# 7KH $FDGHPLF 6H

## &,7<&2//(*(2)6$1)5$1&,6&2

)ULGD\ %R[ 6DQUDQFL&SFR 3URJUHVVLYH DQQLXQG

1RWH &RSLHV RI WKH )LQDO $JHQGD 5HVROXWLRQV DQG 0DWH
PHHWLQJ FDQ EH IRXQG LQ WKH 0DWHULDOV IROGHU IRU

&&6) $FDGHPLF 6HQDWH ([HFXWLYH &RXQFLO
0LQXWHV DQG 6RXQG 5HFRUGLQJ
:HGQHVGD\ $SULO SP
/RFDWLRQ =RRP PHHWLQJ KWWSV FFVI HGX ]RRP XV M
3KRQH LQIR RU 0HHWLQJ ,'

&RXQFLO 0HPEHUV 3UHVHQW $ELJDLO %RUQVWHLQ 0RQLFD %R
&KULVWLDQVRQ $P\'ìD] ,QIDQWH (NDWHULQD .DWLD )XFKV :
.HHQDQ 1LFROH 2HVW .UXS )DQQ\/DZ 6LPRQ +DQVRQ 'DQD-DH/
0DF$OOHU -HDQHWWH 0DOH 0LFKHOH 0F.HQ]LH 6KHUL 0LUDJOL
5H\HV /LVD 5RPDQR 0LWUD 6DSLHQ]D /X 6FKXEHUW 0LFKHOH

:H DFNQRZOHGJH WKDW ZH DUH RQ WKH XQFHGHG DQFHV
5DPD\WXVK 2KORQH ZKR DUH WKH RULJLQDO LQKDELWD
3HQLQVXOD $V WKH LQGLJHQRXV VWHZDUGV RI WKLV O
WKHLU WUDGLWLRQV WKH 5DPD\WXVK 2KORQH KDYH QH
IRUJRWWHQ WKHLU UHVSRQVLELOLWLHV DV WKH FDUHV
DOO SHRSOHV ZKR UHVLGH LQ WKHLU WUDGLWLRQDO WH
UHFRJQL]H WKDW ZH EHQH-1W IURP OLYLQJ DQG ZRUNLQJ
KRPHODQG :H ZLVK WR SD\ RXU UHVSHFWV E\ DFNQRZOH

7KH QXPEHU RI +6 VWXGHQWV ZH KDYH UHFHLY
JRQH GRZQ DQG FRQWLQXHV WR JR GRZQ ,I WKL
KDSSHQLQJ KRZ FDQ ZH SXW PRUH IRFXV RQ SUR
IRU ROGHU DGXOW SURJUDP :H KDYH D FRPSHW
DGYDQWDJH RYHU VRPH SURJUDPV DQG WKHUH
ZKHUH ZH DUHQ-VW FRPSHWLWLYH VXFK DV RXU
V\VWHP :H KDYH D ORW RI IDFXOW\ WKDW KROG
LV VRPHWKLQJ ZH FDQ OHYHUDJH :H DOVR KDYH
IDFXOW\ ZLWKRXW 3K' EXW DUH ZRUOG FODVV L
7KH UHJLVWUDWLRQ V\VWHP LV VRPHWKLQJ WK
WDNH D ORRN DW DQG WKH WLPLQJ RI WKLV ZRU
EHFDXVH DQ RYHUKDXO FDQ RQO\ KDSSHQ DW FI
LQ WKH \HDU

- 2-4FHUV 5HSRUWV PLQ
  - 3UHVLGHQW 6LPRQ +DQVRQ
    - 7KHUH ZDV D EXGJHW IRUXP ODVW )UL GD\ W
      EXGJHWœ FDQWKDW PHDQ IRU
      KDG ZDV LPSRÂðð à WKLEXGJ `ü PLQ
      Ìü IRU@€-8--LQQ-Â-ðp WKH WLPL&!- ÁÏÂ-ð• PD VRPHM
      RI ZDV LQIRU
    ZDV IRU@€•Âð•PÀÁŸÂð @`LQIR LQIRQÂð•PÀqÂð À
    WLPL20V IRU ZDVLQIRQ VRP

