

$$\begin{matrix} & S \\ V & \alpha \\ & D \end{matrix}$$

$$\begin{matrix} Ca & ad & a \\ & ab \end{matrix}$$

D... M... P...  
P... Q...  
S... T...

/LEUDU\ DQG \$UFKLYHV &DQDG D &DW DORJXLQJ LQ 3)  
\$LNHQ \$OLF H  
6XSSRUWLQJ &DQDG LDQ YHWHUDQV ZLWK GLVD  
EHQHÀWV \$OLF H \$LNHQ DQG \$P\ %XLWHQKXLV  
7KH &OD[WRQ SD SHUV ;  
, QFOXGHV ELEOLRJUDSKLFDO UHIUHQFH V  
, 6%1  
'LVDEOHG YHWHUDQV³ 3HQVLRQV³ &DQDG D ,  
,, 4XHHQ·V 8QLYHUVLW\ .LQJVWRQ 2QW 'HIHQFH  
,, &DQDG LDQ ,QVWLWXWH IRU 0LOLWDU\ DQG 9HW H  
9 6HULHV &OD[WRQ SD SHUV  
8% & \$ . &

&RS\ULJKW < 'HIHQFH 0DQDJHPHQW 6WXGLHV 3URJUD  
6FKRRO RI 3ROLF\ 6WXGLHV 4XHHQ·V 8QLYHUVLW\ .

7KH &OD[WRQ 3DSHUV

7KH 4XHHQ·V 8QLYHUVLW\ 'HIHQFH 0DQDJHP  
OLVKHG ZLWK WKH VXSSRUW RI WKH ~~I~~QQR~~D~~GL  
'1' LV LQWHQGHG WR HQJDJH WKH LQWHUHVY

YL7KH &OD[WRQ 3DSHUV

VFKRODUVµ LQWR DQ DWWUDFWLYH UHDGDE  
6DOVEXU\ IRU KHU XQÁDJJLQJ JRRG VSLULWV  
RI 'HIHQFH 0DQDJPHHQW 6WXGLHV

7KH &KDLU LQ 'HIHQFH 0DQDJPHHQW 6WXG  
6WXGLHV LV VXSSRUWHG LQ SDUW E\ D JUDQW  
PHHQW RI 1DWLRQDO 'HIHQFH ZLWKLQ WKH 6HF

'RXJODV / %ODQG

&KDLU 'HIHQFH 0DQDJPHHQW 6WXGLHV 3U  
6FKRRO RI 3ROLF\ 6WXGLHV 4XHHQ·V 8QLY  
.LQJVWRQ &DQDGD

\$XWKRUUV. \$FNQRZOHGJH

7KH DXWKRUUV ZRXOG OLNH WR WKDQN WKH  
DELOLW\ 3ROLF\ \$OOLDQFH ZZZ GLVDELOLW\ S  
FRQVXOWDWLRQ WLPH DQG HQHUJ\ QRW WR  
WKH IRUHVLJKW DQG WKRXJKW RI WKLV FRDOL  
SROLF\ UHVHDUFK VXFK DV WKLV PRQRJUDSK  
KRSH WKDW FKDQJH FDQ RFFXU IRU SHUVRQ  
ODQGVFD SH LQ WKH IRUP RI D 1DWLRQDO 3RC

7KH DXWKRUUV ZRXOG DOVR OLNH WR WKDQN  
LQ GHYHORSLQJ DQG UHYLHZLQJ WKH KHDOWK  
-LP 0DUWLQ IRU KLV LGHDV DQG GLUHFWRQ

7KDQN \RX WR 'U 'RXJODV %ODQG IRU KLV  
VKLS LQ SXUVXLQJ WKLV SURMHFW DQG WKD  
0DQDJPHHQW 6WXGLHV IRU \RXU VXSSRUW

)LQDQFLDO VXSSRUW ZDV SURYLGHG E\ 4XH  
(PSOR\PHHQW 3URJUDP 6:(3

)XQGLQJ IRU WKLV UHVHDUFK ZDV JHQHUR  
HQFH V DQG +XPDQLWLHV 5HVHDUFK &RXQFLO  
WKURXJK WKHLU &RPPXQLW\ ² 8QLYHUVLW\ 5H

\$OLF H \$LNHQ

\$P\ %XLWHQKXLV

7DEOH RI &RQWHQWV

7DEOHV DQG )LJXUHV

L[

\$EVWUDFW

[L

&KDSWHLFNJURXQG

3HQVLRQ \$FW

1HZ 9HWHUDQV &KDUWHU

&KDQJHV WR WKH 1HZ 9HWHUDQV &KDUW

+LVWRU\ RI 7UHDWPHQW RI 9HWHUDQV

+LVWRU\ RI

A

K#P 1 & °@ €U D° ` P4K

KBE T `& K@ €UD° ` P4K

YLL\KH &OD[WRQ 3DSHUV

6HQVLWLYLW\ \$QDO\VHV 6XPPDUL]HG  
/LPLWDWLQRQV  
)XWXUH 'LUHFWLRQV

&KDSW&HRUQFOXVLRQV

# 7DEOHV DQG )LJXUHV

7DEOH \$VVXPSWLRQV PDGH DERXW WKUHH  
7DEOH 'HVFULSWLRQ DQG UDWLQRQDOH IRU  
H[FOXVLRQ RI SURJUDPV DYDLODEOH WKURXJ  
7DEOH 'HVFULSWLRQ DQG UDWLQRQDOH IRU  
SURJUDPV DYDLODEOH WKURXJK WKH 1HZ 9HW  
7DEOH 'HVFULSWLRQ RI SURJUDPV QRW RIIH  
&DQDGD DQG UHDVRQV IRU H[FOXVLRQ  
7DEOH 9DULDWLRQ RI FDVH VWXG\ YDULDEC  
7DEOH \$JH GLVWULEXWLRQ RI YHWHUDQV E  
9HWHUDQV &KDUWHU  
7DEOH 'LVWULEXWLRQ RI GLVDELOLW\ DVVH  
WKH 1HZ 9HWHUDQV &KDUWHU ZKR KDYH UHF  
7DEOH 6DODULHV FRUUHVSZRQGLQJ WR YDUI  
)RUFHV  
7DEOH 0DULWDO VWDWXV RI YHWHUDQV VH  
&KDUWHU  
7DEOH 1HW SUHVHQW YDOXH RI WKUHH FD  
9HWHUDQV &KDUWHU WR 3HQVLRQ \$FW  
7DEOH 7KH LQFUHDVH LQ QHW SUHVHQW YI  
IRU WKH 3HQVLRQ \$FW DQG WKH 1HZ 9HWHUD  
7DEOH 7KH LQFUHDVH LQ QHW SUHVHQW YI  
3HQVLRQ \$FW DQG WKH 1HZ 9HWHUDQV &KDU  
7DEOH 1HW SUHVHQW YDOXH IRU WKUHH FD  
IDPLO\ VWDWXVHV  
7DEOH 7KH LQFUHDVH LQ QHW SUHVHQW YI  
XQGHU WKH 1HZ 9HWHUDQV &KDUWHU

