```
"Quasi-Hyperbolic Discounting"=
       IF THEN ELSE( Time <= INITIAL TIME + 1 , 1, "beta ( \beta )" * Exponential Discounting t\
              Dmnl
                     Chge in Exponential Discounting t 1=
       IF THEN ELSE (Time = INTEGER (Time), (Exponential Discounting t - Exponential Discounting
t 1\
              ) / TIME STEP, 0)
              Dmnl/Year
Biased Real Instanteneous Utility=
       "Biased Utility ( u )"* "Quasi-Hyperbolic Discounting"
       ~ Util / Year
                    Lagged Exponential Discounting t 1=
       DELAY FIXED( Exponential Discounting t 1, 1 , Exponential Discounting t 1 )
       ~ Dmnl
Exponential Discounting t=
       "delta ( \delta )" * "Exponential Discounting t - 1"
       ~ Dmnl
Actual Real Instanteneous Utility=
       "Quasi-Hyperbolic Discounting" * "Actual Utility ( u )"
       ~ Util / Year
Initial Exponential Discounting t 1=
       1
             Dmnl
                     "Exponential Discounting t - 1"=
      IF THEN ELSE (Time = INTEGER (Time), Exponential Discounting t 1, Lagged Exponential
Discounting t 1\
             )
            Dmn 1
                     Real Instanteneous Utility=
       "Utility ( u )" * "Quasi-Hyperbolic Discounting"
       ~ Util / Year
                    Exponential Discounting t 1= INTEG (
       Chge in Exponential Discounting t 1,
            Initial Exponential Discounting t 1)
             Dmn 1
Retirement Switch=
       STEP (1, Retirement Time + TIME STEP)
           Dmnl
Normalized Lifetime Utility=
       IF THEN ELSE(Time = FINAL TIME, Actual Lifetime Utility / Optimal Lifetime Utility , \
              0)
              Dmnl
                     ~ :SUPPLEMENTARY
```

```
"Delayed Biased Current Consumption ( BCC ) "= DELAY FIXED (
       "Biased Current Consumption ( C )", TIME STEP, "Biased Current Consumption ( C )")
            Dollar/Year
"Biased Current Consumption ( BCC )"=
       IF THEN ELSE(Time = INITIAL TIME, "Biased Current Consumption ( C )", IF THEN
ELSE("Biased Current Consumption ( C )"\
               > "Delayed Biased Current Consumption ( BCC )", "Biased Current Consumption ( C
) "
       , :NA:))
       ~ Dollar/Year
                    "Actual Current Consumption ( ACC ) "=
      IF THEN ELSE(Time = INITIAL TIME, "Actual Current Consumption ( C )", IF THEN
ELSE("Actual Current Consumption ( C )"\
              > "Delayed Actual Current Consumption ( ACC )", "Actual Current Consumption ( C
       , :NA:))
       ~ Dollar/Year
               1
Discrete Actual Real Lifetime Utility=
      IF THEN ELSE ("Actual Current Consumption ( ACC )" = :NA:, :NA:, "Discrete Actual Real
Lifetime Utility ( DARLU )"\
            )
            Util
                           :SUPPLEMENTARY
       Discrete Biased Real Lifetime Utility=
      IF THEN ELSE("Biased Current Consumption ( BCC )" = :NA:, :NA:, "Discrete Biased Real
Lifetime Utility ( DBRLU )"\
            )
              Util
                           :SUPPLEMENTARY
       "Delayed Actual Current Consumption ( ACC ) "= DELAY FIXED (
       "Actual Current Consumption ( C )", TIME STEP, "Actual Current Consumption ( C )")
       ~ Dollar/Year
                    "Delayed Current Consumption ( CC ) "=
       DELAY FIXED("Current Consumption ( C )", TIME STEP, "Current Consumption ( C )")
       ~ Dollar/Year
                1
"Consumption ( C ) "=
      IF THEN ELSE("Biased Current Consumption ( BCC )" <> :NA: :AND: "Current Consumption ( CC
) "\
              = :NA:, "Biased Current Consumption ( BCC )", "Current Consumption ( CC )"
       )
            Dollar/Year
                           :SUPPLEMENTARY
Discrete Real Lifetime Utility=
      IF THEN ELSE ("Current Consumption ( CC )" = :NA:, :NA:, "Discrete Real Lifetime Utility (
DRLU )"\
              )
            Util
                     ~ :SUPPLEMENTARY
```

```
"Current Consumption ( CC ) "=
      IF THEN ELSE (Time = INITIAL TIME, "Current Consumption ( C )", IF THEN ELSE ("Current
Consumption ( C )"\
             > "Delayed Current Consumption ( CC )", "Current Consumption ( C )"
       , :NA:))
       ~ Dollar/Year
                  Actual Consumption=
       IF THEN ELSE ("Discrete Actual Current Consumption ( DACC )" > "Delayed Actual Consumption
              , "Discrete Actual Current Consumption ( DACC )"
       , :NA:)
             Dollar/Year
                           :SUPPLEMENTARY
       Actual Current Consumption=
       IF THEN ELSE(Time <= Death Time - 1, ("Discrete Actual Current Consumption ( DACC )"\
              ) , 0)
            Dollar/Year
              |
"Actual Current Consumption ( C ) Discrete"=
       IF THEN ELSE(Time = INTEGER(Time), "Actual Current Consumption ( C )", 0)
       ~ Dollar/Year
"Actual Current Consumption ( C )"=
      min(Unconstrained Consumption Growth , Actual Wealth / "Time to Chg Actual Current
Consumption ( C )"\
            )
            Dollar/Year
                    "Actual Discrete Real Lifetime Utility ( DBRLU ) "=
       IF THEN ELSE (Time >= FINAL TIME, "Discrete Actual Real Lifetime Utility ( DARLU )",0)
