



6RXWK'DNRWDY:D\IDLU



H-RXUQDO RI 7D[5HVHDUFK

(',7256

3URIHVVRU -RKQ 7D\OR~~6~~FKRRO RI 7D[DWLRQ %XVLQHVV /DZ
3URIHVVRU %LQK 7UDQ~~6~~FKRRO RI 7D[DWLRQ %XVLQHVV /DZ

\$662&,\$7((',725

'U \$OH[DQGUD (YDQV 6FKRRO RI 7D[DWLRQ %XVLQHVV /DZ

352'8&7,21 (',725

'U 3HWHU 0HOORU 6FKRRO RI 7D[DWLRQ %XVLQHVV /DZ

(',725,\$/ %2\$5'

3URIHVVRU 5RELQ %RDGZH\$DUWPHQW RI (FRQRPLFV 4XHHQ~~1~~V
3URIHVVRU &\QWKLD &RC~~8~~QPLDY~~1~~UVLW\ RI 6\GQH\ %XVLQHVV 6FK
3URIHVVRU *UDHPH &RRS~~1~~DXOW\ RI /DZ 8QLYHUVLW\ RI 6\GQH
3URIHVVRU 5REHUW 'HXW~~6~~FKRRO RI 7D[DWLRQ %XVLQHVV /DZ
3URIHVVRU &KULV (YDQV6FKRRO RI 7D[DWLRQ %XVLQHVV /DZ
3URIHVVRU -XGLWK)UHH)DPFDX~~0~~W\ RI /DZ 8QLYHUVLW\ RI 2[IRU
3URIHVVRU 0DOFROP *DP~~P~~K~~D~~PEHUV RI /RUG *UDELQHU 4& /RQC
3URIHVVRU -RKQ +DVVHO~~3~~DLX~~Q~~&ROOHJH RI %XVLQHVV DQG (FR
1HZ +DPSVKLUH

3URIHVVRU -H\DS DODQ .~~D~~FK~~S~~R~~O~~O~~B~~L %XVLQHVV 0RQDVK 8QLYH
3URIHVVRU 5LFN .UHYHU/DZ 6FKRRO 8QLYHUVLW\ RI :HVWHUQ
3URIHVVRU &KDUOHV 0F/~~X~~R~~I~~Y~~H~~U ,QVWLWXWLRQ 6WDQIRUG 8Q
3URIHVVRU 'DOH 3LQWR &XUWLQ %XVLQHVV 6FKRRO &XUWLQ
3URIHVVRU -RKQ 3UHEEO~~H~~DXOW\ RI /DZ 9LFWRULD 8QLYHUVLW\
3URIHVVRU \$GULDQ 6DZ\&~~R~~OOHJH RI %XVLQHVV DQG /DZ 8QLYH
3URIHVVRU -RHO 6OHPUR~~G~~WHSKHQ 0 5RVV 6FKRRO RI %XVLQH
3URIHVVRU -HIIUH\ :DLQF~~D~~FXOW\ RI /DZ 0RQDVK 8QLYHUVLW\
3URIHVVRU 1HLO :DUUHQ6FKRRO RI 7D[DWLRQ %XVLQHVV /DZ
3URIHVVRU 5RELQ :RHOO~~Q~~FKURRO RI 7D[DWLRQ %XVLQHVV /DZ

H - RXUQDO RI 7D[5HVHDUFK

38 % / , 6 + (5

7KH 6FKRRO RI 7D[DWLRQ %XVLQHVV /DZ \$WD[LV SDUW RI W :H DUH WKH ODUJHVV WD[VFKRRO LQ DQ\ XQLYHUVLW\ LQ \$XV VWDII ZLWK EDFNJURXQGV LQ ODZ FRPPHUFH WD[DFFRXQW WRZDUGV EXLOGLQJ H[FHOOHQFH LQ WKH WD[SURHVVLVRQ OH SHUVSHFWLYH

(' , 7256 ¶ 127(

7KH - RXUQDO RI 7D[5HVHDUFK MRXUQDO WKDW SXEOLVKHV RI WD[DWLRQ ,W DLPV WR SURPRWH WLPHO\ GLVVHPLQDWLRQ LVVXHV IURP ERWK WKH RUH WLFD DQG SUDFWLFD SHUVSHFW SUDFWLWLRQHUV DGPLQLVWUDWRUV MXGJHV DQG SROLF\ PD RI WD[DWLRQ 7KH MRXUQDO HPSKDVLVHV WKH LQWHUGLVFLSC

68 % 0 , 66 , 21 25 , * , 1 \$ / 0 \$ 7 (5 , \$ /

6XEPLVVL RQ RI RULJLQDO FRQWULEXWLRQV RQ DQ\ WRSLF RI WD[HPDLO DWWDFKPHQW 0LFURVRIW :RUG IRUPDW WR WKH 3URG 6XEPLVVL RQ RI D PDQXVFULSW LV WDNHQ WR LPSO\ WKDW LW VXEPLWWHG IRU SXEOLFDWLRQ HOVHZKHUH 3RWHQWLDO DXWKRZKLFK LV DYDLODEOH IURP WKH MRXUQDO V ZHEVLWH

: (% 3 \$ * (

& XUUHQW DQG SHD-VRVXUQDQHRM RDQWHDQHWDQDIEOH YLD WKH MRXUQ KWWSV ZZZ EXVLQHVV XQVZ HGX DX UHVHDUFK SXEOLFDWLRQ

H-RXUQDO RI 7D[5HVHDUFK YRO QR S

(GLWRLDO

WK \$QQLYHUVDU\ RI *67 LQ \$XVWUDOLD

,W LV D SULYLOHJH WR SURYLGH WKLV IHR-URZUG V
FRPPHPRUDWLQJ \HDUV RI *RRGV DQG 6HUYLHV 7D
WD[LQ \$XVWUDOLD LV QRW QHZ DQG FHUWDLQO\ GHE
WD[V\VWHP LV QRW QHZ \$W WKH WLPH RI WKH LQWU
RQ LQFRPH WD[UDWKHU WKDQ LQGLUHFV WD[HV KDG
WR RWKHU QDWLRQV ZH FRQWLQXH WR UHO\ FRPSDUD

H-RXUQDO RI 7D[5HVHDUFK

0DNLQJ WKH

)25(:25'

, Q , KDG WKH SULYLOHJH RI VSHDNLQJ DW D FRQI
9LFWRULD 8QLYHUVLW\ RI :HOOLQJWRQ WR PDUN WKH
1HZ =HDODQG ¶V JRRGV DQG VHUYLFHV WD[*67
LQWURGXFWLRQ RI \$XVWUDOLD ¶V *67 , DP DJDLQ SUL
D YDOXH DGGHG WD[9\$7 ZRUN LQ SUFWLFH

\$V D IRUPHU WD[GPLQLVWUDWRU DQG &RPPLVVLRQH
KDYH RQ WKH SROLWLFDO DQG SROLFI SURFHVVHV IRI
DUH DW EHVW SHULSKHUDO 7KHVH UHVW PDLQO\ LQ W
RQ WKH GPLQLVWUDWLYH FKDOOHQJHV DVVRFLDWH

H-RXUQDO RI 7D[5HVHDUFK

ODNLQJ WKH

LQSXW WD[FUHGLWV H[FHHG WKH WD[SD\DEOH ,Q \$)
DQG VHUYLFHV WD[WR EHWWHU GHVFULEH LWV FRYH

H-RXUQDO RI 7D[5HVHDUFK

ODNLQJ WKH

WD[V\VWHP DQG D SXEOLF UHDVRQDEO\ ZLOOLQJ
D VPDOO FRPPLWWHG µSXEOLF SULYDWHT WHDP
RI HQHUV\ DQG LPDJLQDWLRQ

7KH \$XVWUDOLDQ H[SHULHQFH D KLVWRULFDO SHUVSHFW

µ7KH 6HQDWBV\RTXIDWHG ZLWK WKH \$XVWUDOLDQ
KDG DJDLQ KLJKOLJKWHG WKH IDFV WKDW WKH S
RSLQLRQ RI WD[DFDGHPLFV DQG SURHVVLRQDOV
VXSSRUW IRU DQG RSSRVLWLRQ WR WKH *67 DPRG

1RWKLQJ LQ UHFHQW WLPHV KDV GLYLGHG WKH R

2IWHQ LW FDQ WDNH D ORQJ WLPH WR PDNH VXEVWD
\$XVWUDOLDQ H[SHULHQFH ZLWK WKH LQWURGXFWLRQ

W °HHQFV HKD µVO2RZ6ESXUQFOE\WwDOVR2D \$UHSHEDWKEDRH w, QDSDXVWUD

H-RXUQDO RI 7D[5HVHDUFK

ODNLQJ WK

7KH FRS\ERRN

μ:LWK LWV XQLFDPHUDO OHJLVODWXUH DQG PDM
XQIHWWHUHG E\ VHFRQG KRXVHV RI 3DUOLDPHQW
1HZ =HDODQG ZDV DEOH WR DGRSW ZKDW PDQ\ F
YDOXH DGGHG WD[¶

H-RXUQDO RI 7D[5HVHDUFK

ODNLQJ WKH

HGXFDWLRQ LQVWLWXWRQV WR GHDO VZIZWKEWLKHHL

SXEOLF VFUXWLQ\ ± D UHIOHFWRQ RI WKH LQW
DFFHSWDQFH UHDGLQHV DQG GPLQLVWUDWLRQ

)ROORZLQJ WKH LQWURGXFWLRQ RI WKH QHZ WD[V
FRQILGHQFH RI WD[DJHQWV LQ WKH \$72 UHDFKHG D O
LVVXHV DVVRFLDWHG ZLWK PDVV PDUNHWHG WD[DY
FRQILGHQFH LQ WKH \$72 ,Q UHVSRQALHVWLQJ WWWRHW
&RPPXQSLWRLQJUDKPLV SURJUDP LQIOXHQFHG WKH \$72¶V G
QHHG IRU QHZ LQIRUPDWLRQ WHFKQRORJ\ ,7 LQWR D
D PRUH XVHU FHQWULF RUJDQLVDWLRQ

\$Q HDUO\ VLJQLILFDQW GHOLYHDEQ\ VRWWKH\$7\$¶V
3RUWDO ZKLFK SURYLGHG WD[DJHQWV ZLWK D VHF
UHYROXWLRLQHV WKH UHODWLRQVKLS EHWZHHQ WD
%XVLQHV 3RUWDO DOORZHG EXVLQHV WR LQWHUDF
FRVWV

/HVVRQV

7KH HIIHFWLYHQHV RI LPSOHPHQWDWLRQ SURFHVVH
UHDGLQHV RI WKH EXVLQHV FRPPXQLW\ HVSHFLDO
DWWHQWLRQ QHHGV WR EH JLYHQ WR VXSSRUWLQJ WK

;W LV LPSRUWDQW WR JHW WKLQJV ULJKW XS IURQW

x WKHUH PXVW EH ERWK ZLGHVSUHDG DQG WDUJHW
IRFXV RQ 9\$7 UHJLVWUDWLRQ UHTXLUHPHQWV LV
WR WKH RSHUDWLRQ RI D 9\$7 V\VWHP 7KH FRPPX
WKH EDVLFV RI WKH 9\$7 V\VWHP VXFK DV WKUHVK
LQ UHODWLRQ WR WD[LQYRLFHV UHFRUG NHHSI
LQFOXVLYH RU H[FOXVLYH UHTXLUHPHQWV DF
XVXDOO\ PRQWK\ ZLWK HOHFWURQLF ORGJHPHQW
RWKHUV SD\PHQW DQG UHIXQG DUUDQJHPHQWV

x WKH H[WHQW RI WD[SD\HU HGXFDWLRQ LV RQ
FRPPXQLFDWLRQ FKDQQHOV VKRXOG EH XVHG

x WKH FRPPXQLFDWLRQ VKRXOG EH WDLORUHG WR
H[DPSOH GLIIHUHQW LQGXVWULHV ILUPV ZLWK

μ>D@Q LPSRUWDQW DGGHG FRPSOH[LW\ >ZDV@ WKH LQFUHDVHG S
SROBWEFBQQSWUWLHV >GUHZ@ RQH RI WKHLU PDMRU EDWWOH OLQ
(GPRQGV DERYH Q

*UHJ)DUU IRUPHU 6HFRQG &RPPLVV\ RQHHWQIRHQLW\ [DWERQROBHH
&RQIHUHQFHFLWHG LQ OLFKDHO '¶\$VFHQ]R μ0RGHUQLVLQJ WKH \$
3HRSOH 6\VWHPV DQG H-DRXXHQD\ RI 7D[5HVHQWF\ 0P@W pB δ2 €QH

H-RXUQDO RI 7D[5HVHDUFK

ODNLQJ WK

GLFKRWRP\ EH WZHHQ ODUJH DQG VPDOO EXVLQH
IRU H[DPSOH JRYHUQPHQW DQG FKDULWLHV
x LQGXVWU\ SDUWQHUVKLSV VKRXOG EH HVWDEOL
VSHFLILFDOO\ WDLORUHG WR WKH UHOHYDQW LC

H-RXUQDO RI 7D[5HVHDUFK

ODNLQJ WK

WKH VKDUH RI *67 UHYHQXH FROOHFWHG E\ WKH \$XVW
\HDU ZDV XQGHU SHU FHQLWW RZDW RWWDLOO O6D VXEHWWDQ

H-RXUQDO RI 7D[5HVHDUFK

ODNLQJ WK

H-RXUQDO RI 7D[5HVHDUFK

*67 DV D VHFXUH VRXUFH RI UHYHQXH IRU WK

HGXFDWLRQ ERWK SUH DQG SRVW VFKRRO 6RPH RW
FKLOG SURWHFWLRQ DQG GLVDELOLW\ FDUH KDYH VHH
7KH &RPPRQZH DOWK KDV RIWHQ FRPH XQGHU SROLWL
RSSRUWXQLW\ LQ WDNLQJ IXQFWLRQV IURP WKH 6WD
PHHW WKHP DQG JLYHQ WKH OLNHOLKRRG WKDW LQ G