[ 7KH &OD[WRQ 3DSHUV

7DEOH 7KH LQFUHDVH LQ QHW SUHVHQW YI  
GLVDELOLW\ DVVHVVPHQW IRU WKH 3HQVLRQ  
&KDUWHU

7DEOH \$GMXVWPHQWV WR 9\$& SHQVLRQV IF

)LJXUH &RPSDULQJ WKH QHW SUHVHQW YDC

)LJXUH %UHDNGRZQ RI SURJUDPV PDNLQJ X  
RI WKH 3HQVLRQ \$FW DQG WKH 1HZ 9HWHUDQ  
WKH \HDU ROG FRUSRUDO

)LJXUH %UHDNGRZQ RI SURJUDPV PDNLQJ X  
RI WKH 3HQVLRQ \$FW DQG WKH 1HZ 9HWHUDQ  
WKH \HDU ROG VHUJHDQW

)LJXUH %UHDNGRZQ RI SURJUDPV PDNLQJ X  
RI WKH 3HQVLRQ \$FW DQG WKH 1HZ 9HWHUDQ  
WKH \HDU ROG FDSWDLQ

)LJXUH 7KH DPRXQW RI WKH QHW SUHVHQW  
DQG WKH 19& SDLG WR YHWHUDQV EHIRUH DQ

)LJXUH 1HW SUHVHQW YDOXH RI HDFK FDVH  
GHDWK

)LJXUH 1HW SUHVHQW YDOXH RI HDFK FDVH  
FKLOGUHQ

)LJXUH 9DU\LQJ WKH UDQN DW UHOHDVH

)LJXUH 9DU\LQJ UDQN DFFRXQWLQJ IRU WKH  
6HSWHPEHU IRU FDVH WKH \HDU ROG

)LJXUH 9DU\LQJ GLVDELOLW\ DVVHVVPHQW  
WKH \HDU ROG FRUSRUDO

)LJXUH 9DU\LQJ GLVDELOLW\ DVVHVVPHQW  
WKH \HDU ROG VHUJHDQW

)LJXUH 9DU\LQJ GLVDELOLW\ DVVHVVPHQW  
WKH \HDU ROG FDSWDLQ

)LJXUH 1HW SUHVHQW YDOXH YDU\LQJ LQA  
WKH \HDU ROG FRUSRUDO

\$EVWUDFW

7KH SURYLVLRQ RI EHQHÀWV DQG VHUY  
UHFHLYH WKH KHDOWK FDUH DQG FRPSHG  
TXDOLW\ RI OLIH DIWHU PLOLWDU\ VHUYL  
JRYHUQPHQWV DURXQG WKH ZRUOG ,Q &D  
PHPEHUV DUH UHOHDVHG HDFK \HDU DQG  
ULHV DV ZHOO DV RSHUDWLRQDO VWUHV  
GLVRUGHU 7KHUH KDV EHHQ D SXVK LQ W  
PRYLRWSRQPRG€OO" G R@•H 0fg( 0  
B" G f ` p

[LL7KH &OD[WRQ 3DSHUV

7KH UHSRUW LV RUJDQL]HG DV IROORZV  
LQIRUPDWLRQ RQ WKH 19& WKH 3HQVLRQ  
EHQHÀWV LQ &DQDGД ,W DOVR VXPPDUL]  
VXFFHVV RI WKH 19& DQG GHÀQHV WKH WH  
WLHV μ &KDSWHU GHVFULEHV WKH PHWK  
EHQHÀWV IURP WKH WZR SROLFLHV XVHG  
PDUL]HV WKH UHVXOWV RI WKH FRPSDULV  
DQG DOVR KLJKOLJKWV VRPH RI WKH OLP  
IXWXUH ZRUN )LQDOO\ &KDSWHU SURYL  
FRQVLGHUDWLRQ UHJDUGLQJ WKH 19&

& + \$ 37(5

% DFNJURXQG

8QWLO WKH 3HQVLRQ \$FW 3\$ 5 6  
FLDO EHQHÀW HOLJLELOLW\ RI YHWHUDQV ZLV  
D QXPÉHU RI PRQWK\ SHQVLRQV DQG DOORZ  
RQ WKH QDWXUH RI GLVDELOLW\ WKURXJK WK  
DQG QXPÉHU RI FKLOGUHQ

,Q WKH &DQDG LDQ )RUFHV 0HPEHUV DV  
DQG &RPSHQVDWLRQ \$FW UHIHUHG WR DV  
F ZDV HQDFWHG FKDQJLQJ WKH ZD\  
DUH FRPSHQVDWHG 7KH ÀQDQFLDO EHQHÀW  
0€ B\ SSÐLPHQWL\ FDQG VRPH PRQWK\ DOORZDQFHV



6XSSRUWLQJ &DQDGGLDQ 9HWHUDQV ZLWK 'LVI

DZDUGHG LQ SDUW WR FRPSHQVDWH LQIRUPD  
RI WKH YHWHUDQ ,W LV D À[HG DPRXQW SDLO  
\HDUO\ IRU LQÁDWLRQ DFFRUGLQJ WR WKH & R  
DPRXQW DYDLODEOH LV SHU PRQWK W

