```
NOTE
NOTE  PARAMETER CHANGES FOR THE POPULATION SECTOR RUNS
NOTE
NOTE  HISTORICAL RUNS
NOTE
C     LENGTH=75
C     PLTPER=5
RUN   FIGURE 2-84: HISTORICAL BEHAVIOR, SUMMARY VARIABLES
C     LENGTH=75
C     PLTPER=5
PLOT  POP1=1,POP2=2,POP3=3,POP4=4(0,1)/LMF=F,LMHS=H,
X     LMP=P,LMC=C(0,2)/HSAPC=S,ESPC=E(0,250)
RUN   FIGURE 2-85: HISTORICAL BEHAVIOR, MORTALITY VARIABLES
C     LENGTH=75
C     PLTPER=5
PLOT  TF=T,MTF=M,DTF=D,DCFS=C(0,15)/FRSN=R(.6,1.4)/
X     SFSN=S(.75,1.25)/CMPLE=L(1,4)
RUN   FIGURE 2-86: HISTORICAL BEHAVIOR, FERTILITY VARIABLES
NOTE
NOTE  CONSTANT INCOME PER CAPITA RUNS
NOTE
C     IPHST=4000
C     LT2=0
PLOT  SOPC=S,IOPC=I,FPC=F(0,1000)/POP=P(0,16E9)/
X     CBR=B,CDR=D(0,50)/LE=L(0,80)/FPU=U(0,1)/FCE=C(.5,1)
RUN   FIGURE 2-87: CONSTANT LOW INCOME
C     IPHST=4000
C     LT2=0
C     CIO=1000
C     CSO=1500
C     CFOOD=2500
RUN   FIGURE 2-88: CONSTANT HIGH INCOME
C     LT2=0
RUN   FIGURE 2-89: CONSTANT LOW INCOME, IMPROVED HEALTH CARE
NOTE
NOTE  EXPONENTIAL ECONOMIC GROWTH RUNS
NOTE
RUN   FIGURE 2-90: EXPONENTIAL ECONOMIC GROWTH, SUMMARY VARIABLES
PLOT  POP1=1,POP2=2,POP3=3,POP4=4(0,1)/LMF=F,LMHS=H,
X     LMP=P,LMC=C(0,2)/HSAPC=S,ESPC=E(0,250)
RUN   FIGURE 2-91: EXPONENTIAL ECONOMIC GROWTH, MORTALITY VARIABLES
PLOT  TF=T,MTF=M,DTF=D,DCFS=C(0,15)/FRSN=R(.6,1.4)/
X     SFSN=S(.75,1.25)/CMPLE=L(1,4)
RUN   FIGURE 2-93: EXPONENTIAL ECONOMIC GROWTH, FERTILITY VARIABLES
C     FCEST=75
PLOT  SOPC=S,IOPC=I,FPC=F(0,1000)/POP=P(0,16E9)/
X     CBR=B,CDR=D(0,50)/LE=L(0,80)/FPU=U(0,1)/FCE=C(.5,1)
RUN   FIGURE 2-96: EXPONENTIAL GROWTH, PERFECT FERTILITY CONTROL
C     FCEST=75
C     ZPGT=75
RUN   FIGURE 2-97: EXPONENTIAL GROWTH, FERTILITY CONTROL, REDUCED DCFS
NOTE
NOTE  RUNS SIMULATING CONSTANT TOTAL OUTPUT
NOTE
C     LT=100
RUN   FIGURE 2-98: CONSTANT TOTAL OUTPUT
C     LT=100
C     FCEST=75
RUN   FIGURE 2-99: CONSTANT TOTAL OUTPUT, PERFECT FERTILITY CONTROL
C     LT=100
C     FCEST=75
C     ZPGT=75
RUN   FIGURE 2-100: CONSTANT OUTPUT, FERTILITY CONTROL, REDUCED DCFS
NOTE
NOTE  SENSITIVITY TESTS
NOTE
C     LT=100
PLOT  SOPC=S,IOPC=I,FPC=F(0,1000)/POP=P(0,16E9)/
X     CBR=B,CDR=D(0,50)/LE=L(0,80)/FPU=U(0,1)/FCE=C(.5,1)
PLOT  POP1=1,POP2=2,POP3=3,POP4=4(0,1)/LMF=F,LMHS=H,
X     LMP=P,LMC=C(0,2)/HSAPC=S,ESPC=E(0,250)
PLOT  TF=T,MTF=M,DTF=D,DCFS=C(0,15)/FRSN=R(.6,1.4)/
X     SFSN=S(.75,1.25)/CMPLE=L(1,4)
RUN   FIGURE 2-101: CONSTANT TOTAL OUTPUT
