BKQ AFA ?V PQ>OQFKD > 2QO>QBDQ /BQOLIBR J 1BPBOSB FK , LOBLSBO FQ J >V ?B KB@BPP>OV QL AFP@LRO>DB MBLMIB COL J RPFKD LFI >KA QL PQ>OQ > EFDE MLTBOBA MOLDO> J QL PBBH LRQ >IQBOK>QFSBP QL LFI PQO>FDEQCLQOT>OA T>V QL AL QEPF TLRIA ?B QL O>FPB Q>UBP LK LFI AAF@FLK>IIV FQ J >HBP KL PBKPB QL >ODRB QE>Q ?B@>RPB LFI FP EFDEIV F J MLOQ>KQ QL QEB 4KFQBA 2Q>QBP B@LKL J V QEBK QEB 4KFQBA 2Q>QBP PELRIA PERQ LRQ LFI F J MLOQP >KA RPB RM FQP AL J BPQF@ PRMMIFBP J LOB NRF@HIV 4 2 AL J BPQF@ LFI MOLAR@QLK FP FK@OB>PFDK 2E>IB LFI FP >AAFKD QL AL J BPQF@ PRMMIV RPFKD CO>@HFKD BUQO>@QLK QB@EKFNRBP

6 EBQEBO LO KLQ QL IF J FQ @BOQ>FK HFQAP LC F J MLOQP LC HBV QB@EKLILDFBP LO J >QBQF>IP QE>Q J FDEQ ?B F J MLOQ>KQ QL K>QLK>I PB@ROFQV >KA TB>MLKP PVPQB J P FP > PIFDEQIV AFCCBOBKQ FPPRBP (C TB>MLKPD ?RFIABOP >OB KLQ @LKCFAFKQ QE>Q QEBV @>K

@LKQFKRB QL L?Q>FK > HBV MOLAR@Q FK T>0QF J B QEBV J FDEQ AB@FAB QL >SLFA ABPFDKFKD TB>MLKP QE>Q RPB QEFP HBV MOLAR@Q  
LO QEBV @>K DL >EB>A >KA ABPFDK QEB TB>MLKP >KA PQL@HMFIB BKL RDE LC QEB HBV EFDE QB@E @L J MLKBKQP LO J >QBOF>IP QL  
I>PQ QEOLRDE >K >0 J BA @LKCIF@Q 3EBOB FP > 4 2 #BCBKP - >QFLK>I 2QL@HMFIB "BKQBO QE>Q E>P ?RFIQ RM OBPBOSBP LC J >KV  
J >QBOF>IP COL J >IR J FKR J LUFABP >KQF J LKV >KA ?>RUFQB QL QRKDPQBK SBDBQ>?IB Q>KKFK BUQO>@QP >KA WFK@ >IQELRDE  
J >KV LC QEBPB PQL@HMFIBP E>SB ?BBK OBAR@BA >KA PLIA FK OB@BKQ VB>OP 3EFKH BSBOV @LRKQOV FP MOL QO>AB ' LT >?LRQ  
QEB 4 2 3EB CLILTFKD "IB>0 (Q 4M J FDEQ PROMOFBP VLR

# Clear It Up

## BJ 7B8F G ; 8 - A<G87 +G4G8F E84??L 988? 45BHG 8KC4A7<A: GE478

(LT AL MBLMIB >OLRKA QEB TLOIA CBBI >?LRQ BUM>KAFKD QO>AB ?BQTBBK K>QFLKP )K PR J JB0 QEB OBT  
&LRKA>QFLK PROSBVBA MBLMIB FK @LRKQOFBP /KB LC QEB NRBPFQFLKP >PHBA >?LRQ LMFKFLKP LK DOLTFKD  
QO>AB QFBP ?BQTBBK @LRKQOFBP ,45?8 PELTP QEB MBO@BKQ>DBP TEL >KPTB0BA BQFEB0 bSOV DLLAc LO  
bPL JBTE>Q DLLAc CLO PL JB LC @LRKQOFBP PROSBVBA

&LO QELPB TEL QEFKH LC QEB 5KQBA 3Q>QBP >P QEB TLOIA@P IB>AFKD PRMMLQOBO LC BUM>KAFKD QO>AB QEB PROSBV  
OBPRIQP J>V ?B MBOMIBUFDK 7EBK >AAFKD RM QEB PE>OBP LC QELPB TEL P>V QE>Q DOLTFKD QO>AB QFBP ?BQTBBK  
@LRKQOFBP FP bSOV DLLAc LO bPL JBTE>Q DLLAc ! JBQF>KP E>A QEB IB>PQ C>SLO>?IB >QFQ RAB QLT>0A FK@OB>PFKD  
DIL?>fW>qFLK TEHIB QEB #EFKBPB >KA 3LRQE ! COF@>KP O>KHBA EFDEBPQ )K C>@Q >J LKD QEB @LRKQOFBP PROSBVBA  
QEB 5KQBA 3Q>QBP O>KHBA ?V C>O QEB ILTBQP LK QEFP JB>PROB CLILTBTA ?V %DVMQ )Q>IV >KA ! ODBKQFK>

BHAGEL	.8EL BB7	+B@8J ;4G BB7	,B64?
#EFK>			
3LRQE !COF@>			
3LRQE +LOB>			
' B0 J >KV			
#>K>A>			
5KQBA +FKDAL J			
- BUf@L			
" Q>WFI			
*>M>K			
5KQBA 3Q>QBP			

,45?8 , ; 8 +G4GHF B9 EB J<A: ,E478 ,<8F 58G J88A BHAGE<8F 3LR0@B  
EQQM TTT MBTDIL?>I LOD CFIBP MAC MAC

. KB CFK>I OB>PLK TEV B@LKL J FPQP LCQBK QOB>Q QEB **national interest argument** PHBMQF@>IIV FP QE>Q IL??VFPQ >KA  
MLIFQF@>KP @>K QLRQ >I J LPQ >KV MOLAR@Q >P SFQ>I QL K>QFLK>I PB@ROFQV (K QEB 4KQBA 2Q>QBP ?B@> J B TLOOFBA QE>Q  
FQ T>P F J MLOQFKD E>IC LC QEB TLLI OBNRFOBA CLO J FIFQ>OV RKF CLO J P PL FQ AB@I>OBA TLLI >KA J LE>FO QL ?B ePQO>QBDf@  
J >QBOF>IPf >KA ?BD>K QL DFSB PR?PFAFBP QL TLLI >KA J LE>FO C>O J BOP IQELRDE QEB DLSBOK J BKQ OB J LSBA TLLI COL J  
QEB LCCF@f>I IFPQ LC ePQO>QBDf@f J >QBOF>IP FK QEB PR?PFAFBP CLO J LE>FO @LKQFKRBA CLO >I J LPQ VB>OP RKQFI QEB  
DLSBOK J BKQ OMB>IBA QEB J FK >KA QEBK OBFKQP>QBA QEB J FK II QLL LCQBK QEB K>QFLK>I FKQBOBPQ >ODR J BKQ E>P  
?B@L J B >K BU@RPB CLO E>KAFKD LRQ QEB FKAFOB@Q PR?PFAV LC MOLQB@QFLKFP J QL @BQ>FK FKARPQOFBP LO @L J M>KFBP CQBO >II  
MLIFQF@>KP KLQ KLM>OQFP>K >K>IVPQP J >HB AB@FPFLKP >?LRQ TE>Q @LKPQFQRQBP >HBV PQO>QBDf@ J >QBOF>I

# N BJ BI8EA@8AGF A46G ,E478 (B?<6L ?B54??L \*8:<BA4??L 4A7 &4G<BA4??L

! V QEB BKA LC QEFB PB@QLK VLR TFII ?B >?IB QL

- d \$UMI>FK QEB LOFDFK >KA OLIB LC QEB 6 LOIA 30>AB . OD>KFW>QLK 6 3 . >KA &BKBO>I DOBB J BKQ LK 3>OFCCP >KA 30>AB & 33
- d #FP@RPP QEB PFDKFCF@>K@B >KA MOLSFAB BU> J MIBP LC OBDFLK>I QO>AFKD >DOBB J BKQP
- d K>IVWB QO>AB MLIF@V >Q QEB K>QLK>I IBSBI
- d \$\$>IR>QB ILKD QBO J QOBKAP FK ?>00FBOP QL QO>AB

3EBPB MR?IF@ MLIF@V >ODR J BKQP >?LRQ ELT K>QLK PELRIA OB>@Q QL DIL?>IFW>QLK >KA QO>AB >OB CLRDEQ LRQ >Q PBSBO>I IBSBIP >Q QEB DIL?>I IBSBI QEOLRDE QEB 6 LOIA 30>AB . OD>KFW>QLK >KA QEOLRDE OBDFLK>I QO>AB >DOBB J BKQP ?BQTBBK M>FOP LO DOLRMP LC @LRKQFBP

## , ; 8 / BE?7 ,E478 ' E : 4A<M4G<BA

3EB 6 LOIA 30>AB . OD>KFW>QLK 6 3 . T>P LCCF@F>IIV ?LOK FK ?RQ FQP EFPQLOV FP J R@E ILKDDB (K QEB VB>OP >CQBO QEB &OB>Q #BMOBPPFLK >KA 6 LOIA 6 >0 (( QEBQB T>P > TLOIATFAB MRPE QL ?RFIA FKPQFQRQLK QEB>Q TLRIA QFB QEB K>QLK LC QEB TLOIA QLDBQEBO 3EB 4KFQBA ->QLK LCCF@F>IIV @> J B FKQL BUFPQB@B FK 3EB 6 LOIA !>KH TEF@E >PPFPQ QEB MLLQBPQ MBLMIB FK QEB TLOIA >KA QEB (KQBOK>QLK>I , LKBQ>OV %RKA TEF@E >AAOBPPBP FPPRBP O>FPBA ?V FKQBOK>QLK>I CFK>K@F>I QO>KP>@QLK TBOB ?LQE @OB>QBA FK 3EB QEFOA MI>KKBA LOD>KFW>QLK T>P QL ?B >K (KQBOK>QLK>I 30>AB . OD>KFW>QLK TEF@E TLRIA J >K>DB FKQBOK>QLK>I QO>AB 3EB 4KFQBA ->QLK T>P RK>?IB QL >DOBB QL QEFB (KPQB>A K>QLK PFDKBA QEB **General Agreement on Tariffs and Trade (GATT)** FK &BKBS> 2TFQWBOI>KA LK . @QL?BO QL MOLSFAB > CLOR J FK TEF@E K>QLK @LRIA @L J B QLDBQEBO QL KBDLQF>QB OBAR@QLK QO>OFCCP >KA LQEBQ ?>00FBOP QL QO>AB (K QEB & 33 QO>KPCLO J BA FKQL QEB 6 3 .

3EB & 33 MOL@BPP T>P QL KBDLQF>QB >K >DOBB J BKQ QL OBAR@B ?>00FBOP QL QO>AB PFDK QE>Q >DOBB J BKQ M>RPB CLO > TEFIB >KA QEBK PQ>OQ KBDLQF>QFD QEB KBUQ >DOBB J BKQ ,45?8 PELTP OLRKAP LC Q>IHP FK QEB & 33 >KA KLT QEB 6 3 . - LQF@B QE>Q QEB B>OIV OLRKAP LC & 33 Q>IHP QLLH > OBI>QFSBIV PELOQ QF J B FK@IRABA > P J >II KR J ?BO LC @LRKQFBP >KA CL@RPBA >I J LPQ BKQFOBIV LK OBAR@FKD Q>OFCCP 2FK@B QEB J FA P ELTBSBO OLRKAP LC QO>AB Q>IHP E>SB Q>HBK VB>OP FK@IRABA > I>ODB KR J ?BO LC @LRKQFBP >KA E>SB FK@IRABA >K BSBO ?OL>ABKFKD O>KDB LC FPPRBP

184E	( ?468 BE &4@8 B9 * BHA7	%4<A +H5-86GF	&H@58E B9 BHAGE<8F !AIB?187
	' BKBS>	4>OFCC OBAR@QLK	
	! KKB@V	4>OFCC OBAR@QLK	
	4LONR>V	4>OFCC OBAR@QLK	
	' BKBS>	4>OFCC OBAR@QLK	
^	\$FIILK OLRKA	4>OFCC OBAR@QLK	
^	+BKKBVA OLRKA	4>OFCCP >KQF AR J MFKD J B>PROBP	
^	4LHVL OLRKA	4>OFCCP KLKQ>OFCC ?>00FBOP	

,45?8 , ; 8 & 8 : BG<4G<A : \* BHA7F B9 , , 4A7 G ; 8 / BE?7 ,E478 ' E : 4A<M4G<BA

184E	(?468 BE &4@8 B9 * BHA7	%4<A +H5=86GF	&H@58E B9 BHAGE<8F !AIB?187
^	50ORDR>V 0LRKA	4>0FCCP KLKQ>0FCC ?>00FBOP PBOSf@BP FKQBIIB@QR>I MOLMBOQV AFPMPRQB PBQQIB J BKQ QBUQFIBP >DOF@RIQROB @OB>QLK LC 7 4 /	
^	\$LE> 0LRKA	! DOF@RIQROB PBOSf@BP FKQBIIB@QR>I MOLMBOQV @L J MBQFQLK FKSBPQ J BKQ BKSfOLK J BKQ AFPMPRQB PBQQIB J BKQ	

,45?8 , ; 8 &8 : B@4@A : \* BHA7F B9 , , 4A7 G ; 8 / BE?7 , E478 ' E : 4A<M4@<BA

3EB PIRDDFPE M>@B LC & 33 KBDLQF>QLKP IBA QL >K LIA GLHB QE>Q & 33 OB>IIV PQLLA CLO &BKQIB J >KdP DOBB J BKQ QL  
3>IH >KA 3>IH 3EB PILT M>@B LC FKQBOK>QLK>I QO>AB Q>IHP ELTBSBO FP RKABOP>KA>?IB BSBK PBKPF?IB ' >SFKD ALWBKP  
LC K>QLKP >DOBB QL >KV QOB>QV FP > IBKDQEV MOL@BPP & 33 LCQBK PBQ RM PBM>O>QB QO>AFKD ORIBP CLO @BOQ>FK FKARPQFBP  
IFHB >DOF@RIQROB >KA PBM>O>QB QO>AFKD ORIBP CLO @BOQ>FK @LRKQFBP IFHB QEB ILT FK@L J B @LRKQFBP 3EBOB TBOB ORIBP  
BU@BMQFLKP QL ORIBP LMMLOQRKQFBP QL LMQ LRQ LC ORIBP >KA MOB@FPB TLOAFKD QL ?B CLRDEQ LSBO FK BSOV @>PB +FHB QEB  
& 33 ?BCLOB FQ QEB 6 3 . FP KLQ > TLOIA DLSBOK J BKQ TFQE MLTBO QL F J MLPB FQP AB@FPFLKP LK LQEBOP 3EB QLQ>I PQ>CC  
LC QEB 6 3 . FK FP MBLMIB >KA FQP >KKR>I ?RADBQ >P LC FP JFIIFLK TEF@E J >HBP FQ P J >IIBO FK PFWB  
QE>K J >KV I>ODB RKFSBOPQFBP

**\* 8 : <BA4? , E47<A : : E88@8AGF**

3EBOB >OB AFCCBOBKQ QVMBP LC B@LKL J F@ FKQBDQ>QLK >@OLPP QEB DIL?B O>KDFKD COL J **free trade agreements** FK TEF@E  
M>OQF@FM>KQP >IILT B>@E LQEBOP F J MLOQP TFQELRQ Q>0FCCP LO NRLQ>P QL **common markets** FK TEF@E M>OQF@FM>KQP E>SB >  
@L J J LK BUQBOK>I QO>AB MLIF@V >P TBII >P COBB QO>AB TFQEFK QEB DOLRM QL CRII **economic unions** FK TEF@E FK >AAFQFLK  
QL > @L J J LK J >OHBQ J LKBQ>OV >KA CFP@>I MLIF@FBP >OB @LLOAFK>QBA , >KV K>QLKP ?BILKD ?LQE QL QEB 6 LOIA 3O>AB  
. OD>KFW>QLK >KA QL OBDFLK>I QO>AFKD >DOBB J BKQP

3EB ?BPQ HKLTK LC QEBPB OBDFLK>I QO>AFKD >DOBB J BKQP FP QEB \$ROLMB>K 4KFLK (K QEB VB>OP >CQBO 6 LOIA 6 >O (( IB>ABOP  
LC PBSBO>I \$ROLMB>K K>QLKP OB>PLKBA QE>Q FC QEBV @LRIA QFB QEBFO B@LKL J FBP QLDBQEBO J LOB @ILPBIV QEBV J FDEQ ?B J LOB  
IFHBIV QL >SLFA >KLQEBO ABS>PQ>QFKD T>O 3EBFO BCCLOQP ?BD>K TFQE > COBB QO>AB >PPL@F>QLK BSLISBA FKQL > @L J J LK  
J >OHBQ >KA QEBK QO>KPCLO J BA FKQL TE>Q FP KLT > CRII B@LKL J F@ RKFLK HKLTK >P QEB \$ROLMB>K 4KFLK 3EB \$ 4 >P FQ FP  
LCQBK @>IIBA E>P > KR J ?BO LC DL>IP %LO BU> J MIB FK QEB B>OIV P FQ FKQOLAR@BA > @L J J LK @ROOBK@V CLO \$ROLMB QEB  
BROL >KA ME>PBA LRQ J LPQ LC QEB CLO J BO K>QLK>I CLO J P LC J LKBV IFHB QEB &BO J >K J >OH >KA QEB %OBK@E CO>K@ QELRDE  
> CBT E>SB OBQ>FKBA QEBFO LTK @ROOBK@V KLQEBO HBV BIB J BKQ LC QEB RKFLK FP QL BIF J FK>QB ?>00FBOP QL QEB J L ?FIFV LC  
DLLAP I>?LO >KA @>MFQ>I >@OLPP \$ROLMB

%LO QEB 4KFQBA 2Q>QBP MBOE>MP QEB ?BPQ HKLTK OBDFLK>I QO>AFKD >DOBB J BKQ FP QEB - LOQE J BOF@>K %OBB 3O>AB  
DOBB J BKQ - %3 3EB 4KFQBA 2Q>QBP >IPL M>OQF@FM>QBP FK PL J B IBPP MOL J FKBKQ OBDFLK>I QO>AFKD >DOBB J BKQP  
IFHB QEB ">OQ??B>K !>PFK (KFQF>QFSB TEF@E LCCBOP OBAR@BA Q>0FCCP CLO F J MLOQP COL J QEBPB @LRKQFBP >KA > COBB QO>AB  
>DOBB J BKQ TFQE (PO>BI

3EB TLOIA E>P PBBK > CILLA LC OBDFLK>I QO>AFKD >DOBB J BKQP FK OB@BKQ VB>OP ?LRQ PR@E >DOBB J BKQP >OB KLT FK  
MI>@B ,45?8 IFPQP > CBT LC QEB J LOB MOL J FKBKQ LKBP 2L J B >OB GRPQ >DOBB J BKQP QL @LKQFKRB Q>IHFKD . QEBOP PBQ  
PMB@FCF@ DL>IP CLO OBAR@FKD Q>0FCCP F J MLOQ NRLQ>P >KA KLKQ>0FCC ?>00FBOP . KB B@LKL J FPQ ABP@OF?BA QEB @ROOBKQ QO>AB  
QOB>QFBP >P > ePM>DEBQQF ?LTI f TEF@E FP TE>Q > J >M TFQE IFKBP @LKKB@QFKD >II QEB @LRKQFBP TFQE QO>AB QOB>QFBP ILLHP  
IFHB

3EBOB FP @LK@BOK > J LKD B@LKL J FPQP TEL C>SLO COBB QO>AB QE>Q PL J B LC QEBPB OBDFLK>I >DOBB J BKQP J >V MOL J FPB COBB  
QO>AB ?RQ >@QR>IIV >@Q >P > T>V CLO QEB @LRKQFBP TFQEFK QEB OBDFLK>I >DOBB J BKQ QL QOV QL IF J FQ QO>AB COL J >KVTEBOB  
BIPB (K PL J B @>PBP QEB OBDFLK>I QO>AB >DOBB J BKQP J >V BSBK @LKCIF@Q TFQE QEB ?OL>ABO >DOBB J BKQP LC QEB 6 LOIA 3O>AB  
. OD>KFW>QLK

,E478 :E88@8AGF	(4EG<6<C4G<A: BHAGE<8F
!PF> O>@FCF@ %@LKL JF@ #LLMB0>QLK !0%#	!RPQ>IF> "ORKBF #>K>A> #EFIB OBLMIBaP 2BMR?IF@ LC #EFK> (LKD +LKD #EFK> )KALKBPF> *>M>K 2BMR?IF@ LC +LOB> ->I>VPF> -BUF@L .BT :B>I>KA O>MR> .BT 'RFKB> OBOR OEFIFMMFKBP 2RPPF> 3FKD>MLOB #EFKBPB 4>FMBF 4E>FI>KA 5KfQBA 3Q>QBP 6FBQK>J
%ROLMB>K 5KFLK %5	!RPQ>F> "BIDfR J "RID>Qf> #VMORP #WB@E 2BMR?IF@ \$BKJ>OH %PQLKf> &fKI>KA &O>K@B 'B0J>KV 'OBB@B (RKD>OV )OBI>KA )Q>IV ,>QSF> ,fQER>Kf> ,RUB J?LR0D ->I>Q> .BQEB0I>KAP 0LI>KA 0LQQRD>I 2LJ>Kf> 3ILS>Hf> 3ILSBKf> 3M>FK 3TBABK 5KfQBA +FKDAL J
.LQfE !JBOf@> &0BB 4O>AB !DOBB JBKQ . !&4!	#>K>A> -BUF@L 5KfQBA 3Q>QBP
,>QFK !JBOf@>K )KQBD0>QLK !PPL@f>QLK ,!)!	!0DBKQfK> "LIFsf> "O>WfI #EFIB #LIR J?f> %@R>ALO -BUF@L O>O>DR>V OBOR 5ORDR>V 6BKbWRBI>
!PPL@f>QLK LC 3LRQEB>PQ !PF>K .>QLKP !3%! .	"ORKBF #>J?LAF> )KALKBPF> ,>LP ->I>VPf> -V>KJ>O OEFIFMMFKBP 3FKD>MLOB 4E>FI>KA 6FBQK>J
3LRQEBOK !COF@>K \$BSBILM JBKQ #L J J RKfQV 3! \$#	!KDLI> "LQPT>K> #LKDL ,BPLQEL ->A>D>P@>O ->I>TF ->ROfQFRP -LW>J?fNRB .>Jf?f> 3BV@EBIIBP 3LRQe !COF@> 3T>WfI>KA 4>KW>Kf> :>J?f> :fJ??>TB

,45?8 +B@8 \*8:<BA4? ,E478 :E88@8AGF &LIIlTFKD QEB OBCBOBKAR J SLQB QL IB>SB QEB  
%ROLMB>K 5KFLK QEB 5+ DLSBOK JBKQ QOFDDBOBA QEB TfQEAO>T>I MOL@BPP LK ->O@E PBQfKD QEB  
A>QB CLO QEB 5+ QL IB>SB ?V !MOFI

## ,E478 (B?<6L 4G G ; 8 &4G<BA4? \$818?

8BQ >KLQEB0 AF J BKPFLK LC QO>AB MLIF@V >ILKD TfQE FKQBOK>QLK>I >KA OBDfLK>I QO>AB >DOBB JBKQ E>MMBKP >Q QEB K>QLK>I  
IBSBI 3EB 4KfQBA 2Q>QBP CLO BU> J MIB F J MLPBP F J MLOQ NRLQ>P LK PRD>O ?B@>RPB LC >CB>O QE>Q PR@E F J MLOQP TLRIA AOfSB  
ALTK QEB MOF@B LC PRD>O >KA QERP FKGR0B AL JBPf@ PRD>O MOLAR@BOP . KB LC QEB GL?P LC QEB 4KfQBA 2Q>QBP #BM>OQ JBKQ  
LC "L J J B0@B fP QL ABQBO J FKB FC QEB0B fP F J MLOQ AR J MFKD COL J LQEB0 @LRKQfBP 3EB 4KfQBA 2Q>QBP (KQBOK>QLK>I 3O>AB  
>L J J fPPFLK b >DLSBOK JBKQ >DBK@V b ABQBO J FKB TEBQEB0 QEB AR J MFKD E>P PR?PQ>KQf>IIV FKGR0BA AL JBPf@ FKARPQfBP  
>KA FC PL QEB MOBPfABKQ @>K F J MLPB Q>OfCCP QE>Q >OB FKQKBABA QL LCCPBQ QEB RKC>FOIV ILT MOF@B

(K QEB >OBK> LC QO>AB MLIF@V QEB ?>QIB LCQBK PBB J P QL ?B ?BQTB BK K>QLK>I I>TP QE>Q FK@OB>PB MOLQB@QLKFP J >KA  
FKQBOK>QLK>I >DOBB JBKQ QE>Q QOV QL OBAR@B MOLQB@QLKFP J IFHB QEB 6 3 . 6 EV TLRIA >@LRKQOV M>PP I>TP LO KBDLQf>QB  
>DOBB JBKQ QL PERQ LRQ @B0Q>FK CLOBFDK MOLAR@QP IFHB PRD>O LO QBUQfIBP TEFIB Pf J RIQ>KBLRPfV KBDLQf>QFKD QL OBAR@B  
QO>AB ?>OfBOP FK DBKBO>I . KB MI>RPF?IB >KPTBO fP QE>Q FKQBOK>QLK>I QO>AB >DOBB JBKQ LCCBO > J BQELA CLO @LRKQfBP QL  
OBPQO>FK QEBFO LTK PMB@f>I FKQBOBPQ J B J ?BO LC "LKDOBPP @>K P>V QL >K FKARPQOV IL??>VFKD CLO Q>OfCCP LO NRLQ>P LK  
F J MLOQP e2ROB TLRIA IFHB QL EBIM VL R ?RQ QE>Q MBPHV 6 3 . >DOBB JBKQ GRPQ TLKdQ IBQ J B f

# Link It Up

JC @LKPRJBOP >OB QEB ?FDDBPQ ILPBOP COL J QO>AB TEV AL QEBV KLQ CFDEQ ??@H 4EB NRf@H >KPTBO FP ?B@>RPB  
FQ FP B>PFBO QL LOD>KfWB > P J >II DOLRM LC MBLMIB >OLRKA > K>OOL T FKQBOBPQ MOLAR@BOP SBOPRP > I>ODB DOLRM  
QE>Q E>P AfCCRBP FKQBOBPQP @LKPRJBOP 4EFP FP > NRBPQLK >?LRQ QO>AB MLIF@V QEBLOV 6FPFQ QEFP TB?PRQB  
EQM LMBKQ>U@LIIBDB LOD I QO>ABMLIF@V >KA OB>A QEB >Qf@IB ?V \*LK>QE>K 2>R@E

## \$BA: ,8E@ ,E8A7F <A 4EE<8EF GB ,E478

(K KBTTPM>MBO EB>AIFKBP QO>AB MLIF@V >MMB>OP J LPQIV >P AFPMRQBP >KA >@Qf J LKV "LRKQfBP >OB >I J LPQ @LKPQ>KQIV  
QEOB>QBKFKD QL @E>IIBKDB LQEBO K>QLKP eRKC>Fof QO>AFKD MO>@Qf@BP ">PBP >OB ?OLRDEQ QL QEB AFPMRQB PBQIB JBKQ  
MOL@BAROB LC QEB 6 3 . QEB \$ROLMB>K 4KFLK - %3 >KA LQEBO OBDfLK>I QO>AFKD >DOBB JBKQP /LIFQf@F>KP FK K>QLK>I  
IBDFPI>QROBP DL>ABA LK ?V IL??VFPQP LCQBK QEOB>QBK QL M>PP ?FIIP QE>Q TFII eBPQ>?IFPE > C>FO MI>VFKD CFBIa L0 eMOBSBKQ  
RKC>FO QO>ABf b >IQELRDE J LPQ PR@E ?FIIP PBBH QL >@@L J MIFPE QEBPB EFDE PLRKAfKD DL>IP ?V MI>@FKD J LOB OBPQf@QLK LK  
QO>AB /OLQBPQBP FK QEB PQOBBQP J >V L?GB@Q QL PMB@FCf@ QO>AB ORIBP LO QL QEB BKQfOB MO>@Qf@B LC FKQBOK>QLK>I QO>AB

3EOLRDE >II QEB @LKQOLSOPV QEB DBKBO>I QOBKA FK QEB I>PQ VB>OP FP @IB>OIV QL T>OA IL TBO ?>OOFBOP QL QO>AB 3EB >SBO>DB  
IBSBI LC Q>OFCCP LK F J MLOQBA MOLAR@QP @E>ODBA ?V FKARPQf@fWBA @LRKQfBP T>P FK !V >CQBO AB@>ABP LC  
& 33 KBDLQf>QLK FQ T>P ALTK QL IBPP QE>K . KB LC QEB OB>PLKP QE>Q & 33 KBDLQf>QLK PEFQBA COL J CL@RPFKD  
LK Q>OFCC OBAR@QLK FK QEB B>OIV OLRKAP QL > ?OL>ABO >DBKA> T>P QE>Q Q>OFCCP E>A ?BBK OBAR@BA PL AO> J >Qf@>IIV QEOB T>P  
KLQ J R@E J LOB QL AL FK QE>Q >OB> 4 2 Q>OFCCP E>SB CLIIITBA QEFB DBKBO>I M>QQBOK CQBO OFPFKD PE>OMIV AROFKD QEB &OB>Q  
#BMOBPPFLK Q>OFCCP AOLMBA LCC QL IBPP QE>K ?V QEB BKA LC QEB @BKQROV IQELRDE J B>PROBP LC F J MLOQ NRLQ>P >KA  
KLKQ>OFCC ?>OOFBOP >OB IBPP BU>@Q QE>K QELPB CLO Q>OFCCP QEBV DBKBO>IIV >MMB>O QL ?B >Q IL TBO IBSBIP QE>K QEBV E>A ?BBK  
MOBSFLRPV QLL

3ERP QEB I>PQ E>IC @BKQROV E>P PBBK ?LQE > AO> J >Qf@ OBAR@QLK FK DLSBOK JBKQ @OB>QBA ?>OOFBOP QL QO>AB PR@E >P Q>OFCCP  
F J MLOQ NRLQ>P >KA KLKQ>OFCC ?>OOFBOP >KA >IPL > KR J ?BO LC QB@EKLILDF@>I ABSBILM JBKQP QE>Q E>SB J >AB FKQBOK>QLK>I  
QO>AB B>PFBO IFHB >AS>K@BP FK QO>KPMLOQ>QLK @L J J RKF@>QLK >KA FKLO J >QLK J >K>DB JBKQ 3EB OBPRIQ E>P ?BBK QEB  
MLTBOCRI PRODB LC FKQBOK>QLK>I QO>AB

## N , ; 8 ,E478B99F B9 ,E478 ( B?<6L

! V QEB BKA LC QEFP PB@QLK VLR TFII ?B >?IB QL

- d PPBP QEB @L J MIBUFQV LC FKQBOK>QLK>I QO>AB
- d #FP@RPP TEV > J >OHBQ LOFBKQBA B@LKL J V FP PL >CCB@QBA ?V FKQBOK>QLK>I QO>AB
- d \$UMI>FK AFPORMQFSB J >OHBQ @E>KDB

\$@LKL J FPQP OB>AFIV >@HKL TIBADB QE>Q FKQBOK>QLK>I QO>AB FP KLQ >II PRKPEFKB OLPBP >KA E>MMV BKAFKDP . SBO QF J B  
QEB >SBO>DB MBOPLK D>FKP COL J FKQBOK>QLK>I QO>AB ?LQE >P > TLOHBO TEL E>P DOB>QBO MOLAR@QFSFQV >KA EFDEBO T>DBP  
?B@>RPB LC QEB ?BKBCfQP LC PMB@F>fW>QLK >KA @L J M>O>QFSB >AS>KQ>DB >KA >P > @LKPR JBOP TEL @>K ?BKBCfQ COL J  
PELMMFKD >II LSBO QEB TLOIA CLO > DOB>QBO S>OFBQV LC NR>fQV MOLAR@QP >Q >QQ>@QFSB MOF@BP 3EB e>SBO>DB MBOPLK f  
ELTBSBO FP EVMLQEBQf@>I KLQ OB>I b OBMOPPBKQFKD > J FU LC QELPB TEL E>SB ALKB SBOV TBII QELPB TEL E>SB ALKB >II  
OFDEQ >KA QELPB TEL E>SB ALKB MLOIV (Q FP > IBDFQ J >QB @LK@BOK LC MR?f@ MLIF@V QL CL@RP KLQ GRP LK QEB >SBO>DB LO  
LK QEB PR@>BPP PQLOFBP ?RQ >IPL LK QELPB TEL E>SB KLQ ?BBK PL CLOQRK>QB 6 LOHBOP FK LQEBO @LRKQfBP QEB BKSfOLK JBKQ  
>KA MOLPMB@QP CLO KBT FKARPQfBP >KA J >QBO>fP QE>Q J FDEQ ?B LC HBV F J MLOQ>K@B QL QEB K>QLK>I B@LKL J V >OB >IPL >II

IBDFQF J >QB FPPRBP

3EB @L J J LK ?BIFBC > J LKD B@LKL J FPQP FP QE>Q FQ FP ?BQQBO QL B J ?O>@B QEB D>FKP COL J QO>AB >KA QEBK AB>I TFQE QEB @LPQP >KA QO>ABLCCP TFQE LQEBO MLIF@V QLLIP QE>K FQ FP QL @RQ LCC QO>AB QL >SLFA QEB @LPQP >KA QO>ABLCCP