([FHSWLRQDO ,QFDSDF\W\&\\$GQRZDQQBEO,19  
DZDUGHG WR YHWHUDQV WR FRPSHQVDWH IR  
FDXVHG E\ D SHQVLRQHG GLVDELOLW\ 8QGHU

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LVI

SHU PRQWWKKRXOG EH QRWHG WKDW DV RI WK  
YHWHUDQV RXW RI WKH RYHU VHUYHG X

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

SHU DQ**K**PV PHDQV WKDW YHWHUDQV UHOHD

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LVI

DGGUHV VH G E\ WKH DGGLWLRQ RI VRPH UHKD  
,Q YHWHUDQV· EH QHÀW V ZHUH UH H[DPL  
PDGH LQ RUGHU WR PRGHUQL]H WKH SURJUD  
SHQVLRQ DSSOLF DWLRQ SURFHVV OHVV DUG)  
IRU SHQVLRQV WKH EH QHÀW RI WKH GRXEW  
ZDV LQWURGXFH G DW WKLV WLPH DQG WKHV  
WKH ODWH V '9\$ PDGH D FKDQJH IH € ÀV

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

:KLOH D QXPEHU RI SURJUDPV DQG VWHSV KD<sup>Y</sup>  
JURXSV VRPH RI WKHVH YHWHUDQV DUH VWL

7KH PRVW LPSRUWDQW IRUFH LQ LPSURYL  
YHWHUDQV KDV EHHQ YHWHUDQ RUJDQL]DWL  
\*UHDW :DU 9HWHUDQV. \$VVRFLDWLRQ \*XOI :DU  
&DQDGLDQ 3HDFHNHHSLQJ 9HWHUDQV \$VVRF  
9HWHUDQV LQ 8QLWHG 1DWLRQV 3HDFHNHHS  
WLRQ RI &DQDGD ZHUH HVWDEOLVKHG GXH  
LQDGHTXDFLV RI EHQHÀWV SURYLGHG E\ WK  
:DU , YHWHUDQ RUJDQL]DWLRQV KDYH FRQWI  
JRYHUQPHQW WR LPSURYH VHUYLFHV IRU WK  
ZLWK WKH DGYHQW RI WKH 19&

5HSRUWV DQG 3XEOLF 'RFXPHQWV 5HODW

7KH ÀUVW FRPSUHKHQVLYH H[DPLQDWLRQ F  
9HWHUDQV &KDUWHU \$GYLVRU\ \*URXS HVWDE  
-XQH IRU WKH H[SUHVV SXUSRVH RKHYDOX  
'LYLQJµ &KDUWHU LQ \$FWLRQ +RQRXULQJ 2X  
)DPLO\ 7KH FRPPLVVLRQHG E\ 9\$& DQG SURYLG  
IRU WKH 19& VRPH UHODWLQJ WR ODUJH 'IUD  
VSHFLÀF UHFRP\ 7KH GRU WLRQV GDWLRQV IRFXV  
WKH 19&<sup>3</sup>VWUHQJWKHLQJ IDPLO\ VXSSRUW V  
LPSURYLQJ UHKDELOLWDWLRQ VHUYLFHV DQG  
SURJUDPV DQG VHUYLFHV DQG HVWDEOLVKLC  
DQG HYDOXDWH WKH LPSDFW RI WKH SURJUD

7KH +RXVH RI &RPPRQV 6WDQGLQJ &RPPLV  
UHOHDVHG D \$H7SLRPHV\ H7QV\ HWOSH GRU WKH /LYI  
&KDUW\ QU-XQH 7KLV UHSRUW SURYLGHG D  
EHKLQG WKH 3HQVLRQ \$FW DQG WKH 1HZ 9HW  
VSHFLÀF UHFRPPHQGDWLRQV ,W VWDWHG WKD  
\*URXS UHSRUW VKRXOG EH LPSOHPHQWHG D  
UHFRPPHQGDWLRQV LQFUHDVH FROODERUDW  
1DWLRQDO 'HIHQFH DQG 6,6,3 UHJDUGLQJ KHD  
WUDQVLWLRQ SURJUDPV LQFUHDVH WKH (DU  
SUH UHOHDVH VDODU\ LQVWHDG RI SHUFHQ  
LQÁDWLRQ ZLWKRXW FDS LPSURYH ÀQDQFLDO  
WKH UH H[DPLQDDOH

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

7KH OXPS VXP SD\PHQW RIIHUHG WR GLVDE  
FRQWHVWHG LVVXHV RI WKH 19& 7KH 1HZ 9H  
UHFRPPHQGHG WKDW WKH DPRXQW EH LQFUV  
SHUVRQDO LQMXU\ FODLPV LQ FLYLO VRFLHW  
IHUHQW SD\PHQW VWU7KHW\KRJXHV\IHRH\&RPLRQHGV  
&RPPLWWHH RQ 9HWHUDQV \$IIDLUV ZHQW IXU  
EH UHÁHFHLYH RI WKH YHWHUDQV GLVDELOL  
FRQFHUQV WKDW YHWHUDQV ZHUH QRW DEOH  
LQ D ZD\ WKDW SURYLGHG WKHP ZLWK WKH S  
WXUH RI WKH SD\PHQW VKRXOG EH D FRPELG  
SD\PHQWV ,W IRXQG WKDW DOWKRXJK \$XVWU  
SD\PHQWV TXRWHG DV OXPS VXP DOO KDYH  
WKDW YHWHUDQV FDQ UHFHLYH WKHLU 'OXPS  
WKHVH UHFRPPHQGDWLRQV LQ -XQH 9HWH  
VWXG\ RI WKH VDWLVIDFWLRQ RI YHWHUDQV Z  
SHUFHQW RI LQMXUHG YHWHUDQV VWDWHG  
PHWKRG RI SD\PHQW