H-RXUQDO RI 7D[5HVHDUFK

*67 DV D VHFXUH VRXUFH RI UHYHQXH IRU WK

7KH FHQWUDO LVVXH IRU WKLV DUWLFOH LV ZKHWKHU

H-RXUQDO RI 7D[5HVHDUFK

*67 DV D VHFXUH VRXUFH RI UHYHQXH IRU WK

\$XVWUDOLD\ V YHU\ ODUJH XQLYHUVLW\ VHFWRU 6
&RPPRQZH DOWK FRVW VKDULQJ LV DURXQG SHU FH
DQG LV FRQFHQWUDWHG PDLQO\ RQ SXEOLF SULPDU\ D

,Q ZHOIDUH WKH &RPPRQZH DOWK GRPLQDW HV LQ DO
VXSSRUW DQG RWKHU FDVK WUDQVIHUV)URP WKH 6W
DJHG FDUH DQG PRUH UHFHQWO\ IRU GLVDELOLW\ FD
UROH LQ GLVDELOLW\ FDUH FKLOG SURWHFWLRQ VH
SURJUDPV +RZHYHU WKHLU VSHQGLQJ RQ VRFLDO VH
GHYHORSPHQW LV QRZ RQO\ DERXW SHU FHQW RI DO

7KH SUHGRPLQDQW DQG DSSDUHQWO\ JURZLQJ QDW
FUHDWHV D VWURQJ WHQVLRQ LQ WKH IHGHUDWLRQ
DQG WKH 6WDWHV DUH IXOO\ HQWDQJOHG LQ WKH IXQ
VDPH LVVXHV DULVH SROLWLFDOD\ LQ WKH SDUOLDPH
&RPPRQZH DOWK DQG WKH 6WDWHV HDFK KDYH µGHPRF
RI SROLF\

- XULVGLFWLRQDO

H-RXUQDO RI 7D[5HVHDUFK

H-RXUQDO RI 7D[5HVHDUFK

H-RXUQDO RI 7D[5HVHDUFK

:KHQ WKH *67 ZDV LQWURGXFHG *67 UHFHLSWV Z
UHYHQXH SHDNHG VKRUWO\ DIWHU LQ DW
PDWXULQJ RI WKH QHZ WD[6LQFH WKHQ *67 UHF
*'3 WR SHU FHQW LQ

7KH 3%2 5HSRUW FRQFOXGHG WKDW

H-RXUQDO RI 7D[5HVHDUFK

7KH SURVSHFW RI ORZHU *67 UHYHQXH KDV OHG WR
UHYHQXH EDVH WR µSOXJ WKH JDS¶ 0HDVXUHV WKDW
SURSRVH WR LQFUHDVH UHYHQXHV IURP

x ODQG WD[WKURXJK DJJUHJDWHG KROGLQJ DQG D
x ZDVWH GLVSRVDO HQYLURQPHQWDO OHYLVH
x WKH JDPEOLQJ SRLQW RI FRQVXPSSWLRQ WD[
x LQFUHDVHV LQ ILQHV SHQDOWLHV DQG IHHV DQG
x QHZ WD[HV RQ PRWRU YHKLFOHV DQG OX[XU\ FDU\

,Q JHQHUDO FRQIURQWHG ZLWK WKH ODFN RI JURZWK
UHVRUW WR VHOHFWLYH WD[HV WKDW IDOO ZLWKLQ V
VHOHFWLYH QDWXUH XQVWDEOH DQG LQHILFLHQW 5
H[LVWLQJ EDVH DQG GLVFRYHULQJ QHZ VRXUFHV RI V
µ:LOOLH 6XWDWR QRSLKND ¶WKDW¶V ZKHUH WKH PRQH\ LV

,URQLFDOO\ LW ZDV WKH QDUURZQHVW RI WKH 6WDWHR
RI WKHVH WD[HV WKDW WKH \$176 SDFNDJH VRXJKW WKD

:KDW LV LW DERXW WKH *67 V\VWHP WKDW OHDGV WR
WKH QDWLRQ EDFNZDUGV WR WKH W\SH RI WD[HV WKD

:KDW¶V WKH SUREOHP"

7KH WD[EDVH

7KH +HQU\ 5HYLHZ LGHQWLILHG WKDW FKDQJHV LQ FRC
LQIOXHQFHG E\ FKDQJLQJ FRQVXPHU SUHIUHQFHV Q
7KH +HQU\ 5HYLHZ PDGH WKLV REVHUYDWLRQ DV D I
QDUURZO\ GHILQHG FRQVXPSSWLRQ WD[EDVH

7KH 3%2 DQG +() 5HSRUWV SRVWXODWHG WKDW GHFOL

WKH H[HPSWLRQV LQ WKH *67 EDVH VXFK WKDW *
ZLWK KRXVHKROG7KRQMXDUSMVWZR HOOPHQWV WKD
HIIHFW

D7KH FKDQJH LQ WKH SURSRUWLRQ RI KRXVHKRO

>2QH@ IDFWRU WKDW KDV OHG WR D GHFOLQH L
EHHQ WKH FKDQJH LQ WKH FRQVXPSSWLRQ PL[

7KHLQOLH 6XWWKRQHUVXVOHWKDW LQ DFWLYLW\ EDVHG FRVWLQJ W
ILUVW EHFDXVH WKDW LV ZKHUH WKH ODUJHVW VDYLQ&JRWWDQ EH I
DQG (IIHFW 8VLQJ ,QWHJUDWHG &RVW 6\VWHPDWWDRUGJLQHV BQRMLW
,W GHULYHV IURP WKH UHVSRQVH RI :LOOLH 6XWWRQ ZKHQ
ZKHUH WKH PRQH\ LV¶
:LOOLDPV DERYH Q

H-RXUQDO RI 7D[5HVHDUFK

7KH 7DVNIRUFH 5HSRUW SURYLGHV D TXDQWLILFDWL
LQWURGXFHG LQ LW UDLVHG DQ DGGLWLRQDO
ILUVW \HDU

x \$8' PLOOLRQ IURP RXWVWDQGLQJ UHWXUQV EH
ZHUh IRXQG WR KDyH RXWVWDQGLQJ UHWXUQV

x \$8' PLOOLRQ *67 ± D SHU FHQW LQFUHDVH L
LQ D VLQJOH \HDU

x \$8' PLOOLRQ 3\$<* ZLWKKROGLQJ ± GHPRQVV
UHSRUWLQJ RI ZDJHV DQG FRQFRPLWDQW XQGHUS

x \$8' PLOOLRQ SD\ DV \RX JR 3\$<* LQVWDOPHQ
WD[SD\HUV ZHUh LGHQWLILHG DV SD\HHV «

7KLV ZLOO QRW EH WKH WRWDO LQFUHDVH DV DW
WKHUH ZHUh FRQWUDFWRUV ZKR KDG QRW O
ZKR KDG ORGJHG EXW 7356 UHSRUWV LQGLFDWHG
FRQWUDFWRUV ZLWKRXW DQ DFWLYH *67 UHJLVWU
UHFHLYHG SD\PHQWV OLNHO\ VXEMHFW WR *67

\$PHQGPHQWV PDI[GDHW WRQWSIGPLQQVWUDIWLQRQG\$FGW WKH R
RI WKH 7356 WR FRQWUDFWRUV LQ WKH FRXULHU DQG

7KH %XGJHW DQQRXQFHG WKH IXUWKHU H[WHQV

7KH *RYHUQPHQW ZLOO IXUWKHU H[SDQG WKH W
7356 WR WKH IROORZLQJ LQGXVWULHV

x VHFXULW\ SURYLGHUV DQG LQYHVWLJDWLQ

x URDG IUHLJKW WUDQVSRUW DQG

x FRPSXWHU V\VWHP GHVLJQ DQG UHODWHG VH

7KH PHDVXUH ZLOO KDyH HIIHFW IURP -XO\ JDLQ WR WKH EXGJHW RI PLOOLRQ LQ ILVFD
HVWLPDW HV SHULRG ,Q XQGHUO\LQJ FDVK EDODG
RI PLOOLRQ RYHU WKH IRUZDUG HVWLPDW HV

'HVSLWH WKHVH GHYHORSPHQWV IURP D *67 SHUVSI
DSSOLFDWLRQ

x LW DSSOLHV WR SD\HHV LQ D OLPLWHG UDQJH RI

7\$\$ 6FK V D\UDHDFH\Q\G\H\GDE\W \$PHQGPHQW %ODFN (FRQRPV
1R \$FW&WK
2Q ODUFK WKH 7UHDVXU\ UHOHDVHG IRU FRQVXOWDWLRQ
VWDWPHQW GHDOLQJ ZLWK WKLV PHDVXUH VHH 7UHDVXU\ /DZV \$
1R %LOO ([SODQDWRU\ 6WDWPHQW 7UHDVXU\ /DZV \$PHQG
1R %LOO

H-RXUQDO RI 7D[5HVHDUFK

\$GGUHVVLQJ WKH FRPSOLDQFH JDS

6HFWLRQ LGHQWLILHG D QXPEHU RI ORVVHV LQ *67
DYRLGDQFH DFWLYLWLHV DQG GHVLJQ LQHIIILFLHQFLH
WKDW PLJKW DULVH IURP DGGUHVVLQJ WKHVH ZHDNQ
DYRLGDQFH DFWLYLWLHV JYLQJ ULVH WR ORVVHV LQ

x PLVVLQJ WUDGHU IUDXG

x LQGHSHQGHQW FRQWUDFWRU YV HPSOR\HH VWDW

x GLVDJJUHJDWLRQ RI VLQJOH VXSSOLHV HJ VHSD
VXSSO\

x IUDXGXOHQW RU HUURQHRXV QRQ UHSRUWLQJ X

H-RXUQDO RI 7D[5HVHDFK

2SWLRQV ZRUWK\ RI FRQVLGHUDWLRQ DUH
x H[WHQVLRQ RI WKH µHPSOR\HH\| GHILQLWLRQ WR V
VHUYL FH LQFRPH PHDVXU, HQFR\| 7IDYL\$\\VR\QV VPRIQ
& WK
x UHIRUPLQJ WKH \$%1 UXOHV
x H[WHQGLQJ WKH 7356 WR DQ\ SD\HU ZLWK DQ \$%
VHUYL FH LQFOXGLQJ DQ HQWLW\ WKDW SD\V DQ
DQRWKHU
'LVDJJUHJDWLRQ RI VLQJOH VXSSOLHV HJ VHSDUDWLQJ D
7KH GHVLJQ IHDXUH RI D YDOXH DGGHG WD[WKDW
VWUXFWXUHV ZKHUH VXSSOLHV WR KRXVHKROGV DUH
LQ VHFWLRQ
:KLOH WKH GLVDJJUHJDWLRQ RI VHUYL FH EHWZHHQ
LQYROYHV EURDGHU SROLF\ DQG LQGXVWULDO SROLF\
UHJLPHV WKHUH DUH FLUFXPVWDQFH V ZKHUH WKHUH
WKH VHUYL FH RI LQWHUPHGLDU\ SDUWLFXODUO\
WKDW WKH LQWHUPHGLDU\ LV WUHDWHG DV WKH VXS
SURYLGUV DQG DUUDQJHUV DUH EURXJKW ZLWKLQ W
)RU H[DPSOH
x WKH UHFHQW 1HWIOL[DQG ORZ YDOXH JRRGV DPH
\$XVWUDOLDQ FRQVXPHU WKURXJK DQ HOHFWURQL
RSHUDWRU RI WKH SODWIRUP DQG QRW WKH DFW
WKH FRXUVH RU IXUWKHUDQFH RI WKH RSHUDW
QRWZLWKVWDQGLQJ WKDW WKH DFWXDO VXSSOLH
RZQ ULJKW RU PLJKW EH EHQHDWK WKH WXUQRYH
x 'LYLVLRQ DOORZV SULQFLSDOV DQG LQWHUPH
µ\$ WD[DEOH VXSSO\ WKDW WKH SULQFLSDO PDM
LWLQJHHVPHQW\ QGLDQ\ W\ A\ N\ H\ Q\ E\ W\ C\ G\ W\ K\ B\ Q\ R\ W\ P\ K\ D\ L\ Q\ W\ H\ U\ P\ H\ G\ L\ D\ U\ \ WR\ WKH\ W\ K\ L\ U\ T\ G\ SD\ U\ W\ \ D\ Q\ G\ Q\ R\

H-RXUQDO RI 7D[5HVHDUFK

HQWHUSULVH \$UJXDEO\ WKH *67 ODZ VKRXOG DC
EH WKH VXSSOLHU RI WKH VHUYLFHV RI WKH LQGL
7KH UHFKDUDFWHULVDWLRQ RI µLQWHUPHGLDU\ ¶ VHUY
VR WKDW VXSSOLHV PDGH WKURXJK LQWHUPHGLDULHV
LQWHUPHGLDU\ UHJDUGOHVV RI WKH *67 VWDWXV RI V
2WKHU HYDVLVRQ DYRLGDQFH SUDFWLHV
5HSRUWLQJ DQG GHGXFWLRQ V\VWHPV
'HVSLWH EHLQJ H[WHQGHG RQ WKUHH RFFDVLRQV WR
OLPLWHG LQ LWV DSSOLFDWLRQ
x LW DSSOLHV WR SD\HHV LQ D OLPLWHG UDQJH RI
x LW DSSOLHV WR SD\HUV ZKR GHULYH DERYH D P
VHUYLFHV
x LW GRHV QRW JHQHUDOO\ DSSO\ WR VXSSOLHV R
x LW GRHV QRW UHTXLUH D GHGXFWLRQ IURP WKH S
x D GRPHVWLW UHYHUVH FKDUJH LV QRW UHTXLUHG
7KH 7356 V\VWHP VKRXOG EH H[WHQGHG WR DSSO\ WR
x SD\HHV LQ D EURDGHU UDQJH RI VHUYLFHV
x

