(FRQRPLFV   3URIHVVRU 'RQDOG
2IILFH 5RRP   ZDOGPDQ#FRORU

&RXUVH ,QIRUPDWLRQ

:HOFRPH WR (FRQ   7KLV LV DG LVUWDWERXWLFH LZQL WVKRE
LQWURGXFWLRQ WR HFRQRPHWULF WR SL$SVOQ FHDFWLRQRRPLFVZLO

3UHUHTXLVLWHV

7KH PRVW LPSRUWDQW WKLQJ ELDFNWRJ WURXXLQGFWRRUEWKH LLQYNDEE OWUDF
DGGLWLRQ VWXGHQWV ZLOO ILQHGULVVWDHOGGLQJ RILDOOWKHE\UK
OHYHO RI KLJK VFKRRO $OJHEUDXQ,XVGSOD\HDQWPLDOOOEOQGUE
WKLV FRXUVH EXW WKH\ ZLOO EGXXVLHQG W&DOFFRXOUWHZLOO

7KH FRXUVH SUuHHUHTXLVLWHV DUH RI WKH IROORZLQJ
    (&21 DQG
    0$7+
    0$7+
    0$7+
    0$7+ DQG
    $330

,I \RX KDYH QRW WDNHQ RQH RI WWKHVHZFLOODKVRXHW D\EXOOFLYDH

,Q WKH ILUVW ZHHN RI FODVV

‡ 3OHDVH UHDG &DQJJOLD WKH FRXUVH WH[WERRN &K
‡ ,I \RX DUH QRW DOUHDG\ FRPIRUWWDEEOXWH ZLWKH8QLLYFUHRUF
  D VLWH OLFHQVH WR WKH 06 2IILFHHSDFWDLJHRVWRHQXLGH
  LQ :LQGRZV 3&V DQG VRPH 0DFV DQGVLWQLWWKDYHRXODEOO
  FRPSXWHU ODEV ,I \RX ZDQW KHFOPSSXOWWDMDOORRQWLRW R
  EXJEXVWHUV RU VHH

http://www.colorado.edu/oit/services/messaging-
collaboration/microsoft-office-365/help/proplus

&RXUVH 2EMHFWLYHV

‡ 6WDWLVWLFV LV WKH VWXG\ RVLGFDWODRUUHWRXFODDWOLQZRU
WKDW LV VXEMHFW WR UDQGRPQHVH LVWKHRPSODWRORYHRUEWKKHF
ODQJXDJH PDWKHPDWLFDO V\PEROWLFVWRROV DQG WHFKQ

‡ 6WDWLVWLFV LV WKH EXLOGLQJ EDSSORFNERWHURROQRRRIPHV
U RI ÀÀ]Q €À•0 :LQGKH V SEXJE RQÐ0`€00°

7KHUH ZLOO EH WZR OHFWXUHV ZHHNURP PHHWLQJ 7XHVG
SP LQ %(6& %HQVRQ (DUWK 6FLHQFHV URRP

,Q OHFWXUH , ZLOO FRYHU PRVWLVELXWWQKRHWWDHQ OERRNVKEX[
DGGLWLRQ VRPH WRSLFV WKDWHDW WR QRIDWUQUVHDDDWHLGV WKFWV
UHDGLQJ WKH WH[W EXW LW LV XEWRWHGGHVDLU DEODSSORRNVZ
HFRQRPLFV PXFK EHWWHU E\ DWWZLLQGLQHJOOSHFRXXUFOFDV,QV
E\ EHLQJ SDUW RI WWKLJURRXVSGXDVODLODQQRIDXWXUGJERZRUNL
LQ OHFWXUH H[HUFLVHV DQG LQ RWKHU ZD\V

6\OODEXV

,Q DGGLWLRQ WR WKH OHFWXUH WRM VRRRRZLGH UHFLWD

Number   'D\   7LPH   5RRP
         7   ²   +801
         7   ²   +/06
         7+   ²   +801
         7+   ²   +801