9HWHUDQV \$IIDLUV &DQDG D EHDQ LWV RZ  
9HWHUDQV &KDUWHU LQ \$SULO DQG SXE  
DQG 3KDVH LQ \$KJDWXHW KDV QRW \HW EHHQ  
3KDVH UHSRUW GLVFXVVHG WKH UHOHYDQFH  
JUDPV ,W ORRNHG DW WKH RYHUODS EH WZHH  
JRYHUQPHQW DJHQFLHV DQG IRXQG WKDW WK  
SURJUDPV DQG 'HSDUWPHQW RI 1DWLRQDO 'H  
LQJ WR UHKDELOLWDW,WR &RPLQG\WHRG\&QD  
WR SURJUDPV LQ WKH 8QLWHG .LQJGRP 8QLW  
WKDW DOO IRXU FRXQWULHV KDYH FRPSDUDE  
WKDW &DQDG LV WKH RQO\ RQH RI WKH IRXU  
WDO FRYHUDJH IRU YHWHUDQV 7KH UHSRUW  
&DQDG H[SORUH WKH RYHUODS EH WZHHQ LW  
RWKHU JRYHUQPHQW DJHQFLHV UHYLHZ WKH  
DQG H[DPLQH YHWHUDQV. DFFHVV WR KHDOW  
RQ WKH VHUYLFH GHOLYHU\ IUDPHZRUN RI WI  
UHFRPPHQGDWLRQV VSHFLÀF WR 3KHDU\HLFHZ  
IRFXV RQ WKH VXFFHVVHV DQG XQLQWHQGHG

'HVSLWH WKH H[WHQVLYH H[DPLQDWLRQV  
JXDUDQWHH WKDW LW ZRXOG EH D 'OLYLQJ G  
QXPHURXV UHFRPPHQGDWLRQV KLJKOLJKWH  
DQG WKH +RXVH RI &RPPRQV 6WDQGLQJ &RP  
9HWHUDQV \$IIDLUV &DQDG KDV PDGH QR RIÀ

\$OLF H \$LN HQ DQ G \$P\ %XLWHQKXLV

FR PPLWPHQW V WR FKDQJH , Q 6HSWHPEHU  
IDLUV -HDQ 3LHUUH %ODFNEXUQ DQQRXQFHG  
DQ H[WHQGHG 3HUPDQHQW , PSDLUPHQW \$OOI  
/RVV %HQHÀ\$W DPFRQWQLWR QHG SUHYLRXVO\ WKH  
EH LPSOHPHQW HG

7KH 6SHFLDO 1HHGV \$GYLVRU\ \*URXS DQ D  
IDLUV &DQDGD WKDW IRFXVHV RQ WKH QHHGV  
KDV ZULWWHQ ÀYH UHSRUWV WKH PRVW UHF  
LQ 6HSWHPEHU 7KHVH UHSRUWV QRW SX  
1HZ 9HWHUDQV &KDUWHU VD\LQJ WKDW WKH  
IRU YHWHUDQV ZLWK VHYHUh GLVDELOLWLHV

7KLV VWXG\ GRHV QRW DLP WR GHYHORS P  
VWXG\ RI WKH 19& DV D QXPEHU RI LPSRUWD  
EHHQ LGHQWLÀHG LQ WKH UHSRUWV GLVFXVV  
SDULVRQ RI WKH ÀQDQFLDO EHQHÀWV EHWZHH  
D IRFXV RQ YHWHUDQV ZLWK VHYHUh GLVDELO  
GRQH VR IDU DQG ZH IHHO WKDW LW ZLOO LO  
ÀQDQFLDO DVSHFWV RI WKH 19& 7KLW ð0HPP

&+ \$ 3 7 ( 5

2 E M H F W L Y H V R I 6 W X G \ D Q G

7 K H S X U S R V H R I W K H V W X G \ Z D V W R F R P S D I  
W K U R X J K W K H 1 H Z 9 H W H U D Q V & K D U W H U Z L W I  
W K H 3 H Q V L R Q \$ F W I R U Y H W H U D Q V Z L W K V H Y  
S U H V H Q W W Z R U H V H D U F K T X H V W L R Q V W K D W J  
F D V H V W X G L H V R I Y H W H U D Q V W K D W Z H X V H G  
E H Q H À W V D Q G R X W O L Q H Z K L F K S U R J U D P V R  
1 9 & D U H L Q F O X G H G L Q W K H D Q D O \ V L V : H W K H  
W K H V W X G \ Z K L F K Z D V D F R P S X W D W L R Q R I W  
E H Q H À W V D Y D L O D E O H W R Y H W H U D Q V X Q G H U H  
W L R Q V L Q F O X G L Q J D J H R I U H O H D V H D J H R I G  
P D U L W D O V W D W X V D Q G U D Q N D Q G D V H Q V L  
W L R Q V ) L Q D O O \ Z H S U R Y L G H V R P H G L V F X V V L  
L Q R X U V W X G \ D Q G F R P S D U H W K H P W R G H P R J

2 E M H F W L Y H V R I 6 W X G \  
7 Z R T X H V W L R Q V J X L G H G W K L V U H V H D U F K

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

WZR FKLOGUHQ OLYLQJ LQ 2QWDULR DQG HC  
19& DQG WKH 3HQVLRQ \$FW \$Q H[SODQDWLRQ  
PDGH FDQ EH IRXQG LQ VHFWLRQ \$OO WKH  
MRLQHG WKH PLOLWDU\ DW WKH DJH RI EX  
WKH DJH DQG UDQN DW UHOHDVH

& DVH ORRNHG DW D FRUSRUDO ZKR ZDV U  
DJH RI DIWHU VHYHQ \HDUV RI VHUYLFH 7K  
D \RXQJ YHWHUDQ ZLWK D ORZ VDODU\ W\SL  
\$IJKDQLVWDQ %HFDXVH YHWHUDQV PXVW KDY  
HOLJLEOH IRU D &DQDGLDQ )RUFHV 6XSHUDQ  
ZRXOG QRW UHFHLYH &) 6XSHUDQQXDWLRQ S  
LV LPSRUWDQW EHFDXVH WKH DPRXQW RI WKH  
IURP WKH WRWDO DPRXQW UHFHLYHG WKURX  
SURJUDP XQGHU WKH 3HQVLRQ \$FW DQG WKH

& DVH H[DPLQHV D VHUJHDQW UHOHDVHG  
H[DPLQH D PHPEHU VDODULHG LQ WKH PHGL  
WKH YHWHUDQ ZLOO KDYH VHUYHG IRU WHQ \  
6XSHUDQQXDWLRQ SD\PHQWV

& DVH H[DPLQHV D FDSWDLQ UHOHDVHG D  
OHDVH ZDV FKRVHQ EHFDXVH LW LV WKH DYH  
PHPEHUV DV RI 07KUHFNDQN RI FDSWDLQ ZDV F  
&) PHPEHU ZLWK D KLJKHU UDWH RI SD\