H-RXUQDO RI 7D[5HVHDUFK

« \$ PRPHQW\|V WKRXJKW ZLOO PDNH LW FOHDU W
SURQH QRW OHVV WR HYDVLRLQ WKDQ D :67 RU S
RQH FDVK IORZ RI WD[DQG WKLV FDVK IORZ LV
RFFXUV 7KXV WKH XVXDO IRUP RI HYDVLRLQ XQGH
RI JRRGV ZLOO FKDUJH WKH WD[WR WKH EX\HU
JRYHUQPHQW 7KH *67 RQ WKH RWKHU KDQG LQYI
RI LQSXW WD[FUHGLWV DV ZHOO DV WKH FKDUJH
YXOQHUEOH WR D IXUWKHU NLQG RI HYDVLRLQ ± V

H-RXUQDO RI 7D[5HVHDFK

UHIXQG DQG LQ WKH HDUO\ VWDJH RI LPSOHPH
FRYHUDJH LV IXOO\ LQ SODFH ,Q WKLV FDVH LW
WUDQVDFWLRQ DW DOO RFFXUV EXW D IUDXGXOH
WR FODLP D UHIXQG

,I WKH *67 HYDGLQJ VXSSOLHU GLVFRXQWV WKH
DPRXQW RI WKH *67 WKH UHJLVWHUHG EXVLQH
LQGLIIHUhQW 6R WRR WKH \$72 PD\ QRW EH RYHU
SXUFKDvh ZLOO EH PDGH XS IRU RQ WKH QH[W VD
HYDGHU LV VXSSO\LQJ WR D FRQVXPHU DQG QRW
HYDGHG WD[LV ORVW IRUHYHU ,I WKH HYDGHU X
WKH VHUYLFhv VFHWru WKHUH LV OLWWOH LQI
+HQFH WKH *67 LV DV SURQH WR HYDVLRQ LQ
SOXPELQJ HOHFWULFDO UHSdlUV HWF DV RWK
VSHFLDOLVLQJ LQ WKLV DUHD DQG QRW PDNLQJ
DOWHUQDWLYHO\ FKDUJLQJ WD[RQ VXSSOLHV
KRXVHKROGV DQG VHHNLQJ WR DOORFDWH DOO LO

7KH YDOXH DGGHG WD[V\VWHP GHVLJQ PDNHV LW VXV
EH LPSURYHG WR DGGUHVV LWV ZHDNQHVHV"

+ \EULG *67

,W LV ZRUWK FRQVLGHULQJ ZK\ D YDOXH DGGHG WD[L
RQ WKH SULFH SDLG WR KLP KHU E\ WKH FRQVXPHU

7KH H[SODQDWLRQ QR GRXEW LV WKDW WR UHTXLUH
H[SHQGLWXUH LV QRW OLNHO\ WR EH

x SROLWLFD0O\ DFFHSWDEOH DQG

x SUDFWLFDOO\ ZRUNDEOH

%XW DV GLVFXVVHG LQ VHFWRQ D YDOXH DGGHG
WD[SD\DEOH RQ KRXVHKROG FRQVXPSWLRQ H[SHQGLW
LV D JRRG WKLQJ IURP D FRPSOLDQFH DQG DGPLQLVW

H-RXUQDO RI 7D[5HVHDUFK

UHYHUVH FKDUJH DSSURDFK ZRXOG QRW UHPRYH
ZLWK LGHQWL\I\ LQJ EXVLQHVV WR EXVLQHVV WUDC

5HYHUVH FKDUJLQJ ZRXOG EH VLPLodu LQ HIIHF
WUDQVDFWLRQV ZLWKLQ WKH VXSSO\ FKDLQ ZRXO
WKDW WKH UHFLSLHQW LV UHJLVWHUHG IRU *67 «

7KLV DSSURDFK PLJKW UHGXFH VRPH FRPSOLDQFH
*67 V\VWHP ,W DOVR UHGXFHV WKH ULVN WR UH
ZKHUH QR *67 KDV EHHQ SDLG « 7KLV ZRXOG EH
WR ODUJH LQIUHTXHQW WUDQVDFWLRQV

7KH +HQU\ 5HYLHZ UHFRPPHQGHG

7KH JRYHUQPHQW VKRXOG FRQVLGHU PDNLQJ JUH
EXVLQHVV WUDQVDFWLRQV RU UHYHUVH FKDUJLQ
FRVW VDYLQJV RXWZHLJK WKH DGGLWLRQDO FRPS

7KH GLVFXVVLRQ LQ HDUOLHU VHFWLRQV LOOXVWUDW
RQ % % WUDQVDFWLRQV LV D OHVV ULVN\ ZD\ RI HQVX
RIIVHW LQ WKH UHSRUWLQJ REOLJDWLRQV RI WKH RQI
XQIXQGHG UHIXQGV

\$QG WKH 6XEGLYLVLRQ (UHVLGHQWLDO SUHPLVHV
WKH *67 REOLJDWLRQ RQ WKH SDUW\ RQ ZKLFK LW LV

\$V GLVFXVVHG DERYH D EURDGHQLQJ RI WKH UHYH
XQGHUWDNHQ

(PSOR\HH DUUDQJHU SURYLVLRQV

7KH GLVFXVVLRQ RI LQWHUPHGLDULHV LQ SUHYLRXV
QLJKW DQG ORQGD\ PRUQLQJ FRQWUDFWRU DUUDQJH
OLDELOLW\ IRU VXSSOLHV WKDW DUH DUUDQJHG RU
μDUUDQJLQJ\ IRU WKH VXSSO\ WR EH PDGH WR WKH F
WKH FXVWRPHU

,Q\$VRFLDFLyQ 3URIHVLRQDO (OLWH &DMH Y&8EHU 6\W\W
\$GYRFDWH *HQHUDO UHFRPPHQGHG WKDW

8EHU\ VDFWLW\ PXVW EH YLHZHG DV D ZKROH
FRQQHFWLQJ SDV VHQJHUV DQG GULYHUV ZLWK
VPDUWSKRQH DSSOLF DWLRQ DQG WKH VXSSO\ RI
IURP DQ HFRQRPLF SHUVp 0

H-RXUQDO RI 7D[5HVHDUFK

x UHPRYLQJ FDVK UHFHLSWV IURP H[SRUWV
7KH +HQU\ 5HYLHZ VXJJHVVWHG UHIXQGV ZRXOG EH SD
IORZ LQ DQ\ SHULRG
7KH LQIHHQFH LV WKDW D FDVK IORZ WD[FRXOG EH
\$FFRUGLQJO\ EXVLQHVV DQG JRYHUQPHQW RSHUDWL
ZLWKLQ WKH VDPH µFDVK IORZ WD[\ V\VWHP ZLWKRXV
LWHPV SURGXFHG
5HPRYLQJ WKH WUDQVDFWLRQ E\ WUDQVDFWLRQ UHS
DGPLQLVWUDWLRQ EHFDXVH WKH IRFXV ZRXOG VKLIW
VDPH DV LQFRPH WD[
/LPLWDWLRQV
:KLOH QRW FRYHUVHG LQ WKH +HQU\ 5HYLHZ LW LV SF
QRW EH EURXJKW ZLWKLQ WKH FDVK IORZ WD[V\VWHP
PLJKW QRW EH DEOH WR EH XWLOLVHG IRU VXSSOL
7KH µFDVK IORZ\ DSSURDFK ZRXOG QRW FDOFXODWH W
VHUYLHV DQG UHQWV ± WZR RI WKH µGLIILFXOW WR
RI UDLVLQJ HTXLYDOHQW DPRXQWV RI WD[WKURXJK D
,Q DGGLWLRQ ZKLOH WKH µVHOI HQIRUFLQJ\ FKDUD
H[DJJHUDWHG WKH FDVK IORZ PHWKRG RI LWVHOI LV
\$V VXFK LW LV VXVFHSWLEOH WR IUDXG LQ ERWK RYH
\$ FDVK IORZ FRQVXPSWLRQ WD[KDV WKH SRWHQWLDO
RQ µHQWLWLHV\ UDWKHU WKDQ JRRGV DQG VHUYLFHV
GLIILFXOWLHV RI FRQVXPSWLRQ WD[DWLRQ SHUVLVW
x JRYHUQPHQW VXEVLW\ ZRHK\ G HDUSYSLHFDHW WKDW WKH I
UHTXLUH ERWK VXEVLGLHV DV ZHOO DV H[SOLF
UHYHQXH DJDLQVW ZKLFK DOO FRVWV FDQ EH FOD
DQG VXEVLGLHV LQ WKH HGXFDWLRQ DQG KHDOW
IORZ DQG FKXUQLQJ LQHIIILFLHQFLHV LQ WKH µI
ZRXOG EH WR H[FOXGH VXEVLGLHV DQG JUDQWV I
ODUJH DQG RQJRLQJ UHIXQGV DV LV WKH FDVH X
x WKH SURSHUWW\ DWDW\ HGDYDQWDJH RI WKH FD
IRFXVHV RQ HQWLWLHV UDWKHU WKDQ WUDQV
RSSRUWXQLW\ WR PDQLSXODWH WKH FRUUHFW HG
IORZ DSSURDFK \$ GLVFXVVLVRQ RI WKLV ZHDNQHV
VFRSH RI WKLV DUWLFOH
x HPSOR\HH LQGHSHQGHQWLWRQW QBRWWRQHDDWU\ QH W
IORZ DSSURDFK ZRXOG DGGUHVV WKH LQKHUHQW
FROOHFWHG RQ WKH YDOXH DGGHG E\ µULGD\ QL
DQG µLQWHUPHGLDULHV\ GLVFXVVLHG LQ VHFWLRQ
x SKRHQL[DQG PLVVWQJH WFOD\ GHIO[R\ DPXHGFKDQLVP V
+HQU\ 5HYLHZ ZRXOG UHVXOW LQ D UHIXQG RI W
QRW DFFRXQWHG IRU E\ WKH VXSSOLHU

H-RXUQDO RI 7D[5HVHDUFK

x 'HPDQGLQJ RU SD\LQJ IRU ZRUN FDVK LQ KDQG WF

x 1RW UHSRUWLQJ RU XQGHU UHSRUWLQJ LQFRPH

)XUWKHU WKH FDVKIORZ V\VWHP ZRXOG VHHP WR VXII
PDNLQJ LW SHUKDSV XQVXLWDEOH DV D WD[EDVH IR

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

Q F R P H R C 1 D [Q L F Q R P P O H X B C Q D [L Q F R P H W D [R Q F R P S D Q L H V 3 W H K H Y * 6 7 O H R F

D J M D L E H ,

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

KLJKHVW SURSRUWLRQ VLQFH D Q G F R Q L W L Q X L Q J
FRQILUPHG E\ UHSUHVHQWDWLHYHV ZRUWWKKHO5HLVHWUBW
μWKH WD[UHYHQXH FROOHFWHG IURP KRXVHKROGV K
\$V LW FRPSULVHV DSSUR[LPDWHO\ SHU FHQW RI RYI
ODUJHVW DPRXQWV REIDW HGHIOQHMHQXHV ZHUH H[SHFWHG
KRZHYHU GXH WR IDFWRUV VXFK DV FKDQJHV LQ FRQ
WKH DPRXQWV FROOHFWHG LQ *67 KDYH YDULHG LQ W
,Q ZKHQ WKH WD[ZDV ILUVW LQWURGXFHG *67 U
WKLV OLIWHG QRPLQDOO\ WR SHU FHQW RI *
FHQW LQ

35,1&,3/(6 2) 7\$; 32/,&<

,W LV ZLGHO\ DFNQRZOHGJHG WKDW WKHUH DUH ILYH I
D JRRG WD[V\VWHP 7KH UHYLHZ\$RIVWUKDHO\$D VVWUDWOKD
6\VWHP 5HSRUW WR WKHV7 QG`e`0 *

H-RXUQDO RI 7D[5HVHDUFK

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

UHIHUUHG WR DQ\ WHKUR\ DOWHGOH WKH WHUP H[HPSWLR
VFHQDULRV

&2168037,21 7\$;(6;(037,216 \$1')22'

\$XVWUDOLD LV RQH RI RQO\ ILYH 2(&' PHPEHU FRXQWU
WR VSHFLILF IRRG LWHPV WKH RWKHU FRXQWULHV EH
.LQJGRP 7KH PDMRULW\ RI (XURSHDQ FRXQWULHV GR

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

WKH KLJKHVW TXLQWLOH DFWXDOO\ VSHQG PRVW RQ I
VSHQG RQ UHFUHDWLRQ ZLWK WUDQVSRUW DQG KRXY
RI H[SHQGLWXUH

)LJ 3URSRUWLRLQ RI :HHNO\ +RXVHKROG 6SHQGLQJ F
0LGGOH DQG +LJK :HDOWK \$XVWUDOLD

7KLV LV D VKLIW IURP ZKHQ ORZ LQFRPH HDUQ
DV PXFK RI WKHLU LQFRPH RQ IRRG DV SHRSOH LQ WK

H-RXUQDO RI 7D[5HVHDOUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

/LNH \$XVWUDOLD DQG &DQDG D ,UHODQG JDLQV D VLJ
9\$7 7KH ,ULVK VWDQGDUG 9\$7 UDWH LV SHU FHQW
RI SHU ,QHQWODQG EDVLF IRRG DQG GULQN IRU K
UDWH~~7~~CLV DSSOLHV WR LWHPV VXFK DV IUXLW YHJH
EHYHUDJHV RU F,~~RQIOHDQGLRQODUR\~~ DSSOLHV UHGXFHG 9\$1
SHU FHQW DQG SHU FHQW WR D QXPEHU RI JRRGV