          Ut.il
                           :SUPPLEMENTARY
       Actual Last Consumption=
       IF THEN ELSE(Time = FINAL TIME - TIME STEP, Actual Wealth / TIME STEP, 0)
           Dollar/Year
Actual Lifetime Utility=
       IF THEN ELSE(Time >= INTEGER(FINAL TIME), "Actual Real Lifetime Utility ( U )",0)
       ~ Util
"Actual Real Lifetime Utility ( U ) Discrete"=
       IF THEN ELSE(Time = INTEGER(Time), "Actual Real Lifetime Utility ( U )", 0)
       ~
          Util
"Actual Real Lifetime Utility ( U )"= INTEG (
       Actual Real Instanteneous Utility,
              "Initial Actual Real Lifetime Utility (U)")
            Util
"Actual Utility ( u )"=
```

```
IF THEN ELSE ("Coefficient of Relative Risk Aversion ( \rho )" = 1, IF THEN ELSE("Discrete
Actual Current Consumption ( DACC )"\
               = 0, 0, ln (
        "Discrete Actual Current Consumption ( DACC )" / Normal Consumption)
       ) * Util per Year
        , ((( "Discrete Actual Current Consumption ( DACC )" \,
        / Normal Consumption) ^{(1 - "Coefficient of Relative Risk Aversion (<math>\rho)")) / (1)
               - "Coefficient of Relative Risk Aversion ( \rho )"
        )) * Util per Year )
       ~ Util / Year
Actual Wealth= INTEG (
       Actual Wealth Return+"Labor Income ( Y ) "-Actual Current Consumption-Actual Last
Consumption\
              "Initial Actual Wealth ( W )")
              Dollar
"Actual Wealth ( W ) Discrete"=
       IF THEN ELSE(Time = INTEGER(Time), Actual Wealth, 0)
            Dollar
Actual Wealth Return=
    IF THEN ELSE(Time < Death Time - 1 + TIME STEP, "Discrete Actual Wealth ( DW )" *
"Interest Rate ( r )"\
              / Time to Chg WR
       0)
       ~
              Dollar/Year
                  "beta (\beta)"=
       1
              Dmn 1
"Biased Coefficient of Relative Risk Aversion ( \rho^{\prime} )"=
       "Coefficient of Relative Risk Aversion ( \rho )" * "Perception of ( \rho )"
            Dmnl
Biased Consumption=
      IF THEN ELSE("Discrete Biased Current Consumption ( DCC )" > "Delayed Biased Consumption
              , "Discrete Biased Current Consumption ( DCC )"
       , :NA:)
          Dollar/Year
                            :SUPPLEMENTARY
       Biased Current Consumption=
       IF THEN ELSE(Time <= Death Time - 1 , ("Discrete Biased Current Consumption ( DCC )"
              ) , 0)
             Dollar/Year
               1
"Biased Current Consumption ( C ) Discrete"=
       IF THEN ELSE (Time = INTEGER (Time), "Biased Current Consumption ( C )", 0)
            Dollar/Year
                   "Biased Current Consumption ( C )"=
```

```
min(Unconstrained Consumption Growth , Biased Wealth / "Time to Chg Biased Current
Consumption ( C )"\
             )
              Dollar/Year
"Biased Discrete Real Lifetime Utility ( DBRLU ) "=
       IF THEN ELSE (Time >= FINAL TIME, "Discrete Biased Real Lifetime Utility ( DBRLU )",0)
          Util
                            :SUPPLEMENTARY
"Biased Interest Rate ( r ' )"=
       "Interest Rate ( r )" * "Perception of ( r ' )"
       ~ Dmnl
Biased Last Consumption=
       IF THEN ELSE(Time = FINAL TIME - TIME STEP, Biased Wealth / TIME STEP, 0)
           Dollar/Year
Biased Lifetime Utility=
       IF THEN ELSE(Time >= INTEGER(FINAL TIME), "Biased Real Lifetime Utility ( U )",0)
             Util
                            :SUPPLEMENTARY
       "Biased Real Lifetime Utility ( U ) Discrete"=
       IF THEN ELSE(Time = INTEGER(Time), "Biased Real Lifetime Utility ( U )", 0)
       ~ Util
"Biased Real Lifetime Utility ( U )"= INTEG (
       Biased Real Instanteneous Utility,
              "Initial Biased Real Lifetime Utility (U)")
              Util
"Biased Utility ( u )"=
       IF THEN ELSE ("Biased Coefficient of Relative Risk Aversion ( \rho' )" = 1, IF THEN ELSE\
              ("Discrete Biased Current Consumption ( DCC )" = 0, 0, ln (
        "Discrete Biased Current Consumption ( DCC )" / Normal Consumption)
       ) * Util per Year
        , ((( "Discrete Biased Current Consumption ( DCC )"
        / Normal Consumption) ^ (1 - "Biased Coefficient of Relative Risk Aversion ( \rho^{\prime} )"\
              )) / (1 - "Biased Coefficient of Relative Risk Aversion ( \rho' )"
       )) * Util per Year )
       ~ Util / Year
Biased Wealth= INTEG (
      Biased Wealth Return+"Labor Income ( Y ) "-Biased Current Consumption-Biased Last
Consumption\
              "Initial Wealth ( W )")
            Dollar
"Biased Wealth ( W ) Discrete"=
      IF THEN ELSE(Time = INTEGER(Time), Biased Wealth, 0)
            Dollar
Biased Wealth Return=
```

```
IF THEN ELSE(Time < Death Time - 1 + TIME STEP, "Discrete Biased Wealth ( DW )" * "Biased
Interest Rate ( r ' )"\
               / Time to Chg WR
       , 0)
              Dollar/Year
                     Chg in Optimal Consumption=
       ( "Discrete Optimal Consumption Growth ( DOCG )" * Optimal Consumption Growth Rate ) \
               / Time to Chg Optimal Consumption
              Dollar / Year / Year
Chg in Unconstrained Consumption=