3L D>FK > ?BQQBO FKQRQFSB RKABOPQ>KAFKD CLO QEFP >ODR J BKQ @LKPFABO > EVMLQEBQF@>I J BOF@>K @L J M>KV @>IIBA 3B@EKLQOLK 3B@EKLQOLK FKS BKQP > KBT P@FBKQFCF@ QB@EKLILDV QE>Q >IILTP QEB CFO J QL FK@OB>PB QEB LRQMRQ >KA NR>IFV LC FQP DLLAP TFQE > P J >IIBO KR J ?BO LC T'LOHBOP >Q > ILTBO @LPQ P > OBPRIQ LC QEFP QB@EKLILDV LQEBO 4 2 CFO J P FK QEFP FKARPQOV TFII ILPB J LKBV >KA TFII >IPL E>SB QL I>V LCC T'LOHBOP b >KA PL J B LC QEB @L J MBQFKD CFO J P TFII BSBK DL ?>KHORMQ 2ELRIA QEB 4KFQBA 2Q>QB DLSBOK J BKQ MOLQB@Q QEB BUFPQFKD CFO J P >KA QEBFO B J MILVBBP ?V J >HFKD FQ FIIBD>I CLO 3B@EKLQOLK QL RPB FQP KBT QB@EKLILDV , LPQ MBLMIB TEL IFSB FK J >OHBQ LOFBKQBA B@LKL J FBP TLRIA LMMLPB QOVFKD QL ?IL@H ?BQQBO MOLAR@QP QE>Q ILTBO QEB @LPQ LC PBO SF@BP "BOQ>FKIV QEB OB FP > @>PB CLO PL@FBQV MOLSFQFKD QB J MLO>OV PRMMLQ >KA >PPFPQ>K@B CLO QELPB TEL CFKA QEB J PBISBP TFQELRQ TLOH , >KV TLRIA >ODRB CLO DLSBOK J BKQ PRMMLQ LC MOLDO> J P QE>Q BK@LRO>DB OBQO>FKFKD >KA >@NRFQFKD >AAFQFLK>I PHFIIP &LSBOK J BKQ J FDEQ >IPL PRMMLQ OBPP>O@E >KA ABSBILM J BKQ BCCLQPP PL QE>Q LQEBO CFO J P J >V CFKA T>VP LC LRQALFKD 3B@EKLQOLK !IL@HFKD QEB KBT QB@EKLILDV >IQLDBQEBO ELTBSBO PBB J P IFHB > J FPQ>HB CQBO >II CBT MBLMIB TLRIA >ASL@>QB DFSFKD RM BIB@QOF@FQV ?B@>RPB FQ @>RPBA PL J R@E AFPORMQFLK QL QEB HBOLPBKB >KA @>KAIB ?RPFKBPP %BT TLRIA PRDDBPQ ELIAFKD ?>@H L K F J MOLS B J BKQ FK J BAF@>I QB@EKLILDV ?B@>RPB QEBV J FDEQ @>RPB @L J M>KFBP PBIFKD IBB@EBP >KA PK>HB LFI QL ILPB J LKBV (K PELOQ J LPQ MBLMIB SEBT AFPORMQFLK ARB QL QB@EKLILDF@>I @E>KDB >P > KB@BPP>OV @LPQ QE>Q FP TLOQE ?B>OFKD

- LT F J >DFKB QE>Q 3B@EKLQOLKdP KBT eQB@EKLILDVf FP >P PF J MIB >P QEFP QEB @L J M>KV F J MLOQP TE>Q FQ PBII COL J >KLQEBO @LRQOV (K LQEBO TLOAP QEFKH LC CLOFBDK QO>AB >P > QVMB LC FKKLS>QFSB QB@EKLILDV 3EB L?GB@QFSB PFQR>QFLK FP KL T BU>@QIV QEB P> J B >P ?B@CLOB !B@>RPB LC 3B@EKLQOLKdP KBT QB@EKLILDV b TEF@E FK QEFP @>PB FP F J MLOQFKD DLLAP COL J >KLQEBO @LRQOV b LQEBO CFO J P FK QEFP FKARPQOV TFII ILPB J LKBV >KA I>V LCC T'LOHBOP )RPQ >P FQ TLRIA E>SB ?BBK FK>MMOLMOF>QB >KA RIQF J >QIV CLLIFPE QL OBPMLKA QL QEB AFPORMQFLK LC KBT P@FBKQFCF@ QB@EKLILDV ?V QOVFKD QL PERQ FQ ALTK FQ TLRIA ?B FK>MMOLMOF>QB >KA RIQF J >QIV CLLIFPE QL OBPMLKA QL QEB AFPORMQFLK LC FKQBOK>QFLK>I QO>AB ?V QOVFKD QL OBPPQF@Q QO>AB

2L J B T'LOHBOP >KA CFO J P TFII PRCCBO ?B@>RPB LC FKQBOK>QFLK>I QO>AB (K > IFSFKD ?OB>QEFKD J >OHBQ LOFBKQBA B@LKL J V PL J B T'LOHBOP >KA CFO J P TFII >IT>VP ?B BUMBOFBK@FKD AFPORMQFLK CLO > TFAB S>OFBQV LC OB>PLKP "LOMLO>QB J >K>DB J BKQ @>K ?B ?BQQBO LO TLOPB 6LOHBOP CLO > @BOQ>FK CFO J @>K ?B J LOB LO IBPP MOLAR@QFSB 3LRDE AL J BPQF@ @L J MBQFLQLOP @>K @OB>QB GRPQ >P J R@E AFPORMQFLK >P QLRDE CLOFBDK @L J MBQFLQLOP 2L J B QF J BP > KBT MOLAR@Q FP > EFQ TFQE @L KPR J BOP PL J B QF J BP FP > CILM 2L J B QF J BP > @L J M>KV FP ?IBPPBA ?V > ORK LC DLLA IR@H LO PQOF@HBK TFQE > ORK LC ?>A IR@H %LO PL J B CFO J P FKQBOK>QFLK>I QO>AB TFII LCCBO DOB>Q LMMLOQRKQFQFB CLO BUM>KAFKD MOLAR@QFSQV >KA GL?P CLO LQEBO CFO J P QO>AB TFII F J MLPB PQOBPP >KA M>FK 3EB AFPORMQFLK @>RPBA ?V FKQBOK>QFLK>I QO>AB FP KLQ CRKA> J BKQ>IIV AFCCOBKQ COL J >II QEB LQEBO AFPORMQFLK @>RPBA ?V QEB LQEBO TLOHFKDP LC > J >OHBQ B@LKL J V

(K LQEBO TLOAP QEB B@LKL J F@>K>IVFP LC COBB QO>AB ALBP KLQ OBIV LK > ?BIFBC QE>Q CLOFBDK QO>AB FP KLQ AFPORMQFSB LO ALBP KLQ MLPB QO>ABLCCP FKABBA QEB PQLOV LC 3B@EKLQOLK ?BDFKP TFQE > M>OQF@RI>O **disruptive market change** b > KBT QB@EKLILDV b QE>Q @>RPB OB>I QO>ABLCCP (K QEFKHFKD ?>LRQ QEB AFPORMQFLK LC CLOFBDK QO>AB LO >KV LC QEB LQEBO MLPFF?IB @LPQP >KA QO>ABLCCP LC CLOFBDK QO>AB AFP@RPPBA FK QEFP @E>MQBO QEB ?BPQ MR?IF@ MLIF@V PLIRQFLK QVMF@>IIV AL KLQ FKSLISB MOLQB@QFLKFP J ?RQ FKPQ>A FKSLISB CFKAFKD T>VP CLO MR?IF@ MLIF@V QL >AAOBPP QEB M>OQF@RI>O FPPRBP OBPRIQFKD COL J QEBPB AFPORMQFLK @LPQP >KA QO>ABLCCP TEFIB PQFII >IILTFKD QEB ?BKBCFP LC FKQBOK>QFLK>I QO>AB QL L@>RO

# Bring it Home

/ ; 4GRF G ; 8 B JAF<78 B9 (EBG86G<BA

4EB AL J BPQF@ CI>Q M>KBI AFPMI>V FKARPQOV B J MILVBA J >KV T'LOHBOP ?B@CLOB QEB )4# F J MLPBA QEB AR J MFKD J >ODFK Q>U &i>q M>KBI AFPMI>VP J >HB RM > PFDKCF@>KQ MLOQFLK LC QEB @LPQ LC MOLAR@FKD I>MQLM @L J MRQBOBP \_ >P J R@E >P 4EBOB@CLOB QEB >K@FAR J MFKD Q>U TLRIA PR?PQ>KQF>IIV FK@OB>PB QEB @LPQ >KA QERP QEB MOF@B LC 5 3 J >KRC>@QROBA I>MQLMP !P > OBPRIQ LC QEB )4#aP AB@FPFLK !MMIB J LSBA FQP AL J BPQF@ J >KRC>@QROFKD MI>KQ CLO ->@FKQLPE @L J MRQBOBP QL )OBI>KA TEBOB FQ E>A >K BUFPQFKD MI>KQ 4LPEF?> PERQ ALTK FQP 5 3 J >KRC>@QROFKD MI>KQ CLO I>MQLMP !KA )" - @>K@BIIBA MI>KP QL LMBK > I>MQLM J >KRC>@QROFKD MI>KQ FK .LOQE #>OLIFK> FKPQB>A AB@FAFKD QL BUM>KA MOLAR@QFLK >Q FQP MI>KQ FK \*>M>K )K QEFP @>PB O>QEBO QE>K E>SFKD QEB ABPFOBA BCCB@Q LC MOLQB@QFKD 5 3 FKQBOPQP >KA DFSFKD AL J BPQF@ J >KRC>@QROFKD >K >AS>KQ>DB LSBO FQB J P J >KRC>@QROBA BIPBTEBOB FQ E>A QEB RKFKQBKABA BCCB@Q LC AOFSKD QEB J >KRC>@QROFKD @L J MIBQIV LRQ LC QEB @LRQOV ->KV



#E>MqB0 X ' IL?>fW>QFLK >KA 00LQB@QFLK?P J

MBLMIB ILPQ QEBFO GL?P >KA J LPQ CI>Q M>KBI AfPMI>V MOLAR@QFLK KLT L@@R0P FK @LRKQ0FBP LQEB0 QE>K QEB 5KfQBA  
3Q>QBP

# # 1 , \*%+

4AG< 7H@C<A : ?4JF I>TP QE>Q ?IL@H F J MLOQP PLIA ?BILT QEB @LPQ LC MOLAR@qFLK >KA F J MLPB Q>OFCCP QE>Q TLRIA FK@OB>PB QEB MOF@B LC QEBPB F J MLOQP QL OBCIB@Q QEBFO @LPQ LC MOLAR@qFLK

6B@>BA @4E>8G B@LKL J F@ >DOBB J BKQ ?BqTBBK @LRKqQFBP QL >IILT COBB QO>AB FK DLLAP PBOsf@BP I>?LO >KA CFK>K@F>I @>MFQ>I ?BqTBBK J B J ?BOP TEFIB E>SFKD > @L J J LK BUQBOK>I QO>AB MLIF@V

7<FEHC<18 @4E>8G 6 ; 4A : 8 FKKLS>QFSB KBT MOLAR@Q LO MOLAR@qFLK QB@EKLILDV TEF@E AFPORMQP QEB PQ>QRP NRL FK > J >OHBQ IB>AFKD QEB FKKLS>QLOP QL B>OK J LOB FK@L J B >KA MOLCFQP >KA QEB LQEBO CFO J P QL ILPB FK@L J B >KA MOLCFQP RKIBPP QEBV @>K @L J B RM TFQE QEBFO LTK FKKLS>qFLKP

7H@C<A : PBIIFKD FKQBOK>qFLK>IIV QO>ABA DLLAP ?BILT QEBFO @LPQ LC MOLAR@qFLK

86BAB@<6 HA<BA B@LKL J F@ >DOBB J BKQ ?BqTBBK @LRKqQFBP QL >IILT COBB QO>AB ?BqTBBK J B J ?BOP > @L J J LK BUQBOK>I QO>AB MLIF@V >KA @LLOAFK>QBA J LKBQ>OV >KA CFP@>I MLIF@FBP

9E88 GE478 4 : E88@8AG B@LKL J F@ >DOBB J BKQ ?BqTBBK @LRKqQFBP QL >IILT COBB QO>AB ?BqTBBK J B J ?BOP

8A8E4? : E88@8AG BA , 4E<99F 4A7 , E478 , , CLOR J FK TEF@E K>qFLKP @LRIA @L J B QLDBQEBO QL KBDLQF>QB OBAR@qFLKP FK Q>OFCCP >KA LQEBO ?>OOFBOP QL QO>AB QEB MOB@ROPLQ QL QEB 6 LOIA 3O>AB . OD>KFW>qFLK

<@CBEG DHBG4F KR J BOF@>I IF J FQP LK QEB NR>KQFV LC MOLAR@QP QE>Q > @LRKQOV @>K F J MLOQ

A4G<BA4? <AG8E8FG 4E : H@8AG QEB >ODR J BKQ QE>Q QEBOB >OB @L J MBIIFKD K>qFLK>I FKQBOPQP >D>FKPQ ABMBKAFKD LK HBV F J MLOQP COL J LQEBO K>qFLKP

ABA64E<99 54EE<8EF T>VP > K>qFLK @>K AO>T RM ORIBP OBDRI>qFLKP FKPMB@qFLKP >KA M>MBOTLOH QL J >HB FQ J LOB @LPQIV LO AFCCF@RIQ QL F J MLOQ MOLAR@QP

CEB686<BA<F@ DLSBOK J BKQ MLIF@FBP QL OBAR@B LO ?IL@H F J MLOQP

E468 6B G ; 8 5BGG@ TEBK MOLAR@qFLK IL@>QBP FK @LRKqQFBP TFQE QEB ILTBQP BKSFOLK J BKQ>I LO LQEBO PQ>KA>OAP MRQqFKD MOBPPROB LK >II @LRKqQFBP QL OBAR@B QEBFO BKSFOLK J BKQ>I PQ>KA>OAP

/ BE?7 , E478 ' E : 4A<M4G<BA / , ' LOD>KFW>qFLK QE>Q PBBHP QL KBDLQF>QB OBAR@qFLKP FK ?>OOFBOP QL QO>AB >KA QL >AGRAF@>QB @L J MI>FKQP >?LRQ SFLI>qFLKP LC FKQBOK>qFLK>I QO>AB MLIF@V PR@>BPPLQ QL QEB &BKB0>I DOBB J BKQ LK 3>OFCCP >KA 3O>AB & 33

# # 1 ' & ( , + & + - % % \* 1

(EB686<BA<F@ A !A7<E86G +H5F<7L 9EB@ BAFH@8EF GB (EB7H68EF

3EBOB >OB QEObB QLLIP CLO OBPQOF@qFKD QEB CILT LC QO>AB Q>OFCCP F J MLOQ NRLQ>P >KA KLKQ>OFCC ?>OOFBOP 6 EBK > @LRKQOV MI>@BP IF J FQ>qFLKP LK F J MLOQP COL J >?OL>A OBD>OAI BPP LC TEBQEBO FQ RPBP Q>OFCCP NRLQ>P LO KLKQ>OFCC ?>OOFBOP FQ FP P>FA QL ?B MO>@qF@FKD MOLQB@qFLKFP J /OLQB@qFLKFP J TFII O>FPB QEB MOF@B LC QEB MOLQB@QBA DLLA FK QEB AL J BPQF@ J >OHBQ TEF@E @>RPBP AL J BPQF@ @LKPR J BOP QL M>V J LOB ?RQ AL J BPQF@ MOLAR@BOP QL B>OK J LOB

!AG8EA4G<BA4? , E478 4A7 !GF 9986GF BA "B5F / 4 : 8F 4A7 / BE><A : BA7<G<BAF

P FKQBOK>qFLK>I QO>AB FK@OB>PBP FQ @LKQOF?RQBP QL >PEFCQ FK GL?P >T>V COL J FKARPQFBP TEBOB QE>Q B@LKL J V ALBP KLQ E>SB > @L J M>O>QFSB >AS>KQ>DB >KA QLT>OA FKARPQFBP TEBOB FQ ALBP E>SB > @L J M>O>QFSB >AS>KQ>DB 3EB ABDObB QL TEF@E QO>AB >CCB@QP I>?LO J >OHBQ E>P J R@E QL AL TFQE QEB PQOR@QROB LC QEB I>?LO J >OHBQ FK QE>Q @LRKQOV >KA QEB >AGRPQ J BKQ MOL@BPP FK LQEBO FKARPQFBP &IL?>I QO>AB PELRIA O>FPB QEB >SBO>DB IBSBI LC T>DBP ?V FK@OB>PFKD MOLAR@qFSFQV ' L TBSBO QEFP FK@OB>PB FK >SBO>DB T>DBP J >V FK@IRAB ?LQE D>FKP QL TLOHBOP FK @BOQ>FK GL?P >KA FKARPQFBP >KA ILPPBP QL LQEBOB

(K QEFKHFKD >?LRQ I->?LO MO>@QF@BP FK ILT FK@L J B @LRKQOFBP FQ FP RPBKRI QL AO>T > IFKB ?BQTBBK TE>Q FP RKMIB>P>KQ QL QEFKH >?LRQ >KA TE>Q FP J LO>IIV L?GB@QLK>?IB %LO BU> J MIB ILT T>DBP >KA ILKD TLOHFKD ELROP FK MLL0 @LRKQOFBP >OB RKMIB>P>KQ QL QEFKH >?LRQ ?RQ CLO MBLMIB FK ILT FK@L J B M->OQP LC QEB TLOIA FQ J >V TBII ?B QEB ?BPQ LMQFLK LMBK QL QEB J /O>@F@BP IFHB @EFIA I->?LO >KA CLO@BA I->?LO >OB J LO>IIV L?GB@QLK>?IB >KA J >KV @LRKQOFBP OBCRPB QL F J MLOQ MOLAR@QP J >AB RPFKD QEBPB MO>@QF@BP

E : H@8AGF <A +HCCBEG B9 \*8FGE<6G<A : !@CBEGF

3EB0B >OB > KR J ?BO LC >ODR J BKQP QE>Q PRMML0Q OBPQOF@QFKD F J MLOQP 3EBPB >ODR J BKQP >OB ?>PBA >OLRKA FKARPQOV >KA @L J MBQFQLK BKSFOLK J BKQ>I @LK@BOKP >KA FPPRPB LC P>CBQV >KA PB@ROFQV

3EB FKC>KQ FKARPQOV >ODR J BKQ CLO MOLQB@QLKFP J FP QE>Q P J >II AL J BPQF@ FKARPQOFBP KBBA QL ?B QB J MLO>OFIV KROQROBA >KA MOLQB@QBA COL J CLOBFDK @L J MBQFQLK CLO > QF J B PL QE>Q QEBV @>K DOLT FKQL PQQLKD @L J MBQFQL0P (K PL J B @>PBP KLQ>?IV FK \$>PQ PF> QEFP >MMOL>@E E>P TLOHBA .CQBK ELTBSBO QEB FKC>KQ FKARPQOFBP KBSBO DOLT RM .K QEB LQEB0 E>KA >ODR J BKQP >D>FKPQ AR J MFKD TEF@E FP PBQFKD MOF@BP ?BILT QEB @LPQ LC MOLAR@QLK QL AOFB @L J MBQFQL0P LRQ LC QEB J >OHBQ LCQBK PF J MIV PBB J QL ?B > @LKSBBKFBK BU@RPB CLO F J MLPFKD MOLQB@QLKFP J

+LT FK@L J B @LRKQOFBP QVMF@>IIV E>SB ILTBO BKSFOLK J BKQ>I PQ>KA>OAP QE>K EFDE FK@L J B @LRKQOFBP ?B@>RPB QEBV >OB J LOB TLOOFA >?LRQ F J J BAF>QB ?>PF@P PR@E >P CLLA BAR@>QLK >KA EB>IQE@>OB ' LTBSBO BU@BMQ CLO > P J >II KR J ?BO LC BUQQ0B J B @>PBP PERQFKD LCC Q0>AB PBB J P RKIFHBIV QL ?B >K BCCB@QFSB J BQELA LC MR0PRFKD > @IB>KB0 BKSFOLK J BKQ

%FK>IIV QEB0B >OB >ODR J BKQP FKSLISFKD P>CBQV >KA PB@ROFQV 4KABO QEB ORIBP LC QEB 6 LOIA 30>AB .OD>KFW>QLK @LRKQOFBP >OB >IILTBA QL PBQ TE>QBSBO PQ>KA>OAP CLO MOLAR@Q P>CBQV QEBV TFFE ?RQ QEB PQ>KA>OAP J RPQ ?B QEB P> J B CLO AL J BPQF@ MOLAR@QP >P CLO F J MLOQBA MOLAR@QP >KA QEB0B J RPQ ?B > P@FBKQFCF@ ?>PFP CLO QEB PQ>KA>OA 3EB K>QLK>I FKQBOBPQ >ODR J BKQ CLO MOLQB@QLKFP J ELIAP QE>Q FQ FP RKTFFB QL F J MLOQ @BQ>FK HBV MOLAR@QP ?B@>RPB FC QEB K>QLK ?B@L J BP ABMBKABKQ LK HBV F J MLOQBA PRMMIFBP FQ @LRIA ?B SRIKBO>?IB QL > @RQLCC ' LTBSBO FQ FP LCQBK TFPB0 QL PQL@HMFIB OBPLRO@BP >KA QL RPB CLOBFDK PRMMIFBP TEBK >S>FI>?IB 0>QEB0 QE>K MOBB J MQFSBIV OBPQOF@QFKD CLOBFDK PRMMIFBP PL >P KLQ QL ?B@L J B ABMBKABKQ LK QEB J

BJ B18EA@8AGF A46G ,E478 (B?6L ?B54??L \*8:<BA4??L 4A7 &4G<BA4??L

&LSBOK J BKQP ABQBO J FKB Q0>AB MLIF@V >Q J >KV AFCCB0BK IBSBIP >A J FKFPQ0>QFSB >DBK@FBP TFQEFK DLSBOK J BKQ I>TP M>PPBA ?V QEB IBDPFI>QROB OBDFLK>I KBDLQF>QLK ?BQTBBK > P J >II DOLRM LC K>QLK PL J BQF J BP GRPQ QTL >KA DIL?>I KBDLQF>QLK QEOLRDE QEB 6 LOIA 30>AB .OD>KFW>QLK #ROFKD QEB PB@LKA E>IC LC QEB QTBKQFBQE @BKQROV Q0>AB ?>OOFBOP E>SB FK DBKBO>I AB@IFKBA NRFQB PR?PQ>KQF>IIV FK QEB 4KQBA 2Q>QBP B@LKL J V >KA FK QEB DIL?>I B@LKL J V .KB OB>PLK TEV @LRKQOFBP PFDK FKQBOK>QLK>I Q0>AB >DOBB J BKQP QL @L J J FQ QEB J PBISBP QL COBB Q0>AB FP QL DFBQ QEB J PBISBP MOLQB@QLK >D>FKPQ QEBFO LTK PMB@F>I FKQBOBPQ 6 EBK >K FKARPQOV IL??FBP CLO MOLQB@QLK COL J CLOBFDK MOLAR@BOP MLIFQF@F>KP @>K MLFKQ LRQ QE>Q ?B@>RPB LC QEB Q0>AB QOB>QV QEBFO E>KAP >OB QFBA

, ; 8 ,E478B99F B9 ,E478 (B?6L

(KQBOK>QLK>I Q0>AB @BQ>FKIV E>P FK@L J B AFPQOF?RQLK BCCB@QP 3EFP FP E>OAIIV PROMOPFKD II AL J BPQF@ LO FKQBOK>QLK>I @L J MBQFQFSB J >OHBQ CLO@BP >OB AFPORMQFSB 3EBV @>RPB @L J M>KFBP >KA FKARPQOFBP QL OFPB >KA C>II &LSBOK J BKQ E>P > OLIB QL MI>V FK @RPEFLKFKD TLOHBOP >D>FKPQ QEB AFPORMQLK LC QEB J >OHBQ ' LTBSBO GRPQ >P FQ TLRIA ?B RKTFFB FK QEB ILKD QBO J QL @I> J M ALTK LK KBT QB@EKLILDV >KA LQEB0 @>RPB LC AFPORMQLK FK AL J BPQF@ J >OHBQ FQ TLRIA ?B RKTFFB QL @I> J M ALTK LK CLOBFDK Q0>AB (K ?LQE @>PBP QEB AFPORMQLK ?OFKDP TFQE FQ B@LKL J F@ ?BKBCFP

+ \$ # ) - +,!'&+

\$UMI>FK ELT > Q>OFCC OBAR@QLK @>RPBP >K FK@OB>PB FK QEB BNRFI?>OFR J NR>KQFV LC F J MLOQP >KA > AB@OB>PB FK QEB BNRFI?>OFR J MOF@B Hint: "LKPFABO QEB /BE> IG 'HG \$CCB@QP LC 30>AB !>OOFBOP

\$UMI>FK ELT > PR?PFAV LK >DOF@RIQRO>I DLLAP IFHB PRD>0 >ASBOPBIV >CCB@QP QEB FK@L J B LC CLOBFDK MOLAR@BOP LC F J MLOQBA PRD>0

\$UMI>FK ELT Q0>AB ?>OOFBOP P>SB GL?P FK MOLQB@QBA FKARPQOFBP ?RQ LKIV ?V @LPQFKD GL?P FK LQEB0 FKARPQOFBP

\$UMI>FK ELT Q0>AB ?>OOFBOP 0>FPB T>DBP FK MOLQB@QBA FKARPQOFBP ?V OBAR@FKD >SBO>DB T>DBP B@LKL J V TFAB

' LT ALBP FKQBOK>QLK>I Q0>AB >CCB@Q TLOHFKD @LKAQQLK LC ILT FK@L J B @LRKQOFBP

#L QEB GL?P CLO TLOHBOP FK ILT FK@L J B @LRKQOFBP QE>Q FKSLISB J >HFKD MOLAR@QP CLO BUMLOQ QL EFDE FK@L J B @LRKQOFBP QVMF@>IIV M>V QEBBP TLOHBOP J LOB LO IBPP QE>K QEBFO KBUQ ?BPQ >IQBOK>QFSB

' LT AL QO>AB ?>00FBOP >CCB@Q QEB >SBO>DB FK@L J B IBSBI FK >K B@LKL J V

' LT ALBP QEB @LPQ LC eP>SFKDf GL?P FK MOLQB@QBA FKARPQOFBP @L J M>OB QL QEB TLOHBOPd T>DBP >KA P>I>0FBP

\$UMI>FK ELT MOBA>QL0V MOF@FKD @LRIA ?B > J LQFS>QFLK CLO AR J MFKD

6 EV AL ILT FK@L J B @LRKQOFBP IFHB !0>WFI \$DVMQ LO 5FBQK> J E>SB ILTBO BKSFOLK J BKQ>I PQ>KA>0AP QE>K EFDE FK@L J B @LRKQOFBP IFHB QEB &B0 J >KV )>M>K LO QEB 4KFQBA 2Q>QBP

\$UMI>FK QEB ILDF@ ?BEFKA QEB e0>@B QL QEB ?LQQL J f >ODR J BKQ >KA QEB IFHBIV OB>PLK FQ E>P KLQ L@R00BA

6 E>Q >OB QEB @LKAfQFLKP RKABO TEF@E > @LRKQOV J >V RPB QEB RKP>CB MOLAR@QP >ODR J BKQ QL ?IL@H F J MLOQP

6 EV FP QEB K>QFLK>I PB@ROFQV >ODR J BKQ KLQ @LKSFK@FKD

PPR J B > MBOCB@QIV @L J MBQfQFSB J >OHBQ >KA QEB BUMLOQFKD @LRKQOV FP P J >II 4PFKD > AB J >KA >KA PRMMIV AF>DO> J PELT QEB F J M>@Q LC FK@OB>PFKD PQ>KA>0AP LK > ILT FK@L J B BUMLOQBO LC QLVP 2ELT QEB Q>0FCC P F J M>@Q (P QEB BCCB@Q LK QL V MOF@BP QEB P> J B LO AFCCBOBKQ 6 EV FP > PQ>KA>0AP MLIF@V MBOCB00BA QL Q>0FCCP

6 E>Q FP QEB AFCCBOBK@B ?BQTBBK > COBB QO>AB >PPL@F>QFLK > @L J J LK J >OHBQ >KA >K B@LKL J F@ RKFLK

6 EV TLRIA @LRKQOFBP MOL J LQB MOLQB@qFLKfPQ I>TP TEFIB >IPL KBDLQF>QB CLO COBBO QO>AB FKQBOK>QFLK>IIV

6 E>Q J FDEQ >@LRKQ CLO QEB AO> J >QF@ FK@OB>PB FK FKQBOK>QFLK>I QO>AB LSBO QEB M>PQ VB>0P

' LT ALBP @L J MBQfQFLK TEBQEBO AL J BPQF@ LO CLOBFDK E>0 J ?RPFKBPPBP

6 E>Q >OB QEB D>FKP COL J @L J MBQfQFLK

\* .! / ) - + ,!'&+

6 EL ALBP MOLQB@qFLKfP J MOLQB@Q %0L J TE>Q ALBP FQ MOLQB@Q QEB J

-> J B >KA ABCFKB QE0BB MLIF@V QLLIP CLO BK>@QFKD MOLQB@qFLKfP J

' LT ALBP MOLQB@qFLKfP J >CCB@Q QEB MOF@B LC QEB MOLQB@QBA DLLA FK QEB AL J BPQF@ J >OHBQ

#LBP FKQBOK>QFLK>I QO>AB Q>HBK >P > TELIB FK@OB>PB QEB QLQ>I KR J ?BO LC GL?P AB@OB>PB QEB QLQ>I KR J ?BO LC GL?P LO IB>SB QEB QLQ>I KR J ?BO LC GL?P >?LRQ QEB P> J B

(P FKQBOK>QFLK>I QO>AB IFHBIV QL E>SB 0LRDEIV QEB P> J B BCCB@Q LK QEB KR J ?BO LC GL?P FK B>@E FKAFSFAR>I FKARPQOV

' LT FP FKQBOK>QFLK>I QO>AB Q>HBK >P > TELIB IFHBIV QL >CCB@Q QEB >SBO>DB IBSBI LC T>DBP

(P FKQBOK>QFLK>I QO>AB IFHBIV QL E>SB >?LRQ QEB P> J B BCCB@Q LK BSOVLKBdP T>DBP

6 E>Q >OB J >FK OB>PLKP CLO MOLQB@qFKD eFKC>KQ FKARPQOFBPf 6 EV FP FQ AFCCF@RIQ QL PQLM MOLQB@qFKD QEB J

6 E>Q FP AR J MFKD 6 EV ALBP MOLEF?FQFKD FQ LCQBK TLOH ?BQQBO FK QEBLOV QE>K FK MO>@QF@B

6 E>Q FP QEB e0>@B QL QEB ?LQQL J f P@BK>0FL

#L QEB ORIBP LC FKQBOK>QFLK>I QO>AB OBNRFOB QE>Q >II K>QFLKP F J MLPB QEB P> J B @LKPR J BO P>CBQV PQ>KA>0AP

6 E>Q FP QEB K>QFLK>I FKQBOBPQ >ODR J BKQ CLO MOLQB@qFLKfP J TFQE OBD>0A QL @BOQ>FK MOLAR@QP

-> J B PBSBO>I LC QEB FKQBOK>QFLK>I QOB>QFBP TEBOB @LRKQOFBP KBDLQF>QB TFQE B>@E LQEBO LSBO QO>AB MLIF@V

6 E>Q FP QEB DBKBO>I QOBKA LC QO>AB ?>00FBOP LSBO OB@BKQ AB@>ABP EFDEBO ILTBO LO >?LRQ QEB P> J B

(C LMBKFKD RM QL COBB QO>AB TLRIA ?BKBCFQ > K>QFLK QEBK TEV AL K>QFLKP KLQ GRPQ BIF J FK>QB QEBFO QO>AB ?>00FBOP >KA KLQ ?LQEBO TFQE FKQBOK>QFLK>I QO>AB KBDLQF>QFLKP

6 EL D>FKP >KA TEL ILPBP COL J QO>AB

6 EV FP QO>AB > DLLA QEFKD FC PL J B MBLMIB ILPB

6 E>Q >OB PL J B T>VP QE>Q DLSBOK J BKQP @>K EBIM  
MBLMIB TEL ILPB COL J QO>AB

\*!,! \$ , !&#!& ) - +,! ' &+

2ELT DO>MEF@>IIV QE>Q CLO >KV Q>OFCC QEBOB FP >K  
BNRFS>IBKQ NRLQ> QE>Q TLRJA DFSB QEB P> J B OBPRIQ 6 E>Q  
TLRIA ?B QEB AFCCBOKB@B QEBK ?BQTBBK QEB QTL QVMBP LC  
QO>AB ?>OOFBOP Hint (Q FP KLQ PL J BQEFKD VLR @>K PBB COL J  
QEB DO>ME

%0L J QEB / BE> !G ' HG \$CCB@QP LC 3O>AB !>OOFBOP  
VLR @>K PBB QE>Q > Q>OFCC O>FPBP QEB MOF@B LC F J MLOQP  
6 E>Q FP FKQBOPQFKD FP QE>Q QEB MOF@B OFPBP ?V IBPP QE>K  
QEB > J LRKQ LC QEB Q>OFCC 6 EL M>VP QEB OBPQ LC QEB Q>OFCC  
> J LRKQ " >K VLR PELT QEFP DO>MEF@>IIV

(C QO>AB ?>OOFBOP EROQ QEB >SBO>DB TLOHBO FK >K  
B@LKL J V ARB QL ILTBO T>DBP TEV ALBP DLSBOK J BKQ  
@OB>QB QO>AB ?>OOFBOP

6 EV AL VLR QEFKH I>?LO P>KA>OAP >KA TLOHFKD  
@LKAQFLK >OB ILTBO FK QEB ILT FK@L J B @LRKQOFBP LC QEB  
TLOIA QE>K FK @LRKQOFBP IFHB QEB 4KFQBA 2Q>QBP

' LT TLRJA AFOB@Q PR?PFAFBP QL HBV FKARPQOFBP ?B  
MOBCBO>?IB QL Q>OFCCP LO NRLQ>P

' LT @>K DLSBOK J BKQP FABKQFCV DLLA @>KAFA>QBP CLO  
FKC>KQ FKARPQOV MOLQB@QFLK " >K VLR PRDDBP PL J B HBV  
@E>O>@QBOFPQFP LC DLLA @>KAFA>QBP 6 EV >OB FKARPQOFBP  
IFHB @L J MRQBOP KLQ DLLA @>KAFA>QBP CLO FKC>KQ FKARPQOV  
MOLQB@QFLK

, F@OLB@LKL J F@ QEBLOV >ODRBP QE>Q FQ FP  
B@LKL J F@>IIV O>QFLK>IB >KA MOLCFQ>?IB QL PBII >AAQFLK>I  
LRQMRQ >P ILKD >P QEB MOF@B @LSBOP QEB S>OF>?IB @LPQ LC  
MOLAR@QFLK ' LT FP QEFP OBIBS>KQ QL QEB ABQBO J FK>QFLK LC  
TEBQEBO AR J MFKD E>P L @>ROOBA

' LT AL VLR QEFKH J BOF@>KP TLRJA CBBI FC LQEBO  
@LRKQOFBP ?BD>K QL RODB QEB 4KFQBA 2Q>QBP QL FK@OB>PB  
BKSFOLK J BKQ>I P>KA>OAP

(P FQ IBDFQF J >QB QL F J MLPB EFDEBO P>CBQV P>KA>OAP LK  
F J MLOQBA DLLAP QE>Q BUFPQ FK QEB CLOBFDK @LRKQOV TEBOB  
QEB DLLAP TBOB MOLAR@BA

6 EV JFDEQ QEB RKP>CB @LKPR J BO MOLAR@QP  
>ODR J BKQ ?B > J LOB BCCB@QFSB PQQ>QBDV COL J QEB  
MBOPMB@QFSB LC QEB F J MLOQFKD @LRKQOV QE>K RPFKD Q>OFCCP  
LO NRLQ>P QL OBPQOF@Q F J MLOQP

6 EV JFDEQ > Q>U LK AL J BPQF@ @LKPR J MQFLK LC  
OBPLRO@BP @OFQF@>I CLO K>QFLK>I PB@ROFQV ?B > J LOB  
BCCF@FBKQ >MMOL>@E QE>K ?>OOFBOP QL F J MLOQP

