



Department of Economics and Finance

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23"&"4%5(*&6(7%&*&3,(! "#\$%&'()*+,-./01/(<p>! "#\$%&'()*+,-./01/(2\$3&,%4()! %52\$+6+)+67)!</p> <p>-+,\$(1)8(9+)</p> <p>!</p> <p>"#\$%&'()*#! (#! '*+! , -! .)/#'0(+12! 3+01(1'+#4+! &#5!</p> <p>6'0/4'/0&%70+&81!</p> <p>)</p>
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+ 6789:8 ; <! =>?9>! - >@<?>8:A! 4?6B:8! . B9C:?D9EF!%<BG<BA! . B9E:G! 59B7G< ; !

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%69D!&8H:?9I<! + 98J&8>B>A! . B9C:?D9EF!<K! #>C>??>A! 2> ; @8A!0@>9B!

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06B:!PQPQ!

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!"#\$%&'&()(*'+#,\$%&'./0)',/(%1(&,(1(,2(%#,%3"(%#,4-'3#.,%)'3(\$%.4%3"(%56%2.7,3)#(\$%89%(\$3#+ '3#,/%3"(%):4)'23#.,'-;%.)1()%.4%#,3(/)'3#.,%1%.<()3"(%\$'+&-(%&()#.1%=' ,7')9%>?6@%0% A')2"%BCBCD%!"(%)(%7-3\$%#,1#2'3(%3" '3%3"(%\$()#(\$%')(<()9%&()\$#3(,3E%3"(%(\$3#+ '3(1%<' -7(% .4%1%8(#,/(F7'-%3.%)%"#/"()3"' ,%>%#,%'--%2'\$(D%G.\$%\$#8-(% ,. ,0

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A ('\$7)#, /% #, 4-'3#., % &())\$3\$(, 2(% #\$\$.4% #, 3())(\$3% 3.% 8.3"" '2'1(+ #2\$% :3.% (\$3'8-#\$"" 3"(%
(+&#)2'-%)(-(<' , 2(% .4%1#44())(, 3%3"(.)(3#2'-+ .1(-E\$72"" '\$%3"(%G"#-#&\$%27)<(%.)%OK5 I%
+ .1(-\$;% ' , 1% + ., (3')9%'73" .)#3#(\$%:3.% ' , 2" .)% (*&(23'3#., \$%#,% .)1()3.%- .L()&())\$3\$(, 2(%
' , 1%)(172(%3"(% .73&73%2. \$3\$% .4%1#44(), 4-'3#., ;D%U#/"%&())\$3\$(, 2(% +#/"3%)(7-3E%4.)%# , \$3' , 2(E%
4). +&#)2(%' , 1%L'/(%)#/#1#3#(\$%:5'-J%' , 1%5()3-()E%>??%;E%.)4). +%3"(%-'2J%.4%3)' , \$&') , (29%
.4% + ., (3')9%& .-#29%: ^ '-\$"E%BCC6;D%

! ")(%#\$%&- , 39%.4%(<#1(, 2(%\$7//(\$3# , /%3""3%# , 4-'3#., %"'\$%8((, %"#/"-9%&())\$3\$(, 3%# , %
+ .3% 1(<(-. &(1% 2.7, 3)(\$% \$% , 2(% ^ ^MM% :A#-(\$% (3% '-DE% BC>6;D% U.L(<()E% ' , % (F7'--9%
#+&.)3' , 3%#\$7(%#\$%L"(3"())% , .3%#3%1(/)((% .4%&())\$3\$(, 2(% "'\$%2"" , / (1% .<()) 3#+(E%
&.\$%#8-9%'\$%'%)(7-3% .4%3"(%'1.&3#., % .4%1#44())(, 3% + ., (3')9%& .-#29%4)' + (L.)J\$%72""
, 4-'3#., %3')/(3# , /D%G#<(33%' , 1%_(\$%:BCC6;% ' , 1%K3.2J%' , 1% ^ '3\$. , %:BCC6E%BC>C;% 1. , .3%
4# , 1% ' , 9%#\$/ , #4#2' , 3%2"" , /(\$%# , %3"(%RK%# , %3"(%& . \$30 ^ ^MM%&())# . 1%L" , (%'22.7, 3# , /%4.)%
7, 2()3'# , 39%' . 7, 1%& .# , 3%(\$3#+ '3(\$% .)1#3# , /7#\$"# , /%8(3L((, %&())\$3\$(, 3% ' , 1%3)' , \$3.)9%
2"" , /(\$%# , %# , 4-'3#., D%K#+#-'-9E%H'&.)'-(3%'-D%:BC>T;2. , 2-71(%3""3%# , 4-'3#., %&())\$3\$(, 2(%
""\$%8((, %-.L()# , %3"(%RV%# , %3"(%BC""2(, 37)9%2. +&')(1%3.%(')-#()% . , (\$%873% "'\$% , .3%
2"" , / (1%\$#/ , #4#2' , 3-9%\$# , 2(% ^ ^MD%

