









+ü-

---

\*ç® B0†jīs

---

óÕ%)&û% ' ê3%).•³š,~óÖn, ~%oÝWÛDQ

---

gE†] ' {!

līRÔ° \*p' {!

RÔ›ô= \*ç' {!

J«RØ'Û=•' {!

---

+±PG=D•,

\*ç%:%C•-o: u\*ç]dtèRš,•

%Z™ý³Â™éC .¬

WÛ4JīsB0†j“o•P

\*ç® # \* . is

OÚ<¼īs& &U

...&,~īs%1'âFÉīs

" \* +±PGCNI

.É••³Â™é

™ýÿÖ³Â™éC .¬

---

% YÍ™ýÿÖlī,•

---

° ohT•[

---

• š

# \$ P O U F O U T

1SFGBDF

---

1SPDFTT 0SJFOUFE

---

0QFSBUJPO .PEVMBS 1MBUGPSN \*OUFHSBUJPO BOE 5SJQMF &OHJOF %SJWFO

---

%JTUJODUJWF 4ZTUFNT

\*OWFTUNFOU 0QUJNJ[BUJPO 4ZTUFN

\*OIFSFU 4BGFUZ 4ZTUFN

5FDIOPMPHZ \$POéàEFOUJBMJUZ 4ZTUFN

---

\*OOPWBUJWF 1SBDUJDFT

\$PNQSFIFOTJWF %JTDJQMJOFT BOE -JGFDZDMF 4FSWJDF

1JMPU 1MBUGPSN

.PEVMBS 1SPDFTT 6OJUT

#\*. \*NQMFNFOUBUJPO

%JHJUBM %FMJWFSZ

"VUPNBUJPO BOE \*OGPSNBUJ[BUJPO

"\* "QQMJDBUJPOT

\$PNQMJBODF 7BMJEBUJPO

5SJBM 3VO 1MBUGPSN

---

• Ü 3VO 3VOp • ' ...

DÝ&A%?IUê3t‡J«® PG%1& %C²èSP& [ääÉ^Dê3zç• ïsB0 u.Élil g. u  
l g.--^Sw•'•%C° 5 PGJ«RØ>,+f%/u·ê%l& %C-~ã\Ü\*•aj\_ ,~f\$ vd-•/ê3  
&H=D³Â=NIïSx k.Ô& %Cïsn,E0j,ê3B-3œJ«RØ7)RöFN uliRÔ. ,‡ u= \*ç

7Y'úPÓWÚDQ

qŪi\$atB0ê3

qŪi,PGtj7•tl Ifi •  
PGJ«RØ& %Cis® %dB0tjip%/= 1 u•WŪisO'7U~ê37).É4~&-J\%/œÉê3  
&h.t• JtFN u.ª@ FN u.É••FN%1.ª•0JpFNw•7CpèK...lù 7Y'úPÓi \*pLÀ+f  
C ^•••, 'óŌ\*ç® B0tjīsóŌiĚüê38½• &hB0tj%lTfE!ê3SPD. ›üj=&-J\ u  
J«RØ%1Rš,•n, \*çª S B0tjJ«RØ' {!ê3{!• is•l& %Cis ›tè%Zn, .Äz %/  
qŪi=<FNê3%l=JJ.LÀ'uqŪi=< u.ª® u' [Ožn, ° ohŠ 4 'Ū~A v

1 , « B„,œE.Êm, 'fJ^(dy¹  
7Y'úPÓ{!• =DPb~TfE!° 5 B0tj&-J\%:° D\ ›™É+! ~-ñC -Ç6ö3'

~~ÚqŪi - ÚqŪi / 3EB~~

tj³BC Kf™É7•,p.t° ohKis 7•"Ñwš•. œ•Œ • ~ `'

qŪi J'úttjtj u™ÉJ"š ĐĐf

.ttq]RèSPDúliu/3-n,lùl{.É' vJ ...8 C CPê3K?R" ' &ûzç•  
ïsb0 u.Élil g. u--^S uQ•f\$+Û;Pw••%C& <Ôq]%=v v

**2**, k01 0iR•B",œJ@R@Rj.  
yJbÕ7CTf³§,~ê3%'³ç7™,,%óÖn,B0tj.•>¥iËEüê3lð&p{!• Oà.É•  
° 5 ° >,%:%C,‡æê3SPD.œN>,YÍ^£Q• u--.Í'[Ožn,J«RØO{N4' {!ê3%l  
=JJ.LÀ'u\*çl /€/ \_R» [T +. u\*çPZ&ûn,B0tjJ«RØRš,•ê3qÛ'Û % iR†yn,  
B0tj+ w¬zç+.-'£ÖR...• l & - [Û%10¬%CohT v

° oh••+!«•ZÛê3%:=v3'«v^•Cs.h%1° oh+üR»š+q]ê3LÀ'u& /āBW4 +•  
Se uv†Û,‡+•Se uliRÔ+•Se u& f\$+•Sew•.ª•FN+•SeJß/4 v  
B0tjip&³is«•ZÛê3@Ž> =D³Â=NB0tj ›'•&³isê3D7>¥g.P#'•x/ u\*,  
ª4™æ7 j 4~%1B0tjip™â™éê3Jd;P[†õæ u.ªŠ 4 n,B0tjJ«RØip v  
%Z™ý³Â™é«•ZÛê3 ›'•B0tjO'7Uq]uµ%1™æ7 ³Â™é u•\$-ûš+Oàê3Oà.É  
ox\*,³Â™éœ \_ê3%l& %CisÿÛ4~LÀ'u.ª® n,OÚL O{N4 v  
& %Cis«•ZÛê3›üuÍ™æ™É uªà'ú uPbB0&h.t™ýl & š+™ýO{Kf%1B0tj³Â  
™æ/ 2ê0\*ç itè v

**3**y5^?m,B",œ( .É&xB"•s•œ®.É•J.  
4 zç• ïsb0 u.Élil g. ul g.--^Sw•'[J«RØ° 5 ê37Y'úPÓ'yJl&±  
7CK?R"•.l & % ~û• ³Ân,B0tèB^3'«vê3&h.t' %l%:%CB0tèJ«RØ\*«.†  
n,{!• ¬•lì%1Š 4 f\$,‡ê33-• \*ç]dtè...&,~is už)ïsb0 uQ•f\$is u;†]is u

7Y'úPÓWÚDQ

RÔ›õ= \*ç%1lîRÔL}+Üw•TfElohT ê3&hóÕB0†j\*p'• u{!• &³isóÖ%l./+¯D7  
>¥J«RØB0' v

I & • ³Âœ f\$B0†jÿÛis 6S...&l & % ~ûn,B0tèB^ê3f\$> =D³Â=N«•ZÙ  
n,=<FNlîSxê3j= i5H%ß=D«ª ~'•]+=l̄n,B0†j•\$~û[ j %1]dtè{!• FNæè  
SPê3zç+.ÿÛis%l.ª••WÛis=DPbn,B0%CL}+Ûj' u= \*ç•Âª %1T +.îsN£  
' ••të/ 4 0 1ê0vlð&p^•q I & mMc¾ê3qÛ'ÛB0†jPZT•\*¾7 .ªN£' FN/•u/  
=<FN v

B0tèf\$,†³§,~B0†jŠ 4 óS B0tèJ«RØ\*«.¶n,\*ç>~—•ª/•%:%Cf\$,†ê3  
qÛ'ÛB0†jîEü›üuÍ8½• v• ³Â%]=;n,• %:%C3'«ê/B0†j u™æ7 u...&L}w•ê0  
{„=•-' ê3%/&9\*,\Û\*,ª4B0†j.hOÚ/ \$ 1 1ê0n,%QTixEL)ê3Rs> B0†j'j'

# óÕ%)&û% ' ê3%).•³§,~óÕn, ~%ÝWÛDQ

%l{!• FNq••ìB0tèD.™æ° 5 %Ýª u™æ™É%1Jf'•ox%ç,<“iê3&h.tl.  
Z\_> ...:n,Oži &ý%,%1=JJ.' ³Â%/'2w•k-° ê37Y'úPÓ²"+±C •,'•J«RØC  
.→ u%Û%CE C .→ u° ohKpKçC .óÕ%)&û% ' ê3%).•³§,~óÕn, ~%ÝWÛDQ v  
š WÛDQPÁ4 Jdq•&ç• ~ûFN]dtèê3L€,(%)7UC .→&H%b•Á-' ÝÛ.ÔC •Á&  
%çê3SPD.% %W&h=JJ.&f(}%lTfE! u...&,~lĩTf u,~F --.În,R"Rèl /€' ê3  
=DiS> BW4 - [Ûn,Eê;l/ñCN%1'[,õæ& &U v

## 1 RçR¼k01 (d ö&r(Y&g(dæ{&r0 °n. J«RØC .→óL+±PG%1J«RØn,D\N!

•ÔdœB0†jJ«RØ%1™æ™Éê3&h+ü\›n,B0†jJ«RØ/•-½œtn,™æ™É+±Géê3%l  
oh& &U™æ=<[/ã›õT +.ê3%l=JJ.LÀ'u\*Á³¼\*p ›FN%1'[Cs.a=DPbFNn,J«RØ  
PZT• v

Oà.ÉB0†jJ«RØ%ZE! uFpB0tèB^,(\*«=N u²"B)™æ™ÉB^,(\*«=N u²"B)=  
\*ç=8,(\*«=N u²"B)B0tèB^,(\*«=N u™æ™É%ZE! u-ñ?2™æ™É%ZE! u%Z™ý³Â™é  
C.→uRÛJ«RØ%ZE! u#\* .%ZE! uÓÚ<¼%ZE! uÂ™é%ZE! uŮÓÚL%ZE u  
™ýÿÕ³Â™éC .→ uJ«RØ+±PGq]uµ«xw• %WJ«RØ%ZE!ê3\*'.ÎSPD.O{N4° oh  
\*ç/\_R» ~' n,TfE!f\$,‡5HCu v

7Y'úPÓWÚDQ

%Ü%CE C .-óL=JJ.- [Û%1&f()ª Lyn, S€~ù

8½• &hBW4 /•=JJ.%l%ZE!ê3ª =<'•%C%1° ohTfE!mMc¾ê3j= i+üp½FN  
+•Se%1^•CsK•Lb=JJ.- [Ûê3.y.Ô³§,~J« RØ+±PG%1&³is™æ™Éê3R... • %|=JJ.  
& &U=<+Ûis•ì+ PZT• v

j= il.zç• isB0%Ü%CE u.•¤ B0tè%Ü%CE u--^S(ÍC™%1.Éïl g.%Ü  
%CE ul g.--^S%Ü%CE u...&,~is%1'âFÉis%Ü%CE u°œ/ã(ÍC™%Ü%CE u%oÝ  
ª %Ü%CE u3¼«ª%Ü%CE u7Y]5%ZE! u%\*]^-ZE! u,êÊÁPû%ZE!w• %W%C  
•çğñ•sÔEz•sBüçz•sÔãz•sÔãÉilg  
l g.--^Sw• [t†J«& %C° 5 ê3%C,•jÁ.t\*çiÊ ' %W3¼=v/•4 -"ê3BBIï

óÕ%)&û% ' ê3%).•³§,~óÕñ, ~%ÝWÛDQ

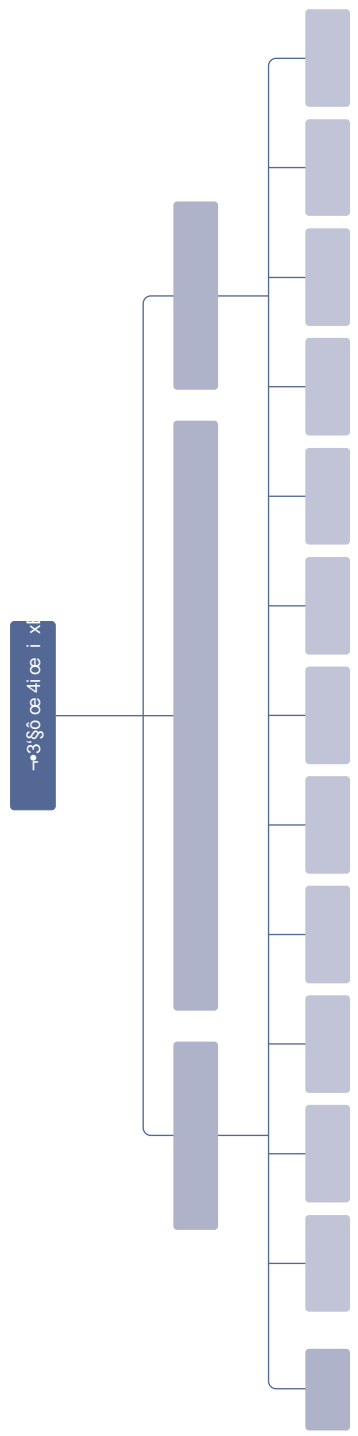
KpKç3' «v%:%Cisl.ßß tj u™æ™É%:=vK &^° ohFpKpKçê3£Ö7 B0†j,»

QŽn, FpB0tèB^ê3'Û~A% Yí™ýÿÕli,• v

•.f\$> LyP±•Yis óS™æ•P™æ™É uæà›ú uPbB0,6FpKpKçê3qÛ'Û\*, a4iR†y  
´[Ož-.Î v

= \*çxEiï+ü•Pïš óS™æv'K?R"óÕ% s-.ò+ RööÖñ, = \*çJ«RØ=8ê3> RÔ›ö  
= \*çxEL)+ütì...8™æ™É «•ZÛ v

0~%C'âFÉ'Û=•is çSi%:™æ'Û=•=N%1%QT'Û=•+ÛCsê3qÛ'Û=JJ.0~%C  
t"=•= \*ç v



o onKpK0E ' i

óÕ%)&û% ' ê3%).•³§,~óÕñ, ~%ÝWÛDQ

&h3fYÍ--š+&·™Ö%ITfE!n, & 1 \$ xEiĭ]dtè  
4óÕ%)&û% ' ê3%).•³§,~óÕñ, ~%ÝWÛDQKp> %,ê37Y'úPÓ Æ&cDúli%×

7Y'úPÓWÚDQ

líRƳ-í+Ó(dy<sup>1</sup>)

PGJ«RØ& %Cis itè%Zê3& /ãf\$.ò&h\*¼R"v¶%Ú,‡n,&fTI+~\*•BW4 ê3Q1  
'•æê\*¼• ]t.ª'•FNn,TfE!KpT vo¶Z^ñ,lîRÔ&³,¹ThUÙ%ß> I & B0†jn,  
j E%iï•ì%1> ° oh\*çl /€/ \_R»ñ,{!• xEL} v%lZ\_ê3lð&pL€,~%x% 4 &hlï  
RÔf\$,‡%lTfE!ñ,^•+ä.ˆ© ê3....:,‡%ß=DiS

]dÿÛ• t • ê3&H•/QGŠG+ø+@\*Đ£ g.]dlirÔ v

Oži LÀ-→ ó\$= iB0†j]dtè&³is%1...&, ãs-→ã.wÿÿ³š, ãê3Bœ,™=JJ.=D  
iSI & Oži LÀ-→ &h%\*ê3•8.ÉI B0liRÔª +@ • ê3> Oži os  
LyÿÛis%lo%+È%1BW4 v¶%Ú,‡ v

f\$•ExEL} ó\$J|^.&n,\*«I B0tè&³isCPœĐê3j= i> \*«I B0tè{!• =D  
Pbzç+.&³isê3=DiS ~'•f\$•E«' &ý • ê3> TfE!liRÔ° ÿÛis%Iª•  
R» ~•0+È]÷S!\_• v

™æ7 Q•CMí(S-'" ° oh\K^!n,™æ7 j 4~OÚL CMê3ThL ° oh& f\$.t  
J«RØ- [Ûê3zç+.-'£Œ\*Á\*¾R... '2• ]tFN%1FNf\$ ÿ£ŒCsn,&m'©™æ7 ê3qÛ'ÛJl  
œ &f{)R...7Uis v

## 2 •Bs«« 1 ö;Ä, ](s•/80Z( .7>Jhij1}a.Ê"iR¥ &•BèWÚDQ%ZŠ™EuaúPbBR†<íš½-ô%¾7Š4FNU

PbB0.y7).^Rs¾~ôw•Q1liRÔœjO{n,%m"Th\_• v7Y'úPÓ+n(J\*ç]dtè--.Í  
&³,1ê3uÓq•&j• D.™æliRÔF=•0ê3j= iJ«RØœ f\$%1{!• -•liê3=DiSB0.  
Jl& .ÑÓÚ-¥C n, ~%ÿ uf\$•E%1•0JPlirÔR...&³is v

™æ™ÉD\° ê3\_•7gUÛ\*•liRÔ5H3œ™E%†+µ'→+ü•P• æ™æ7 j 4~ ÿ£Œ  
FN uPbB0.a'•FN%1ª•R» ~•0- [Ûê3&hóŒ.aªà:ú u.aPbB0 u.a ~%ÿóŒ%I>  
.Ô••+!™æ™Éê3&HThRÔ%\*•çM.Ñ).^Rs%1]jœ v

ªà:ú--.Íê3,~F O{N4PbB0†y7Ž óš íóŒ- [Û-•liisªà:úóŒw-I{ê3!  
• FN••+!™æ™É° ohªàL}PZT• v.ÍPÓê3> \*,ª4™æ7 uS P#n,& &U†yc¾%1Pb  
B0 ›Cs,~F • =<ê3+@>5iS4 E6P#%1&N)HliRÔ v

7Y'úPÓWÚDQ

PbB0.y<sup>2</sup> ê3=DiSzço)«CiRxEiĭ qš iC&VÅCNI # \* . %1WÛ4Jis° +Üê3  
&H\_•7g+ @>5 ŠB0 óTC j= ióÕ™æ™Éê4PbB0=DPÓ.y<sup>2</sup> Rè+ÜóÛ3Jdj=™æ™É%1Pb  
B0n,6§4jê3DúlíóÕ™æ™ÉD\° B0tèê3B0tè&³is™æ™ÉóÖn,--.Î«CiRê3=DiSKf  
•)n,« 'RÔ6hOž v

j= i&h%\*%)%WiR†y'âFÉ=DPÓ\*' & u' %C& .rxEiĭ u+ w¬,~F •Å,~ê3  
7Y'úPÓ{!• ĩs]Æ•ĭ%×&ç• B0tè%Z3ŒEiR†y,<“i> ...:n,Ožĭ L •E%1œ \_•}›

# 4

>Jš(" — ö!çÍR¥,,œ}{-L'ß)é-/ž#

WÛ4JĭsB0†j"o•P³š,~osLy«´RÔ

'yJl...&%mq].•%1¬•lĭf\$,‡ê3WÛ4JĭsB0†j"o•Pƒ\$%l=JJ.+±jP.ªæĭsn,  
lĭRÔ&³,¹ óS

ĭ t ...&,~£ÖP#{!• .t"o7 óS..&,~ĭs[ĚC LÄ-¬ &h%\*ê3g.P#...&,~t¼  
æè+.qÛi u/=<ê3†y~â†¼æè£ÖP#B0&- v

ĭ t %1B0†j^•Cs• .Ěn,+•t` u] ]ðWÛ4J óS. ^ +•t` u] ]ð ì¹ u  
%œ.†+•ox/•&ý^Ûo¶u¿C f w•WÛ4Jê3ThL B0†j•"[Û.ĚC ê3 ž•)NĚ' ê3• %  
L]+Ûê3+@>5B0CHÿÛtì/•™æ7 -Ñl u¿«Jê3&-B0Jĭ\*•«´&ý v

ĭ t PG4~ 5 \$ 6 L]+Û{!• Ÿ&¿• PZT•†y~âĭRÔ &h%\*ê3L}^Ûzç  
CswK.Ě3¼«ª™]™é v

ĭ t ef' • Q~w•\*p >"o•P óS †yo%-Ñ4 %1Jĭœ ê3LÄ-¬& /ã~ëCsê3=DiS  
lĭRÔ%1/ã>ðn,.wæè&³ĭs v

iR'Û%1l & ´ .Ěn,óÛlĭRÔÿÛĭsóÖ

iR'Û%/Q1~ëĭRÔ° ê3•/Q1.ª+±jPO...o)n, &f({)iR†y v7Y'úPÓj= ig.  
P#3^O... u'[-ã[´ĭs u,,lJ«RØ-¬lĭw•=DiS' [&f({)g.P#3^O.../•Cd[Ě €- LW  
O'%1œ \_ĭsê3> iR'Û. ,‡ÿÛĭs%lEqiR• ]tO...o) v

j= iª6 u\_Ów•' [&f({)\*g{w3^O...ê3%šf² u‡[£ð uD;%BªHw•g.P#3^O...ê3  
[ C & l n,• ]tOžo).ª Jð]Æ\*ç£ 7 ĭĭlĭRÔê3%W+Ě° oh.ª& l % =<  
n,+Ě]÷ v

7Y'úPÓWÚDQ

> %ß '[o2'[]yisB0+Ü^SCd[Êê3i= i'[-ã[ 'is u,,IJ«RØ-•li/•)y•e  
• Q~J«RØCNI ê37>LW[ ^ ðê>5%ß ê3[Ê3^l i .<sup>a</sup> R+Ò &h%\*ê3\*ç  
{!• B0†jn, ~'•liRÔ.<sup>a</sup>« ' &y &h%\* v  
-•li&³is%1\*ç]dtèxEL)ê3S • -,FNIiRÔ  
4 SÄ '[vÛ./P#^S° oh%Zê3i= i^•CsB0†j&³isê3Bœ,<sup>TM</sup>=JJ.4 =DiS& f\$  
LÀ-→ n,.ÎPÓê3Oà' Jìœ [ ° x/« ' &y v  
4 SÄ\*,<sup>a</sup>4zç• is<Ô/ã° oh%Zê3i= i\*ç]dtè\*ÛjPê3'H=JJ. ~%ŸliRÔ« '  
&y ê3Jìœ 3^O...R»•eq v