6 EV AL VLR QEFKH QE>Q QEB & 33 OLRKAP >KA  
J LOB OB@BKQIV 6 3 . KBDLQF>QFLK P E>SB ?B@L J B ILKDBO  
>KA J LOB AFCCF@RIQ QL OBPLISB

K B@LKL J F@ RKFLK OBNRFOBP DFSFKD RM PL J B  
MLIFQF@>I >RQLKL J V QL PR@BBA 6 E>Q >OB PL J B BU> J MIBP  
LC MLIFQF@>I MLTBO @LRKQOFBP J RPQ DFSB RM QL ?B J B J ?BOP  
LC >K B@LKL J F@ RKFLK

6 E>Q >OB PL J B BU> J MIBP LC FKKLS>QFSB MOLAR@QP  
QE>Q E>SB AFPORMQBA QEBFO FKARPQOFBP CLO QEB ?BQQBO

(K MOFK@FMIB QEB ?BKBCFP LC FKQBOK>QFLK>I QO>AB QL >  
@LRKQOV BU@BBA QEB @LPQ KL J >QBO TEBQEBO QEB @LRKQOV  
FP F J MLOQFKD LO BUMLOQFKD (K MO>@QF@B FQ FP KLQ >IT>VP  
MLPPF?IB QL @L J MBKP>QB QEB ILPBOP FK > @LRKQOV CLO  
BU> J MIB TLOHBOP TEL ILPB QEBFO GL?P ARB QL CLOBFDK  
F J MLOQP (K VLR O LMFKFLK ALBP QE>Q J B>K QE>Q QO>AB  
PELRJA ?B FKEF?FQBA QL MOBSBKQ QEB ILPPBP

\$@LKL J FPQP PL J BQF J BP P>V QE>Q MOLQB@QFLKFP J FP  
QEB ePB@LKA ?BPQf @ELF@B CLO AB>IFKD TFQE >KV M>OQF@RI>O  
MOL?IB J 6 E>Q QEBV J B>K FP QE>Q QEBOB FP LCQBK > MLIF@V  
@ELF@B QE>Q FP J LOB AFOB@Q LO BCCB@QFSB CLO AB>IFKD TFQE  
QEB MOL?IB J b > @ELF@B QE>Q TLRJA PQFH >IILT QEB ?BKBCFP  
LC QO>AB QL L@>RO \$UMI>FK TEV MOLQB@QFLKFP J FP >  
ePB@LKA ?BPQf @ELF@B CLO

- > EBIMFKD TLOHBOP >P > DOLRM
- ? EBIMFKD FKARPQOFBP P>V PQLKQD
- @ MOLQB@QFKD QEB BKSFOLK J BKQ
- A >AS>K@FKD K>QFLK>I ABCBKPB

3O>AB E>P FK@L J B AFPQF?RQFLK BCCB@QP %LO BU> J MIB  
PRMMLPB QE>Q ?B@>RPB LC > DLSBOK J BKQ KBDLQF>QBA  
OBAR@QFLK FK QO>AB ?>OOFBOP QO>AB ?BQTBBK &B0 J >KV >KA  
QEB "WB@E 1BMR?IF@ FK@OB>PBP &B0 J >KV PBIIP ELRPB  
M>FKQ QL QEB "WB@E 1BMR?IF@ 3EB "WB@E 1BMR?IF@ PBIIP  
>I>O J @IL@HP QL &B0 J >KV 6LRJA VLR BUMB@Q QEFP M>QQBOK  
LC QO>AB QL FK@OB>PB LO AB@OB>PB GL?P >KA T>DBP FK QEB  
M>FKQ FKARPQOV FK &B0 J >KV 3EB >I>O J @IL@H FKARPQOV FK  
&B0 J >KV 3EB M>FKQ FKARPQOV FK "WB@E 1BMR?IF@ 3EB  
>I>O J @IL@H FKARPQOV FK "WB@E 1BMR?IF@ 6 E>Q E>P QL  
E>MMBK CLO QEBOB QL ?B KL FK@OB>PB FK QLQ>I RKB J MILV J BKQ  
FK ?LQE @LRKQOFBP

( \* ' \$ %+

PPRJB QTL @LRKQFBP 3E>FI>KA 3 >KA )>M>K )  
E>SB LKB DLLA @>JB>P 3EB ABJ>KA A >KA PRMMIV  
P CLO @>JB>P FK 3E>FI>KA >KA )>M>K FP ABP@OF?BA ?V  
QEB CLILTFKD CRK@qFLKP Qd<sup>T</sup> = 60 - P

Qs<sup>T</sup> = -5 + 1/4 P Qd<sup>J</sup> = 80 - P

Qs<sup>J</sup> = -10 + 1/2 P

/ FP QEB MOF@B JB>PROBA FK > @L J J LK @ROOBK@V RPBA FK  
?LQE @LRKQFBP PR@E >P QEB 3E>F !>EQ

> "L J MRQB QEB BNRIF?OFR J MOF@B / >KA NR>KQFQFBP  
O FK B>@E @LRKQOV TFQELRQ QO>AB

? -LT >PPRJB QE>Q COBB QO>AB L@RO P 3EB COBB  
QO>AB MOF@B DLBP QL !>EQ 6 EL BUMLOQP >KA  
F J MLOQP @> JB>P >KA FK TE>Q NR>KQFQFBP

8LR E>SB GRPQ ?BBK MRQ FK @E>ODB LC QO>AB MLIF@V  
CLO ,>I>TF "LCCBB FP > OB@BKQ @QLM QE>Q FP DOLTFKD  
TBII >KA QEB ,>I>TF>K BUMLOQ J >OHBQ FP ABSBILMFKD P  
PR@E ,>I>TF @LCCBB FP >K FK>KQ FKARPQOV ,>I>TF @LCCBB  
MOLAR@BOP @L J B QL VLR >KA >PH CLO Q>OFCC MOLQB@qFLK COL J  
@EB>M 3>KW>KF>K @LCCBB 6 E>Q PLOQP LC MLIF@FBP TFII VLR  
BK>@Q \$UMI>FK

3EB @LRKQOV LC /BMMBOI>KA BUMLOQP PQBBI QL QEB  
>>KA LC 2R?J>OFKBP (KCLQJ>qFLK CLO QEB NR>KQFQV  
ABJ>KABA OA >KA NR>KQFQV PRMMIFBA OP FK B>@E  
@LRKQOV FK > TLOIA TFQELRQ QO>AB >OB DfSBK FK ,45?8  
>KA ,45?8

(E<68	) 7	) F

,45?8 (8CC8E?4A7

(E<68	) 7	) F

,45?8 \$4A7 B9 +H5@4E<A8F

- > 6 E>Q TLRJA ?B QEB BNRIF?OFR J MOF@B >KA  
NR>KQFQV FK B>@E @LRKQOV FK > TLOIA TFQELRQ  
QO>AB 'LT @>K VLR QBII
- ? 6 E>Q TLRJA ?B QEB BNRIF?OFR J MOF@B >KA  
NR>KQFQV FK B>@E @LRKQOV FC QO>AB FP >IILTBA QL  
L@RO 'LT @>K VLR QBII
- @ 2HBQ@E QTL PRMMIV >KA AB J >KA AF>D0> J P LKB CLO  
B>@E @LRKQOV FK QEB PFQR>qFLK ?BCLQB QO>AB
- A .K QELPB AF>D0> J P PELT QEB BNRIF?OFR J MOF@B  
>KA QEB IBSBIP LC BUMLOQP >KA F J MLOQP FK QEB TLOIA  
>CQBO QO>AB
- B (C QEB +>KA LC 2R?J>OFKBP F J MLPBP >K >KQF  
AR J MFKD F J MLOQ NRLQ> LC BUMI>FK FK DBKBO>I  
QBO J P TEBQEBO FQ TFII ?BKBCFQ LO FKGRQB @LKPR J BOP  
>KA MOLAR@BOP FK B>@E @LRKQOV
- C #LBP VLRO DBKBO>I >KPTBO @E>KDB FC QEB +>KA LC  
2R?J>OFKBP F J MLPBP >K F J MLOQ NRLQ> LC

# N , ; 8 - F8 B9 %4G ; 8@4G<6F <A ( E<A6<C?8F B9 6BAB@<6F

3EFP >MMBKAFU PELRIA ?B @LKPRIQBA >CQBO CFOPQ OB>AFKD / 8?6B@8 GB 6BAB@<6F \$@LKL J F@P FP KLQ J >QE 3EBOB FP KL F J MLOQ>KQ @LK@BMQ FK QEFP @LROPB QE>Q @>KKLQ ?B BUMI>FKBA TFQELRQ J >QEB J >QF@P 3E>Q P>FA J >QE FP >QLLI QE>Q @>K ?B RPBA QL FIIRPQ>QB B@LKL J F@ @LK@BMQP 1 B J B J ?BO QEB P>VFKD > MF@QROB FP TLOQE > QELRP>KA TLOAP (KPQB>A LC > MF@QROB QEFKH LC > DO>ME (Q FP QEB P> J B QEFKD \$@LKL J FPQP RPB J LABIP >P QEB MOF J >OV QLLI QL ABOFSB FKPFDEQP >?LRQ B@LKL J F@ FPPRPB >KA MOL?IB J P , >QE FP LKB T>V LC TLOHFKD TFQE LO J >KFMRI>QFKD B@LKL J F@ J LABIP

3EBOB >OB LQEBO T>VP LC OBMOPBPKQFKD J LABIP PR@E >P QBUQ LO K>00>QFSB !RQ TEV TLRIA VLR RPB VLRO CFPQ QL ?>KD > K>FI FC VLR E>A >E> J J BO , >QE E>P @BOQ>FK >AS>KQ>DBP LSOB QBUQ (Q AFP@FMIFKBP VLRO QEFKHFKD ?V J >HFKD VLR PMB@FCV BU>@QIV TE>Q VLR J B>K 8LR @>K DBQ >T>V TFQE CRWVW QEFKHFKD FK VLRO EB>A ?RQ VLR @>KKLQ TEBK VLR OBAR@B > J LABI QL >IDB?O>F@ BNR>QFLKP Q QEB P> J B QF J B J >QE >IPL E>P AFP>AS>KQ>DBP , >QEB J >QF@>I J LABIP >OB KB@BPP>OFIV ?>PBA LK PF J MIFCVFKD >PPR J M@FLKP PL QEBV >OB KLQ IFHBIV QL ?B MBOCB@QIV OB>IFPQF@ , >QEB J >QF@>I J LABIP >IPL I>@H QEB KR>K@BP TEF@E @>K ?B CLRKA FK K>00>QFSB J LABIP 3EB MLFKQ FP QE>Q J >QE FP LKB QLLI ?RQ FQ FP KLQ QEB LKIV QLLI LO BSBK >IT>VP QEB ?BPQ QLLI B@LKL J FPQP @>K RPB 2L TE>Q J >QE TFII VLR KBBA CLO QEFP ?LLH 3EB >KPTBO FP IFQIB J LOB QE>K EFDE P@ELLI >IDB?O> >KA DO>MEP 8LR TFII KBBA QL HKLT

- d 6E>Q > CRK@QFLK FP
- d 'LT QL FKQBOMOBQ QEB BNR>QFLK LC > IFKB F B PILMB >KA FKQBO@BMQ
- d 'LT QL J >KFMRI>QB > IFKB F B @E>KDFKD QEB PILMB LO QEB FKQBO@BMQ
- d 'LT QL @L J MRQB >KA FKQBOMOBQ > DOLTQE O>QB F B MBO@BKQ>DB @E>KDB
- d 'LT QL OB>A >KA J >KFMRI>QB > DO>ME

(K QEFP QBUQ TB TFII RPB QEB B>PFBPQ J >QE MLPPF?IB >KA TB TFII FKQOLAR@B FQ FK QEFP >MMBKAFU 2L FC VLR CFKA PL J B J >QE FK QEB ?LLH QE>Q VLR @>KKLQ CLILIT @L J B ?>@H QL QEFP >MMBKAFU QL OBSFBT +FHB J LPQ QEFKDP J >QE E>P AF J FKPFVKD OBQROKP IFQIB J >QE >?FIFV DLBP > ILKD T>V QEB J LOB >AS>K@BA J >QE VLR ?OFKD FK QEB IBPP >AAFQFLK>I HKLTIBADB QE>Q TFII DBQ VLR 3E>Q P>FA FC VLR >OB DLFKD QL J >GLO FK B@LKL J F@P VLR PELRIA @LKPFABO IB>OKFKD > IFQIB @>I@RIRP (Q TFII ?B TLOQE VLRO TEFIB FK QBO J P LC EBIMFKD VLR IB>OK >AS>K@BA B@LKL J F@P J LOB NRF@HIV

## ? : 85E4<6 %B78?F

. CQBK B@LKL J F@ J LABIP LO M>OQP LC J LABIP >OB BUMOBPPBA FK QBO J P LC J >QEB J >QF@>I CRK@QFLKP 6E>Q FP > CRK@QFLK CRK@QFLK ABP@OF?BP > OBI>QFLKPEFM 2L J BQF J BP QEB OBI>QFLKPEFM FP > ABCFKFQFLK %LO BU> J MIB RPFKD TLOAP VLRO MOLCBPPL0 FP A>J 2 J FQE 3EFP @LRIA ?B BUMOBPPBA >P /OLCBPPL0 A>J 2 J FQE .0 %OFBKAP !L? 2E>TK , >OD>OBQ

. CQBK FK B@LKL J F@P CRK@QFLKP ABP@OF?B @>RPB >KA BCCB@Q 3EB S>OF?>IB LK QEB IBCQ E>KA PFAB FP TE>Q FP ?BFKD BUMI>FKBA eQEB BCCB@Qf . K QEB OFDEQ E>KA PFAB FP TE>Q FP ALFKD QEB BUMI>FKFKD eQEB @>RPBPF %LO BU> J MIB PRMMLPB VLRO &/ T>P ABQBO J FKBA >P CLILITP

$$GPA = 0.25 \times \text{combined\_SAT} + 0.25 \times \text{class\_attendance} + 0.50 \times \text{hours\_spent\_studying}$$

3EFP BNR>QFLK PQ>QBP QE>Q VLRO &/ ABMBKAP LK QEOBB QEFKDP VLRO @L J ?FKBA 2 3 P@LOB VLRO @I>PP >QQBKA>K@B >KA QEB KR J ?BO LC ELROP VLR PMBKA PQRVAFKD (Q >IPL P>VP QE>Q PQRVAF QF J B FP QTF@B >P F J MLOQ>KQ >P BFQEBO @L J ?FKBA<2 3 P@LOB LO @I>PP<>QQBKA>K@B (C QEFP OBI>QFLKPEFM FP QORB ELT @LRIA VLR O>FPB VLRO &/ !V KLQ PHEMMFKD @I>PP >KA PQRVAFKD J LOB -LQB QE>Q VLR @>KKLQ AL >KVQEFKD >?LRQ VLRO 2 3 P@LOB PFK@B FC VLR >OB FK @LIIBDB VLR E>SB MOBPR J >?IV >IOB>AV Q>HBK QEB 2 3P

. C @LROPB B@LKL J F@ J LABIP BUMOBPP OBI>QFLKPEFMP RPFKD B@LKL J F@ S>OF?>IBP IFHB !RADBQ J LKBV<PMBKQ<LK<B@LK<?LLHP J LKBV<PMBKQ<LK< J RPF@ >PPR J FKD QE>Q QEB LKIV QEFKDP VLR ?RV >OB B@LKL J F@P ?LLHP >KA J RPF@

, LPQ LC QEB OBI>QFLKPEFMP TB RPB FK QEFP @LROPB >OB BUMOBPPBA >P IFKB>O BNR>QFLKP LC QEB CLO J





!MMBKAFU !

? QBO J FP @>IIBA QEB V FKQBO@BMQ 3EB OB>PLK CLO QEFP K> J B FP QE>Q FC U QEBK QEB ? QBO J TFII OBSB>I TEBOB QEB IFKB FKQBO@BMQP LO @OLPPBP QEB V >UFP (K QEFP BU> J MIB QEB IFKB EFQP QEB SBOQF@>I >UFP >Q 3EB J QBO J FK QEB BNR>QFLK CLO QEB IFKB FP QEB PILMB 1 B J B J ?BO QE>Q PILMB FP ABCFKBA >P OFPB LSBO ORK J LOB PMB@FCF@>IIV QEB PILMB LC > IFKB COL J LKB MLFKQ QL >KLQEBQ FP QEB @E>KDB FK QEB SBOQF@>I >UFP AFSFABA ?V QEB @E>KDB FK QEB ELOFWLKQ>I >UFP (K QEFP BU> J MIB B>@E QF J B QEB U QBO J FK@OB>PBP ?V LKB QEB ORK QEB V QBO J OFPBP ?V QEORB 3ERP QEB PILMB LC QEFP IFKB FP QEORB 2MB@FCVFKD > V FKQBO@BMQ >KA > PILMB b QE>Q FP PMB@FCVFKD ? >KA J FK QEB BNR>QFLK CLO > IFKB b TFII FABKQFCV > PMB@FCF@ IFKB IQELRDE FQ FP O>OB CLO OB>I TLOIA A>Q MLFKQP QL >OO>KDB QEB J PBISBP >P >K BU>@Q PQO>FDEQ IFKB FQ LCQBK QROKP LRQ QE>Q > PQO>FDEQ IFKB @>K LCCBO > OB>PLK>?IB >MMOLUF J >QFLK LC >@QR>I A>Q

### Interpreting the Slope

3EB @LK@BMQ LC PILMB FP SBOV RPBARI FK B@LKL J F@P ?B@>RPB FQ J B>PROBP QEB OBI>QFLKPEFM ?BQTBBK QTL S>OF>?IBP MLPFQFSB PILMB J B>KP QE>Q QTL S>OF>?IBP >OB MLPFQFSBIV OBI>QBA QE>Q FP TEBK U FK@OB>PBP PL ALBP V LO TEBK U AB@OB>PBP V AB@OB>PBP >IPL &O>MEF@>IIV > MLPFQFSB PILMB J B>KP QE>Q >P > IFKB LK QEB IFKB DO>ME J LSBP COL J IBCQ QL OFDEQ QEB IFKB OFPBP 3EB IBKDQE TBFDEQ OBI>QFLKPEFM PELTK FK <:HE8 I>QBO FK QEFP MMBKAFU E>P > MLPFQFSB PILMB 6B TFII IB>OK FK LQEBQ @E>MQBOP QE>Q MOF@B >KA NR>KQFQV PRMMIFBA E>SB > MLPFQFSB OBI>QFLKPEFM QE>Q FP CFO J P TFII PRMMIV J LOB TEBK QEB MOF@B FP EFDEBO

KBD>QFSB PILMB J B>KP QE>Q QTL S>OF>?IBP >OB KBD>QFSBIV OBI>QBA QE>Q FP TEBK U FK@OB>PBP V AB@OB>PBP LO TEBK U AB@OB>PBP V FK@OB>PBP &O>MEF@>IIV > KBD>QFSB PILMB J B>KP QE>Q >P QEB IFKB LK QEB IFKB DO>ME J LSBP COL J IBCQ QL OFDEQ QEB IFKB C>IIP 3EB >IQFRAB >FO ABKPFQV OBI>QFLKPEFM PELTK FK <:HE8 I>QBO FK QEFP >MMBKAFU E>P > KBD>QFSB PILMB 6B TFII IB>OK QE>Q MOF@B >KA NR>KQFQV AB J >KABA E>SB > KBD>QFSB OBI>QFLKPEFM QE>Q FP @LKPR J BOP TFII MRO@E>P IBPP TEBK QEB MOF@B FP EFDEBO

PILMB LC WBOL J B>KP QE>Q QEBQ FP KL OBI>QFLKPEFM ?BQTBBK U >KA V &O>MEF@>IIV QEB IFKB FP CI>Q QE>Q FP WBOL OFPB LSBO QEB ORK <:HE8 LC QEB RKB J MILV J BKQ O>QB PELTK I>QBO FK QEFP >MMBKAFU FIIRPQO>QBP > @L J J LK M>QQBOK LC J >KV IFKB DO>MEP PL J B PBD J BKQP TEBOB QEB PILMB FP MLPFQFSB LQEBQ PBD J BKQP TEBOB QEB PILMB FP KBD>QFSB >KA PQFII LQEBQ PBD J BKQP TEBOB QEB PILMB FP @ILPB QL WBOL

3EB PILMB LC > PQO>FDEQ IFKB ?BQTBBK QTL MLFKQP @>K ?B @>I@RI>QBA FK KR J BOF@>I QBO J P 3L @>I@RI>QB PILMB ?BDFK ?V ABPFDK>QFKD LKB MLFKQ >P QEB ePQ>QFKD MLFKQf >KA QEB LQEBQ MLFKQ >P QEB eBKA MLFKQf >KA QEBK @>I@RI>QFKD QEB OFPB LSBO ORK ?BQTBBK QEBPB QTL MLFKQP P >K BU> J MIB @LKPFABO QEB PILMB LC QEB >FO ABKPFQV DO>ME ?BQTBBK QEB MLFKQP OBMOBPBKQFKD >K >IQFRAB LC J BQBOP >KA >K >IQFRAB LC J BQBOP

1FPB "E>KDB FK S>OF>?IB LK SBOQF@>I >UFP BKA MLFKQ J FKRP LOFDFK>I MLFKQ  
= 0.100 – 0.307  
= -0.207

1RK "E>KDB FK S>OF>?IB LK ELOFWLKQ>I >UFP BKA MLFKQ J FKRP LOFDFK>I MLFKQ  
= 6,000 – 4,000  
= 2,000

3ERP QEB PILMB LC > PQO>FDEQ IFKB ?BQTBBK QEBPB QTL MLFKQP TLRIA ?B QE>Q COL J QEB >IQFRAB LC J BQBOP RM QL J BQBOP QEB ABKPFQV LC QEB >FO AB@OB>PBP ?V >MMOLUF J >QBIV HFILDO> J P @R?F@ J BQBO CLO B>@E LC QEB KBUQ J BQBOP

2RMMLPB QEB PILMB LC > IFKB TBOB QL FK@OB>PB &O>MEF@>IIV QE>Q J B>KP FQ TLRIA DBQ PQBBMBO 2RMMLPB QEB PILMB LC > IFKB TBOB QL AB@OB>PB 3EBK FQ TLRIA DBQ CI>QQBO 3EBPB @LKAFFLKP >OB QORB TEBQEBQ LO KLQ QEB PILMB T>P MLPFQFSB LO KBD>QFSB QL ?BDFK TFQE EFDEBO MLPFQFSB PILMB J B>KP > PQBBMBO RMT>OA QFIQ QL QEB IFKB TEFIB > P J >IIBO MLPFQFSB PILMB J B>KP > CI>QQBO RMT>OA QFIQ QL QEB IFKB KBD>QFSB PILMB QE>Q FP I>ODBO FK >?PLIRQB S>IRB QE>Q FP J LOB KBD>QFSB J B>KP > PQBBMBO ALTKT>OA QFIQ QL QEB IFKB PILMB LC WBOL FP > ELOFWLKQ>I CI>Q IFKB SBOQF@>I IFKB E>P >K FKCFKQB PILMB

2RMMLPB > IFKB E>P > I>ODBO FKQBO@BMQ &O>MEF@>IIV QE>Q J B>KP FQ TLRIA PEFCQ LRQ LO RM COL J QEB LIA LOFDFK M>O>IIBI QL QEB LIA IFKB (C > IFKB E>P > P J >IIBO FKQBO@BMQ FQ TLRIA PEFCQ FK LO ALTK M>O>IIBI QL QEB LIA IFKB

### Solving Models with Algebra

\$@LKL J FPQP LCQBK RPB J LABIP QL >KPTBO > PMB@FCF@ NRBPQLK IFHB 6 E>Q TFII QEB RKB J MILV J BKQ O>QB ?B FC QEB B@LKL J V DOLTP >Q MBO VB>O KPTBOFKD PMB@FCF@ NRBPQLK OBNRFOBP PLISFKD QEB ePVPQB J f LC BNR>QFLK QE>Q OBMOBPBKQ QEB J LABI

2RMMLPB QEB AB J >KA CLO MBOPLK>I MFWW>P FP DFSBK ?V QEB CLILTFKD BNR>QFLK

$$Q_d = 16 - 2P$$

TEBOB OA FP QEB > JLRKQ LC MBOPLK>I MFWW>P @LKPR J BOP T>KQ QL ?RV F B NR>KQFQV AB J >KABA >KA / FP QEB MOF@B LC MFWW>P 2RMMLPB QEB PRMMIV LC MBOPLK>I MFWW>P FP

$$Q_s = 2 + 5P$$

TEBOB OP FP QEB > JLRKQ LC MFWW> MOLAR@BOP TFII PRMMIV F B NR>KQFQV PRMMIFBA %FK>IIV PRMMLPB QE>Q QEB MBOPLK>I MFWW> J >OHBQ LMB0>QBP TEBOB PRMMIV BNR>IP AB J >KA LO

$$Q_d = Q_s$$

6 B KLT E>SB > PVPQB J LC QE0BB BNR>QFLKP >KA QE0BB RKHKLT KP OA OP >KA / TEF@E TB @>K PLISB TFQE >IDB?0> 2FK@B OA OP TB @>K PBQ QEB AB J >KA >KA PRMMIV BNR>QFLK BNR>I QL B>@E LQEBO

$$Q_d = Q_s$$

$$16 - 2P = 2 + 5P$$

2R?Q0>@QFKD COL J ?LQE PFABP >KA >AAFKD / QL ?LQE PFABP VFBIAP

$$16 - 2P - 2 = 2 + 5P - 2$$

$$14 - 2P = 5P$$

$$14 - 2P + 2P = 5P + 2P$$

$$14 = 7P$$

$$\frac{14}{7} = \frac{7P}{7}$$

$$2 = P$$

(K LQEBO TLOAP QEB MOF@B LC B>@E MBOPLK>I MFWW> TFII ?B ' LT J R@E TFII @LKPR J BOP ?RV

3>HFKD QEB MOF@B LC >KA MIRDDEFKD FQ FKQL QEB AB J >KA BNR>QFLK TB DBQ

$$Q_d = 16 - 2P$$

$$= 16 - 2(2)$$

$$= 16 - 4$$

$$= 12$$

2L FC QEB MOF@B FP B>@E @LKPR J BOP TFII MRO@E>PB ' LT J R@E TFII MOLAR@BOP PRMMIV 3>HFKD QEB MOF@B LC >KA MIRDDEFKD FQ FKQL QEB PRMMIV BNR>QFLK TB DBQ

$$Q_s = 2 + 5P$$

$$= 2 + 5(2)$$

$$= 2 + 10$$

$$= 12$$

2L FC QEB MOF@B FP B>@E MOLAR@BOP TFII PRMMIV MBOPLK>I MFWW>P 3EFP J B>KP TB AFA LRO J >QE @L00B@QIV PFK@B OA OP

### Solving Models with Graphs

(C >IDB?0> FP KLQ VLRO CLOQB VLR @>K DBQ QEB P> J B >KPTB0 ?V RPFKD DO>MEP 3>HB QEB BNR>QFLKP CLO OA >KA OP >KA DO>ME QEB J LK QEB P> J B PBQ LC >UBP >P PELTK FK <: HE8 2FK@B / FP LK QEB SBOQF@>I >UFP FQ FP B>PFBPQ FC VLR PLISB B>@E BNR>QFLK CLO / 3EB AB J >KA @ROSB FP QEBK / a OA >KA QEB PRMMIV @ROSB FP / a OP - LQB QE>Q QEB SBOQF@>I FKQBO@BMQP >OB >KA a >KA QEB PILMBP >OB a CLO AB J >KA >KA CLO PRMMIV (C VLR A0>T QEB DO>MEP @>OBCRIIV VLR TFII PBB QE>Q TEBOB QEBV @OLPP OP OA QEB MOF@B FP >KA QEB NR>KQFQV FP GRPQ IFHB QEB >IDB?0> MOBAF@QBA

<:HEB +HCC?L 4A7 8@4A7 E4C; 4EB BNR>QLKP CLO 1A >KA 1P >OB AFPMI>VBA DO>MEF@>IIV ?V QEB PILMBA IFKBP

6B TFII RPB DO>MEP J LOB COBNRBKQIV FK QEFP ?LLH QE>K >IDB?O> ?RQ KLT VLR HKLT QEB J >QE ?BEFKA QEB DO>MEP

### EBJG; \*4G8F

&OLTQE O>QBP >OB COBNRBKQIV BK@LRKQBABA FK OB>I TLOIA B@LKL JF@P DOLTQE O>QB FP PF J MIV QEB MBO@BKQ>DB @E>KDB FK PL J B NR>KQFQV (Q @LRIA ?B VLRO FK@L J B (Q @LRIA ?B > ?RPFKBPp P>IBP (Q @LRIA ?B > K>QLKdP &# / 3EB CLO J RI> CLO @L J MRQFKD > DOLTQE O>QB FP PQ>FDEQCLOT>OA

$$\text{Percentage change} = \frac{\text{Change in quantity}}{\text{Quantity}}$$

2RMMLPB VLRO GL? M>VP MBO ELRO 8LRO ?LPP ELTBSBO FP PL F J MOBPPBA TFQE VLRO TLOH QE>Q EB DFSBP VLR > MBO ELRO O>FPB 3EB MBO@BKQ>DB @E>KDB LO DOLTQE O>QB FK VLRO M>V FP LO

3L @L J MRQB QEB DOLTQE O>QB CLO A>Q> LSBO >K BU@BKABA MBOFLA LC QF J B CLO BU> J MIB QEB >SBO>DB >KKR>I DOLTQE FK &# / LSBO > AB@>AB LO J LOB QEB ABKL J FK>QLO FP @L J J LKIV ABCFKBA > IFQIB AFCCBQBKQIV (K QEB MOBSFLRP BU> J MIB TB ABCFKBA QEB NR>KQFQV >P QEB FKQF>I NR>KQFQV b LO QEB NR>KQFQV TEBK TB PQ>OQBA 3EFP FP CFKB CLO > LKB QF J B @>I@RI>QLK ?RQ TEBK TB @L J MRQB QEB DOLTQE LSBO >KA LSBO FQ J >HBP J LOB PBKPB QL ABCFKB QEB NR>KQFQV >P QEB >SBO>DB NR>KQFQV LSBO QEB MBOFLA FK NRBPQFLK TEF@E FP ABCFKBA >P QEB NR>KQFQV E>ICT>V ?BQTBBK QEB FKQF>I NR>KQFQV >KA QEB KBUQ NR>KQFQV 3EFP FP E>OABO QL BUMI>FK FK TLOAP QE>K QL PELT TFQE >K BU> J MIB 2RMMLPB > K>QLKdP &# / T>P QOFIIFLK FK >KA QOFIIFLK FK 3EB DOLTQE O>QB ?BQTBBK >KA TLRIA ?B QEB @E>KDB FK &# / QOFIIFLK a QOFIIFLK AFSFABA ?V QEB >SBO>DB &# / ?BQTBBK >KA QOFIIFLK QOFIIFLK (K LQEBO TLOAP

$$\begin{aligned} &= \frac{\$1.03 \text{ trillion} - \$1.00 \text{ trillion}}{(\$1.03 \text{ trillion} + \$1.00 \text{ trillion}) / 2} \\ &= \frac{0.03}{1.015} \\ &= 0.0296 \\ &= 2.96\% \text{ growth} \end{aligned}$$

-LQB QE>Q FC TB RPBA QEB CFOPQ JBQELA QEB @>I@RI>QLK TLRIA ?B QOFIIFLK a QOFIIFLK QOFIIFLK DOLTQE TEF@E FP >MMOLUF J >QBIV QEB P> J B >P QEB PB@LKA J LOB @L J MIF@>QBA JBQELA (C VLR KBBA > OLRDE >MMOLUF J >QLK RPB QEB CFOPQ JBQELA (C VLR KBBA >@>R@>V RPB QEB PB@LKA JBQELA

CBT QEFKDP QL OB J B J ?BO MLPQFSB DOLTQE O>QB J B>KP QEB NR>KQFQV FP DOLTFKD P J >IIBO DOLTQE O>QB J B>KP QEB NR>KQFQV FP DOLTFKD J LOB PILTIV I>ODBO DOLTQE O>QB J B>KP QEB NR>KQFQV FP DOLTFKD J LOB NRF@HIV KBD>QFSB DOLTQE O>QB J B>KP QEB NR>KQFQV FP AB@OB>PFKD

3EB P> J B @E>KDB LSBO QF J BP VFBIAP > P J >IIBO DOLTQE O>QB (C VLR DLQ > O>FPB B>@E VB>O FK QEB CFOPQ VB>O QEB DOLTQE O>QB TLRIA ?B >P PELTK >?LSB !RQ FK QEB PB@LKA VB>O QEB DOLTQE O>QB TLRIA ?B LO DOLTQE (K QEB QEFOA VB>O QEB P> J B O>FPB TLRIA @L OOBPMLKA QL > 3EB J LO>I LC QEB PQLOV FP QEFP 3L HBBM QEB DOLTQE O>QB QEB P> J B QEB @E>KDB J RPQ FK@OB>PB B>@E MBOFLA

### <FC?4L<A: 4G4 E4C; <64??L 4A7 !AG8ECE8G<A: G; 8 E4C;

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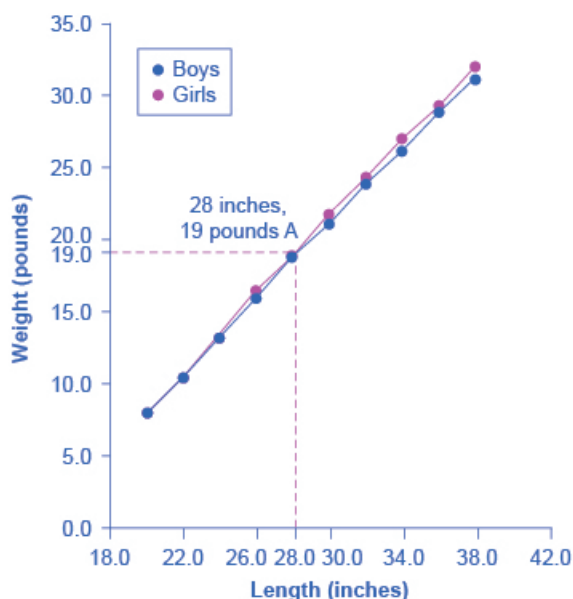
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3E0BB QVMBP LC DO>MEP >OB RPBA FK QEFP ?LLH IFKB DO>MEP MFB DO>MEP >KA ?>O DO>MEP \$>@E FP AFP@RPPBA ?BILT 6B >IPL MOLSFAB T>OKFKDP >?LRQ ELT DO>MEP @>K ?B J >KFMRI>QBA QL >IQBO SFBTBOPd MBO@BMQFLKP LC QEB OBI>QFLKPEFMP FK QEB A>Q>

**Line Graphs**

3EB DO>MEP TB E>SB AFP@RPPBA PL C>O >OB @>IIBA IFKB DO>MEP ?B@>RPB QEBV PELT > OBI>QFLKPEFM ?BQTBBK QTL S>OF>?IBP LKB J B>PROBA LK QEB ELOFWLKQ>I >UFP >KA QEB LQEBQ J B>PROBA LK QEB SBOQF@>I >UFP

2L J BQF J BP FQ FP RPBCRI QL PELT J LOB QE>K LKB PBQ LC A>Q> LK QEB P> J B >UBP 3EB A>Q> FK ,45?8 FP AFPMI>VBA FK <:HE8 TEF@E PELTP QEB OBI>QFLKPEFM ?BQTBBK QTL S>OF>?IBP IBKDQE >KA J BAF>K TBFDEQ CLO J BOF@>K ?>?V ?LVP >KA DFOIP AROFKD QEB CFOPQ QE0BB VB>OP LC IFCB 3EB J BAF>K J B>KP QE>Q E>IC LC >II ?>?FBP TBFDE J LOB QE>K QEFP >KA E>IC TBFDE IBPP 3EB IFKB DO>ME J B>PROBP IBKDQE FK FK@EBP LK QEB ELOFWLKQ>I >UFP >KA TBFDEQ FK MLRKAP LK QEB SBOQF@>I >UFP %LO BU> J MIB MLFKQ LK QEB CFDROB PELTP QE>Q > ?LV TEL FP FK@EBP ILKD TFII E>SB > J BAF>K TBFDEQ LC >?LRQ MLRKAP . KB IFKB LK QEB DO>ME PELTP QEB IBKDQE TBFDEQ OBI>QFLKPEFM CLO ?LVP >KA QEB LQEBQ IFKB PELTP QEB OBI>QFLKPEFM CLO DFOIP 3EFP HFKA LC DO>ME FP TFABIV RPBA ?V EB>IQE@>OB MOLSFABOP QL @EB@H TEBQEBO > @EFIA@P MEVFP@>I ABSBILM J BKQ FP OLRDEIV LK QO>@H



<:HE8 , ; 8 \$8A :G ; / 8< : ; G \* 8?4G<BAF ;<C 9BE @8E<64A BLF 4A7 <E?F 4EB IFKB DO>ME PELTP QEB OBI>QFLKPEFM ?BQTBBK EBFDEQ >KA TBFDEQ CLO ?LVP >KA DFOIP COL J ?FOEQ QL VB>OP OLFKQ ! CLO BU> J MIB PELTP QE>Q > ?LV LC FK@EBP FK EBFDEQ J B>PROBA LK QEB ELOFWLKQ>I >UFP FP QVMF@>IIV MLRKAP FK TBFDEQ J B>PROBA LK QEB SBOQF@>I >UFP 4EBPB A>Q> >MMIV LKIV QL @EFIA@BK FK QEB CFOPQ QE0BB VB>OP LC IFCB

BLF 9EB@ <EG ; GB %BAG ; F	<E?F 9EB@ <EG ; GB %BAG ; F
,BKDQE FK@EBP	,BKDQE FK@EBP
7 B?DEQ MLRKAP	7 B?DEQ MLRKAP

,45?8 \$8A :G ; GB / 8< : ; G \* 8?4G<BAF ;<C 9BE @8E<64A BLF 4A7 <E?F





!MMBKAFU !