       ( "Discrete Unconstrained Consumption Growth ( DUCG )" * Unconstrained Consumption Growth
Rat.e\
               ) / Time to Chg Unconstrained Consumption
              Dollar / Year / Year
                      "Coefficient of Relative Risk Aversion ( \rho )"=
       0.67
       ~
             Dmn.1
                      Consumption=
  IF THEN ELSE ("Discrete Current Consumption ( DCC )" > "Delayed Consumption ( C )",
"Discrete Current Consumption ( DCC )"\
             , :NA:)
             Dollar/Year
                            :SUPPLEMENTARY
       "Countervail Biased Coefficient of Relative Risk Aversion ( \rho )"=
       "Coefficient of Relative Risk Aversion ( \rho )" * ((ln("delta ( \delta )" * (1 + "Biased
Interest Rate ( r ' )"\
             ))) / (ln("delta (δ)"
        * (1 + "Interest Rate ( r )"))))
            Dmnl
"Countervail Biased Interest Rate ( r ' )"=
      ( ( "delta ( \delta )" \star ( 1 + "Interest Rate ( r )") ^{\circ} ("Biased Coefficient of Relative Risk
Aversion ( \rho' )"\
               / "Coefficient of Relative Risk Aversion ( \rho )"
       )) / "delta (δ)") - 1
            Dmn 1
       ~
"Countervail Perception of ( r ' )"=
       "Countervail Biased Interest Rate ( r ' )"/ "Interest Rate ( r )"
             Dmnl
                            :SUPPLEMENTARY
       "Countervail Perception of (\rho')"=
      "Countervail Biased Coefficient of Relative Risk Aversion ( \rho )" / "Coefficient of
Relative Risk Aversion ( \rho )"
             Dmnl
                           :SUPPLEMENTARY
       Current Consumption=
       IF THEN ELSE(Time <= Death Time - 1, ("Discrete Current Consumption ( DCC )" ) , 0)
            Dollar/Year
```

```
"Current Consumption ( C ) Discrete"=
      IF THEN ELSE(Time = INTEGER(Time), "Current Consumption ( C )", 0)
            Dollar/Year
"Current Consumption ( C ) "=
      min(Optimal Consumption Growth , "Wealth ( W )" / "Time to Chg Current Consumption ( C
) "\
              Dollar/Year
                Death Time=
      FINAL TIME
      ~ Year
                     "Delayed Actual Consumption ( C ) "= DELAY FIXED (
     "Discrete Actual Current Consumption ( DACC )", 1, "Discrete Actual Current Consumption (
            Dollar/Year
             1
"Delayed Actual Current Consumption ( C ) "= DELAY FIXED (
       "Actual Current Consumption ( C ) Discrete", 1 , 0)
       ~ Dollar/Year
"Delayed Actual Real Lifetime Utility ( U ) "= DELAY FIXED (
       "Actual Real Lifetime Utility ( U ) Discrete", 1 , 0)
       ~ Util
"Delayed Actual Wealth ( W )"= DELAY FIXED (
       "Actual Wealth ( W ) Discrete", 1 , 0)
       ~ Dollar
"Delayed Biased Consumption ( C ) "= DELAY FIXED (
      "Discrete Biased Current Consumption ( DCC )", 1, "Discrete Biased Current Consumption (
DCC )"\
             Dollar/Year
"Delayed Biased Current Consumption ( C ) "= DELAY FIXED (
       "Biased Current Consumption ( C ) Discrete", 1 , 0)
       ~ Dollar/Year
"Delayed Biased Real Lifetime Utility ( U ) "= DELAY FIXED (
       "Biased Real Lifetime Utility ( U ) Discrete", 1 , 0)
       ~ Util
                    "Delayed Biased Wealth ( W ) "= DELAY FIXED (
       "Biased Wealth ( W ) Discrete", 1 , 0)
       ~ Dollar
"Delayed Consumption ( C ) "= DELAY FIXED (
       "Discrete Current Consumption ( DCC )", 1, "Discrete Current Consumption ( DCC )")
            Dollar/Year
```

```
"Delayed Current Consumption ( C ) "= DELAY FIXED (
       "Current Consumption ( C ) Discrete", 1 , 0)
           Dollar/Year
"Delayed Discrete Actual Real Lifetime Utility ( DARLU ) "=
       DELAY FIXED("Discrete Actual Real Lifetime Utility ( DARLU )", TIME STEP, "Discrete
Actual Real Lifetime Utility ( DARLU )"\
           )
              Util
                           :SUPPLEMENTARY
       Delayed Optimal Consumption Growth Discrete= DELAY FIXED (
       Optimal Consumption Growth Discrete, 1 , 0)
       ~ Dollar/Year
"Delayed Real Lifetime Utility ( U ) "= DELAY FIXED (
       "Real Lifetime Utility ( U ) Discrete", 1 , 0)
       ~ Util
Delayed Unconstrained Consumption Growth Discrete= DELAY FIXED (
       Unconstrained Consumption Growth Discrete, 1 , 0)
       ~ Dollar/Year
                    "Delayed Wealth ( W )"= DELAY FIXED (
       "Wealth ( W ) Discrete", 1 , 0)
       ~ Dollar
"delta (\delta)"=
       0.99
              Dmnl
Discounting Utility=
       "delta ( \delta )" ^{\circ} ( ( Time - 18) / Time to Chge DU )
       ~ Dmnl
                    ~ :SUPPLEMENTARY
       1
"Discrete Actual Current Consumption ( C )"= INTEG (
       ("Actual Current Consumption ( C ) Discrete" - "Delayed Actual Current Consumption ( C
              ) / TIME STEP,
              0)
              Dollar/Year
"Discrete Actual Current Consumption ( DACC )"=
      IF THEN ELSE (Time = INTEGER (Time), "Actual Current Consumption ( C ) Discrete", "Discrete
Actual Current Consumption ( C )"\
           )
             Dollar/Year
                    "Discrete Actual Real Lifetime Utility ( DARLU )"=
      IF THEN ELSE (Time = INTEGER (Time), "Actual Real Lifetime Utility ( U ) Discrete",