\$ VWXG\ XVLQJ WKH +RXVHKROG %XGJHW 6XU
7ULQLW\ &ROOHJH 'XEOLQ IRXQG WKDW ,ULVK KRXVHK
GHFLOH H[SHQGHG DERXW SHU FHQW RI WKHLU GL
KRXVHKROGV RQ WKH RWKHU KDQG VSHQW RQO\ DERX
WKRVH LQ WKH ORZHVW LQFRPH GHFLOH WKH DXWKR
,UHODQG ZDV KLJK~~7~~H UH~~W~~~~X~~~~G~~~~V~~~~D~~OMR FRQFOXGHG WKDW
ZRXOG LQFUHDVH WKH UHJUHVVLYH HIIHFW RI WKH W
ORZHVW LQFRPH GHFLOH UXUDO KRXVHKROGV VLQJ
KRXVHKROGV ZLWK V~~E~~K~~R~~U~~R~~R~~U~~KHJ~~S~~M~~R~~SQPHQW LJQRUHG
LQFUHDVHG WKH KLJKHVW UDWH RI 9\$7 DOWKRXJK LW
DQG EHYHUDJHV

7KH VWDQGDUG UDWH RI *67 \$LPQRQH [W~~K~~R~~I~~ L~~A~~X S~~S~~Q~~H~~ R~~V~~ M~~O~~V
UDWHG DUH WKH VXSSO\ RI QRQ LQGXVWULDOLVHG D
VSHFLILF IRRG SURGXFWV SDW,~~W~~~~S~~~~H~~~~G~~~~L~~~~U~~~~F~~~~V~~~~Q~~~~H~~~~K~~~~D~~~~W~~~~Q~~~~G~~
SROLF\ EHKLQG]HUR UDWLQJ EDVLF IRRG ZDV VLPLQD
FRQVLGHUHG WR LPSDFW PRUH KDU~~V~~~~R~~~~O~~~~H~~~~Y~~~~R~~~~Q~~~~U~~ O~~R~~~~R~~ WLQ

H-RXUQDO RI 7D[5HVHDOUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

LQFRPH FRQVXPHUV SXUFKDvh IRRG IURP WKHvH VXS
IRRg HYHQ LI LW ZDV WD[DEOH

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

7KH H[HPSWLRQ IRU IRRG DQG ORZ LQFRPH KRXVHKROGV L
5HVHDUFK RYHU WKH ODVW GHFDGH KDV H[DPLQHG W
ORZ LQFRPH KRXVHKROGV ZLWKLQ WKH FRQWH[W RI G

H-RXUQDO RI 7D[5HVHDOUFK

F R V W D E R X W

7K H F D V H I R U V S H F L I L F H [H P S W L R Q V I U R P W K

K H D O W K \ O L I H \ H D U V R Y H U W K H C

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

* 6 7 \$ 1' + (\$ / 7 + & \$ 5 (

H-RXUQDO RI 7D[5HVHDOUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

7KH SROLF\ UDWL RQDOH LV WR WD[WKH YDOXH RI KRX
WKH WUHDWPHQW RI WKRVH ZKR UHQW WKHLU GZHOOL
2ZQHU RFFXSLHUV ZRXOG QRW EH VXEMHFW WR WKH *
ZRXOG QRW EH VHOOLQJ WKHLU KRXVH LQ WKH FRXUV
VHOOLQJ WK7HKLHJ HKIRHPPHW IURP D WD[SHUVSHFWLYH LV V
WD[HG VXSSO\ ± QR *67 LV FKDUJHG RQ WKH VDOH DQ
7R UHDOLVH WKLV SROLF\ REMHFWLYH UHVLGHQWLDC
WKDW WKH\ DUH DFWXDOO\ XVHG WR SURYLGH DFFRP
DQG WKHQ RQO\ WR WKH SRLQW WKDW DFFRPPRGDWLR
WKH H[WHQW WKDW EXVLQHVU UHODWHG DFWLYLW\ LY
SUHPLVHV KRXVLQJ VXSSOLHV DUH WD[DEOH WR HQDI
RI SUHPLVHV WR FODLP D WD[FUHGLW LQ UHVSHFW I
HQVXUH WKHLU LPPXQLW\ WR WKH WD[

\$V (EULOO HW DO VWDWH

2ZQHU RFFXSLHG KRXVLQJ LV SUREOHPDWLF KRZ
FRQVXP SWLRQ RQ ZKLFK RQH ZRXOG OLNH WKH W
EHHQ PDGH LQ WKH SDVW WR LPSXWH YDOXH

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

7D[([SHQGLWXUHV 6WDWHPHQW UHYHDOV WKDW R

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

H-RXUQDO RI 7D[5HVHDUFK

H-RXUQDO RI 7D[5HVHDUFK

H-RXUQDO RI 7D[5HVHDUFK

7KH FDVH IRU VSHFLILF H[HPSWLRQV IURP WK

H-RXUQDO RI 7D[5HVHDUFK YRO QR SS

H-RXUQDO RI 7D[5HVHDUFK

*67 GPLQLVWUDWLQRQ

7DEOH *67 &RPSOLDQFH /LDELOLWLHV

<HDU	*67 FRPSOLDQFH OLDELOLWLHV

7KHVH

1%o TM• `` gTM~€ 0

H-RXUQDO RI 7D[5HVHDUFK

*67 DGPLQLVWUDWLQRQ

H-RXUQDO RI 7D[5HVHDUFK

*67 GPLQLVWUDWLRQ

FKDQJH VFRXUVH *67 UHIXQGV FDQ DULVH IURP HLWKH
RU RYHUSDLG µRXWSXW ¶ *67 %XW WKHUH LV D VLJQI
WZR ,Q EURDG WHUPV DQ XQGHU FODLPHG LQSXW WI
E\ WKH UHOHYDQW HQWHUSULVH ZKLOH RYHUSDLG µF
HQWHUSULVH RU KDYH EHHQ VKLIWHG IRUZDUG LQ SU
FXVWRPHU ,Q WKH ODWWHU FDVH WKH UHIXQG UXOH
UHFHLYLQJ D µZLQGIDOO JDLQ ¶ DW WKH H[SHQVH RI W
2YHUODLG RQ WKHVH UXOHV DUH OLPLWDWLRQ SHULR
FODLPHG EH\RQG D IRXU \HDU SHULRG VXEMHFW WR

H-RXUQDO RI 7D[5HVHDUFK

* 67 DGPLQLVWUDWLRQ

H-RXUQDO RI 7D[5HVHDUFK

*67 GPLQLVWUDWL RQ

SUDFWLWLRQHUV DQG WKHLU FOLHQWV WKLV LV DQ
GPLQLVWUDWL RQ ZKLFK QHHGV WR EDODQFH WLPHO

, QWHUHVW RQ *67 UHIXQGV

7KH DYDLODELOLW\ RI LQWHUHVW RQ *67 UHIXQGV L
DFFXUDWHO\ WKH WLPH IURP ZKLFK LQWHUHVW UXQ
UHFHQWDUOMOKHDO GHOD\HG UHIXQG LQWHUHVW ZDV

H-RXUQDO RI 7D[5HVHDUFK

*67 DGPLQLVWUDWLQRQ

H-RXUQDO RI 7D[5HVHDUFK

*67 DGPLQLVWUDWLQRQ

LQYROYLQJ QR UHDO WHFKQLFDO LVVXHV 7KDW ZRXC
EH ZHOFRPHG DQG WKH &RPPLVVLRQHU FRQJUDWXODW

7KH VHFRQG FODVV RI GLVSXWH DULVHV ZKHQ WKH \$7
VXLWDEOH IRU UHVROXWLRQ)RU WKHVH GLVSXWHV W
WKH \$72 KDV EHFRPH XQQHFHVVDULO\ FRQIURQWDWL
ORZ SRLQW LQ UHODWLRQV ZLWK WKH \$72 2I FRXUVH
DUH E\ WKHLU QDWXUH DGYHUVVDULDO +RZHYZHU SUD
\HDUV VHH D UHDO FKDQJH DQG D UHWXUQ WR WKH
&RPPLVVLRQHU WDNLQJ HYHU\ SRLQW PDQ\ RI ZKLFK
WKH LVVXH LQ GLVSXWH 7KDW LV XQIRUWXQDWH DV
FDSDEOH RI UHVROXWLRQ ZLWKRXW WKH QHHG WR EH

,I LW ZHUH SRVVLEOH IRU WKH DXWKRU WR RIIHU VRP
PXFK EURDGHU YLHZ RI ZKLFK PDWWHUV PLJKW EH VX
UHVROXWLRQ \$EVHQW IUDXG RU HYDVLRLQ LW LV WKH
ZRXOG EHQHILW IURP LQWHUYHQWLRQ 2QH RI WKH E
HYHQ LI D PDWWHU GRHV QRW VHWVOH LW LV RIWH
ZKHWKHU WHFKQLFDO SRLQWV SURFHGXUDO SRLQWV
SDUWLHV)XUWKHU WKH PHUH SUHVHQFH RI DQ H[
UHVROYLQJ D GLVSXWH RIWHQ WHQGV RI LWVHOI WR
D ORQJ ZD\ WR DOOD\LQJ WKH FXUUHQW FRQFHUQV RI

H-RXUQDO RI 7D[5HVHDUFK YRO QR SS

* 67 DGPLQLVWUDWLRQ ± FRP

'U 3HWHU +LOO

\$EVWUDFW

7KLV DUWLFOH SURYLGHV FRPPHQWV RQ WZR DUWLFOHV SUHVHQWHG RQ WKH WR WKH GPLQLVWUDWLRQ RI *67 UXOLQJV RYHU WKDW SHULRG WKH DXWK SHUIRUPDQFH DQG VHHNV WR KLJKOLJKW RQJRLQJ LVVXHV ZLWK D WKH RC RI DQ\ VWDWHG SHULRG IRU DQ\ *67 SULYDWH UXOLQJ DQG WKH FRQVHTXHQ DVVRFLDWHG ZLWK D SDUWLFXODU SURYLVLRQ GLVFXVVHG LQ RQH RI WKH D SHUIRUPDQFH LQ UHGXFLQJ WKH ODUJH *67 JDS PHQWLRQHG LQ RQH RI WKH RYHUO\ FRPSOH[

67 DGPUR

,1752'8&7,21

, ZDV KRQRXUHG WR EH DVNHG WR SDUWLFLSDWH LQ
VHUYLHV *67 GPLQLVWUDWLRQ DV D 3DQHO 6SHD
GPLQLVWUDWLYH DUUDQJHPHQWV IRU WKH FRPPHQFH
VSRNH DERXW WKHP DW WKH WLPH DQG DIWHUZDUGV
RUJDQLVHG E\ \$WD[WR PDUN WKH WK DQQLYHUVDU\

, Q P\ YLHZ LW ZDV LQ VRPH SDUW D UHIOHFWRQ RI
V\VWHP WKDW .DUO +H%QJV+LQHQVW\& KQ\\$7U&R7 &VKPHPLWWH
DQG & R FKDLU RI WKH 2(&'¶V 9\$7 *67 7HFKQLFDO \$GYI
WKH VHVVLRQ¶V SDSHUV ORRNLQJ DW WKH UROH RI
GPLQLVWUDWLRQ 2WKHU 2(& UHSUHVHQWDWLYHV G
VLPSO\ GLG QRW KDSSHQ WHQ \HUV DJR

:KLOVW WKHUH LV QR GRXEW WKH 2(& LV QRZ FORVH
HWDEOLVKHG E\ \$XVWUDOLD DQG RWKHU FRXQWULH
SDUWLFXODUO\ LQ WKH RQ OLQH PDUNHW VSDFH , Z
FRYHUHG E\ WKH RWKHU WZR VSHDNHUV LQ WKH VHV
WKHQ 'HSXW\ &RPPLVVLRQHU RI ,QGLUHFV 7D[\$XV
.HYLQ 2¶5RXUNH 'LUHFWRU RI 2¶5RXUNH &RQVXOWLQ.