$R_{\neq}^{\text{TM}} >, (dy^1$

# 2

\_•...&%ÛOšO.™Ö%1R...!2=D•,n,S Z ê3%|™æ™ÉLÀ'uóÕ= \*ç^£-¿óÛ3'[8 D©+Ü  
 ••=<[ FN["\ç`•-"5 °™æ•P=•«C#àTd2® v  
 \*ç]dtè ) " ; 0 1 Jp..." óS\*, a4™æ™É†yc%ê/ u u WÛ4~ê0  
 D©+ÜD7>¥^•Cs ) " ; 0 1 +•Seê3=DiS7C%:%C>™æ™ÉPZT•n,óÕ. ,†]q™ÝóÖ  
 4 SÄ7U4~zç• isB0° oh%Zê3i= i ) " ; 0 1 LÄ+ü™î+ËC ]Æ«Û 7 a 4™æ  
 7 š N£' %1 žª i' + uÓ v

# 4 ](s•)7^?vxL}

7Y'úPÓD.v'%'x&h²"B>= \*ç=8,(\*«=N%llù{D\° u^1j ...8.ÄC .- u  
 .ÄiR†yn,= \*çB0tèB^%lJf'•TfE!n,~ñ^•xEiï' {! vs' {!ThL ° oh-  
 •"ê3c:][£Ö•P= \*ç>0• ê3>0• li/D^•Cs' \*•° oh\*ç]dtèC ,~F xEL} óS  
 i t q].•«•ZÛ óS%QL}TfE!°Š«ßê3> RÔ>õ= \*çiiEü'üuÍOà%W itè v  
 i t™æ™É«•Zù óS=DPÓ.h%1ê3LÀ+fRÔ>õRs= \*ç™æ™ÉGé•' v  
 i t #à>úir†y óS%Q=H™æ7 = \*çFNf\$%1.É•™ì™é v  
 i t PbB0«•ZÛ óS,~F o3p%ê3> [-é' %C+Ü=<%:° xEL}PZT• v  
 i t™ýÿÖ«•ZÛ óS= \*çLfPbê3•R+Ü%:° PZT•C \*çtèp%> v

# 5

03>N-æm,™4'a ö,'^°^aQ`m, > , ö³™4'a™ )â••ö´  
 lð&p& &Un, %/&9Q1% %W= \*çn,B0.ê3RsQ1% 7ÿ= Oà.ª ð\_Èn,= \*ç  
 œ & T"•T• vj= i\*ç/D= \*ç)ð&^+Û%1OÚ<¼isP &,xEiï' {!ê3qÛ'Û&H= \*ç  
 S&™ä™éuŠ«ß+~ãxEL]£-¿+Ö[ %Ý-Γ LWSä™Dáë?R'•%ªð\_Èu  
 J?R"›ð&^ªDÛ&û v

7Y'úPÓWÚDQ

~&œó= \*çP½EÁóÖQ1° oh\*çl /€/R»n,.ªáOÚ<¼œ & óS o3xERèSPê3  
Q1.É••n,Pû™é óT> =JJ.ê3Q1RÑS! ~%óY uJ†D.%1C ›ú%ZP±.ªR,&cn,TfE!œ  
& OÚL v

RÔ›õ= \*ç' {!PÁ4 > = \*ç&HóÖ¬,FNlîRÔóÖÿÛis%l›üuíB0. \*çl /€/\_  
R»n,óÖQGFNœ & óÖ3R... • & &U% %W™Ñ=JJ.= E!%:\Ü%ßl & %1BW4 uP±.Ñ  
° %‡Eãn,qÛ=<FNRÑS! v

## J®R©)B>™(dy¹

' %l+±PG•"n, /€f:ê30~-%CRè=•Eª° ER+Ò\*ç]dtè«CiR= Jp v7Y'úPÓ8½  
• > J«RØ'Û=••—%l=JJ.'âæ#%1.É' n,5Hq\*ê34 & %Cis«•ZÛ%Q= J«RØ'Û=•  
CP~ûê3SPD.%x° oh\*ç/\_R»óÕ-ÿF xEL}óÖ%1óÕ,~F xEL}óÖox• .Én, .wæè'Û  
~A' {! vs ' {!\* ,\Û+ÛCs uqÖ&, uÿp&,w•-ÿF ™æPb/•™æ™É uæà)ú uPbB0  
%Zn, P &,jdÿÛ uDÛT" uª Zôw•,~F ]dtèê3> =JJ.TfE!J«RØ%1q ™î& Rô=D  
Pb\*ç]dtè«CiR= Jpê3qÛ'Û+±PGIiSx4 & %Cis itè%ZJ«RØ'Û=•ê3P &, \*çtè  
.‡L} v

# 1

## ó³-VCpæ|fÿi æ|O"=¶ö´m, &r}vu((d"È)A +ÛCs óS\*ç4 QŽ•-o:

7Y'úPÓD.v'%x-'Û=•B0' xEiï+ÛCs ™æ™É'Û=•=N'HI xEiï+ÛCs ™'Û  
=•B0' xEiï-ÿS ™'Û=•=NxEiï-ÿS ™'Û=•° ohB0tè™æ™ÉxXiï]dtè3½ •  
~'Û=•J©š"%« •w• ' ° 'Û=•+ÛCs%1T +.is]dtèê3•-o:TfE!P &,<¾4  
\ç=•°Š«ßn, \*ç4 QŽ v

g.iï óS[T +.D.™æ «CiRxEL}

lð&p[T +.D.™æ%x ' «Jh v'Û=•=Nê3C ••=<'Û=•° ohiS4 Eª° D.  
v'Û=•, \*«=N v ~%ò-°5 æàl .w>,<>sá uP±Z,,•æ—°!™ØDá u|=™x™æ7 xE  
iïSÖ u=•q:P &,SÖw•™æPbê3C =D'óÖ.w&-.wL} u+f\*•lgmBóÖn, xEL}WÛD'vÔSD.™æ

=N\*Ð™æ•b\*Ð£ •±• ê3%17>•±g.iĭ-3t` v&^ P &,n,™ç«D u7)+ÜlödJd-ç4-  
...&,~ð³,ŽN£' &-/D%:>²n,OU<¼[Ê-çê3=DiSN£' \*çtè.ª ð\_È v

# 2

)B>™^?CPAZ, , ](s•

Û=•C @ h v'iR†yê³/Q1^•Cs@Ð\*• & 1 \$ xEiĭ]dtèn,~F xEL}Rè+ÜóS

/,~R» óS'=<••+~

%1=JJ.Å.Éĭv"Û=•>0• ê3\*'.Ī™†+ËTfE!Û=•c¼%1°Š «ßê3 +f%:>²

ñ'Û=•ç%•

Jf'•R» óS~F xEL}

&-/D-3t`ó\$HŁ óÖR...>0Eª- óÖ./+~ê³DPb• ñ(¬ã™ç«DRö«°L}+Ü vB0†j u  
™æ7 uL)+Ü{! w•TfE!âFÉ";+•ĭ<¼)Hê3B0tèB^&9f\$™ç«D\*¼}ì)ðWÛ4Jn,  
Eª- 'âFÉ v

]dtè-3t` óSTfE!™æ™É&.™Ö4 'Û=•=N ›'•ê3J?R"™ uH-i& -iª óTOÚL

&ç j= ig.iĭ-3t`•±• ›'•ê3sáZ]&^' DúDQn,RÑLERö> +f v

'•%ĭ=H™É ĪS=•"5 =D'•óÖn@.Ð-ç óÖ+Ûê3 ›+f™ØDá%1o3L}E )'...&,~

DÛT"ê3Dúĭ%/.ªxÅOŠn, '•%ĭ™ÉLª v

4 SÄPG4~12\ S P#& %Cis° oh%Zê3ð&p> B0†j]dtè+••ĭ%17C%WWÛ4Jê3

%/.Ī3'«vn,B0tèB^&9f\$™ç«D%1\*¼B0' osLyox\*,n,£ +•OÚL ê3C j= ig.

iĭ-3t`•±• ,Ž=•\gx\_ĭR67 ›'•™æ™É--.Īê3&H]dtè%\*S • %x@ LERö•Ô.É

'âFÉn,ªf\$ v

O...>|R» óS'£- =H™É

° oh• S PÓê3Jf'•%QTĭnóÖOÚL ^£- tèCHóÖvJ?R"ĪÉ=•ĭ2<³OÚL •

7Cæè³Â™É.Ñê3Jf'•%/.ªF±7)n,g.ĩNØ«Ù óT~ô›õP &,4 .w&-o3p%%,'HI  
z;r ef]l%P~ãª Zô óT.ÎPÓR...•.Ô=JJ.LÀ& .wPZwø•än,~'Û=•«CiR=H™É  
Jß/4 ê3=DiS= \*çxEiĩn,zø)«CiR v

3

Sû,¥&Ó&sm,-/P >Jš(

7Y'úPÓJ«RØ'Û=•' {!3OE7C° +üp½FN=D•,•/Rs\*¾ FN óS

+±PG=D•,

, &•&œ'»n7 n, )(s•Rj.

zç• isB0 ul g.--^S ul2<³is<Ô/ãw•° 5 n,° ohD.™æê3Z^® %doëJ«  
RØ-•līCs´[ uB0R». ,‡7U u• 4 5 --.Î7)Rõw•7C#èK...lù v&ç• n,™æ™É  
«xlöPbB0&•%CBB-~&h= \*ç`.œÉ=JJ.> J«RØ+üp½FN uB0tèOà' FN%1& &U  
qÛ=<FNn,•8.É- [Û v7Y'úPÓ&hõ\*ç%:%C•-o: u\*ç]dtèRš,•óœ3=DiS° oh  
J?- n, \*ç£ J«RØ/•Jf'•f\$,‡n,óõ\*Ð£ isóÖ/óõ% ' isóÖOà.Éê3f\$7l%l=J  
J.SPD.% S &HJ«RØ+ò& %Cn,C ` u.ª® u´[Ožn,& &U•\$E4 v

**1**, &•&œ'»n7 öWÇ0bO®0Væ{]Š© J®R©=Ð@

7Y'úPÓSPD.%x% 7ÿ•-o:PGJ«RØ& %Cis\*çª S n, %: %C' {!ê3%/&9•ì  
+ %xóõš)S!(³óÖn, «D°(ê3Rs|= iWí.Ô^•Cs' .Éê3E%CPJdq%:%C6\$4jê3qÛ  
'ÛJ«RØPZT•4 .Ä%:%Cf\$7l= Oà uzçqÛ uEêjL4 Š 4 v

lð&p=DiS%x&HB0†jq].• uB0tè/Àš %1™æ™É u itè= \*ç uJ«• V#x/ê3  
+ò) +% u...&L} uIR'Û uš+™ý u³Â™é u“o7 +ÛjPê3%z...8 # \* . uOÚ<¼is&  
&Uw•° 5 n, \*ç%:%C•-o:[v% %:%C4-K?R”° >,%:=v%1J]=Df\$,‡ê3'yJl\*Ð

£ % ' ïs-' Rè+Üê3=DiS´[Ožn, • %:%C--.Îê3&H•/> +•OÆn, &³, 1ŸÛïs  
%l´[Cs→•lîn, ° oh'Û→A v  
J?R" %:%C3' «v4-%l\* «.¶\*Ð£ R"Rè• lîê34 • % n,xEil' (!%1° ohC  
.-%,B0' ê3Jf'•.Î% 7ŸOÚL T +.ê3&H•/]Æ«Û'âFÉ<Î?2ê3=DiSq ™îP±L &¿  
i(%1--.Î+±PG v

**2** ],(s•Rj. ö}70b™ ž æ{™ ™ -LCÀ  
Ÿ'úPÓ> ° oh\*çl /€/ \_R» iFp>ðê3LÀ'u&HVαEü+Ò ~%Ÿn,óŌvÛ+ÒvÛóÖ  
Rš,•ê3•/® .ç.h%1£ +•iR†yê3qÛ'Û=JJ.R...• ^ïERn, Q1f\$7IKf•)+±jP&f  
(}n,= OàB0.ê3•/® % 5[3½~ô/•+•ZÛB0tè v  
&H+üvÛB0†jïpD7. • uB0†j&³is u%Z™ý³Â™é%1.ª•FNq]uµD78½ óTü

# 3

TMEñ'ß)é ö; m,y1}aF•(. 7

óÖ\*ç%:%C-o:óÖ%1óÖ\*ç]dtèRš,•óÖ• .É& l %x+ =<FNn,&³,¹ óS

& ç • +•OÆWÚDQ	7Y'úPÓWÚDQ
<p>7CIU@ ê3~--..Î óS =JJ.- •xEíí&amp;±7C'uCN0-IU@ ê3lpj= líRÓ' [ê3'ð&amp;^%/\% v</p>	<p>% %W&gt;ð&amp;^%m' óS 7Y'úPÓ' %l0•% Ly.ê3J©K *ç£ &gt;ð&amp;^ê3=JJ.xEííwú-ç [Ož v</p>
<p>J«RØQ f^ty óS qj. • u™æ™É uPbB0 u ~%oÝ.ĀPZohT %/ % ...ê3J«RØGé3'z&gt;,&gt;,'»+@ v</p>	<p>J«RØ% »ü+ÔCP óS J«RØ3'«v*çtè.h%1ê3qŪ'Ū&amp;H=D³Ā=N+Ô l &amp; n,zç+.ŸŪis v</p>
<p>&gt;~£ R...&amp;³ê3Oà' 7dL} óS .ĀPZ ð[Ū...&amp;ž,iR^tylíRÔR...&amp;yê3Q &gt; ...: Oà' ° x//• »Cs7dL} v</p>	<p>*ç&gt;-R...&amp;³ óS &amp;H° oh*çl/€/R»FplíRÔ+f. • » + w-ê3=DiSJlœ &amp;f()R...7Ūis v</p>
<p>°Š«ßŸŪtì óS +fiS«D°(=)Q %çoxL€šê3=JJ.lí%l R... • °Š«ßJ©K •" v</p>	<p>°Š«ß*Đis óS 7Y'úPÓ*Đ£ --š+•!+ J?R"°:%C«J«D°(ê3 .Ô=JJ.&amp; &amp;UqŪ=&lt;FN v</p>

## &¥— °‰— C,05

&H=D³Â=Nn,d k-+ÒB0. n,& -ûê3´[ R n,=D³Â=NIîSx3œP±\»•ì  
 + B0†jO'7U ulîRÔ7dL}%1.ª® FN³Â™éw•«D°(•/7\_JÐ v7Y'úPÓ%Z™ý³Â™éC  
 .-ê3%/&9LÀ'u&H\*t~ã+Ò.õ~ãn,\*ç]dtè³Â™éRš,•ê3Rs...:;‡%ß> f4D™n,=D  
 ³Â=N6ÕTd/ãóË3ÿÛis%l\*¾7 ••WÛis! & 5H3œn,B0%Çis& /ãê3{!• FNq••ì  
 %xt‡J«lîSx&HJ«RØ.ª•+Ò0-‰Clî,•nóÕR....Ñ% \*«çóÖv

# 1 C,05•J. &xO“L 6Çp

qÖ&,5Hq• &SR” ž•)]d u´[^Û´[. uzç² LÀ~ë ul g..•ª u• Q~  
 +•t`w• ' z %:‰C%Z™ý~ûê3.ª.œÉ ì...8 ì uo¶|u¿...8 . 1 B n,  
 C&ÏB0†jS &, v

OÚL œ & 6B%ß ' %WBB= lîñ,%Z™ý° ohOÚL ê3lð&pSPD.%xB0†j  
 O'7U{!OÚOÚL CM u™æ7 ; 4~• ³ÂCM ug.P#= \*çOÚL CMê3%[ % %WPG° oh  
 LÀ'uQ•f\$îsn,+µ8½PZT•L€´)%1°Š«ß° ™? v

& &UlîSx ó&/&9LÀ'u³Â™éJß/4ê3Rs +f.ªosLyl %ß5Hq•™æ™Én,óÕ%Z  
 ™ýOÚL ïpóÖ/•\*¾7 ´[Cs.ª7)+ÛFNn,óÕWÛ4JisB0†j]dtèïpóË3=DiS&H³Â™é  
 +Ò™æ™Én,P±•Y> Ly v

# 2 ,(s•B“s•°‰— ö; 8Ð}vCpæ{“{h ™;•J

7Y'úPÓSPD.%x•-oóÕB0†jê4™æ7 ê4lîRÔê4.ª® FNê4= \*çê4&-JlóÖ\*®

7Y'úPÓWÚDQ

7U•0Csn<sub>3</sub>B0tè<sup>3</sup>Â™é«CiR' {lê3os+,& %CisTfE!mMc¾¼ óS

B0tjO'7U%1.hOÚ3·is<sub>3</sub>ÿB ' 7ÿWÚ4Jis%Z™ý“o•P%14 ~û+•Se&m  
2@ê/8 1 " 5 itè+•SeJ«RØêê3zç+.WÚK8B0%CisS &,ê3> =D³Â=Nn<sub>3</sub>óÕ-¿c¾¼  
R...!2.hOÚóÖK%>¥%!.<sup>a</sup>u/=<7)+Ün<sub>3</sub>óÕB0tjN£' ê3lñê- lî&H[l\*t

--ã+Òn~\*«P7 JÿYÍ~ãn<sub>3</sub>B0tjO'7UT•[œj i ° v

\*<sub>3</sub>,<sup>a</sup>4™æ7 %1S P#³Â™é.úS<sub>3</sub>uCN<sup>a</sup> ³Â™éOÚL CMê3> œj i =v\*<sub>3</sub>,<sup>a</sup>4  
™æ7 'uCN0~.tgEZ—S P# }'•FNf\$]q™ý%1-'£ÖFN™i&Óê3LÀ+ü<sup>a</sup> =<R...&³'uCN  
0~ê3çM\*<sub>3</sub>æê& «•ZÜn<sub>3</sub>™æ7 óÕ[Ê3ø%/RšóÖv

lîRÔzç+.Tfx/%1&³is óS i%Z™ýOÚL ê3D.v'zçqÛn<sub>3</sub>óÕg.P#C '•%1f\$  
•EWÚ4~óê3Tfx/+fn<sub>3</sub>l & lîRÔ%1R...• æê& š B=i .<sup>a</sup>L)+Ü4 o ê3%Jlœ  
+ w~%1& /ã=<&fLÀ'u©Çn<sub>3</sub>OÚL O{N4 v

.<sup>a</sup>@ FN%1> /€]q™ýúSÚK8SKvÛB0+ %1<sup>a</sup>•R» ~'•ê3 }'•ól >0PÓn<sub>3</sub>  
ž.)u/=<FN]q™ý%1,ŽjL • is™ý³Âê3qÛ'Û& /ãFNf\$%1)Ois+í u\*<sub>3</sub>,<sup>a</sup>4£ &,>  
/€` .œÉ0~%Cis•"[Ûê3> æê& .Ñn<sub>3</sub>Oš~Ai « ' &ý &h%\* v

= \*ç%1iR'Û.É•• =H óSŽbd7>¥.yCN= \*ç°Š«ß™i&Ó u²"YíB0tj™â™é u  
%)Cd7 iíB0tj³Â™éê3qÛ'ÛB0tj•\$-ûRÔ›õ= \*ç uiR'Û.É••ê3J^£° oh=HJÿ  
%1l & ™à.<sup>a</sup>n<sub>3</sub>æè7U~Ar v

&-J\5G\*Ä%1P &, +f óS³Â™é itè%Zê3%l=JJ.5G,•TfE!B0tjB0tèB^  
%1N£' /D{•™Éœj &-Yíê3C & &Uip.ü= OàN£' .hOÚn<sub>3</sub>T +.isB0tjip  
ê/ 1 % 1ê0t+µZbN£' ••tê/ 4 0 1êê3DiSÖJ«RØtì& óÖ%óÕ&-Jtì& óÖwš 4 v

# 3

'a=ÖpGk=/80Zk0FV

7Y'úPÓ%Z™ý3Â™éC .-+±PGSPD.%x+•BXDQ u•±• ĩsn,%Z™ý5H4 •ÅoJê3  
j= i™æ7 \*' & %1%:=v-..îêĐúľřŔ & <Ôq]l óÖ^•Cs' .Én,-..î+±PGRè+ÜóS  
[T?t†q]3'«vLÀ'u+ü\›J«RØ%1&-J\O{N4ê3%Z™ýC .-J©K B0tèisD7. •%1³Â  
™éê3½ 7g&•%C.h%1- [Ů> \*%1T +.+Ü=<ê3%,^÷&•%C+›'•& /ã]q™ý%1CN  
l.y² ê3Đúľř«CiR+±PGI F v

# 4

TMEñ'ß)é öL¿(ØpÁ>AF•æ{. ž 'a&Œ.Ê•ss•

l= i{!• FNn,%Z™ýê3lđ&pBœ,™=JJ.> & %Cĩslĩ,•i LÀ-...8'•%C°  
\*p[ĚC ê3C > & /ã%\*BWPÓ«JC 4-•eq %WR“ê3™Ñ=JJ.ER&h4 J«RØv  
.›R»\*ĐJÜ-ÑBW4 +Ü [c¾ v

7Y'úPÓWÛDQ

W·5ì.ÊB¨„œ'3~(

4 &ç• B0tèWÛDQ%,ê3B0. D.™æ8 .Î% YÍYbÕ&H- D78½n,JXB0¬±5ÛóÖ3

i t ›õ#ê%1= \*ç ó§ .‡L}B0. iR67%,+ÜiPê3> dNlyw•\*,<sup>a</sup>4B0CHn,% YÍ  
.ÉTiI LÀ-¬...8 ê3SK7U'Û¬A%×RÔ›õ= \*ç v

7Y'úPÓWÚDQ

i t J«RØP±•Y-~DŸS0†j® PGPÓê3.a> gE=<WÚ4J ›'•-¿h RsL lö  
-~ãê3•/® ^L"Oàs & ~ûê3'ÛJþ+µ8½Jìœ v  
i t •;†j%1.aKf•) óSWÚ4J.aK -ô uQ Ytlê3=DiSœ & n,\*çl /€/R»&f  
{R...7Uis v

, « #\* . .Ê

7Y'úPÓ5H%ßn<sup>-1</sup> %W7)RðB0tèn<sub>2</sub>^•Cs=D•,ê3BBæjæet5Hq•D.WÛê3SPD.æN  
= Oàn<sub>2</sub>OU<¼--.Î F ê3L€;~ #\* . &f(}=DiS%)~ãœâ-→ ó&HRš,•™æ™Én<sub>2</sub>óÖR”  
WÛ4~óÖš§,~PbB0n<sub>2</sub>óÖI WÛ4~óÖšR...• li%lœ f\$=JJ.ª•R» ~•0n<sub>2</sub>óÖ][WÛ4~óÖv  
lð&p&h'•%CR...´[T +. %l+.+~ê3> #\* . ' %l>üüíB0tè\*çl /€/R»n<sub>2</sub>TfE!  
OÚL 5HCuê3%l° oh´[>ðæêš 4 7³=<4O=D5Hq• v

# 1 &r})™ß/. ö;#\* . 'ß)é™ tl-àna, 0iR•

ij= i'•%C+ü\>=D•,%1+±PGê3lð&p&h%)~ãCNI' {!|• isæäO' #\* .