! " (&)(, 3%&'&())#'+\$3.%&).<#1(% + .)(% (*3(, \$#<(% (<#1(, 2(% . , %3"#%#\$7(%89%
' , '-9\$# , /%3"(%\$3.2""\$3#2'8("'<# .7)% .4%# , 4-'3#., %# , %'--%56%2.7, 3)(\$%# , %3"(%-'\$3%4#<(%
1(2'1(\$%' , 1%3(\$3# , /%4.)%&.\$%#8-(%8)('J\$M3%7\$(%'%4)'23#., '-%# , 3(/)'3#., %4)' + (L.)J%3""3%#\$%
+72""+ .)(%/ , (, ()'-%' , 1%4-(*#8-(%3"" , %3"(%`73._(/)(\$%#<(0:M, 3(/)'3(1;0A.<# , /%`<())'/(%
: ` _:M;A ` ;% + .1(-\$% + .3%2. + + . , -9%7\$(1%# , %3"(%-#3() '37)(%# , 2(%#3%#\$% , .3%8'\$(1% . , %3"(%
2-'\$\$#2'-M:C;%<())\$7%M:>;%1#2" .3. +9%' , 1%--.LS%# , \$3('1%3"(%.)1()%.4%# , 3(/)'3#., %1%3.%3'J(%
4)'23#., '-%'\$%L(--'\$%# , 3(/)%<'7(\$D%U'<# , /%)7-(1% .73% , . , 0-# , (')#3#(\$%# , %3"(%\$%)#(\$% .4%
, 3()(\$3E%#3%3" , %2'))#(\$% .73% (, 1. / (, .7\$%8)('J%3(\$3\$%' , 1%)(0

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2.))(\$&. ,1# ,/% \$780\$' +&-(\$E% 3") (89% .83'# ,# ,/% (<#1(,2(% .4% \$#/ ,#4#2' ,3% 2" ' ,/(\$% # ,%
&())\$#3(,2(% '2) . \$\$2.7 ,