0\ ILUVW FRPPHQW WKRXJK LV RQHWKHS\WOWFOHPRHWKHL
7KLV EURXJKW D VPDOO VPLOH WR P\ IDFH EHFDXVH
*67 KDV EHHQ FRQFHUQHGEHSIRW\KA\AR\B\WQFH\WUHQWD\RLV
V\VWHP RQ -XO\ DQG KDV EHHQ GRLQJ VR HYHU

, I WD[GPLQLVWUDWLRQ FDQ HYHU EH GHVFULEHG D
HYHQWXDO SDVVDJH RI WKH SDFNDJH RI *67 OHJLV
FRPPHQFHPHQW ZDV DQ H[FLWLQJ WLPH ,Q VKRUW
FRPPHQFHPHQW RI *67 LQ \$XVWUDOLD WKH \$72¶V LQI
HYHU\ *67 UHJLVWUDWLRQ DSSOLFDWLRQ ZDV GLVSHQ
WR WKH \$72 WKDW WKH UHDOLW\ ZDV WKDW LW KDG G
ZLWK PDQXDOO\ FKHFNLQJ HYHU\ DSSOLFDWLRQ DQ
GHHPLQJ DQ\ DSSOLFDW WR EH UHJLVWHUHG XQOHVV
RI WKH DSSOLFDW GHWHUPLQHG RWKHUZLVH UHWU
HDUO\ VWDJHV RI *67 GPLQLVWUDWLRQ ZKHUH SUDJ
LQ VGD\QF H €LFVR QZD\€FQf1FQ\BV\QLLWDHW\EG FER\YWLQHR US7W\K\H JeU
RULJLQDO *67 DSSOLFDWLRQV LW ZRXOG UHFHLYH

H-RXUQDO RI 7D[5HVHDUFK

)LQDQFLDO V

LQSXWV XVHG IRU VXSSOLHV WKDW DUH WD[DEOH ZL
DOORZHG IRU LQSXWV UHODWLQJ WR RWKHU VXSSOLH
7KH \$XVWUDOLDQ V\VWHP WDNHV WKH RSSRVLWH DSS
PDQGDWHG IRU DFTXLVLWLRQV WKDW UHODWH WR L

H-RXUQDO RI 7D[5HVHDUFK

)LQDQFLDO V

+RZHYHU WKLV EURDG SULQFLSOH KDV VRPH TXDOLIL
H[HPSWLRQV D VWULFW LQWHUSUHWDLRQ LV IDYRX
PD\ EH H[HPSW

7KH WUHQG RI WKH \$XVWUDOLDQ FDVHV E\ FRQWUDVW
RI WKH VWDWXWH DQG WKH WUDQVFDFWLRQ LW WD[H]
μWKH & RXUW ZLOO SUHIHU DQ LQWHUSUHWDLRQ RI
OHJLVODWLYH SXUSRVH DV RSWRNRGR XURWRQLQWFKDW
WUDQVFDFWLRQ IRU *67 SXUSRVHV DSSHDU WR EH PRU
D WUDQVFDFWLRQ UDWKHU WKDQ WKH μVXEVWDQFH¶ RI

'XULQJ WKH SUHFHGLQJ RU VR \HDUV LW LV VWULN
KDYH EHHQ GHFLGHG LQ FRQQHFWLRQ ZLWK ILQDQFL
QXPPEHU ZLWK SHUKDSV KDOI D GR]HQ RU VR FDVHV R
PD\ LQ SDUW EH D UHVXOW RI WKH GHWDLOHG GUDIWI
DQG LQ WKH DFFRPSDQ\LQJ *67 5HJXODWLRQV ,Q DG
UXOLQJV DGGUHVV PDQ\ RI WKH PDLQ LVVXHV PDNLQ
DUJXDEO\ RQH RI WKH EHVVWHL[§QDRZQH\ULQQRWKHVXUR\$JQ
RI WKH FDVHV WKDW KDYH EHHQ GHFLGHG KDYH DULVH
\$XVWUDOLDQ V\VWHP GHVFULEHG DERYH VXFK DV WK
GLVFXVVHG IXUWKHU LQ VHFWLRQ EHORZ DQG WK
DFTXLVLWLRQV EHWZHHQ GLIIHUHQW FDWHJRULHV RI
FRQVLGHUV WKH SURSHU DSSURDFK WR FRQVWUXFWL
ZLWK LPSRUWDQW FRQVHTXHQFHV IRU *67 VHFWLRQ

&/\$,0,1* ,1387 7\$; &5(',76

7KH UHDFK RI WKH SURYLVLRQV RI WKH *67 \$FW DOORZ
IHOO IRU FRQVLGHUDWLRQ E\ WKH FRXUVW DW DQ HDU
XVXDO VFKHPH IRU YDOXH DGGHG WD[DWLRQ 7KDW L
WKH (XURSHDQ 8QLRQ WKH UXOHV UHTXLUHG UHOHV
WD[DEOH VXSSOLHV DQBRZDQBLXWLDEMLRVQV §QRGHU WKH
WKH UHTXLVLWH UHODWLRQVKLS EHWZHHQ LQSXW WD
GHQRDQQSXW WD[FUHGLWV

7KH SDUWLFXODU TXHVWLRQ ZDV WKHUHIRUH ZKDW
DQG LQSXW WD[HG VXSSOLHV WR SURGXFH D GHQLDO
μDFTXLVLWLRQ « >UHODWH@ « WR PDNLQJ VXSSOLHV W

RI WKH &RQWUDFW \$QG μ(FRSRUDOF 5HDOXLSQDWHG -DQXDUL
KWWSV ZZZ JRY XN KPUF LQWHUQDO PDQXDOV YDW VXSSO\ DQG I
& DVH & &RPPLVVLVRQ (Y&),UDQ&H -DQXDU\
+3 0HUFDQWVLDQHWHG Y & RPPLVVLVRQH & \$R&&78 [DQWIXRQOQFH /LPLWHG
%DQNVWRZQ)RRWEDOO &O&E5 /LPLWHG
& RPPLVVLVRQHU RI 7D[DWLRQ Y *QR[L@L]& \$P&YHVWPSQWVWUDQULQW
6W\OH ,QYHVWPHQWV 3W\ /WG DV 7UXVWHH IRU WKH \$XVWUDOLDQ
7D[DWLRQ@ \$\$7\$ \$75
6HH \$XVWUDOLDQ 7D[DWLRQ 2IILFH μ*RRGV DQG 6HUYLHV 7D[
5HODWHG 6XSSOLHV DQG \$FTXLVLWLRQV *RRGV DQG 6HUYLHV 7D[
7D['HWHUPLQLQJ WKH ([WHQW RI &UHGLWDEOH 3XUSRVH IRU &
\$GMXVWPHQWV IRU &KDQJHV LQ ([WHQW RI &UHGLWDEOH 3XUSRVH
5HGXFHG &UHGWVWUDQULQW

H-RXUQDO RI 7D[5HVHDUFK

)LQDQFLDO V

RI WKH *67K\$IFWWH RI WKH VXEMXQFWLYH µZRXOG
FRQGLWLRQV XQGHU ZKLFK K\SRWKHWLFDO LQSXW WD
TXHVWLRQV DV WR ZKDW WKRVH K\SRWKHWLFDOV ZHU
ZKHQ WKH DFWXDO LQSXW WD[HG VXSSOLHV ZHUH UHT
DFWXDO VXSSOLHV WKDW ZHUH LQSXW WD[HG RFFX
LGHQWLILHG IRU FUHGLWDELOLW\ WR EH GHQLHG"

7KHVH TXHVWLRQV IHOHQDORRQHOPHQWLQDSVOLRQ LQ TXH
RSHUDWHG D GHEW FROOHFWLRQ EXVLQHVV DFTXLUL

H-RXUQDO RI 7D[5HVHDUFK

)LQDQFLDO V

VKRXOG FRQYHUVHO\ D8000GRRZX EFVWIIHGQW DWIKOLVSUHUU
DWWULEXWLRQ ZLOO DOORZ IRU D PRUH DFFXUDWH ZD
VHFWRQ DQG LQ SDUWLFXODU WKH DEVHQFH RI

H-RXUQDO RI 7D[5HVHDUFK

)LQDQFLDO V)

µLQSXW WD[HG¶ 5DWKHU WKDQ XQGHUWDNH WKL
DFTXLVLWLRQV LQ TXHVVWLRQ WKH UHVSRRQGHQW
ILJXUHV DV D SUR[\ IRU WKH UHODWLRQVKLS E
DJUHJDWH DQG WKH PDNLQJ RI SDUWLFXODU V)

«

>7@KH IRUPXOD DVVXPHV WKDW LW LV IDLU DQ
SURSRUWLRQDO UHODWLRQVKLS EHWZHHQ D W

\$\$7\$ DW > @ 7KH DSSURDFK DGRSWHG E\ W
FRUUHFW

:KLOH WKH FRQFHSHW RI *67 DV μD SUDFWLFDO EXVLQH
DV RQH RI WKH WRROV IRU LQWHHW & H)WGWU6BDQI D&R XMKVM
+ROLGD\V /LPLWHG Y & R P RLQGVLLFRDQVHUGRW K D\W WIKRQH ZH
IDU D FRXUW FDQ JR LQ DSSO\LQJ WKH SULQFLSOH

7KH & RXUW KDV WHQGHG WR DGRSW D SXUSRVLY
WKH *67 \$FW UHMHFWLQJ VWULFW JUDPPDWLFDO
QRW RQO\ RI WKH V\QWD[EXW DOVR RI μWKH SR
FRQWH[W \ RI WKH +UH0HUYDQQWSOR Y3WL RQG Y & R
7D[DWL RQ@)&\$)&)&5 DW > @ & R
WKH VH DVSHFWV RI WKH *67 \$FW KDV OHDG WR W
EXVLQH\W HWDQ\QJ *XDUGLDQ 3W\ /WG >Y & R PPLVV
)&\$ \$/5 DW > @

7KH GHVFULSWLRQ LV DSSURSULDWH EHFDXVH LW
RI WKH WD[7KH IDFW WKDW OLDELOLW\ WR SD\
WKH VXSSO\ FKDLQ PHDQV WKDW LW LV D WD[RQ
GHVLJQHG ZKHUH SUDFWLFDEOH WR TXDUDQWL
RI WKH WD[7KLV DQG RWKHU DVSHFWV RI WKH
FRQWH[W LQ ZKLFK WKH ODQJXDJH RI WKH \$FW
LQ SDUW ZK\ WKH GHVFULSWLRQ μD SUDFWLFDO
7KLV GRHV QRW PHDQ KRZHYHU WKDW WKH
WKDW VKRXOG EH DSSOLHG ZKHQ LQWHUSUHWLQJ
WR LQWHUSUHWDLRQ RI LWV QDWXUH WDNHV
SKUDVH μD SUDFWLFDO EXVLQHVV WD[\ LV D UH

7KH FRQFHSHW RI *67 DV μD SUDFWLFDO EXVLQHVV W
VWULFW DQ LQWHUSUHWDLRQ ZKHUH WKH SXUSRVH F
GR VR +RZHYHU WKH GRPLQDQW DSSURDFK RI WKH \$X
GLVWDQFH DZD\ IURP WKH (XURSHDQ DSSURDFK RI OR
PD\ EHWWHU DFKLHYH WKH OHJLVODWLYH SXUSRVH RI

\$ ILQDO REVHUYDWLRQ RQ TXHVWLRQV RI FKDUDFWH
OLVW RI μUHGXFHG FUHGLW DFTXLVLWLRQV\ VHW RXW
0XFK WXUQV RQ ZKHVKHU VRPHWKLQJ IDOOV ZLWKLQ
DFTXLVLWLRQ FRXOG UHGXFH WKH LQSXW *67 FRVW F
IDLOLQJ ZKLFK WKH HQWLUH DPRXQW RI LQSXW *67 EH
+RZHYHU OLWWOH GLVSXWDWLRQ KDV DULVHQ LQ WKH
UHGXFHG FUHGLW DFTXLVLWLRQV 7KLV PD\ LQ SDUW
5HJXODWLRQV DV ZHOO DV WKZHKSXKEOLQ DXERQG DRCQF
XVXDO SURFHVVHV RI WKH \$XVWUDOLDQ 7D[DWLRQ 21

,ELG SDUD
5REHUW 20GLQJ μ³*67 LV D 3UDFWLFDO %XVLQHVV 7D[' ± ³6SLQ
\$XVWUDOLDQ *67 -RXUQDO
6DJD +ROLGD\V /LPLWHG Y &RPP@V)VL\$RQHU RI 6DWDWLRQ
,ELG SDUDV
*67 5HJXODWLRQV UHJ
6HH \$XVWUDOLDQ 7D[DWLRQ 2IILFH μ*RRGV DQG 6HUYLHV 7D[

H-RXUQDO RI 7D[5HVHDUFK

)LQDQFLDO V

XS μPDQDJHPHQW¶ \$ PDQDJHU RI D FRPSDQ\ KDV EHH
WKH PDQDJHPHQW RI WKH ZKRQHWKHDELRQWHKWW RRFDSI
μPDQDJHPHQW¶ LV JHQHUDOO\ UHJDUGHG DV LQYRO\
H[HUFLVGLVRUUDHWRQRDLURQRWZURUD DQG GLUHFWRQERQ RI
H[HUFLVH RI SRZHU SUHVPDEO\ UHTXLULQJ D KXPDQ
μPDQDJHPHQW¶ LV

μ%URNHUDJH¶ LQFOXGLQJ WKH ZRUN RI D VWRFNEURN
WUDGLWLRQDOO\ DOVR LQYROYHV D KXPDQ DFWRU

H-RXUQDO RI 7D[5HVHDUFK

)LQDQFLDO V

EDVLF DVVXPSWLRQV XQGHUO\ LQJ WKH YDOXH DGGHG
VHUYL FH V QDPHO\ WKH SUREOHPV LQ ILQGLQJ WKH µ⁷
7KH FKDQJH \$, LV DOUHDG\ EULQJLQJ WR EH DU LV UHD
FKDQJHV PD\ QRW RFFXU RYHUQLJKW 7R UPHPEHU Z
UHJDUG PD\ QRW JR DPLVV QDPHO\ WKDW µZH WHQG W
LQ WKH VKRUW UXQ DQG XQGHUHV \$VQWIRWKRJW KPHD NHUQHF
PDQ\ SUHGLFWLRQV LQ D YRODWLOH DQG UDSLGO\ H
PHGLXP WR ORQJHU WHUP WKH DSSOLF DWLRQ RI \$, LC
FDQQRW EH LJQRUHG

6HH 6XVDQ 5DWMIRQIGIHV VHHQWL DQIRF BWDWVRQVLW\ 3UHVV WK H
\$PDUD ± \$PHULFDQ IXWXURORJLVW¶

H-RXUQDO RI 7D[5HVHDUFK YRO QR SS

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

WR WKH \$XVWUDOLDQ WD[V\VWHP GXULQJ WKH IROOR
FD SLWDO JDLQV WD[&*7 IULQJH EHQHILWV WD[)%7

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

&KDLUPDQ 6LU 5REHUV :LOOLDP &ROH 7KH &ROH &
&RDOLWLRQ SDUWLHV WKDW ZRXOG VLJQLILFDQWO\ +RZHYHU WKH &RDOLWLRQ SDUWLHV ORVW WKH µXQO

'XULQJ WKH HOHFWLRQ FDPSDLJQ WKH WKHQ OHD SOHGJHG QHYHU WR LQWURGXFH D *67 LI KH EHFDPH WKDW SOHGJH WKH &RDOLWLRQ JRYHUQPHQW FRPPHQW WKH \$XVWUDOLDQ WD[DWLRQ V\VWHP LQFOXGLQJ WKH +RZDUG JRYHUQPHQW WRRN WKLV SDFNDJH RI UHIRUP' HOHFWHG LQ 6HSWHPEHU DQG LPPHGLDWHO\ VH FRPPHQFH RQ -XO\