&f(}ê3\*ç® œ f\$° ohD.™æ\*çl /€/R» v

û-ã ó™æ™É&šëß+ w-+üí

7Y'úPÓ #\* . 3'«v...:;‡%ß4 ™æ™É«•ZÛj= i´[zçCs--.ÎWÛ4~•}+ a 4  
«D°( v(J,™...&,~ïsrPNNUC]q uB0†jWÛK8%1u¿.«J&³isê3> \*,ª4+ w-7UBÀ  
+ütiê3C 4-.ª+@>5 &h%\*n<sub>2</sub>iS4 .^Rsê3&H\_•7g'Û-AB0tè`ã>ð uL}+Û  
liRÔ%1B0R» v

ü-ã óPbB0xEl}ê3çç)xEï

j= i #\* . %1 >C& / %ê0ulïRÔê/ %ê0n<sub>2</sub>^•Cs=Á,~ê3> -yF WÛ4~ÿÛ  
is%l³§,~iS4 çç)xEiïñ<sub>2</sub>,~F D\N! v> PbB0PZT• >•• K8L€`Ž%1&³isê3  
.ªzç+.Kp> ° +Û,ŽB0%1iS4 ' %Cê3> Oà' PbB0Oži %1zçCsLÀ-→ &h  
%\*ê3QGŠG«´&y ŠB0%1}œ v

ý-ã ó& &U ~•0ê3œ & 6h{}

7Y'úPÓWÚDQ

lđ&p> # \* . J«RØ›üuí%ß••+!...8 ~•0n,\*ç«•ZÙê3> Tfe!\*,<sup>a</sup>4n,B0tè  
ÓÚLYš%# Ç. 6UNYÖÖö 8P. &#R[Cu  
= \*ç%1&ýrU ~%oÝLÀ'uTfe!OÚL O{N4 v

2

, « # \* . .Êm,&r8ĐTMEñ•J.

ı iSPD.%)7UTfe!f\$,tê3=DiS # \* . J«RØ&H<İv'B0\*%4+ÒTfe!DNin,•à.â v

+üp%½n,T +.%1--..Î' {!

7Y'úPÓ # \* . +±PG=D•,^•Cs7“.É%Z3¼+ü\› # \* . CNI T +. vJ ...8

=

i t ~•0LÀOž5B%ß<ÙI ' n, WÛK8%1™ òPCê3> B\*UC%1Oš-A7 •POži

LÀ-→ • v

i t iïRÔ†y~â φS i° «'FN•0JP%1f\$•E&³isê3†y~â\*çl /€/ \_R» ~%oÝ

iïRÔ • v

## O"=¶.É'\°

4 & &U=D' B0. n.ÎPÓê3%I• =JJ.& &U.a ð\_È u.aWÛK8 u.a ~%Ýn,  
 OÚ<¼<ÙI æ & ê37Y'úPÓSPD.œN•-o:™æ™É u#à›ú uPbB0+Ò ~%Ýn,% ' ïS  
 OÚL a ê3&h'[zçCs%)•0WÛ4~%los•“ÿi' ê3&h• SPïsOÚL %ITfE!ê3> =D  
 ' B0. -ÿF Q > ê3O{N4\*¼RÑS!= \*ç u'[Ož uQ•f\$ïS ~%Ý v  
 j= i~7Y'úPÓOÚ<¼ïS& &UB0tè •%:° ™É+!ê37Y'úPÓ{!• SPD.%x&h%,  
 %é7UTfE!f\$,‡ óS

# 1 O"L }US,.É ö;îO"L ö³] ö´™pRû

lð&p&hB0. ™æ7 uxE~ûw•%ITfE!ê3> ™æ™É u#à›ú uPbB0 u™ýl & \*ç  
 itè& l n,-ÿF 'àFÉ ›'•^£] u\*,•Å%1• SPïs7 iï v& &Un,%/&9Q1%)•0  
 WÛ4%13½-ôê3RQIÒàÉ%×Q,f\$ 1 \*%↳š®>FNu,•Å£-¿ WCN0-PT u  
 RbDPTηª—úSú\_ÈŋOÚLœ&3/Ñ)Q,f\$~07<4=Ð5Hqv

# 2 ± y5CpDŠW.&xO"L •ë.

7Y'úPÓOÚ<¼ïSB0tèB^f\$7le€~ÿ ~l 4 1 % w•3¼«ªm]dC .-›'•\*ç  
 %:%C%)•0-..Î™æ™É v.Ä%:%C4 .Î% WÛ4~u¿ «JC '• %Cê3OÚL =DPÓ•Á,~ê3  
 j= i=DPÓrPNNUC]q,•f\$êÐ.v'•xóŒ™æ™Éê4UCSâê4'öOŠóŒn,EêjL Æ&cRè+Ü v  
 • =D•,³Å™éê3C 4-.ª+@>5~â n,iS4 ™æ™É.ˆRs%1 ŠB0ê3QGŠG†y~â°  
 ohlĪRÔ%1B0R» v

# 3

± Oj•J5 " ± Ojhg}F}l  
 ©Ž> [ % %WOÚ<¼is& &U° ohê3%:<>• D.&hOÚ<¼is& &U• iĭ%ITfE!ê3  
 ‘ .É™æ™É uæà)ú uOÚL u \* 5 w•7C%:%Cn,--.Î3'«v v&H° oh/ ,~ uw~l{  
 +Û=<+Ò³ÂO... & &Uê3\*ç itè'yJIOÚ<¼isC .- [Ož]dÿÛê3'H° oh+.PÓ& &Ui  
 LÀ~...8 &h%\*ê3C lĭ,•+@>5 • 3œ'âFÉš B=%1 ŠB0> ...:n,  
 lĭRÔ],œ v

# 4

, OĭR•™ j€vxL} ö;\°03)L™Fm, O"=ŕ™4'a  
 7Y'úPÓOÚ<¼is& &U3'«v8½• > OÚL n,+.qÛFN u% ...:FN u= OàFN/•  
 .É••FN' %ITfE!+. +~ v j= i=DPb%QTIn, WÛ4~]q™ý%1OÚL T?³Â]dtèê3lð  
 &pqÛ'ÛOÚ<¼WÛ4~%1™æ™É3½~ô u=D' B0. u™æ7 ^£-¿w•= \*ç/ .Éê3&H•/&  
 &Uf\$7loŕ=DQ > =D' B0. n, '[>ðæêOÚ<¼<Ûl ' v  
 =D•,'©Pûê3%QTIn, >ðæxEL}'H™æ™É--.Î%Zn,'âFÉ+ uÓ+@>5 &h  
 %\*ê3SK7ULÀ--%x+ w~Ožl óT.ÎPÓê3.ª%IB0. Jì& .Ñn,° ]qFN•0JP uQ•f\$  
 B\*UCw•[-ãCNI ê3tyo%œj i n, OÚL +.7 PÓ«J%1lĭRÔ v

# 5

™;•JRçRûQpH'•X^ ö;\°0+Pý™pc?  
 OÚ<¼is& &Un,R...• &f()4 %βœ f\$ ~%Ÿ v7Y'úPÓZ^4 C > Kf•)L€~óS  
 ^•isOÚL œ & xEĭ%1CNI 4SSR'S P#CMn,5Hq•%\*ê3SPD.&•%C  
 ~ãñóŦT +.™æ7 OÚL CMóÖ/óŦ\*¿4~™æ™ÉWÛ4JCMóÖvLr{> OÚ<¼is& &Un  
 ~ÿF OÚL %1B0. ~•0R»n,=DPÓOÚLê/8 % \$ 4 OÚL ê0 ›'•,•Âê3%l=DiS

7Y'úPÓWÚDQ

° ]qFN•0Jp uQ•f\$B\*UCw•'[-ãCNI +.7 OÚL 5Hq• v

SPD. • % & &UC .-αδ Q1Oà.ÉQ•f\$Ÿp&,&h.tP T"xEiİ u ›Cs  
xEiİw•7C\_•OÚL ê3SPD.% %W® .Ô=JJ.n, u• % n, OÚ<¼is& &U«>J. vř C  
. -%/&9LÀ'u.ª& %çn,%)•0WÚ4~]u•™ê3 -f\$=DiS5H%β&û.μlö-"5 n, OÚL  
EêjLUC{{ u\*,•ĀP T"Šãoš uPbB0WÚK8%15G™Ōw•,•f\$ê3o¶Z^& &U% %W6Ō.ª  
Iª• u.ª ~%óŸóŌn, OÚ<¼B0. TfE! v

J ...8 C CPê3lđ&pBBİi,•%lB5is u^òisw•3¼\*Đ° \*pn,zφ• isB0  
&•%C=DPbOÚ<¼is& &U v

## fH. .Ê&x)LG .Ê

4 zø• ĩsB0 u.Éİİ g. ul g.--ˆSw•L}+Üİ' 7)Rõ u'[o3xE°Š«ß  
n, '•%Cê3&ç• OÚ<¼İsŸÛ4~E/E/® %dœ ıÍJì\*•7U u•İ+ PZT•Š 4 FN&ý u  
™ýª İİRÔ '[n,K...lù v'yJl-' %W]dtèB0%C itè...&,ĩs%1'âFÉİsB0tè°  
oh• ³Âê³Y'úPÓDúİİ%×7C%W^•UÙB0†j ů%1l & 4 QŽ{„=•• .Én, İ+ PZT•ê3  
{!• ĩsq•İ%×OŽİ u.É••%1İİRÔ%‡«Jn,TfEİppof v

y-ã óÉ•Â™éŽŁ

LÀ'u• 7Uæ° oh³Â™én, WÚSGİs³Â™éP &,' {ß/ 6 3 4 % 2 \* 2 0 2ê0  
.tl2<³JY™ØDá•ì+ PZT•ê3C 4••eq ³Â™é/\_R» &h%\*ê3,™,‡{!• EêjL  
.É•• RT v

p-ã óSKf•) ~%Ÿœ f\$

° ohJì& .Ñê3LÀ'u5H%ßÓÚL +•Sen,C Cs ~%ŸRš,•îpê3^ o:FNf\$&³İs  
%1° «'FN•0Jpê3,™,‡=JJ.=DiSl & Ožf\$ŋ,Kf•)LÀ-¬ v

## 2 œ½j€ .Ék0'avxi y¹}a

%l••çMOÚ<¼İsŸÚ4řÖJì\*•7U u/\_R»ª•óŌŋ, «ü«•ê3lđ&p&hōŸêpêİs u  
WÚ4Jİs uQ £ •äöŌ%liİEüê3L€+fc:][[Ož u&yİrŌŋ,l & xEiİ{!• v

TfE! & /ãŸêpêİsl & xEiİJf'•{!•ê/ 5 . & 4ê3&hōŸ]dtè.ªK)K\_ u  
.É••-iLÂ-il óÖ%l™æ™É./+ê3QGŠG«' &yCNI «>WR óS

K)K\_DQSKjLD.ŰŮđš•P €n̄t€j=i %C,•• &,ê3B0tj&-/Dj= i  
K)K\_%C,•• &,-ì.ª£Ō•Pl & ]dtèê3{!• .ÎZbl İİl2<³ 4 0 1ê3> D.WÚ£  
•ä/\_R»&HOÚ/\_•eq ...8>0PÓ~ã v

D7x\_-il n, .É••FN óS2<³wø.Đ u=H™É đ•...w•"[Ű> "o%IT +. • &,ê3  
.ª+@>5-â n,³Â™éP T"BO' æê3qŰ'Ű.É••'[OžŠ 4 v

' .É " \* n, l & Q•f\$%ZS€ óđİD7\_• " \* WÚ4~%1&•%Cq ™İCMê3=DiS  
ÓÚL u••+~%1q ™İŋ, ' .Éê3%lD;B-° ™?%1B0tj&³İsLÀ'uQ•f\$+ w-O{Kf v  
J ...8 C CPê37Y'úPÓ 5 . & 4 BB4 -¶l \*g u° ]w•İs<Ō.Éİİ u  
l g..•ª u°œ/ã±úP#'%C ' %WB0tè° oh%Zlİ,•=DPbê3Bœ,™=JJ.=DiSóS

i t l & Oži LÀ-ñ • ê, v

i t t õæê«D°( ð\_ÈPÓ«J&HOÚ7Y•eq ...8 ê4 +•©¥ v

i t xEiï+ w-ñOži LÀ-ñ ê,&h%\* v

### 3 &r}v03“ .ÊC,05

5H%ß 6 O S & Æ Æ M J Ð Æ Æ J d j P n , ' [ i " o ¶ O Ú < ¼ < Ù I C P C u ê 3 ^ • C s  
' .É&³is.Ñ # \* . W Û 4 ê / z ç • ï s - . / D . w £ • S P u x E ~ ù L W B X u T M æ 7 B X > ~ w •  
\* ç • " { w ê 3 j = i % : > ² O Ú L % Z Ÿ Û v = D P Ó æ à - • u • ì S e 7 C { ! • O Ú L ê 3 & h \ K ] ° D Q  
%) • 0 & % ç ! ; © //

D Q 8 g ê 4 B ž û È Ú 4 ~ b P % ß Q ê O

Ð -

" \* -/P C¾k=

4 &-B0Q•f\$ê/ " \*ê0J«RØff.•DQ6hª•n,PÓ&cê37Y'úPÓOª KñKÛ+ÒJ«RØ  
.® n,f:M2ê3%/&9&9`.æÉ%ßOÚ<¼ïsn, žLyê3Rs....,‡%ßQ•f\$ïsn,l lï%1+  
w¬ v7Y'úPÓ> " \* J«RØ^•Cs' \*•B0tè™æ™É uB0†j+ w¬.t0¬%C ~%oÝn,.Ä%W  
iR†yê3j= ióÕ " \* B0tèóÖn,^•Cs•c.Éê3%/&97UBÀLÀ¬%x& &UOži ê3Rs=D  
iS%x&HóÕ.³Á³š,~óÖ.ÔóÖOÚL ³š,~óÖn,+ w¬WÚDQœâ Yê3pèPG=<%,,%xB0tè  
Rš,•n,l & ,‡T +. v

**1** " \* ( \$ °n. Qp•J— —æ ö!çö³S,GÝö´-Lö³n•“ ö´  
7Y'úPÓi \*pD\*\\*•l lïDQ&-B0Q•f\$ê/ " \* ( \$&-°J«%-€ê3Jdq•%x&ç• BÛtè  
™æ™Én,PÓuç «°+Üê3%l#Ô J.LË'uSK\*¾•—)Y + +,,"Èp%1"± w¬.h• &f({)n,.ª—  
ïS™æ™ÉPZT• v

D.w£7>v'® OžSx3½SK;l lï óSyJl...&D.n,BÛ%CD.w£°ŠTI7UWÛ4~ê3  
™æ™ÉB^&9- \*•5Hq•.hOÚ%1°ŠTI\*,ª4™öê3 " \* -ì.ª4 +•©¥~ãPÓ«J\*ĐI lï  
OÚ-¥t€%/.Î°ŠTln,´[>ðªêD.w£7>v'® OžSx3½ v ~%/&9>™æ™É/\_R»•eq %x  
&h%\*ê3Rs™Ñ=JJ.4 ° oh+µR»>gf\$7C•0Cs[ j •—•šPZT•ê3=DiSóÖJ?  
G°-iJ?•óÖ

BÛ. Fp3½BX>~••+iQ•f\$£HŽ6S7Y'úPÓ ° oh=D•,ê3  
" \* ,™JXf\$7lThL 4 4J.hOÚ uBÛ†j]dtèj' .tg.]d,~û•[Ûê3Eê;l lï  
7CfiBÛ. Fp3½BX>~••+iPZT• vj= i " \* x/\»> 3ø4 +Èl i ug.]dlïRÔ.t  
f\$•EOži n,WÛK8™i&Óê3ÿð,™=JJ.Eê;lª =<R...&³BX>~ê3qÛ'Û[ % > 3ø4

£,.•KøR...7UOžf\$ v

# 2

B" „œQp•p ö]s|€O"L sd]ä. . y5,¥,•v;  
 óÕB0†j%ITfóÖQ17Y'úPÓn,5H3œê3 " \* +~Q1aÉ][ ~% 5H3œ u³§,~RÑS!  
 .•>¥n, D©7UD\N! v\_i= i> iE/'" %W° ohn, B0†jOÚL ›)•^•CsU/iĩ%1  
 • SPİs7 iĩê37Y'úPÓSPD.%x'•%C° \*pn,óÕB0†jQ•fFóÖv  
 B0†jOÚL t°{•%1q ™î3½š7Y66PÓ> ' &ûB0†jJ«RØ³BC n,  
 • ³ÂQ•H~%1]~æêB0tèOÚL ê/^ o:g.P#C '• Ƴ\$•EOÚL ů™æ7 i 4~.hOÚw•ê0  
 ŸÛİs%IOÚ<¼œ & ê3™Õ~ÿ+f%:>²%ßzø ïsB0 u.Élil g. ul g.--^Sw•[  
 t†J«° 5 n,4•z WÛ4~ v  
 Ÿô,™EêjL+ w4 88h.a'•FNq]uµ%1VæEü™æ™É«•ZÛê3(J,™ " \*  
 C 'yJl. .@OÚL EêjL° ]q\*,ª4B0†j.hOÚ%1Jlœ &Óx/ê3%lJ«RØ•\$~û[ i  
 LÀ'u.ªæİsn, OÚL O{N4ê3Ÿô,™=JJ.t†<Ô+ w~ uLÀ~° oh.ªŠ 4 FN v

# 3

6Ç'5•d&œ^?Cp\i>Ëm, >A-V.Ê"R,•P0Ti  
 7Y'úPÓ+±PGFN4 Oà.ÉC +±D.J«RØ%Ÿª PZT•OÚL CMê3PÁ4 > ]~æñ,  
 =%•"ªFÉŸÛİs%lf\$7losLyKp> =JJ.+ w~/'•,~n,zç+.]+=ì v= %/&9&9  
 Q1% %W'ªFÉCMê3RsQ1% %W~•lİ%x " \* +•Sef\$,†n,Q•f\$•l+ PZT•C .~ vŠ  
 C .~j= iOà.É+•Se¾=v~ã%1o%oBW~ãn, & %CO"w~.t4 PZT +. u'•%Cn@ny  
 %« uRö9SJ«RØJß/4&h.t& %Cª %\*%,^÷+ü\•l+ PZT•ê3&h.t7Y'úPÓ €  
 C n,° oh=D•,%1-½œt• ³Âê3f\$7l5H%ß=JJ.- [Ûzç+.-'ÉÖO"w~~p+È uR"

7Y'úPÓWÚDQ

Ož••¢M.É••°Š«βê3C '[Ož-'£Ö• i³Â™én,\*p ›J«RØ%1'uCNª œ \_•ê3%l  
=JJ.LÀ'u\*Â\*¾+üp½•—æé%1'[Cs.ªJf'•FNn,Oà' ••+iPZT• v  
j= i> +ü\› " \* J«RØ%17Y'úPÓ^•.&n,B0†jt⁰^! u & 1 \$ \*¢ª S Rš,•  
&h.t'•%C^•Cs]+=ln,^•Cs•c.Éê3lđ&pZ^4 SPD.% %Wõ• K8KpD\iS=D uOÚ  
L ³§,~+ w-óÖn,B0tèPG‡...DQ v

0V“ °%—

3¼\*Đ7>n, ( . 1 &h.tox\*,•• n,T +. uKp-Â> ( . 1 .É••FN/•3Â™é  
n,•"[Û]° > T

( & 1 «•ZÙ óS õæêD\> ê3••‡...Jf'•

4 †Y7òB0tè=D•ê/ ( & 1ê0«•ZÙê3³Â™é3'«v&h ( . 1 • Sx%l> .Ôê3>  
\*,<sup>a4</sup>›õæêL}+Ûc¾LÀ+fPûqÛn,›õæê•"[Ûê3l ³Â™éF=•0••‡...B0tèPbB0%1™æ  
7 = "óê3qÛ'ÛbÕ(³n,óÖ-õÕ.É••J?- n,óÛ3&H•/C 4-+@>5iS4 PbB0 ŠB0  
%1OàOŠ R &h%\*ê3•eq .Ñ•){!• š+™ý%1³Â™éPÓ«J~â ê3C 7U7U  
«'&ý%xB0tè%/wK.É° R»•/> ...:n,É••(ÿt`°Š«ß v