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L Q W H Q W L R Q D Q G J U H D W V N L O O V

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  - ( O H F W L R Q V 6 H F U H W D U \ 5 R O H ( Q F R X U D J H
    V H U Y H D Q G F R Q V L G H U D Q R-4 F H U U R O H , Z L
    W U D Q V L W L R Q L Q J R-3 W K L V V H P H V W H U : K H
    V W D U W H G 0 L W U D Z R U N H G F O R V H O \ Z L W K P
    O H D U Q H G W K H U R O H V R I W K H 6 H F U H W D U \ D
    R-3 H U W R G R W K H V D P H I R U W K H L Q F R P L Q J 6
    L Q W H Ë Q
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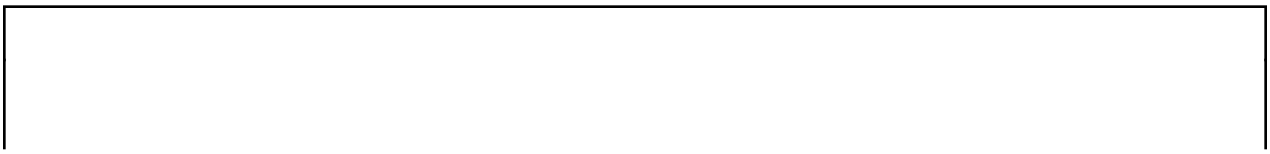
WKH SOHQDU\ VHVVLRQ WKDW WKH\ DUH RXU V
RQ DOO WKH WKLQJV WKDW WKH IDFXOW\ OLQH
- ,QIRUPDWLRQDOO\ RQ WKH DJHQGD WKLV LWHP
  UHVROXWLRQ SDFNHW WKDW QRZ KDV DQQRWD
  UHVROXWLRQV SDVVHG DQG GLGQ W SDVV +RZ
  SHRSOH YRWHG DQG DOO WKH DFWLRQV WKDW W
- , WKLQN EDFN WR DOPRVW \HDUV DJR ZKHQ , ZI
  &RXQFLO DQG , ZRXOG KHDU WKRVH R-4FHUV JL
  UHSRUWV IURP WKH , -1UVW WRRN OLQNHG-1_L

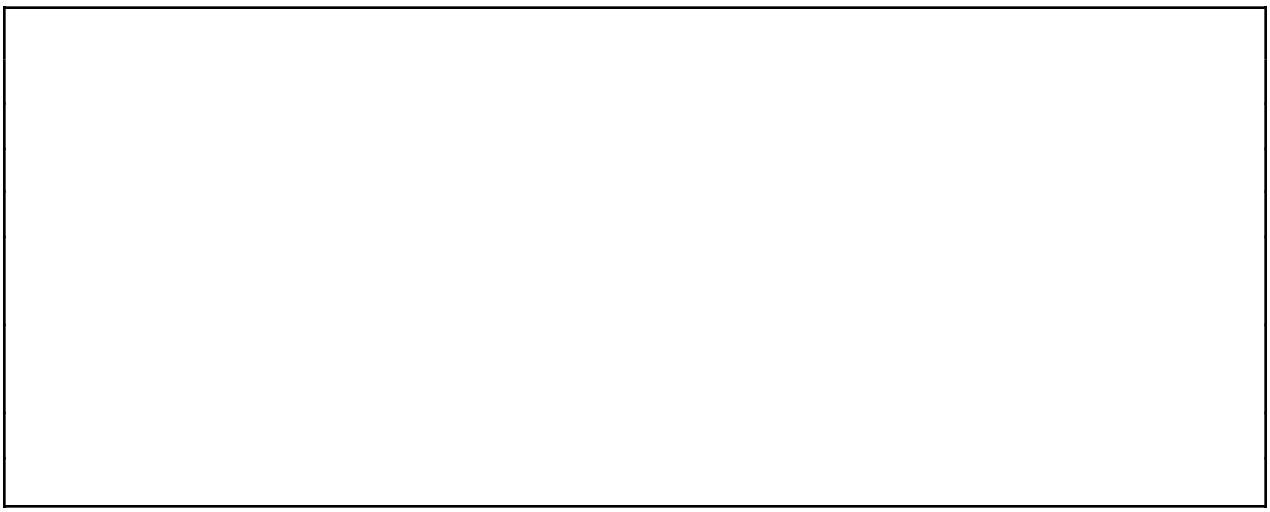
WKDQ IDFXOW\ FDQ ZRUN ZLWK IDFXOW\ WR ZRUN RQ LVVXHV WRJHWKHU 7KH 6WXGHQW 6H DUH RQHV WKDW , RIWHQ-1QG WKH PRVW SURGX SURYLGH SODFH IRU FROODERUDWLRQ DQG KRS FRQWLQXHV LQ WKH IXWXUH

