

* \$'5, /(&785(6(5,(6 \$7 '35, .<272 81,9(56,7< -

3URI \$QGUHZ
&ROOLQV /HDGHU
'LVDVWHU DQG
'HYHORSPHQW
1HWZRUN
1RUWKXPEULD
8QLYHUVLW\
1HZFDVWOH 8QLWHG
.LQJGRP

\$QGUHZ &ROOLQV LV 3URIHVVRU LQ 'LVDVWHU DQG
'HYHORSPHQW 'HSDUWPHQW RI *HRJUDSK\ %H\RQG
UHVHDOUFK ORFDO WHDFKLQJ DQG PDQDJHPHQW
UHVSQRQVLELOLWLHV KH UHSUHVHQWV GLVDVWHU
GHYHORSPHQW DQG KHDOWK UHODWHG LQLWLDWLYHV
LQWHUQDWLRQDOO\ %H\RQG KLV UHJXODU UHVHDOUFK
WHDFKLQJ DQG PDQDJHPHQW UHVSQRQVLELOLWLHV KH
UHSUHVHQWV GLVDVWHU GHYHORSPHQW DQG KHDOWK



*\$'5, UG 2SHQ 'LVFXVVLRQ)RUXP
& KDQJLQJ ([SHFWDWLRQV RI 1DWXUDO +D
5HFHQW 'LVDVWHUV
'35, .\RWR 8QLYHUVLW\ .\RWR -DSDQ RQ

VVRQV H x%VN FW@ LYñ™oLYñ' Dp LQWHG ZKDW KDYH QRW FKDQJHG RY°(

7KH *\$'5, UG 2SHQ 'LVFXVVLRQ)RUXP WRRN
SODFH DW WKH &ROODERUDWLYH 5HVHDUFK +XE
&RQIHUHQFH +DOO 'LVDVWHU 3UHYHQWLQ
5HVHDUFK ,QVWLWXWH '35, .\RWR 8QLYHUVLW\ 8ML
&DPSXV .\RWR -DQHDEOUURQW\

7KH 2SHQ 'LVFXVVLRQ)RUXP LV RUJDQL]HG

- x WR LQWURGXFH *\$'5, DFWLYLWLHV DQG WKH PHPEHUV RI *\$'5, %RDUG RI 'LUHFWRUV
- x WR IDFLOLWDWH GLVFXVVLRQ EHWZHHQ *\$'5, PHPEHUV DQG LPSRUWDQW VWDNHKROGHUV LQ GLVDVWHU ULVN UHGXFWLRQ DQG
- x WR ILQG GLUHFWLRQV IRU *\$'5, WR SURFHHG LQ WKH QH[W IHZ DQDUSURYLGH RSSRUWXQLW\ IRU SDUWLFLSDQWV WR LQWHUDFW ZLWK WKH SUHVHQWHUV

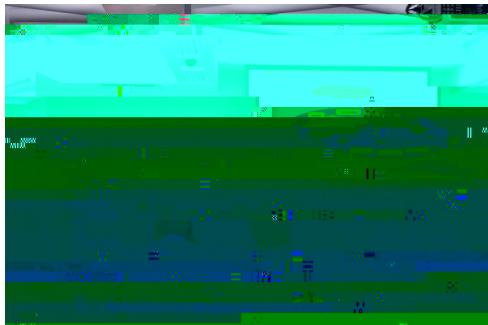
7KH UG 2SHQ 'LVFXVVLRQ)RUXP IRFXVVHG RQ WKH &KDQJLQJ ([SHFWDWLRQV RI 1DWXUDO +D]DUGV /HVVRQV IURP 5HFHQWKHLPWDVRW HWWKH VHVVLRQ GLVFXVVHG DERXW QFKDQJLQJ KD]DUGV FKDUDFWHULVHG EULHIO\ ZKDW DUH WKH FKDQJHV DQG