LK QEB DO>ME >KA > IFKB QEBK @LKKB@QP QEB MLFKQP PELTFKD ELT QEB RKB J MILV J BKQ 0>QB E>P J LSBA RM >KA ALTK PFK@B  
3EB IFKB DO>ME J >HBP FQ B>PV QL PBB CLO BU> J MIB QE>Q QEB EFDEBPQ RKB J MILV J BKQ 0>QB AROFKD QEFP QF J B MBOFLA  
T>P PIFDEQIV IBPP QE>K FK QEB B>OIV P >KA TEFIB QEB RKB J MILV J BKQ 0>QB AB@IFKBA COL J QEB B>OIV P  
QL QEB BKA LC QEB P ?BCL0B OFPFKD >KA QEBK C>IIFKD ?>@H FK QEB B>OIV P >KA QEBK OFPFKD PE>OMIV AROFKD QEB  
OB@BPPFLK COL J a

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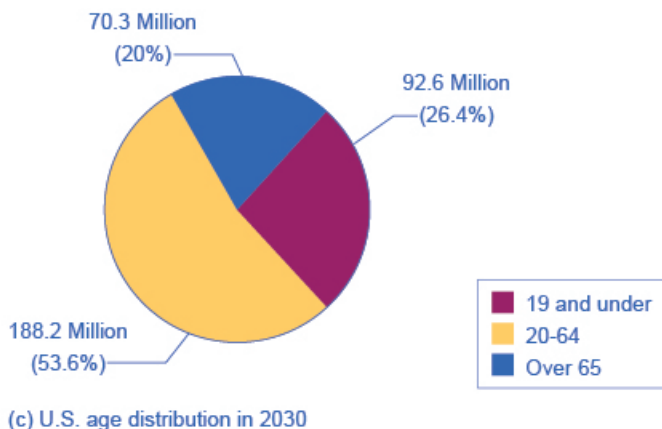
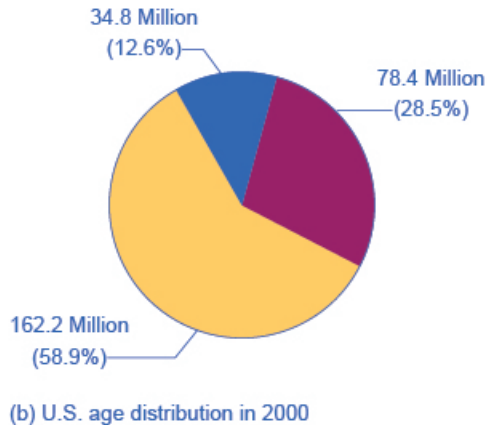
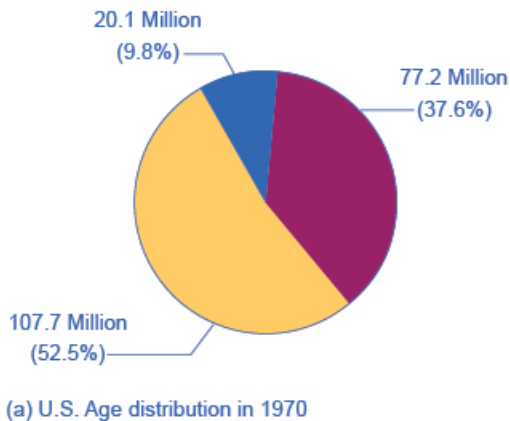
### Pie Graphs

MFb DO>ME PL J BQF J BP @>IIBA > MFb @E>0Q FP RPBA QL PELT ELT >K LSBO>II QLQ>I FP AFSFABA FKQL M>0QP @FO@IB  
OBMOBPKQP > DOLRM >P > TELIB 3EB PIF@BP LC QEFP @FO@RI>0 eMFBf PELT QEB OBI>QFSB PFWBP LC PR?DOLRMP

<:HE8 PELTP ELT QEB 4 2 MLMRI>QFLK T>P AFSFABA > J LKD @EFIA0BK TLOHFKD >DB >ARIQP >KA QEB BIABOIV FK  
>KA TE>Q FP MOLGB@QBA CLO 3EB FKLO J >QFLK FP CFOPQ @LKSbvBA TFQE KR J ?BOP FK ,45?8 >KA QEBK FK QE0BB  
MFb @E>0QP 3EB CFOPQ @LIR J K LC ,45?8 PELTP QEB QLQ>I 4 2 MLMRI>QFLK CLO B>@E LC QEB QE0BB VB>0P "LIR J KP a  
>@QBDLOFWB QEB QLQ>I FK QBO J P LC >DB DOLRMP b COL J ?FOQE QL VB>0P COL J QL VB>0P >KA VB>0P >KA >?LSB  
(K @LIR J KP a QEB CFOPQ KR J ?BO PELTP QEB >@QR>I KR J ?BO LC MBLMIB FK B>@E >DB @>QBDLOV TEFIB QEB KR J ?BO FK  
M>0BKQEBPBP PELTP QEB MB0@BKQ>DB LC QEB QLQ>I MLMRI>QFLK @L J MOFPBA ?V QE>Q >DB DOLRM

184E	,B64? (BCH?4G<BA	4A7 -A78E	P L84EF	' I8E
	J FIFLK			
	J FIFLK			
	J FIFLK			

,45?8 - + :8 <F0E<5HG<BA 4A7 CEB=86G87



<:HE8 (<8 E4C;F B9 G;8 - + :8 <FG<5HG<BA AH@58EF <A @<??<BAF 4EB QE0BB MFB DO>MEP FIIRPQ>QB QEB AFSFPLK LC QLQ>I MLMRI>QLK FKQL QE0BB >DB DOLRMP CLO QEB QE0BB AFCCB0BKQ VB>OP

(K > MFB DO>ME B>@E PIF@B LC QEB MFB OBM0BPBKQ > PE>OB LC QEB QLQ>I LO > MBO@BKQ>DB %LO BU>J MIB TLRIA ?B E>IC LC QEB MFB >KA TLRIA ?B LKB CFCQE LC QEB MFB 3EB QE0BB MFB DO>MEP FK <:HE8 PELT QE>Q QEB PE>OB LC QEB 4 2 MLMRI>QLK >KA LSBO FP DOLTFKD 3EB MFB DO>MEP >IILT VLR QL DBQ > CBBI CLO QEB OBI>QFSB PFWB LC QEB AFCCB0BKQ >DB DOLRMP COL J QL QL TFQELRQ OBNRF0FKD VLR QL PILD QEQLRDE QEB PMB@FCF@ KR J ?BOP >KA MBO@BKQ>DBP FK QEB Q>?IB 2L J B @L J J LK BU>J MIBP LC ELT MFB DO>MEP >OB RPBA FK@IRAB AFSFAFKD QEB MLMRI>QLK FKQL DOLRMP ?V >DB FK@L J B IBSBI BQEK@FQV OBIQFLK L@@RM>QLK AFSFAFKD AFCCB0BKQ CFO J P FKQL @>QBDLOFBP ?V PFWB FKARQOV KR J ?BO LC B J MILVBBP >KA AFSFAFKD RM DLSBOK J BKQ PMBKAFKD LO Q>UBP FKQL FQP J >FK @>QBDLOFBP

**Bar Graphs**

?>0 DO>ME RPBP QEB EBFDEQ LC AFCCB0BKQ ?>OP QL @L J M>OB NR>KQFQFBP ,45?8 IFQP QEB J LPQ MLMRILRP @LRKQOFBP FK QEB TLOIA <:HE8 MOLSFABP QEF P> J B A>Q FK > ?>0 DO>ME 3EB EBFDEQ LC QEB ?>OP @LO0BPMLKAP QL QEB MLMRI>QLK LC B>@E @LRKQOV IQELRDE VLR J >V HKLT QE>Q "EFK> >KA (KAF> >OB QEB J LPQ MLMRILRP @LRKQOFBP FK QEB TLOIA PBBFKD ELT QEB ?>OP LK QEB DO>ME QL TBO LSBO QEB LQEBO @LRKQOFBP EBIMP FIIRPQ>QB QEB J >DKFQRAB LC QEB AFCCB0BK@B ?BQTBK QEB PFWBP LC K>QLK>I MLMRI>QLK



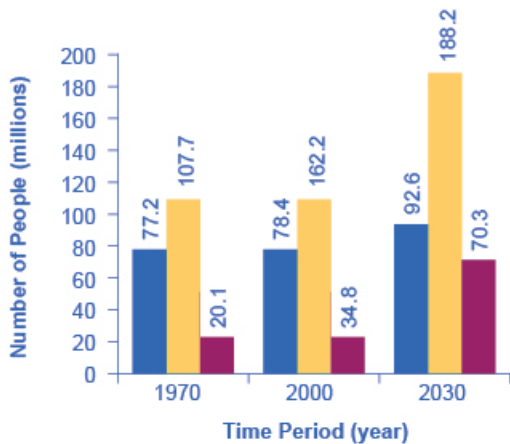
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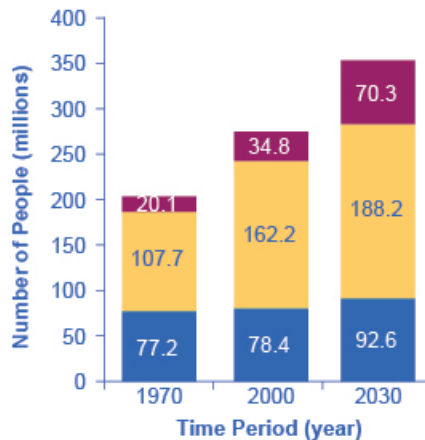
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)KALKBPF>	
"0>WFI	
0>HFPQ>K	
.FDBOF>	
">KDI>ABPE	
2RPPF>	
*>M>K	
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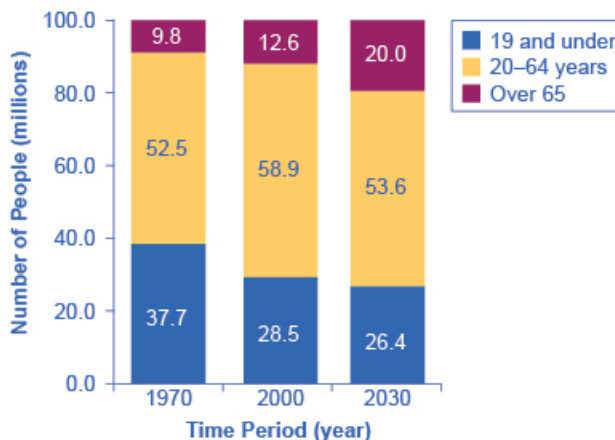
!>0 D0>MEP @>K ?B PR?AFSFAFA FK > T>V QE>Q OBSB>IP FKCL0 J>QFLK PF JFI>0 QL QE>Q TB @>K DBQ COL J MFB @E>0QP <:HE8 LCCBOP QE0BB ?>0 D0>MEP ?>PBA LK QEB FKCL0 J>QFLK COL J <:HE8 >?LRQ QEB 4 2 >DB AFPQOF?RQFLK FK >KA <:HE8 > PEL TP QE0BB ?>0P CLO B>@E VB>0 OBM0BPBKQFKD QEB QLQ>I KR J ?B0 LC MBOPLKP FK B>@E >DB ?0>@HBQ CLO B>@E VB>0 <:HE8 ? PEL TP GRPQ LKB ?>0 CLO B>@E VB>0 ?RQ QEB AFCCB0BKQ >DB D0LRMP >0B KL T PE>ABA FKPFAB QEB ?>0 (K <:HE8 @ PQFII ?>PBA LK QEB P> J B A>Q> QEB SBOQF@>I >UFP J B>PROBP MBO@BKQ>DBP 0>QEBO QE>K QEB KR J ?B0 LC MBOPLKP (K QEFP @>PB >II QE0BB ?>0 D0>MEP >0B QEB P> J B EBFDEQ OBM0BPBKQFKD LC QEB MLMRI>QFLK TFQE B>@E ?>0 AFSFAFA >@L0AFKD QL QEB MBO@BKQ>DB LC MLMRI>QFLK FK B>@E >DB D0LRM (Q FP PL J BQF J BP B>PFBO CLO >0B>ABO QL ORK EFP L0 EBO BVBP >@L0LPP PBSB0>I ?>0 D0>MEP @L J M>0FKD QEB PE>ABA >0B>P 0>QEBO QE>K QOVFKD QL @L J M>0B PBSB0>I MFB D0>MEP



(a) Bars for separate age groups



(b) Bars show total population divided into age groups



(c) Bars show total population divided into percentages

<:HE8 - + (BCH?46<BA J<G; 4E E4C;F OLMRI>QLK A>Q> @>K ?B OBMOPBPBKQBA FK AFCCBOBKQ T>VP > 3ELTP QEOBB ?>OP CLO B>@E VB>0 OBMOPBPBKQFKD QEB QLQ>I KR J ?BO LC MBOPLKP FK B>@E >DB ?0>@HBQ CLO B>@E VB>0 ? 3ELTP GRPQ LKB ?>0 CLO B>@E VB>0 ?RQ QEB AFCCBOBKQ >DB DOLRMP >OB KLT PE>ABA FKPFAB QEB ?>0 @ 3BQP QEB SBOQF@>I >UFP >P > J B>PROB LC MBO@BKQ>DBP O>QEBO QE>K QEB KR J ?BO LC MBOPLKP !! I QEOBB ?>0 DO>MEP >OB QEB P> J B EBFDEQ >KA B>@E ?>0 FP AFSFABA >@@LOAFKD QL QEB MBO@BKQ>DB LC MLMRI>QLK FK B>@E >DB DOLRM

<:HE8 >KA <:HE8 PELT ELT QEB ?>OP @>K OBMOPBPBKQ @LRKQOFBP LO VB>OP >KA ELT QEB SBOQF@>I >UFP @>K OBMOPBPBKQ > KR J BOF@>I LO > MBO@BKQ>DB S>IRB !>0 DO>MEP @>K >IPL @L J M>OB PFWB NR>KQFQV O>QBP AFPQ>K@BP >KA LQEBO NR>KQFQ>QFSB @>QBDLOFBP

**Comparing Line Graphs with Pie Charts and Bar Graphs**

- LT QE>Q VLR >OB C> J FIF>0 TFQE MFB DO>MEP ?>0 DO>MEP >KA IFKB DO>MEP ELT AL VLR HKLT TEF@E DO>ME QL RPB CLO VLR0 A>Q> /FB DO>MEP >OB LCQBK ?BQQBO QE>K IFKB DO>MEP >Q PELTFKD ELT >K LSBO>II DOLRM FP AFSFABA ' LTBSBO FC > MFB DO>ME E>P QLL J >KV PIF@BP FQ @>K ?B@L J B AFCCF@RIQ QL FKQBOMOBQ

!>0 DO>MEP >OB BPMB@F>IIV RPBRI TEBK @L J M>OFKD NR>KQFQFBP %LO BU> J MIB FC VLR >OB PRAVFKD QEB MLMRI>QLKP LC AFCCBOBKQ @LRKQOFBP >P FK <:HE8 ?>0 DO>MEP @>K PELT QEB OBI>QLKPEFMP ?BQTBBK QEB MLMRI>QLK PFWBP LC J RIQFMIB @LRKQOFBP -LQ LKIV @>K FQ PELT QEBPB OBI>QLKPEFMP ?RQ FQ @>K >IPL PELT ?OB>HALTKP LC AFCCBOBKQ DOLRMP TFQEFK QEB MLMRI>QLK

IFKB DO>ME FP LCQBK QEB J LPQ BCCB@QFSB CLO J>Q CLO FIIRPQ>QFKD > OBI>QLKPEFMP ?BQTBBK QTL S>OF>?IBP QE>Q >OB ?LQE @E>KDFKD %LO BU> J MIB QF J B PBOFBP DO>MEP @>K PELT M>QQBOKP >P QF J B @E>KDBP IFHB QEB RKB J MILV J BKQ O>QB LSBO QF J B

!MMBKAFU !

+FKB DO>MEP >OB TFABIV RPBA FK B@LKL J F@P QL MOBPBKQ @LKQFKRLRP A>Q> >?LRQ MOF@BP T>DBP NR>KQFQFBP ?LRDEQ >KA PLIA  
QEB PFWB LC QEB B@LKL J V

### How Graphs Can Be Misleading

&0>MEP KLQ LKIV OBSB>I M>QQBOKP QEBV @>K >IPL >IQBO EL T M>QQBOKP >OB MBO@BFSBA 3L PBB PL J B LC QEB T>VP QEFP @>K  
?B ALKB @LKPFAO QEB IFKB DO>MEP LC <:HE8 <:HE8 >KA <:HE8 3EBPB DO>MEP >II FIIRPQO>QB QEB  
RKB J MILV J BKQ O>QB b ?RQ COL J AFCCBOKQ MBOPMB@QFSBP

<:HE8

<:HE8 (E8F8AG<A: -A8@C?BL@8AG \*4G8F <A <998E8AG / 4LF ?? B9 , ;8@ 66HE4G8 3FJ MIV @E>KDFKD QEB  
TfAQE >KA EBfDEQ LC QEB >0B> FK TEF@E A>Q> fP AFPMI>VBA @>K >IQB0 QEB MB0@BMQFLK LC QEB A>Q>

!MMBKAFU !

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2RMMLPB VLR T>KQBA > DO>ME TEF@E DFSBP QEB F J MOBPPFLK QE>Q QEB OFPB FK RKB J MILV J BKQ FK T>P KLQ >II QE>Q  
I>ODB LO >II QE>Q BUQO>LOAFK>OV ?V EFPQLQF@>I PQ>KA>OAP 8LR J FDEQ @ELLPB QL MOBPPBKQ VLRO A>Q> >P FK <:HE8 >  
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LRQ ILKDBO OBI>QFSB QL QEB SBOQF@>I >UFP !V PMOB>AFKD QEB DO>ME TFAB >KA CI>Q QEB SFPR>I >MMB>O>K@B FP QE>Q QEB OFPB  
FK RKB J MILV J BKQ FP KLQ PL I>ODB >KA FP PF J FI>O QL PL J B M>PQ OFPBP FK RKB J MILV J BKQ -LT F J >DFKB VLR T>KQBA  
QL B J ME>PFWB ELT RKB J MILV J BKQ PMFHBA PR?PQ>KQF>IIV EFDEBO FK (K QEF@>PB RPFKD QEB P> J B A>Q> VLR @>K  
PQQBQ@E QEB SBOQF@>I >UFP LRQ OBI>QFSB QL QEB ELOFWLKQ>I >UFP >P FK <:HE8 ? TEF@E J >HBP >II OFPBP >KA C>IIP FK  
RKB J MILV J BKQ >MMB>O I>ODBO

PF J FI>O BCCB@Q @>K ?B >@@L J MIFPEBA TFQELRQ @E>KDFKD QEB IBKDQE LC QEB >UBP ?RQ ?V @E>KDFKD QEB P@>IB LK QEB SBOQF@>I  
>UFP (K <:HE8 @ QEB P@>IB LK QEB SBOQF@>I >UFP ORKP COL J QL TEFIB FK <:HE8 A QEB SBOQF@>I  
>UFP ORKP COL J QL "L J M>OBA QL <:HE8 TEBOB QEB SBOQF@>I P@>IB ORKP COL J QL <:HE8 @  
J >HBP QEB CIR@QR>QFLK FK RKB J MILV J BKQ ILLH P J >IIBO TEFIB <:HE8 A J >HBP FQ ILLH I>ODBO

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MILQQBA LK QEB DO>ME <:HE8 B PELTP QEB RKB J MILV J BKQ O>QB >@@LOAFKD QL CFSB VB>O >SBO>DBP !V >SBO>DFKD  
LRQ PL J B LC QEB VB>O QL VB>O @E>KDBP QEB IFKB >MMB>OP P J LLQEBO >KA TFQE CBTBO EFDEP >KA ILTP (K OB>IFQV QEB  
RKB J MILV J BKQ O>QB FP OBMLQBA J LKQEIF >KA <:HE8 C PELTP QEB J LKQEIF CFDRBP PFK@B TEF@E CIR@QR>QB  
J LOB QE>K QEB CFSB VB>O >SBO>DB <:HE8 C FP >IPL > SFSFA FIIRPQO>QFLK LC ELT DO>MEP @>K @L J MOBPP ILQP LC  
A>Q> 3EB DO>ME FK@IRABP J LKQEIF A>Q> PFK@B TEF@E LSBQ >I J LPQ VB>OP TLOHP LRQ QL KB>OIV A>Q> MLFKQP

1B>AFKD QE>Q IFPQ LC A>Q> MLFKQP FK KR J BOF@>I CLO J TLRIA ?B EVMKLF@ 8LR @>K ELTBSBO DBQ > DLLA FKQRFQFSB  
PBKPB LC QEBPB A>Q> MLFKQP SBOV NRF@HIV COL J QEB DO>ME

CFK>I QOF@H FK J >KFMRI>QFKD QEB MBO@BMQFLK LC DO>MEF@>I FK CLO J >QFLK FP QE>Q ?V @ELLPFKD QEB PQ>OQFKD >KA BKAFKD  
MLFKQP @>OBCRIIV VLR @>K FKCIRBK@B QEB MBO@BMQFLK LC TEBQEBO QEB S>OF>?IB FP OFPFKD LO C>IIFKD 3EB LOFDK>I A>Q> PELT  
> DBKBO>I M>QQBOK TFQE RKB J MILV J BKQ ILT FK QEB P ?RQ PMHFHKD RM FK QEB J FA P B>OIV P B>OIV P  
B>OIV P >KA I>QB P <:HEB D ELTBSBO PELTP > DO>ME QE>Q DLBP ?>@H LKIV QL TEF@E DFSBP >K  
F J MOBPPFLK QE>Q RKB J MILV J BKQ T>P J LOB LO IBPP DO>AR>IIV C>IIFKD LSBO QF J B RKQFI QEB OB@BPPFLK MRPEBA FQ ?>@H  
RM QL FQP eLOFDK>If IBSBI b TEF@E FP > MI>RPF?IB FKQBOMOBQ>QFLK FC LKB PQ>OQP >Q QEB EFDE MLFKQ >OLRKA

3EBPB HFKAP LC QOF@HP b LO PE>II TB GRPQ @>II QEB J eMOBPPKQ>QFLK @ELF@BPf b >OB KLQ IF J FQBA QL IFKB DO>MEP (K > MFB @E>OQ  
TFQE J >KV P J >II PIF@BP >KA LKB I>ODB PIF@B PL J BLKB J RPQ AB@FABA TE>Q @>QBDLOFBP PELRIA ?B RPBA QL MOLAR@B QEBPB  
PIF@BP FK QEB CFOPQ MI>@B QERP J >HFKD PL J B PIF@BP >MMB>O ?FDDBO QE>K LQEBOP (C VLR >OB J >HFKD ? >?>O DO>ME VLR @>K  
J >HB QEB SBOQF@>I >UFP BFQEBO Q>IIBO LO PELOQBO TEF@E THII QBKA QL J >HB S>OF>QFLKP FK QEB EBFDEQ LC QEB ?>OP >MMB>O J LOB  
LO IBPP

!BFKD >?IB QL OB>A DO>MEP FP >K BPPBKQF>I PHFII ?LQE FK B@LKL J F@P >KA FK IFCB DO>ME FP GRPQ LKB MBOPMB@QFSB LO MLFKQ  
LC SFBT PE>MBA ?V @ELF@BP PR@E >P QELPB AFP@RPPBA FK QEP PB@QFLK #L KLQ >IT>VP ?BIFBSB QEB CFOPQ NRF@H F J MOBPPFLK  
COL J > DO>ME 5FBT TFQE @>RQFLK

## #8L BA68CGF 4A7 +H@@4EL

, >QE FP > QLLI CLO RKABOPQ>KAFKD B@LKL J F@P >KA B@LKL J F@ OBI>QFLKPEFMP @>K ?B BUMOBPPBA J >QEB J >QF@>IIV RPFKD  
>IDB?>O LO DO>MEP 3EB >IDB?>O>F@ BNR>QFLK CLO > IFKB FP V ? J U TEBOB U FP QEB S>OF>?IB LK QEB ELOFWLKQ>I >UFP >KA  
V FP QEB S>OF>?IB LK QEB SBOQF@>I >UFP QEB ? QBO J FP QEB V FKQBO@BMQ >KA QEB J QBO J FP QEB PILMB 3EB PILMB LC > IFKB FP  
QEB P> J B >Q >KV MLFKQ LK QEB IFKB >KA FQ FKAf@>QBP QEB OBI>QFLKPEFM MLPFQFSB KBD>QFSB LO WBOL ?BQTBBK QTL B@LKL J F@  
S>OF>?IBP

\$@LKL J F@ J LABIP @>K ?B PLISBA >IDB?>O>F@>IIV LO DO>MEF@>IIV &O>MEP >IILT VLR QL FIIRPQO>QB A>Q> SFPR>IIV 3EBV  
>K FIIRPQO>QB M>QQBOKP @L J M>OFPLKP QOBKAP >KA >MMLQFLK J BKQ ?V @LKABKPFKD QEB KR J BOF@>I A>Q> >KA MOLSAFKD >K  
FKQRFQFSB PBKPB LC OBI>QFLKPEFMP FK QEB A>Q> IFKB DO>ME PELTP QEB OBI>QFLKPEFM ?BQTBBK QTL S>OF>?IBP LKB FP PELTK  
LK QEB ELOFWLKQ>I >UFP >KA LKB LK QEB SBOQF@>I >UFP MFB DO>ME PELTP ELT PL J BQEFKD FP >IILQBA PR@E >P > PR J LC  
J LKBV LO > DOLRM LC MBLMIB 3EB PFWB LC B>@E PIF@B LC QEB MFB FP AO>TK QL OBMOBPBKQ QEB @LOOBPMLKAFKD MBO@BKQ>DB LC  
QEB TELIB ?>O DO>ME RPBQ QEB EBFDEQ LC ?>OP QL PELT > OBI>QFLKPEFM TEBOB B>@E ?>O OBMOBPBKQ > @BOQ>FK BKQFQV IFHB  
> @LRKQOV LO > DOLRM LC MBLMIB 3EB ?>OP LK > ?>O DO>ME @>K >IPL ?B AFSFABA FKQL PBD J BKQP QL PELT PR?DOLRMP

KV DO>ME FP > PFKDIB SFPR>I MBOPMB@QFSB LK > PR?GB@Q 3EB F J MOBPPFLK FQ IB>SBP TFII ?B ?>PBA LK J >KV @ELF@BP PR@E  
>P TE>Q A>Q> LO QF J B CO> J B FP FK@IRABA ELT A>Q> LO DOLRMP >OB AFSFABA RM QEB OBI>QFSB PFWB LC SBOQF@>I >KA ELOFWLKQ>I  
>UBP TEBQEBO QEB P@>IB RPBA LK > SBOQF@>I PQ>OQP >Q WBOL 3ERP >KV DO>ME PELRIA ?B OBD>OABA PL J BTE>Q PHBMQF@>IIV  
OB J B J ?BOFKD QE>Q QEB RKABOIVFKD OBI>QFLKPEFM @>K ?B LMBK QL AFCCBOBKQ FKQBOMOBQ>QFLKP

## \* 8I<8J ) H8FG<BAF

%UBO@fPB !

- > J B QE0BB HFKAP LC DO>MEP >KA ?OFBCIV PQ>QB TEBK FP J LPQ >MMOLMOF>QB QL RPB B>@E QVMB LC DO>ME

%UBO@fPB !

6 E>Q FP PILMB LK > IFKB DO>ME

%UBO@fPB !

6 E>Q AL QEB PIF@BP LC > MFB @E>OQ OBMOBPBKQ

%UBO@fPB !

6 EV FP > ?>O @E>OQ QEB ?BPQ T>V QL FIIRPQO>QB @L J M>OFPLKP

%UBO@fPB !