"Discrete Actual Real Lifetime Utility ( U )"\
            )
              Util
```

```
"Discrete Actual Real Lifetime Utility ( U )"= INTEG (
      ("Actual Real Lifetime Utility ( U ) Discrete" - "Delayed Actual Real Lifetime Utility (
              ) / TIME STEP,
              0)
              Util
"Discrete Actual Wealth ( DW )"=
       IF THEN ELSE (Time = INTEGER (Time), "Actual Wealth ( W ) Discrete", "Discrete Actual
Wealth (W)"\
            Dollar
"Discrete Actual Wealth ( W ) "= INTEG (
       ("Actual Wealth ( W ) Discrete" - "Delayed Actual Wealth ( W )") / TIME STEP,
             0)
              Dollar
"Discrete Biased Current Consumption ( C )"= INTEG (
       ("Biased Current Consumption ( C ) Discrete" - "Delayed Biased Current Consumption ( C
              ) / TIME STEP,
              0)
              Dollar/Year
                    "Discrete Biased Current Consumption ( DCC )"=
      IF THEN ELSE (Time = INTEGER (Time), "Biased Current Consumption ( C ) Discrete", "Discrete
Biased Current Consumption ( C )"\
              )
              Dollar/Year
                   "Discrete Biased Real Lifetime Utility ( DBRLU ) "=
      IF THEN ELSE (Time = INTEGER (Time), "Biased Real Lifetime Utility ( U ) Discrete",
"Discrete Biased Real Lifetime Utility ( U )"\
           )
            Util
                     "Discrete Biased Real Lifetime Utility ( U )"= INTEG (
      ("Biased Real Lifetime Utility ( U ) Discrete" - "Delayed Biased Real Lifetime Utility (
U )"\
              ) / TIME STEP,
             0)
             Util
"Discrete Biased Wealth ( DW )"=
      IF THEN ELSE (Time = INTEGER (Time), "Biased Wealth ( W ) Discrete", "Discrete Biased
Wealth ( W )"\
         Dollar
             "Discrete Biased Wealth ( W ) "= INTEG (
      ("Biased Wealth ( W ) Discrete" - "Delayed Biased Wealth ( W )") / TIME STEP,
              0)
              Dollar
"Discrete Current Consumption ( C ) "= INTEG (
```

```
("Current Consumption ( C ) Discrete" - "Delayed Current Consumption ( C )") / TIME STEP\
              0)
              Dollar/Year
"Discrete Current Consumption ( DCC )"=
       IF THEN ELSE(Time = INTEGER(Time), "Current Consumption ( C ) Discrete", "Discrete
Current Consumption ( C )"\
              )
              Dollar/Year
                     Discrete Optimal Consumption Growth= INTEG (
       (Optimal Consumption Growth Discrete - Delayed Optimal Consumption Growth Discrete) \
              / TIME STEP,
              0)
              Dollar/Year
                     "Discrete Optimal Consumption Growth ( DOCG ) "=
      IF THEN ELSE(Time = INTEGER(Time), Optimal Consumption Growth Discrete, Discrete Optimal
Consumption Growth\
              )
              Dollar/Year
                  "Discrete Real Lifetime Utility ( DRLU )"=
      IF THEN ELSE(Time = INTEGER(Time), "Real Lifetime Utility ( U ) Discrete", "Discrete Real
Lifetime Utility ( U )"\
              Util
                     "Discrete Real Lifetime Utility ( U )"= INTEG (
       ("Real Lifetime Utility ( U ) Discrete" - "Delayed Real Lifetime Utility ( U )") / TIME
STEP\
              0)
              Util
                     Discrete Unconstrained Consumption Growth= INTEG (
      (Unconstrained Consumption Growth Discrete - Delayed Unconstrained Consumption Growth
Discrete\
              ) / TIME STEP,
              0)
              Dollar/Year
                    "Discrete Unconstrained Consumption Growth ( DUCG )"=
      IF THEN ELSE(Time = INTEGER(Time), Unconstrained Consumption Growth Discrete, Discrete
Unconstrained Consumption Growth\
              )
             Dollar/Year
                    "Discrete Wealth ( DW )"=
       IF THEN ELSE(Time = INTEGER(Time), "Wealth ( W ) Discrete", "Discrete Wealth ( W )")
       ~
            Dollar
"Discrete Wealth ( W ) "= INTEG (
       ("Wealth ( W ) Discrete" - "Delayed Wealth ( W )") / TIME STEP,
              ())
              Dollar
```

```
"Income Growth Rate (G) "=
     0
          Fraction / Year
      ~
            1
"Initial Actual Real Lifetime Utility (U)"=
     1
          Util
                  "Initial Actual Wealth ( W )"=
     1000
      ~ Dollar ~
"Initial Biased Real Lifetime Utility (U)"=
    1
~ Util
Initial Optimal Consumption Growth=
     263.7
     ~ Dollar / Year
           "Initial Real Lifetime Utility (U)"=
    1
      ~ Util
Initial Unconstrained Consumption Growth=
     263.7
      ~ Dollar / Year
             "Initial Wealth ( W )"=
     1000
     ~
           Dollar
"Interest Rate ( r )"=
    0.05
      ~
           Dmnl
                 -
"Labor Income ( Y )"=
     "Normal Labor Income (Y)" * (1 + "Income Growth Rate (G)") * (1 - Retirement Switch
         ) + 0*(1 + RAMP(-1, 58, 59))
           Dollar/Year
Last Consumption=
      IF THEN ELSE(Time = FINAL TIME - TIME STEP, "Wealth ( W ) " / TIME STEP, 0)
      ~ Dollar/Year
            Normal Consumption=
     1
          Dollar/Year
"Normal Labor Income (Y)"=
   1000
      ~ Dollar
```

```
Normalized Consumption Growth=
      Unconstrained Consumption Growth Rate / Optimal Consumption Growth Rate