7KH SDVVDJH RI WKH \$ 1HZ 7D[6\VWHP *RRGV DQG 61 3DUOLDPHQW ZDV IDU IURP VPRRWK 7KH *67 IUHH WI JRYHUQPHQW SDLG WR KDYH WKH OHJLVODWLRQ SDV 'HPRFUDWV 7KH \$XVWUDOLDQ 'HPRFUDWV ZRXOG SD\

.H\ SROLF\ GHFLVLRQV PDGH GXULQJ DQG Z JRYHUQPHQW VXFK DV WKH *67 IUHH WUHDWPHQW RI RI RYHUVHDV H[SHULHQFH VXFK DV WKH µSODFH RI V DQG WKH WUHDWPHQW RI ODQG JRYHUQPHQW DQG FK LQWHUQDWLRQDO WUDQVDFWLRQV RU ZHUV XQLTXH FUHGLW UHJLPH IRU ILQDQFLDO VHUYLFHV DQG DVS LQVXUDQFH

:KHQ LW FDPH WR GHVLJQLQJ WKH \$XVWUDOLDQ *67 C DUH UDUHO\ GLVFXXVHG LQ SXEOLF WKH LPSDFW RI DQG WKH 2UJDQLVDWLRQ IRU (FRQRPLF &R RSHUDWLR IRU GHVLJQLQJ D PRGHUQ HIILFLHQW WD[V\VWHP

*67/\$: '(6,*1

7KH WD[ODZ LPSURYHPHQW SURMHFW

,Q WKH \$72 DQG WKH 2IILFH RI 3DUOLDPHQWDU\ & WR VLPSOLI\ WKH GUDIWLQJ RI \$XVWUDOLD¶V LQFRPH QRW SDUW RI WKH EULHI 5DWKHU WKH DLP RI WKH \$XVWUDOLDQ LQFRPH WD[ODZ VLPSOHU HDVLHU WR X FRPSOLDQFH DQG UHGXFH FRPSOLDQFH DQG GPLQLV

7KH 7/,3 PRGHO ZDV DGRSWHG DQG PRGLILHG IRU \$XV OHJLVODWLYH PRGHO FRQVLGHUHG 7KH VWUHDPOLO PRGHO IRU WKH :LQH (TXDOLVDWLRQ 7D[ZDV LQLWL VWUXFWXUDO FRPSOH[LWLHV RI D *67

7KH 7/,3 PRGHO LV XQLTXHO\ \$XVWUDOLDQ \HW RIWH DQG SUDFWLWLRQHUV ,W KDV WKH IROORZLQJ IHDXW

x LW LV EDVHG RQ D S\UDPLG DSSURDFK ZKHUH FRU DSH[RI WKH S\UDPLG %HORZ WKH FRUH FRQFHWS %HORZ WKH H[HPSWLRQV FKDSWHU UHVLGHV D FK WR WKH EDVLF UXOHV 8QGHUSLQQLQJ WKHVF F

H - R X U Q D O %o 0

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

2(&' SULQFLSOHV IRU GHVLJQLQJ D WD[V\VWHP

,Q WKH 2(&' UHOHDVHG WKH 2WWWDZD)UDPHZRUL
FRPPHUURKHVH IUDPHZRUN FRQGLWLRQV ZHUV FRQVLVW

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H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

, QWHUQHW VSHFLILFDOO\ PD\ KDYH, QR QX 067 DQ GW \$K\$7
JRYHUQPHQW¶V YLHZ ZDV WR PRQLWRU WKH LPSDFW
VSHQGLQJ DQG DFW ZKHQ QHFHVVDU\ &OHDUO\ WKH
ULJKW WR DSSO\ *67 WR WKH LQERXQG FURVV ERUGH
YDOXH JRRGV

7KH DQG *67 ODZ FKDQJHV UHODWLQJ WR WKH
VHUYLHV LQWDQJLEOHV DQG ORZ YDOXH JRRGV GH
V\VVHPV KDYH LQ HIIHFWLQJ FRPSOLDQFH SURWHF
FRPSHWLWLRQ DQG PDLQWDLQLQJ µVLPSOLF LW\¶ LQ W

7KH DPHQGPHQWV

7KH DPHQGPHQWV ZHUH H[WHQVLYH DQG SURIRXQ
:KHQ *67 FRPPHQFHG WKH µFRQQHQFHWHG ¶HWJH QXWV
VWUDLJKWIRUZDUG 3ULRU WR WKH VHULHV RI DPH
ZDV FRQQHQFWHG ZLWK \$XVWUDOLD LQ WKH IROORZLQJ

- x WKH VXSSO\ RI JRRGV ± LI WKH JRRGV DUH VXSSO
\$XVWUDOLD RU WDNHQ IURP \$XVWUDOLD
- x WKH VXSSO\ RI UHDO SURSHUW\ ± LI WKH SURSHU
- x WKH VXSSO\ RI DQ\WKLQJ HOVH VXFK DV VHUYL
VXSSOLHG KDG WR EH

GRQH LQ \$XVWUDOLD

VXSSOLHG WKURXJK DQ HQWHU 6HEWHLRFQD UUL
RI WKH *67 \$FW SURYLGHG LW KDV VLQFI
LV FDUULHG RQ LQ \$XVWUDOLD ZKHUH LW LV
HVWDEOLVKPHQW)RU WKLV SXUSRVH WK
HVWDEOLVKPHQW LQQF RPFH WLZDQ \$VVHRVWPKIQW
ZDV PRGLILHG EXW RQO\ IRU *67 SXUSRVHV

WKH VXSSO\

f

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

f

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

HIIHFYLHO\ FRPSHLQJ ZLWK RSHUDWRUV RI SUHPL
UHVLGHQWLDO DFFRPPRGDWLRQ VXFK DV KRWHOV

&XUUHQWO\ IHZ SURYLGUV RI DFFRPPRGDWLRQ WKU
SXUSRVHV ,W LV DOVR OLNHO\ KRWHOV KDYH DFFHSV
VRXUFLQJ DFFRPPRGDWLRQ DQG KDYH DGDSWHG WKH
RQ FRQVXPHUV ORRNLQJ IRU D µKRWHO¶ H[SHULHQFH

5HJDUGOHVV WKHUH LV OLWWOH GRXEW PDQ\ SURYLG
FDUU\LQJ RXW DFWLYLWLHV LQ D EXVLQHVW OLNH PDQ
PDQ\ FDVHV H[FHHG WKH *67 UHJLVWUDWLRQ WKUHW
KRWHOV PRWHOV KRVWHOV DQG ERDUGLQJ KRXVHV
ORRNLQJ IRU UHYHQXH ZRXOG QRW ORRN DW WKLV µ
UHYHQXH ,W ZRXOG DOVR EH KDUG IRU RSHUDWRUV W
,Q IDFV LW VRXQGV YHU\ IDLU

\$ 7\$; 21 &21680(±6:,7++2/,1* 58/(6)25 6\$/(- 2) 1(: 5(6,'(17,\$/
35(0,6(6

:KLOH QRW UHODWHG WR GLJLWLVDWLRQ , KDYH LQF
ZLWKKROGLQJ UXOHV UHODWLQJ WR WKH VDOH RI QHZ
*RYHUQPHQW KDV VRXJKW WR SURYLGH DQ HOOPHQW
RUGHU WR FRXQWHUDFW *67 IUDXG E\ D IHZ

7UHDVXU\ /DZV \$PHQGPHQW Q&HWDKV XUHV 01HRD V X\$JFHWW
\$FW DPHQD\ HDGW WRKH \$GPLQLVW\$ \$W\ WRQQ\$FHWWLQJ QH
GLYLVLRQ (LQWR 6FKHGXOH RI WKDW \$FW 7KHVH

,Q WKH VHFRQG UHDGLQJ VSHHFK UHODWLQJ WR WKH
6HUYLHV OV .HOO\ 2¶'Z\HU VDLG µWKDW WKH ELOO
SKRHQL¶

,Q LWV VLPSOHVW IRUP µSKRHQL[LQJ¶ LQ D WD[FRQW

x D FRPSDQ\ GLVSRLQJ RI FHWDLQ DVVHWV RU S
SDUWLHV DQG LQFXUV D WD[UHODWHG GHEW

x WKH FRPSDQ\ HQWHUV LQWR OLTXLGDWLRQ KROG
WD[OLDELOLW\ RQ LWV ERRNV

x WKH LQGLYLGXDO V ZKR HIIHFYLHO\ GHULYHG
LQVROYHQW FRPSDQ\ HPHUJH µIURP WKH DVKHV
LQGLUHFV LQYROYPHQW ZLWK D VHSDUDWH FRP
\$72 \HW DQG

x WKLV QHZ FRPSDQ\ ZLOO IROORZ WKH SDWK RI LW
LW JRHV RQ

,W LV FOHDU WKH &RPPLVVLQH EHOHYHG KH HLWK
LQGLYLGXDOV RU WKH UHOHYDQW WD[OHJLVODWLRQ

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD\|V *67 GHVLJQ GLJLWLVD

- x WKH DPRXQW RI *67 WR EH ZLWKKHOG LV WR EH EHIRUH WKH SD\PHQW RI DQ\ RI WKH FRQVLGHUDW
- x WKH SD\PHQW RI D GHSRVLW GRHV QRW FRQVWLW SD\DEOH IRU WKH VXSSO\ RI WKH SURSHUW\ DQG RQ WKH SXUFKDVFHU WR ZLWKKR\GXUDWK HAUKPHR \WHL PWK LV QR ZLWKKROGLQJ REOLJDWLRQ ZKHUH D GHSR
- x KRZHYHU ZKHUH D SXUFKDVFHU DFTXLUHV D SUF SD\DEOH E\ LQVWDOPHQWV WKH SXUFKDVFHU LV U *67 RQ WKH IXOO SXUFKDVFH SULFH RI WKH SURSH LQVWDOPHQW SD\PHQW LV PDGH
- x SXUVXDQW WR VHFWLRQ RI 6FKHGXOH RI ZLWKKHOG LV RI WKH FRQWUDFW SULFH XQOH PDUJLQ VFKHPH DSSOLHV WKH DPRXQW WR EH ZL SULFH
- x LI WKH FRQWUDFW VSHFLILHV D SULFH WKDW LV \ ZLWKKHOG LV GHWHUPLQHG RQ WKH DERYH EDVLF DQ\ DGMXVWPHQWV ,I WKH FRQVLGHUDWLRQ LV DPRXQW WR EH ZLWKKHOG LV FDOFXODWHG E\ UH XQGHU WKH FRQWUDFW
- x ZKHUH WKHUH DUH PXOWL SOH UHFLSLHQWV RI D WKHP DV UHFHLYLQJ D VHSDUDWH VXSSO\ DQG L ZLWKKROGLQJ REOLJDWLRQ LQ UHVSHFW RI WKH
- x MRLQW WHQDQWV DUH WUHDWHG DV LI WKH\ ZHUH WHQDQWV ZRXOG EH MRLQWO\ OLDEOH IRU WKH Z FRPPRQ ZRXOG KDYH D VHSDUDWH REOLJDWLRQ W
- x VXSSOLHUV RI SURSHUW\ DUH UHTXLUHG WR QRW ZKHVKHU WKH VXSSO\ ZLOO EH VXEMHFW WR WKDW *67 LV WR J`ÀEH H

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

5HVLGHQWLDO SUHPLVHV FDQ UHPDLQ QHZ IRU ILYH \I
RU *67 SXUSRVHV UHVLGHQWLDO SUHPLVHV DUH Q
SUHPLVHV KDYH RQO\ EHHQ XVHG WR PDNH LQSXW WD
\HDUV 7KH &RPPLVVLRQHUTV YLHZ LV WKDW WKH U
FRQWLQXRXV ,I WKH SUHPLVHV KDYH EHHQ XVHG IRU
WD[HG VXSSOLHV WKH ILYH \HDU SHULRG VWDUWV
FRQVLGHUDEO\ PRUH WKDQ \HDUV ROG DQG VWLOO
EHFDXVH LW KDV QRW EHHQ XVHG WR PDNH LQSXW W
SHULRG +RZ LV D SXUFKDVFHU ZKR LV JHQHUDOO\ X
ZKHWKHU D SURSHUW\ LV QHZ"

:KHUH ODQG LV VROG WKDW FRPSULVHV QHZ UHVLGHQ
ODQG DQG FRPPHUFDO SUHPLVHV IDUPLQJ ODQG RU
DV µQHZ¶ DQ DSSRUWLRQPHQW H[HUFLVH ZLOO QHHG
WKLV H[HUFLVH DQG KRZ H[SRVHG D SXUFKDVFHU LV I
SXUFKDVFHV FDXVH IRU FRQFHUQ

)UDXG SUHYHQWLQRQ Y NHHSLOJ FRPSOLDQFH FRVWV ORZ
7KH ZLWKKROGLQJ SURYLVLRQV DUH GHVLJQHG WR FR
DUUDQJHPHQWV 6XFK DUUDQJHPHQWV DUH IUDXGXOH
DLPHG DW SXQLVKLQJ IUDXG DQG WKH SHUSHWUDWRU
SURSHUW\ GHYHORSHUV DQG WKHLU XQUHJLVWHUHG F