' L T ALBP QEB >MMB>O>K@B LC MLPFQFSB PILMB AFCCBO COL J KBD>QFSB PILMB >KA COL J WBOL PILMB

# N , ; 8 KC8A7<GHE8 ' HGCHG %B78?

3EFP >MMBKAFU PELRIA ?B @LKPRIQBA >CQBO CFOPQ OB>AFKD , ; 8 : :E8:4G8 8@4A7 : :E8:4G8 +HCC?L %B78? >KA , ; 8 #8LA8F<4A (8EFC86G<18 3EB CRKA> J BKQ>I FAB>P LC \*BVKBPF>K B@LKL J F@P TBOB ABSBILMBA ?BCLOB QEB # 2 J LABI T>P MLMRI>OFWBA %OL J QEB P RKQFI QEB P \*BVKBPF>K B@LKL J F@P T>P RPR>IIV BUMI>FKBA TFQE > AFCCBOBKQ J LABI HKLTK >P QEB BUMBKAFQROB LRQMRQ >MMOL>@E 3EFP >MMOL>@E FP PQQLKDIV OLLQBA FK QEB CRKA> J BKQ>I >PPR J MQFLKP LC \*BVKBPF>K B@LKL J F@P FQ CL@RPBP LK QEB QLQ>I > J LRKQ LC PMBKAFKD FK QEB B@LKL J V TFQE KL BUMIF@FQ J BKQFLK LC >DDOBD>QB PRMMIV LO LC QEB MOF@B IBSBI >IQELRDE >P VLR TFII PBB FQ FP MLPPF?IB QL AO>T PL J B FKCBOK@BP >?LRQ >DDOBD>QB PRMMIV >KA MOF@B IBSBIP ?>PBA LK QEB AF>DO> J

## , ; 8 K8F B9 G; 8 KC8A7<GHE8 ' HGCHG <4:E4@

3EB BUMBKAFQROB LRQMRQ J LABI PL J BQF J BP >IPL @>IIBA QEB \*BVKBPF>K @OLPP AF>DO> J ABQBO J FKBP QEB BNRFF?OFR J IBSBI LC OB>I &# / ?V QEB MLFKQ TEBQB QEB QLQ>I LO >DDOBD>QB BUMBKAFQROBP FK QEB B@LKL J V >OB BNR>I QL QEB > J LRKQ LC LRQMRQ MOLAR@BA 3EB >UBP LC QEB \*BVKBPF>K @OLPP AF>DO> J MOBPKQBA FK <:HE8 PELT OB>I &# / LK QEB ELOFWLKQ>I >UFP >P > J B>PROB LC LRQMRQ >KA >DDOBD>QB BUMBKAFQROBP LK QEB SBOQF@>I >UFP >P > J B>PROB LC PMBKAFKD

<:HE8 , ; 8 KC8A7<GHE8 ' HGCHG <4:E4@ 4EB >DDOBD>QB BUMBKAFQROB LRQMRQ J LABI PELTP >DDOBD>QB BUMBKAFQROBP LK QEB SBOQF@>I >UFP >KA OB>I ' \$O LK QEB ELOFWLKQ>I >UFP ! SBOQF@>I IFKB PELTP MLQBKQF>I ' \$O TEBQB CRII B J MILV J BKQ L@>ROP 4EB ABDQBB IFKB PELTP >II MLFKQ TEBQB >DDOBD>QB BUMBKAFQROBP >KA LRQMRQ >OB BNR>I 4EB >DDOBD>QB BUMBKAFQROB P@EBARIB PELTP ELT QLQ>I PMBKAFKD LO >DDOBD>QB BUMBKAFQROB FK@OB>PBP >P LRQMRQ LO OB>I ' \$O OFPBP 4EB FKQBOPB@QFLK LC QEB >DDOBD>QB BUMBKAFQROB P@EBARIB >KA QEB ABDQBB IFKB TFII ?B QEB BNRFF?OFR J %NRRFF?OFR J L@>ROP >Q % TEBQB >DDOBD>QB BUMBKAFQROB !% FP BNR>I QL QEB LRQMRQ IBSBI 9

1B J B J ?BO QE>Q &# / @>K ?B QELRDEQ LC FK PBSBO>I BNRFS>IBKQ T>VP FQ J B>PROBP ?LQE QEB S>IRB LC PMBKAFKD LK CFK>I DLLAP >KA >IPL QEB S>IRB LC QEB MOLAR@QFLK LC CFK>I DLLAP II P>IBP LC QEB CFK>I DLLAP >KA PBOSF@BP QE>Q J >HB RM &# / TFII BSBKQR>IIV BKA RM >P FK@L J B CLO TLOHBOP CLO J >K>DBOP >KA CLO FKSBPQLOP >KA LTKBOP LC CFO J P 3EB PR J LC >II QEB FK@L J B OB@BFSBA CLO @LKQF?RQFKD OBPLRO@BP QL &# / FP @>IIBA K>QFLK>I FK@L J B 8 Q PL J B MLFKQ FK QEB AFP@RPPFLK QE>Q CLILTP FQ TFII ?B RPBCCI QL OBCBO QL OB>I &# / >P eK>QFLK>I FK@L J B f !LQE >UBP >OB J B>PROBA FK OB>I FKCI>QFLK >AGRPQBA QBO J P

### The Potential GDP Line and the 45-degree Line

3EB \*BVKBPF>K @OLPP AF>DO> J @LKQ>FKP QTL IFKBP QE>Q PBOBS >P @LK@BMQR>I DRFABMLPQP QL LOFBKQ QEB AFP@RPPFLK 3EB CFOPQ  
 FP > SBOQF@>I IFKB PELTFKD QEB IBSBI LC MLQBKF>I &# / /LQBKF>I &# / J B>KP QEB P> J B QEFKD EBOB QE>Q FQ J B>KP FK QEB  
 # 2 AF>DO> J P FQ OBCBOP QL QEB NR>KQFQV LC LRQMRQ QE>Q QEB B@LKL J V @>K MOLAR@B TFQE CRUI B J MILV J BKQ LC FQP I>?LO  
 >KA MEVPF@>I @>MFQ>I

3EB PB@LKA @LK@BMQR>I IFKB LK QEB \*BVKBPF>K @OLPP AF>DO> J FP QEB ABDORB IFKB TEF@E PQ>OQP >Q QEB LOFDFK >KA  
 OB>@EBP RM >KA QL QEB OFDEQ IFKB QE>Q PQOBQ@EBP RM >Q > ABDORB >KDIB OBMOPBPKQP QEB PBQ LC MLFKQP  
 >KA PL LK TEBOB QEB J B>PROB J BKQ LK QEB SBOQF@>I >UFP FP BNR>I QL QEB J B>PROB J BKQ LK QEB ELQFWLKQ>I >UFP (K  
 QEFP AF>DO> J QEB ABDORB IFKB PELTP QEB PBQ LC MLFKQP TEBOB QEB IBSBI LC >DDOBD>QB BUMBKAFQROB FK QEB B@LKL J V  
 J B>PROBA LK QEB SBOQF@>I >UFP FP BNR>I QL QEB IBSBI LC LRQMRQ LO K>QFLK>I FK@L J B FK QEB B@LKL J V J B>PROBA ?V &# / LK  
 QEB ELQFWLKQ>I >UFP

6 EBK QEB J >@OLB@LKL J V FP FK BNRIF?OFR J FQ J RPQ ?B QORB QE>Q QEB >DDOBD>QB BUMBKAFQROB FK QEB B@LKL J V >OB BNR>I  
 QL QEB OB>I &# / b ?B@>RPB ?V ABCFKFQFLK &# / FP QEB J B>PROB LC TE>Q FP PMBKQ LK CFK>I P>IBP LC DLLAP >KA PBOBSF@BP FK  
 QEB B@LKL J V 3ERP QEB BNRIF?OFR J @>I@RI>QBA TFQE > \*BVKBPF>K @OLPP AF>DO> J TFII >IT>VP BKA RM TEBOB >DDOBD>QB  
 BUMBKAFQROB >KA LRQMRQ >OB BNR>I b TEF@E TFII LKIV L@>R0 >ILKD QEB ABDORB IFKB

**The Aggregate Expenditure Schedule**

3EB CFK>I FKDOBAFBKQ LC QEB \*BVKBPF>K @OLPP LO BUMBKAFQROB LRQMRQ AF>DO> J FP QEB >DDOBD>QB BUMBKAFQROB P@EBARIB  
 TEF@E TFII PELT QEB QLQ>I BUMBKAFQROB FK QEB B@LKL J V CLO B>@E IBSBI LC OB>I &# / 3EB FKQBOPB@QFLK LC QEB >DDOBD>QB  
 BUMBKAFQROB IFKB TFQE QEB ABDORB IFKB b >Q MLFKQ \$ FK <:HE8 b TFII PELT QEB BNRIF?OFR J CLO QEB B@LKL J V  
 ?B@>RPB FQ FP QEB MLFKQ TEBOB >DDOBD>QB BUMBKAFQROB FP BNR>I QL LRQMRQ LO OB>I &# / CQBO ABSBILMFKD >K RKABOPQ>KAFKD  
 LC TE>Q QEB >DDOBD>QB BUMBKAFQROB P@EBARIB J B>KP TB TFII OBQROK QL QEFP BNRIF?OFR J >KA ELT QL FKQBOMOBQ FQ

**H?7<A: G; 8 ::E8:4G8 KC8A7<GHE8 +6; 87H?8**

DDOBD>QB BUMBKAFQROB FP QEB HBV QL QEB BUMBKAFQROB FK@L J B J LABI 3EB >DDOBD>QB BUMBKAFQROB P@EBARIB PELTP BFQEBO  
 FK QEB CLO J LC >Q?IB LO >DO>ME ELT >DDOBD>QB BUMBKAFQROB FK QEB B@LKL J V OFPB >P OB>I &# / LO K>QFLK>I FK@L J B OFPBP  
 3ERP FK QEFKHKFD >?LRQ QEB @L J MLKBKQP LC QEB >DDOBD>QB BUMBKAFQROB IFKB b @LKPR J MQFLK FKSBPQ J BKQ DLSBOK J BKQ  
 PMBKAFKD BUMLOQP >KA F J MLOQP b QEB HBV NRBPQFLK FP ELT BUMBKAFQROB FK B>@E @>QBDLOV TFII >AGRPQ >P K>QFLK>I FK@L J B  
 OFPBP

**Consumption as a Function of National Income**

' LT AL @LKPR J MQFLK BUMBKAFQROB FK@OB>PB >P K>QFLK>I FK@L J B OFPBP /BLMIB @>K AL QTL QEFKDP TFQE QEBFO FK@L J B  
 @LKPR J B FQ LO >SB FQ CLO QEB J L J BKQ IBQdP FDKLOB QEB KBBA QL M>V Q>UBP TFQE PL J B LC FQ \$>@E MBOPLK TEL OB@BFSBP >K  
 >AAFQFLK>I ALII>0 C>@BP QEFP @ELF@B 3EB J >ODFK>I MOLMBKPFQV QL @LKPR J B , / " FP QEB PE>OB LC QEB >AAFQFLK>I ALII>0 LC  
 FK@L J B > MBOPLK AB@FABP QL ABSLQB QL @LKPR J MQFLK BUMBKAFQROB 3EB J >ODFK>I MOLMBKPFQV QL P>SB , /2 FP QEB PE>OB  
 LC QEB >AAFQFLK>I ALII>0 > MBOPLK AB@FABP QL P>SB (Q J RPQ >IT>VP ELIA QORB QE>Q

$$MPC + MPS = 1$$

%LO BU> J MIB FC QEB J >ODFK>I MOLMBKPFQV QL @LKPR J B LRQ LC QEB J >ODFK>I > J LRKQ LC FK@L J B B>OKBA FP QEBK QEB  
 J >ODFK>I MOLMBKPFQV QL P>SB FP

6 FQE QEFP OBI>QFLKPEFM FK J FKA @LKPFABO QEB OBI>QFLKPEFM > J LKD FK@L J B @LKPR J MQFLK >KA P>SFKDP PELTK FK <:HE8  
 - LQB QE>Q TB RPB e DDOBD>QB \$UMBKAFQROBf LK QEB SBOQF@>I >UFP FK QEFP >KA QEB CLIIITFKD CFDROBP ?B@>RPB >II  
 @LKPR J MQFLK BUMBKAFQROB >OB M>OQP LC >DDOBD>QB BUMBKAFQROB

K >PPR J MQFLK @L J J LKIV J >AB FK QEFP J LABI FP QE>Q BSBK FC FK@L J B TBOB WBOL MBLMIB TLRIA E>SB QL @LKPR J B  
 PL J BQEFKD (K QEFP BU> J MIB @LKPR J MQFLK TLRIA ?B BSBK FC FK@L J B TBOB WBOL 3EBK QEB , / " FP >KA QEB , /2  
 FP 3ERP TEBK FK@L J B FK@OB>PBP ?V @LKPR J MQFLK OFPBP ?V >KA P>SFKDP OFPBP ?V Q >K FK@L J B LC  
 QLQ>I @LKPR J MQFLK TFII ?B QEB QE>Q TLRIA ?B @LKPR J BA BSBK TFQELRQ >KV FK@L J B MIRP J RIQFMIFBA  
 ?V QEB J >ODFK>I MOLMBKPFQV QL @LKPR J B LC LO CLO > QLQ>I LC 3EB QLQ>I > J LRKQ LC @LKPR J MQFLK  
 >KA P>SFKD J RPQ >IT>VP >AA RM QL QEB QLQ>I > J LRKQ LC FK@L J B \$U>@QIV ELT > PFQR>QFLK LC WBOL FK@L J B >KA KBD>QFSB  
 P>SFKDP TLRIA TLOH FK MO>@QF@B FP KLQ F J MLOQ>KQ ?B@>RPB BSBK ILT FK@L J B PL@FBQFBP >OB KLQ IFQBO>IIV >Q WBOL FK@L J B  
 PL QEB MLFKQ FP EVMLQEBQF@>I 3EFP OBI>QFLKPEFM ?BQTBK FK@L J B >KA @LKPR J MQFLK FIIRPQ>QBA FK <:HE8 >KA ,45?8  
 FP @>IIBA QEB @LKPR J MQFLK CRK@QFLK





### Investment as a Function of National Income

(KSBPQ J BKQ AB@FPFLKP >OB CLOT>0A ILLHFKD ?>PBA LK BUMB@QBA 0>QBP LC OBQR0K /OB@FPBIV ?B@>RPB FKSBPQ J BKQ AB@FPFLKP ABMBKA MOF J >0FIV LK MBO@BMQFLKP >?LRQ CRQROB B@LKL J F@ @LKAFQFLKP QEBV AL *not* ABMBKA MOF J >0FIV LK QEB IBSBI LC &# / FK QEB @RO0BKQ VB>0 3ERP LK > \*BVKBPf>K @OLPP AF>D0> J QEB FKSBPQ J BKQ CRK@QFLK @>K ?B A0>TK >P > ELOFWLKQ>I IFKB >Q > CFUBA IBSBI LC BUMBKAFQROB <:HEB PELTP >K FKSBPQ J BKQ CRK@QFLK TEB0B QEB IBSBI LC FKSBPQ J BKQ FP CLO QEB P>HB LC @LK@OBQBKBPB PBQ >Q QEB PMB@FCF@ IBSBI LC )RPQ >P > @LKPR J MQFLK CRK@QFLK PELTP QEB OBI>QFLKPEFM ?BQTB BK @LKPR J MQFLK IBSBIP >KA 0B>I &# / L0 K>QFLK>I FK@L J B QEB FKSBPQ J BKQ CRK@QFLK PELTP QEB OBI>QFLKPEFM ?BQTB BK FKSBPQ J BKQ IBSBIP >KA 0B>I &# /

<:HEB ,;8!A18FG@8AG HA6G:BA 4EB FKSBPQ J BKQ CRK@QFLK FP A0>TK >P > C|>Q IFKB ?B@>RPB FKSBPQ J BKQ FP ?>PBA LK FKQB0BPQ 0>QBP >KA BUMB@Q>QFLKP >?LRQ QEB CRQROB >KA PL FQ ALBP KLQ @E>KDB TFQE QEB IBSBI LC @RO0BKQ K>QFLK>I FK@L J B )K QEFP BU> J MIB FKSBPQ J BKQ BUMBKAFQROBP >0B >Q > IBSBI LC (LTBSBO @E>KDBP FK C>@QLOP IFHB QEB@EKLILDF@>I LMMLOQRKQFBP BUMB@Q>QFLKP >?LRQ KB>0 QBO J B@LKL J F@ DOLTQE >KA FKQB0BPQ 0>QBP TLRIA >II @>RPB QEB FKSBPQ J BKQ CRK@QFLK QL PEFCQ RM LO ALTK

3EB >MMB>0>K@B LC QEB FKSBPQ J BKQ CRK@QFLK >P > ELOFWLKQ>I IFKB ALBP KLQ J B>K QE>Q QEB IBSBI LC FKSBPQ J BKQ KBSBO JLSBP (Q J B>KP LKIV QE>Q FK QEB @LKQBUQ LC QEFP QTL AF J BKPFLK>I AF>D0> J QEB IBSBI LC FKSBPQ J BKQ LK QEB SBOQF@>I >DD0BD>QB BUMBKAFQROB >UFP ALBP KLQ S>0V >@LOAFKD QL QEB @RO0BKQ IBSBI LC 0B>I &# / LK QEB ELOFWLKQ>I >UFP 'LTBSBO >II QEB LQEB0 C>@QLOP QE>Q S>0V FKSBPQ J BKQ b KBT QB@EKLILDF@>I LMMLOQRKQFBP BUMB@Q>QFLKP >?LRQ KB>0 QBO J B@LKL J F@ DOLTQE FKQB0BPQ 0>QBP QEB MOF@B LC HBV FKMRQP >KA Q>U FK@BKQFSBP CLO FKSBPQ J BKQ b @>K @>RPB QEB ELOFWLKQ>I FKSBPQ J BKQ CRK@QFLK QL PEFCQ RM LO ALTK

### Government Spending and Taxes as a Function of National Income

(K QEB \*BVKBPf>K @OLPP AF>D0> J DLSBOK J BKQ PMBKAFKD >MMB>0P >P > ELOFWLKQ>I IFKB >P FK <:HEB TEB0B DLSBOK J BKQ PMBKAFKD FP PBQ >Q > IBSBI LC P FK QEB @>PB LC FKSBPQ J BKQ PMBKAFKD QEFP ELOFWLKQ>I IFKB ALBP KLQ J B>K QE>Q DLSBOK J BKQ PMBKAFKD FP RK@E>KDFKD (Q J B>KP LKIV QE>Q DLSBOK J BKQ PMBKAFKD @E>KDBP TEBK "LKDOBPP AB@FABP LK > @E>KDB FK QEB ?RADBQ 0>QEBO QE>K PEFCQFKD FK > MOBAF@Q>?IB T>V TFQE QEB @RO0BKQ PFWB LC QEB 0B>I &# / PELTK LK QEB ELOFWLKQ>I >UFP

<:HE8 ,;8 B18EA@8AG+C8A7<A: HA6<BA 4EB IBSBI LC DLSBOK J BKQ PMBKAFKD FP ABQBO J FKBA ?V MLIF@>I  
C>@QLOP KLQ ?V QEB IBSBI LC OB>I ' \$O FK > DFSBK VB>0 4ERP DLSBOK J BKQ PMBKAFKD FP A0>TK >P > ELQFWLKQ>I IFKB JK QEF  
BU> J MIB DLSBOK J BKQ PMBKAFKD FP >Q > IBSBI LC #LKD0BPPFLK>I AB@FPFLKP QL FK@OB>PB DLSBOK J BKQ PMBKAFKD TFI  
>@RBP QEF ELQFWLKQ>I IFKB QL PEFCQ RM TEFIB AB@FPFLKP QL OBAR@B PMBKAFKD TLRIA @>RBP FQ QL PEFCQ ALTK

3EB PFQR>QLK LC Q>UBP FP AFCCBOBKQ ?B@>RBP Q>UBP LCQBK OFPB LO C>II TFQE QEB SLIR J B LC B@LKL J F@ >@QFSFQV %LO BU> J MIB  
FK@L J B Q>UBP >OB ?>PBA LK QEB IBSBI LC FK@L J B B>OKBA >KA P>IBP Q>UBP >OB ?>PBA LK QEB > J LRKQ LC P>IBP J>AB >KA ?LQE  
FK@L J B >KA P>IBP QBKA QL ?B EFDEBO TEBK QEB B@LKL J V FP DOLTFKD >KA ILTBO TEBK QEB B@LKL J V FP FK > OB@BPPFLK %LO  
QEB MRMLPBP LC @LKPQQR@QFKD QEB ?>PF@ \*BVKBPF>K @OLPP AF>DO> J FQ FP EBIMCRI QL SFBT Q>UBP >P > MOLMLQFLK>QB PE>OB LC  
&# / (K QEB 4KFQBA 2Q>QBP CLO BU> J MIB Q>HFKD CBABO>I PQ>QB >KA IL@>I Q>UBP QLDBQEBO DLSBOK J BKQ QVMF@>IIV @LIIB@QP  
>?LRQ a LC FK@L J B >P Q>UBP

,45?8 OBSFPBP QEB B>OIFBO Q>?IB LK QEB @LKPR J MQFLK CRK@QFLK PL QE>Q FQ Q>HBP Q>UBP FKQL >@LRKQ 3EB CFOPQ @LIR J K  
PELTP K>QFLK>I FK@L J B 3EB PB@LKA @LIR J K @>I@RI>QBP Q>UBP TEF@E FK QEF BU> J MIB >OB PBQ >Q > O>QB LC LO  
3EB QEFOA @LIR J K PELTP >CQBO Q>U FK@L J B QE>Q FP QLQ>I FK@L J B JFKRP Q>UBP 3EB CLROQE @LIR J K QEBK @>I@RI>QBP  
@LKPR J MQFLK FK QEB P> J B J>KKBO >P ?BCLOB JRIQFMIV >CQBO Q>U FK@L J B ?V OBMOBPBKQFKD QEB J >ODFK>I MOLMBKPFQV  
QL @LKPR J B >KA QEBK >AA CLO QEB > J LRKQ QE>Q TLRIA ?B @LKPR J BA BSBK FC FK@L J B T>P WBOL 6 EBK Q>UBP >OB  
FK@IRABA QEB J >ODFK>I MOLMBKPFQV QL @LKPR J B FP OBAR@BA ?V QEB > J LRKQ LC QEB Q>U O>QB PL B>@E >AAFQFLK>I ALII>0 LC  
FK@L J B OBPRIQP FK > P J >IIBO FK@OB>PB FK @LKPR J MQFLK QE>K ?BCLOB Q>UBP %LO QEF OB>PLK QEB @LKPR J MQFLK CRK@QFLK TFQE  
Q>UBP FK@IRABA FP CI>QBO QE>K QEB @LKPR J MQFLK CRK@QFLK TFQELRQ Q>UBP >P <:HE8 PELTP

<:HE8 ,;8 BAFH@C<BA HA6<BA 89BE8 4A7 9<8E ,4K8F 4EB RMMBO IFKB OBMB>QP QEB @LKPR J MQFLK CRK@QFLK  
COL J <:HE8 4EB ILTBO IFKB PELTP QEB @LKPR J MQFLK CRK@QFLK FC Q>UBP JRPQ CFOPQ ?B M>FA LK FK@L J B >KA QEBK  
@LKPR J MQFLK FP ?>PBA LK >CQBO Q>U FK@L J B

!A6B@8	,4K8F	9G8E ,4K !A6B@8	BAFH@C@BA	+4 I<A : F
				^
				^
				^
				^
				^

,45?8 , ;8 BAFH@C@BA HA6@BA 89BE8 4A7 9G8E ,4K8F

### Exports and Imports as a Function of National Income

3EB BUMLOQ CRK@QFLK TEF@E PELTP ELT BUMLOQP @E>KDB TFQE QEB IBSBI LC > @LRKQOVdP LTK OB>I &# / FP A0>TK >P > ELOFWLKQ>I IFKB >P FK QEB BU> J MIB FK <:HE8 > TEB0B BUMLOQP >OB A0>TK >Q > IBSBI LC D>FK >P FK QEB @>PB LC FKSBPQ J BKQ PMBKAFKD >KA DLSBOK J BKQ PMBKAFKD A0>TFKD QEB BUMLOQ CRK@QFLK >P ELOFWLKQ>I ALBP KLQ F J MIV QE>Q BUMLOQP KBSBO @E>KDB (Q GRPQ J B>KP QE>Q QEBV AL KLQ @E>KDB ?B@>RPB LC TE>Q FP LK QEB ELOFWLKQ>I >UFP b QE>Q FP > @LRKQOVdP LTK IBSBI LC AL J BPQF@ MOLAR@QFLK b >KA FKPB>A >OB PE>MBA ?V QEB IBSBI LC >DDOBD>QB AB J >KA FK LQEBO @LRKQOFBP , LOB AB J >KA CLO BUMLOQP COL J LQEBO @LRKQOFBP TLRIA @>RPB QEB BUMLOQ CRK@QFLK QL PEFCQ RM IBPP AB J >KA CLO BUMLOQP COL J LQEBO @LRKQOFBP TLRIA @>RPB FQ QL PEFCQ ALTK

<:HE8 , ;8 KCBEG 4A7 !@CBEG HA6@BAF > 4EB BUMLOQ CRK@QFLK FP A0>TK >P > ELOFWLKQ>I IFKB ?B@>RPB BUMLOQP >OB ABQB0 J FKBA ?V QEB ?RVFKD MLTBO LC LQEBO @LRKQOFBP >KA QERP AL KLQ @E>KDB TFQE QEB PAWB LC QEB AL J BPQF@ B@LKL J V )K QEF BU> J MIB BUMLOQP >OB PBQ >Q (LTBSBO BUMLOQP @>K PEFCQ RM LO ALTK ABMBKAFKD LK ?RVFKD M>QQBOKP FK LQEBO @LRKQOFBP ? 4EB F J MLQ CRK@QFLK FP A0>TK FK KBD>QFSB QBOOQLQV ?B@>RPB BUMBKAFQROBP LK F J MLQQA MOLAR@QP >OB > PR?QO>@QFLK COL J BUMBKAFQROBP FK QEB AL J BPQF@ B@LKL J V )K QEF BU> J MIB QEB J >ODFK>I MOLMBKPFQV QL F J MLQ FP PL F J MLQ >OB @>I@RI>QBA ?V J RIQFIVFKD QEB IBSBI LC FK@L J B ?V ^

( J MLQ >OB A0>TK FK QEB \*BVKBP>K @OLPP AF>D0> J >P > ALTKT>0A PILMFKD IFKB TFQE QEB ALTKT>0A PILMB ABQB0 J FKBA

?V QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ , / ( LRQ LC K >QFLK>I FK@L J B (K <:HEB ? QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ FP 3ERP FC OB>I &# / FP F J MLOQP >OB FC K >QFLK>I FK@L J B FP F J MLOQP >OB >KA PL LK 3EB F J MLOQ CRK@QFLK FP AO>TK >P ALTKT>OA PILMFKD >KA KBD>QFSB ?B@>RPB FQ OBM0BPBKQP > PR?Q0>@QFLK COL J QEB >DD0BD>QB BUMBKAQROBP FK QEB AL J BPQF@ B@LKL J V @E>KDB FK QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ MBOE>MP >P > OBPRIQ LC @E>KDBP FK M0BCB0BK@BP TLRIA >IQB0 QEB PILMB LC QEB F J MLOQ CRK@QFLK

# Work It Out

- F<A: 4A ? : 85E4<6 CCEB46; GB G; 8 KC8A7<GHE8 ' HGCHG %B78?

)K QEB BUMBKAQROB LRQMRQ LO +BVKBPf>K @OLPP J LABI QEB BNRFF?0FR J L@>ROP TEB0B QEB >DD0BD>QB BUMBKAQROB IFKB !% IFKB @OLPPBP QEB ABD0BB IFKB 'FSBK >IDB?0>F@ BNR>QFLKP CLO QTL IFKBP QEB MLFKQ TEB0B QEBV @OLPP @>K ?B OB>AFIV @>I@RI>QBA )J>DFKB >K B@LKL J V TFQE QEB CLILTFKD @E>0>@QB0FPQF@P

9 2B>I ' \$0 LO K>QFLK>I FK@L J B

4 4>UBP 9

# #LKPR J M QFLK 9 ^ 4

) KSBPQ J BKQ

' 'LSB0K J BKQ PMBKAfKD

8 %UML0QP

- )J MLOQP 9

3QBM \$BQBO J FKB QEB >DD0BD>QB BUMBKAQROB CRK@QFLK )K QEFP @>PB FQ FP

$$AE = C + I + G + X - M$$

$$AE = 140 + 0.9(Y - T) + 400 + 800 + 600 - 0.15Y$$

3QBM 4EB BNR>QFLK CLO QEB ABD0BB IFKB FP QEB PBQ LC MLFKQP TEB0B ' \$0 LO K>QFLK>I FK@L J B LK QEB EL0FWLKQ>I >UFP FP BNR>I QL >DD0BD>QB BUMBKAQROB LK QEB SBOQF@>I >UFP 4ERP QEB BNR>QFLK CLO QEB ABD0BB IFKB FP !% 9

3QBM 4EB KBUQ PQBM FP QL PLISB QEBPB QTL BNR>QFLKP CLO 9 LO !% PFK@B QEBV TFII ?B BNR>I QL B>@E LQEBO 3R?PQFQRQB 9 CLO !%

$$Y = 140 + 0.9(Y - T) + 400 + 800 + 600 - 0.15Y$$

3QBM )KPB0Q QEB QBO J 9 CLO QEB Q>U 0>QB 4 4EFP MOLAR@BP >K BNR>QFLK TFQE LKIV LKB S>0F>?IB 9

3QBM 7 LOH QEOLRDE QEB >IDB?0> >KA PLISB CLO 9

$$Y = 140 + 0.9(Y - 0.3Y) + 400 + 800 + 600 - 0.15Y$$

$$Y = 140 + 0.9Y - 0.27Y + 1800 - 0.15Y$$

$$Y = 1940 + 0.48Y$$

$$Y - 0.48Y = 1940$$

$$0.52Y = 1940$$

$$\frac{0.52Y}{0.52} = \frac{1940}{0.52}$$

$$Y = 3730$$

4EFP >IDB?0>F@ C0>JBTLOH FP CIBUF?IB >KA RPBCRI FK M0BAF@QFKD ELT B@LKL J F@ BSBKQP >KA MLIF@V >@QFLKP TFII >CCB@Q OB>I ' \$0

3QBM 3>V CLO BU>J MIB QE>Q ?B@>RPB LC @E>KDBP FK QEB OBI>QFSB M0F@BP LC AL J BPQF@ >KA CLOBFDK DLLAP QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ C>IIP QL #>I@RI>QB QEB BNRFF?0FR J LRQMRQ TEBK QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ FP @E>KDBA QL

$$\begin{aligned}
 Y &= 140 + 0.9(Y - 0.3Y) + 400 + 800 + 600 - 0.1Y \\
 Y &= 1940 - 0.53Y \\
 0.47Y &= 1940 \\
 Y &= 4127
 \end{aligned}$$

3QBM "B@>RPB LC > PRODB LC ?RPFKBPP @LKCfABK@B FKSBPQ JBKQ OFPBP QL #>I@RI>QB QEB  
BNRFIF?OFR J LRQMRQ

$$\begin{aligned}
 Y &= 140 + 0.9(Y - 0.3Y) + 500 + 800 + 600 - 0.15Y \\
 Y &= 2040 + 0.48Y \\
 Y - 0.48Y &= 2040 \\
 0.52Y &= 2040 \\
 Y &= 3923
 \end{aligned}$$

&LO FPPRBP LC MLIF@V QEB HBV NRBPQFLKP TLRJA ?B ELT QL >AGRQ DLSBOK JBKQ PMBKAFKD IBSBIP LO  
Q>U O>QB PL QE>Q QEB BNRFIF?OFR J IBSBI LC LRQMRQ FP QEB CRII B J MILV JBKQ IBSBI )K QEF@ @>PB IBQ QEB  
B@LKL JF@ M>O> JBQBOP ?B

9 .>QFLK>I FK@L J B  
4 4>UBP 9  
# #LKPR JMQFLK 9 ^ 4  
) )KSBPQ JBKQ  
' 'LSBOK JBKQ PMBKAFKD  
8 %UMLQOP  
9 )JMLQOP 9 ^ 4

3QBM #>I@RI>QB QEB BNRFIF?OFR J CLO QEF@ B@LKL J V OB J B J ?B O 9 !%

$$\begin{aligned}
 Y &= 200 + 0.9(Y - 0.3Y) + 600 + 1000 + 600 - 0.1(Y - 0.3Y) \\
 Y - 0.63Y + 0.07Y &= 2400 \\
 0.44Y &= 2400 \\
 Y &= 5454
 \end{aligned}$$

3QBM !PPR JB QE>Q QEB CRII B J MILV JBKQ IBSBI LC LRQMRQ FP 7E>Q IBSBI LC DLSBOK JBKQ  
PMBKAFKD TLRJA ?B KB@BPP>OV QL OB>@E QE>Q IBSBI 4L >KPTBO QEF@ NRBPQFLK MIRD FK >P BNR>I  
QL 9 ?RQ IB>SB ' >P > S>OF>?IB >KA PLISB CLO ' 4ERP

$$6000 = 200 + 0.9(6000 - 0.3(6000)) + 600 + G + 600 - 0.1(6000 - 0.3(6000))$$

3QBM 3LISB QEF@ MOL?IB J >OFQE J BQF@>IV 4EB >KPTBO FP ' )K LQEBO TLOAP FK@OB>PFKD  
DLSBOK JBKQ PMBKAFKD ?V COL J FQP LOFDFK>I IBSBI LC QL TLRJA O>FPB LRQMRQ QL QEB CRII  
B J MILV JBKQ IBSBI LC ' \$ O

)KABBA QEB NRBPQFLK LC ELT JR@E QL FK@OB>PB DLSBOK JBKQ PMBKAFKD PL QE>Q BNRFIF?OFR J LRQMRQ TFIH  
OFPB COL J QL @>K ?B >KPTBOBA TFQELRQ TLOHFKD QEOLRDE QEB >IDB?O> GRPQ ?V RPFKD QEB  
JRIQFMIFBO CLO JRI> 4EB JRIQFMIFBO BNR>QFLK FK QEF@ @>PB FP

$$\frac{1}{1 - 0.56} = 2.27$$

4ERP QL O>FPB LRQMRQ ?V TLRJA OBNRF@B >K FK@OB>PB FK DLSBOK JBKQ PMBKAFKD LC  
TEF@E FP QEB P> JB >P QEB >KPTBO ABOFSBA COL J QEB >IDB?O>F@ @>I@RI>QFLK

4EF@ >IDB?O>F@ CO> J B TLOH FP EFDEIV CIBUF?IB &LO BU> J MIB Q>UBP @>K ?B QOB>QBA >P > QLQ>I PBQ ?V  
MLIFQF@>I @LKPfABO>QFLKP IFHB DLSBOK JBKQ PMBKAFKD >KA KLQ ABMBKABKQ LK K>QFLK>I FK@L J B ) J MLQOP  
JFDEQ ?B ?>PBA LK ?BCL@B Q>U FK@L J B KLQ >CQBO Q>U FK@L J B &LO @BOQ>FK MR@MLPBP FQ J >V ?B EBIMCRI  
QL >K>IVWB QEB B@LKL J V TFQELRQ BUMLOQP >KA F J MLQOP ! J LOB @L J MIF@>QBA >MMOL>@E @LRJA AFSFAB RM  
@LKP R J MQFLK FKSBPQ JBKQ DLSBOK JBKQ BUMLOQP >KA F J MLQOP FKQL P J >IIBO @>QBDLOFBP LO QL ?RFA FK  
PL J B S>OF>?FIFQV FK QEB O>QB PL C Q>UBP P>SFKDP >KA F J MLQOP ! TFPB B@LKL J FPQ TFIH PE>MB QEB J LABI

QL CFQ QEB PMB@FCF@ NRBPQFLK RKABO FKSBPQFD>QFLK

**Building the Combined Aggregate Expenditure Function**

II QEB @L JMLKKBKQP LC >DDOBD>QB AB J>KA b @LKPR JMQFLK FKSBPQ J BKQ DLSBOK J BKQ PMBKAFKD >KA QEB QO>AB ?>I>K@B b >OB KLT FK MI>@B QL ?RFIA QEB \*BVKBPf>K @QLPP AF>DO>J <:HE8 ?RFIAP RM >K >DDOBD>QB BUMBKAFQROB CRK@QFLK ?>PBA LK QEB KR J BOF@>I FIIRPQO>QFLK LC " ( & 7 >KA , QE>Q E>SB ?BBK RPBA QEOLRDELRO QEFQ QBUQ 3EB CFOPQ QEObB @LIR J KP FK ,45?8 >OB IFQBA COL J QEB B>OIFBO ,45?8 TEF@E PELTBA ELT QL ?QFKD Q>UBP FKQL QEB @LKPR JMQFLK CRK@QFLK 3EB CFOPQ @LIR J K FP OB>I &# / LO K>QFLK>I FK@L J B TEF@E FP TE>Q >MMB>OP LK QEB ELOFWLKQ>I >UFP LC QEB FK@L J B BUMBKAFQROB AF>DO>J 3EB PB@LKA @LIR J K @>I@RI>QBP >CQBO Q>U FK@L J B ?>PBA LK QEB >PPR JMQFLK FK QEFQ @>PB QE>Q LC OB>I &# / FP @LIIB@QBA FK Q>UBP 3EB QEFOA @LIR J K FP ?>PBA LK >K , / " LC PL QE>Q >P >CQBO Q>U FK@L J B OFPBP ?V COL J LKB OLT QL QEB KBUQ @LKPR JMQFLK OFPBP ?V ^ COL J LKB OLT QL QEB KBUQ (KSBPQ J BKQ DLSBOK J BKQ PMBKAFKD >KA BUMLOQP AL KLQ @E>KDB TFQE QEB IBSBI LC @ROOBKQ K>QFLK>I FK@L J B (K QEB MOBSFLRP AFP@RPPFLK FKSBPQ J BKQ T>P DLSBOK J BKQ PMBKAFKD T>P >KA BUMLOQP TBOB CLO >QLQ>I LC 3EFP QLQ>I FP PELTK FK QEB CLROQE @LIR J K ( JMLQPP >OB LC OB>I &# / FK QEFQ BU>J MIB >KA QEB IBSBI LC F J MLQPP FP @>I@RI>QBA FK QEB CFCQE @LIR J K 3EB CFK>I @LIR J K >DDOBD>QB BUMBKAFQROB PR J P RM " ( & 7 a , 3EFP >DDOBD>QB BUMBKAFQROB IFKB FP FIIRPQO>QBA FK <:HE8