& &U%1'HI «•ZÙ óS%:%C]q™ýê3qÛ'Ûtì&

4 {!• & &U+üê3Â™é3'«v&h%:%Cf\$,‡Jf'•••‡...n,š+™ý%1qÛ™ì]q™ê/8  
4 " 5 \* 2 0 2ê3qÛ'Û[ 7ÿ{!• u[ .-™æ7 £,f\$u/=< u.É••4 tì& =JJ.ê3  
C O{Kf.Ñ•) 1 2 n,° +ÈD7>¥ê3%ll & ž•)FN%1B0†j.a® FNLÀ'u4O=D'Û~A v

## 2 0ZYÿpÁ-éæ{>Jh;Ojhg&x0V“ m,}a&g

4O+ Jf'óÕ.ÎzbqÛ™ìóÛ3Q17Y'úPÓ³Â™é3'«v=DİS\*çl /€/R» .É••xE  
iĭn,TfE! vj= i> qÛ™ì][,~^•Cs@Đ\*•° ohD.™æn,[ % %WiR†yê3=DPÓ  
+f.É••P &ê3&H•/C 4-•eq ° oh/\_R» • ê3QGŠG%l=JJ.†y~âPÓ  
«J%1=H™ÉİRÕ v

óÕ.ÎZbqÛ™ìóÖ3f•0WÛ4~óS



— œ"°%— C,05

™ýŸŒ' %l & 1 \$ ° ohñóŒR...Œ% \*«çóŒ3osLy\*,{!+Œ° ohñ,R...• & &Ulĩ  
Sx%1=JJ.Jìœ 3^Jß v'yJl ° oh=D•,%1-"' YÍJ«RØ7)o=ê3j= iSPD.  
' {!is™ýŸŒ³Â™éC .-,%1L€,~T +.is]dtè\*ÙjPê37Y'úPÓ=DiS%x° oh& &U4 PZ  
\\»™â%1Jf'•>,® n,.wæèuÓq•ê3QGŠGLÀ--%x% YÍ™ýŸŒĩ,•i /° ohJì& Oži v

# 1

, &•&Œ©Ělím, — œ"°%— J®R©(dy¹

3-• ™ýŸŒ«•ZÙn,\*'FNmMc¾4%1\*,ª4iR†yê3lð&pJd;P%x• %:•C-..Îñ,  
™ýŸŒ³Â™éC .- vš C .-[ä•ŒB0†j u™æ7 u&m'© ul2[~ u= \*ç u>õæêw•\*ç

{!• 'Û-AóÕ% YÍ™ÿÿÖlî,•óÖ%1óÕª•R»u/=< ~'•óÖv

B0tj&³is%1+üvÛ™æ™ÉB0fjip=HSå%1 ) " ; 0 1 +•Se«•ZÛ-i.h%1™i  
&Óê3'yJl=D«ª ~'•OÚL LÄ+fB0tj= \*çFN%1L)+Ûj' &³isD.™Ö vj= i ~D©  
+Ûtyc¾™i=H+ÛCs ê3>™ÿÿÖGé' %l u™æ™ÉWÛ4~=HSân,D©+Û\*,  
«C° ê3&H\_•7gS •™æ™É•|«ü v

š •™æ™É«•ZÛ-ó\$+.is^£-¿{!• =HSå 1 \* % u™æ™É7 BX•b3½w•ê3  
qÛ'Û™æ™É%1=D«ªN£' u•0JB- [Û% ...: vj= i ~P &,wø•ärö+ÛCs ê3=DiS  
\*,ª43½~ô•™ÿÿÖ3'«v&.wøê3> ~•0"[Û3-is%ßPbB03½ê3+@>5.ÑR».^Rs v  
æà'ú%1PbB0«•ZÛ dSRØ-.™Ö%ZPûqÛN£' 5G™Ö u%:l B0\*¾w••"[Ûê3  
'yJl ~T +.isJ«RØ•TI%« •>™ÿÿÖ%1 ~•0S Z ~i\*•K2T ~âS vPbB0%Zj=  
i ~• š+™ÿÿT +.istèCH•o3p%= "o%1š+™ÿÿé3qÛ'Û=D' D.™æwK.É™æ™ÉGé3½ v  
™ÿÿÖJf'•%1& &U6SÛ+ü•R+Û ~™ÿÿ~'•Jf'•™É+!•%1CNFK° T•ê3™ÿÿÖ  
%Z'yJl ~™ÿÿÖN£' JX\*Ø•%1%:=v3'«v\*çtè-.Îê3DiSEêjL/ñCN%1C u/L£ › v  
4 SÄ•0l {w # ° oh%Zê3=DiS{!••Ä,™ÿÿÖ% YÍlî,•ê3&HRèU)vÄ  
B0+Ûu/=<l & &9l 7Yê3[ '•%CC 4-/R»•eq v

# 3

&rZ^-y1}a.É°%— æ{pÁ)B03« '\°  
7Y'úPÓ'üE%óÖl.-¿Rè+Ö{!• u.u¿ÿi+Ö'ÿiíoÖn,j( ›./+~ê3= ßÖ-¿  
Rè™ÿÿÖê4•Ä,™ÿÿÖê4BŽP#™ÿÿÖóÖ%)ZÛDQ³Ä™éê3j"~ãqÛ™i™æ™É7 FNf\$ u{!  
--.Î%1B0tj RT v'yJIT +.is]dtè%1%:=v\*çtèxEL}ê3'Û-A° oh=DiSóÖ%  
YÍ™ÿÿÖlî,• uª•R»u/=< ~'•óÖn,TfE!ohT ê3%l=JJ.& &Uo¶Z^\*¾7 l & +.  
7 >g•&g±F n\_jB0tèlîSx v

# % YÍ™ýŸÖlī,•

---

4 B0tè° 5 ê3Ö% YÍ™ýŸÖlī,•óÖ%/&9Q1% .•J©š"ê3RsQ1> J«RØ' {! u  
•• f\$,‡%1& &UliSxn,Oà' • ³Â v7Y'úPÓi \*p4 '•%C\*Đ> ~% T +. {!•  
īsŠ 4 ê3C 4 š 7C▯è7UB0tè%ZKf•)³Â™é vlđ&p&h\*¢]dtè.ªL} u\*¢%:%C  
--.Í u\*¢/\_R»æ f\$ñ,WÚDQê3&HThRÔ%\*]Æ«Ù=JJ.> Jì& /\_R»%1 ~'•OžSx  
ñ, %/qÛ=<FNê3▯èPG=<%„B0tè& &UT +.ê3L€,~'•%C&H&¿•óÖ= B0& &UóÖ.Ö  
&h• Sx%i> .Ôñ,óÖ'[OžJì]& óÖæâ Y v

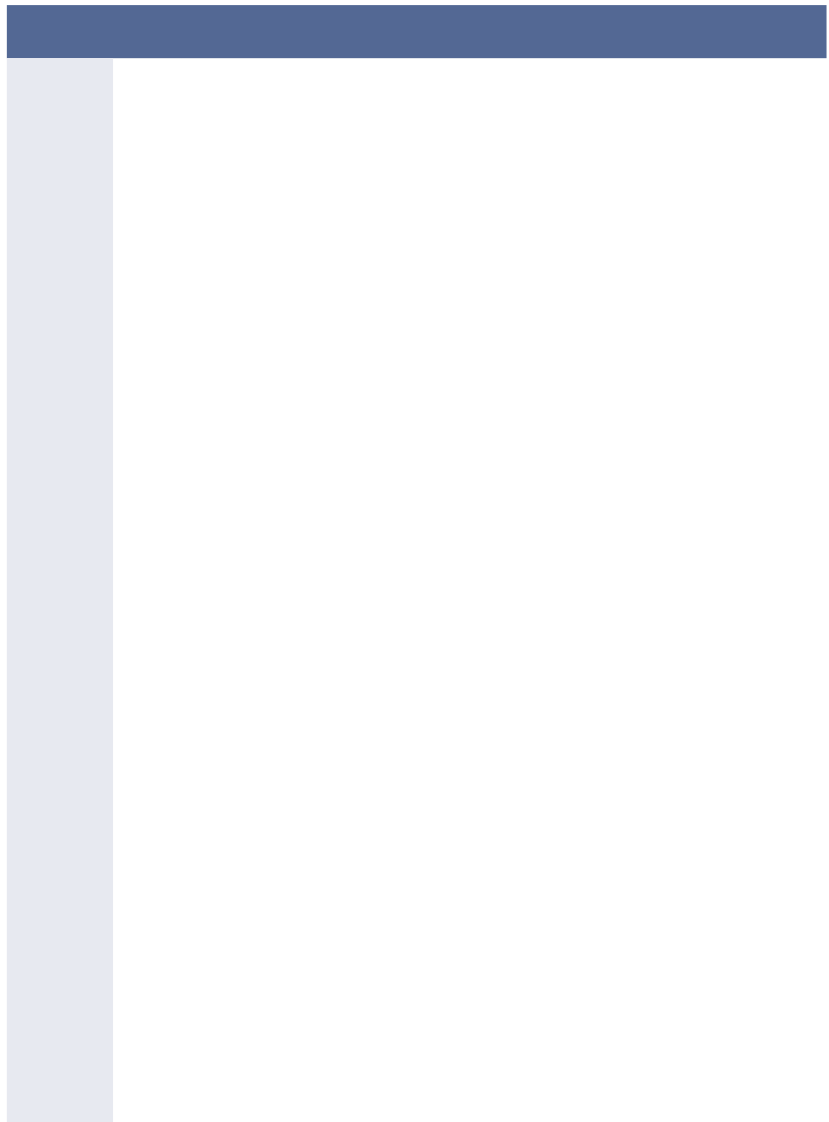
J ...8 C CPê37Y'úPÓBB4 nˆ %W° oh%ZJ©š"C =DiS% YÍ™ýŸÖlī  
,ê3^ o:l g.--ˆS uz¢• ĩsB0 uPGS P#w•7C%W° 5 ê3Dúlī.ª7)+Û u.ª³Â  
™én, & &U‡...DQê3L€,~B0tè'•%C.Ô• Sx>i)đ u&h&f({)%i> .Ôñ,WÚDQŸÛ4ˆ v

-½œt&H@ % ž •/>gê3•/Q14 PÓ«Jn,^rcÁ%ZKf•) Æ&c u. %}D~PG v  
J ...8 C CPê37Y'úPÓBB4 ' %W° oh%Zos® K...lù u+±jP&f()ê3  
= lí%x&H'•%C.h%1•"+Ò\*,<sup>a</sup>4K...lù"ê3Ù+Ò+ü\`D\`° •"n,• œt v ~% . tèê3  
Z^Q1>óÕJ©\*¿,¤PG uw '•...: œ%<sup>1</sup> 9'ò \œ™ 9)ÒÁ"' 6L 'JRp•\T. æpμ

G S 0

7Y'úPÓWÚDQ

'•%C	CH.μ	° ohT•'[ê/£ +•ê0
zç• isB0		]€\ q] % PGf\$ _•t‡J«R"«0*«.¶ª l2\ [ÉFNzY• +î° oh
		3fB"q] % PGS P#R"«0)ð&^*«.¶gEt€[ÉFNzY• +î° oh
		^•4 BWq] % PGS P#R"«0)ð&^*«.¶ª l2\ ,•f\$FN,™+î•S P#l & FN° oh
		[æ '[%•ê %Z3¼ R"«0*«.¶•;‡]'[vÛf zY+i& %Cis5H4 ° oh
		>Ø%E'•*°PGS P#t‡J«R"«0*«.¶[%Bª'©ÿ° oh
		%Z...îê/ç«£\$ê0]_jqgEt€[',g&œR"«0*«.¶'[-êl2<³gE[° oh
		>@œ(ê/» *Ôê0PGS P#R"«0*«.¶PG4~*ql2R"Rè~> ' S P#& %Cis° oh
		ª =zê∧ >Øê0PGS P#R"«0)ð&^*«.¶q£rU° oh
		Q 3PGf\$ê//ë=•ê0t‡J«R"«0*«.¶ *ç©~^ ]dl2\ '[[FNI2•î∧ +ÛiP5H4 ° oh









• Š

~ñ•“B0tèt†J«n,•>¥.®ê3[ % YÍ†...DQn,œâ Yê3£,Q1> & %C«”mMn,  
^•+~3^CN vDÝ&¿• n,>~£ &³isBBP±\»J©ÿiDÝ&At†J«® PGn,B5]›êšÖ7Y'ú  
PÓWÛDQóÖCN,¹•/l v= %/&9Q17Y'úPÓ> ...&ž,,n,uÓq•êšRsQ1B0tè'•%C.Ô  
Rs'[\*0Cs ›isn,E²d¬& g. v

óÖ7Y'úPÓWÛDQóÖ> B0tèRš,•n, IIU&Hwû-¿n,óÖu¿«JD.¡PóÖL€..Ô%×^•  
>,n,óÖ&f(}+±¡PóÖv= &hB0†jJ«RØ%lc:µCê3> =D³Â=Nn,7,F=8:G°ÿÛis%l  
B0. πçn,aj\_ ,~f\$ê³™Ñb̄Ö&H=D³Â=N+ÖB0. óÖn,• æt%/\*ÛQ1\*j`..^OÚn,  
«ßj,ê3\*/Q1t†<Ô¡' %n,zç+.oë« « v

JÔ+f«D°(ê3Lr[ÛPG•) óTSœSP¡=¡,ê3li>g•à.^ v7Y'úPÓWÛDQ> tzKf  
~% '•%C ›isn,\*p ›†...DQê3&h+±PG³§,~æè5Ûê3&h& &U©p>g+äCsê34 œ  
f\$& %C.Ô%\* u.Ô•; u.ÔQ•n,E0tè%Zê3%l\*ç¡ÉPGJ«RØ& %Cis\Û\*•qÛ=<FNn,  
,†æê v

5\*"/4 .PEFM

## 5\*"/4 .PEFM

\*O UIF DPOUFNQPSBSZ HMPCBM DPOUFYU UFDIOPMPHJD  
BOE JOEVTUSJBM SFTUSVDUVSJOH BSF DPOWFSHJOH XJUI  
&NFSHJOH UFDIOPMPHJFT JO GJFMET TVDI BT GJOF DIFNJD  
CJPMPHZ BOE CJPQIBSNBDFVUJDBMT BSF DPOTUBOUM  
QSPWJEJOH TUSPOH JNQFUVT GPS JOEVTUSJBM VQHSBEJO  
UIF USBOTJUJPO GSPN MBCPSBUPSZ BDIJFWFNFOUT UP JO  
PGUFO FODPVOUFST DIBMMFOHFT PXJOH UP UFDIOJDBM D  
QSFTTVSFT TBGFUZ SJTLT BOE NBSLFU VODFSUBJOUJ  
FOHJOFFSJOH TFSWJDF NPEFMT DPOGJOFE UP QBSUJB  
GBMM TIPSU PG NVMUJ EJNFOTJPOBM BOE FOE UP FO  
JOEVTUSJBMJ[BUJPO 5IF FSB EFNBOET BO JOOPWBUJV  
QBSBEJHN UIBU FODPNQBTTFT UIF FOUJSF ó+'SPN -BC UP  
ESJWJOH UIF JOEVTUSJBMJ[BUJPO PG OFX UFDIOPMPHJFT M  
BOE GMFYJCMZ "T B QJPOFFS JO FOHJOFFSJOH EFTJH  
DSFBUJOH WBMVF CZ GPDVTJOH PO QSPDFTT UFDIOPMPHZ  
JT SFEEGJOJOH UIF CPVOEBSJFT BOE GVUVSF QSPTQFDUT  
UFDIOPMPHZ TFSWJDFT XJUI JUT EJTUJODUJWF ó+5\*"/4 .PEFMó

5IF ó+5\*"/4 .PEFMó+ JT BO JOOPWBUJWF FOHJOFFSJOH Q  
GPS FNQPXFSJOH UIF JOEVTUSJBMJ[BUJPO PG OFX UP

#BTFE PO B QSPDFTT PSJFOUFE FDPTZTU FN BT JUT  
JU PQFSBUFT UISPVHI UIF TZOFSHJTUJD DPPQFSE  
NPEFM PG ó+5SJ QMBUGPSN \*OUFHSBUJPO BOE 5SJQM  
JOUFHSBUFT UIF UFDIOPMPHZ QMBUGPSN CVTJO  
QSPKFDU DPNNBOE QMBUGPSN 5IJT JOUFHSBUFE  
TUPQ TFSWJDFT FODPNQBTTJOH BMM TQFDJBMUJFT B  
GVMéàMMJOH UIF WBMVF DPNNJUNFOU PG ó+POF UJNF  
GPS DMJFOUT 3FMZJOH PO EJTUJODUJWF TZT  
PQUJNJ[BUJPO JOIFSFOU TBGFUZ BOE UFDIOPMPHZ D  
DPSF (À€-.PEFM EFMJWFST WBMVF FOHJOFFSJOH TF  
POF UJNF TVDDFTTGVM USJBM SVO ESJWJOH UIF TV  
JOEVTUSJFT UPXBSET IJHI FOE HSFFO EJHJUBM BOE

5\*"/4 .PEFM

5IF JOEVTUSJBMJ[BUJPO PG OFX UFDIOPMPHJFT DPOGS  
DIBMMFOHFT JODMVEJOH JODPNQMFUF QSPDFTT QBDLBHFT  
TDBMJOH VQ TIPSUBHFT PG JOUFSEJTDJQMJOBSZ UBMFOUT  
UP DPTU F&FDUJWFOFTT SFMJBCJMJUZ DPNQMJBODF BOE NB

\*ODFOUJWF 1SPKFDU \$PNNBOEFS 2VBMJGJDBUJPO .B  
 5IFTF NFBTVSFT IBWF GBDJMJUBUFE UIF JOUFHSBU  
 BDSPTT BMM EJTDJQMJOFT GSPN EFTJHO BOE QSPD  
 BOE DPOTUSVDUJPO BDIJFWJOH DPNQSFIFOTJWF QSF  
 EFWFMPQNFOU 5IJT F&#233;PSU IBT DVMUJWBUFE B DPSF UFBM  
 UFDIOPMPHZ BOE NBOBHFNFOU XJUI FYQFSUJTF JO QS  
 JOOPWBUJPO BOE JOEVTUSZBME[BGJPO UIF HSPVQ CPBT  
 11 % IPMEFST BOE TDJFOUJTUT JOEVTUSZ DPOTVM  
 FYQFSUT BOE UFDIOJDBM CBDLCPOF QFSTPOOFM TQFD  
 UFDIOPMPHZ FOHJOFFSJOH EFTJHO BOE QSPEVDUJPO NBO  
 \*O BEEJUJPO UIF 5\*"/4 4DJFODF 5FDIOPMPHZ  
 FTUBCMJTIFE TUSPOH TUSBUFHJD QBSUOFSTIJQT XJUI  
 TVDI BT 5TJOHIVB 6OJWFSTJUZ &BTU \$IJOB 6OJWFS  
 5FDIOPMPHZ #FJKJOH 6OJWFSTJUZ PG \$IFNJDBM 5FDI  
 1SPDFTT &OHJOFFSJOH PG \$IJOFTF "DBEFNZ PG 4DJFODFT  
 PG \$IFNJDBM 1IZTJDT #Z UIF FOE PG UIF DPNNJUUFF F  
 JOEVTUSZ BDBEFNJB SFTFBSDI FYQFSUT JO EPNBJOT TVD  
 TZOUIFUJD CJMPMHZ QIBSNBDFVUJDBMT BOE JOUFMMJHFO

2 'VMM -JGFDZDMF 1SPDFTT 5FDIOPMPHZ  
 (VJEFE CZ UIF QSJODJQMF PG 6+NVMUJ DPSF E  
 JOUFHSBUF UPQ MFWFM DSPTT EJTDJQMJOBSZ FYQF

5 \* " / 4 . P E F M

1SPDFTT 0SJFOUFE

# 0QFSBUJPO .PEFM PG ó+5SJ 1MBUGPSN \*OUFHSBUJPO BOE 5SJQMF &OHJOF %

---

5P TZTUFNBUJDBMMZ UBDLMF UIF GSBHNFOUBUJPO CFUXFFO NBSLF  
BOE FYFDVUJPO JO DPOTUSVDUJPO QSPKFDUT XIJDI SFTVMUT JO  
BOE B QPPS DMJFOU FYQFSJFODF 5\*/4 QJPOFFSFE BOE QS  
PQFSBUJPOBM NPEFM UIBU JOUFHSBUFT UISFF QMBUGPSNT U  
QMBUGPSN UIF CVTJOFTT EJWJTJPO QMBUGPSN BOE UIF QSPK  
QMBUGPSN UIBU JT ó+5SJ 1MBUGPSN \*OUFHSBUJPO BOE 5SJQMF  
NPEFM<sup>5</sup>IJT NPEFM EJTSVQUT USBEJUJPOBM MJOFBS XPSLéáPXT DPO  
JOUFSBDUJPO BNPOH UIF UISFF QMBUGPSNT GSPN TFRVFOUJBM D  
QBSBMMFM JOUFSBDUJPO \*U DPOTUSVDUT BO PSHBOJD FDPTZTUF  
DMJFOU WBMVF DBQBCMF PG TFMG PSHBOJ[JOH BOE EZOBNJ  
BDIJFWJOH SBQJE SFTQPOTF UP NBSLFU EFNBOET BOE IJHI RVBMJU