% A.)(%)(2(,3-9E% V7).b7+#% ',1% c ',% d',1L(/"(% :BC>?;% "'<(%

H. ,2(),# ,/%3"(% (+)/# ,/% (2. . . +#(\$E%# , % ')(2(,3%\$3719% 5 ')2]'%' , 1%G. . ,% :BC>?;%
'&&-9% '%' Q(<())#1/(0h(-\$. , % 1(2. +&.\$#3# . , % 3. % .8\$())<(1% # ,4-'3# . , %)'3(\$% # , % ` \$#'E% ' , 1%
(\$3#+ '3(% '%3)(, 1E% .)%&()+ ' , (, %2. +& . , (, 3E% ' , 1% '%3) ' , \$#3.)9E% .)% :292-#2'- ;%# , 4-'3# . , % / '&D%
M , %3"#\$2. , 3(*3E%3)(, 1%# , 4-'3# . , %)(&)(\$, 3\$%3"(% + . \$3% -#J(-9%# , 4-'3# . , %)'3(. , 2(%3) ' , \$#3.)9%
(44(23\$% "'<(1#(1% 'L'9% ' , 1%2' , %3") (4.)(%8(%# , 3())&)(3(1% '\$%3"(% .&3#+ '-#2. , 1#3# . . , '- . . , /0
3()+%# , 4-'3# . , % 4.) (2'\$3D% ! " (1%\$# , 4-'3# . , %)9%\$% . 2J\$%3" '3%" '<(% '#3% ` \$#'E%# , 2(%BC>Y%L()(%3. %
\$. + (% (*3(, 3% 3) ' , \$#3.)9E% ' , 1% 3" (9% "'<("' 1% '\$9+ + (3)#2% (44(23\$% 1(&(, 1# , /% . , % 3"(%
8(" '<# . 7)% . 4%3)(, 1%# , 4-'3# . , %# , % ('2"% 2. 7 , 3)9D% H. 7 , 3)#(\$% L#3"%) (-'3#<(-9% "#/ "%# , 4-'3# . , %
:M , 1# 'E%G" #&&# , (\$E%M , 1. , (\$#' ;%8(, (4#3(1E% ' , 1%\$. + (%L()(% '44(23(1%<())9% +#-1-9% :H" # , 'E%
! '#L' , E%U. , /%V. , /%K` _E% A '- '9\$# ' ;D% ` + . , /%2. 7 , 3)#(\$% L#3"%"# , 4-'3# . , %8(-. L%3') / (3E%# , %
3" . \$(%L#3"%- . L% ' , 1%2. , \$3' , 3%3)(, 1%# , 4-'3# . , % : ` 7\$3)' -# 'E%h(L% d(' - ' , 1;%' - . L%# , 4-'3# . , %) '3(%
+ '9%8(%- . , /0-'\$3# , /%873%#\$%3(+&.) '9E%L" #- (%# , %3" . \$(%L") (%3)(, 1%# , 4-'3# . , % "' \$%1(2-# , (1%
:K. 73"%"V.) ('E% ! " '# - ' , 1;%' - . L%# , 4-'3# . , %) #J\$%3. %8(2. + (% (, 3)(, 2" (1D%

Oi` + '3. % (3% '-D% :BCC6;% ' , 1% Oi` + '3. % ' , 1% 5') (/ , ' , #% :BC>@;% (\$3#+ '3(1% "#/ "%
, 4-'3# . , % &)\$#3(, 2(% # , % `) / (, 3# , 'D% % ` % L#1()) \$3719% 89% H')j , % ' , 1% _' + . \$0P)' , 2#%'
:BCC[;%) ('2" (1% \$#+#-')% 2. , 2-7\$# . , % 4.)% '% L#1(%) ' , / (% . 4% S'3# , % ` +)#2' , % 2. 7 , 3)#(\$D%
P# , '-9E%M\$. ')1#% ' , 1% 5#-0` - ' , % :BC>?;% 4. 7 , 1% (<#1(, 2(% . 4% - . , /0+ (+ .)9%# , %3" (%# , 4-'3# . , %
)'3(% # , % `) / (, 3# , '% 89% ' &&-9% , /%4)'23# . , '-9% # , 3(/)'3# . , % + (3" . 1\$% 3. % 8. 3" + . , 3"-9% ' , 1%
' , , 7'-%1'3' : (\$&(2#'-9%# , %3" (%2'\$(% . 4%3" (%4.) +) ;D%%