<:HE8 #8LA8F<4A EBFF <4:E4@ %>@E @L J ?FK>QFLK LC K>QFLK>I FK@L J B >KA >DDOBD>QB BUMBKAFQROB >CQBO Q>U @LKPR JMQFLK DLSBOK J BKQ PMBKAFKD FKSBPQ J BKQ BUMLOQP >KA F J MLQPP FP DO>MEBA 4EB BNRHF?QFR J L@>ROP TEB0B >DDOBD>QB BUMBKAFQROB FP BNR>I QL K>QFLK>I FK@L J B QEFQ L@>ROP TEB0B QEB >DDOBD>QB BUMBKAFQROB P@EBARIB @OLPPBP QEB ABD0BB IFKB >Q > OB>I ' \$O LC OLBKQF>I ' \$O FK QEFQ BU>J MIB FP PL QEB BNRHF?QFR J FP L@>ROOFKD >Q > IBSBI LC LRQMRQ LO OB>I ' \$O ?BILT QEB MLQBKQF>I ' \$O IBSBI

&4G<BA4? !A6B@8	9G8E ,4K !A6B@8	BAFH@CG<BA	B18EA@8AG +C8A7<A: !A18FG@8AG KCBEGF	!@CBEGF	: :E8 : 4G8 KC8A7<GHE8

,45?8 &4G<BA4? !A6B@8 : :E8 : 4G8 KC8A7<GHE8 DH<5E<H@

&4<BA4? !A6B@8	%8E ,4K !A6B@8	BAFH@C<BA	B I8EA@8AG +C8A7<A: !A I8F<@8AG KCBE6F	!@CBEGF	: :E8:4G8 KC8A7<GHE8

,45?8 &4<BA4? !A6B@8 : :E8:4G8 KC8A7<GHE8 DH<?<5E<H@

3EB >DDOBD>QB BUMBKAFQROB CRK@QFLK FP CLO J BA ?V PQ>@HFKD LK QLM LC B>@E LQEBO QEB @LKPR J MQLK CRK@QFLK >CQBO Q>UBP QEB FKSBPQ J BKQ CRK@QFLK QEB DLBOK J BKQ PMBKAFKD CRK@QFLK QEB BUMLOQ CRK@QFLK >KA QEB F J MLOQ CRK@QFLK 3EB MLFKQ >Q TEF@E QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK FKQBOPB@QP QEB SBOQF@>I >UFP TFII ?B ABQBO J FKBA ?V QEB IBSBIP LC FKSBPQ J BKQ DLBOK J BKQ >KA BUMLOQ BUMBKAFQROB b TEF@E AL KLQ S>OV TFQE K>QFLK>I FK@L J B 3EB RMT>OA PILMB LC QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK TFII ?B ABQBO J FKBA ?V QEB J >ODFK>I MOLMBKPFQV QL P>SB QEB Q>U O>QB >KA QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ EFDEBO J >ODFK>I MOLMBKPFQV QL P>SB > EFDEBO Q>U O>QB >KA > EFDEBO J >ODFK>I MOLMBKPFQV QL F J MLOQ TFII >II J >HB QEB PILMB LC QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK CI>QBO b ?B@>RPB LRQ LC >KV BUQO> FK@L J B J LOB FP DLFKD QL P>SFKDP LO Q>UBP LO F J MLOQ >KA IBPP QL PMBKAFKD LK AL J BPQF@ DLLAP >KA PBOSE@BP

3EB BNRIF?OFR J L@@ROP TEOB K>QFLK>I FK@L J B FP BNR>I QL >DDOBD>QB BUMBKAFQROB TEF@E FP PELTK LK QEB DO>ME >P QEB MLFKQ TEOB QEB >DDOBD>QB BUMBKAFQROB P@EBARIB @OLPPBP QEB ABDOBB IFKB (K QEFP BU> J MIB QEB BNRIF?OFR J L@@ROP >Q 3EFP BNRIF?OFR J @>K >IPL ?B OB>A LCC QEB Q>?IB RKABO QEB CFDRQB FQ FP QEB IBSBI LC K>QFLK>I FK@L J B TEOB >DDOBD>QB BUMBKAFQROB FP BNR>I QL K>QFLK>I FK@L J B

## DH<?<5E<H@ <A G ; 8 #8LA8F<4A EBFF %B78?

6 FQE QEB >DDOBD>QB BUMBKAFQROB IFKB FK MI>@B QEB KBUQ PQBM FP QL OBI>QB FQ QL QEB QTL LQEBO BIB J BKQP LC QEB \*BVKBP>K @OLPP AF>DO> J 3ERP QEB CFOPQ PR?PB@QFLK FKQBOMOBQP QEB FKQBOPB@QFLK LC QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK >KA QEB ABDOBB IFKB TEFIB QEB KBUQ PR?PB@QFLK OBI>QBP QEF MLFKQ LC FKQBOPB@QFLK QL QEB MLQBKF>I &# / IFKB

### Where Equilibrium Occurs

3EB MLFKQ TEOB QEB >DDOBD>QB BUMBKAFQROB IFKB QE>Q FP @LKPQOR@QBA COL J " ( & 7 a , @OLPPBP QEB ABDOBB IFKB TFII ?B QEB BNRIF?OFR J CLO QEB B@LKL J V (Q FP QEB LKIV MLFKQ LK QEB >DDOBD>QB BUMBKAFQROB IFKB TEOB QEB QLQ>I > J LKQ ?BFKD PMBKQ LK >DDOBD>QB AB J >KA BNR>IP QEB QLQ>I IBSBI LC MOLAR@QFLK (K <:HE8 QEFP MLFKQ LC BNRIF?OFR J \$ E>MMBKP >Q TEF@E @>K >IPL ?B OB>A LCC ,45?8

3EB J B>KFKD LC eBNRIF?OFR J f OB J >FKP QEB P> J B QE>Q FP BNRIF?OFR J FP > MLFKQ LC ?>I>K@B TEOB KL FK@BKQFSB BUFPQ QL PEFCQ >T>V COL J QE>Q LRQ@L J B 3L RKABOPQ>KA TEV QEB MLFKQ LC FKQBOPB@QFLK ?BQTBK QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK >KA QEB ABDOBB IFKB FP > J >@OLB@LKL J F@ BNRIF?OFR J @LKPFABO TE>Q TLRIA E>MMBK FC >K B@LKL J V CLRKA FQPBC QL QEB OFDEQ LC QEB BNRIF?OFR J MLFKQ \$ P>V MLFKQ ' FK <:HE8 TEOB LRQMRQ FP EFDEBO QE>K QEB BNRIF?OFR J Q MLFKQ ' QEB IBSBI LC >DDOBD>QB BUMBKAFQROB FP ?BILT QEB ABDOBB IFKB PL QE>Q QEB IBSBI LC >DDOBD>QB BUMBKAFQROB FK QEB B@LKL J V FP IBPP QE>K QEB IBSBI LC LRQMRQ P > OBPRIQ >Q MLFKQ ' LRQMRQ FP MFIFKD RM RKPLIA b KLQ > PRPQ>FK>?IB PQ>QB LC >CC>FOP



<:HEB DH<<5E<H@<A G;8 #8LA8F<4A EBFF <4:E4@ )C LRQMRQ T>P >?LSB QEB BNRHIF?OFR J IBSBI >Q ( QEBK QEB  
 OB>I LRQMRQ FP DOB>QBO QE>K QEB >DDOBD>QB BUMBKAFQROB FK QEB B@LKL J V 4EFP M>QQBOK @>KKLQ ELIA ?B@>RPB FQ TLRIA  
 JB>K QE>Q DLLAP >OB MOLAR@BA ?RQ MFHKD RM RKPLIA )C LRQMRQ T>P ?BILT QEB BNRHIF?OFR J IBSBI >Q , QEBK >DDOBD>QB  
 BUMBKAFQROB TLRIA ?B DOB>QBO QE>K LRQMRQ 4EFP M>QQBOK @>KKLQ ELIA BFQEBO ?B@>RPB FQ TLRIA JB>K QE>Q PMBKAFKD  
 BU@BBAP QEB KR J ?BO LC DLLAP ?BFKD MOLAR@BA / KIV MLFKQ % @>K ?B >Q BNRHIF?OFR J TEBOB LRQMRQ LO K>QFLK>I FK@L J B  
 >KA >DDOBD>QB BUMBKAFQROB >OB BNR>I 4EB BNRHIF?OFR J % J RPQ IFB LK QEB ABDOBB IFKB TEF@E FP QEB PBQ LC MLFKQP  
 TEBOB K>QFLK>I FK@L J B >KA >DDOBD>QB BUMBKAFQROB >OB BNR>I

"LKSBOPIV @LKPFABO QEB PFQR>QFLK TEBOB QEB IBSBI LC LRQMRQ FP >Q MLFKQ + b TEBOB OB>I LRQMRQ FP ILTBO QE>K QEB  
 BNRHIF?OFR J (K QE>Q @>PB QEB IBSBI LC >DDOBD>QB AB J >KA FK QEB B@LKL J V FP >?LSB QEB ABDOBB IFKB FKAF@>QFKD QE>Q  
 QEB IBSBI LC >DDOBD>QB BUMBKAFQROB FK QEB B@LKL J V FP DOB>QBO QE>K QEB IBSBI LC LRQMRQ 6 EBK QEB IBSBI LC >DDOBD>QB  
 AB J >KA E>P B J MQFBA QEB PQLOB PEBISBP FQ @>KKLQ ?B PRPQ>FKBA BFQEBO %FO J P TFII OBPMLKA ?V FK@OB>PFKD QEBFO IBSBI LC  
 MOLAR@QFLK 3ERP QEB BNRHIF?OFR J J RPQ ?B QEB MLFKQ TEBOB QEB > J LRKQ MOLAR@BA >KA QEB > J LRKQ PMBKQ >OB FK ?>I>K@B  
 >Q QEB FKQBOPB@QFLK LC QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK >KA QEB ABDOBB IFKB

# Work It Out

<A7<A: DH<?<5E<H@

,45?8 DfSBP PL J B FK CLO J >QFLK LK >K B@LKL J V 4EB +BVKBPF>K J LABI >PPR J BP QE>Q QEBOB FP PL J B IBSBI LC @LKPR J M QFLK BSBK TFQELRQ FK@L J B 4E>Q >JLRKQ FP ^ TFII ?B @LKPR J B A TEBK K>QFLK>I FK@L J B BNR>IP WBOL ! PPR J B QE>Q Q>UBP >OB LC OB>I ' \$ O , BQ QEB J >ODFK>I MOLMBKPFQV QL P>SB LC >CQBO Q>U FK@L J B ?B 4EB IBSBI LC FKSBPQ J BKQ FP QEB IBSBI LC DLSBOK J BKQ PMBKAFKD FP >KA QEB IBSBI LC BUMLOQP FP ) J MLOQP >OB LC >CQBO Q>U FK@L J B ' FSBK QEBPB S>IRBP VLR KBBA QL @L J MIBQB ,45?8 >KA QEBK >KPTBO QEBPB NRBPQFLKP

- d 7 E>Q FP QEB @LKPR J M QFLK CRK@QFLK
- d 7 E>Q FP QEB BNRHF?OFR J
- d 7 EV FP > K>QFLK>I FK@L J B LC KLQ >Q BNRHF?OFR J
- d ( LT AL BUMBKAFQROBP >KA LRQMRQ @L J M>OB >Q QEFP MLFKQ

&4G<BA4? !A6B@8	,4K8F	9G8E G4K <A6B@8	BAFH@CG<BA	!	0	!@CBEGF	: : E8 : 4G8 KC8A7<GHE8F

,45?8

3QBM #>I@RI>QB QEB >JLRKQ LC Q>UBP CLO B>@E IBSBI LC K>QFLK>I FK@L J B OB J FKABO ' \$ O K>QFLK>I FK@L J B CLO B>@E IBSBI LC K>QFLK>I FK@L J B RPFKD QEB CLIIITFKD >P >K BU>J MIB

National Income (Y) \$300  
 Taxes = 0.2 or 20% × 0.2  
 Tax amount (T) \$60

3QBM #>I@RI>QB >CQBO Q>U FK@L J B ?V PR?QO>@QFKD QEB Q>U >JLRKQ COL J K>QFLK>I FK@L J B CLO B>@E IBSBI LC K>QFLK>I FK@L J B RPFKD QEB CLIIITFKD >P >K BU>J MIB

National income minus taxes \$300  
 -\$60  
 After-tax income \$240

3QBM #>I@RI>QB @LKPR J M QFLK 4EB J >ODFK>I MOLMBKPFQV QL P>SB FP DfSBK >P 4EFP J B>KP QE>Q QEB J >ODFK>I MOLMBKPFQV QL @LKPR J B FP PFK@B - 03 - 0# 4EBOB CLOB J RIQFMIV ?V QEB >CQBO Q>U FK@L J B >JLRKQ RPFKD QEB CLIIITFKD >P >K BU>J MIB

After-tax Income \$240  
 MPC × 0.9  
 Consumption \$216

3QBM #LKPFABO TEV QEB Q>?IB PELTP @LKPR J M QFLK LC FK QEB CFOPQ OLT ! P J BKQFLKBA B>OIFBO QEB +BVKBPF>K J LABI >PPR J BP QE>Q QEBOB FP PL J B IBSBI LC @LKPR J M QFLK BSBK TFQELRQ FK@L J B 4E>Q >JLRKQ FP ^

3QBM 4EB0B FP KLT BKL RDE FK CLO J >QFLK QL T OFQB QEB @LKPR J MQFLK CRK@QFLK 4EB @LKPR J MQFLK CRK@QFLK FP CLRKA ?V CFDR OFKD LRQ QEB IBSBI LC @LKPR J MQFLK QE>Q TFII E>MMBK TEBK FK@L J B FP WBOL 2B J B J ?BO QE>Q

C = Consumption when national income is zero + MPC (after-tax income)

, BQ # OBM0B PBKQ QEB @LKPR J MQFLK CRK@QFLK 9 OBM0B PBKQ K>QFLK>I FK@L J B >KA 4 OBM0B PBKQ Q>UBP

$$\begin{aligned}
 C &= \$20 + 0.9(Y - T) \\
 &= \$20 + 0.9(\$300 - \$60) \\
 &= \$236
 \end{aligned}$$

3QBM 5PB QEB @LKPR J MQFLK CRK@QFLK QL CFKA @LKPR J MQFLK >Q B>@E IBSBI LC K>QFLK>I FK@L J B  
 3QBM !AA FKSBPQ J BKQ ) DLSBOK J BKQ PMBKA FKD ' >KA BUMLOQP 8 2B J B J ?BO QE>Q QEBPB AL KLQ @E>KDB >P K>QFLK>I FK@L J B @E>KDBP  
 3QBM &FKA FJ MLQOP TEF@E >OB LC >CQBO Q>U FK@L J B >Q B>@E IBSBI LC K>QFLK>I FK@L J B &LO BU> J MIB

After-tax income	\$240
Imports of 0.2 or 20% of Y - T	× 0.2
Imports	\$48

3QBM &FKA >DD0BD>QB BUMBKA FQROB ?V >AAFKD # ) ' 8 ^ ) CLO B>@E IBSBI LC K>QFLK>I FK@L J B 9LR0 @L J MIBQBA Q>?IB PELRIA ILLH IFHB ,45?8

&4G<BA4? !A6B@8 1	,4K 0 1 ,	9G8E G4K <A6B@8 1 P ,	BAFH@CG<BA 1 P ,	! 0	%<AHF !@CBEGF %	: :E8:4G8 KC8A7<GHE8F ! 0 P %
\$500	\$100	\$400	\$380	\$200	\$80	\$500

,45?8

3QBM !KPTBO QEB NRBPQFLK 7E>Q FP BNR FIF?OFR J %NR FIF?OFR J L@@ROP TEB0B !% 9 ,45?8  
 PELTP QE>Q BNR FIF?OFR J L@@ROP TEB0B K>QFLK>I FK@L J B BNR>IP >DD0BD>QB BUMBKA FQROB >Q

3QBM &FKA BNR FIF?OFR J J>QEB J >QF@>IIV HKLT FKD QE>Q K>QFLK>I FK@L J B FP BNR>I QL >DD0BD>QB BUMBKA FQROB

$$\begin{aligned}
 Y &= AE \\
 &= C + I + G + X - M \\
 &= \$20 + 0.9(Y - T) + \$70 + \$80 + \$50 - 0.2(Y - T) \\
 &= \$220 + 0.9(Y - T) - 0.2(Y - T)
 \end{aligned}$$

3FK@B 4 FP LC K>QFLK>I FK@L J B PR?PQEQRB 4 TFQE 9 PL QE>Q

$$\begin{aligned}
 Y &= \$220 + 0.9(Y - 0.2Y) - 0.2(Y - 0.2Y) \\
 &= \$220 + 0.9Y - 0.18Y - 0.2Y + 0.04Y \\
 &= \$220 + 0.56Y
 \end{aligned}$$

3LISB CLO 9

$$\begin{aligned}
 Y &= \$220 + 0.56Y \\
 Y - 0.56Y &= \$220 \\
 0.44Y &= \$220 \\
 \frac{0.44Y}{0.44} &= \frac{\$220}{0.44} \\
 Y &= \$500
 \end{aligned}$$

3QBM !KPTBO QEFP NRBPQFLK 7 EV FP > K>QFLK>I FK@L J B LC KLQ >K BNRFF?OFR J !Q K>QFLK>I  
 FK@L J B LC >DDOBD>QB BUMBKAQROBP >OB

3QBM !KPTBO QEFP NRBPQFLK (LT AL BUMBKAQROBP >KA LRQMRQ @L J M>OB >Q QEFP MLFKQ !DDOBD>QB  
 BUMBKAQROBP @>KKLQ BU@BBA LRQMRQ ' \$O FK QEB ILKD ORK PFK@B QEB0B TLRIA KLQ ?B BKL RDE DLLAP  
 QL ?B ?LRDEQ

### Recessionary and Inflationary Gaps

(K QEB \*BVKBPF>K @OLPP AF>D0> J FC QEB >DDOBD>QB BUMBKAQROB IFKB FKQBOPB@QP QEB ABDOBB IFKB >Q QEB IBSBI LC MLQBKF>I  
 &# / QEBK QEB B@LKL J V FP FK PLRKA PE>MB 3EB0B FP KL OB@BPPFLK >KA RKB J MILV J BKQ FP ILT !RQ QEB0B FP KL DR>0>KQBB  
 QE>Q QEB BNRFF?OFR J TFII L@RO >Q QEB MLQBKF>I &# / IBSBI LC LRQMRQ 3EB BNRFF?OFR J J FDEQ ?B EFDEBO LO ILTBO

%LO BU> J MIB <: HE8 > FIIRPQ>QBP > PFQR>QFLK TEB0B QEB >DDOBD>QB BUMBKAQROB IFKB FKQBOPB@QP QEB ABDOBB IFKB  
 >Q MLFKQ \$ TEF@E FP > OB>I &# / LC >KA TEF@E FP ?BILT QEB MLQBKF>I &# / LC (K QEFP PFQR>QFLK QEB  
 IBSBI LC >DDOBD>QB BUMBKAQROB FP QLL ILT CLO &# / QL OB>@E FQP CRII B J MILV J BKQ IBSBI >KA RKB J MILV J BKQ TFII L@RO  
 3EB AFPQ>K@B ?BQTBBK >K LRQMRQ IBSBI IFHB \$ QE>Q FP ?BILT MLQBKF>I &# / >KA QEB IBSBI LC MLQBKF>I &# / FP @>IIBA >  
 OB@BPPFLK>OV D>M !B@>RPB QEB BNRFF?OFR J IBSBI LC OB>I &# / FP PL ILT CFO J P TFII KLQ TFPE QL EFOB QEB CRII B J MILV J BKQ  
 KR J ?BO LC TLOHBOP >KA RKB J MILV J BKQ TFII ?B EFDE

<: HE8 77E8FF<A: \*868FF<BA4EL 4A7 !A9?4G<BA4EL 4CF > )C QEB BNRFF?OFR J L@RO P >Q >K LRQMRQ ?BILT  
 MLQBKF>I ' \$O QEBK > OB@BPPFLK>OV D>M BUFPQP 4EB MLIF@V PLIRQFLK QL > OB@BPPFLK>OV D>M FP QL PEFCQ QEB >DDOBD>QB  
 BUMBKAQROB P@EBARIB RM COL J !% QL !% RPFKD MLIF@FBP IFHB Q>U @RQP LO DLSBOK J BKQ PMBKAFKD FK@OB>PBP 4EBK QEB  
 KBT BNRFF?OFR J % L@RO P >Q MLQBKF>I ' \$O ? )C QEB BNRFF?OFR J L@RO P >Q >K LRQMRQ >?LSB MLQBKF>I ' \$O QEBK >K  
 FKCI>QFLK>OV D>M BUFPQP 4EB MLIF@V PLIRQFLK QL >K FKCI>QFLK>OV D>M FP QL PEFCQ QEB >DDOBD>QB BUMBKAQROB P@EBARIB ALTK  
 COL J !% QL !% RPFKD MLIF@FBP IFHB Q>U FK@OB>PBP LO PMBKAFKD @RQP 4EBK QEB KBT BNRFF?OFR J % L@RO P >Q MLQBKF>I  
 ' \$O

6 E>Q J FDEQ @>RPB > OB@BPPFLK>OV D>M KVQEFKD QE>Q PEFCQ QEB >DDOBD>QB BUMBKAQROB IFKB ALTK FP > MLQBKF>I @>RPB LC  
 OB@BPPFLK FK@IRAFKD > AB@IFKB FK @LKPR J MQFLK > OFPB FK P>SFKDP > C>II FK FKSBPQ J BKQ > AOLM FK DLSBOK J BKQ PMBKAFKD LO  
 > OFPB FK Q>UBP LO > C>II FK BUMLOQP LO > OFPB FK F J MLOQP , LOBLSBO >K B@LKL J V QE>Q FP >Q BNRFF?OFR J TFQE > OB@BPPFLK>OV

D>M J>V GRPQ PQ>V QEB0B >KA PRCCBO EFDE RKB J MILV J BKQ CLO > ILKD QF J B OB J B J ?BO QEB J B>KFKD LC BNRFFI?OFR J FP QE>Q QEB0B FP KL M>0QF@RI>0 >AGRPQ J BKQ LC MOF@BP LO NR>KQFQFBP FK QEB B@LKL J V QL @E>PB QEB OB@BPPFLK >T>V

3EB >MMOLMOF>QB OBPMLKPB QL > OB@BPPFLK>OV D>M FP CLO QEB DLSBOK J BKQ QL OBAR@B Q>UBP LO FK@OB>PB PMBKAFKD PL QE>Q QEB >DDOBD>QB BUMBKAQROB CRK@QFLK PEFCQP RM COL J \$ QL \$ 6 EBK QEFQ PEFCQ L@@ROP QEB KBT BNRFFI?OFR J \$ KLT L@@ROP >Q MLQBKQF>I &# / >P PELTK FK <:HEB >

"LKSOPBIV <:HEB ? PELTP > PFQR>QFLK TEB0B QEB >DDOBD>QB BUMBKAQROB P@EBARIB \$ FKQBOPB@QP QEB ABD0BB IFKB >?LSB MLQBKQF>I &# / 3EB D>M ?BQTBBK QEB IBSBI LC OB>I &# / >Q QEB BNRFFI?OFR J \$ >KA MLQBKQF>I &# / FP @>IIBA >K FKCI>QFLK>OV D>M 3EB FKCI>QFLK>OV D>M >IPL OBNRF0BP > ?FQ LC FKQBOMOBQFKD CQBO >II >K>'SB OB>AFKD LC QEB \*BVKBPF>K @OLPP AF>D0> J J FDEQ PRDDBPQ QE>Q FC QEB >DDOBD>QB BUMBKAQROB CRK@QFLK FP GRPQ MRPEBA RM EFDE BKL RDE OB>I &# / @>K ?B >P I>ODB >P ABPFOBA b BSBK ALR?IFKD LO QQFMIFKD QEB MLQBKQF>I &# / IBSBI LC QEB B@LKL J V 3EFP F J MIF@>QFLK FP @IB>OIV TOLKD K B@LKL J V C>@BP PL J B PRMMIV PFAB IF J FQ LK ELT J R@E FQ @>K MOLAR@B >Q > DFSBK QF J B TFQE FQP BUFPQFKD NR>KQFQFBP LC TLOHBOP MEVPP@>I >KA ER J >K @>MFQ>I QB@EKLILDV >KA J >OHBQ FKPQFQRQFLKP

3EB FKCI>QFLK>OV D>M PELRIA ?B FKQBOMOBQBA KLQ >P > IFQBO>I MOBAF@QFLK LC ELT I>ODB OB>I &# / TFII ?B ?RQ >P > PQ>QB J BKQ LC ELT J R@E BUQO >DDOBD>QB BUMBKAQROB FP FK QEB B@LKL J V ?BVLKA TE>Q FP KBBABA QL OB>@E MLQBKQF>I &# / K FKCI>QFLK>OV D>M PRDDBPQ QE>Q ?B@>RPB QEB B@LKL J V @>KKLQ MOLAR@B BKL RDE DLLAP >KA PBOSF@BP QL >?PLO? QEFQ IBSBI LC >DDOBD>QB BUMBKAQROBP QEB PMBKAFKD TFII FKPQB>A @>RPB >K FKCI>QFLK>OV FK@OB>PB FK QEB MOF@B IBSBI (K QEFQ T>V BSBK QELRDE @E>KDBP FK QEB MOF@B IBSBI AL KLQ >MMB>0 BUMIF@FQIV FK QEB \*BVKBPF>K @OLPP BNR>QFLK QEB KLQFLK LC FKCI>QFLK FP F J MIF@FQ FK QEB @LK@BMQ LC QEB FKCI>QFLK>OV D>M

3EB >MMOLMOF>QB \*BVKBPF>K OBPMLKPB QL >K FKCI>QFLK>OV D>M FP PELTK FK <:HEB ? 3EB LOFDKF>I FKQBOPB@QFLK LC >DDOBD>QB BUMBKAQROB IFKB \$ >KA QEB ABD0BB IFKB L@@ROP >Q TEF@E FP >?LSB QEB IBSBI LC MLQBKQF>I &# / >Q (C \$ PEFCQP ALTK QL \$ PL QE>Q QEB KBT BNRFFI?OFR J FP >Q \$ QEBK QEB B@LKL J V TFII ?B >Q MLQBKQF>I &# / TFQELRQ MOBPPROBP CLO FKCI>QFLK>OV MOF@B FK@OB>PBP 3EB DLSBOK J BKQ @>K >@EFBSB > ALTKT>0A PEFCQ FK >DDOBD>QB BUMBKAQROB ?V FK@OB>PFKD Q>UBP LK @LKPR J BOP LO CFO J P LO ?V OBAR@FKD DLSBOK J BKQ BUMBKAQROBP

## , ; 8 %H?G<C?<8E 9986G

3EB \*BVKBPF>K MLIF@V MOBP@OFMQFLK E>P LKB CFK>I QTFPQ PPR J B QE>Q CLO > @BOQ>FK B@LKL J V QEB FKQBOPB@QFLK LC QEB >DDOBD>QB BUMBKAQROB CRK@QFLK >KA QEB ABD0BB IFKB FP >Q > &# / LC TEFIB QEB IBSBI LC MLQBKQF>I &# / CLO QEFQ B@LKL J V FP !V ELT J R@E ALBP DLSBOK J BKQ PMBKAFKD KBBA QL ?B FK@OB>PBA PL QE>Q QEB B@LKL J V OB>@EBP QEB CRII B J MILV J BKQ &# / 3EB L?SFLRP >KPTBO J FDEQ PBB J QL ?B a PL O>FPB DLSBOK J BKQ PMBKAFKD ?V !RQ QE>Q >KPTBO FP FK@L0OB@Q @E>KDB LC CLO BU>J MIB FK DLSBOK J BKQ BUMBKAQROBP TFII E>SB >K BCCB@Q LC JLOB QE>K LK QEB BNRFFI?OFR J IBSBI LC OB>I &# / 3EB OB>PLK FP QE>Q > @E>KDB FK >DDOBD>QB BUMBKAQROBP @FO@IBP QEOLRDE QEB B@LKL J V ELRPBELIAP ?RV COL J CFO J P CFO J P M>V TLOHBOP >KA PRMMIFBOP TLOHBOP >KA PRMMIFBOP ?RV DLLAP COL J LQEBO CFO J P QELPB CFO J P M>V QEBFO TLOHBOP >KA PRMMIFBOP >KA PL LK (K QEFQ T>V QEB LOFDKF>I @E>KDB FK >DDOBD>QB BUMBKAQROBP FP >@QR>IIV PMBKQ JLOB QE>K LK@B 3EFP FP @>IIBA QEB J RIQFMIFBO BCCB@Q K FKFQF>I FK@OB>PB FK PMBKAFKD @V@IBP OBMB>QBAIV QEOLRDE QEB B@LKL J V >KA E>P > I>ODBO F J M>@Q QE>K QEB FKFQF>I ALII>0 > J LRKQ PMBKQ

### How Does the Multiplier Work?

3L RKABOPQ>KA ELT QEB J RIQFMIFBO BCCB@Q TLOHP OBQROK QL QEB BU>J MIB FK TEF@E QEB @ROOBKQ BNRFFI?OFR J FK QEB \*BVKBPF>K @OLPP AF>D0> J FP > OB>I &# / LC LO PELOQ LC QEB KBBABA QL ?B >Q CRII B J MILV J BKQ MLQBKQF>I &# / (C QEB DLSBOK J BKQ PMBKAP QL @ILPB QEFQ D>M PL J BLKB FK QEB B@LKL J V OB@BFSBP QE>Q PMBKAFKD >KA @>K QOB>Q FQ >P FK@L J B PPR J B QE>Q QELPB TEL OB@BFSB QEFQ FK@L J B M>V FK Q>UBP P>SB LC >CQBO Q>U FK@L J B PMBKA LC QLQ>I FK@L J B LK F J MLOQP >KA QEBK PMBKA QEB OBQ LK AL J BPQF@>IIV MOLAR@BA DLLAP >KA PBOSF@BP

P PELTK FK QEB @>I@RI>QFLKQ FK <:HEB >KA ,45?8 LRQ LC QEB LOFDKF>I FK DLSBOK J BKQ PMBKAFKD FP IBCQ QL PMBKA LK AL J BPQF@>IIV MOLAR@BA DLLAP >KA PBOSF@BP 3E>Q TEF@E T>P PMBKQ ?B@L J BP FK@L J B QL PL J BLKB PL J BTEBOB FK QEB B@LKL J V 3ELPB TEL OB@BFSB QE>Q FK@L J B >IPL M>V FK Q>UBP P>SB LC >CQBO Q>U FK@L J B >KA PMBKA LC QLQ>I FK@L J B LK F J MLOQP >P PELTK FK <:HEB PL QE>Q >K >AAFQFLK>I QE>Q FP ^ FP PMBKQ FK QEB QEFOA OLRKA 3EB MBLMIB TEL OB@BFSB QE>Q FK@L J B QEBK M>V Q>UBP P>SB >KA ?RV F J MLOQP >KA QEB > J LRKQ PMBKQ FK QEB CLROQE OLRKA FP QE>Q FP ^

<:HEB , ; 8 %H?C?<8E 9986G ! K LOFDK>I FK@OB>PB LC DLSBOK J BKQ PMBKAFKD LC @>RPBP > QFPB FK >DDOBD>QB BUMBKAFQROB LC "RQ QE>Q FP FK@L J B QL LQEBOP FK QEB B@LKL J V >KA >CQBO QEBV P>SB M>V Q>UBP >KA ?RV F J MLQOP QEBV PMBKA LC QE>Q FK > PB@LKA OLRKA )K QROK QE>Q FP FK@L J B QL LQEBOP 4ERP QEB LOFDK>I DLSBOK J BKQ PMBKAFKD LC FP J RIQFMIFBA ?V QEBPB @V@IBP LC PMBKAFKD ?RQ QEB F J M>@Q LC B>@E PR@@BPPFSB @V@IB DBQP P J >IIBO >KA P J >IIBO ' fSBK QEB KR J ?BOP FK QEFP BU> J MIB QEB LOFDK>I DLSBOK J BKQ PMBKAFKD FK@OB>PB LC O>FPBP >DDOBD>QB BUMBKAFQROB ?V QEB@B@LOB QEB J RIQFMIFBO FK QEFP BU> J MIB FP

/ OFDK>I FK@OB>PB FK >DDOBD>QB BUMBKAFQROB COL J DLSBOK J BKQ PMBKAFKD	
7 EF@E FP FK@L J B QL MBLMIB QEOLRDEL RQ QEB B@LKL J V O>V FK Q>UBP 3>SB LC >CQBO Q>U FK@L J B 3MBKA LC FK@L J B LK F J MLQOP 3B@LKA OLRKA FK@OB>PB LC e	^ ^
7 EF@E FP LC FK@L J B QL MBLMIB QEOLRDE QEB B@LKL J V O>V FK Q>UBP 3>SB LC >CQBO Q>U FK@L J B 3MBKA LC FK@L J B LK F J MLQOP 4EFOA OLRKA FK@OB>PB LC e	^ ^
7 EF@E FP LC FK@L J B QL MBLMIB QEOLRDE QEB B@LKL J V O>V FK Q>UBP 3>SB LC >CQBO Q>U FK@L J B 3MBKA LC FK@L J B LK F J MLQOP &LRQE OLRKA FK@OB>PB LC e	^ ^

,45?8 4?6H?4G<A : G ; 8 %H?C?<8E 9986G

3ERP LSBO QEB CFOPQ CLRO OLRKAP LC >DDOBD>QB BUMBKAFQROBP QEB F J M>@Q LC QEB LOFDK>I FK@OB>PB FK DLSBOK J BKQ PMBKAFKD LC @OB>QBP > OFPB FK >DDOBD>QB BUMBKAFQROBP LC <:HE8 PEL TP QEBPB QLQ>I >DDOBD>QB BUMBKAFQROBP >CQBO QEBPB CFOPQ CLRO OLRKAP >KA QEBK QEB CFDRQB PEL TP QEB QLQ>I >DDOBD>QB BUMBKAFQROBP >CQBO OLRKAP 3EB >AAFQFLK>I ?LLPQ QL >DDOBD>QB BUMBKAFQROBP FP PEOFKHFKD FK B>@E OLRKA LC @LKPR J MQFLK CQBO >?LRQ OLRKAP QEB >AAFQFLK>I FK@OB J BKQ >OB SBOV P J >II FKABBA b KB>OIV FKSFPF?IB QL QEB K>HBA BVB CQBO OLRKAP QEB >AAFQFLK>I FK@OB J BKQ FK B>@E OLRKA >OB PL P J >II QE>Q QEBV E>SB KL MO>@QF>I @LKPBNRBK@B CQBO OLRKAP QEB @R J RI>QFSB S>IRB LC QEB FKQF>I ?LLPQ FK >DDOBD>QB BUMBKAFQROBP FP >MMOLUF J >QBIV 3ERP QEB DLSBOK J BKQ PMBKAFKD FK@OB>PB LC BSBKQR>IIV >CQBO J >KV @V@IBP MOLAR@BA >K FK@OB>PB LC FK >DDOBD>QB BUMBKAFQROBP >KA OB>I &# / (K QEFP BU> J MIB QEB J RIQFMIFBO FP