**1** 0SHBOJD &DPTZTUFN 5SJ 1MBUGPSN \*OUFHSBUJPO BOE 5SJQMF  
5FDIOPMPHZ 1MBUGPSNóL5IF &OHJOF PG \*OOPWBUJPO BOE 5FDIO  
8F TQFDJBMJ[F JO QSPDFTT UFDIOPMPHZ BOE EFTJHO MFWFSBHJC  
UFDIOJRVFT BOE FYDFQUJPOBM DSFBUJWF EFTJHO UP TFU IJHI RV

GPS QSPKF DU EFMJWFSZ 8F QSPWJEF DMJFOUT XJUI  
JOUFH SBU F BEWBODFE JOOPWBUJPO BOE TUSPOH JNQMFN  
5\*"/4 DPOTUSVDUT B DPSF DPNQFUFUFODZ GPVO  
UIF QSPKF DU MJGFDZDMF CZ JOUFH SBU JOH UFDIOJD  
1SPDFTT 5FDIOPMPHZ \$FOUFS UIF (FOFSBM &OHJOF  
%FTJHOFS 0éâDF UIF \$IJFG 4BGFUZ 0éâDFS 0éâDF UIF \$IJF  
UIF %FTJHO \$FOUFS UIF 2JOHEBP %FTJHO \$FOUFS UI  
&OWJSPONFOUBM 5FDIOPMPHZ \$FOUFS UIF #\*. \$FOUFS  
\$FOUFS UIF 7BMJEBUJPO \$FOUFS UIF #JH %BUB \$FOUF  
1MBUGPSN BOE UIF 5FDIOPMPHZ \*QUP

5\*\*/4 .PEFM

JUT GPDVT PO IJHI UFDI JOEVTUSJFT TVDI BT GJOF DIFNJD  
DPOUBJOJOH èàOF DIFNJDBMT FMDUSPOJD DIFNJDBMT TZOUIFUJ  
CJP QIBSNBDFVUJDBMT 0VS CVTJOFTT DPWFST NPSF UIBO DP  
SFHJPOT HMPCBMMZ XJUI NPSF UIBO CFODINBSL QSPKFDUT T  
DPNQMFUFE

1SPKFDU \$PNNBOE 1MBUGPSN6L5IF \$PSOFSTUPOF PG 1S  
%FMJWFSZ BOE 1FSGPSNBODF

&TUBCMJTIFE BT QIZTJDBM FOUJUJFT JO SFTQPOTF UP TG  
SFRVJSFNFOUT UIFTF DPNNBOET QSFDJTFMZ BODIPS CPU  
EFNBOET BOE EFTJHO TUBOEBSET FOTVSJOH FéàDJFOU IJHI RVBM  
XJUI UIF VOXBWFSJOH HPBM PG POF UJNF TVDDFTTGVM USJBM SVC

OP'p000F%U700XEG DM USJ BF TJEtV•XV€t D H V € @T@

5IF \$MJFOU DFOUSJD 1SPKFDU \$PNNBOE 4ZTUFN

5IF 5 \* " / 4 QSPKFDU DPNNBOE TZTUFN BMMPDB

BDDPSEJOH UP DMJFOU OFFET FOTVSJOH UIBU ó+UIF DPN

QFSTPOOFM JO MJOF XJUI DMJFOU SFRVJSFNFOUTó+ \*UT I

1SPGFTTJPOBM \$PNNBOE 5FBEEP°

BDT M ` @ € ` MT @ @ M ` ő FT UT w FBJUFS@ ` OEKq7 ` UMAMFMü „UGQ„q“v%“1



5IF &1\$ .BOBHFNFOU 1SPDFTT \$FOUFSFE PO 'PVS \$F  
.FFUJOHT

(VJEFE CZ UIF PQFSBUJPO NPEFM PG ó+5SJ 1ME  
BOE 5SJQMF &OHJOF %SJWFOó+ 5\*" /4 IBT BUFSBUJW  
NBOBHFNFOU QSPDFTT BDFOUFSFE PO GPVS BDPPSEJ  
QSPDFTT Be€@ZTUFNBUJDBMMZ DPOOFDUT Be€ MM Be€ÀFZ  
GVM QSPDFTT DPOUSPM B,,` OE FGGFDUJWF JNQMFNF  
EFDJTJPO NBLJOH BOE SFWJFXT VMUJNBUFFMZ BU  
EFMJWFSZ

5\*"/4 .PEFM

'PVS \$PPSEJOBUPPO .FFUJOHT

'PVS .FFUJOHT	,FZ \$POUFOUT	1BSUJDJB

## %JTUJODUJWF 4ZTUFNT

---

\*O UIF JOEVTUSJBMJ[BUJPO PG OFX UFDIOPMPHJFT  
FOUFS UIF NBSLFU BU B DPNQFUJUJWF QSJDF TFSW  
GPS FWBMVBUJOH JUT FDPOPNJD WJBCJMJUZ \*OWFT  
GSPN B DPNQSFIFOTJWF VOEFSTUBOEJOH PG QSPE  
TZTUFNBUJD NBOBHFNFOU UISPVHIPVU UIF FOUJS  
5IFSFGPSF XF IBWF FOHJOFFSFE B QSPGPVOE USBOTGP  
JOWFTUNFOU DPNQFUJUJWFOFTT BJNJOH UP BDIJFWF U  
PG+DPOUSPMMJOH JOWFTUNFOU DPTU CFUUFS UIBO D  
QSPKFDU JOWFTUNFOU NPSF F&#x26;#x26;FDUJWFMZ UIBO USBEJU

1 4PVSDF \*OOPWBUJPO 0QUJNJ[JOH UIF -JGFDZDM  
1SPDFTT \*OUFMMJHFODF  
\*OWFTUNFOU DPTU DPOUSPM NVTU DPNNFODF CFGPSF EF  
QSPDFTT JOUFMMJHFODF 5\*"/4 IBT BTTFNCMFE BO FYQFS  
FYQFSUJTF JO QSPEVDUJPO PQFSBUJPOT "EIFSJOH UP

5\*\*/4 .PEFM

PG ó+EFTJHO HVJEFE CZ QSPEVDUJPOó+ XF DPOEVDU B SFWFSTF  
EFQUI EFTJHO PQUJNJ[BUJPO TUBSUJOH GSPN UIF CFOFéàU PSJHJ  
'BDUPSZ

.FBOXIJMF GVMM MJGFDZDMF JOWFTUNFOU DPOUSPM JT  
%VSJOH UIF GFBTJCMJUZ TUVEZ QIBTF NVMUJ TDIFNF UFDIOJDBM  
DPNQBSJTPOT BSF DBSSJFE PVU UP MPDL JO UIF PQUJNBM JO  
\*O UIF EFTJHO QIBTF XF FNCFE DPTU EJTDJQMJOE BU UIF TPV  
JOUFOTJWF QMBOU MBZPVU QSPDFTT PQUJNJ[BUJPO JOUFMMJ  
QSFDJTJPO FRVJQNFOU TFMFDUJPO

-BZPVU 0QUJN5J[~~SRUWH~~PIOTZTUFNBUJD QMBOU XJEF PS  
XPSLTIPQ MFWFM MBZPVU PQUJNJ[BUJPO XF SFEVDF NBUF  
EJTUBODFT CZ BO BWFSBHF PG UP TJHOJéàDBOUMZ SFEV  
MPHJTUJDT JOWFTUNFOU DPTU  
XI`\$@ RL O

TFMFDUJPOT GSPN PWFS B UIPVTBOE QSPKFDUT XF QSFD  
BOE FRVJQNFOU UP QSPKFDU DBQBDJUZ BOE UFDIOJDBM  
PQUJNB M FDPOPNJD BOE QFSGPSNBODF àU GPS NBYJNVN

2

#Z JNQMFNFOUJ OH UIF 6+EFNBOE JOUFHSBUFE QSPDVSNFOU6  
TZTUFNBUJDBMMZ QMBO QSPKFDU TPVSDJOH %FMJWFSZ TDI  
FRVJQNFOU BOE NBUFSJBMT BSF EZOBNJDBMMZ MJOLFE U  
QSPHSFTT NJOJNJ[JOH PO TJUF NBUFSJBM TIPSUBHFT BOE XBS  
\$POTUSVDUJPO 'FFECBDL &OBCMJOH -FBO \$MPTFE MPPQ .BO  
5ISPVHI UIF FYUFOTJWF BQQMJDBUJPO PG #VJMEJOH \*OGPSNBU  
#\*. BOE NPEVMBS QSGBCSJDBUJPO SFXPSL JT SFEVDFE BU UIF  
6+SFBM UJNF EFTJHO DPOTUSVDUJPO GFFECBDL NFDIBOJTN6+ P  
CBSSJFST CFUXFFO EFTJHO BOE DPOTUSVDUJPO FTUBCMJTIJOH

TUBHF EFTJHO SFEVDFT FRVJQNFOU JOWFTUNFOUT CZ NP  
1 t 5IF BQQMJDBUJPO PG #\*. BOE NPEVMBS UFDIOP  
QSPKFDU TDIFEVMFT CZ Ê BOE SFEVDFT MBCPS DPTU

3%JHJUBM &OHJOF %BUB ESJWFO 1SFDJTJPO \*OV  
#FZPOE SFMZJOH PO FYQFSJFODF TDJFOUJGJD BQQ  
JNQPSUBODF 5\*"/4 IBT EFWFMPQFE B DPOUJOVPVT

over 50%, weighing accuracy remains consistently high, and batching labor is reduced by 80%.

1 1 \*OUFHSBUFE PG 4FQBSBUJPO BOE 8BTIJOH .PEVMFT JO -J  
1 SPDF#Z JOUFHSBUJOH TPMJE MJRVJE TFQBSBUJPO XBTIJOH BO  
FYUSBDUJPO BOE QIBTF TFQBSBUJPO BOE MPX UFNQFSBUVSF W

BOOVBM FDPOPNJD CFOFGJUT DBO GVMMZ DPWFS BM  
QSPKFDUT FWFO ZJFMEJOH B QSPéàU

'PS IJHI TBMU BOE IJHI DPODFOUSBUJPO DIFNJDBM BC  
XBTUFXBUFS UIF BQQMJDBUJPO PG BEWBODFE P  
JOUFHSBUJPO DPODFOUSBUJPO BOE DSZTUBMMJ[BUJPO  
UIF NPUIFS MJRVPS BNPVOU UP MFTT UIBO BDIJFWF B  
PWFS BOE MPXFS UIF PWFSBMM TZTUFN PQFSBUJO

\*OUFHSBUFE 0QUJNJ[BUJPO BOE -JGFDZDMF 1S  
&MJNJOBUF )JEEFO \$PTUT

\*O B IJHI FOE "DUJWF 1IBSNBDFVUJDBM \*OHSFEJ  
QSPEVDUJPO DBQB DJUZ JT JODSFBTFE CZ UISPV  
PQUJNJ[BUJPO XIJMF UIF PWFSBMM JOWFTUNFOU JT SFE  
UP UIF CVEHFU

\*O B LFZ GJOF DIFNJDBMT QSPKFDU UIF GVMM QS  
SFEVDFE DMJFOUó,T PQFSBUJOH DPTUT CZ BOE TIPS  
QBZCBDL QFSJPE CZ

5\*\*/4 .PEFM

4BGFUZ JT OPU NFSFMZ BCPVU DPTU CVU JU TFSWFT BT UI  
JOWFTUNFOU BOE DPNQFUJWFOFTT JO OFX UFDIOPMPHZ JOEV  
5\*\*/4 IBT SFEFéàOFE USBEJUJPOBM QBTTJWF TBGFUZ CZ SFHBS  
DPSF FOHJOFFSJOH BUUSJCVUF UIBU DBO CF EFTJHOFE BOE J  
8F IBWF FTUBCMJTIFE B DPNQSFIFOTJWF JOIFSFOU TBGFUZ NB  
TZTU FN DFOUFSFE PO ó+SJTL QSF DPOUSPM TPVSDF HPW  
GVMM MJGFDZDMF (NBLJ OH NFDIBOJTN UIBU JOUFHSBUFT ó+EBUB FYQFSUJTF  
CJEJSF DUJPOBM WFSJéàPDBUJPO BOE FOIBODFNFOU 1SFWFOUJPO  
EFFQMZ FNCFEFE BU UIF TPVSDFT PG QSPDFTT BOE EFTJHO B  
JNQMFNFOUFE BDSPTT UIF GVMM MJGFDZDMF 3 % EFTJHO  
DPOTUSVDUJPO USJBM QSPEVDUJPO BOE PQFSBUJPOT 5ISPVH  
DPNQMJ BODF ESJWFO EFMJWFSZ XF FOTVSF FWFSZ MJOL  
USBDFBCMF BOE DPOUSPMBCMF

\*U JT éàSNMZ CFMJFWFE UIBU UIF IJHIFTU MFWFM PG TBGFUZ MJ  
UIF QPTTJCJMJUZ PG SJTL PDDVSSFODF 5IFSGPSF UIJT TZTU FN C  
DPNQMJ BODF CVU BMTF FTUBCMJTIFT SFMJBCMF BOE TVTUBJO  
FOHJOFFSJOH WBMVF GPS DMJFOUT TZTU FNBUJDBMMZ DPOWFSUJ  
UFSN QSPKF DU BEWBOUBHFT

1 4BGFUZ JT B %FTJHO BCMF BOE %FMJWFSBCMF  
5\*"/4 WJFXT TBGFUZ BT BO FOHJOFFSJOH BUUS  
JOUFHSBUFE GSPN UIF TPVSDF BEIFSJOH UP UIF GPMMPX  
i t 1SPBDUJWF 1\$JODJQMF BHFNFUO CFHJOT BU UIF C  
EFTJHO TUBHF  
i@tt \*OUFHSBUJPO #S.GFDJQMFSWFT BT UIF DPNNPO H  
QSJODJQMF GPS BMM EJTDJQMJOFT FODPNQBTTJOH QSPD  
DPOTUSVDUJPOISG@F5ÁMà\FUJF



\*OIFSFOU 4BGFUZ %FTJDE(JGZFWBΘFTUIBO POF UI

BOE DPNQMJBODF DFSUJéàDBUJPOT

\$POTUSVDUJPO01TBTUF EZOBNJD TVQFSWJTJPO XJUI TQFDJBMJ  
DPOUSPM QMBOT EFWFMPQFE GPS IJHI SJTL BDUJWJUJFT





\*OJUJBUJPO 1IBTF \$P DSFBUJOH UIF 3VMFT  
\$PMMBCPSBUF XJUI DMJFOU UP FTUBCMJTI B  
KPJOUJZ JEFUJGZ DSJUJDBM DPOGJEFUJBMJUZ QPJ  
DVTUPN15PKFDU \$POéàEFOUJBMJUZ 8IJUF 1BQFS

&YFDVUJPO 1IBTF %ZOBNUJ \$POUSPM  
1FSTPOOFM \*TRIMBUJFOU DFMM MFWFM BDDFTT DPOU  
UIF ó+NJOJNVN OFDFTTBSZó+ QSJODJQMF \$PSF JOGPSNBU  
FRVJQNFOU BOE DPOUSPM TZTUFNT JT EFDPNQPTFE  
FOHJOFFST UP BDDFTT POMZ UIF FTTFOUJBM JOGPSN  
NPEVMFT

1SPDFTT \*TRIMBUJFOU SFWJFXT BSF DPOEVDUFE JO D  
SPPNT "MM ESBGUT BSF TISFEEFE JNNFEJBUFMZ PO TJUF %  
QMBDF PWFS QIZTJDBMMZ JTPMBUFE OFUXPSLT BOE BOZ VO  
FYQPSU JT QSPIJCJUFE

#FIBWJPSBM "\$POGJEFUJBM BSFBT PQFSBUF VO  
BDDFTT ó+XIUFMJTUó+ &OUSZ BOE FYJU SFDPSET BT XFM  
BSF BSDIJWFE BVUPNBUJDBMMZ GPSNJOH BO JNNVUBCMF

\*O B OFX CBUUFSZ NBUFSJBM JOEVTUSJBMJ[BUJPO  
XBT EJWJEFE JOUP NVMUJQMF NPEVMFT &OHJOFFSJOH  
EJTDJQMJOFT DPVME POMZ BDDFTT EBUB EJSFDUMZ S  
EFTJHO DPMBCPSBUJPO JT DPOEVDUFE UISPVHI QIZTJDB  
FODSZQUFE TBOECPY FOWJSPONFOUT 5IJT NFBTVSF F  
VOBVUIPSJ[FE JOGPSNBUJPO BHHSFHBUIJPO

\$MPTJOH 1IBTF ;FSP "VEJU

6QPO QSPKFDU DPNQMFUJPO B SJHPSPVT 6+EBUB TBOJUJ[B  
JT JNQMFNFOUFE "MM DMBTTJGJFE FMFDUSPOJD EBUB VOEFS  
WFSJGJDBUJPO CFGPSF JSSFWFSTJCMF QIZTJDBM FSBTVSF  
BSF QVMQFE BOE EFTUSPZFE VOEFS EVBM TVQFSWJTJPO "  
\$POGJEFOUJBMJUJZ J"VETJCNBQBSB UP UIF DMJFOU BT UIF GJ  
EFMJWFSBCMF BDIJFWJOH B TUSFBNMJOFE DMPTFE MPPQ TFDVSJU

**3**\*OOPWBUJPO 1SBDUJDFT #FZPOE UIF 4UBOEBSE  
5IF 5\*"/4 UFDIOPMPHZ DPOéàEFOUJBMJUJZ TZTUFN JT NPSF SPCV  
TFWFSBM GPSXBSE MPPLJOH QSBDUJDFT

'PS FYDFQUJPOBMMZ TFOTJUJWF QSPKFDUT BU DMJFOU S  
QSPKFDU FOWJSPONFOUT XJUI TJNVMBUFE UFDIOJDBM QB  
CFFO FTUBCMJTIFE UP NPOJUPS BOE BMFSU BHBJOTU BOZ TVT  
BDUJWJUJFT 5IJT BQQSPBDI IBT TVDDFTTGVMZ BTTJTUFE DMJ  
BOE NJUJHBUJOH QPUFOUJBM CVTJOFTT SJTLT

#MPDLDIBJO CBTFE FWJEFODF BODIPSJOH "MM BDDFTT BOE  
MPHT PG DPSF EPDVNFOUT BSF TZODISPOJ[FE JO SFBM UJNF UP U  
FWJEFODF TUPSBHF QMBUGPSN HFOFSBUJOH KVEJDJBMZ SFDP  
FWJEFODF UP PèßFS JSSFGVUBCMF QSPPG GPS QPUFOUJBM EJTQVU

\$POGJEFOUJBMJUJZ JT OPU TPMFMZ BCPVU TJHOJOH BH  
B DVMUVSBM JNQFSBUJWF 5ISPVHI SFHVMBS TDFOBSJP C

5FDIOPMPHZ \$POéàEFOUJBMJUZ .