\$ VXPPDU\ RI WKH YDULDEOHV FKRVHQ IRU  
LQ 7DEOH

, QFOXVLRQ RI 3URJUDPV LQ \$QDO\VLV

%RWK WKH 3HQVLRQ \$FW DQG WKH 19& KD  
SURYLGH ÀQDQFLDO EHQHÀWV WR YHWHUDQV  
WLRQV IRU HOLJLELOLW\ FULWHULD SD\PHQW  
IRU LQÁDWLRQ 7DEOH DQG 7DEOH GHVFUL  
3HQVLRQ \$FW DQG WKH 19& UHVSHFWLYHO\ 0  
DQDO\VLV KRZHYHU VRPH SURJUDPV KDG YH  
VR ZHUH QRW LQFOXGHG 7DEOH DQG 7DEOH  
RI FHUWDLQ SURJUDPV IURP WKLV VWXG\

6RPH SURJUDPV WKDW DUH QRW DGPLQLV  
WKH DQDO\VLV DQG VRPH ZHUH H[FOXGHG 7D  
DGPLQLVWHUHG E\ 9\$& WKDW PD\ EH DYDLODE  
LQFOXVLRQ RU H[FOXVLRQ RI WKHVH SURJUDP

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

7\$% (

\$VVXP SWLRQV 0DGH DERXW 7KUHH &DVH 6WXG\ 9H

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9DULDEOHV &DVH

&DVH

&DVH

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\$JH RI UHOHDVH

<HDUV RI VHUYLFH

yPLP IÀ P( E

7\SH RI UHOHDGVHFDO

0HGLFDO

0HGLFDO

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'LVDELOLW\

DVVHVVF•0C

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\$OLF H \$LN HQ D Q G \$P\ %XLWHQKXLV

7\$% (

'HVFULSWLRQ D Q G 5DWLRQD [FIO X R U RV Q K RI , Q FOX VL F  
3URJUDPV \$YDLODEOH WKURXJK WKH 3HQVLRQ \$F V

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6XESURJUDR VFULSWLRQ \$PRXQW , QFOXGHDQWL RQDOH IRU  
([FOXVL RQ

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'LVDELOLW\ RQWK O\ SHQVLRQ [DQWL O RQHMDU  
3HQVLRQ DIWHU GH DWK %DVPHGQRW\ GLVDELOLW\  
DVHVVP HQW 1RQ WD[DEOH

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6SRXVD O RQWK O\ SHQVLRQ [DQWL O RQHMDU  
3HQVLRQ DIWHU GH DWK DZDBBQW\ RQ O\ LI  
YHW H D Q KDV VS RXVH RU FR P PR Q  
ODZ SDUW QHU %DVHG RQ GLVDELOLW\  
DVHVVP HQW 1RQ WD[DEOH

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&KLOGUHQ\ RQWK O\ SHQVLRQ [DQWL O RQHMDU  
3HQVLRQ RQ QXPEHU RI FKLOGUHQPRQW\ KQ  
IURP ELUWK RI FKLOGSFKQ\ GO FKLOG  
WXUQV RU LI FKLOGPSRXQW\ KH V  
SRV W VHFRQGDU\ HGW\ K B W LFRKQ\ OG UH Q  
1RQ WD[DEOH PR QWK  
SHU FKLOG,

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\$WWHQGDQ\ RQWK O\ SHQVLRQ [DQWL O RQHMDU  
\$OORZDQF\ DIWHU GH DWK 3URPRQW\ K\ ARU YHW H D Q V  
ZKR DUH LQ QH HG RI DVVLVWDQFH  
ZLWK GDLO\ OLYLQJ RIWHQ WR  
FRPSHQVDW H IDPL O\ FDUHJLYHUV  
1RQ WD[DEOH

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&ORWKLQJ RQWK O\ SHQVLRQ [DQWL O GH DWK 3URK H VDPH SURJUDP  
\$OORZDQF\ LGHG ZKHQ D YHW R B Q\ K\ AGLVDELOLW\ LVW V XQGHU WKH 1  
FDXVHV H[WUDQHRXV ZHDU D Q G WHD\ QR FRPSDULVRQ L  
RQ FORWKLQJ 1RQ WD[DEOH QHHGHG

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([FHSWLRQ\ RQWK O\ SHQVLRQ [DQWL O GH DWK )RU  
, QFDSDFLWMHW H D Q V ZKR DUH [DQW\ K\ AGLVDELOLW\  
\$OORZDQF\ QFDSDFLWDW HG LQ ZKROH RU SDUW E\  
WKHLU GLVDELOLW\ 1RQ WD[DEOH

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3ULVRQHU [DQW\ K O\ SHQVLRQ [DQWL O GH DWK , W ZDV DVVXPHG WKH  
&RPSHQVD [DQW\ K O\ SHQVLRQ [DQWL O GH DWK FHUWD Y\ WHD Q V LQ WKH F  
DPRXQW RI WLPH DV D SULVRQHU VVXG\ KDG QRW EH HG  
RI ZDU RU LQ D VLPLODU VLWXDWLRQ SULVRQHUV RI ZDU  
1RQ WD[DEOH

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6XUYLYRU ORQWK O\ SHQVLRQ D D D URGH G W R V  
%HQH\ AWV VXUYLYRUV RI D YHW H W D Q D Q Z L Q Q L Q J  
RQH \HDU DIWHU YHW H R U V G H DWK  
1RQ WD[DEOH \HDU\

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6RXUFHV , 9HW H D Q V \$IIDLUV &DQDGD 'LVDELOLW\ 3HQVLRQV p  
FIP"VRXUFH GLVSHQ  
Â '3HQVLRQ 5DWHV 5LVH ZLWK &R VWD URF K\LS\QWJO / HJLSRQ 0DJJD]LQH

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

7\$% (

'HVFULSWLRQ DQG 5DWLRQD [F] XRUWQKRI , QFOXVL F  
3URJUDPV \$YDLODEOH WKURXJK WKH 1HZ 9HWHUD

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\$OLF H \$LN HQ DQ G \$P\ %XLWHQKXLV

7\$%('