,Q UHFLWDWLRQ PDWHULDO ZLOO EH DQG SUVRRQOHHG VHWWOHV YH
DGGLWLRQ ([FHO SURJUDPPLQJ DQG WLVRXHLW ZLOO LQWEHGU
RI WKH FRXUVH 7KHUH DUH PRUHFLWDWLDQ QRW LW XWGKHQ EHVVW
WR OHDUQ RQH RQ RQH 6LQFH KRX ZRXOO VUHFFHLPSSD URHGXV
XVXDO WKUHH FUHGLW FRXUVH UHFLWDWLRQ DWWHQGDO

        7R SDVV WKLV FRXUVH \RX PXVW DWWHQG DW OHDVV

        ,Q P\ H[SHULHQFH IRU D VWXGHQWURXXOG DDYHUDJH P
DGGLWLRQDO *reflection* WR WZR KRXUV QGZLRRQERXUH TXLU
DVVLJQPHQWV LQ RUGHU WR IXOOKLVXQ SRXUVVHDQG WDUWKHV FRL
IDLUO\ EDVLF FRQFHSW EXW GRFRQ FOHSWXDOOLDQ LV HDO
PDWKHPDWLFDO ULJRU LQFUHDVH DV WKH VHPHVWHU SUR

&RXUVH 2XWOLQH

7KH FRXUVH *probability* V ZLWK *statistics* FRQWLQXHV ZLWK
econometrics DOO WHUPV WR EH GHILQHG

7KH IROORZLQJ LV D OLVW RI VHFWLRKLURHQVZHRRQHV FR\KHLUHGLU
EH XVHIXO WR \RXUWHRLQHWKZHWUHHKZDRHUDLV WRDXWKDWHLF FRX
SUHYLRXVO\ EXW , H[SHFW LW ZLRXODDYWHKOLVWSRROGWPHDQ

Section 1

‡   5HVHDUFK LQ ³+DUG´ DQG ³6RIW VFLHQFHV
‡   6XPPDWLRQ QRWDWLRQ
‡   ,QWURGXFWLRQ WR SUREDELOLW\ $[LRPV 9HQQ GLD«
‡ $GGLWLRQ DQG FRPSOHPHQW UXOHV RI SUREDELOLW\
‡   &RQGLWLRQDO SUREDELOLW\
‡   7UHH GLDJUDPV
‡   ,QGHSHQGHQFH DQG PXWXDO H[FOXVLYLW\
‡   %D\HV ODZ
‡   8UQ SUREOHPV
‡   %D\HV /DZ IRU SDUWLWLRQV