DBTF TUVEJFT FNQMPZFF DPOGJEFOUJBMJUZ DSFEJU  
NFDIBOJTNT DPOGJEFOUJBMJUZ BXBSFOFTT JT EFFQM  
DVMUVSF

#Z UIF FOE PG PWFS QSPKFDUT JOWPMW  
BOE DVUUJOH FEHF UFDIOPMPHJFT IBE CFFO TVDD  
DPOéàEFOUJBMJUZ SPPNT NBJOUBJOJOH BO JNQFDDBCMR  
BOE BDIJFWJOH DMJFOU TBUJTGBDUJPO GPS DPOTFDV

## \* OOPWBUJWF 1SBDUJDFT

---

### \$PNQSFIFOTJWF %JTDJQMJOFT BOE -JGFDZD

5IF DPOTUSVDUJPO QSPKFDUT JO éàFMET PG éàOF DIFNJDBMT CJPQI  
BOE FMFDUSPOJD DIFNJDBMT BSF GBDJOH NVMUJQMF DIBMM  
IJHI UFDIOJDBM JOUFHSBUJPO UJHIU TDIFEVMFT BOE DPNQMFY  
DPPSEJOBUEJPO 5SBEJUJPOBM EFTJHO JOTUJUUVUFT PS DPOTUSVDU  
MPOHFS GVMZ NFFU DMJFOUTó, DPNQSFIFOTJWF SFRVJSFNFOU C  
GPSFTJHIU IPMJTUJD FOHJOFFSJOH TPMVUJPOT BOE HVBSBOUFFE  
BEESFTTFT UIFTF SFRVJSFNFOU UISPVHI JUT BQQSPBDI PG ó+DF  
EJTDJQMJOFT BOE MJGFDZDMF TFSWJDFó+ GBDJMUBUJOH UIF  
JOUFHSBUJPO PG BMM OFDFTTBSZ UFDIOJDBM BOE PQFSBUJPOBM  
FTUBCMJTIFT B TFBNMFTT SFMJBCMF BOE FGGJDJFOU EFMJW  
UFDIOPMPHZ UP JOEVTUSJBM BQQMJDBUJPO GPS DMJFOUT

1 \$PNQSFIFOTJWF %JTDJQMJOFT )PSJ[POUBM \*OUFHSBUJ  
&MJNJOBUEF 5FDIOJDBM 4JMPT

5\*\*/4 IBT EFWFMPQFE B DPNQSFIFOTJWF QSPGFTTJPOBM GSBM  
FODPNQBTTFT UIF FOUJSF JOEVTUSJBMJ[BUJPO DIBJO PG FNFHJO

5IJT TZTUFN OPU POMZ SFTPMWFT UIF JTTVF PG 6+ XI  
BMTF UISPVHI JO EFQUI IPSJ[POUBM JOUFHSBUJPO DPN  
QSPGFTTJPOBM CBSSJFST HVBSBOUFFJOH UIBU UFDIOJD  
QSFDJTFMZ BOE QSPNQUMZ JNQMFNFOUFE BDSPTT BMM E  
8F PGGFS GVMM DPWFSBHF PG BMM EJTDJQMJOFT F  
3 % FOHJOFFSJOH DPOTVMUBODZ BOE EFTJHO QSPDFT  
FDPOPNJD FTUJNBUJPO DMFBOSPPN TZTUFNT BVUPNBUJ  
QSPUFDUJPO DPNNJTTJPOJOH WBMJEBUJPO FRVJQN  
BOE FWFO #\*. BOE EJHJUBM EJTDJQMJOFT OF JT TUBGGF  
UPQ MFWFM FYQFSUT BOE FRVJQQFE XJUI SPCVTU DBC  
JOUFHSBUFE JOUFSOBM DPMBCPSBUJPO NFDIBOJTN XF  
EJTDJQMJOBSZ TZOFSHZ DPOWFSUJOH GSBHNFOUFE  
JOUFHSBUFE QSPKFDU TVQQPSU TZTUFN  
"MM QSPGFTTJPOBM UFBNT BSF PSHBOJDBMMZ  
DPNQBOZ PQFSBUJOH VOEFS B VOJGJFE N... O JIBU' 0

5\*"/4 .PEFM

PGGFSJOH 6+FOE UP FOE6+ TFSWJDFT GSPN UIF DPODFQUVB  
PQFSBUJPOBM QIBTF SBUIFS UIBO NFSFMZ QBSUJDJQBUJOH JO QF  
5IJT HVBSBOUFFT UIBU DMJFOUT VMUJNBUFMZ PCUBJO B GVMMZ JO  
DBQBCMF PG TVTUBJOFE WBMVF DSFBUJPO SBUIFS UIBO KVTU B T  
BOE GSBHNFOUFE QSPKFDUT

5IF QSPKFDU DPNNFODFT XJUI GSPOU FOE QSPDFT  
EFWFMPQNFOU QSPDFTT PQUJNJ[BUJPO QJMPU TDBMF UFTU

3 \$PSF 7BMVF 5IF 4ZOFSHJTUJD "EWBOUBHF PG  
 5IF DPNCJOBUIJPO PG 6+DPNQSIFOTJWF EJTDJQMJOFT6+  
 QSPWJEFT B EFDJTJWF BEWBOUBHF

5SBEJUJPOBM 4VCDPOU	SBDOUJO 5*"/4 EPEFM
.VMUJQMF *OUFSGBDFT %Jéa \$PPSEJOBUIJPO \$MJFOU NBOBHFT NBOZ TV JOUFGSBDFT MFBEJOH UP IJH DPNNVOJDBUIJPO DPTUT BOE SFTQPOTJCMJUJFT	Jéa D Y MU 4 JOHMF 3FTQPOTJCMF & OUJUZ 5*"/4 BDUT BT UIF TPMF JOUFGSBDFT QOMJFS BTTVNFT GVMM SFTQPOTJCMJUJZ FOBCMJOH TJNQMF BOE Féa VODMFBS NBOBHFNFOU
5FDIOPMPHZ &BTJMZ %JTD 3 % EFTJHO DPOTUSVDUJ PQFSBUJPO IBWF JODPOTJ PCKFDUJWFT EJMVOUJOH UF	5FDIOPMPHZ 'VMMZ *OUFHSBUFE 5F B O E JDBM UFBN QBSUJDDJBUFT UFIGU VHIPVU FOTVSJOH QSFDTF USBOE MBLUJPOGSPN MBC UP GBC
-PDBM 0QUJNJ[BUJPO 0WFS \$POUSPM 1BSUJFT QVSTVF NJOJNVN UIFJS PXO TFHNFOUT&3FBT UP PWFSBMM CVEHFU BOE PWFSSVOT	SBMM -PTT PG (MPCBM 0QUJNJ[BUJPO D%FDJWUPO NBLJOH CBTFE PO UPUBM JMZJGFBZDWH DPTU NBYJNJ[JOH JOWFTU TWBEWTF
3JTL 5SBOTGFS 1SPCMFNT MFBE UP NVUVBM UIF DMJFOU BT UIF VMUJNB	3JTL *OUFSOBMJ[BUJPO 5*"/4 SFTPMWFT BMM JOUFS EJTDJQMJ CMBNE XJUI JTIVET JOUESOBMMZ EFMJWFSJOH DF UP UIF DMJFOU

5\*"/4 .PEFM

## 1JMPU 1MBUGPSN

'SPN MBCPSBUPSZ éáBTLT UP GBDJMJUZ QSPEVDUJPO MJOFT VQ UP  
BDIJFWNFOUT GBJM UP CF TDBMFE VQ EVF UP DIBMMFOHFT  
TDBMJOH BOE DPTU PWFSSVOT 5IF 5\*"/4 1JMPU 1MBUGPSN OPU PO  
UP FOE WBMJEBUJPO TFSWJDFT GSPN NJDSP TDBMF CVU BMTP U  
MBCPSBUPSZ TBNQMFT JOUP JOEVTUSJBM HSBF QSPEVDUT XJUI TDB  
DBQBCJMJUJFT 5IJT QMBUGPSN TZTUFNBUJDBMMZ CSJEHFT UIF ó+MBT  
UFDIOPMPHJDBM GFBTJCJMJUZ BOE DPNNFSDJBM TVDDFTT

1 1MBUGPSN \$BQBCJMJUJFT BOE %BUB 'PVOEUBUJPO  
)BSEXBSF \*OGSBUJDBMMZ QQQFE XJUI NPSF UIBO UZQFT PG  
TQFDJBMJ[FE QJMPU TDBMF QSPEVDUJPO MJOFT JODMVEJOH DPO  
UFNQFSBUVSF IJHI QSFTTVSF TZTUFNT EJTUJMMBUJPO QVSJGJDE  
QVSSNE QJKB B JPT S F LRS Q

\*O BEEJUJPO UP QSPWJEJOH WBMJEB  
B ó+QJMPU EBUB QBDLBHFó+ EJSFDUMZ BQQMJDBC MF UP  
ó+NPEVMBS QSPDFTT QBDLBHFó+ XJUI IJHI SFQMJD BCJMJU

\$PTU 1SFDJTJPO "DDPVOUJOH BOE 0QUJNJ[BUJPO -FWFSB  
TDBMF EBUB BO BDDVSBUF ó+NBUFSJBM CBMBODF BOE FOFS  
NPEFM6+ JT FTUBCMJTIFE GBDJMJUBUJOH QSPEVDUJPO DPTU DB  
FSSPS SBUF JO GJOBM NBTT QSPEVDUJPO DPOUSPMMFE XJUIJO  
SPCVTU EBUB TVQQPSU GPS JOWFTUNFOU EFDJTJ POT BOE QSPEVD  
3FMJBCJMJUZ BOE 5JSPV5HFTTUNOMBUJJOH FYUSFNF DPOEJUJ POT  
BOE DPOEVDUJOH MPOH UFSN PQFSBUJ POT DPOUJOVPVT TUBO  
BDDFMFSBUFE BHJOH UFTUT XJUI B EVSBUJPO PG óI IPVST BSF D  
FOTVSF UIBU UIF QSPEVDU QFSGPSNBODF BOE UIF TFSWJDF MJGF F  
DSJUJDBM DPNQPOFOUT NFFU DPNNFSDJBM SFRVJSFNFOUT .FBO  
QSPEVDUJPO GBJMVSF SBUFT BSF SFEVDFE CZ NPSF UIBO  
4BGFUZ BOE &OWJSPONFOUBM \$PNQMJBODF 1SF SFWJFX \$  
SFBUDUJPO TBGFUZ SJTL BTTFTTNFOUT JOJUJBM QSPDFTT WBMJE  
XBTUF USFBUNFOU QSPDFTT WBMJEBUJPO BSF DPOEVDUFE UP  
QSPDFTT SPVUF JT JOIFSFOUMZ TBGF BOE FOWJSPONFOUBMMZ DP  
SFNPWJOH NBKPS PCTUBDMFT UP QSPKFDU BQQSPWBM BOE QSPEV  
5BMFOU 5SBJOJOH BOE %PDVNFOSUBUJPOF0WBQVEBUJPO  
QSPDFTT NPSF UIBO DPSF QSPDFTT FOHJOFFST BOE PQFSBU  
GPS DMJFOUT BOE TUBOEBSEJ[FE QSPDFTT QBDLBHFT 1%1  
PQFSBUJPOBM QBSBNFUFST BOE 4UBOEBSE 0QFSBUJOH 1SPD  
EFMJWFSFE SFBMJ[JOH UIF EVBM JNQMFNFUOBUJPO PG ó+UFDIOJD  
ó+UBMFOU USBOTGFSó+

3\*OEVTUSZ "DBEFNJB 3FTFBSDI "QQMJDBUJPO \$PMMBC  
5IF 5\*"/4 1JMPU 1MBUGPSN IBT QJPOFFSFE B EJTUS  
BMMJBODF PG QJMPU CBTFT 5ISPVHI FRVJQNFOU

5\*"/4 .PEFM

.PEVMBS 1SPDFTT 6OJUT

\*O USBEJUJPOBM FOHJOFFSJOH NPEFMT GBDJMJUJ DPOTUSVDUJPO J  
TDVMQUJOH GSPN TDSBUD6+ B QSPDFTT NBSLFE CZ MPOH UJNFMJC  
RVBMJUJ BOE DPTU PWFSSVOT 5\*"/4 SFWPMVUJPOJ[FT DPOTUSVDUJ

#Z UIF FOE PG XF IBE TVDDFTTGVMZ EFMJWFS  
TUBOEBS QPSUBCMF VOJUT BDSPTT FJHIU DPSF QSPDFT  
.73 FWBQPSBUJPO DSZTUBMMJ[BUJPO FMFDUSP  
DPOUJOVPVT GMPX IZESPHFOBUJPO BOE IB[BSEPVT C  
"MM QSPKFDUT BDIJFWFE B POF UJNF BDDFQUBOD  
EFMJWFSBCMFT IBWF DSFBUE UBOHJCMF WBMT # @ ± "KFD  
p†

0 B@@@

5"/4 .PEFM

2 5"/4 \*OUFMMJHFOU \*OTUBOUBOFPV4Z\$BOW JOVPVT 4UFSJM  
%Fæ(OJOH BO \*OEVTSZ UISPVHI B %JTUJODU \$BUFHPSZ

DBQJUBMJ[F PO NBSLFU PQQPSUVOJUJFT

1 4FBNMFTT 5FDIOPMPHJDBIM06QSSDEFT JOOPWBUJP  
PDDVS TQFDJGJD NPEVMFT DBO CF JOEFQFOEFOUMZ  
XJUIPVU TDSBQQJOH FOUJSF QSPEVDUJPO MJO  
JOWFTUNFOUT

1 (SFFO BOE 4VTU5B8ONPCEMFMBS EFTJHO FOBCMF  
EJTBTTFNCMZ BOE SFMPDBUJPO UIFSFCZ NBYJNJ[JOH UI  
FOUJSF MJGFDZDMF

5\*/4 .PEFM

## #\* . \*NQMFNF OUBUJPO

5ISPVHI FYUFOTJWF BQQMJDBUJPO JO PWFS DPNQMFY QSPKFD  
QSPHSFTTTE CFZPOE CBTJD NPEFMJOH UP FTUBCMJTI B DPNQSFIF  
DPM MBCPSBUJPO FDPTZTU FN \*U IBT BDIJFWFE B USJQMF MF  
SFBMJ[BUJPO M@ SUMMWJOCÆP Ñ.P

T,€3

D





#\*.\*NQMFNFOUBUJPO

GBDJMJUZ BOE JT SJDI JO DSJUJDBM FOHJOFFSJOH EBUB  
i t 0QFSBUJPOBM &6DUJF0BZ FE TJNVMBUJPO BOE EJBH  
JNQSPWF JOTQFDUJPO BOE GBVMU SFTPMVUJPO SBUFT CZ  
i t \$PTU 4BWJSCHT FOUJWF NBJOUFOBODF BOE FOFSH  
PQUJNJ[BUJPO DBO SFEVDF MJGF DZDMF PQFSBUJOH DPT

5\*"/4 .PEFM

## %JHJUBM %FMJWFSZ

5P EFMJWFS USBDFBCMF TJNVMBUBCMF BOE PQFSBCMF EJ  
UP DMJFOUT UPHFUIFS XJUI QIZTJDBM GBDJMJUZ 5\*"/4 IBT I  
JOUFHSBUFE EBUB DIBJO DPWFSJOH EFTJHO QSPDVSNFOU DPC  
PQFSBUJPO 6UJMJ[JOH IJHI QSFDJTJPO % NPEFMT BT WJTVB  
TUSVDUVSFE EBUB BT UIF DPSF JU FTUBCMJTIFT B TUBUJD NBC  
PDW @@QQFđ éàIW VPSF D@VBQJMEUJF

2) JHI 1SFDJTJPO .PEFMJOH BOE %BUB -JOL  
5\*" /4 %JHJUBM FOHJOFFST BSF QSPGJDJFOU JO V  
JOUFSOBUJPOBM QMBUGPSNT TVDI BT 41 % GF  
DPMBCPSBUJWF EFTJHO BDSPTT BMM EJTDJQMJO  
TQFDJBMUJFT DPOEVDU SFBM UJNF TZODISPOPVT XPSL  
TQBD F XJUI EBUB TZODISPOJ[FE JO SFBM UJNF 5IF  
EFUFDUJPO GFBUVSF FTUBCMJTIFT B SBQJE 6+EFTJHO  
NFDIBOJTN 1SPWFO JO QSBDUJDF UIJT BQQSPBDI SFI  
DIBOHFT BOE SFXPSL CZ BO BWFSBHF PG BQQSPYJNBUR  
SFEVDJOH QSPKFDU DPTUT BOE UJNF

3) JHI 1FSGPSNBODF 5FBN )JHI &æ\*DJFODZ 0SHBC  
'PS FBDI EJHJUBM EFMJWFSZ QSPKFDU B EFEJDBUF  
FTUBCMJTIFE XIJDI JT MFE CZ B %JHJUBM %FMJWFSZ .  
QSPGFTTJPOBM LOPXMFEHF GSPN UIF EFTJHO QSP  
\*5 TFDUPST 5IF FOUJSF QSPDFTT GSPN QSPKFDU J  
GPSNVMBUJPO UP BDDFQUBODF BOE EFMJWFSZ JT TUSFE  
QMBUGPSN "T B SFTVMU UIF PO UJNF QSPKFDU EFMJWF  
UIF DPTU XBTUF DBVTFE CZ JOGPSNBUJPO FSSPST BOE  
SFEVDFE CZ UP

4 'VMM \$ZDMF 2VBMJUZ \$POUSPM %FMJWFSJOH 5SVTUXPSUIZ  
 5\*\*/4 %JHJUBM %FMJWFSZ 5FBN DPOTJTUFUOMZ BEIFSFT UP EB  
 DPOTJTUFODZ DPNQMFUFOFTT BOE DPNQMUBODH BT DPSF QSJODJ  
 TUSJDU NPEFM UFTUJOH BOE EBUB WFSJGJDBUJPO QSPDFTTFT J  
 EJHJUBM NPEFMT BSF QSFDJTFMZ BMJHOFE XJUI EFTJHO ESBXJ  
 GBDJMJUJFT FRVJQNFOU MJTUT FUD 5IJT BQQSPBDI MFBET UP UIF E  
 RVBMJUZ EJHJUBM UXJOT UIBU BDDVSBUFMZ NJSSPS SFBM XPSME GE  
 1SBDUJDF EFNPOUSBUFT UIBU TUSJDU RVBMJUZ DPOUSPM SFEVD  
 DPOÉJDUT JO EFTJHO DPMBCPSBUJPO CZ PWFS OPUBCMZ FOIB  
 NBLJOH FGGJDFODZ .FBOXIJMF JU TBWFT NPSF UIBO P  
 QSFQBSBUJPO UJNF BOE DPTUT GPS BEWBODFE BQQMJDBUJ  
 NBJOUFOBODF BOE JOUFMMJHFOU JOTQFDUJPO BGUFS GBDJMJUZ DPN

5 &NQPXFS 'VUVSF 4NBSU 0QFSBUJPOT %FMJWFSZ JT +VTU UIF  
 5IF VMUJNBUF WBMVF PG EJHJUBM USBOTGPSNBUJPO MJFT  
 PQFSBUJPOT 5\*\*/4 JT BDUJWFMZ QSPNPUJOH BOE XJMM DPOUJ  
 UIJT JOJUJBUJWF

&OIBODF %BUB "TTFU .BOBHFNFGUBTFEPCUJMJ[BUJPO  
 UIF FYJTUJOH NBUFSJBM EBUBCBTF FTUBCMJTI FOUFSQSJTF  
 &RVJQNFOU %BUBCBTFT6+ BOE 6+5ZQJDBM %FTJHO .PEVMF -JCSB  
 UIF JOUFHSBUJPO PG EJHJUBMMZ EFMJWFSFE TUBUJD EBUB XJUI S

EBUB F H %\$4 EBUB EVSJOH GBDJMJUZ NBJOUFOB  
GPVOEUBUJPO GPS BEWBODFE BQQMJDBUJPO TVDI BT C  
BOE JOUFMMJHFOU JOTQFDUJPO

&TUBCMJTI B 6OJGJFE %5FMJWFSZD1UMBMFGPTSNU  
JOUFHSEBUJPO JOUFMMJHFOU TPGUXBSF XJUI NVMUJ TPV  
NBOBHFNFOU BOE QSPHSFTT USBDLJOH DSFBUJOH  
VOJGJFE EJHJUBM EFMJWFSZ QMBUGPSN \*U OPU PO  
NPEFM CSPXTJOH CVU BMTF TVQQPSUT SBQJE EBUB SFUS  
SFHJPO MJOLFE EPDVNFOU BDDFTT DPOTUSVDUJPO TJ  
GVODUJPO VMUJNBUFMZ EFMJWFSJOH B 6+TDBMBCM  
GBDJMJUZ DPSF

#Z UIF FOE PG EJHJUBM USBOTGPSNBUJ  
TVDDFTTGVMZ EFMJWFSFE GPS MFBEJOH EPNFTUJD G  
JODMVEJOH +VIVB (SPVQ BOE 5JBOKJO #PIBJ DIFNJDBM JO

5\*"/4 .PEFM

## "VUPNBUJPO BOE \*OGPSNBUJ[BUJPO

\*O JOEVTUSJFT XJUI DPNQMFY DPOUSPM MPHJD BOE IJHI SFHVMBU  
BT èàOF DIFNJDBMT TZOUIFUJD CJPMPHZ BOE CJPQIBSNBDFVUJDBM  
EJHJUBM USBOTGPSNBUJPO PGUFO GBDFT DIBMMFOHFT TVDI BT T  
JOWFTUNFOU MPX JNQMFNFOUBCJMJUJ PG TPMVUJPOT BOE IJ  
BOE FSSPST #Z MFWFSBHJOH PWFS B UIPVTBOE QSPDFTT B  
JOGPSNBUJ[BUJPO QSPKFDUT JO UIF JOEVTUSJBM TFDUPS 5\*"/4  
NVMUJQMF QSPDFTT JOUFHSBUFE TPMVUJPOT UIBU BSF DMP  
QSPEVDUJPO TDFOBSJPT TZTUFNBUJDBMMZ SFTPMWJOH UIF DPS  
FéâDJFODZ DPNQMJBODF BOE DPTU

1 1SPDFTT 5FDIOPMPHZ -FBEJOH 'VMM 1SPDFTT "VUPNBUJPO  
5\*"/4 IBT FTUBCMJTIFE B DSPTT EJTDJQMJOBSZ F  
QOWP NQUBTJJOH QR E@FT

TDFOBSJPT TVDI BT DIFNJDBM TZOUIFTJT CJPUFDIO  
BOE CJPNFEJDBM BQQMJDBUJPOT B DPSF DPOUSPM  
EFWFMPQFE 5IJT BMMPXT DVTUPNFST UP JOEFQFOEFOU  
BOE NBOBHF QSPEVDUJPO SFDJQFM

PGGFSFE XIJDI FODPNQBTT QFSGPSNBODF PQUJNJ[BUJPO BOE  
NBJOUFODF FOBCMJOH DMJFOUT UP BUUBJO TVTUBJOFE F  
QSPEVDUJPO FéâDJFODZ

2-JHIU 1SPEVDUJPO .BOBHFNFOU 4ZTUFN  
5P DJSDVNWFOU UIF DIBMMFOHFT PG EJJHJUBM USBOTGPSN  
IJHI DPTUT BOE QSPUSBDUFE DZDMFT B GMFYJCMF FGGJDJFOU  
QSPEVDUJPO NBOBHFNFOU TZTUFN XBT EFWFMPQFE CBTFE PO UIF  
PG MJHIU EFTJHO NPEVMBSJUZ BOE FBTF PG EFQMPZNFOU  
5IF DPSF QSPEVDU -JHIU .BOVGBDUVSJOH &YFDVUJPO  
5.&4 JT DIBSBDUFSJ[FE CZ ESBH BOE ESPQ QSPDFTTFT BOE  
QMBZ DPNQMJBODF TJHOJéâDBOUMZ SFEVDJOH UIF BQQMJDBUJPO  
%SBH BOE %SPQ 6MUSB 5BFFUTZPFFM JCHDPSQPSBUFT  
OFBSMZ QSF CVJMU VOJWFSTBM CVTJOFTT DPNQPOFOUT 1SP  
DBO DPOGJHVSF QSPEVDUJPO XPSLGMPXT CZ TJNQMZ E  
DPNQPOFOUT BOE UIF TZTUFN BVUPNBUJDBMMZ HFOFSBUFT FMP  
5IJT JOOPWBUJPO TIPSUFOT UIF NPEFMJOH BOE EFQMPZNFOU DZDM  
UP IPVST