- 6WXGHQWV ZLOO UHSRUW RQ DQRWKHU LWHP E

- $FFUHGLWDWLRQ FKHFN LQ PLQ
  - :H ZHUH DFFUHGLWHG IRU \HDUV DIWHU WKH O VXEPLWWHG D PLGWHUP UHSRUW WKDW ZDV DF ZRUNLQJ RQ DQ ,6(5 WR EH VXEPLWWHG LQ 'HFHP WKLV \HDU :ULWLQJ WHDPV ZRUNLQJ RQ HDFK V KDV ODUJHO\ EHHQ GRQH E\ IDFXOW\ DORQJ ZLW DGPLQLVWUDWRUV DQG VWXGHQWV 7KHVH VW DOVR VHQW WR UHOHYDQW FRPPLWWHHV WR UH GUDIWV DUH RXW WR FRPPLWWHHV DQG ZULWLQ GUDIWV ZLOO EH GXH E\ 0D\ DQG ZRUN RYHU W VXPPHU ZLOO EH GRQH WR SROLVK WKHVH LQWR YRLFH 7KH EXON RI WKLV ZRUN ZLOO EH GRQH E &KDUOHV ZLWK VXSSRUW IURP 6KHUL 0LUDJOL
  - ,Q HDUO\ IDOO LW ZLOO EHJLQ WR JR WKURXJK U RI WKH GL-3HUHQW FRQVWLWXHQF\ JURXSV LQ W JHWWLQJ LW VLJQHG R-3 DQG JHWWLQJ IHHGEDF JHWWLQJ D-1QDO VLJQ R-3 EHIRUH WKH GXH GDW $IWHU WKDW LW JRHV WR WKH $&&-& DQG LQ WKH\ ZLOO SURYLGH XV ZLWK IHHGEDFN
  - $&&-& ZLOO FRPH EDFN LQ 2FWREHU RI WR GR YLVLW FDOOHG D IRFXVHG VLWH YLVLW EHFDX EH IRFXVHG RQ WKH ,6(5
  - :H DUH VWLOO KDSS\ WR WDNH DQ\ IDFXOW\ DVV SRLQW LQ WKLV SURFHVV ,I \RX DUH RQ D FRPPL DW VWDQGDUG SOHDVH WDNH WKLV DV DQ RSS XV RXW

- 5HJLVWUDWLRQ DQG (QUROOPHQW &RPPLWWHH XSG
  - +DYH PDGH D UHFRPPHQGDWLRQ WKDW IRUPHU LQFDUFHUDWHG VWXGHQWV EH JLYHQ SULRULW 'D\ VDPH GDWH DV RWKHU SULRULW\ UHJLVWU VWXGHQWV 7KLV FDQ EH LPSOHPHQWHG IRU )D GHWHUPLQHG ULJKW QRZ
  - 6XSSRUW IRU WKLV UHVROXWLRQ IURP FRXQFL





( ) ) :RUNJURXS 8SGDWH7KHP(1)QZRUNJURXS ZLOO SURYLGH
XSGDWH DQG DVN WKH FRXQFLO WR FRQVLGHU WKH IROO
( ) ) ZRUNJURXS 5HVROXWLRQ