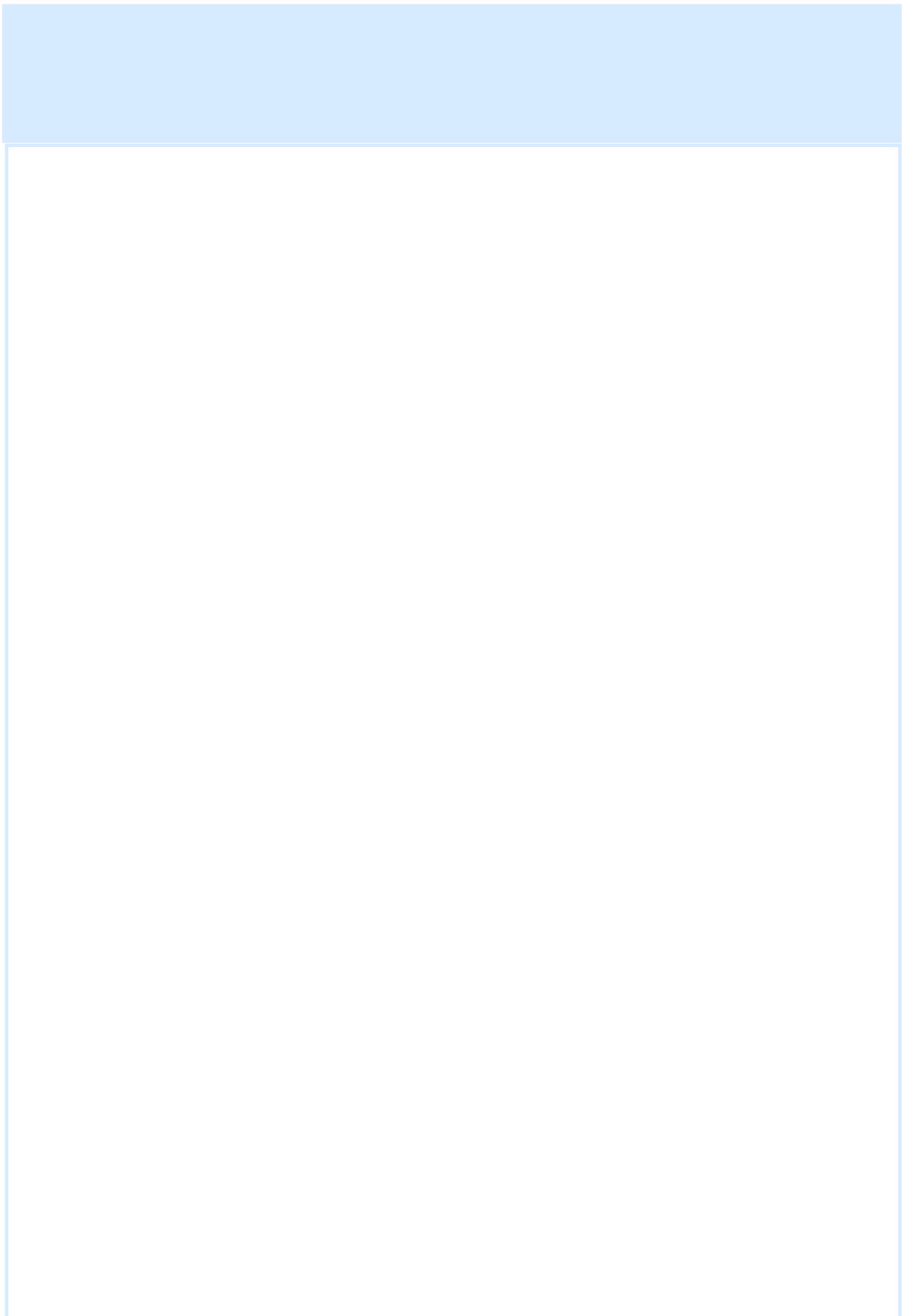
x , Q WKH DUHD IORRG PDQDJHPHQW DQG HVSHFLDOO\ LQ WKLV FDVH GDP F-RQXWLLQJF WLRQ HWF WKH SDVW IHZ GHFDGHV ZH KDYH HQFRXQWHUHG ZLWK PDQ\ FKDQJHV)HZ IDFWRUV WKDW KDYH JUHDWO\ FRQWULEXWHG DUH WKH OLPLWDWLRQ RI EXGJHW DQG KXPdq UHVRXUFHV :LWK WKH ,QWHUQHW SHRSOH KDYH HDV\ DFFHVV WR LQIRUPDWLRQ DQG FRPPXQLFDWLRQ DPRQJ WKH UHVHDUFKHUV DQG GHFL-VPLRNQHUV KDYH EHFRPH VFDUFH HVSHFLDOO\ ZKHQ GHFLVLRQV DUH FRQFHUQLQJ PXOWLDNH KROGHUGM VDFQLS OPLXQODWLHV ,Q WKH SDVW LI LW LV D SUREOHP LQ HQJLQHHULQJ D GHFLVLRQ FRXOG EH UHDFKHG MXVW E\ FRQVXOWLQJ WKH VSHFLDOLVW RI ULYHU PDQDJHPHQW RU ULYHU HQJLQHHULQJ 1RZ ZLWK DGPLQLVWUDWLRQV WKHUH DUH VR PDQ\ OLPLWDWLRQV DQG PDQ\ DGPLQLVWUDWLYH FRQVWUDLQWV \$QRWKHU IDFWRU LV FRPPXQLFDWLRQ ZLWK WKH ORFDO SHRSOH ZKR DUH UHVGLLQJ LQ WKH DUHDV DIIHFWHG E\ WKH GLVDVWHU DQG LW LV LPSRUWDQW WR XQGHUVWDQG WKH VLWXDWLRQ IURP WKHLU VWDQGSRLQW 7KH\ GR KDYH PXFK LPSRUWDQW LQIRUPDWLRQ WKDW DUH XVHIXO IRU UHVHDUFK WRR *OREDO LQLWDWLYHV VXFK DV WKH 6HQGDL)UDPHZRUN WKHUHIRUH DUH OHHGHG WR JULS RQ VXFK FRPPXQLFDWLRQV DQG VKDUH GDWD