0VU PG UIF #PY \$PNQUBOEBSJ[FE DPNQPOFOUT TVDI BT  
FMFDUSPOJD TJHOBUSVFT BOE BVEJU USBJMT SFEVDF WBMJEBUJPO  
FOTVSJOH FéâDJFOU BOE DPNQMJBODF JNQMFNFOUBUJPO  
"\* QPXFSE 1SPEVDUJPO \*OU#ZMJQHFOSFU)JCH PQFO

TPVSDF "\*" NPEFMT XJUI FOUFSQSJT F LOPXMFEHF CBT  
SVMFT BOE FYQFSUJT F UP QSPWJEF JOUFMMJHFOU EFD  
BMFSUT BOE QSPDFTT PQUJNJ[BUJPO

5\*/4 .PEFM

TVDDFTTGVMZ BQQMJFE JO MFBEJOH EPNFTUJD CJPQIBSNBDFVUJ  
TVDI BT #FJ(FOF 2JMV "OUF 1BSNBDFVUJDBM BOE )VBTIFOHZVBO

47BMVF -PPQ GSPN 4UBCMF 1SPEVDUJPO UP \*OUFMMJHFOU 0QFS  
5IF 5\*/4 "VUPNBUJPO BOE \*OGPSNBUJ[BUJPO 5FBN JT CE  
QSPDFTT FYQFSUJTF BOE DVTUPNFS WBMVF #Z JNQMFNFOUJOH  
BVUPNBUJPOó+ JU FTUBCMJTIFT B TUBCMF FGGJDJFOU BOE D  
QSPEVDUJPO GPVOEUBUJPO XIJMF UIF ó+MJHIU QSPEVDUJPO NBOBH  
DSFBUFT B GMFYJCMF BOE JOUFMMJHFOU EJHJUBM NBOBHFN  
5IJT TZOFSHZ DPOTUSVDUT B GVUVSF PSJFOUFE TVTUBJOBKMF  
JOOPWBUJWF EJHJUBM QMBUGPSN GPS NBOVGBDUVSJOH FOU  
SFMJBCMF BOE BHJMF GPVOEUBUJPO GPS TNBSU GBDUPSJFT

\* O UIF FSB PG UIF FYQMPTJWF HSPXUI PG BSUJG  
UFDIOPMPHZ 5\*"/4 IBT BTUVUFMZ DBQUVSF UIF QV  
USBOTGPSNBUJPO #FZPOE TJNQMF EJHJUBM DPOOFDUJW  
UP JOUFMMJHFOU HFOFSBUJPO BOE EFDJTJPO NBLJOH #  
JOUP BMM BTQFDUT PG FOHJOFFSJOH EFTJHO QSPDF  
CVTJOFTT PQFSBUJPOT 5\*"/4 IBT BDIJFWFE B QSPGPVO  
ó+"\* FOHJOFFSJOHó+ 5IJT JOUFHSBUJPO IBT OPU PC  
EFMJWFSZ FéâDJFODZ CVU BMTF BDIJFWFE B QBSBEJHN  
ESJWFOó+ UP ó+EBUB ESJWFOó+ EFDJTJPO NBLJOH SFE  
TUBOEBSET JO FOHJOFFSJOH TFSWJDFT

1"\*( \$ ESJWFO \*OUFMMJHFOU %FTJHO 'SPN ö \$PODFQUJPO  
5\*"/4 UBLFT UIF MFBE JO BEPQUJOH HFOFSBUJWF BS  
"\*( \$ UFDIOPMPHZ PWFSDPNJOH UIF UFNQPSBM BOE  
PG USBEJUJPOBM FOHJOFFSJOH EFTJHO 5IJT JOOPW  
BQQFBMJOH BOE EFDJTJPO TVQQPSUJOH EFTJHO TPMVUJF  
\*OTUBOUBOFPVT 'BDBEF 3FOEFSJOH 1PXFSFE CZ P  
JOEVTUSJBM BSDIJUFDUVSF TUZMF NPEFM EFTJHOFST P  
QBSBNFUFST BOE TUZMF LFZXPSET BOE UIF "\*" DBO H  
IJHI RVBMJUJZ GDBEF SFOEFSJOHT JO EJWFSTF TUZMFT

5\*/4 .PEFM

JOOPWBUJPO OPU POMZ TIPSUFOT UIF EFTJHO DZDMF CZ PWFS  
BMMPXT DMJFOUT UP DPNQBSF WJTVBM TPMVUJPOT GSPN NVMUJQ  
EVSJOH UIF FBSMZ TUBHF PG UIF QSPKFDU SFBMJ[JOH UIF WJTJ  
UIJOL JT XIBU ZPV TFF6+

4JUF -BZPVU 1MBOOJOH #BTFE PO %SUBMMHFOU %FEVDUJ  
VQPO 5\*/4 FYQFSJFODF GSPN PWFS QSPKFDUT PVS "\*  
GPSNVMBUFT NVMUJQMF TJUF MBZPVU QMBOT BDDPSEJOH UP TJUF Q  
GMPX MPHJD BOE MPHJTUJDT SFRVJSFNFOU #Z NFBOT PG "\* B  
TJNVMBUF MBOE VUJMJ[BUJPO MPHJTUJDT DPTUT BOE FOFSHZ F  
DMJFOUT JO QSPNQUMZ JEFOUJGZJOH PQUJNB MZPVUT UP PQUJN

21SPDFTT \*OUFMMJHFODF #SBJO .BTTJWF %BUB "DDVNVMBUJPO  
1SFDJTF %FDJTJPO .BLJOH

6+1SPDFTT DFOUSJDJUZ6+ DPOTUJUUVUFT UIF DPSF DIBSBDUFSJT  
"\* GVODUJPOT BT B QPUFOU FOHJOF UP BDUJWBUF UIJT DPSF B  
EFWFMPQNFOU 5ISPVHI JO EFQUI BOBMZTJT BOE TUSVDUVSF  
PG QSPDFTT EBUB GSPN PWFS B UIPVTBOE QSFWJPVT QSPKF  
FTUBCMJTIFE BO JOEVTUSZ MFBEJOH 6+1SPDFTT \*OUFMMJHFODF #S

1SPDFTT %BUB "DDVNVMBUJPO BOE"/4OPXMFEHF (SBQI  
IBT EJHJUJ[FE UIF FYQFSUJTF PG PWFS QSPDFTT UFDIOPMP  
BOE FYUFOTJWF FOHJOFFSJOH EBUB JODMVEJOH NBUFSJBM  
DPOTVNQUJPO EBUB FRVJQNFOU TFMFDUJPO QBSBNFUFST FU

BTTFUT BOE USBJOFE TQFDJBMJ[FE WFSUJDBM NPEFMT  
BT èàOF DIFNJDBM FOHJOFFSJOH TZOUIFUJD CJMPHZ BO  
"TTJTU JO %FDJ TJPO .BLJOH "DDFMFSBUJPO %  
GFBTJCJMJUZ TUVEZ BOE DPODFQUVBM EFTJHO TUBHFT  
UP SBQJEMZ QSFEJDU DSVDJBM QSPDFTT QBSBNFUFST B  
PGGFSJOH RVBOUJGJBCMF EBUB TVQQPSU GPS UIF DPNC  
UFDIOJDBM SPVUFT 5IJT FOBCMFT DMJFOUT UP NBLF X  
BOE JNQSPWFT UIF QSPKFDUó,T JNQMFNFOUBCJMJUZ

3\$VTUPNJ[FE 4PMVUJPOT #BTFE PO \*OEVUSZ \*OTJHIUT  
5\*"/4 JOOPWBUJWFMZ JOUFHSBUFT BOE DPOTUSVDUT I

5\*/4 .PEFM

#Z TFBNMFTTMZ JOUFHSBUJOH TUBUF PG UIF BSU "\*" UFD  
5\*/46, QSPGPVOE QSPDFTT BDDVNVMBUJPO MJGFDZDMF &1\$  
JO EVTUSZ TQFDJGJD JOTJHIUT XF BSF MFBEJOH B OFX FOHJOFF  
XIFSF ó+WJSUVBM HVJEFT SFBMJUZ EBUB ESJWFT EFDJTJPO NBLJO

5IF SFRVJSFNFOU GPS (.1 DPNQMJBODF BOE WBMJEBUJ  
BOE JOUFSOBUJPOBM (.1 TUBOEBSSET BOE HVJEFMJ  
GSPN SFMBUFE PSHBOJ[BUJPOT BSF CFDPNJOH JODSFE  
TZTUFNBUJD UIJOLJOH BOE MPOH UFSN QSBDOUJDF 5

a 6 05040502 S S S

a€ a 6 05040502 S S S

a€

5\*/4 .PEFM

PG 6+QPTU FWFOU TVQQMFNFOUBSZ WBMJEBUJPO6+ BOE EFFQMZ JO  
XPSL JOUP FWFSZ QIBTF PG QSPKFDU DPOTUSVDUJPO "EIFSJOH U  
BEWBODFE DPODFQUT TVDI BT \*\$) 2 BOE \*41& \$ 2 UI  
TFSWJDFE BSF UIPSPVHIMZ JODPSQPSBUFE JOUP UIF GPMMPXJOH U  
%FTJHO 1IBTF 1SPBDUJWF \*OUFSWFOUJPO %FéàOJOH 2VBM  
5IF WBMJEBUJPO UFBN QBSUJDJQBUFT GSPN UIF QSPKFD  
QBSUJDJQBUJOH JO BOE SFWJFXJOH UIF EFéàOJUJPO BOE FWBMV  
2VBMJUJ "UUSJCVUFT \$2" T BOE \$SJUJDBM 1SPDFTT 1BSBNFUFS  
CPUI DPNQMJBODF BOE DVTUPNFS OFFET QFSTQFDUJWFT E  
JEFOUJGJDBUJPO PG \$SJUJDBM \$POUSPM &MFNFOUT \$\$&T \$%&T  
UIBU UIF EFTJHO PVUQVU JT WFSJGJBCMF GSPN UIF CFHJOOJO  
GPVOEBUJPO GPS TVCTFRVFOU DPNQMJBODF BOE UIFSFCZ SFEVDJ  
MBUF TUBHF DIBOHFT DBVTFE CZ EFTJHO EFGFDUT CZ BQQSPYJNB  
(&1 1IBTF 2VBMJUJ 0SJFOUFE 4UBOEBSEJ[FE \*NQMFNFOUB  
%VSJOH UIF (PPE &OHJOFFSJOH 1SBDUJDF (&1 QIBTF UIF W  
UFBN BEPQUT B (.1 PVUDPNF ESJWFO BQQSPBDI CZ FTUBCMJ  
RVBMJUJ SFRVJSFNFOUT GPS DSJUJDBM DPOUSPM QPJOUT 5I  
PSJFOUFE NFUIPEPMPHJFT XF TUBOEBSEJ[F DPOTUSVDUJPO BO  
JOTUBMMBUJPO UP FOTVSF UIBU BMM XPSL DPNQMJFT XJUI SFHVI  
5IJT NFUIPEPMPHZ BDIJFWFT B SFEVDUJPO PG PWFS IO 0UH•

%FMJWFSZ BOE 6TBHF 1IBTF 1SPGFTTJPOBM 5F  
)BOEPWFS

1SJPS UP TZTUFN EFMJWFSZ UIF WBMJEBUJ  
TUBOEBSEJ[FE DPNNJTTJPOJOH BOE RVBMJGJDBUJPO  
02 XJUI QSPGFTTJPOBM QSPGJDJFODZ 5IJT FOTVSFT U  
FRVJQNFOU BSF USBOTGFSSFE UP DVTUPNFST JO B T  
TUBUF XIJMF TVQQPSUJOH TVCTFRVFOU QFSGPSNBODF I  
FOTVSF QSPEVDUJPO DPOUJOVJUZ BOE QSPDFTT SFMJBCJ

24ZODISPOPVT 2VBMJæ(DBUJPO GPS &æ\*DJFODZ BOE  
5IF TUSJDU JNQMFNFOUBUJPO PG ó+TZODISPOPVT I  
BT UIF GPVOEBUJPO GPS UIF GVMM MJGFDZDMF DPNQM  
5\*"/4 WBMJEBUJPO UFBN #Z JOUFHSBUJOH WFSJGJDBUJ  
QIBTF PG QSPKFU DPOUSVDUJPO BOE HFOFSBUJOH DP  
SFBM UJNF XF TIPSUFO UIF BWFSBHF QSPKFU DZDMF CZ  
TBWJOH DMJFOUTó, UJNF BOE BVEJU DPTUT

5\*\*/4 .PEFM

6+TZODISPOPVT RVBMJéàDBUJPOó+ % NPEFM

1SPKFDU 1	BTFS\$PSF "DUJWJUJFT	%FMJWFSBCM
6TFS 3FRVJSFNFOU 634	\$PNNVOJDBUF BOE SEWJFX UIF BQQMJDBCJMJU Z BOE DPNQMJBOF PG 634 DMBVTFT	&OTVSF SFRVJSFNFOU EPDVNFOUT NFFU WBMJEBUJPO TUBOEBSSET UP BWPJE TVCTFRVFOU EFWJBUJPOT
%FTJHO 1SPDVSNFOU "5	3FWJFX EFTJHO EPD\$R00SPM EFTJHO BOE BOE ESBXJOHT QBSERDJOEBOUJRVBMJU Z GSPN UIF UFZ FRVJQNFOU TFMFBU\$D0 BOEJNJOBUIJOH JTTVFT BU "5	UIF NBOVGBDUVSJOH QMBOU
\$POTUSVDUJPO *OTUBMMBUJPO	\$POEVDU SFBM UJNF&OTVSF DPOTUSVDUJPO JOTQFDUJPO PG LFD\$R00SPM JUZPOUSPM BOE SFBM FMFNFOU DPMMFDUJBOE EPD FRVJQNFOU EBUB BOE\$PSUJEDMBO FWJEFODF DIBJO SFDPSET	GPS DPOéàSNBUJPO SFQPSUT
\$PNNJTJPOJO 2VBMJéàDBUJPO	-FBE SJTL BTTFTTNFOU 4"5 *2 02 FUD UP FOTVSF FOJFOUJéàD BOE MPHJDBMMZ SJHPSPVT QSPDFTTFT	%FMJWFS B DPNQMFUF BOE OUT %2 DPNQMJBOU WBMJEBUJPO QBDLBHF FOTVSJOH TNPPUI IZTUFN IBOEPWFS BOE SFHVMBUPSZ SFMFBTF

"T UIF ó+GJOBM TUBHFó+ PG &1\$ QSPKFDUT USJBM SVO  
UIF QSPKFDUó,T EFMJWFSBCMFT BOE UIF DMJFOUó,T SFUV  
PO PWFS QSPKFDU JNQMFNFOUBUJPOT BOE NPSF U  
SFWJFXT 5\*"/4 IBT NBEF EVBM CSFBLUISPVHIT JO N  
FYFDVUJPO \*U IBT BDDPNQMJTIFE UIJT CZ FTUBCMJTIOH  
QMBUGPSN BOE TUBOEBSEJ[JOH QSPDFTT SF FOHJOFFS

ESJWFO CZ TUBOEBSEJ[FE QSPDFEVSFT BOE EBUB GBDJMJUBUJO  
 USBOTGPSNBUJPO PG USJBM SVOT GSPN CFJOH ó+SFMJBOU PO FN  
 UP ó+HVBSBOUFFJOH TZTUFN QFSGPSNBODFó+ &WFO XIFO GBDFE X  
 ó+QSPDFTT CMBDL CPYFTó+ JU BMMPXT GPS UIF PCKFDUJWF  
 BTTFTTNFOU PG XIFUIFS UIF UFDIOPMPHZ NFFUT UIF SFRVJSFE TUE  
 \*O B MBSHF TDBMF BOUJJCJUJD QSPKFDU QSF JOUFSWFOUJF  
 SVO WFSJGJDBUJPO QMBUGPSN JEFUJGJFE BOE SFTPMWFE  
 BEWBODF 5IJT SFTVMUFE JO B SFEVDUJPO JO UIF USJBM SV  
 FOBCMFE UIF DMJFOU UP BDIJFWF DPNQMJBODF BOE QSPEVDUJ  
 EBZT BIFBE PG TDIFEVMF

2-JGFDZDMF 4FSWJDF BOE .VMUJEJNFOTJPOBM &NQPXFSNFO  
 5\*/4 JOUFHSBUFT JUT UFTU WBMJEBUJPO UFBN BOE TUBOEBSE.  
 UISPVHIPVU UIF QSPKFDU MJGFDZDMF FOTVSJOH CPUI ó+POF UJNF  
 SVOó+ BOE ó+MPOH UFSN TUBCMF PQFSBUJPOó+  
 1SPDFTT 0QUJNJ[BUJPO BOE 'SBSWJBOQB%FTJHO UIF  
 FWBMVBUJPO EVSJOH UIF QSPDFTT QBDLBHF SFWJFX BOE )";  
 QIBTFT QSFTFOUJOH SFDPNNFOEUBUJPO GPS QSPDFTT TBGFUZ BO  
 PQUJNJ[BUJPO CBTFE PO BDUVBM PQFSBPNQVBMFEZUB 5ISPVHI UI  
 .JMFTUPOF 3FWJFXS4BTU5NO GFFECBDL JT JODPSQPSBUFE  
 NBOEBUPSZ DMPTVSF DSJUFSJPO GPS UIF BOE EFTJHO NPEF  
 FMJNJOBUIJOH EFTJHO EFGFDUT BU UIF TPVSDF

" TUBOEBSSEJ[FE DIFDLMJTU TZTUFN J  
SFWJFX 1 \*%T FRVJQNFOU MBZPVU ESBXJOHT FUD FOT  
BMJHOT XJUI UIF BDUVBM PQFSBUJPOBM BOE NBJOUFOB  
%PVDNFOU 4JHO PGG "VUTIPSOVUBAZFTU BMBU DSJUJDBM I  
NVTU CF DP TJHOFE CZ UIF USJBM SVO WFSJGJDB  
0 . SFRVJSFNFOU JOUP DPOTUSVDUJPO ESBXJOHT  
NPEJéàDBUJPO

1SPDVSNFOU BOE \$POTUSMFDUUBOOJDBTM BHSFFNFO  
TIBMM DMFBSMZ EFéàOF SFRVJSFNFOU GPS PQFSBUJPOB  
UPPMT JODPSQPSBUJOH DPNNJTTJPOJOH BOE PQFSBUJPO  
DMBVTFT JOUP UIF CJEEJOH GSBN#XBOEBSDEDPSE JOH  
5FDIOJDBM 4QFD%QSDUJPODPOTUSVDUJPO USF 4UBOEB  
\$PNNJTTJPOJOH 1\$PDMFEVBFUP TVQFSWJTF JOTU  
DPNNJTTJPOJOH FOTVSJOH UIBU UIF QIZTJDBM DPOTUSVD  
EFTJHO JOUFOU

5SJBM 3VO &YFDVUJPO 15QPS%FMJWFSLZSJBM SVO  
5SJBM 3VO 0QFSBUJPO &YQEVNPSHFMBOZ SFTQPOTF Q  
GPSNVMBUFE %VSJOH U5FSJESM B3W CSVOQFSIBUJPOE .BOVBM  
UIF FYQFSU UFBN DPM MBCPSBUF UISPVHIPVU UP FOTVS  
TNPPUI QSPHSFTT

\*O B WJUBNJO # QSPKFDU JU BDIJFWFE POF UJN  
SVO BDIJFWJOH TUBCMF QSPEVDUJPO XJUIJO POMZ EB  
DPNQMFUJPO XIJDI JT TIPSUFS UIBO UIF JOEVTUSZ BW

5\*/4 .PEFM

35ISFF TUBHF 4ZTUFNBUJD 7BMJEBUJPO &OTVSFT 3FMJBCMF  
5\*/4 JNQMFNFOUT UIF QSPHSFTTJWF QSJODJQMF PG 6+USBOTJ  
TUBOEBMPOF UP TZTUFN JOUFHSBUJPO BOE GSPN OP MPBE UP PQFS  
B UISFF QIBTF WBMJEBUJPO QSPDFTT OBNFMZ TJOHMF NBDI  
DPPSEJOBUE USJBM SVO BOE NBUFSJBM MPBE USJBM SVO JU  
FRVJQNFOU QFSGPSNBODF TZTUFN TZOFSHZ BOE QSPDFTT  
4VQQPSUFE CZ TUBOEBSEJ[FE QSPDFEVSFT BOE FYQFSU  
UISPVHIPVU UIF QSPKFDU BUUBJOT JUT DPSF PCKFDUJWF PG 6+PC  
USJBM SVO BOE MPOH UFSN TUBCMF PQFSBUJPO6+ EFMJW  
EFMJWFSBCMFT UIBU JT QSPEVDUJPO SFBEZ