- $ UHSRUW ZDV SUHVHQWHG DW WKH ODVW $6(& PHHV
IURP WKH &RXQFLO ZDV UHTXHVWHG DERXW WKH EH
- UHVSRQGHQWV ZDV GL-4FXOW WR JHW PRUH UHVS
- 2I WKRVH RQO\ ZDQWHG WR OHDYH ( ) ) DV WKH ZD
UHPDLQLQJ WKH PDMRULW\ ZDV KDSS\ ZLWK XVL
IRUP
- 'RQ-VW DJUHH ZLWK WKH DVVHVVPHQW RI WKH GDWD
VHHPV WR VD\ WKDW HYHU\RQH ZDQWV WR JR WR &D
VHHP UH-2FWHG LQ WKH GDWD %HOLHYH ZH VKRXO
EHIRUH PDNLQJ D GHFLVLRQ
- :H-VYH VSHQW D \HDU ORRNLQJ DW DOWHUQDWLYHV
WR JR :H DUH VD\LQJ OHW-VV GR D WHVW DQG DVVHV
UHVSRQGLQJ WR WKH EURDGHU IDFXW\ SOO DQG $
FKDQJH WR ( ) )
- &DQ DSSUHFLDWH WKH QHHG IRU DQRWKHU FRPPXQI
&RQFHUQHG WKRXJK WKDW DOO IDFXW\ ZLOO DOU
:HDXVUHÀ&•ÐQ\HÂ&0ÞÐXVÐH KŒ& O\ Â-ð@ðP$ðÀSRW@-`Q
D•PDNH SODW_ü €H U DQR@ ÂÂ-• -ü WKRXJK DSSU

D Q G G R Q-V W X Q G H U V W D Q G K R Z Z H D Q K D Y H D Q

F U H D W H  D Q G  W H V W  D Q  D O W H U Q D W H  W \ S H  R I  F R P P X Q L F D W L R Q  I R
( ) )  D Q G

: K H U H  D V  & D Q Y D V  L V  W K H  W R S  F K R L F H  R I  $ 6 ( &  P H P E H U V  I R U  K R V W
F R P P X Q L F D W L R Q  I R U  X P

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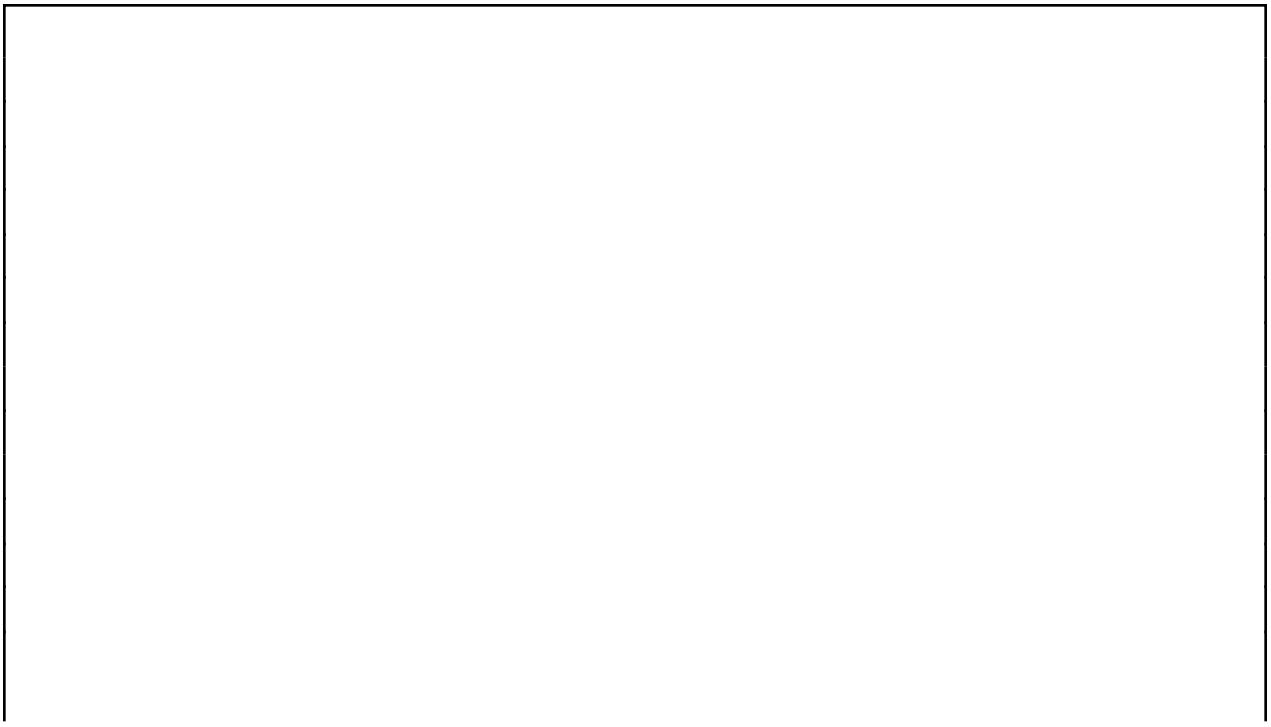
(GXFDWLRQ 3ROLFLHV &RPPLWWHH 5HFRPPHQGDWLRQV
FRQWLP°XH