**Calculating the Multiplier**

%LOQRK>QBIV CLO BSOVLKB TEL FP KLQ @>OOVFKD >OLRKA > @L J MRQBO TFQE > PMOB>APEBBQ MOLDO> J QL MOLGB@Q QEB F J M>@Q LC >K LOFDK>I FK@OB>PB FK BUMBKAFQROBP LSBO LO OLRKAP LC PMBKAFKD QEB@B FP > CLO J RI> CLO @>I@RI>QFKD QEB J RIQFMIFBO

$$\text{Spending Multiplier} = 1/(1 - \text{MPC} * (1 - \text{tax rate}) + \text{MPI})$$

3EB A>Q> COL J <:HE8 >KA ,45?8 FP

d , >ODFK>I /OLMBKPFQV QL 2>SB , /2

d 3>U 0>QB

d , >ODFK>I /OLMBKPFQV QL ( J MLOQ , / (

3EB , / " FP BNR>I QL a , /2 LO 3EB0BCLOB QEB PMBKAFKD J RIQFMIFBO FP

$$\begin{aligned} \text{Spending Multiplier} &= \frac{1}{1 - (0.7 - (0.10)(0.7) - 0.10)} \\ &= \frac{1}{0.47} \\ &= 2.13 \end{aligned}$$

@E>KDB FK PMBKAFKD LC J RIQFMIFBA ?V QEB PMBKAFKD J RIQFMIFBO LC FP BNR>I QL > @E>KDB FK &# / LC - LQ  
 @LFK@FABKQ>IIV QEFP OBPRIQ FP BU>@QIV TE>Q T>P @>I@RI>QBA FK <:HE8 >CQBO J >KV OLRKAP LC BUMBKAQROBP @V@IFKD  
 QEOLRDE QEB B@LKL J V

3EB PFWB LC QEB J RIQFMIFBO FP ABQBO J FKBA ?V TE>Q MOLMLQFLK LC QEB J >ODFK>I ALII>0 LC FK@L J B DLBP FKQL Q>UBP P>SFKD  
 >KA F J MLOQP 3EBPB QE0BB C>@QL0P >OB HKLTK >P eIB>H>DBP f ?B@>RPB QEBV ABQBO J FK ELT J R@E AB J >KA eIB>HP LRQf FK  
 B>@E OLRKA LC QEB J RIQFMIFBO BCCB@Q (C QEB IB>H>DBP >OB OBI>QFSBIV P J >II QEBK B>@E PR@>BPPFSB OLRKA LC QEB J RIQFMIFBO  
 BCCB@Q TFII E>SB I>ODBO > J LRKQP LC AB J >KA >KA QEB J RIQFMIFBO TFII ?B EFDE " LKSBOPBIV FC QEB IB>H>DBP >OB OBI>QFSBIV  
 I>ODB QEBK >KV FKFQF>I @E>KDB FK AB J >KA TFII AF J FKPE J LOB NRF@HIV FK QEB PB@LKA QEF0A >KA I>QBO OLRKAP >KA QEB  
 J RIQFMIFBO TFII ?B P J >II " E>KDBP FK QEB PFWB LC QEB IB>H>DBP b > @E>KDB FK QEB J >ODFK>I MOLMBKPFQV QL P>SB QEB Q>U  
 0>QB LO QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ b TFII @E>KDB QEB PFWB LC QEB J RIQFMIFBO

### Calculating Keynesian Policy Interventions

1BQROKFKD QL QEB LOFDK>I NRBPQFLK ' LT J R@E PELRIA DLSBOK J BKQ PMBKAFKD ?B FK@OB>PBA QL MOLAR@B > QLQ>I FK@OB>PB  
 FK OB>I &# / LC (C QEB DL>I FP QL FK@OB>PB >DDOBD>QB AB J >KA ?V >KA QEB J RIQFMIFBO FP QEBK QEB FK@OB>PB  
 FK DLSBOK J BKQ PMBKAFKD QL >@EFBSB QE>Q DL>I TLRIA ?B &LSBOK J BKQ PMBKAFKD LC >MMOLUF J >QBIV  
 TEBK @L J ?FKBA TFQE > J RIQFMIFBO LC TEF@E FP OB J B J ?BO ?>PBA LK QEB PMB@FCF@ >PPR J MQFLKP >?LRQ Q>U P>SFKD  
 >KA F J MLOQ 0>QB MOLAR@BP >K LSBO>II FK@OB>PB FK OB>I &# / LC OBPQLOFKD QEB B@LKL J V QL MLQBKQF>I &# / LC  
 >P <:HE8 PELTP

<:HE8 , ; 8 %H?<C?<8E 9986<A 4A KC8A7<GHE8 ' HGCHG %B78? 4EB MLTBO LC QEB J RIQFMIFBO BCCB@Q FP QE>Q >K  
 FK@OB>PB FK BUMBKAQROB E>P > I>ODBO FK@OB>PB LK QEB BNRHF?OFR J LRQMRQ 4EB FK@OB>PB FK BUMBKAQROB FP QEB SBOQF@>I  
 FK@OB>PB COL J !% QL !% (LTBSBO QEB FK@OB>PB FK BNRHF?OFR J LRQMRQ PELTK LK QEB EL0FWLKQ>I >UFP FP @IB>0IV I>ODBO

3EB J RIQFMIFBO BCCB@Q FP >IPL SFPP?IB LK QEB \*BVKBPF>K @OLPP AF>DO>J <:HE8 PELTP QEB BU> J MIB TB E>SB  
 ?BBK AFP@RPPFKD > OB@BPPFLK>OV D>M TFQE >K BNRHF?OFR J LC MLQBKQF>I &# / LC QEB PILMB LC QEB >DDOBD>QB  
 BUMBKAQROB CRK@QFLK \$ ABQBO J FKBA ?V QEB >PPR J MQFLKP QE>Q Q>UBP >OB LC FK@L J B P>SFKDP >OB LC >CQBO Q>U  
 FK@L J B >KA F J MLOQP >OB LC ?BCLOB Q>U FK@L J B Q \$ QEB >DDOBD>QB BUMBKAQROB CRK@QFLK FP J LSBA RM QL OB>@E  
 MLQBKQF>I &# /

-LT @L J M>OB QEB SBOQF>I PEFCQ RMT>OA FK QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK TEF@E FP TFQE QEB ELOFWLKQ>I PEFCQ LRQT>OA FK OB>I &# / TEF@E FP >P QEBPB KR J ?BOP TBOB @>I@RI>QBA B>OIFBO 3EB OFPB FK OB>I &# / FP J LOB QE>K ALR?IB QEB OFPB FK QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK 2F J FI>OIV FC VLR ILLH ?>@H >Q <:HEB VLR TFII PBB QE>Q QEB SBOQF>I J LSB J BKQP FK QEB >DDOBD>QB BUMBKAFQROB CRK@QFLK >OB P J >IIBO QE>K QEB @E>KDB FK BNRIF?OFR J LRQMRQ QE>Q FP MOLAR@BA LK QEB ELOFWLKQ>I >UFP D>FK QEFP FP QEB J RIQFMIFBO BCCB@Q >Q TLOH (K QEFP T>V QEB MLTBO LC QEB J RIQFMIFBO FP >MM>OBKQ FK QEB FK@L J BaBUMBKAFQROB DO>ME >P TBII >P FK QEB >OFQE J BQF@ @>I@RI>QFLK

3EB J RIQFMIFBO ALBP KLQ GRPQ >CCB@Q DL SBOK J BKQ PMBKAFK ?RQ >MMIFBP QL >KV @E>KDB FK QEB B@LKL J V 2>V QE>Q ?RPFKBPP @LKCFAFK@B AB@IFKBP >KA FKSBPQ J BKQ C>IIP LCC LO QE>Q QEB B@LKL J V LC > IB>AFKD QO>AFKD M>OQKBO PILTP ALTK PL QE>Q BUMLOQ P>IBP AB@IFKB 3EBPB @E>KDBP TFII OBAR@B >DDOBD>QB BUMBKAFQROBP >KA QEBK TFII E>SB >K BSBK I>ODBO BCCB@Q LK OB>I &# / ?B@>RPB LC QEB J RIQFMIFBO BCCB@Q 1B>A QEB CLILTFKD "IB>O (Q 4M CB>QROB QL IB>OK ELT QEB J RIQFMIFBO BCCB@Q >K ?B >MMIFBA QL >K>IVWB QEB B@LKL J F@ F J M>@Q LC MOLCBPPFLK>I PMLQQP

# Clear It Up

## BJ 64A G ; 8 @H?G<C?<8E 58 HF87 GB 4A4?LM8 G ; 8 86BAB@<6 <@C46G B9 CEB98FF<BA4? FCBEGF

!QQO>@QFKD MOLCBPPFLK>I PMLQQP QB>JP >KA ?RFAFKD PMLQQP PQ>AFR J P QL @OB>QB GL?P >KA PQF J RI>QB ?RPFKBPP DOLTQE FP >K B@LKL J F@ ABSBILM J BKQ PQO>QBDV >ALMQBA ?V J >KV @L J J RKQFBP QEOLRDEL RQ QEB 5KFQBA 3Q>QBP )K EFP OB@BKQ >OQF@IB bOR?IF@ &FK>K@FKD LC OOF S>QB 3MLQQP 3Q>AFR J P c \*>JBP \*LVKBO LC *Outside the Beltway* ILLHBA >Q MR?IF@ CFK>K@FKD CLO . & , QB>JP \*LVKBOaP CFKAFKDP @LKCFO J QEB B>OIFBO TLOH LC \*LEK 3FBDCOFBA LC 6>KABO?FIQ 5KFSBOPFQV >KA !KAOBT :FJ ?>IFPQ LC 3 J FQE #LIIBDB

3FBDCOFBA >KA :FJ ?>IFPQ RPBA QEB J RIQFMIFBO QL >K>IVWB QEFP FPPRB 4EBV @LKPFAFOBA QEB >J LRKQ LC Q>UBP M>FA >KA ALII>OP PMBKQ IL@>IIV QL PBB FC QEBOB T>P > MLPFQFSB J RIQFMIFBO BCCB@Q 3FK@B J LPQ MOLCBPPFLK>I >QEIBQBP >KA LTKBOP LC PMLQQP QB>JP >OB OF@E BKL RDE QL LTB > ILQ LC Q>UBP IBQaP P>V QE>Q LC >KV J >ODFK>I FK@L J B QEBV B>OK FP M>FA FK Q>UBP "B@>RPB >QEIBQBP >OB LCQBK EFDE B>OKBOP TFQE PELOQ @>OBBOP IBQaP >PPR J B QE>Q QEBV P>SB LKB QEFOA LC QEBFO >QBO Q>U FK@L J B

(LTBSBO J >KV MOLCBPPFLK>I >QEIBQBP AL KLQ IFSB VB>O OLRKA FK QEB @FQV FK TEF@E QEBV MI>V PL IBQaP P>V QE>Q LKB E>IC LC QEB J LKBV QE>Q QEBV AL PMBKA FP PMBKQ LRQPFAF QEB IL@>I >OB> / KB @>K QEFKH LC PMBKAFK LRQPFAF > IL@>I B@LKL J V FK QEFP BU>J MIB >P QEB BNRFS>IBKQ LC F J MLOQBA DLLAP CLO QEB K>QFLK>I B@LKL J V

.LT @LKPFAFO QEB F J M>@Q LC J LKBV PMBKQ >Q IL@>I BKQBO>FK J BKQ SBKRBP LQEBO QE>K MOLCBPPFLK>I PMLQQP 7 EIB QEB LTKBOP LC QEBPB LQEBO ?RPFKBPPBP J >V ?B @L J CLOQ>?IV J FAAIB FK@L J B CBT LC QEB J >OB FK QEB B@LKL J F@ PQO>QLPMEBOB LC MOLCBPPFLK>I >QEIBQBP "B@>RPB QEBFO FK@L J BP >OB ILTBO PL >OB QEBFO Q>UBP P>V QE>Q QEBV M>V LKIV LC QEBFO J >ODFK>I FK@L J B FK Q>UBP 4EBV AL KLQ E>SB QEB P>J B >?FIQV LO KBBA QL P>SB >P J R@E >P MOLCBPPFLK>I >QEIBQBP PL IBQaP >PPR J B QEBFO - O# FP GRPQ &FK>IIV ?B@>RPB J LOB LC QEB J IFSB IL@>IIV QEBV THII PMBKA > EFDEBO MOLMLQFLK LC QEBFO FK@L J B LK IL@>I DLLAP \_ P>V

)C QEBPB DBKBO>I >PPR J MQFLK ELIA QORB QEBK J LKBV PMBKQ LK MOLCBPPFLK>I PMLQQP THII E>SB IBPP IL@>I B@LKL J F@ F J M>@Q QE>K J LKBV PMBKQ LK LQEBO CLO J P LC BKQBO>FK J BKQ &LO MOLCBPPFLK>I >QEIBQBP LRQ LC > ALII>O B>OKBA @BKQP DLBP QL Q>UBP IB>SFKD @BKQP / C QE>Q @BKQP LKB QEFOA FP P>SBA IB>SFKD @BKQP >KA E>IC FP PMBKQ LRQPFAF QEB >OB> IB>SFKD @BKQP / KIV @BKQP LC B>@E ALII>O FP @V@IBA FKQL QEB IL@>I B@LKL J V FK QEB CFOPQ OLRKA &LO IL@>IIV LTKBA BKQBO>FK J BKQ LRQ LC > ALII>O B>OKBA @BKQP DLBP QL Q>UBP IB>SFKD @BKQP / C QEB OBPQ FP P>SBA IB>SFKD @BKQP >KA LC QE>Q >J LRKQ FP PMBKQ FK QEB IL@>I >OB> PL QE>Q @BKQP LC B>@E ALII>O LC FK@L J B FP OB@V@IBA FKQL QEB IL@>I B@LKL J V

3FBDCOFBA >KA :FJ ?>IFPQ J >HB QEB MI>RPF?IB >ODR J BKQ QE>Q TFQEFK QEBFO ELRPBELIA ?RADBQP MBLMIB E>SB > CFUBA >J LRKQ QL PMBKA LK BKQBO>FK J BKQ )C QEFP >PPR J MQFLK ELIAP QORB QEBK J LKBV PMBKQ >QQBKAFKD MOLCBPPFLK>I PMLQQP BSBKQP FP J LKBV QE>Q T>P KLQ PMBKQ LK LQEBO BKQBO>FK J BKQ LMQFLK FP > DfSBK J BQOLMLIFQ>K >OB> 3FK@B QEB J RIQFMIFBO FP ILTBO CLO MOLCBPPFLK>I PMLQQP QE>K CLO LQEBO IL@>I BKQBO>FK J BKQ LMQFLK QEB >OOF S>I LC MOLCBPPFLK>I PMLQQP QL > @FQV TLRIA OB>IIL@>QB BKQBO>FK J BKQ



PMBKAFKD FK > T>V QE>Q @>RPBP QEB IL@>I B@LKL J V QL PEOFKH O>QEBO QE>K QL DOLT 4ERP QEBFO CFKAFKDP PBB J QL @LKCFO J TE>Q \*LVKBO OBMLQOP >KA TE>Q KBTMP>MBOP >@OLPP QEB @LRKQOV >OB OBMLQOPFKD ! NRF@H )KQBOKBQ PB>O@E CLO bB@LKL J F@ F J M>@Q LC PMLQOPc TFII VFIBIA KR J BOLRP OBMLQOP NRBPQFLKFKD QEFB B@LKL J F@ ABSBILM J BKQ PQO>QBDV

### Multiplier Tradeoffs: Stability versus the Power of Macroeconomic Policy

(P >K B@LKL J V EB>IQEFBO TFQE > EFDE J RIQFMIFBO LO > ILT LKB 6 FQE > EFDE J RIQFMIFBO >KV @E>KDB FK >DDOBD>QB AB J >KA TFII QBKA QL ?B PR?PQ>KQF>IIV J >DKFCFBA >KA PL QEB B@LKL J V TFII ?B J LOB RKPQ>?IB 6 FQE > ILT J RIQFMIFBO ?V @LKQO>PQ @E>KDBP FK >DDOBD>QB AB J >KA TFII KLQ ?B J RIQFMIFBA J R@E PL QEB B@LKL J V TFII QBKA QL ?B J LOB PQ>?IB

' L TBSBO TFQE > ILT J RIQFMIFBO DLSBOK J BKQ MLIF@V @E>KDBP FK Q>UBP LO PMBKAFKD TFII QBKA QL E>SB IBPP F J M>@Q LK QEB BNRIF?OFR J IBSBI LC OB>I LRQMRQ 6 FQE > EFDEBO J RIQFMIFBO DLSBOK J BKQ MLIF@FBP QL O>FPB LO OBAR@B >DDOBD>QB BUMBKAFQROBP TFII E>SB > I>ODBO BCCB@Q 3ERP > ILT J RIQFMIFBO J B>KP > J LOB PQ>?IB B@LKL J V ?RQ >IPL TB>HBO DLSBOK J BKQ J >@OLB@LKL J F@ MLIF@V TEFIB > EFDE J RIQFMIFBO J B>KP > J LOB SLI>QFIB B@LKL J V ?RQ >IPL >K B@LKL J V FK TEF@E DLSBOK J BKQ J >@OLB@LKL J F@ MLIF@V FP J LOB MLTBOCRI

## #8L BA68CGF 4A7 +H@4EL

3EB BUMBKAFQROB LRQMRQ J LABI LO \*BVKBPF>K @OLPP AF>DO>J PELTP ELT QEB IBSBI LC >DDOBD>QB BUMBKAFQROB LK QEB SBOQF@>I >UFP S>OFPB TFQE QEB IBSBI LC B@LKL J F@ LRQMRQ PELTK LK QEB ELOFWLKQ>I >UFP 2FK@B QEB S>IRB LC >II J >@OLB@LKL J F@ LRQMRQ >IPL OBMOPBKPQ FK@L J B QL PL J BLKB PL J BTEBOB BIPB FK QEB B@LKL J V QEB ELOFWLKQ>I >UFP @>K >IPL ?B FKQBOMOBQBA >P K>QFLK>I FK@L J B 3EB BNRIF?OFR J FK QEB AF>DO>J TFII L@>RO TEBOB QEB >DDOBD>QB BUMBKAFQROB IFKB @OLPPB QEB ABDORB IFKB TEF@E OBMOPBKPQ QEB PBQ LC MLFKQ TEBOB >DDOBD>QB BUMBKAFQROB FK QEB B@LKL J V FP BNR>I QL LRQMRQ LO K>QFLK>I FK@L J B \$NRFIF?OFR J FK > \*BVKBPF>K @OLPP AF>DO>J @>K E>MMBK >Q MLQBKQF>I &# / LO ?BILT LO >?LSB QE>Q IBSBI

3EB @LKPR J MQFLK CRK@QFLK PELTP QEB RMT>OA PILMFKD OBI>QFLKPEFM ?BQTBKB K>QFLK>I FK@L J B >KA @LKPR J MQFLK 3EB J >ODFK>I MOLMBKPFQV QL @LKPR J B , / " FP QEB > J LRKQ @LKPR J BA LRQ LC >K >AAFQFLK>I ALII>O LC FK@L J B EFDEBO J >ODFK>I MOLMBKPFQV QL @LKPR J B J B>KP > PQBBMBO @LKPR J MQFLK CRK@QFLK > ILTBO J >ODFK>I MOLMBKPFQV QL @LKPR J B J B>KP > CI>QBO @LKPR J MQFLK CRK@QFLK 3EB J >ODFK>I MOLMBKPFQV QL P>SB , / 2 FP QEB > J LRKQ P>SBA LRQ LC >K >AAFQFLK>I ALII>O LC FK@L J B (Q FP KB@BPP>OFIV QORB QE>Q , / " , / 2 3EB FKSBPQ J BKQ CRK@QFLK FP AO>TK >P > CI>Q IFKB PELTFKD QE>Q FKSBPQ J BKQ FK QEB @ROOBKQ VB>O ALBP KLQ @E>KDB TFQE OBD>OA QL QEB @ROOBKQ IBSBI LC K>QFLK>I FK@L J B ' L TBSBO QEB FKSBPQ J BKQ CRK@QFLK TFII J LSB RM >KA ALTK ?>PBA LK QEB BUMB@QBA O>QB LC OBQROK FK QEB CRQROB &LSBOK J BKQ PMBKAFKD FP AO>TK >P > ELOFWLKQ>I IFKB FK QEB \*BVKBPF>K @OLPP AF>DO>J ?B@>RPB FQP IBSBI FP ABQBO J FKBA ?V MLIF@F@>I @LKPFABO>QFLK KLQ ?V QEB @ROOBKQ IBSBI LC FK@L J B FK QEB B@LKL J V 3>UBP FK QEB ?>PF@ \*BVKBPF>K @OLPP AF>DO>J >OB Q>HBK FKQL >@LRKQ ?V >AGRPQFKD QEB @LKPR J MQFLK CRK@QFLK 3EB BUMLOQ CRK@QFLK FP AO>TK >P > ELOFWLKQ>I IFKB FK QEB \*BVKBPF>K @OLPP AF>DO>J ?B@>RPB BUMLOQ AL KLQ @E>KDB >P > OBPRIQ LC @E>KDBP FK AL J BPQF@ FK@L J B ?RQ QEBV J LSB >P > OBPRIQ LC @E>KDBP FK CLOBFDK FK@L J B >P TBII >P @E>KDBP FK BU@E>KDB O>QBP 3EB F J MLOQ CRK@QFLK FP AO>TK >P > ALTKT>OA PILMFKD IFKB ?B@>RPB F J MLOQ OFPB TFQE K>QFLK>I FK@L J B ?RQ F J MLOQ >OB > PR?QO>@QFLK COL J >DDOBD>QB AB J >KA 3ERP > EFDEBO IBSBI LC F J MLOQ J B>KP > ILTBO IBSBI LC BUMBKAFQROB LK AL J BPQF@ DLLAP

(K > \*BVKBPF>K @OLPP AF>DO>J QEB BNRIF?OFR J J >V ?B >Q > IBSBI ?BILT MLQBKQF>I &# / TEF@E FP @>IIBA > OB@BPPFLK>OV D>M LO >Q > IBSBI >?LSB MLQBKQF>I &# / TEF@E FP @>IIBA >K FKCI>QFLK>OV D>M

3EB J RIQFMIFBO BCCB@Q ABP@OF?BP ELT >K FKQF>I @E>KDB FK >DDOBD>QB AB J >KA DBKBO>QBA PBSBO>I QF J BP >P J R@E >P @R J RI>QFSB &# / 3EB PFWB LC QEB PMBKAFKD J RIQFMIFBO FP ABQBO J FKBA ?V QE0BB IB>H>DBP PMBKAFKD LK P>SFKDP Q>UBP >KA F J MLOQ 3EB CLO J RI> CLO QEB J RIQFMIFBO FP

$$\text{Multiplier} = \frac{1}{1 - (\text{MPC} \times (1 - \text{tax rate}) + \text{MPI})}$$

K B@LKL J V TFQE > ILTBO J RIQFMIFBO FP J LOB PQ>?IB b FQ FP IBPP >CCB@QBA BFQEBO ?V B@LKL J F@ BSBKQP LO ?V DLSBOK J BKQ MLIF@V QE>K >K B@LKL J V TFQE > EFDEBO J RIQFMIFBO

## +8?9 ; 86> )H8FG<BAF

%UBO@FPB "

2HBQ@E QEB >DDOBD>QB BUMBKAFQROB LRQMRQ AF>DO>J TFQE QEB OB@BPPFLK>OV D>M

+B?HG<BA

3EB CLIILTFKD CFDROB PELTP QEB >DDOBD>QB BUMBKAFQROB LRQMRQ AF>D0> J TFQE QEB OB@BPPFLK>0V D>M

<:HE8

%UB0@fPB "

2HBQ@E QEB >DDOBD>QB BUMBKAFQROB LRQMRQ AF>D0> J TFQE >K FKCI>QFLK>0V D>M

+B?HG<BA

3EB CLIILTFKD CFDROB PELTP QEB >DDOBD>QB BUMBKAFQROB LRQMRQ AF>D0> J TFQE >K FKCI>QFLK>0V D>M

<:HE8

%UB0@fPB "

K B@LKL J V E>P QEB CLIILTFKD @E>0>@QB0FPQF@P

8 ->QFLK>I FK@L J B

3>UBP 3 8

" "LKPR JMQFLK 8 a 3

(

&

7

, 8 a 3

%FKA QEB BNRIF?OFR J CLO QEFP B@LKL J V (C MLQBKF>I &# / FP QEBK TE>Q @E>KDB FK DLSBOK J BKQ PMBKAFKD FP KBBABA  
 QL >@EFBSB QEFP IBSBI #L QEFP MOL?IB J QTL T>VP %FOPQ MIRD FKQL QEB BNR>QLKP >KA PLISB CLO & 2B@LKA @>I@RI>QB  
 QEB J RIQFMIFBO >KA CFDROB FQ LRQ QE>Q T>V

+B?HG<BA

%FOPQ PBQ RM QEB @>I@RI>QFLK

$$AE = 400 + 0.85(Y - T) + 300 + 200 + 500 - 0.1(Y - T)$$

$$AE = Y$$

3EBK FKPBQ 8 CLO \$ >KA 8 CLO 3

$$Y = 400 + 0.85(Y - 0.25Y) + 300 + 200 + 500 - 0.1(Y - 0.25Y)$$

$$Y = 1400 + 0.6375Y - 0.075Y$$

$$0.4375Y = 1400$$

$$Y = 3200$$

(C CRH B J MILV J BKQ FP QEBK LKB >MMOL>@E FP QL MIRD FK CLO 8 QEOLRDELRO QEB BNR>QFLK ?RQ QL IB>SB & >P >  
 PBM>0>QB S>F>?IB

$$Y = 400 + 0.85(Y - 0.25Y) + 300 + G + 500 + 0.1(Y - 0.25Y)$$

$$3500 = 400 + 0.85(3500 - 0.25(3500)) + 300 + G + 500 - 0.1(3500 - 0.25(3500))$$

$$G = 3500 - 400 - 2231.25 - 1300 - 500 + 262.5$$

$$G = 331.25$$

& S>IRB LC FP >K FK@OB>PB LC COL J FQP LOFDFK>I IBSBI LC

IQBOK>QFSBIV QEB J RIQFMIFBO FP QE>Q LRQ LC BSBOV ALII>O PMBKQ DLBP QL Q>UBP IB>SFKD >KA LRQ LC >CQBO Q>U  
 FK@L J B DLBP QL P>SFKDP >KA QL F J MLOQP !B@>RBP >KA QEFP J B>KP  
 QE>Q LRQ LC BSBOV ALII>O PMBKQ a a a

3ERP RPFKD QEB CLO J RI> QEB J RIQFMIFBO FP

$$\frac{1}{1 - 0.5625} = 2.2837$$

3L FK@OB>PB BNRIF?OFR J &# / ?V FQ TFII Q>HB > ?LLPQ LC TEF@E >D>FK TLOHP LRQ QL

%UBO@FPB "

,45?8 OBM0BPBKQ QEB A>Q? ?BEFKA > \*BVKBPf>K @QLPP AF>DO> J PPR J B QE>Q QEB Q>U 0>QB FP LC K>QFLK>I FK@L J B  
 QEB , / " LRQ LC QEB >CQBO Q>U FK@L J B FP FKSBPQ J BKQ FP DLSBOK J BKQ PMBKAFKD FP BUMLOQP >OB  
 >KA F J MLOQP >OB LC >CQBO Q>U FK@L J B 6 E>Q FP QEB BNRIF?OFR J IBSBI LC LRQMRQ CLO QEFP B@LKL J V

&4G<BA4? !A6B@8	9G8E G4K !A6B@8	BAFH@CG<BA !	0	%<AHF !@CBEGF	: :E8:4G8 KC8A7<GHE8F

&4G<BA4? !A6B@8	9G8E G4K !A6B@8	BAFH@CG<BA	!	0	%<AHF !@CBEGF	: :E8 : 4G8 KC8A7<GHE8F

,45?8

**+B?HG<BA**

3EB CLIIL TFKD Q>?IB FIIRPQO>QBP QEB @L J MIBQBA Q>?IB 3EB BNRIF?OFR J FP IBSBI FP FQ>IF@FWBA

&4G<BA4? !A6B@8	9G8E G4K !A6B@8	BAFH@CG<BA	!	0	%<AHF !@CBEGF	: :E8 : 4G8 KC8A7<GHE8F
\$10,000	\$6,000	\$5,300		\$5,000	\$300	\$10,000

,45?8

3EB >IQBOK>QFSB T>V LC ABQBO J FKFKD BNRIF?OFR J FP QL PLISB CLO 8 TEB0B 8 K>QLK>I FK@L J B RPFKD 8 \$ " ( & 7 a ,

$$Y = \$500 + 0.8(Y - T) + \$2,000 + \$1,000 + \$2,000 - 0.05(Y - T)$$

2LISFKD CLO 8 TB PBB QE>Q QEB BNRIF?OFR J IBSBI LC LRQMRQ FP 8

%UB0@fPB "

\$UMI>FK ELT QEB J RIQFMIFBO TLOHP 4PB >K , / " LC FK >K BU> J MIB

**+B?HG<BA**

3EB J RIQFMIFBO OBCBOP QL ELT J >KV QF J BP > ALII>0 TFII QROKLSBO FK QEB B@LKL J V (Q FP ?>PBA LK QEB , >ODFK>I /OLMBKPFQV QL " LKPR J B , / " TEF@E QBIIP ELT J R@E LC BSOV ALII>0 OB@BFSBA TFII ?B PMBKQ (C QEB , / " FP QEBK QEF J B>KP QE>Q LRQ LC BSOV LKB ALII>0 OB@BFSBA ?V > @LKPR J B TFII ?B PMBKQ 3EFP FP OB@BFSBA ?V >KLQEBO MBOPLK (K QROK LC QEB OB@BFSBA LO TFII ?B PMBKQ >KA PL LK 3EB F J M>@Q LC QEB J RIQFMIFBO FP AFIRQBA TEBK QEB BCCB@Q LC Q>UBP >KA BUMBKAFQROB LK F J MLOQP FP @LKPFABOBA 3L ABOFSB QEB J RIQFMIFBO Q>HB QEB a % TEB0B % FP BNR>I QL MBO@BKQ LC P>SFKDP Q>UBP >KA BUMBKAFQROBP LK F J MLOQP

**\* 8I<8J ) H8FG<BAF**

%UB0@fPB "

6 E>Q FP LK QEB >UBP LC >K BUMBKAFQROB LRQMRQ AF>D0> J

!MMBKAFU "

%UB0@fPB "

6 E>Q ALBP QEB ABD0BB IFKB PEL T

%UB0@fPB "

6 E>Q ABQBO J FKBP QEB PILMB LC > @LKPR J MQLK CRK@QFLK

%UB0@fPB "

6 E>Q FP QEB J >ODFK>I MOLMBKPFQV QL @LKPR J B >KA ELT FP FQ OBI>QBA QL QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ

%UB0@fPB "

6 EV >OB QEB FKSBPQ J BKQ CRK@QFLK QEB DLSBOK J BKQ PMBKAFKD CRK@QFLK >KA QEB BUMLOQ CRK@QFLK >II AO>TK >P CI>Q IFKBP

%UB0@fPB "

6 EV ALBP QEB F J MLOQ CRK@QFLK PILMB AL TK 6 E>Q FP QEB J >ODFK>I MOLMBKPFQV QL F J MLOQ

%UB0@fPB "

6 E>Q >OB QEB @L J MLKBKQP LK TEF@E QEB >DD0BD>QB BUMBKAFQROB CRK@QFLK FP ?>PBA

%UB0@fPB "

(P QEB BNRIF?OFR J FK > \*BVKBPf>K @OLPP AF>D0> J RPR>IIV BUMB@QBA QL ?B >Q LO KB>O MLQBKF>I &# /

%UB0@fPB "

6 E>Q FP >K FKCI>QFLK>OV D>M OB@BPPFLK>OV D>M

%UB0@fPB "

6 E>Q FP QEB J RIQFMIFBO BCCB@Q

%UB0@fPB "

6 EV >OB P>SFKDP Q>UBP >KA F J MLOQP OBCB00BA QL >P eIB>H>DBPf FK @>I@RI>QFKD QEB J RIQFMIFBO BCCB@Q

%UB0@fPB "

6 HII >K B@LKL J V TFQE > EFDE J RIQFMIFBO ?B J LOB PQ>?IB LO IBPP PQ>?IB QE>K >K B@LKL J V TFQE > ILT J RIQFMIFBO FK  
OBPMLKPB QL @E>KDBP FK QEB B@LKL J V LO FK DLSBOK J BKQ MLIF@V

%UB0@fPB "

' LT AL B@LKL J FPQP RPB QEB J RIQFMIFBO

## E<G<64? , ; <A><A : ) H8FG<BAF

%UB0@fPB "

6 E>Q ALBP FQ J B>K TEBK QEB >DD0BD>QB BUMBKAFQROB IFKB @OLPPBP QEB ABD0BB IFKB (K LQEBO TLOAP ELT TLRIA VLR  
BUMI>FK QEB FKQBOPB@QFLK FK TLOAP

%UB0@fPB "

6 EF@E J LABI QEB # 2 LO QEB \$ J LABI ?BQQBO BUMI>FKP QEB OBI>QFLKPEFM ?BQTBK OFPKD MOF@B IBSBIP >KA &# /  
6 EV

%UB0@fPB "

6 E>Q >OB PL J B OB>PLKP QE>Q QEB B@LKL J V J FDEQ ?B FK > OB@BPPFLK >KA TE>Q FP QEB >MMOLMOF>QB DLSBOK J BKQ >@QFLK QL >IIBSF>QB QEB OB@BPPFLK

%UB0@FPB "

6 E>Q PELRIA QEB DLSBOK J BKQ AL QL OBIFBSB FKCI>QFLK>OV MOBPPROBP FC QEB >DDOBD>QB BUMBKAFQROB FP DOB>QBO QE>K MLQBKQF>I &# /

%UB0@FPB "

3TL @LRKQFBP >OB FK > OB@BPPFLK "LRKQOV E>P >K , /" LC >KA "LRKQOV ! E>P >K , /" LC (K TEF@E @LRKQOV TFII DLSBOK J BKQ PMBKAFKD E>SB QEB DOB>QBPQ F J M>@Q

%UB0@FPB "

"L J M>OB QTL MLIF@FBP > Q>U @RQ LK FK@L J B LO >K FK@OB>PB FK DLSBOK J BKQ PMBKAFKD LK OL>AP >KA ?OFADBP 6 E>Q >OB ?LQE QEB PELOQ QBO J >KA ILKD QBO J F J M>@QP LC PR@E MLIF@FBP LK QEB B@LKL J V

%UB0@FPB "

6 E>Q OLIB ALBP DLSBOK J BKQ MI>V FK PQ>?FIFWKD QEB B@LKL J V >KA TE>Q >OB QEB QO>ABLCCP QE>Q J RPQ ?B @LKPFABOBA

%UB0@FPB "