Section 2

‡   5DQGRP YDULDEOHV DQG SUREDELOLW\ GLVWULEXWLR«

‡   'LVFUHWH UDQGRP YDULDEOHV WKH SUREDELOLW\ PD

‡   %HUQRXOOL ELQRPLDO DQG 3RLVVRQ UDQGRP YDULD

‡   0DWKHPDWLFDO H[SHFWDWLRQ

‡   ([SHFWDWLRQ RI D IXQFWLRQ RI UDQGRP YDULDEOHV

‡   &RQWLQXRXV UDQGRP YDULDEOHV WKH SUREDELOLW\

‡   7KH SRZHU H[SRQHQWLDO DQG VWDQGDUG QRUPDO G

‡   %LYDULDWH PDUJLQDO DQG FRQGLWLRQDO GLVWULE

‡   &RQGLWLRQDO H[SHFWDWLRQ DQG YDULDQFH

‡   &RYDULDQFH DQG FRUUHODWLRQ

Section 3

‡   7KH JHQHUDO QRUPDO GLVWULEXWLRQ

‡   )URP SUREDELOLW\ WR VWDWLVWLFV SRSXODWLRQ D

‡   6DPSOLQJ WKHRU\ WKH GLVWULEXWLRQ RI WKH VDPS

‡   7KH &HQWUDO /LPLW 7KHRUHP

‡   7KH FKL VTXDUHG GLVWULEXWLRQ

‡   3RLQW HVWLPDWLRQ

‡   8QELDVHGQHVV DV D SURSHUW\ RI DQ HVWLPDWRU

6LQFH WKHUH LV QR GLVN RU NHV RFRDXQ0HOG0FZNLDKSWEKOLVVEK

VLQFH WKHUH LV RQO\ RQH HGLWLRQ RQH ZD\ RU SXVH GK FRSH LW

EHHQ XVHG IRU WKLG...OLDVVWHYWHE DV$

7KH\ ZLOO EH FRPSRVHG RI TXHVWLRRQOHIURYPWWKHDW HZ[HWOG
DGGLWLRQDO TXHVWLRQV

‡   7KH ILQDO H[DP LV FXPXODWLYH WRREH JLYSHPQ RQ 7XH

$GGLWLRQDO QRWHV RQ WKH SUREOHP VHWV

‡   <RX PXVW DQVZHU DOO H[HUFLVHV EXW QRW DOO ZLO
‡   2Q VRPH SUREOHP VHWV WKHUHZSLOOREHHPDQ (WKHVH
DUH WUXO\ H[WUD FUHGLW WKHF\OFHDDQRRQO\VWUODHLVHQGRRU W
ZLOO FDOFXODWH JUDGHV IRU HYWUD VFWXHGHOQWVSWURERGRRW
, ZLOO UHWXUQ WR P\ DVVHVVPHQRW VSUXHGHDHGQWKHZWRDKQGYL
DQG DW OHDV VRPHWLPHV VXFFHVHV[XWODO\FDWWGWLHHPSSWURGO

3UREOHP VHW DQG TXL] GHDGOLQHVSURJOODFGLQJ FHOO SKR

‡   /LNH PDQ\ FRXUVHV EXW XQOLNH FSRHXUWVKVHDSWWVRKLDWVWRSI
FRXUVH LV VHTXHQWLDO LQ QDWLXUOUH OLW7KLHDDWO\ E\ XWOKLXQJXQSOO
XQOHVV 7XHVGD\ V PDWHULDO KDYH EHXHQOHQGGPHDQWWWD GGLHHG PWLWKV
HDVLHU DQVZHUV WR TXL]]HV DQGOSHUSRLEQRURPWOV\HDVWVWZELUOWKK
GDWH DQG WLPH   7KLV PHDQV VWXUJJLFHW GOGWLGSOULRQEHROHVPRVH

‡   7KH ORZHVW SUREOHP VHW VFRUHGDRVSSWWKG H OLRYZ]HHQVV
WKLV SROLF\ WKH IDFW WKDW VRDOXWWHUULRWVQVKHZDDVOOLEGPISRQWWW
DQG WKH LPSRUWDQFH RI NHHSLQQRXXSORRWQHVWKUHRREODWHIHUULHDW
TXL]]HV ZLOO EH DFFHSWHG

6XFFHVVIXO VWXGHHODDKVDHLLQWHWQQKHILUVDODGJOVRRXXRUGSR\ODOODRVZZHJLGQPWOHHQWLW UH
‡   UHYLHZ \RXU QRWHV VRPHWLPH DKRRXHHUV RODHHFVWWWHXXUU H EXW
‡   ZRUN ILUVW RQ JWKOKHQS\USKRUEROHP DOOHWVFWUDDX7UWKXHHUUV 6GDV\ HVVSHF
  DSSOLHV WR VWXGHQWV ZLWK 7KXUVGD\ DIWHUQRRQ U
  WDNH WKH RQOLQH WLPHG TXL] E\ 7XHGD\ V OHFWXUH
  ILQLVK WKH SUREOHP VHW E\ 7KXUVGD\ V OHFWXUH

1RWH \RX PD\ ZRUN WRJHWKHU RQ+S8URZEROHPPHVDHHFWVKVVWVW\XHGQH
PXVW KDQG LQ WKH ZULWWHQ SUREOHP VHW VROXWLRQV

‡   &HOO SKRQH ODSWRS SROLF\
BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB BBBBBBBBBBBBBBBBBBBBB B B B
Notice for students with disabilities

,I \RX TXDOLI\ IRU DFFRPPRGDWLRRQGVVVEXHPDXWVVWWRRPH GLLVVHD
IURP 'LVDELOLW\ 6HUYLFHV LQ D WDLPRQHHOEHH\ DPQGGQQHVVVWRWKD
'LVDELOLW\ 6HUYLFHV GHWHUPLQHVHDGFFGRRPPERGOLWWLLRRQQW E\
&RQWDFW   :LOODUG   DQGLZZ ZHFRU\OROFFHUHDYGRR ('8

6\OODEXV