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

DSSURSULDWH WR TXHVVLRQ ZKHWKHU \$XVWUDOLD¶V
LV WKH ULJKW DSSURDFK

,QSXW WD[LQJ ILQDQFLDO VHUYLFHV LV WKH FRPPRQ
+RZHYHU VXFK D V\VWHP LV LQKRUHQWO\ IODZHGLQJ
ILQDQFLDO LQVWLWXWLRQ LV HPEHGGHG LQ D QRQ UH
:KHUH WKRVH VHUYLFHV DUH DFTXLUHG E\ DQ HQWLW\ EH
EH HPEHGGHG LQ WKH SULFH RI WKRVH VHUYLFHV DQ
FKDLQ 7KLV ZDV UHFRJQLVHG E\ WKH 1HZ =HDODQG JI
1HZ =HDODQG *67 ODZ KDV]HUR UDWHG ILQDQFLDO
EXVLQHVHV

7KH GUDIWLQJ RI WKH ILQDQFLDO VXSSO\ SURYLVLRQ
UHSHWLWLYH FRPSOH[DQG WKH DQWLWKHVLV RI SU

0RVW *67 DQG 9\$7 V\VWHPV GHQ\ LQSXW WD[FUHGLWV
DFTXLUHG WR PDNH FHUWDLQ ILQDQFLDO VHUYLFHV)
D UHIHUVHQFH WR FHUWDLQ DFWLYLWLHV VXFK DV WK
DQG SXUFKDvh RI VKDUHV HWF ,Q \$XVWUDOLD LW Z
EHLQJ D SURSHUW\ LQWHUHVW LQ D SDUWLFXODU WK
LQWHUHVW LQ D FUHGLW DUUDQJHPHQW HWF \$Q XQZ
WR WUHDW DQ DFTXLVLWLRQ RI DQ LQWHUHVW LQ D IL

,W LV XQFOHDU ZK\ WKRVH GUDIWLQJ WKH ILQDQFLDO
WKDW WKLV GUDIWLQJ ZDV WKH EDVLV RI 7UDYHOH[¶V
RI DQ LQWHUHVW LQ)LMLDQ FXUUHQF\ ZDV D ULJKW
IUHH

6XSSOLHV E\ ILQDQFLDO LQWHUPHGLDULHV DUH QRW
VXSSOLHV DQG DUH WD[DEOH 7R PLWLJDWH FL WHG

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

,I WKH &RPPLVVLRQHU LV RSHQO\ FRQWHPSODWLQJ E\
*67 \$FW IRU FUHGLW FDUG LVVXLQJ EXVLQHVHV LQ
JRYHUQPHQW WR FRPSOHWHO\ UHFRQVLGHU WKHVH
SURIHVVLRQDO RI \HDUV LW LV DVWRXQGLQJ WKDW

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

WKHLU UHVSΡQVLELOLWLHV LQ WKLV DUHD ,W LV FKH

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

D GHFUHDVLQJ DGMXVWPHQW IRU *67 UHJLVWHUH
FRYHUHG E\ 'LYLVLRQ IRU XVH LQ WKHLU EXVL

D VLPSOLILHG DSSURDFK VLPLodu WR WKRVH DGF

&

H-RXUQDO RI 7D[5HVHDUFK

\$XVWUDOLD¶V *67 GHVLJQ GLJLWLVD

7KHUH LV PXFK WR EH OHDUQW IURP WKH SDVW DQG
PXVW DOVR ORRN WR WKH IXWXUH DQG SODQ IRU FKD

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

SURYLGHV PRUH GHWDQDQ RROQ HDKLU\ LSVPVHXLFDQ WKHRU
5HJDUGLQJ WKH)UHQFK 79\$± &DUO 6KRXS REVHUYHG

7KH ODWHVW LQQRYDWLRQ LV WKH YDOXH DGG
LOOXVWUDWHV WKH SURFHVV E\ ZKLFK D VRUW R
QRZ DQG WKHQ JLYHV ULVH WR DQ LQYHQWLQRQ R

2WKHU FRPPHQWDWRUV KDYH SRLQWHG RXW WKDW
C8 DKLRWQJ2 0

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

V\VWHP RI YDOXH DGGHG WD[DWL RQ\ ±7WK DMW\ GEJHL QJD G
H[SUHV VVHG VLPLODU YLHZV *6Q\ KDLQG\ I\W\KH\ZIRLQG\ QMFL DMK H

5REHUW 2OGLQJ QRWHG LW ZDV QRW VXUSULVLQJ WKD
2QH FRPPHQWDWRU KRZHYHU WKRXJKW WKH IDFWV
H[SORUH WK\KH LW\QJH UHSHDWHG HDUOLHU YLHZV DE
RXU *67 QRWHG VRPH RI LWV XQLTXH IHDWXUHV DQG
GHS DUW IURP IRUHLJQ PRGHOV +H DOVR UDLOHG DJ
DQDO\VLV\ DV D SURSHU WRRO IRU ULHQARV\H\QJD\SK\DO
WKH VWDQGDUG SXUSR VLYH DSSURDFK UHTXLUHG E\ W

/HJLVODWLYH VFKHPH

-XVWLFH +LOO VDLG WKLV DSSURDFK UHTXLUHV WKH
HIIHFW WR OHJLVODWLYH SXUSR VH WR EH LGHQWLILH

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

SKLORVRSK\ WR EH IRXQG LQ WKH LQWHUSUHW
SDUWLFXODUO\ WKH (XURSHDQ 8QLRQ PD\ LQI
\$XVWUDOLDQ *67 7KLV LQ WXUQ OHDGV WR D F
(XURSHDQ 8QLRQ 'LUHFWLYHV RQ KDUPRQLVDWLI
WKDW SKLORVRSK\ DQG LQ LQWHUSUHWDLHYH U

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

1HLWKHU LV SROLF\ D UHIOHFWLRQ RI RU WR EH GHUL
RXW ,W LV DQ REMHFWLYH H[HUFLVH XQGHUWDNHQ E
WKHUH LV WKH QRWRULRXV IDFW WKDW H[WULQVLF P
SROLF\ RU SXUSRvh OHW DORQH IL[LQJ\RH\QMLQJSUHW
RU WUDQVWDVWH WKDW SXUSRVLYLVP KDV LWV FRQVW
μFRXUWV FDQQRW DFW DV OHJL VODWRUV\ WR FXUH C
UHYHDOKB)XOO)HGHUOXOO & DLOQ \W\H V ODWHU UH
RE VHUYDWLRQ DV RQH RI μHQGXULQJ ZLVGRP\

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

, QWHULP UHIOHFWLQRQV

- XVWLFH +LOO OHDYHV D IRUPLGDEOH OHJDF\ QRW M
ODZ DV ZHKHO&KLHI -XVWLFH RI WKH)HGHUDO &RXUW
-¶V GHGLFDWLRQ WR WKH UXOH RI ODZ DQG WR WKH
VHUYL FH WR WKH FRPPXQLW\ DV D ODZ\HU D VFKROD
RXU FRXSWR\H VVRU 9DQQ ULJKWO\ FDOOHG KLP D µWD[

: H Q R Z K D Y X H V W W L K F H * U D K D P + L O G H D H I P Y R H U L H D G K D S F K I K R K D
+ R Q R X U P V K R Q R X U , Q W K H + 3 V G S H H U H F D Z O W L I B E N H - R M D W G H
M X G J H P V μ J U H D W H M O O Q H G B A E H V E H G W K H M X G J P H Q W D
M X U L V S U X G C H Q R F Q C V - F D O O H G L W D μ W H R S D D D W H I R
F K D U D F W H U L V H G L W μ L Q W H U P V R I L W V P D V W H U O \
W D [D W L R Q V I K H V S H F L D O O \$ H P D M U H L F D S G Q L F D M W H B Q 4 & R W H I H U
W R 3 0 H U F D V Q D W L E O H X V W L F H + L O O N Q H Z S H U K D S V P R U H D
D Q \ R Q H L Q \$ X V W U D O L D Z L W K G X H G H I H U H Q F H W R \ R X
K L V S D V V L Q J μ O H I W D Y R L G L Q W K H \$ X V W U D O L D Q M X G

-XVWLFH +LOO QHYHU JRW WR VHH KRZ KLV PXVLQJV
LQWHUSUHWDLRQ PLJKW UHVROYH LQ WKH \HDUV
TXHVWLRQ ,W ZRXOG WDNH D IXUWKHU IRXU \HDUV IRU
±5HOLDQFH &ODPSMMWHUV RI VWDWXWRU\ LQWHUSUHWDLRQ
WKH ZD\ LQ ZKLFK +LOO - VDZ WKH ZRUOG RI OHJLVOD
LQ KLV GHGLFDWLRLQ WR PRPHRGKHLLQQJ S\KLQFLLSVOB FRQVHQV

2QH FRPPHQWDWRU VDLG KH KDG μTXLWH VWURQJ YLH
WKH ZURQJ ZD\ W7RK LGV XWQKGLHQWWWDWHV WKH SRVLWLRQ
+LOO - ZURWH RU ZKR RWKHUZLVH NQHZ KLP ZLOO DSS
ZD\ KLV VVWHPLF FRKHUHQFH FRQVWUXFWLRQDO
DQWLFLSDWHG ODWHU DUWLFXODWLRQ RI WKIRWH HOH
μVFKHPH RI OHJLV OHDWBOLRQFDHRSRORODWKHQ&DODUW WD[

(GPRQTGWH-&RQWULEXWLRLQV RI -XVWL FH +LOO WR WKH 'HYHORS
-RXUQDO RI WKH \$XVWUDODVLDQLDQFH VAMIDFHK HU D K\$DPV RIE DDDWLRQRUL
7D[DWLRQ LQ \$XIRWUDQFDSOH
%ODFHK &+RQ -XVWL FH *UDKDP +6@0P@HDW 1HZV -RXUQDO RI WKH
\$VVRFLDWLRQ
%XIMDQFL7LWDQ ZDV QR KHLU E XSM JKHDQFVXDOVODUVQHDJQDIFQHQLFLDO 5H
.LUEIXVWL FH *UDKDP +LOO 0HPRUDFDWLRQHURQSKXDMWUDOLD
*HDFK /HJDF\ RI -XVWL FH 7QJD RQEXDLQ &RQYHQWLRLQ 6RXWK \$XV
SDSHU
(GPRQGIVEXWH WR WKH ODWH /DZWLRFHQ FUDKDDP [+RQMV KRS SD SHU
/RJDQKHU DUH ZH ZLWK *67 ± EODFN OHW W H7@\$RUDWIKR QSDUDQF WL
\$PHULFDQ ([SUHVV :KROHVDOH &XUHOO &SUYDQMV 3WDWWG Y)&
0LOZOKHU'HVWLQDWLRQ 3ULQFLSOH 3DVW 'HQHOBODSFRTNWGDQG)X
\$XVWUDOLD /RRNLQJ)RUZDUG DUWRP WKH)LUVW 'HFDGH
)&7 Y 5HOLDQFH &DJSH @ &&\$3W\ /WG
FI 20GWLQGV LQ WKH ,QWHUHSUHWDQFH WLRQQRKD06760DZQG ,QGLUHF
:HHNHQG :RUNVWSR S@SHURZOZKLIHQFRXUWV KDYH LQWHUSUHWHG *
7D[DWLRQ LQ \$XVWUDOLD
3KDKH *67 MXULVSUXGHQFH RI WKH QODWVH*67W&IRFOH HUDBQBR SDG@
DW
(GPRQGWHUSUHWDLRQ RI V 6LJQLILFDQFH \$16WVKH WDMMW F
D JUHHV

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

G H F L V L R Q \ H D H V D D B Q M D H U G F R X U W V V K R X O G Q R W E
G U D I W L Q J G H I L F L H Q F L H V Z K L F K U H Y H O L Q R E V F X U L W
\$ V , U H D G D J D L Q R - X \ Q W L H U S U H O N O R \ W W U D Q V O D W H "

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

PLQGOHVV WH[WXD OLGMP ¶ KIDV DOLQQJUXRDR HWKDI\ HFKR D GH
RIILFHUV E\ /RUG (VKHU 05 ORQJ DJR DV µXQSOHDVDQ
+RZHYHU WKH LGHD WKDW PHUHO\ OHJLVODWLQJ IRU
µXQGHBLQWQVSMQ@CURWIRISOKA\|FWRYZKDFGRXU *67 ODZ ZR
(YDQV DOVR RQFH DGYRFDWHG IRU D QHZ REMHFWV F
WKH *67 ODZ WR HQVKULQH (8 QHXWUDOLW\ DQG JXDU
*67 LV D JHQHUDO WD[RQ FRQVXPSSLRQ H[DFWO
WKH FRQVXPHU KRZHYHU PDQ\ WUDQVDFWLRQV
GLVWULEXWLRQ SURFHVV EHIRUH WKH VWDJH DW
FUHGLW IRU LQSXW WD[LV PHDQW WR UHOLHYH
LQSXW WD[SD\DEOH RU SDLG LQ WKH FRXUVH RI
LQ SRKQWS WRDQSYH\ REW\ PROVEMQIS\ QRQH QW RI DQ LQ
7KHVH WKHPHV DUH ¶ RUMWRQMT\ GOHV(YRDQ V\\$ XQWUDOLD\|
LQ GUDIWS\ WQW\| QWLRQ LV GUDZQ WR VWUXFWXUDO GL
RWKHUV LQFOXGLQJ LQ WKH GHVLJQ RI LQSXW WD[UH
LV XVHG DQG XVHG GHOLEHUDWHO\ ,W LV REVHUY
µVLJQLILFDQWO\ GLIIHUhQW WR WKH 1= WHUPLQRORJ\|
WKH FRQWHQWLRQ WKDW WKH OHJLVODWXUH PHDQW V
7KH µGLIILFXOW TXHVWLRQ\ LV SRVHG DW DV WF
µOHAOT\ DVD\ Q\ R\ K\ LQV\ H\ Q\ K\ W\ K\ K\ W\ B\ W\ C\ W\ @PLD\|
MXULVGLF\ DRQ\ V\ Q\ J\ WKH 8. DSSURDFK PD\ ZHOO K
RXWFRPH LQ \$XVWUDOLD +RZHYHU LW GRHV QRW IR
RI WKH 9\\$7 'LUHFVLYHV FDQ VRPHKRZ QRZ OHYHUDJH
7KH RUGLQDU\ H[SHFWDWLRQ LV WKDW OHJLVODWLQJ