(C QEB0B FP > OB@BPPFLK>OV D>M LC ?FIIFLK PELRIA QEB DLSBOK J BKQ FK@OB>PB PMBKAFKD ?V ?FIIFLK QL @ILPB QEB D>M 6 EV 6 EV KLQ

%UB0@FPB "

6 E>Q LQEBO @E>KDBP FK QEB B@LKL J V @>K ?B BS>IR>QBA ?V RPFKD QEB J RIQFMIFBO

## \* 898E8A68F

)LVKBO )>JBP .RQPFAB QEB !BIQT>V e/R?IF@ %FK>K@FKD LC /OFS>QB 2MLQOP 2Q>AFR J P f +>PQ J LAFCFBA , >V EQQM TTT LRQPFABQEB?BIQT>V @L J MR?IF@ CFK>K@FKD LC MOFS>QB PMLQOP PQ>AFR J P

2FBDCOFBA )LEK ) >KA KA0BT 9F J ?>IFPQ e3EB \$@LKL J F@P LC 2MLQOP %>@FIFQFBP >KA 3EBFO "L J J RKFQFBP f *Journal of Economic Perspectives* KL EQQM MR?P >B>TB? LOD ALF MACMIRP GBM

# &+ / \* # 1

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1 2@>0@FQV JB>KP ERJ>K T>KQP CLO DLLAP >KA PBO\$F@BP BU@BBA QEB >S>FI>?IB PRMMIV 2RMMIV FP IFJ FQBA ?B@>RPB OBPLRO@BP >OB IFJ FQBA #BJ>KA ELTBSBO FP SFQQR>IIV RKIFJ FQBA 6E>QBSBO QEB PRMMIV FQ PBBJP ERJ>K K>QROB QL T>KQJ LOB

2 MBLMIB MBLMIB MBO E>J >J>UFJRJ LC E>JP MBO JLKQE FC >II OBP\$FABKQP MOLAR@B E>J 2FK@B @LKPRIJMQFLK FP IFJ FQBA ?V MOLAR@QFLK QEB J>UFJRJ KRJ?BO LC E>JP OBP\$FABKQP @LRIA @LKPRIJB MBO JLKQE FP

3 2EB FP SBOV MOLAR@QFSB >Q EBO @LKPRIQFKD GL? ?RQ KLQ SBOV MOLAR@QFSB DOLTFKD SBDBQ>?IBP 3FJB PMBKQ @LKPRIQFKD TLRIA MOLAR@B C>O JLOB FK@LJB QE>K FQ TE>Q PEB @LRIA P>SB DOLTFKD EBO SBDBQ>?IBP RPFKD QEB P>JB >JLRKQ LC QFJB 2L LK MROBIV B@LKLJF@ DOLRKAP FQ J>HBP JLOB PBKPB CLO EBO QL J>UFJFWB EBO FK@LJB ?V >MMIVFKD EBO I>?LO QL TE>Q PEB ALBP ?BPQ FB PMB@F>IFW>QFLK LC I>?LO

4 3EB BKDFKBBO FP ?BQQBO >Q @LJMRQBO P@FBK@B QE>K >Q M>FKQFKD 3ERP EFP QFJB FP ?BQQBO PMBKQ TLOHFKD CLO M>V >Q EFP GL? >KA M>VFKD >M>FKQBO QL M>FKQ EFP ELRPB .C @LROBP QEFPP >PPRJB PEB ALBP KLQ M>FKQ EFP ELRPB CLO CRK

5 3EBOB >OB J>KV MEVPE@>I PVPQB JP QE>Q TLRIA TLOH CLO BU>JMIB QEB PQRVAV LC MI>KBQP JF@OL FK QEB PLI>O PVPQB J J>@OL LO PLI>O PVPQB JP JF@OL FK QEB D>I>UV J>@OL

6 #0>T > ?LU LRQFAB QEB LOFDK>I @FO@RI>O CILT QL OBMOBPBKQ QEB CLOBFDK @LRKQOV #0>T >K >OOLT COLJ QEB CLOBFDK @LRKQOV QL CFOJP QL OBMOBPBKQ FJMLQOP #0>T >K >OOLT FK QEB OBSBOPB AFOB@QFLK OBMOBPBKQFKD M>VJBKQP CLO FJMLQOP #0>T >K >OOLT COLJ CFOJP QL QEB CLOBFDK @LRKQOV QL OBMOBPBKQ BUMLOQP #0>T >K >OOLT FK QEB OBSBOPB AFOB@QFLK QL OBMOBPBKQ M>VJBKQP CLO FJMLQOP

7 3EBOB >OB J>KV PR@E MOL?IBJP "LKFABO QEB (#2 BMFABJF@ 6EV >OB PLCBT (#2 M>QFBKQP FK COF@> >KA 2LRQEB>PQ PF> QOB>QBA TFQE QEB P>JB AORDP QE>Q >OB BCCB@QFSB FK QEB 4KFQBA 2Q>QBP >KA \$ROLMB (QFP ?B@>RPB KBFQEB QELPB M>QFBKQP KLO QEB @LRKQFQB FK TEF@E QEBV IFSB E>SB QEB OBPLRO@BP QL MRO@E>PB QEB P>JB AORDP

8 /R?IF@ BKQBOMOFPB JB>KP QEB C>@QLOP LC MOLAR@QFLK OBPLRO@BP >KA ?RPFKBPPBP >OB LTKBA >KA LMBO>QBA ?V QEB DLSBOKJBKQ

9 3EB 4KFQBA 2Q>QBP FP >I>ODB @LRKQOV B@LKLJF@>IIV PMB>HFKD PLFQ E>P IBPP KBBA QL QO>AB FKQBOK>QFLK>IIV QE>K QEB LQEBO @LRKQOFBP JBKQFLKBA 3EFP FP QEB P>JB OB>PLK QE>Q %O>K@B >KA (Q>IV E>SB ILTBO O>QFLP QE>K !BIDFRJ LO 2TBABK .KB >AAFQFLK>I OB>PLK FP QE>Q B>@E LC QEB LQEBO @LRKQOFBP FP >JB J?BO LC QEB \$ROLMB>K 4KFLK TEBOB QO>AB ?BQTBK JB J?BOP L@>ROP TFQELRQ ?>OOFBOP QL QO>AB IFHB Q>OFCCP >KA NRLQ>P

## ;4C68E

1 3EB LMMLOQRKFQV @LPQ LC ?RP QF@HBQP FP QEB KRJ?BO LC ?RODBOP QE>Q JRPQ ?BDFS BK RM QL L?Q>FK LKB JLOB ?RP QF@HBQ .OFDFK>IIV TEBK QEB MOF@B LC ?RP QF@HBQP T>P @BKQP MBO QOFM QEFPLMMLOQRKFQV @LPQ T>P ?RODBOP 3EB OB>PLK CLO QEFP FP QE>Q >Q QEB LOFDK>I MOF@BP LKB ?RODBO @LPQP QEB P>JB >P CLRO ?RP QF@HBQP PL QEB LMMLOQRKFQV @LPQ LC > ?RODBO FP CLRO ?RP QF@HBQP >KA QEB LMMLOQRKFQV @LPQ LC > ?RP QF@HBQP FP QEB FKSBOBP LC QEB LMMLOQRKFQV @LPQ LC > ?RODBO 6FQE QEB KBT EFDEBO MOF@B LC ?RP QF@HBQP QEB LMMLOQRKFQV @LPQ OFBP QL LO 8LR @>K PBB QEFP DO>MEF@>IIV PFK@B QEB PILMB LC QEB KBT ?RADBQ @LKPQO>FKQ FP PQBBMBO QE>K QEB LOFDK>I LKB (C IMELKPL PMBKAP >II LC EFP ?RADBQ LK ?RODBOP QEB EFDEBO MOF@B LC ?RP QF@HBQP E>P KL FJM>@Q PL QEB SBOQF@>I FKQBO@BMQ LC QEB ?RADBQ @LKPQO>FKQ FP QEB P>JB (CEB PMBKAP >II LC EFP ?RADBQ LK ?RP QF@HBQP EB @>K KLT >CCLOA LKIV E>IC >P J>KV PL QEB SBOQF@>I FKQBO@BMQ FP E>IC >P JR@E (KPELOQ QEB ?RADBQ @LKPQO>FKQ OLQ>QBP @IL@HTFPBP >OLRKA QEB SBOQF@>I FKQBO@BMQ PQBBMBKFKD >P FQ DLBP >KA QEB LMMLOQRKFQV @LPQ LC ?RP QF@HBQP FK@OB>PBP

2 !B@>RPB LC QEB F J MOLSB J BKQ FK QB@EKLILDV QEB SBOQF@>I FKQBO@BMQ LC QEB // % TLRJA ?B >Q > EFDEBO IBSBI LC EB>IQE@>OB (K LQEBQ TLOAP QEB // % TLRJA OLQ>QB @IL@HTFPB >OLRKA QEB ELQFWLKQ>I FKQBO@BMQ 3EFP TLRJA J>HB QEB // % PQBBMBO @L00BPMLKAFKD QL >K FK@OB>PB FK QEB LMMLOQRKFQV @LPQ LC BAR@>QFLK PFK@B OBPLRO@BP ABSLQBA QL BAR@>QFLK TLRJA KLT J B>K CLODLFKD > DOB>QBO NR>KQFQV LC EB>IQE@>OB

3 -L IIL@>QFSB BCCF@FBK@V OBNRF0BP MOLAR@QFSB BCCF@FBK@V ?B@>RPB FQ MBOQ>FKP QL @ELF@BP >ILKD QEB MOLAR@QFLK MLPPF?FIFQFBP COLKQFBO

4 !LQE QEB ?RADBQ @LKPQ>FKQ >KA QEB // % PELT QEB @LKPQ>FKQ QE>Q B>@E LMBQ>QBP RKABO !LQE PELT > QO>ABLCC ?BQTBBK E>SFKD J LOB LC LKB DLLA ?RQ IBPP LC QEB LQEBQ !LQE PELT QEB LMMLOQRKFQV @LPQ DO>MEF@>HIV >P QEB PILMB LC QEB @LKPQ>FKQ ?RADBQ LO // %

5 6 EBK FKAFSFAR>IP @L J M>OB @LPQ MBO RKFQ FK QEB DOL@BOV PQL0B LO @E>O>@QBOFPQF@P LC LKB MOLAR@Q SBOPRP >KLQEBQ QEBV >OB ?BE>SFKD >MMOLUF J >QBIV IFHB QEB J LABI ABP@OF?BP

6 2FK@B >K LM BA J>HBP > @>PB CLO TE>Q PELRIA ?B FQ FP @LKPFABOBA KLO J >QFSB

7 PPR J FKD QE>Q QEB PQRAV FP KLQ Q>HFKD >K BUMIF@FQ MLPFQFLK >?LRQ TEBQEBQ PLCQ AOFKH @LKPR J MQFLK FP DLLA LO ?>A ?RQ GRPQ OBMLQ0FKD QEB P@FBK@B FQ TLRJA ?B @LKPFABOBA MLPFQFSB

;4C8E

1 2FK@B MBO D>IILK FP >?LSB QEB BNRIF?0FR J MOF@B QEB NR>KQFQV AB J >KABA TLRJA ?B ILTBO >Q D>IILKP >KA QEB NR>KQFQV PRMMIFBA TLRJA ?B EFDEBO >Q D>IILKP 3EBPB OBPRIQ >OB ARB QL QEB I>TP LC AB J >KA >KA PRMMIV 0BPMB@QFSBIV 3EB LRQ@L J B LC ILTBO OA >KA EFDEBO OP TLRJA ?B > PROMIRP FK QEB D>PLIFKB J >0HBQ LC a D>IILKP

2 3L J >HB FQ B>PFBO QL >K>IVWB @L J MIBU MOL?IB J P *Ceteris paribus* >IILT P VLR QL ILLH >Q QEB BCCB@Q LC LKB C>@QL0 >Q > QF J B LK TE>Q FQ FP VLR >OB QOVFKD QL >K>IVWB 6 EBK VLR E>SB >K>IVWBA >II QEB C>@QL0P FKAFSFAR>HIV VLR >AA QEB OBPRIQ QLDBQEBQ QL DBQ QEB CFK>I >KPTB0

3

> K F J MOLSB J BKQ FK QB@EKLILDV QE>Q OBAR@BP QEB @LPQ LC MOLAR@QFLK TFII @>RPB >K FK@OB>PB FK PRMMIV IQBOK>QFSBIV VLR @>K QEFKH LC QEFP >P > OBAR@QFLK FK MOF@B KB@BPP>OV CLO CFO J P QL PRMMIV >KV NR>KQFQV \$FQEBQ T>V QEFP @>K ?B PELTK >P > OFDEQT>OA LO ALTKT>OA PEFCQ FK QEB PRMMIV @ROSB

? K F J MOLSB J BKQ FK MOLAR@Q NR>IFQV FP QOB>QBA >P >K FK@OB>PB FK Q>PQBP LO M0BCB0BK@BP J B>KFKD @LKPR J BOP AB J >KA J LOB M>FKQ >Q >KV MOF@B IBSBI PL AB J >KA FK@OB>PBP LO PEFCQP QL QEB OFDEQ (C QEFP PBB J P @LRKQBOFKQRFQFSB KLQB QE>Q AB J >KA FK QEB CRQROB CLO QEB ILKDBO I>PQFKD M>FKQ TFII C>II PFK@B @LKPR J BOP >OB BPPBKQF>IIV PEFCQFKD AB J >KA COL J QEB CRQROB QL QEB M0BPPBKQ

@ K FK@OB>PB FK KBBA @>RPBP >K FK@OB>PB FK AB J >KA LO > OFDEQT>OA PEFCQ FK QEB AB J >KA @ROSB  
A %>@QL0V A> J >DB J B>KP QE>Q CFO J P >OB RK>?IB QL PRMMIV >P J R@E FK QEB M0BPPBKQ 3B@EKF@>IIV QEFP FP >K FK@OB>PB FK QEB @LPQ LC MOLAR@QFLK \$FQEBQ T>V VLR ILLH >Q FQ QEB PRMMIV @ROSB PEFCQP QL QEB IBCQ

4

> , LOB CRBI BCCF@FBKQ @>OP J B>KP QEB0B FP IBPP KBBA CLO D>PLIFKB 3EFP @>RPBP > IBCQT>OA PEFCQ FK QEB AB J >KA CLO D>PLIFKB >KA QERP LFI 2FK@B QEB AB J >KA @ROSB FP PEFCQFKD ALTK QEB PRMMIV @ROSB QEB BNRIF?0FR J MOF@B >KA



NR>KQFQV ?LQE C>II

- ? "LIA TB>QEBO FK@OB>PBP QEB KBBA CLO EB>QFKD LFI 3EFP @>RPBP > OFDEQT>OA PEFCQ FK QEB AB J >KA CLO EB>QFKD LFI >KA QERP LFI 2FK@B QEB AB J >KA @ROSB FP PEFCQFKD RM QEB PRMMIV @ROSB QEB BNRIF?OFR J MOF@B >KA NR>KQFQV ?LQE OFPB
- @ AFP@LSBOV LC KBT LFI TFII J>HB LFI JLOB >?RKA>KQ 3EFP @>K ?B PELTK >P > OFDEQT>OA PEFCQ FK QEB PRMMIV @ROSB TEF@E TFII @>RPB > AB@OB>PB FK QEB BNRIF?OFR J MOF@B >ILKD TFQE >K FK@OB>PB FK QEB BNRIF?OFR J NR>KQFQV 3EB PRMMIV @ROSB PEFCQP ALTK QEB AB J >KA @ROSB PL MOF@B >KA NR>KQFQV CLILIT QEB I>T LC AB J >KA (C MOF@B DLBP ALTK QEBK QEB NR>KQFQV DLBP RM
- A 6 EBK >K B@LKL J V PILTP ALTK FQ MOLAR@BP IBPP LRQMRQ >KA AB J >KAP IBPP FKMRQ FK@IRAFKD BKBODV TEF@E FP RPBA FK QEB MOLAR@QLK LC SFOQR>IIV BSOVQEFKD AB@OB>PB FK AB J >KA CLO BKBODV TFII ?B OBCIB@QBA >P > AB@OB>PB FK QEB AB J >KA CLO LFI LO > IBCQT>OA PEFCQ FK AB J >KA CLO LFI 2FK@B QEB AB J >KA @ROSB FP PEFCQFKD ALTK QEB PRMMIV @ROSB ?LQE QEB BNRIF?OFR J MOF@B >KA NR>KQFQV LC LFI TFII C>II
- B #FPORMQLK LC LFI MRJ MFKD TFII OBAR@B QEB PRMMIV LC LFI 3EFP IBCQT>OA PEFCQ FK QEB PRMMIV @ROSB TFII PELT > JLSB JBKQ RM QEB AB J >KA @ROSB OBPRIQFKD FK >K FK@OB>PB FK QEB BNRIF?OFR J MOF@B LC LFI >KA > AB@OB>PB FK QEB BNRIF?OFR J NR>KQFQV
- C (K@OB>PBA FKPRI@QLK TFII AB@OB>PB QEB AB J >KA CLO EB>QFKD 3EFP IBCQT>OA PEFCQ FK QEB AB J >KA CLO LFI @>RPBP > JLSB JBKQ ALTK QEB PRMMIV @ROSB OBPRIQFKD FK > AB@OB>PB FK QEB BNRIF?OFR J MOF@B >KA NR>KQFQV LC LFI
- D 2LI>O BKBODV FP > PR?PQQRQB CLO LFI ?>PBA BKBODV 2L FC PLI>O BKBODV ?B@LJBP @EB>MBO QEB AB J >KA CLO LFI TFII AB@OB>PB >P @LKPR JBOP PTFQ@E COL J LFI QL PLI>O 3EB AB@OB>PB FK AB J >KA CLO LFI TFII ?B PELTK >P > IBCQT>OA PEFCQ FK QEB AB J >KA @ROSB P QEB AB J >KA @ROSB PEFCQP ALTK QEB PRMMIV @ROSB ?LQE BNRIF?OFR J MOF@B >KA NR>KQFQV CLO LFI TFII C>II
- E KBT MLMRI>O HEKA LC MI>PQF@ TFII FK@OB>PB QEB AB J >KA CLO LFI 3EB FK@OB>PB FK AB J >KA TFII ?B PELTK >P > OFDEQT>OA PEFCQ FK AB J >KA O>FPFKD QEB BNRIF?OFR J MOF@B >KA NR>KQFQV LC LFI

5 2QBM #O>T QEB DO>ME TFQE QEB FKQF>I PRMMIV >KA AB J >KA @ROSBP +>?BI QEB FKQF>I BNRIF?OFR J MOF@B >KA NR>KQFQV 2QBM #FA QEB B@LKL J F@ BSBKQ >CCB@Q PRMMIV LO AB J >KA )BQ CRBI FP > @LPQ LC MOLAR@FKD >FO QO>SBI PL >K FK@OB>PB FK GBQ CRBI MOF@B >CCB@Q PRMMIV 2QBM K FK@OB>PB FK QEB MOF@B LC GBQ CRBI @>RPBA > AB@OB>PB FK QEB @LPQ LC >FO QO>SBI 6B PELT QEFP >P > ALTKT>OA LO OFDEQT>OA PEFCQ FK PRMMIV 2QBM OFDEQT>OA PEFCQ FK PRMMIV @>RPBP > JLSB JBKQ ALTK QEB AB J >KA @ROSB ILTBQFKD QEB BNRIF?OFR J MOF@B LC >FO QO>SBI >KA FK@OB>PFD QEB BNRIF?OFR J NR>KQFQV

6 2QBM #O>T QEB DO>ME TFQE QEB FKQF>I PRMMIV >KA AB J >KA @ROSBP +>?BI QEB FKQF>I BNRIF?OFR J MOF@B >KA NR>KQFQV 2QBM #FA QEB B@LKL J F@ BSBKQ >CCB@Q PRMMIV LO AB J >KA Q>OFCC FP QOB>QBA IFHB > @LPQ LC MOLAR@QLK PL QEFP >CCB@Q PRMMIV 2QBM Q>OFCC OBAR@QLK FP BNRFS>IBKQ QL > AB@OB>PB FK QEB @LPQ LC MOLAR@QLK TEF@E TB @>K PELT >P > OFDEQT>OA LO ALTKT>OA PEFCQ FK PRMMIV 2QBM OFDEQT>OA PEFCQ FK PRMMIV @>RPBP > JLSB JBKQ ALTK QEB AB J >KA @ROSB ILTBQFKD QEB BNRIF?OFR J MOF@B >KA O>FPFKD QEB BNRIF?OFR J NR>KQFQV

7 MOF@B @BFIFKD TEF@E FP ?BILT QEB BNRIF?OFR J MOF@B TFII @>RPB QEB NR>KQFQV AB J >KABA QL OFPB >KA QEB NR>KQFQV PRMMIFBA QL C>II 3EFP FP TEV > MOF@B @BFIFKD @OB>QBP > PELOQ>DB

8 MOF@B @BFIFKD FP GRPQ > IBD>I OBPQOF@QLK \$NRIF?OFR J FP >K B@LKL J F@ @LKAQFLK /BLMIB J >V LO J >V KLQ L?BV QEB MOF@B @BFIFKD PL QEB >@QR>I MOF@B J >V ?B >Q LO >?LSB QEB MOF@B @BFIFKD ?RQ QEB MOF@B @BFIFKD ALBP KLQ @E>KDB QEB BNRIF?OFR J MOF@B

9 MOF@B @BFIFKD FP > IBD>I J >UF J R J MOF@B ?RQ > MOF@B CILLO FP > IBD>I J FK F J R J MOF@B >KA @LKPBNRBKQIV FQ TLRIA IB>SB OLL J CLO QEB MOF@B QL OFPB QL FQP BNRIF?OFR J IBSBI (K LQEBO TLOAP > MOF@B CILLO ?BILT BNRIF?OFR J TFII KLQ ?B ?FKAFKD >KA TFII E>SB KL BCCB@Q

10 PPR J FKD QE>Q MBLMIB L?BV QEB MOF@B @BFIFKD QEB J >OHBQ MOF@B TFII ?B ?BILT BNRIF?OFR J TEF@E JB>KP QE>Q OA TFII ?B JLOB QE>K OP !RVBOP @>K LKIV ?RV TE>Q FP LCCBOBA CLO P>IB PL QEB KR J ?BO LC QO>KP>@QLKP TFII C>II QL OP 3EFP FP B>PV QL PBB DO>MEF@>IIV !V >K>ILDLRP OB>PLKFKD TFQE > MOF@B CILLO QEB J >OHBQ MOF@B TFII ?B >?LSB QEB BNRIF?OFR J MOF@B PL OA TFII ?B IBPP QE>K OP 2FK@B QEB IF J FQ LK QO>KP>@QLKP EBOB FP AB J >KA QEB KR J ?BO LC QO>KP>@QLKP TFII C>II QL OA -LQB QE>Q ?B@>RPB ?LQE MOF@B CILLOP >KA MOF@B @BFIFKDP OBAR@B QEB KR J ?BO LC QO>KP>@QLKP PL@F>I PROMIRP FP IBPP

11 !B@>RPB QEB ILPPBP QL @LKPR JBOP >OB DOB>QBO QE>K QEB ?BKBCFP QL MOLAR@BOP PL QEB KBQ BCCB@Q FP KBD>QFSB 2FK@B QEB

ILPQ @LKPR J BO PROMIRP FP DOB>QBO QE>K QEB >AAFQFLK>I MOLAR@BO PROMIRP PL@F>I PROMIRP C>IIP

**;4C68E**

1 "E>KDBP FK QEB T>DB O>QB QEB MOF@B LC I>?LO @>RBP > J LSB J BKQ >ILKD QEB AB J >KA @ROSB @E>KDB FK >KVQEFKD BIPB QE>Q >CCB@QP AB J >KA CLO I>?LO B D @E>KDBP FK LRQMRQ @E>KDBP FK QEB MOLAR@QFLK MOL@BPP QE>Q RPB J LOB LO IBPP I>?LO DLSBOK J BKQ OBDRI>QFLK @>RPBP > PEFCQ FK QEB AB J >KA @ROSB

2 "E>KDBP FK QEB T>DB O>QB QEB MOF@B LC I>?LO @>RBP > J LSB J BKQ >ILKD QEB PRMMIV @ROSB @E>KDB FK >KVQEFKD BIPB QE>Q >CCB@QP PRMMIV LC I>?LO B D @E>KDBP FK ELT ABPFO>?IB QEB GL? FP MBO@BFSBA QL ?B DLSBOK J BKQ MLIF@V QL MOL J LQB QO>FKFKD FK QEB CFBIA @>RPBP > PEFCQ FK QEB PRMMIV @ROSB

3 2FK@B > IFSFKD T>DB FP > PRDDBPQBA J FKJ R J T>DB FQ >@QP IFHB > MOF@B CILLO >PPR J FKD LC @LROPB QE>Q FQ FP CLIILTBA (C QEB IFSFKD T>DB FP ?FKAFKD FQ TFII @>RBP >K BU@BPP PRMMIV LC I>?LO >Q QE>Q T>DB O>QB

4 "E>KDBP FK QEB FKQBOBPQ O>QB F B QEB MOF@B LC CFK>K@F>I @>MFQ>I @>RBP > J LSB J BKQ >ILKD QEB AB J >KA @ROSB @E>KDB FK >KVQEFKD BIPB KLK MOF@B S>OF>?IB QE>Q >CCB@QP AB J >KA CLO CFK>K@F>I @>MFQ>I B D @E>KDBP FK @LKCFAKB@B >?LRQ QEB CRQROB @E>KDBP FK KBBAP CLO ?LOOLTFKD TLRIA PEFCQ QEB AB J >KA @ROSB

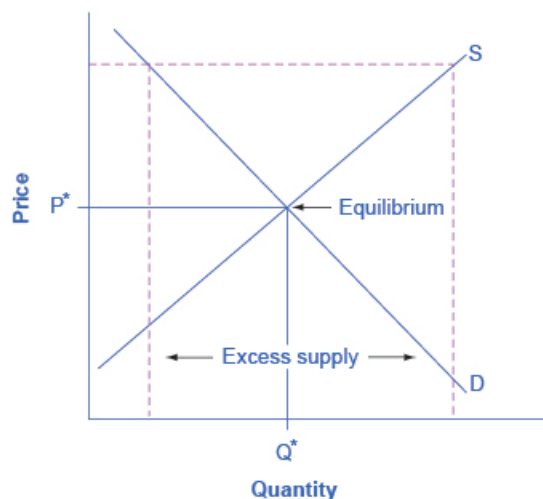
5 "E>KDBP FK QEB FKQBOBPQ O>QB F B QEB MOF@B LC CFK>K@F>I @>MFQ>I @>RBP > J LSB J BKQ >ILKD QEB PRMMIV @ROSB @E>KDB FK >KVQEFKD BIPB QE>Q >CCB@QP QEB PRMMIV LC CFK>K@F>I @>MFQ>I > KLK MOF@B S>OF>?IB PR@E >P FK@L J B LO CRQROB KBBAP TLRIA PEFCQ QEB PRMMIV @ROSB

6 (C J >OHBQ FKQBOBPQ O>QB PQ>V FK QEBFO KLO J >I O>KDB >K FKQBOBPQ O>QB IF J FQ LC TLRIA KLQ ?B ?FKAFKD (C QEB BNRIF?OFR J FKQBOBPQ O>QB OLPB >?LSB QEB FKQBOBPQ O>QB TLRIA ?B @>MMBA >Q QE>Q O>QB >KA QEB NR>KQFQV LC IL>KP TLRIA ?B ILTBO QE>K QEB BNRIF?OFR J NR>KQFQV @>RPFKD >PELQ>DB LC IL>KP

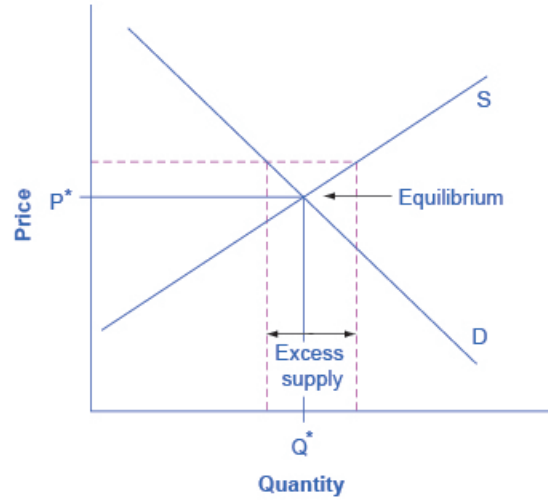
7 ? >KA @ TFII IB>A QL >C>II FK FKQBOBPQ O>QB Q > ILTBO AB J >KA IBKABOP TFII KLQ ?B >?IB QL @E>ODB >P J R@E >KA TFQE J LOB >S>FI>?IB IBKABOP @L J MBQFQFLK CLO ?LOOLTBO TFII AOFB O>QB ALTK

8 >>KA @ TFII FK@OB>PB QEB NR>KQFQV LC IL>KP , LOB MBLMIB TEL T>KQ QL ?LOOLT TFII OBPRIQ FK J LOB IL>KP ?BFKD DFSBK >P TFII J LOB MBLMIB TEL T>KQ QL IBKA

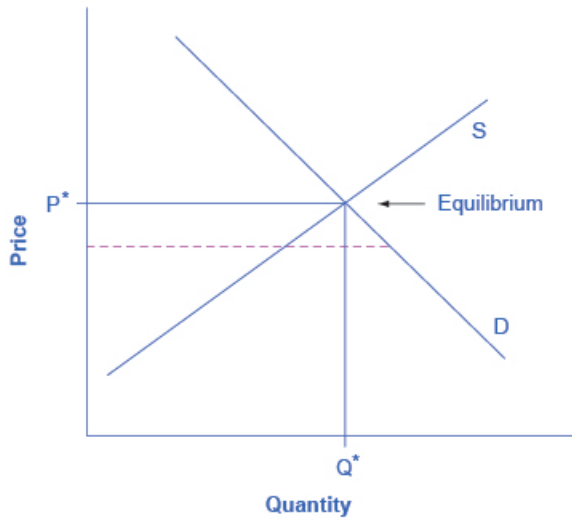
9 MOF@B CILLO MOBSBKQP > MOF@B COL J C>IIFKD ?BILT > @BOQ>FK IBSBI ?RQ E>P KL BCCB@Q LK MOF@BP >?LSB QE>Q IBSBI (Q TFII E>SB FQP ?FDDBP BCCB@Q FK @OB>QFKD BU@BPP PRMMIV >P J B>PROBA ?V QEB BKQFOB >OB> FKPFAB QEB ALQQA IFKBP LK QEB DO>ME COL J # QL 2 FC FQ FP PR?PQ>KQF>IIV >?LSB QEB BNRIF?OFR J MOF@B 3EFP FP FIIRPQO>QBA FK QEB CLIILTFKD CFDROB



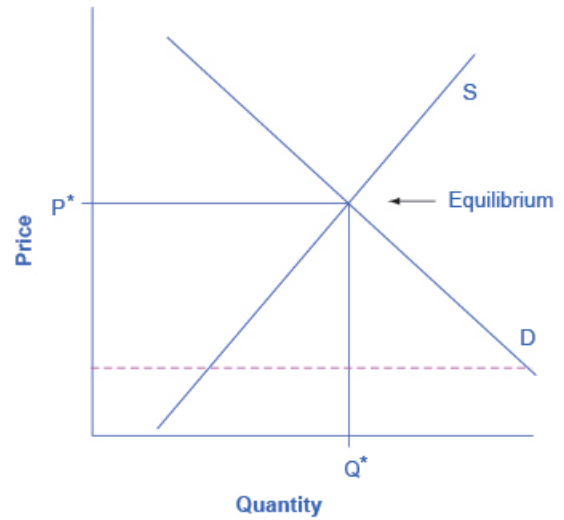
(Q TFII E>SB > IBPPBO BCCB@Q FC FQ FP PIFDEQIV >?LSB QEB BNRIF?OFR J MOF@B 3EFP FP FIIRPQO>QBA FK QEB KBUQ CFDROB



(Q TFII E>SB KL BCCB@Q FC FQ FP PBQ BFQEBO PIFDEQIV LO PR?PQ>KQF>IIV ?BILT QEB BNRIF?OFR J MOF@B PFK@B >K BNRIF?OFR J MOF@B >?LSB > MOF@B CILLO TFII KLQ ?B >CCB@QBA ?V QE>Q MOF@B CILLO 3EB CLIILTFKD CFDROB FIIRPQO>QBP QEBPB PFQR>QFLKP



(a) Price floor slightly below equilibrium price



(b) Price floor substantially below equilibrium price

10 MOF@B @BFIFKD MOBSBKQP > MOF@B COL J OFPFKD >?LSB > @BOQ>FK IBSBI ?RQ E>P KL BCCB@Q LK MOF@BP ?BILT QE>Q IBSBI (Q TFII E>SB FQP ?FDDBPQ BCCB@Q FK @OB>QFKD BU@BPP AB J >KA FC FQ FP PR?PQ>KQF>IIV ?BILT QEB BNRIF?OFR J MOF@B 3EB CLIILTFKD CFDROB FIIRPQO>QBP QEBPB PFQR>QFLKP

6 EBK QEB MOF@B @BFIFKD FP PBQ PR?PQ>KQF>IIV LO PIFDEQIV >?LSB QEB BNRIF?OFR J MOF@B FQ TFII E>SB KL BCCB@Q LK @OB>QFKD BU@BPP AB J >KA 3EB CLIIL TFKD CFDROB FIIRPQO>QBP QEBPB PFQR>QFLKP

11 - BFQEBO PEFCQ FK AB J >KA LO PRMMIV JB>KP QE>Q >Q BSB0V MOF@B BFQEBO > DOB>QB0 LO > ILTBO NR>KQFQV FP AB J >KABA LO PRMMIFBA MOF@B CILLO ALBP KLQ PEFCQ > AB J >KA @ROSB LO > PRMMIV @ROSB ' L TBSBO FC QEB MOF@B CILLO FP PBQ >?LSB QEB BNRIF?OFR J FQ TFII @>RPB QEB NR>KQFQV PRMMIFBA LK QEB PRMMIV @ROSB QL ?B DOB>QB0 QE>K QEB NR>KQFQV AB J >KABA LK QEB AB J >KA @ROSB IB>AFKD QL BU@BPP PRMMIV

12 - BFQEBO PEFCQ FK AB J >KA LO PRMMIV JB>KP QE>Q >Q BSB0V MOF@B BFQEBO > DOB>QB0 LO > ILTBO NR>KQFQV FP AB J >KABA LO PRMMIFBA MOF@B @BFIFKD ALBP KLQ PEFCQ > AB J >KA @ROSB LO > PRMMIV @ROSB ' L TBSBO FC QEB MOF@B @BFIFKD FP PBQ ?BILT QEB BNRIF?OFR J FQ TFII @>RPB QEB NR>KQFQV AB J >KABA LK QEB AB J >KA @ROSB QL ?B DOB>QB0 QE>K QEB NR>KQFQV PRMMIFBA LK QEB PRMMIV @ROSB IB>AFKD QL BU@BPP AB J >KA



















































