'HVFULSWLRQ RI 3URJUDPV 1RW 2IIHUGH E\ 9HWHL  
5HDVRQV IRU ([FOXVLRQ

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3URJUDP 'HVFULSW p0

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6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

\$OLF H \$LN HQ D Q G \$P\ %XLWHQKXLV

7\$% (

9DULDWL RQ RI &DVH 6WXG\ 9DULDEOH V LQ 6HQVLV

9DULDEOH	%DVH \$VVXPSWLRQ \$DQJH RI 9DULDWL RQ 8VHG LC (DFK &DVH 6WXG\ 6HQVLWLYLW\ \$QDO\VLV
7\SH RI UHOHDVH	0HGLFDO 1RW YDULHG
'LVDELOLW\ DVVHVVPHQW	6WXGLHG D Q G
5DQN DW UHOHDVH &DVH &RUSRUDO	6WXGLHG VHQLRU SULYDW H
&DVH 6HUJHDQW	VHUJHDQW FKLHI ZDUUDQW R
&DVH &DSWDLQ	FDSWDLQ D Q G FRORQHO
\$JH RI GHDWK	9DULHG DJH RI GHDWK WR
0DULWDO VWDWXV ODUULHG	9DULHG WR QRW PDUULHG
)DPLO\ VWDWXV FKLOGUHQ	6WXGLHG D Q G FKLO
3ODFH RI UHVLGHQF2QWDULR	1RW YDULHG
2WKHU (OLJLEOH IRU 3,\$	9DULHG DV LI QRW HOLJLEOH
1RWH 3,\$ 3HUPDQHQW ,PSDLUPHQW \$OORZDQFH	

\$JH RI 5HOHDVH 7KH DJH GLVWULEXWLRQ  
1HZ 9HWHUDQV &KDUWHU DV RI -XQH LV  
D Q G ZRXOG IDOO LQWR WKH WR FDWH  
RI DOO YHWHUDQV EHLQJ VHUYHG XQGHU WK  
UHÁHF WV WKH QHZHVW YHWHUDQV IURP \$IJKD

7\$% (

\$JH 'LVWULEXWLRQ\QJU \$HHW\H\H\QXQ\H\H U  
WKH 1HZ 9HWHUDQV &KDUWHU

\$JH 'LVWULEXWLRQ	1XPEHU
8QGHU	
WR	
WR	
WR	
WR	
RU RYHU	
7RWDO	

6RXUFH 7KH GDWD ZHUH SURYLG HG E\ 5REHUW 0DF'RQDOG 6HQRLRU  
ÄFH 9HWHUDQV \$IIDLUV &DQDG D LQ DQ HPDLO WR WKH DXWKRU \$

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

'LVDELOLW\ \$KWHGLVPHQWOLW\ DVVHVVPHQW  
DJH RI GLVDELOLW\ WR DOO YHWHUDQV 7KL  
RI HOLJLEOH SHQVLRQ XQGHU WKH 3HQVLRQ S  
\$ZDUG XQGHU WKH 19& 7KH GLVWULEXWLRQ R  
EHLQJ VHUYHG HLWKHEU \$VVKH1LDQDOKRRKDWRW  
'LVDELOLW\ \$ZDUG DV RI -XQH LV VKRZ

7\$% (

'LVVWULEXWLRQ RI 'LVDELOLW\ \$VVHVVPHQW RI 9H  
WKH 1HZ 9HWHUDQV &KDUWHU :KR +DYH 5HFHLYH

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'LVDELOLW\ \$VVHVVPHQW

1XPEHU

8QGHU

WR

WR

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\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

DQG ([FHSWLRQDO ,QFDSDLW\ \$OORZDQFH ( \$FW DUH WZR SURJUDPV WKDW KDYH VLPLOD WKH 3HQVLRQ \$FW WKH DPRXQW RI (,\$ 'LV ED QHVV SDLQ ORVV RI HQMR\PHQW RI OLIH DQ SHQVLRQHU FULWHULRQ RI (,\$ LV WKDW WKH DVVHVVPHQW RI SHUFHQW RU KLJKHU WKH WKH VHQVLWLYLW\ DQDO\VLV LQ ZKLFK WKH YDULV  
" VW Z

&







6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

QHW SUHVHQW YDOXHV IRU ERWK WKH 3HQV  
WKRVH IRU FDVH ZKLFK DUH LQ WXUQ JUHD  
QHW SUHVHQW YDOXH LQFUHDVHV DV DJH RI  
UHVXOW EHFDXVH D SHUVRQ ZKR OLYHV ORQ

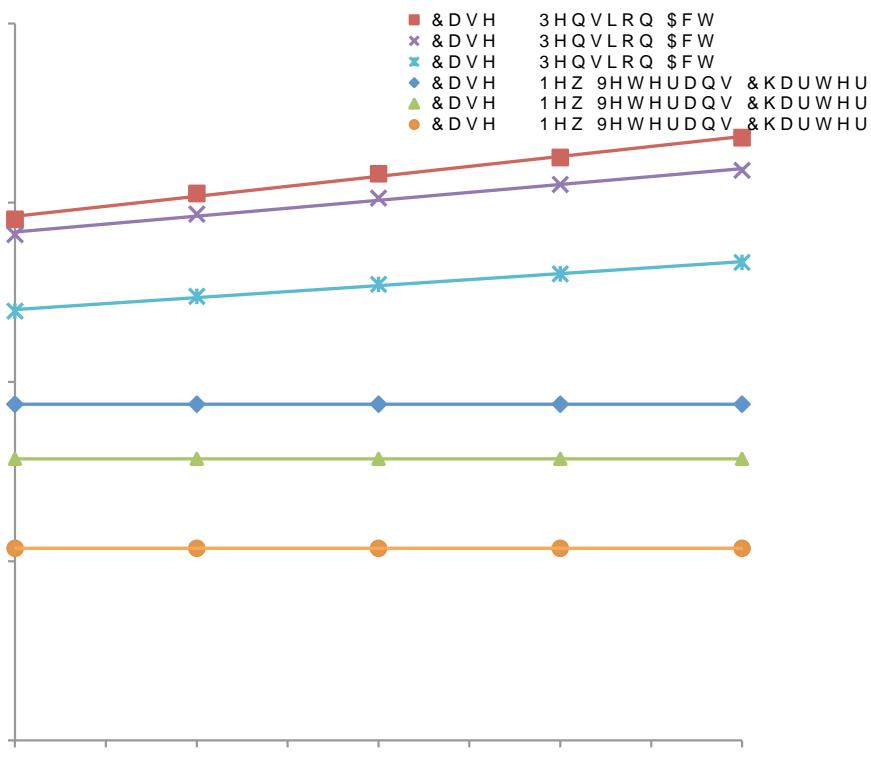
, Q RUGHU WR HQVXUH WKH GDWD LQ )LJXU  
VLRQ ZDV FRPSOHWHG RQ WKH GDWD LQ )LJXI  
ÀW ZDV GHWHUPLQHG IRU DOO VL[ FDVHV 7K  
WKH LQFUHDVH RI WKH QHW SUHVHQW YDOXH  
EH\RQG VHH 7DEOH 7KH LQFUHDVH LQ W  
ODUJHU LQ DOO WKUHH FDVHV IRU WKH 3HQV  
WKH 19& DQ&DOXHV\KRU5HDFK RI WK  
ÀW ZHUH FDOFXODWHG DV D PHDVXUH RI KRZ  
YDOXH RI PHDQLQJ D SHUIHFW ÀW DQG D YD  
5 YDOXHV IRU DOO VL[ OLQHV RI EHVW ÀW ZH  
LQJ D JRRG ÀW ZLWK WKH GDWD DQG WKHUH  
DUH VXPPDUL]HG LQ 7DEOH