x 5HJDUGLQJ WKH FKDQJLQJ QDWXUH RI GLVDVWHU DQG KD]DUGV E\ ZWDIKOYDHOVHHQ VHULRXV KD]DUGRXV GLVDVWHUV FDXVHG E\ KHDY\ UDLQIDOO :H KDYH VHHQ JUDGXDO RU VRPHWLPH UDSLG FKDQJHV GXH WR FOLPDWH FKDQJH)RU H[DPSOH ZH KDYH H[SHULHQFHG DQG VHHQ DQ LQFUHDVH LQ UDLQIDOO LQWHQVLW\ LQFUHDVH LQ WRWDO

x 2Q FKDQJLQJ H[SHFWDWLRQV RI QDWXUDO
KD]DUGV LQ D FHUWDLQ ZD\ LW LV QRW EHFDXVH RI
WKH KD]DUG LWVHOI WKDW KDV FKDQJH EXW DOVR
GXH WR FOLPDWH FKDQJH 3HUKDSV FOLPDWH
FKDQJH LV DJJUDYDWLQJ FHUWDLQ QDWXUDO
KD]DUGV %XW D ORW RI LW GHSHQGV RQ PRUH
H[SRVXUH FRPSOLF\ LQWHUFRQQHFWHGQHV
DQG LQWHUGHSHQGHQW LQFOXGLQJ VRFLDO PHGLD
DQG VRFLDO QHWZRUN DQG FRQQHFWLW\)RU
H[DPSOH ZLWK WKH VRFLDO PHGLD SHRSOH DUH
PRUH DZDUH RI ZKDW LV KDSSHQLQJ
HYHU\ZKHUH ,W LV HDV\ WR VSUHDG WUXH RU
IDOVH SDQLF DV ZH KDYH VHHQ QRZ DERXW WKH
FRURQD YLUJV

x \$QRWKHU LPSRUU KDSSHQLQJ





OHPEHUV RI WKH *\$'5, %RDUG RI 'LUHF

1DPH

7HUP

,QVWLWXWH

(XURSH DQG \$IULFD

3URI 2UWZLQ 5HQQ \$SULO

WR

ODQFLWXWH IRU \$GYDQFHG 6XVWUDQDELOLW\ 6

'U =LWD 6HEHVYDU\$SULO

WR

8OLWHG 1DWLRQV 8QLYHUVLW\ ,QVWLWXWH IRU
6HFXULW\ 818

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7KHOREDO \$OOLDQFH RI 'LVDVWHU 5HVHDFK ,QVWLWXWHV
* \$'5, SURPRWHV D FROODERUDWLYH SODWIRUP IRU
VKDUHG NQRZOHGJH DQG QHWZRUNLQJ RQ WRSLFV
DVVLVWLQJ GLVDVWHU ULVN UHGXFWRQ DQG UHVLOLHQFH
ZKHUHE\ FRPELQDWLRQV RI UHVHDFK JURXSV DURXQG
WKH ZRUOG EHFRPH PRUH LQIOXHQWLDO E\ SXOOLQJ
WRJHWKHU