           Dmnl
                           :SUPPLEMENTARY
       Optimal Consumption Growth= INTEG (
       Chg in Optimal Consumption,
              Initial Optimal Consumption Growth)
              Dollar / Year
                   - 1
Optimal Consumption Growth Discrete=
       IF THEN ELSE(Time = INTEGER(Time), Optimal Consumption Growth, 0)
       ~ Dollar/Year
Optimal Consumption Growth Rate=
      0.05956
       ~ Fraction
"Optimal Discrete Real Lifetime Utility ( DRLU )"=
      IF THEN ELSE(Time >= FINAL TIME, "Discrete Real Lifetime Utility ( DRLU )",0)
       ~ Util
                           :SUPPLEMENTARY
       Optimal Lifetime Utility=
       IF THEN ELSE(Time >= INTEGER(FINAL TIME), "Real Lifetime Utility ( U ) ",0)
       ~ Util
"Perception of ( r ' )"=
      1.2
              Dmnl
"Perception of (\rho')"=
      1.217
       ~ Dmnl
                   "Real Lifetime Utility ( U ) Discrete"=
      IF THEN ELSE(Time = INTEGER(Time), "Real Lifetime Utility ( U )", 0)
"Real Lifetime Utility ( U ) "= INTEG (
       Real Instanteneous Utility,
            "Initial Real Lifetime Utility (U)")
            Util
Retirement Time=
      58
       ~
             Year
"Time to Chg Actual Current Consumption ( C ) "=
      1
             Year
```

```
"Time to Chg Biased Current Consumption ( C )"=
      1
       ~
              Year
Year
                     Time to Chg Optimal Consumption=
       1
              Year
                     Time to Chg Unconstrained Consumption=
       1
       ~
              Year
Time to Chg WR=
      1
              Year
Time to Chge DU=
      1
              Year
                    Unconstrained Consumption Growth= INTEG (
      Chg in Unconstrained Consumption,
             Initial Unconstrained Consumption Growth)
             Dollar / Year
                    Unconstrained Consumption Growth Discrete=
       IF THEN ELSE (Time = INTEGER (Time), Unconstrained Consumption Growth, 0)
       ~ Dollar/Year
Unconstrained Consumption Growth Rate=
      0.05956
       ~ Fraction
Util per Year=
            Util/Year
"Utility ( u )"=
      IF THEN ELSE ("Coefficient of Relative Risk Aversion ( \rho )" = 1, IF THEN ELSE ("Discrete
Current Consumption ( DCC )"\
              = 0, 0, ln (
       "Discrete Current Consumption ( DCC )" / Normal Consumption)
       ) * Util per Year
       , ((( "Discrete Current Consumption ( DCC )"
        / Normal Consumption) ^ (1 - "Coefficient of Relative Risk Aversion ( \rho )" )) / (1\setminus
              - "Coefficient of Relative Risk Aversion ( \rho )" )) * Util per Year )
              Util / Year
"Wealth ( W ) "= INTEG (
       "Labor Income ( Y )"+Wealth Return-Current Consumption-Last Consumption,
              "Initial Wealth ( W )")
```

```
Dollar
"Wealth ( W ) Discrete"=
       IF THEN ELSE(Time = INTEGER(Time), "Wealth ( W )", 0)
              Dollar
Wealth Return=
       IF THEN ELSE(Time < Death Time - 1 + TIME STEP, "Discrete Wealth ( DW )" \star "Interest Rate
               / Time to Chg WR,
       0)
              Dollar/Year
                     .Control
              Simulation Control Parameters
       FINAL TIME = 79
              The final time for the simulation.
       1
INITIAL TIME = 18
      ~
              Year
              The initial time for the simulation.
       SAVEPER =
       TIME STEP
             Year [0,?]
              The frequency with which output is stored.
       Τ
TIME STEP = 0.0078125
              Year [0,?]
              The time step for the simulation.
\\\---/// Sketch information - do not modify anything except names
V300 Do not put anything below this section - it will be ignored
*Optimal Behavior
$192-192-192,0,Open Sans|10||0-0-0|0-0-0|0-0-255|-1--1-1|-1--1--1|96,96,75,0
10,1,"Wealth (W)",455,389,41,26,3,131,0,0,0,0,0,0,0,0,0,0,0,0
12,2,48,232,394,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,0 Sans |10||0-0-0,0,0,0,0,0,0
1,3,5,1,4,0,0,22,0,0,0,-1--1--1,,1|(369,394)|
1,4,5,2,100,0,0,22,0,0,0,-1--1--1,,1|(277,394)|
11,5,48,319,394,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,6,"Labor Income ( Y )",319,412,56,10,40,3,0,0,-1,0,0,0,0,0,0,0,0
1,8,10,7,4,0,0,22,0,0,0,-1--1--1,,1|(615,395)|
1,9,10,1,100,0,0,22,0,0,0,-1--1--1,,1|(528,395)|
11,10,48,566,395,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,11, Current Consumption, 566, 421, 52, 18, 40, 3, 0, 0, -1, 0, 0, 0, 0, 0, 0, 0, 0, 0
10,12,Optimal Consumption Growth,956,201,49,27,3,131,0,0,0,0,0,0,0,0,0,0,0,0
12,13,48,449,225,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-0,0,0,0,0,0
1, 14, 16, 1, 4, 0, 0, 22, 0, 0, 0, -1 --1 --1, , 1 \mid (453, 332) \mid
1,15,16,13,100,0,0,22,0,0,0,-1--1--1,,1|(453,261)|
11,16,48,453,296,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
10,17, Wealth Return, 501,296,40,29,40,131,0,0,-1,0,0,0,0,0,0,0,0
12,18,48,1213,194,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0
1, 19, 21, 12, 4, 0, 0, 22, 0, 0, 0, -1 --1 --1, 1 | (1059, 195) |
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1,20,21,18,100,0,0,22,0,0,0,-1--1--1,,1|(1163,195)|