` \$% 4.)% 3" (% `4)#2' , % 2. , 3# , (, 3E% h9. , #% :BC>T;% + . 1(--(1% 3" (% < . - '3#-#39% . 4% 3" (%
+ . , 3"-9%# , 4-'3# . , %) '3(% # , % d#+8'8L(. <()3" (%&())# . 1%4) . +% =7-9% BCC?%3. % =7-9% BC>T% ' , 1%
4. 7 , 1% 3" '3% ' , % ` _% :>% f% M5 ` _HU% :>E% >% \$&(2#4#2'3# . , %#\$% 3" (% + . \$3% ' && .)&# '3(N% 3" (9%
) / 7(1% 3" '3% 3"#\$% (<#1(, 2(% . 4% &)\$#3(, 2(% \$" . 7-1% 8(3' J(, % # , 3. % '22. 7 , 3% 89% + . , (3')9%
'73" .)#3#(\$%3. % 1(\$#/ , % ' && .)&# '3(%& . -#2#(\$D%U#/ "%# , 4-'3# . , %&)\$#3(, 2(%L'\$% '-\$. %4. 7 , 1% 89%
!7-(3% '-D% :BCBC;% # , %3" (%2'\$(% . 4% h# / ()# '89% (\$3#+ '3# , /% '%4)'23# . , '-#2. # , 3(/)'3# . , % c ` _%

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+ .1(-%:PHc`_%0%

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3"(%-'2J%.4%\$#/,#4#2',2(% .4%3"(%2.))(\$&. ,1#, /%2. (44#2#(,3\$E%3"())(%#\$%, .% (<#1(,2(% .4% , . ,0
-#,('#3#(\$#,#3"(%\$()(\$%:'3%-('\$3%.4%3"(%4.)+%\$&(2#4#(1%'8.<(;D%

' &4%*!V!&4 (. '!) * / *!

% !"()4.)(% ,(*3% L(% (*'+#, (% 3"(% &.\$#\$8-(% &)(\$,2(% .4% \$3)7237)'-8)('J\$% 89%
&()4.)+#, /%3"(%3(\$3% .4% 8.3"%Q'## ',1%G()). ,% :BCC@;% ', 1% 5#-0`-' , '% :BCCT;%4.)% +7-3#&-(%
8)('J\$E%3"(%-'33%)%\$&(2#4#2'--9%1(\$#/ , (1%4.)%3"(%2'\$(.4%4)'23#. , '-%#,3(/) '3#. ,D% !"(%)(\$7-3\$%
')(%(\$\$(,3#'-9%3"(%\$'+(%#,%8.3"%2'\$(E%L"#2"%#\$%, .3%\$7)&)\$#,\$ /%/#<(%3"(%&)(<# .7\$%4# ,1# , /%
3" '3%3"(%\$()(\$%(*"#8#3%7,#3%). .3\$E%3"()4.)(%L(%)&.)3%. , -9%3" .\$(4.)%3"(%4#)\$3%3(\$3%#,% ! '8-(%
@E%L"#2"%\$.L\$%3"(% ,7+8()%.4%8)('J\$%' ,1%3" (#)1'3(\$4.)%('2"%2.7,3)9D% !")((%8)('J\$%')(%
4.7,1%#,%3"(%2'\$(.4%3'-9%' ,1%3"(%RVE%4.7)%#,% '--.3"()2'\$(D%K. +(% .4%3" (+%2.))(\$&. ,1%
3.%&.-#29%2"' , /(\$E%4.)%#,\$3' ,2(3.3"(%# ,3).1723#. ,% .4%# ,4-'3#. ,%3')/(3# , /% :M ! ;%#,%3"(%RV%
#,%>?B%'\$%L(-% '\$%#,%H' , '1'E%L"()(%M!"'1%8((,%' , , .7,2(1%#,%>?>E% , 1%3"(%-'7,2"% .4%
3"(%K# , /-(% A')J(3%G. /)'+ +(%#,% I7).&(%#,%>?TZE%L"#2"% +#/"3%8(8(" ,1%3"(%8)('J\$%
1(3(23(1%').7,1%3" '3%3#+(%#,%P)' ,2(%' ,1%M3'-9D%M,%5()+' ,9E%3"(%1. +#, ' ,3%&-'9()#,%3"(%
I7).&(' ,% A . , (3')9%K9\$3(+%'22.)1# , /%3.3"(%5()+' ,%S('1()\$"#&%U9&.3"(\$%SE% '8)('J%
.227))(1%')-#()E%#,%>?T@E% \$").3-9%'43()%' , (L 2. '-#3#. ,% / .<() , + (,3% # ,2-71# , /% 3"(%
HORrHKR% , 1%POG%&')3#(\$%L'\$%4.)+(1%7,1()3"(%-'1()\$"#&.4%U(-+73%V. "-D%M,%='&' ,%
3"(%>?C\$%L()(%2"')'23()#\$ (1%89%1(4-'3#. ,%'43()3"(%(2. , . +#2%8788-(%87)\$3%' ,1%3"(%>?B%
8)('J% +#/"3")4-(23%3" '3%2"' , /(%#,% (2. , . +#2%2. , 1#3#. , \$D%P.)%3"(%RKE%3"(%4#)\$3%8)('J%
.227))(1%').7,1%3"(%3#+(% .4%3"(%\$3')3%.4%3"(%c.-2J() + . , (3')9%)(/# + (%3" '3%7\$(1%# ,3()(\$3%
)'3(\$3. %2)('3(%' , . +#, '-%' ,2" .)%#,%3"(%4.)+% .4%' ,% (*&(23(1%- .LE%\$3'8-(%3)(,1%# ,4-'3#. ,D%!