C     LT=100
T     LMFT=0/1.4/1.4/1.4/1.4/1.4
RUN   FIGURE 2-102: EQUITABLE FOOD DISTRIBUTION
C     LT=100
T     HSAPCT=0/125/250/375/500/625/750/875/1000
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RUN   FIGURE 2-104: GREATER ALLOCATIONS TO HEALTH SERVICES
C     LT=100
T     CMIT=0/0/0/0/0/0/0/0/0
RUN   FIGURE 2-105: NO CROWDING EFFECT
C     LT=100
T     FMT=1/1/1/1/1/1/1/1/1
RUN   FIGURE 2-106: CONSTANT MAXIMUM TOTAL FERTILITY
C     LT=100
T     SFSNT=1/.9/.7/.6/.5
RUN   FIGURE 2-107: LOWER FAMILY SIZE NORM
C     LT=100
T     SFSNT=.75/.75/.75/.75/.75
RUN   FIGURE 2-108: CONSTANT FAMILY SIZE NORM OF 3
C     LT=100
C     SAD=50
RUN   FIGURE 2-109: INCREASED SOCIAL ADJUSTMENT DELAY
C     LT=100
T     FRSNT=1/1/1/1/1
RUN   FIGURE 2-110: NO INCOME EXPECTATION EFFECT
C     LT=100
T     CMPLET=5/4/2.5/1.8/1.6/1.4/1.3/1.15/1.1
RUN   FIGURE 2-111: INCREASED CMPLE
C     LT=100
C     LPD=10
RUN   FIGURE 2-112: DECREASED LIFETIME PERCEPTION DELAY
C     LT=100
T     FCLT=.5/.7/.8/.9/.95/.98/.98
RUN   FIGURE 2-113: DECREASED FCE
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APPENDIX C: FIFTEEN-LEVEL POPULATION MODEL

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POP15

*     FIFTEEN-LEVEL POPULATION SECTOR WITH EXOGENOUS INPUTS
NOTE
NOTE  POPULATION LEVEL EQUATIONS
NOTE
NOTE  AGE 0-1
L     P1.K=P1.J+(DT)(B.JK-D1.JK-MAT1.JK)
N     P1=P1I
C     P1I=5.3E7
A     D1A.K=P1.K*M1.K
A     M1.K=TABHL(M1T,LE.K,20,70,10)
T     M1T=.40/.28/.20/.14/.07/.02
R     D1.KL=D1A.K
R     MAT1.KL=P1.K-D1A.K
NOTE  AGE 1-4
L     P2.K=P2.J+(DT)(MAT1.JK-D2.JK-MAT2.JK)
N     P2=P2I
C     P2I=2.1E8
A     D2A.K=P2.K*M2.K
A     M2.K=TABHL(M2T,LE.K,20,70,10)
T     M2T=.08/.05/.03/.02/.008/.002
R     D2.KL=D2A.K
R     MAT2.KL=(P2.K-D2A.K)/4
NOTE  AGE 5-9
L     P3.K=P3.J+(DT)(MAT2.JK-D3.JK-MAT3.JK)
N     P3=P3I
C     P3I=2.2E8
A     D3A.K=P3.K*M3.K
A     M3.K=TABHL(M3T,LE.K,20,70,10)
T     M3T=.02/.01/.007/.004/.002/.001
R     D3.KL=D3A.K
R     MAT3.KL=(P3.K-D3A.K)/5
NOTE  AGE 10-14
L     P4.K=P4.J+(DT)(MAT3.JK-D4.JK-MAT4.JK)
N     P4=P4I
C     P4I=1.8E8
A     D4A.K=P4.K*M4.K
A     M4.K=TABHL(M4T,LE.K,20,70,10)
T     M4T=.01/.008/.005/.003/.001/.0005
R     D4.KL=D4A.K
R     MAT4.KL=(P4.K-D4A.K)/5
NOTE  AGE 15-19
L     P5.K=P5.J+(DT)(MAT4.JK-D5.JK-MAT5.JK)
N     P5=P5I
C     P5I=1.6E8
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