11,21,48,1119,195,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,22,Chg in Optimal Consumption,1119,221,47,18,40,131,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-
0-0,0,0,0,0,0,0
0,0,0,0,0,0,0
10,24, Initial Optimal Consumption Growth, 954,141,69,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,25, "Utility (u)",435,665,32,10,8,3,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-0,0,0,0,0,0
10,26,Optimal Consumption Growth Rate,1159,129,71,26,8,131,0,40,0,0,0,0,0-0-0,0-0-0,Open
Sans|10||0-0-0,0,0,0,0,0,0
1,27,26,22,1,0,0,0,0,128,0,-1--1--1,,1|(1157,174)|
1,28,24,12,0,1,0,0,0,128,1,-1--1--1,,1|(954,159)|
1,29,23,1,0,1,0,0,0,128,1,-1--1--1,,1|(420,355)|
10,30,"Income Growth Rate (G)",250,328,49,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
10,31,"Time to Chg Current Consumption ( C )",754,400,64,18,8,131,0,40,0,0,0,0,0-0-0,0-0-0,0pen
Sans|10||0-0-0,0,0,0,0,0,0
0,0,0,0,0,0,0
10,33,Util per Year,274,725,38,10,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0
10,34, Retirement Time, 338,557,52,10,8,131,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans | 10 | | 0-0-
0,0,0,0,0,0,0
1,35,33,25,1,0,0,0,0,128,0,-1--1--1,,1|(367,711)|
10,36, "Normal Labor Income (Y)",243,482,44,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
1,38,30,6,1,0,0,0,64,0,-1--1--1,,1|(259,366)|
1,39,36,6,1,0,0,0,0,64,0,-1--1--1,,1|(253,444)|
10,40,Death Time,659,356,36,10,8,3,0,40,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0
1,41,32,25,1,0,0,0,0,128,0,-1--1--1,,1|(361,625)|
10,42,Discrete Optimal Consumption Growth,1150,438,56,29,3,131,0,0,0,0,0,0,1,0,0,0,0,0
10,43,Delayed Optimal Consumption Growth Discrete,1079,554,92,30,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,44,43,42,1,0,0,0,0,128,0,-1--1--1,,1|(1141,497)|
10,45, "Discrete Optimal Consumption Growth ( DOCG )",1105,346,70,30,8,131,0,0,0,0,0,0,0,0,0,0,0
1,46,42,45,1,0,0,0,0,128,0,-1--1--1,,1|(1148,399)|
10,47,Optimal Consumption Growth Discrete,935,342,70,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,48,47,45,1,0,0,0,0,128,0,-1--1--1,,1|(999,388)|
1,49,47,43,1,0,0,0,0,128,0,-1--1--1,,1|(961,455)|
1,50,47,42,1,0,0,0,0,128,0,-1--1--1,,1|(994,445)|
10,51,TIME STEP,1289,410,40,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,52,51,42,1,1,0,0,0,64,0,-1--1--1,,1|(1234,437)|
1,53,12,47,1,0,0,0,0,128,0,-1--1--1,,1|(913,275)|
10,54,Time,973,263,24,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,55,54,47,1,1,0,0,0,64,0,-1--1--1,,1|(954,291)|
1,56,54,45,1,1,0,0,0,128,0,-1--1--1,,1|(1038,269)|
10,57, "Discrete Wealth ( W ) ",425,53,40,24,3,131,0,0,0,0,0,0,1,0,0,0,0
10,58, "Delayed Wealth ( W ) ",263,78,47,21,8,131,0,0,0,0,0,0,0,0,0,0,0
1,59,58,57,1,0,0,0,0,128,0,-1--1--1,,1|(314,42)|
10,60, "Discrete Wealth ( DW )",600,170,51,20,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,61,57,60,1,0,0,0,128,0,-1--1--1,,1|(527,52)|
10,62,"Wealth ( W ) Discrete",374,133,61,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,63,62,60,1,0,0,0,0,128,0,-1--1--1,,1|(487,104)|
1,64,62,58,1,0,0,0,0,128,0,-1--1--1,,1|(307,145)|
1,65,62,57,1,0,0,0,0,128,0,-1--1--1,,1|(383,101)|
10,66,TIME STEP,523,5,40,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
Sans|10||0-0-0,0,0,0,0,0,0
1,68,67,22,1,0,0,0,0,128,0,-1--1--1,,1|(1206,245)|
10,69, "Current Consumption ( C )",782,317,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,70,31,69,1,0,0,0,64,0,-1--1--1,,1|(780,362)|
10,71,"Discrete Current Consumption ( C )",705,629,58,35,3,131,0,0,0,0,0,0,1,0,0,0,0
10,72, "Delayed Current Consumption ( C )",889,596,73,27,8,131,0,0,0,0,0,0,0,0,0,0,0
1,73,72,71,1,0,0,0,0,128,0,-1--1-1,1|(820,631)|
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10,74,"Discrete Current Consumption ( DCC )",684,533,66,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,75,71,74,1,0,0,0,0,128,0,-1--1--1,,1|(681,606)|
10,76, "Current Consumption ( C ) Discrete",839,501,57,27,8,131,0,0,0,0,0,0,0,0,0,0,0
1,77,76,74,1,0,0,0,0,128,0,-1--1--1,,1|(785,540)|
1,78,76,72,1,0,0,0,0,128,0,-1--1--1,,1|(874,544)|
1,79,76,71,1,0,0,0,0,128,0,-1--1--1,,1|(788,607)|
10,80,TIME STEP,627,701,40,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,81,80,71,1,1,0,0,0,64,0,-1--1--1,,1|(663,673)|
1,82,69,76,1,0,0,0,0,128,0,-1--1--1,,1|(833,371)|
1,83,45,22,1,0,0,0,0,128,0,-1--1--1,,1|(1139,276)|
1,84,60,17,1,0,0,0,0,128,0,-1--1--1,,1|(605,234)|
1,85,66,57,0,1,0,0,0,128,0,-1--1--1,,1|(490,21)|
1,86,74,11,1,0,0,0,0,128,0,-1--1--1,,1|(593,480)|
10,87,FINAL TIME,636,305,44,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,88,87,40,1,1,0,0,0,64,0,-1--1--1,,1|(647,326)|
10,89,Retirement Switch,354,487,45,17,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
1,90,34,89,1,0,0,0,0,64,0,-1--1--1,,1|(352,534)|
1,91,89,6,1,0,0,0,0,128,0,-1--1--1,,1|(347,446)|
1,92,1,62,1,0,0,0,0,128,0,-1--1-1,1|(315,251)|
1,93,37,17,1,0,0,0,0,128,0,-1--1--1,,1|(433,311)|
10,95,TIME STEP,376,229,40,10,8,2,1,3,-1,0,0,128-128-128,0-0-0,|12||128-128-128,0,0,0,0,0
1,96,95,17,1,1,0,0,0,128,0,-1--1-1,1|(452,248)|
1,97,94,11,1,0,0,0,0,128,0,-1--1--1,,1|(638,464)|