)RU ERWK WKH 3HQVLRQ \$FW DQG WKH 19&  
VDQGV RI GROODUV SHU \HDU ZDV ODUJHU W  
EHFDXVH DV WKH DJH RI UHOHDVH LQFUHDVHV  
D ODUJHU SRUWLRQ RI WKH QHW SUHVHQW YD

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

JUHDWHU WKDQ WKRVH RI WKH 19& 7KLV LV  
DQ\ ÀQDQFLDO VXSSRUW IRU FKLOGUHQ ZKHU

\$ OLQH DU UHJUHVVL RQ ZDV FRPSOHWHG RC  
WKH OLQH RI EHVW ÀW ZDV GHWHUPLQHG IRU  
HUHG WR EH WKH LQFUHDVH LQ WKH QHW SU  
FKLOG %HFDXVH WKH 19& GRHV QRW DFFRXQ  
YHWHUDQ KDV WKH 19& QHW SUHVHQW YDOX  
FKLOGUHQ GHSHQGHQW RQ WKH YHWHUDQ 7  
SHU WKXVH WKH QGROODUVÐ0HU FKLOU IRU



1XPEHU RI &KLOGUHQ

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

DJH RI UHOHDVH DQG SUH UHOHDVH VDODU\ L  
UHOHDVH LQFUHDVHV WKH DJHV RI WKH YHW  
WKH QXPEHU RI \HDUV WKDW WKH FKLOGUHQ D

7\$%/(

7KH ,QFUHDVH LQ 1HW 3UHVHQW 9DOXH 3HU &KLO  
WKH 1HZ 9HWHUDQV &KDUUWHU &KLOG

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3HQVLRQ \$F5W

1HZ 9HWHUDQV &KDUUWHU

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&DVH

&DVH

&DVH

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7DEOH VKRZV WKH QHW SUHVHQW YDOXH







\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

SHUFHQW DQG )LJXUH VKRZV WKH VDPH  
FULWHULD IRU FHUWDLQ SURJUDPV XQGHU W  
RQ WKH GLVDELOLW\ DVVHVVPHQW LQ GLIIHU  
WR SURYLGH VRPH FODULÀFDWLRQ 8QGHU W  
WLRQ WKH YHWHUDQV LQ DOO WKUHH FD

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

\$OLF H \$LN HQ DQ G \$P\ %XLWHQKXLV

7KH LQFUHDVH LQ WHQV RI WKRXVDQGV RI GR  
DJH RI GLVDELOLW\YD\O\KH\W\PRHQ\W\ODQ\W\KUHH F  
7DEOH ,Q DOO WKUHH FDVHV WKH LQFUHD

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

, QÁDW)LRQ&UH VKRZV WKH QHW SUHVHQW  
WLRQ UDWH LV YDULHG EHWZHHQ SHUFHQW  
DOO RWKHU ÁQGLQJV WKH QHW SUHVHQW YD  
WKRVH RI WKH 19& )LJXUH VKRZV WKDW WK  
\$FW DUH LQFUHDVLQJ QRQ OLQHDO\ 7KH QH  
LQFUHDVLQJ QRQ OLQHDO\ IRU LQÁDWLRQ U

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

\HDUV LV SHUFHQW ZKLFK LQGLFDWHV  
SUHVHQW YDOXH ZLOO EH GHFUHDVHG E\ WKH  
PHQWV RI WKH (/%)

7\$% (

\$GMXVWPHQWV WR 9\$& 3HQVLRQV IRU ,QÁDWLRQ I

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<HDU

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,QÁDWLRQ \$GMXVWPHQWV WR 9\$& :

\$YHUDJH

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6RXUFH 3DWULFN %XWOHU DQG .DWKLH \*DOODQW '7DEOH ' 7DEOH  
^ \$WWHQGDQFH \$OORZDQFH ^ &ORWKLQJ \$OORZDQFH µ 9HWHUDQV \$II  
\$IIDLUV &DQDGD

&+ \$ 37 (5

# 'LVFXVVLRQ

6WXG\ 6XPPDU\

7KLV VWXG\ SUHVHQWHG WKUHH UHDOLVW  
YHWHUDQV DQG FRQGXFWHG D ÀQDQFLDO FRI  
SULQFLSOHV RI WKH ÀQDQFLDO EHQHÀWV WH  
1HZ 9HWHUDQV &KDUWHU 19& DQG WKH 3HG  
VWXG\ ZDV WR IRFXV RQ YHWHUDQV ZLWK VH  
DELOLW\ DVVHVVPHQW RI SHUFHQW RU JUH  
&DQDGD 9\$&L V UHSUHVHQWV D VPDOO SURSR  
HUDQV FRYHUH GKEZHWKHU 19& UHSUHVHQWV WH  
RI WKH VHUYLFHV DQG ÀQDQFLDO EHQHÀWV S  
WKDW ÀQDQFLDO VHFXULW\ LV D SUHGLFWRU  
ZLWK VHYHUVGKNDIBLQHVLHW LW LW €