7KLQJ

7UXWKV DQG D /LH DERXW .DWLD )XFKV

' 2QOLQH WUDLQLQJ ZRUNJURXSV XSGDWHG WUDLQLQJ ZRUNJURXS ZLOO XSGDWH WKH FRXQFLO RQ WKHLU ZRUN WR FRQVLGHU WKH IROORZLQJ XSGDWHG UHFRPPHQGDW
5HVROXWLRQ RQ 0LQLPXP 7UDLQLQJ 5HTXLUHPHQW

- 3UHVHQWDWLRQ RI WKH UHVROXWLRQ UHVROYHV 7 SURFHVV IRU IDFXOW\ ZKR KDYH DOUHDG\ WUDLQHG DQG WDXJKW WZR VHSDUDWH RQOLQH RU SDUWLDO
- 0DMRULW\ RI WKH ZRUNJURXSV YRWHG IRU WKLV UH DEVWHQWLRQV
- ,Q VSHDNLQJ ZLWK $)7 WKLV GRHV FRQ-2LFW ZLWH FRQWUDFW EXW ZDQW WR KHDU WKLV NLQG RI LQSX
- :DQW WR DGG WKDW IDFXOW\ EH DSSURSULDWHO\ FR FUHDWLRQ RI DGGLWLRQDO FRXUVHV 7KLV LV ODW EXW WKLV ZRXOG DW OHDVW DFNQRZOHGJH DSSURS
- 7KH PRGHO EHLQJ SUHVHQWHG KHUH LV QRW QHZ WH D-WVKRZFDVH-X PRGHO DQG ZDV QRW YHU\ VXFFHVV UHYLHZHG QHHGHG D ORW RI ZRUN WR EH LQ DOLJQP 7KLV LV DOVR D ZRUNORDG LVVXH WKDW WKH ZRUN 'RQ-VW EHOLHYH WKLV UHVROXWLRQ LV UHG\ DQG FRPPLWWHH WR ZRUN RQ WKLV DQG RWKHU FRQVLGH
- 9RWHG IRU WKLV DQG EHOLHYH LW LV D IDLU FRPSUH FRXUVHV RQ WKH 2/(7 WHDP 'R ZDQW WR DJUHH WKD WLPH WR UHYLHZ WKURXJK 2/(7 DQG WKLV ZRXOG QH LI WKLV ZHUH WR EH LPSOHPHQWHG
- )UXVWUDWHG WKDW WKHUH KDV EHHQ WLPH DQG UH WKLV ZDV QRW DGGUHVVHG 7KH SUREOHP LV WKDW IRUZDUG ZLWK PLQXWLD LW LV VHQW EDFN DQG WKH ZLWK PRUH JHQHUDOLWLHV LW LV DOVR EORFNHG E
- )HHGEDFN ZDV JLYHQ LQ WKH PDUJLQDO FRPPHQWV DWWHQG WKH PHHWLQJV EHFDXVH ZDV RXW DW SOH