1,98,12,69,1,0,0,0,128,0,-1--1--1,,1|(855,218)|
12,99,48,451,549,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,100,102,99,4,0,0,22,0,0,0,-1--1--1,,1|(453,510)|
1,101,102,1,100,0,0,22,0,0,0,-1--1--1,,1|(453,441)|
11,102,48,453,474,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
10,103,Last Consumption,513,474,44,18,40,131,0,0,-1,0,0,0,0,0,0,0,0,0,0
1,105,104,103,0,17,0,0,0,64,0,-1--1--1,,1|(533,539)|
10,106,TIME STEP,446,620,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|12||128-128-128-128,0,0,0,0,0
1,107,106,103,1,1,0,0,0,64,0,-1--1--1,,1|(478,570)|
1,108,1,102,1,0,0,0,128,0,-1--1--1,,1|(404,436)|
10,109, "Real Lifetime Utility ( U ) ",607,812,45,24,3,131,0,0,0,0,0,0,0,0,0,0,0,0
12,110,48,356,807,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,111,113,109,4,0,0,22,0,0,0,-1--1--1,,1|(526,809)|
1,112,113,110,100,0,0,22,0,0,0,-1--1--1,,1|(423,809)|
11,113,48,485,809,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,114, Real Instanteneous Utility, 485, 835, 61, 18, 40, 3, 0, 0, -1, 0, 0, 0, 0, 0, 0, 0, 0
10,115, "Initial Real Lifetime Utility (U)",604,757,59,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,116,115,109,0,1,0,0,0,128,1,-1--1--1,,1|(603,774)|
1,117,25,113,1,0,0,0,0,128,0,-1--1--1,,1|(476,731)|
10,119,Optimal Lifetime Utility,767,724,53,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,120,FINAL TIME,989,701,44,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,121,120,119,1,1,0,0,0,64,0,-1--1--1,,1|(880,699)|
12,122,0,2187,336,263,213,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Wealth
1,124,1,69,1,0,0,0,0,128,0,-1--1--1,,1|(628,282)|
1,125,74,25,1,0,0,0,128,0,-1--1--1,,1|(594,614)|
10,126, "Discrete Real Lifetime Utility ( U )",1827,919,45,31,3,131,0,0,0,0,0,0,1,0,0,0,0
10,127, "Delayed Real Lifetime Utility ( U )",1711,1037,59,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,128,127,126,1,0,0,0,0,128,0,-1--1--1,,1|(1818,994)|
10,129, "Discrete Real Lifetime Utility ( DRLU )",1724,807,67,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
1,130,126,129,1,0,0,0,0,128,0,-1--1--1,,1|(1808,856)|
10,131, "Real Lifetime Utility ( U ) Discrete",1613,934,62,22,8,131,0,0,0,0,0,0,0,0,0,0,0
1,132,131,129,1,0,0,0,128,0,-1--1--1,,1|(1636,865)|
1, 133, 131, 127, 1, 0, 0, 0, 0, 128, 0, -1--1--1, , 1 \mid (1637, 994) \mid
1,134,131,126,1,0,0,0,0,128,0,-1--1-1,,1|(1721,968)|
10,135, "Real Lifetime Utility ( U ) ",1460,901,44,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
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1,136,135,131,1,0,0,0,0,128,0,-1--1--1,,1|(1508,932)|
1,138,137,126,0,0,0,0,64,0,-1--1--1,,1|(1905,989)|
1,140,139,129,1,1,0,0,0,64,0,-1--1--1,,1|(1635,776)|
1,141,109,119,1,0,0,0,0,128,0,-1--1--1,,1|(690,778)|
1,142,40,11,1,0,0,0,0,128,0,-1--1--1,,1|(604,376)|
1,143,123,17,1,1,0,0,0,128,0,-1--1-1,1|(526,207)|
1,144,94,74,1,0,0,0,0,128,0,-1--1--1,,1|(684,493)|
1,145,94,76,1,0,0,0,0,128,0,-1--1--1,,1|(785,458)|
10,146,Discounting Utility,1725,1112,57,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,147,Time,1849,1183,24,10,8,2,0,3,-1,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,148,147,146,0,0,0,0,0,64,0,-1--1-1,,1|(1793,1150)|
10,149, "delta ( \delta ) ",1605,1180,37,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,150,149,146,1,0,0,0,0,128,0,-1--1--1,,1|(1647,1136)|
1,151,123,60,1,1,0,0,0,128,0,-1--1-1,1|(530,159)|
1,152,139,131,1,1,0,0,0,128,0,-1--1--1,,1|(1570,868)|
10,153, Time to Chge DU,1895,1211,52,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,154,153,146,1,0,0,0,0,128,0,-1--1--1,,1|(1719,1171)|
10,155,Consumption,2091,785,43,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,156, "Delayed Consumption ( C ) ",2010,865,57,18,8,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,157,156,155,1,0,0,0,0,64,0,-1--1--1,,1|(2028,820)|
12,158,0,1647,336,263,213,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Real Lifetime Utility
10,159, Death Time, 560,209,35,17,8,130,0,3,-1,0,0,0,128-128-128,0-0-0, |10||128-128-128,0,0,0,0,0,0
1,160,159,17,1,0,0,0,0,128,0,-1--1--1,,1|(560,246)|
10,161,Time,908,646,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,162,161,119,1,1,0,0,0,128,0,-1--1--1,,1|(857,655)|
10,163, "Optimal Discrete Real Lifetime Utility ( DRLU
)",1631,706,72,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,164,129,163,1,0,0,0,0,128,0,-1--1--1,,1|(1706,749)|
1,166,165,163,0,0,0,0,64,0,-1--1--1,,1|(1523,693)|
10,167,Time,1484,732,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,168,167,163,0,0,0,0,64,0,-1--1--1,,1|(1526,724)|
1,170,169,103,0,1,0,0,0,128,0,-1--1--1,,1|(554,520)|
1,171,123,62,0,1,0,0,0,128,0,-1--1--1,,1|(454,140)|
1,173,172,25,1,0,0,0,0,128,0,-1--1-1,1|(343,670)|
10,174,"Interest Rate ( r )",428,187,52,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,175,174,17,1,0,0,0,0,128,0,-1--1--1,,1|(488,229)|
10,176,Discrete Real Lifetime Utility,1899,688,46,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
10,177, "Discrete Current Consumption ( DCC )",2208,867,69,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-