' &4%*!W!&4 (. '!) * / *!

! '8-(%Y%1#\$&-'9\$%3"(%(\$3#+ '3(\$% .4%1%4.)('2"%2.))(\$&. ,1#, /%\$78\$' +&-(% ' ,1% ('2"%
2.7,3)9%7,1()%)3"(% '\$\$7 +&3# . ,% .4%L "#3(% , .#\$(%) .)D!P.)%H' , '1'E%3"(%(\$3#+ '3(1%<' -7(\$% .4%
1%)' , /(%4) . +%CD6@%# ,%3"(%-'\$3%\$78\$' +&-(%3. %>D>[%# ,%3"(%3"#)1%\$78\$' +&-(E%873%3"(%7, #3%) . .3%
,7--% "9&.3"(\$#\$2' , , .3%8(%)(g(23(1%# ,% ' ,9%\$# , /-(%2'\$(D%P.)%P)' ,2(E%3"(%7, #3%) . .3% ,7--%#\$%
) (g(23(1%# ,%4' <.7)% .4%1%P%>%# ,%3"(%2'\$(% .4%3"(%4#)\$3' ,1%4.7)3"%\$78\$' +&-(%873%2' , , .3%8(%
) (g(23(1%# ,%3"(%2'\$(% .4%3"(% .3"()D%P.)%5() + ' ,9E%3"(%7, #3%) . .3% ,7--%2' , , .3%8(%)(g(23(1%# ,%
3"(%2'\$(% .4%3"(%4#)\$3' ,1%4.7)3"%\$78\$' +&-(E%873%#3#\$%)(g(23(1%# ,%4' <.7)% .4%1%P%>%# ,%3"(%
\$(2. ,1E% ' ,1% + (' ,%)(<())\$# . ,% :1%o%>;% .227)\$%# ,%3"(%3"#)1% ' ,1%4#43"%\$78\$' +&-(D%P.)%M3'-9E%1%
P%>%#\$4.7,1%4.)%3"(%4#)\$3%3"((%\$78\$' +&-(%L"#-\$3%3"(%7, #3%) . .3% ,7--%2' , , .3%8(%)(g(23(1%# ,%
3"(%2'\$(% .4%3"(%4.7)3"% . , (D%P.)%='&' ,E%1%P%>%#\$4.7,1%4.)%3"(%4#)\$3' ,1%3"(%-'\$3%\$78\$' +&-(E%
L"#3%3"(%7, #3%) . .3% ,7--%2' , , .3%8(%)(g(23(1%4.)%3"(% .3"()D%P.)%3"(%RVE%1%#\$3'3\$3#2'--9%
"/"()3" ' ,%>%# ,% '-4.7)%\$78\$' +&-(D%P# , '-9E%4.)%3"(%RKE%1%#\$%"/"()3" ' ,%>%# ,%3"(%4#)\$3E%
\$(2. ,1% ' ,1%4.7)3"%\$78\$' +&-(E%L"#-(%3"(%7, #3%) . .3% ,7--%2' , , .3%8(%)(g(23(1%4.)%3"(%3"#)1%
' ,1%4#43"%\$78\$' +&-(D%