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

2QO\ WLPH ZLOO WHOO

(DUO\ LQ RXU *67 MRXUQH\ 3URIHVVRU OLOODU DVNHG
GHYHORS LWV RZQ YHUVLRQ RI QHXWUDOLW\ IR
\HDUV DQG WKH DQVZHU QRZ JLYHQ E\ KHU LV WKH VL
GHULYHG IURP 'LY SURYLVLRQV 7KLV LV D FRQFOXV
±7KH SULQFLSOH RI QHXWUDOLW\ LQ \$XVWUDOLDQ *67

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLY

LQWHUSUHWLQJ \$ XWVWWHDO+IDQ\ W6K\ Q UHYLHZV WK
FRQVYPSWLRQ DV PDWWHURIHFQRPLF SROLFI
ZKLV LV WDNTHQ WR VLJQDO WKDW QR QHXWUDOL
V\WHP HLWKHU E\ UHIHUGHFH WR (8 QHXWUDOLW\ RU
FKDQ KÅGe` P SURP `WU@`KDQQKWPPIP LKDLWp\ RUR Å

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

SURYLVLRQV PRUH XVXDOO\ LQYROYH D FRPSURPLVH
JHQHUDO SROLF\ FDQQRW EH UHDG DV WKH ODZ PXVW
2Q WKH IXWXUH OLPHSDEOWRHOH 20GLQJ HOVHZKHUH VX.
DYRLGDQFH DV D NH\ IHDXUH RI WKH WD[µZLOO FRQ
EXW WSKDMWUDQWLQH

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

(OLGD *LEEV /WG

'RPLQDQFH RI QHXWUDOLW\

,Q WKLV µPRQH\ RI(IOEBOSRUENF&VH8 H[SODLQHG WKDW

H-RXUQDO RI 7D[5HVHDUFK

)LVFDO QHXWUDOLW\ IR

% XW LV RXU *67 ODZ UHDOO\ PXFK GLIIHUHQW IURP DQ
W\KHJUDWLRQI \$UWH[DPSOH" \$JDLQ WKH DUJXPHQW KHU
WKH VW\OH RI RXU OHJLVODWLYH GUDIWLQJ UDWKHU

:KDW HPHUJHV LQ LV D SLFWXUH LQ PRVDLF IRUP
WKH *67 VWDWXWH VHW DJDLQVW WKH EDFNGURS RI W
D μOHJLVODWLYH IUDPHZRUN IRU *67 DGPLQLVWUDWL
TXLOW ORRVHO\ NQLWWHG WRJHWKH\ REPAHD\GLPPLPQLW\WUDWL
SULQFLSOHV\ RI WKH NLQG IODJJHG DW WKH WHQ \HD

\$V WKH \HDUV SDVV WKH ZLGHU PRVDLF VKRXOG
μDFFXPXODWLRQ RI H[SHULHQFH\ SURYLGHG E\ GHFLG
WHVWLQJ 7KLV ZLOO EH GULYHQ E\ SURWRFRQV RI
G\QDPLWKRXJK QRW LQ WKH VDPH ZD\ DV LQ WKH (8 D
OU 5RPSHOPDQ WR RXU VKRUHV :H DQG KH DUH SDVV

:KLOH WKH LGHD RI D IXOO\ KDUPRQLVHG LQWHUQDW
μWKHRUHWLFDOO\ GHVLUDEOH REMHFWLYH\ WKHUH L
QRZ OHJLVODWH WR DGRSW (8 VW\OH QHXWUDOLW\ Z
DIWHU WKH HYHQW REMHFWV FODXVH 7R GR VR ZRXO

OXFK RI WKLV QRWH LV DERXW VWDWXW HVPPHPE @ R

H-RXUQDO RI 7D[5HVHDUFK YRO QR SS

7KH \$XVWUDOLDQ *67 FURVV
JOREDO FRQWH[W

OLFKDHO :DOSROH

\$EVWUDFW

7KLV DUWLFOH EXLOGV RQ SUHYLRXV UHVHDUFK E\ WKH DXWKRU H[DPLQLQJ ERUGHU VXSSOLHV LQ D QXPEHU RI FRXQWULHV DQG KLJKOLJKWV WKH LPPH RSHUDWHV LQ WKLV FRQWH[W LQ \$XVWUDOLD VLQFH WKH *67 ZDV LQWURG HYDOXDWHG LQ OLJKW RI JOREDO SUDFWLFH DQG LW LV FRQFOXGHG LQ SDU WD[WR LQWHUQHW SODWIRUP VXSSOLHUV 7KH SRLQW LV DOVR QRWHG WKD WKH µVKDULQJ HFRQRP\¶ LQ D VLPLodu PDQQHU VKRXOG WKH GHFLVLRQ EH

.H\ ZRUGRGV DQG VHUYLFHV WD[GLJLWDO HFRQRP\ FURVV ERUGHU VXSSO

6FKRRO RI 7D[DWLRQ DQG %XVLQHVV /DZ 816: %XVLQHVV 6FKRRC

H-RXUQDO RI 7D[5HVHDUFK

7KH \$XVWUDOLDQ *67 FURVV ERUGHU UXO

,1752'8&7,21

7KLV DUWLFOH RQ WKH WK DQQLYHUVDU\ RI WKH \$X
VHQVH DQ XSGDWH RQ D SUHYLRXV SXEOLFDWLRQ WKI
FURVV ERUGHU VXSSO\ UXOHV IRU WKH VXSSO\ RI LQ
DSSURDFK WR WKLV SUFWLFDOO\ GLIILFXOW FKDOOH

H-RXUQDO RI 7D[5HVHDUFK

7KH \$XVWUDOLDQ *67 FURVV ERUGHU UXO

VXSSOLHV E\ *67 UHJLVWHUHG EXVLQHVHV ,Q WKRVH
GR QRW UHYHUVH FKDUJH DQG WKLV VHHPV YHU\ VHQ
,Q WKH JURXS RI FRXQWULHV ZKRVH UXOHV WKH VWXO
UHTXLUH IRUHLJQ VXSSOLHUV WR UHJLVWHU LI PDNL
UHTXLUHPHQW ZDV LPSRVHG LQ 7KH UHTXLUHPHQW
2FWREHU DQG LQ \$XVWUDOLD LQ 7KH LGHD L
UHSRUWHG VXFFHVV LQ IRUHLJQ VXSSOLHV
KDG DOUHDG\ EHJXQ WR VKRZ VLJQV RI DGRSWLQJ W
ZLWKLQ (8 0HPEHU 6WDWHV 7KH VDPSOH FRXQWULHV
GHILQLWLRQV ZHUH RI VXSSOLHV WKDW WULJJHU D
GHILQLWLRQ VHHPV WKH EURDGHVW LQFOXGLQJ VXSS
LQWDQJLEOH FRQVXPHU VXSSOLHV¶

H-RXUQDO RI 7D[5HVHDUFK

7KH \$XVWUDOLDQ *67 FURVV ERUGHU UXO

6HFWLRQ

VXSSOLHU LQ VRPH VLWXDWLRQV DV PDNLQJ D VXS
\$XVWUDOLC (VWDEOLVKHV ZKHQ HQWLWLHV DUH WUHDWH
VWDWHV WKDW WKH *67 UXOHV DSSO\ WR \RX DV LI
\$XVWUDOLDQ FRQVXPHU RI D VXSSO\ LI

H-RXUQDO RI 7D[5HVHDUFK

H-RXUQDO RI 7D[5HVHDUFK

86 VWWDWH W:D\DDWLRQ RI FUD

,1752'8&7,21

4XLQDQV QRW EHHQ RYHUUXOHG¶ DQG µ>Z@H DUH PLQ
 WR IROORZ LWV SUHFHGHQW ZKHQ LW ³KDV GLUHFW I
 &RXUW ³WKH SUHURJDWLHYH RI RQH RXUWIO LQDQW RLWDV YR ZDQI
 ,QF WKH 86 6XSUHPH &RXUW DFFHSWHG WKH 6RXWK 'D
 RYHU4XDOQHOODV+HXYQVRXQG DQQGLQHFRPQDQGFMG¶ WKH
 IRU FRQVLGHUDWLRQ RI DQ\ &RPPHUFH &ODXVH FODL
 4XLQGHOODV +HVV

7KH 86 6XSUHPH &RXUWIDLBSLQLRQ LQ

7KH &RXUW¶V FULWFLVP RI WKH SK\VLFDO SUHVHQFH
 HDUOLHU HPEUDFH RI WKH WHVW EZHDVDFD XWHDZKHQ RSK\W
 SUHVHQFH WHVW LV QRW DRµQHFRH VXBWDQWHDQ UQHNM
 FUHDWHV UDWKHU WKDQ UHVROYHV PDUNHW GLVWRU
 FDVH E\ FDVH BQDQKHWL&RQW¶V PRGHUQ &RPPHUFH &
 6HFRQG WKH SK\VLFDO SUHVHQFH WHVW LV LQFRQVL
 µ³GUDPDWLF WHFKQRORJL FDWDQD QDQDQVFRZL DQ OPOKHDQJW HWR
 PDUNHWV ZLWKRXW HVWDEOLVKLQJ D SK\VLFDO SUHV
 µDQ H[WUDRUGLQDU\ LPSRVLWLRQ E\ WKH -XGLFLDU\
 SHUIRUP FULWLFDO SXEOLF IXQFWLRQV¶

,Q ILQGLQ4XWQDMLWLKRQ ZDV µIODZHMGKRHQ&IRWVUVRZHQ SWKHDU
 WKDW WKH 'XH 3URFHVV &ODXVH DQG &RPPHUFH &OD
 UHODWDQG¶ WKDW DOWKRXJK WKH\ µPD\ QRW EH LGHQ
 VLJQLILFDQW,SDRQDQGHWKVDIW WKRHORQH DUHRMQMF WLYQHJQWLQH
 SUHVHQFH UXOH IRU GXH SURFHVV SXUSRVHV µDSSO\
 SUHVHQFH LV D UHTXLVLWH IRU DQ RXW RI VWDWH
 \$GGUHVVLQJ WKH DUJXPHQW WKDW WKH SK\VLFDO SU
 EXUGHQ RI FRPSO\LQJ ZLWK WD[FROOHFWLRQ REO
 MXULVGLF,DUWBRQXWWHQRWHG WKDW WKH µDGPLQLVWU
 DUH ODUJHO\ XQUHODWHG WR ZKHWKHU D FRRPSQDQ\ K
 WKH µ>W@KH SK\VLFDO SUHVHQFH UXOH LV D SRRU
 FRPSDQLHV GRLQJ EXVLQHVW LQ PXOWLSON VWDWHV¶

6RXWK 'DNRWD Y :D\ID:LG ,QF 6' 5R&RWJQH] GH 4XLMDV
 6KHDUVRQ \$PHULFDQ[S ,QF UHYHUVHG &W
 6 &W
 ,ELG
 ,ELG
 ,ELG
 ,ELG
 ,ELG FLWDWLRQ RPLWWHG
 ,ELG FLWDWLRQ RPLWWHG
 ,ELG
 ,ELG
 ,ELG
 ,ELG
 ,ELG %\ FRQWLDQWWWDQG VHL]HG XSRQ WKH WKHRUHWLFDO GLII
 DV JURXGV IRU LWV GHWHUPLQDWLRQ WKDW D WD[SD\HUV¶V FRQ
 &ODXVH QH[XV UHTXLUHPHQW EXW QRW WKH &RPPHUFH &ODXVH Q
 6RXWK 'DNRWD Y :D\ID:LG ,QF
 ,ELG

7KH &RXUW IXUWKHU REVHUYHG µWKDW WKH &RPPHUF
IURP HQJDJLQJ LQ HFRQRPLFRGHRAYWILQLQDWILRQFHUW
SXUSRvh RI WKH &RPPHUFH &ODXVH WR SHUPLW WKH
7KH SK\VLFDO SUHVHQFH UXOH KRZHYHU µSXWV ERW
EXVLQHVHV ZLWK SK\VLFDO SUHVHQFH DW D FRPSH
VHOOHUV 5HPRWH VHOOHUV FDQ DYRLG WKH UHJXOD
GH IDORRZHU SULFHV FDXVHG E\ WKH ZLGHVSUHDG IDLO
WKHLU R\SK\VLFDO SUHVHQFH UXOH DOVR µSURGXF
SUHVHQFH LQ PXOWKHSJOHE\ 6WIDWWHRWLQJ EXVLQHV
DOORFDWLRQ RI UHVRXUFHV DQG JLYLQJ ULVH WR HFR
SK\VLFDO SUHVHQFH UXOH LV QHFHVVDU\ WR HQVXUH
QRW FUHDWHG E\ WKLV &RXUWIV SUHFHGHQWV

7 KH & RXUW DOVR FR QW UDXV W Q KWM K HI R U P H Q Q L WPL YRH
DQDO\VLV RI SXUSRVH \P E R Q IGH G H I L H F W P V R I G H U Q & R P PH
MXULVS\X GLOM F Q R W H G μ W U H D W V H F R Q R P L F D O O \ L G H
DUELWUDU\7KHD&R Q W M G H P R Q V W U D W H G W K L V S R L Q W
REOLJDWL R Q V RI D V P D O O \ H W S K \ V L F D O O \ S U H V H Q W
R Q O L Q H U H W D L O H U P D N L \ X L V D O O \ H V Q D W L R Q Z L G H 8 Q G

: D\IDLU

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:D\IDLU

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6WDWH PDUNHWSODFH SODWIRUP OHJLVODWLRQ

: D\IDLU

: D\IDL\U

: D\IDL\U

G R K D Y H S U R S H U W \

: D\IDLU