# 00F UJNF 4VDDFTTGVM 5SJBM 3

---

\*O FOHJOFFSJOH JOEVTUSZ ó+POF UJNF TVDDFTTGVM U  
NFSF QMFEHFT JU SFQSFTFOUT B DPNQSFIFOTJWF BTTF  
TZTUFNT PSHBOJ[BUJPOBM DBQBCJMJUJ5T"/4OE EFMJV  
XBT UIF GJSTU UP TZTUFNBUJDBMMZ JNQMFNFOU UI  
JOEVTUSZ BOE DPOUJOVPVTMZ WBMJEBUFT JU UISPVHI M  
B NPEFM DIBSBDUFSJ[FE CZ FOE UP FOE QSPDFTT DPOUS  
JOUFHSBUJPO BOE MJGFDZDMF FNQPXFSNFOU XF GVC  
DMJFOUTó, VODFSUBJOUJFT SFHBSEJOH QSPEVDUJPO U  
PVUDPNFT \*O EPJOH TP XF IBWF SFEFéàOFE UIF CFODINB  
EFMJWFSZóLQSPQFMMJOH UIF JOEVTUSZ GSPN USBEJUJPO  
IBOEPWFSó+ UP SFTVMUT ESJWFO ó+FéâDJFOU QSPEVDUJPO  
#Z UIF FOE PG 5\*"/4 IBE TVDDFTTGVMZ DPNQ  
TVDDFTTGVM USJBM SVO JO PWFS QSPKFDUT TQBO  
TVDI BT CJPQIBSNBDFVUJDBM éàOF DIFNJDBMT BOE OFX  
FWPMWFE JOUP B SFQFBUBCMF WFSJGJBCMF EFMJWFS  
BDUJWFMZ SFTIBQJOH UIF FOHJOFFSJOH JOEVTUSZ UP  
SFTVMU PSJFOUFE BOE B WBMVF ESJWFO NPEFM PG TVDD

## 3FGFSFODF 1SPKFDUT

---

&YDFMMFODF JT OFWFS BO PWFSOJHIU BDIJFWFNFOU CVU JT  
DPOUJOVPVT JUFBSUJPO BOE SFGJOFE PWFS UJNF #Z UIF FOE  
IBE DPOGSPOUFE DIBMMFOHFT BOE EFMJWFSFE WBMVFT JO PWFS  
FWPMWJOH GSPN BO JOEVTUSZ QBSUJDJQBOU UP B LFZ DIBMMFOH  
B USBJMCMB[FS 5IJT KPVSOFZ WJWJEMZ FNCPEJFT UIF QIJMPTPQIZ  
MFHBDZ JOTQJSJOH JOOPWBUJPO QVSTVJOH QSBDUJDF BOE BTQJ  
ÓLSPPUFE JO IFSJUBHF GPDVTFE PO JOOPWBUJPO EFEJDBUFE UP  
ESJWFO CZ BTQJSBUJPOT

8JUIJO UIJT EFWFMPQNFOUBM GSBNFXPSL FBI QSPKFDU FNC  
UFTUJéàFT UP UIJT QIJMPTPQIZ



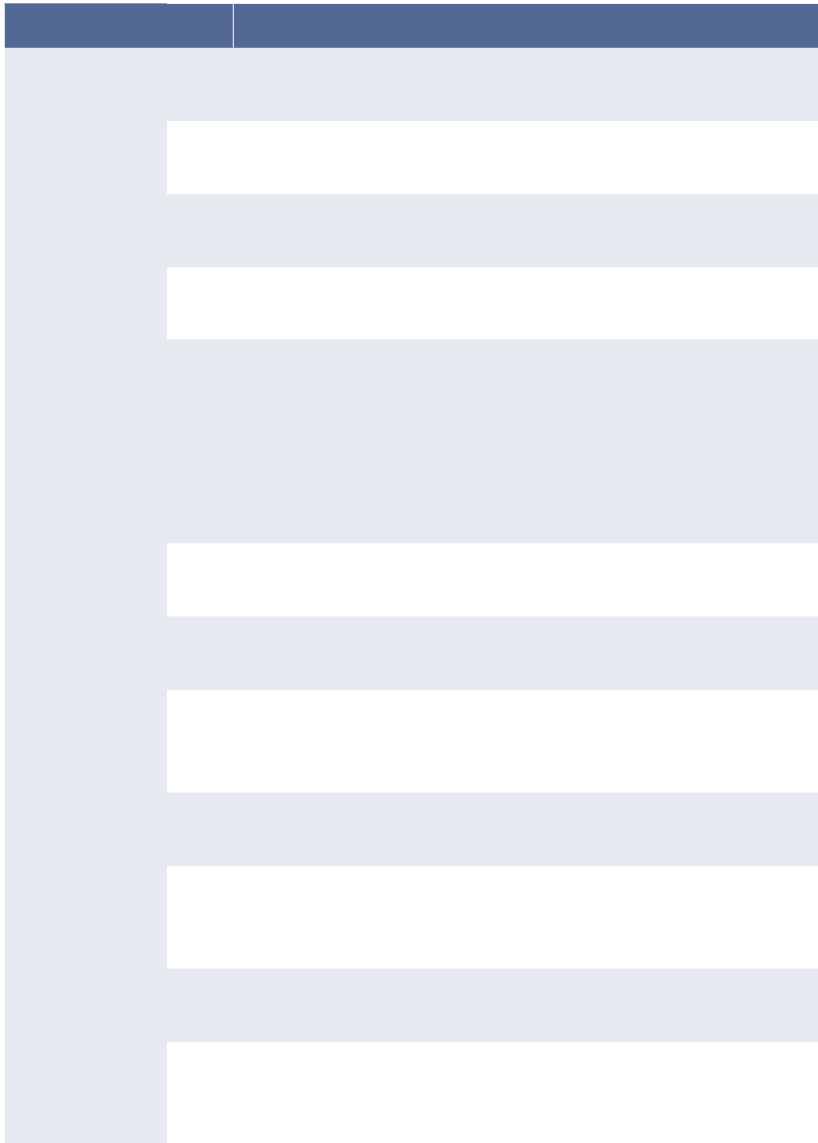
*OEV TUSZP	3FGFSFODF 1SPKF DUT 1BS
'JOF \$IFNJDBMT	+JOHEF[IFO 'VTIJOF -JGF 5FDIOPMPHZ \$P -UE 7JOZMFC \$BSCPOBUF 7\$ &MFDUSPMZUF "EEJUJWFT 1SPKF DU
	)FOBO 1JOHNFJ 4IFONB &MFDUSPOJD /FX .BUFSJBM \$P -UE 7BOBEJVN -JRVJE 'MPX &OF SHZ 4UPSBHF &RVJQNFOU /FX .FEJVN 1SPKF DU
	4IBOEPOH ,FIBO 4JMJ DPO 4PV SDF /FX .BUFSJBM T \$P -UE &MFDUSPOJD HSBEF 4JMJ DPO \$IFNJDBMT 1SPKF DU
	,JOHCPBSE )FOHZBOH *OEV TUSJBM \$P -UE "OOVBM 1SPEVDUJPO PG 5POT PG \$IMPSJOF \$POUBJOJH &MFDUSPOJD (SBEF 4QFDJBMUZ (BTFT 1SPKF DU
	5JBOKJO %JT5IF"MM 5FDIOPMPHZ \$P -UE UPO &MFDUSPOJD (SBEF &RVJQNFOU QSPKF DU
	4IBOEPOH (JOO P /FX .BUFSJBM 5FDIOPMPHZ \$P -UE &MFDUSPOJD HSBEF 0SHBOJD #PSBUF &TUF S 1SPKF DU
	+JOHDIV .FNCSBOF .BUFSJBM :BOHRVBO \$P -UE :BOHRVBO 2VBTJ TPMJE 4UBUF .FNCSBOF 1SPKF DU
	+JBOHYJ %FTJ \$IFNJDBM \$P -UE &MFDUSPOJD \$IFNJDBM 1SPKF DU
4ZOUIFUJD #JPM PHZ	*MJ \$IVBOOJOH #JPUFDIOPMPHZ \$P -UE 'FSNFOUBUJPO "DUJWF 1IBSNBDFVUJDBM *OHSFEJFOUT BOE )JHI FOE "DU 1IBSNBDFVUJDBM *OHSFEJFOUT 1SPKF DU
	:JMJ +JBOHOJOH #JPUFDIOPMPHZ \$P -UE (SFFO \$JSDVM &DPOP NZ *OEV TUSJBM 1BSL 1SPKF DU
	2JOIVBOHEBP ")# #JPF OHJOFFSJOH \$P -UE 4NBMM "NJOP "DJE 1SPKF DU
	#BJZBOOVS ")# #JPUFDIOPMPHZ \$P -UE 4NBMM "NJOP "DJE 1SPKF DU
	"OIVJ ")# #JPUFDIOPMPHZ \$P -UE ** ESJWFO #JPNBOVGBDUVSJOH 3 % BOE 1JMPU %FNPOTUSBUJPO #BTF 1SPKF DU

*OEV TUSZP	3FGFSFODF 1SPKFDUT 1BS
	*OOF S .POHPMJB &11&/ #JPUFDIOPMPHZ \$P -U .POPTPEJVN (MVUBNBUF 1SPKFDU
	,FLFEBMB +JOIBJ #JPUFDIOPMPHZ \$P -UE \$PSO %FFQ 1SPDFTTJOH 1SPKFDU
	7FEBO *OUFSOBUJPOBM 7JFUOBN \$P -UE "N 1SPKFDU
	*OOF S .POHPMJB (VBOHEB -JBOGFOH #JPUFDIO -UE /FX \$POTUSVDUJPO PG #JP CBTFE /FX .BUR 1IBSNBDFVUJDBM *OUFSNFEJBUFT 1SPKFDU
	*OOF S .POHPMJB 753 #JPUFDIOPMPHZ \$P -UE FO[ZNF 1SFQBSBUJPO 1SPKFDU
	\$IJGFOH 1IBSNBDFVUJDBM \$P -UE )POHTIBO # 1SPKFDU
4ZOUIFUJD #JPMPHZ	4IBOYJ +JOC P #JPNFEJDBM \$P -UE *OEV TUSJ 1SPKFDU PG 5ZQF *** )VNBO \$PMMBHFO
	1PMZXBZ -JBOZVOHBOH #JPUFDIOPMPHZ \$P - /FX UPO T ZFBS 4USBX CBTFE #JPTZOUIFTJ *OEV TUSJBMJ[BUJPO 1SPKFDU
	4IFOHUBJ #JPUFDIOPMPHZ \$P -UE PG 'VGFOH ,B[BLITUBO #JPUFDIOPMPHZ *OEV TUSJBM 1BSL
	\$BUIBZ #JPUFDIO,T 'FSNFOUBUJPO \$POUJOVPVT 1SPKFDUT BU JUT +JOYJBOH 8VTV BOE 5BJZVE
	;IBPRJOH 4UBS -BLF #JPUFDIOPMPHZ \$P -UE GVODUJPOBM 'FSNFOUBUJPO 1JMPU 1MBUGPSN
	8VIBO (SBOE )PZP \$P -UE "NJOP "DJE *OEV TU \$POTUSVDUJPO 1SPKFDU
	"OHFM :FBTU \$P -UE &O[ZNF 1SFQBSBUJPO 1S
	#MPPNBHF #JPUFDIOPMPHZ \$P -UE -JGF )FBM 1BSL 1SPKFDU

*OEV TUSZP	3FGFSFODF 1SPKFDUT 1BS
4ZOUIFUJD #JPM PHZ	8BOIVB \$IFNJDBM 4JDIVBO \$P -UE 'FSNFOUBUJPO 1SPKFDU
	)FJMPOHKJBOH :JIFOH #JPUFDIOPMPHZ \$P -UE "OOVBM 1SPEVDUJPO PG UPO ,FZ 5FDIOPMPHZ /FX &O[ZNF 1SFQBSBUJPO 1SPKFDU
	'PSUVOF 1IBSNBDFVUJDBM 5BJYJOH \$P -UE /FX 1SPEVDUJPO #BTF 1SPKFDU
	)FOHUPOH *OOF S .POHPMJB #JPUFDIOPMPHZ \$P -UE 4NBMM 7BSJFUZ "NJOP "DJE *OEV TUSJBM #BTF 1SPKFDU
	/BOKJOH #JPUPHFUIFS #JPUFDIOPMPHZ \$P -UE 3FTFBS BOE *OEV TUSJBMJ[BUJPO 1SPKFDU PO )JHI &àDJFODZ /VDMFPUJEF #JPTZOUIFTJT 5FDIOPMPHZ
	\$IBOHEF &DPOP NJD BOE 5FDIOPMPHJDBM %FWFMPQNFOU ;POF %FWFMPQNFOU BOE \$POTUSVDUJPO #VSFBV 4ZOUIF #JPM PHZ .BOVGBDUVSJOH 1JMPU 5SBOTGPSNBUJPO #BTF 1SPKFDU
	)FOBO .VZVBO "OMJBOH 4ZOUIFUJD #JPUFDIOPMPHZ \$P -UE UPOT ZFBS 4ZOUIFUJD #JPM PHJDBM 1SPEVDUT 1SPKFDU
	*OOF S .POHPMJB ;IPOHNV #JPM PHJDBM 1IBSNBDFVUJDBM \$P -UE %FNPOTUSBUJPO 1SPKFDU PG *OOPWBUJPO ESJ *OEV TUSJBM \$IBJO 6QHSBEF PG .BDSPMJEF
	9JOKJBOH :JMJIPOH #JP /FX .BUFSJBM 5FDIOPMPHZ \$P -UE UPOT ZFBS "HSJDVMUVSBM #Z QSPEVDUT %FFC 1SPDFTTJOH BOE \$PNQSFIFOTJWF 6UJMJ[BUJPO 1SPKFDU
	:J :J 9JOH )VB #JPUFDIOPMPHZ \$P -UE *OUFHSBUFE 1SPKFDU PG "DUJWF 1IBSNBDFVUJDBM *OHSFEJFOUT BOE 'PSNVMBUJPOT
	4IFOZBOH #PUBJ #JPQIBSNBDFVUJDBM \$P -UE 4UFSPJE )PSNPOF 1SPKFDU
	4IBOEPOH +JOOVP 1IBSNBDFVUJDBM \$P -UE 4ZOUIFUJD #JPM PHZ *OOPWBUJPO #BTF 1SPKFDU

*OEVUSZP	3FGFSFODF 1SPKFDT 1BS
#JPQIBSNB DFVUJDBM	(VBOH[IPV #FPOF #JPQIBSNBDFVUJDBM \$P -UE "%\$ %4 8PSLTIPQ 1SPKFDT /BOZVBO 1BSL
	#FPOF 4IBOHIBJ 1IBSNBDFVUJDBM 3 % \$P -U 4IBOHIBJ *OOPWBUJPO \$FOUFS 1SPKFDT
	#JPNFEJDBM 5FDIOPMPHZ 5SBOTGFS BOE 5SBOT \$FOUFS (VBOH[IPV \$P -UE 1SPKFDT
	\$IJBUBJ 5JBORJOH 1IBSNBDFVUJDBM (SPVQ \$P FOE \$PNQSFIFOTJWF 1SFQBSBUJPO 8PSLTIPQ 1
	-WZF +JB6,BP 1IBSNBDFVUJDBM 4IJKJ[IVBOH \$P 3FDPNCJOBBOU BOE %SVH 3 % 1SPEVDUJPO #BTF
	'PTVO "OUJHFO \$IFOHEV #JPQIBSNBDFVUJDBM \$P -U *OOPWBUJWF 7BDDJOF )FBERVBSUFST BOE *OEVUSJBI 1SPKFDT
	4IFO[IFO )FQBMJOL 1IBSNBDFVUJDBM (SPVQ \$P /FX 1SFQBSBUJPO -JOF 1SPKFDT BU 1JOHTIBO '
	4IBOHIBJ 5PQBMMJBODF #JPTDJFODF &OHJOFFS /FX 1JMPU 1MBOU \$POTUSVDUJPO 1SPKFDT BU
	)VCFJ (SBOEQIBSNB :POHTIFOH 1IBSNBDFVUJDB -UE 1SFQBSBUJPO 'BDUPSZ \$POTUSVDUJPO 1S
	(VBOH[IPV *OOPDBSF 1IBSNBDFVUJDBM 5FDIOPM \$P -UE \$POTUSVDUJPO 1SPKFDT PG "OUJ \$BO 1SPEVDUJPO #BTF
	4IJIVJEB 1IBSNBDFVUJDBM (SPVQ +JMJO \$P 1SPEVDUJPO 'BDJMJUZ GPS #JPMPHJDT 1SPKFDT
	4V[IPV +VXFJ #JPUFDIOPMPHZ \$P -UE .JMM ZFBS )VNBO 7BDDJOF 1SPKFDT
	)BOH[IPV %"\$ #JRMUFDZ CSP -UEH" UV PE
	+@ ODV 7BOHVBSU 1IBSNBDFVUJDBM \$P -UE

5\*"/4 .PEFM



*OEV TUSZP	3FGFSFODF 1SPKF DUT 1BS
\$IFNJDBM 1BSNBDFVUJDBM	4IBOEPOH -VLBOH 1BSNBDFVUJDBM \$P -UE \$ )VNBO 4ZOUIFUJD "DUJWF 1BSNBDFVUJDBM *OH 5FDIOPMPHZ 6QHSBEF 1SPKF DU
	;IVIBJ 6OJUFE -BCPSBUPSJFT \$P -UE (BPMBO 1SPEVDUJPO #BTF 1SPKF DU
	\$IFOHEV .JDSPDIJQ 1BSNBDFVUJDBM \$P -UE *OOPWBUJWF %SVH .BOVGBDUVSJOH #BTF 1SPK
	)VBOHHBOH )VNBOXFMM 1BSNBDFVUJDBM \$P *OEV TUSJBMJ[BUJPO 1SPEVDUJPO #BTF 1SPKF D /FX BOE 4QFDJBM "DUJWF 1BSNBDFVUJDBM *OH
	+JBOHTV 4JOPQFQ "PTBJOVP #JPQIBSNBDFVUJD \$POTUSVDUJPO 1SPKF DU PG 1FQUJEF "DUJWF 1 *OHSFEJFOU 8PSLTIPQ
	'VKJBO (FOIPQF #JPUFDI \$P -UE "1* 1JMPU 1 BOE 1BSNBDFVUJDBM *OEV TUSJBMJ[BUJPO #BT 1FQUJEF *OEV TUSJBM 1BSL 1SPKF DU
	4JDIVBO %VPSVJ 1BSNBDFVUJDBM \$P -UE )JH 1FQUJEF #JPQIBSNBDFVUJDBM *OEV TUSZ #BTF
	)JTVO 1BSNBDFVUJDBM )BOH[IPV \$P -UE 'V #BTF 1SPKF DU
	5JBOLF +JOH[IPV 1BSNBDFVUJDBM \$P -UE ( ) 1BSNBDFVUJDBM *OEV TUSZ #BTF 1SPKF DU
	1BSNBSPO 4IBPYJOH 1BSNBDFVUJDBM \$P -U "DUJWF 1BSNBDFVUJDBM *OHSFEJFOU 1SPKF DU
	#FUUB 1BSNBDFVUJDBM 4IFOH[IPV \$P -UE * %SVH *OEV TUSJBMJ[BUJPO #BTF 1SPKF DU
	)VBEOH .FEJDJOF 9J6,BO #PEZHV BSE 1BSNB \$P -UE \$POTUSVDUJPO 1SPKF DU PG /FX #BTF 1BSNBDFVUJDBM *OHSFEJFOUT BU UIF 1BSNB %JWJTJPO

5 \* " / 4 . P E F M



*OEV TUSZP	3FGFSFODF 1SPKFDUT 1BS
'PPE )FBMUI	5JBOKJO .PEFSO *OOPWBUJPO 5SBEJUJPOBM \$IJOFT 4DJFODF BOE 5FDIOPMPHZ \$P -UE *OOPWBUJPO \$P GPS .PEFSO 5SBEJUJPOBM \$IJOFTF .FEJDJOF .BOVGR
	&UTPOH 2JOHEBP *OEV TUSJBM \$P -UE 'MBW 'SBHSBODF 1SPEVDUJPO -JOF 1SPKFDU
	'PTIBO .BJ %JBO 'PPE \$P -UE 5VSOLFZ 1SPKF 'MBWPSJOH BOE 4FBTPOJOH 1SPDFTT
	)VCFJ )PODI 1BSNBDFVUJDBM \$P -UE "OUJ UVNPS 1SFQBSBUJPO BOE 1MBOU &YUSBDUJPO 1SPDFTTJOH
	(VBOHYJ 8F)BOE 1BSNBDFVUJDBM \$P -UE \$PO 1SPKFDU GPS *OUFMMJHFOU 5SBEJUJPOBM \$IJC 1SPEVDUJPO -JOF
	#BPEJOH 8BZDIFJO 'PPE 5FDIOPMPHZ \$P -UE *NQSPWFNFOU 1SPKFDU GPS 4FBTPOJOH .BUFS.
	:JDIBOH )VBNBOXFMM 1BSNBDFVUJDBM \$P -UE OSBM /P 5IJSE 8PSLTIPQ 4ZSVQ *OHSFEJFOU 4ZTU
	8FJMPOH %FMJDJPVT (MPCBM )PMEJOHT \$P -U 0JM 5VSOLFZ 1SPKFDU
	4JDIVBO \$POXFF 'PPE \$P -UE #BTF 0JM BOE 8B 3FDPWFSZ BOE 5SFBUNFOU 4ZTUFN 1SPKFDU
	9JBNFO 5PCBDDP *OEV TUSJBM \$P -UE 1VSDIBTF P &RVJQNFOU BOE 4VQQPSUJOH *NQMFNFOUBUJPO 1S

5 \* " / 4 . P E F M

#Z QPTJOH DSJUJDBM RVFTUJPOT UP VODPWFS JOO  
FTUBCMJTIJOH TUSVDUVSFE QBUIXBZT UP FOBCMF U  
UIF 5\*"/4 .PEFM XJMM DPOUJOVF UP FNCPEZ UIJT BEWE  
JOEVTUSJBM FWPMVUJPO \*U ESJWFT UFDIOPMPHJDBM