' &4%*0!X!&# 3!Y!&4 (. '!) * / *%

! '8-(%Z%)(&.)3\$%3"(%2.))(\$&. ,1#, /% (\$3#+ '3(\$% .4%1%7,1()3"(% '\$\$7 +&3# . ,% .4%
'73.2.))(-'3(1%1#37)8' ,2(D% !"(%(\$3#+ '3(1%<' -7(\$% .4%1%')(% , .L% \$-#/"3-9%\$+ '--()D%P.)%
(*' +&-(E% + (' ,%)(<())\$# . ,% .227)\$%# ,%3"(%2'\$(% .4%H' , '1'%17)# , /%3"(%-'\$3%3L.%\$78\$' +&-(E%
' ,1% '-\$.4.)%P)' ,2(%# ,%3"(%\$(2. ,1%\$78\$' +&-(E% ' ,1%4.)%='&' ,%17)# , /%3"(%4.7)3"%\$78\$' +&-(D%
P.)%3"(%RVE%3"(%7, #3%) . .3% ,7--%2' , , .3%8(%)(g(23(1%# ,%3"(%2'\$(% .4%3"(%\$(2. ,1% ' ,1%3"#)1%
\$78\$' +&-(D%P# , '-9E%4.)%3"(%RKE%3"(%7, #3%) . .3% ,7--%#\$%)(g(23(1%# ,%4' <.7)% .4%1%P%>%# ,%3"(%
4#)\$3%\$78\$' +&-(E%3"(%7, #3%) . .3% "9&.3"(\$#\$2' , , .3%8(%)(g(23(1%4.)%3"(%\$(2. ,1% ' ,1%4.7)3"%
\$78\$' +&-(E% ' ,1% (<#1(,2(% .4% + (' ,%)(<())\$# . ,% :-1413Tm/TT161Tf(%TjFTQq0.242. ,1% ' ,1%4.7)3"%

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!"#\$%&'&()*(*'+#,(\$%-. ,/0)',/(%1(&(,1(,2(%#,3"(%#,4-'3#. ,%)'3(\$%.4%3"(%56%2.7,3)(\$%89%
(\$3#+ '3#,/%3"(%):4)'23#. ,'-;%.)1()%.4%#,3(/)'3#. ,%1%.<()3"(%\$'+&-(%&()#.1%=' ,7')9%>?6@%0%

/ :K:?:BL:D!!

Q'#E%=D%' ,1%G()). ,E%GD%:BCC@;D%H. +&73'3#.,% ',1%' ,'-9\$#\$% .4% +7-3#&-(%\$3)7237)'-%2"' ,/(%
+ .1(-\$D%=.7), '-%.4% ` &&-(1%I2. ,. + (3)#2\$E%>TE%>OBBD%

Q',()g((E% KD% :BC>6;D% I +&#)#2'-% _(/7-')#3#(\$% .4% M,4-'3#.,% c.-'3#-#39W% I<#1(,2(%4). +%
`1<' ,2(1%' ,1% O(<(-.&#, /% H.7,3)#(\$D% K.73"" ` \$#', %= .7), '-%.4% A'2).(2.,. + #2\$%
' ,1%G78-#2%P#, ' ,2(E% [%>;W%>@%f%>Z[D%

Q(-+.)E% KDN% _ '<#2"' ,1)' ,E% HD

O#(8.-1E% PD { D% ', 1% M, .7(E% ` D% :BCC>;D% S., /% + (+.)9% ', 1%)(/#+(% \$L#32"#, /D%=.7), '-% .4% I2., . + (3)#2\$E%>CZE%>@>0>Z?D%%

5 '-]E% =D% ', 1% 5 ()3-()E% A D% :>????;D% M, 4-'3#., % 19, '+ #2\$W% '% \$3)7237)'-% (2., . + (3)#2% ', '-9\$#\$D% =.7), '-% .4% A., (3')9% I2., . + #2\$E%YYE%BE%>?ZOBBBBD%