9,, 1HZ %XVLQHVV

- 6WXGHQW 5HVROXWLRQ 7KH $VVRFLDWHG 6WXGHQ DW WKH 2FHDQ &DPSXV KDYH DVNHG XV WR KROG VS UHVROXWLRQV FRPLQJ WKURXJK $&2 LU ERG\ LQFOX

QRW WKLV ZD\ IRU DOO GHSDUWPHQWV 'RLQJ WKH E
GHSDUWPHQW R-3HULQJV ZLWK RWKHU R-3HULQJV DU
WR SULRULWL]H R-3HULQJV

- 'R DJUHH ZLWK FRSLQJ ZLWK WKH FKDQJHV DQG PDN
DSSURSULDWH FKDQJHV 7KHUH DUH WZR LVVXHV I
UHYHQXH DQG SURJUDPV DV D ZKROH :H FDQ ORRN D
V\VWHP ZLGH KHDGFRXQW DQG LW LV FOHDU WKDW
&&6) LV VHHLQJ LV QRW PDWFKLQJ ZLWK WKH V\VWH
7KHUH LV DQ RYHUDOO GHFOLQH EXW QRW DW WKH U
GHFOLQLQJ DQG EHOLHYH PXFK RI WKLV LV UHODWH
DFFUHGLWDLRQ DQG-1QDQFLDO FULVLV
- 7KH JRDO RI WKH 5HYHQXH 8QLW\ &RDOLWLRQ LV WH
WKH SUH DFFUHGLWDWLRQ FULVLV VWDWH ,KDYH
P\ FRXUVHV QHFHVVDU\ IRU WUDQVIHU 7KHUH DUH
FRXUVHV ZLWK IXOO ZDLWOLVWV ,W LV FOHDU WKL
ZKHUH GHPDQG LV QRW EHLQJ PHW 7KHUH LV WKH V
&RXQVHOLQJ 7KHUH ZDV D ZDLW WLPH RI PRQWKV
FRXQVHORU
- &RXQVHOLQJ DVSHFW WKH WUDQVIHU FHQWHU LV
IURP IRU WKH HQWLUH FRXQVHORU DQG RQH RI WKH
R-3
- 7KHUH LV QRWKLQJ ZURQJ ZLWK WKH TXDOLW\ RI FR
EXW WKH\ DUH GHDOLQJ ZLWK VR PXFK DQG WDNHV
WR PHHW +DYH WDNHQ FRXUVHV DW GL-3HUHQW LQV
VWD\ RQ WUDFN 6WXGHQWV VKRXOG EH DEOH WR PH
DFDGHPLF JRDOV DW &&6) 2XU SULPDU\ FRQFHUQ LV
WR FRPSOHWH EDVLF SURJUDPV WKDW DUH FRQVLVW
DFURVV WKH VWDWH
- /HW-VV GLVFXVV KRZ ZH FDQ UHVSRQG DV WKH $6(& I
GLVFXVVLRQV ZLWK VWXGHQWV

7DEOHG XQWLO QH[W PHHWLQJ

% )XWXUH $JHQGD ,WHPV D EULHI FKHFN LQ ZLWK FRXQFL
DQG GHYHORSPHQW RI IXWXUH DJHQGD LWHPV ZLOO EH G
HQG RI HDFK PHHWLQJ PLQ

- KWWSV MDPERDUG JRRJOH FRP G 5+: /3 LOB8PU[=
EV =BD\F=G]] ]LK27]SI3R HGLW"XVS VKDULQJ

IRU WKH %D\YLHZ +XQWHUV SRLQW FRXQFLO WR FRQWLQX
WKLV GLVFXVVLRQ DQG SRWHQWLDOO\ WDNH DFWLRQ RQ DG

- 'UDIW 5HVROXWLRQ LQ SURJUHVV UHFRPPHQGLQJ QDPLQJ RI (OOHQ :DOO