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

LW ZRXOG DIIHFW WRWDO ÀQDQFLDO EHQHÀW  
WR GHWHUPLQH WKH SRWHQWLDO HIIHFW RI L

1HW 3UHVHQW 9DOXH 5HVXOWV 6XPPDUL]H

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

)LJXUHV DQG VKRZ WKDW DIWHU DJH  
3HQVLRQ \$FW DQG 19& ÀQDQFLDO EHQHÀWV D  
IRU DOO WKUHH FDVH VFHQDULRV 7KLV LV E  
DOO ÀQDQFLDO EHQHÀWV VWRS DW DJH IRU  
YHWHUDQV FRQWLQXH WR UHFHLYH WKHLU E  
EHQHÀW DQDO\]HG LQ WKLV VWXG\ WKDW D  
LV WKH 3HUPDQHQW ,PSDLUPHQW \$OORZDQF  
WKH 3HQVLRQ \$FW D YHWHUDQ ZLOO UHFHLY  
\HDU LQ DGGLWLRQDO SHQVLRQ FRPSDUHG W  
EHWZHHQ DQG 7KLV FDQ PDNH D V  
RYHODOO TXDOLW\ RI OLIH RI D YHWHUDQ \$  
OLYH ORQJHU WKDQ PHQ VSRXVHV DQG IHPD  
E\ WKLV SUREOHP

2QH RI WKH PRVW VLJQLÀFDQW PRQWKO\ F  
XQGHU WKH 3HQVLRQ \$FW EXW LV QR ORQJHU  
&DUH \$OORZDQFH \$V GLVFXVVHG LQ VHFWLR  
DSSUR[LPDWHO\ SHU PRQWK DYDLODEOH  
IRU OLYLQJ 7KLV FRXOG EH SDLG WR D KLUH  
IDPLO\ PHPEHU ZDV WKH SULPDUKE\ ULHJ IRQHU  
WKH PRVW FULWLFDO EHQHÀWV WKDW DOORZ  
VWD\ LQ WKHLU KRPHV DQG JHW WKH FDUH  
FLWHG DV RQH RI WKH PRVW\ Q\ R\ Q\ W\ D\ E\ H\ Q\ H\ À\ W\ D\ J\ H\ V\ H\ U\ H\ G\ L\ V\ D\ J\ U\ H\ H\ W\ K\ D\ W\ I\ R\ U\ S\ H\ R\ S\ O\ H\ Z\ L\ W\ K\ V\ H\ Y\ H\ U\ H\ G\ L\ V\ D\ W\ K\ H\ L\ U\ L\ Q\ G\ H\ D\ S\ Q\ H\ Q\ Q\ R\ Q\ W\ F\ K\ H\ U\ D\ W\ L\ R\ Q\ D\ O\ H\ I\ R\ U\ U\ H\ P\ L\ V\ X\ Q\ F\ O\ H\ D\ U\ X\ Q\ O\ H\ V\ V\ L\ W\ L\ V\ V\ W\ U\ L\ F\ W\ O\ À\ Q\ D\ Q\ F\

6HQVLWLYLW\ \$QDO\VHV 6XPPDUL]HG  
ODULWD OH(DQ\B\ `€Á(°QHÀ\@P\ ÁKODHEX\ D\@QQWDEA r-D

6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV







&+ \$ 3 7 ( 5

& R Q F O X V L R Q V

\$OLFH \$LNHQ DQG \$P\ %XLWHQKXLV

DUH FRQVLGHUHG VHULRXVO\ GLVDEOHG 2QH  
WLRQV WKDW FRPHV RXW RI WKLV VWXG\ LV

1 R W H V

6WDQGLQJ &RPPLWWHH RQ 9HWHUDQV \$IIDLUV  
1HZ 9HWHUDQV &KDUWHUµ 3DUOLDPHQW RI &DQD  
9HWHUDQV \$IIDLUV &DQDGD ''LVDELOLW\ 3HQV



6XSSRUWLQJ &DQDG LDQ 9HWHUDQV ZLWK 'LV

\$OLF H \$LN HQ DQ G \$P\ %XLWHQKXLV

&D Q DGD \*D]HWW H ³5H J XODWLRQ V \$PH QGLQ  
5H J XODWLRQ V '

5REHU W 0DF'RQDOG HPDLO PHVVDJH WR DXW  
0DU\ \$QQ OF&ROO DQG /\IQV DREQJELQRH DQG GH GR FL  
LQ &D Q DGD QG HG &RQFRUG 21 &DSWXV 8QLY  
6WDQGLQJ &RPPLWWHH RQ 9HWHUDQV \$IIDLUV  
1HZ 9HWHUDQV &KDUWHU \$GYLVRU\ \*URXS ³+R  
6WDWLWLFV &D Q DGD ³/LIH ([SHFWDQF\ DW %  
9HWHUDQV \$IIDLUV &D Q DGD ³'LVDELOLW\ 3HQ  
³3HQVLRQ 5DWHV 5LVH ZLWK &RVW RI /LYLQJ  
'DYLG : 6KDLQ QIRUHHV RI 'LJQLW\ 'LVDELOLW\  
&UHDWLYH %RXQG ,QWHUQDWLRQDO ,QF  
0F&ROO DQG -RQJEORHG 'LVDELOLW\ DQG 6RI  
9HWHUDQV \$IIDLUV &D Q DGD ³19& 6XSSRUW II  
YDF DFF JF FD \RXWK VXE FIP"VRXUFH IRUFHV QY  
\$XJXVW  
1HZ 9HWHUDQV &KDUWHU \$GYLVRU\ \*URXS ³+

, ELG

%LEOLRJUDSK\

%XWOHU 3DWULFN DQG .DWKLH \*DOODQW '7DEO  
SDFLW\ \$OORZDQFH \$OORZDQFH &ORWKL  
\$IIDLUV &DQDGD 3HQVLRQ 5DWHV 9HWHUD



\$ E R X W W K H \$ X W K R U V