5 ')2]'E% =D ` D% ', 1% G., E% ` D% :BC>?;D% M, 4-'3#., % 3)(, 1\$% #, % ` \$#'W% #+'3#., \$% 4.)% 2(, 3)'-% 8', J\$D% ^ .)J#, /%G'&()K()#(\$E% h.%B@T%r%O(2(+8()BC>?D% I7).&(',%H(, 3)'-%Q', JD%

5 #-0`-', 'E%SD ` D%:BCCT;D%P)'23#., '-%#, 3(/)'3#., % ', 1%\$3)7237)'-%8)('J\$%'3'7, J, .L, %&()#.1\$% .4%3#+ (D%=.7), '-% .4% !#+ (%K()#(\$% ` , '-9\$#\$%B?E%>E%>[@0>TZD%

5)' , /()E%HD ^ D=D% ', 1% U97, /E% hD

K3.2JE% =DUD% ', 1% ^ '3\$. ,E% AD ^ D% :BC>C;D% A.1(-#, /% #,4-'3#. ,% '43())% 3"(% 2)#\$#\$D% hQI_%
^ .)J#, /%G'&())\$%h.D%>[YTTE%h '3#. , '-%Q7)('7%.4%I2. ,. +#2%_(\$(')2"D%

K3.2JE% =DUD% ', 1% ^ '3\$. ,E%

!

'>H8:!T1!*DE9 ; >E:D!<K!G!9B!>!89B:>?!D:EJ6@!

#;%%h . % '73.2.))(- '3# . , %: ^ " #3(%, . #\$(;%			
K()#(\$%	h . %1(3()+# , #3#2% 3()+\$%	` , % # , 3()2(&3%	` , % # , 3()2(&3% ' , 1% '%% -# , (') % 3# + (% 3) (, 1%
H ` h ` O ` %	>DC>%%:CD? [E%>DC6;%	TUVQ!!!!ZQU [, A!!TUQ\!	>DC@%%:CD?6E%>DC?;%
P_ ` hHI%	>D@>%%: >DCTE%>D>?;%	TUVQ!!!!ZTUPVA!!TUV\!	>D@C%%: >DB@E%>D@T;%
5 I_ A ` h %	CD??%:CD?@E%>DCZ;%	QU[X!!!!ZQU[QA!!TUQT\!	CD?Z%%:CD?CE%>DC>;%
M! ` S %	>D>?%%: >D>BE%>DB [; %	TUPQ!!!!ZTUTVA!!TUP, \!	>DBC%%: >D>@E%>DB6;%
= ` G ` h %	>D>6%%: >D>>E%>DBY;%	TUT J!!!!ZTUTPA!!TUPX\!	>D>T%%: >D>BE%>DBZ;%

!

%

'>H8:!P1!*DE9 ; >E:D!<K!G!9B!>!B<BJ89B:>?!D:EJ6@!

#;%%h .%'73.2.))(-'3#.,%: ^ "#3(% , .#\$(;%					
K)#\$%	1%	q%	q#%	q\$%	q&%
H`h`O`%	>DCB				

!

!

'>H8:!V1!4>9!>BG!2:??<B^D!ZPQQV\E:DE!?:D68ED!

K()#(\$%	h7+8().4%8)('J\$%	Q)('J%1'3(\$%
H`h`O`%	Y%	>?T@+ZN%%>??B+>N%%>???+TN%%BC>B+@%
P_`hHI%		

!

'>H8:!X1!*DE9 ; >E:D!<K!G!K<?!:>LS!D6HD> ; @8:!R9ES!>6E<L<??:8>E:G!:??<?D!

K()#(\$%	K8D%	h . %1(3()+#,#\$3#2% 3()+\$%	` ,%#,3()2(&3%	` ,%#,3()2(&3% ',1% '%% -#,(')%3#+(%3)(,1%
%	>\$3%	>DCZ%%:CDT6E%%>D@C;		
%				
H`h`O`%				