7KH FXUUHQW &DQGHPLF GHPRQVWUDWHV
DQHZ WKH LQWHUFRQQHFWHG DQG V\VWHPLF QDWXUH RI
ULVNV DQG RQJRLQJ XQFHUWDLQWLHV DIIHFWLQJ DOO
VRFLHWLHV LQ HYHU\ SDUW RI WKH ZRUOG 7KH *\$'5,
%RDUG RI 'LUHFWRUV DQG 2WKH \$GYLVRU\ %RDUG
UHSUHVHQWLQJ D PHPEHUVKLS RI RYHU GLVDVWHU
UHVHDFK LQVWLWXMHFRQZLRVHO GWKGIH
FKDOOHQJHV IRU LPSURYHG VFLHQFH QVUP ðO` V 5 GLà ‡YS(A'ëñ™o VC@I&

(Y L G H Q F H & \$ R Y G L G

(YLGHQFH \$120,' HYLGHQFH FROOHFWLRQ
KWWSV ZZZ HYLGHQFH-FLRGYIRGJJ FRURQDYLUXV
-HYLGHQFHFORFOOHFORZQFRQWDLQV PRUH WKDQ

,Q PRVW LQGLYLGXDOV DQG FRPPXQLWLHV KDYH
EHHQ LPSDFWHG E\ W-KHSJDOQRGEHDPL & 29Q'
VRPH ZD\ ,Q DGGLWLRQ WR GDLO\ XSGDWHV DQG WROOV
WKHUH KDV EHHQ DQ DEXQGDQFH RI LQIRUPDWLRQ DGYLFH
DQG UHFRPPHQGDWLRQV RQ KRZ WR UHGXFH YLUDO
WUDQVPLVVLRQ DQG H[SRVXUH \$OWKRXJK YDULDEOH
FRQWURO DQG VXSSRUW PHDVXUHV KDYH EHHQ GHYHORSHG

8QGHU * \$'5, %RRN 6HULHV 3WKBVWLHUW W5L~~E~~RNRN
5HGP

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* \$ ' 5 , % 2 2 . 6 (5 , (6

' H H S H Q L Q J W K H 8 Q G H U V W D Q G L Q J R I
5 L V N V \$ W P R V S K H U L F - D Q G + \ G U R
P H W H R U R O R J L F D O ' L V D V W H U V
% : H L

7KH *OREDO \$OOLDQFH RI 'LVDVWHU 5HVHDUFK
,QVWLWXWHV *\$'5, ZDV HVWDEOLVKHG LQ 0DUFK
WR VXSSRUW WKH LPSOHPHQWDWLRQ RI WKH 6HQGDL
)UDPHZRUN IRU 'LVDVWHU -5LVN 5HGXFWLRQ
6)'55 DQG WKH ZRUN RI WKH 6FLHQWLILF DQG
7HFKQLFDO \$GYLVRU\ *URXS RI WKH 8QLWHG 1DWLRQV
2IILFH IRU 'LVDVWHU 5LVN 5HGXFWLRQ 81'55
6LQFH 0DUFK *\$'5, PHPEHUVKLS KDV
H[SDQGHG WR H[FHHG LQVWLWXWLRQV
*\$', 6HFUHWDULDW LV FXUUHQWO\ KHDGTXDUWHUHG DQG
KRVWHG E\ WKH 'LVDVWHU 3UHYHQWLRQ 5HVHDUFK
,QVWLWXWH '35, .\RWR 8QLYHUVLW\ .\RWR -DSDQ
*\$', PHPEHUVKLS LV IUHH DQG FRPSOHWHO\
YROXQWDUE\ DQGLQRQ
7R MRLQ *\$'5, SOHDVH FRQWDFW WKH *\$'5,
6HFUHWDULDW
VHFUHW\ DQGLQRQ

*OREDO \$OOLDQFH RI 'LVDVWHU 5HVHDUFK
6HFUHWDUL 'ën ^q •2IQ.~ ~ ÉÍÉP€ L70P0 OOP0PDH