0, | 10 | | 128-128-128, 0, 0, 0, 0, 0, 0
1,178,177,155,1,0,0,0,0,128,0,-1--1--1,,1|(2170,806)|
1,179,177,156,1,0,0,0,0,128,0,-1--1--1,,1|(2070,935)|
10,180, "Current Consumption ( CC )",2108,689,61,18,8,3,0,0,0,0,0,0,0,0,0,0,0
10,181, "Current Consumption ( C )",2322,676,60,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
1,182,129,176,1,0,0,0,128,0,-1--1--1,,1|(1754,761)|
1,183,181,180,1,0,0,0,0,128,0,-1--1--1,,1|(2250,728)|
1,184,180,176,1,0,0,0,0,128,0,-1--1--1,,1|(2032,671)|
10,185, "Delayed Current Consumption ( CC )",2196,591,61,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1,186,181,185,1,0,0,0,128,0,-1--1--1,,1|(2287,615)|
1,187,185,180,1,0,0,0,128,0,-1--1--1,,1|(2110,632)|
10,188,TIME STEP,2004,571,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,189,188,185,0,0,0,0,0,64,0,-1--1--1,,1|(2082,578)|
1,190,106,89,1,1,0,0,0,128,0,-1--1--1,,1|(405,556)|
10,191,INITIAL TIME,1980,623,48,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,192,191,180,0,0,0,0,64,0,-1--1--1,,1|(2029,648)|
10,193,Time,2003,754,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,194,193,180,0,0,0,0,64,0,-1--1-1,,1|(2042,729)|
10,195,"delta (δ)",974,1172,30,10,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
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128,0,0,0,0,0,0
10,197,INITIAL TIME,662,942,48,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
10,198,Exponential Discounting t 1,903,927,50,28,3,131,0,0,0,0,0,0,0,0,0,0,0
12,199,48,1159,931,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,200,202,198,4,0,0,22,0,0,0,-1--1--1,,1|(1004,932)|
1,201,202,199,100,0,0,22,0,0,0,-1--1--1,,1|(1108,932)|
11,202,48,1061,932,6,8,34,3,0,0,3,0,0,0,0,0,0,0,0,0
10,203,Chge in Exponential Discounting t 1,1061,906,62,18,40,3,0,0,-1,0,0,0,0,0,0,0,0
10,204,Lagged Exponential Discounting t 1,898,1028,62,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,205, "Exponential Discounting t - 1",717,978,53,19,8,131,0,0,0,0,0,0,0,0,0,0,0,0
10,206, Exponential Discounting t,846,1096,42,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,207,198,202,1,0,0,0,128,0,-1--1--1,,1|(978,965)|
1,208,198,204,1,0,0,0,128,0,-1--1--1,,1|(909,973)|
1,209,204,205,1,0,0,0,128,0,-1--1--1,,1|(770,1035)|
1,210,198,205,1,0,0,0,128,0,-1--1--1,,1|(764,933)|
1,211,205,206,1,0,0,0,0,128,0,-1--1--1,,1|(748,1052)|
1,212,206,202,1,0,0,0,128,0,-1--1--1,,1|(1033,1024)|
10,213, Initial Exponential Discounting t 1,923,834,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,214,213,198,0,0,0,0,128,1,-1--1--1,,1|(916,868)|
10,215, "Quasi-Hyperbolic Discounting",594,1016,55,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,216,Time,711,1087,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,217,216,215,1,1,0,0,0,64,0,-1--1--1,,1|(639,1062)|
1,219,218,203,1,1,0,0,0,64,0,-1--1--1,,1|(1126,866)|
1,220,197,215,1,1,0,0,0,128,0,-1--1--1,,1|(627,984)|
1,221,216,205,1,1,0,0,0,128,0,-1--1--1,,1|(687,1046)|
10,222,TIME STEP,1113,814,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,223,222,203,0,1,0,0,0,64,0,-1--1--1,,1|(1093,849)|
1,224,195,206,1,0,0,0,128,0,-1--1--1,,1|(885,1146)|
1,225,196,215,1,0,0,0,0,128,0,-1--1--1,,1|(523,1054)|
1,226,215,114,1,0,0,0,0,128,0,-1--1--1,,1|(501,941)|
1,227,206,215,1,0,0,0,64,0,-1--1--1,,1|(666,1080)|
\\\\\\\\ Sketch information - do not modify anything except names
V300 Do not put anything below this section - it will be ignored
*Biased Behavior
$192-192-192,0,Open Sans|10||0-0-0|0-0-0|0-0-255|-1--1--1|-1--1--1|96,96,85,0
10,1,Time,1247,1186,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
10,2,TIME STEP,1482,1215,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
10,4,TIME STEP,452,1192,40,10,8,2,17,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128-128,0,0,0,0,0
0.0.0.0.0.0.0
10,6,Util per Year,502,815,38,10,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-0,0,0,0,0,0
10,7,"Biased Coefficient of Relative Risk Aversion ( \rho'
)",469,756,85,25,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,9,10,8,4,0,0,22,0,0,0,-1--1-1,,1|(1269,314)|
11,10,1344,1332,314,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,11,Chg in Unconstrained Consumption,1332,340,68,18,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
10,12, Discrete Unconstrained Consumption Growth, 1357,555,56,35,3,131,0,0,0,0,0,0,1,0,0,0,0
10,13, Delayed Unconstrained Consumption Growth
Discrete, 1286, 665, 73, 27, 8, 131, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
1,14,13,12,1,0,0,0,0,128,0,-1--1--1,,1|(1338,622)|
10,15, "Discrete Unconstrained Consumption Growth ( DUCG
)",1335,454,96,24,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,16,12,15,1,0,0,0,128,0,-1--1--1,,1|(1355,510)|
10,17,Unconstrained Consumption Growth Discrete, 1142,453,69,27,8,131,0,0,0,0,0,0,0,0,0,0,0
1,18,17,15,1,0,0,0,0,128,0,-1--1--1,,1|(1206,499)|
1,19,17,13,1,0,0,0,128,0,-1--1--1,,1|(1146,580)|
1,20,17,12,1,0,0,0,0,128,0,-1--1--1,,1|(1201,556)|
10,21,TIME STEP,1496,521,40,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,22,21,12,1,1,0,0,0,64,0,-1--1--1,,1|(1441,548)|
1,23,8,17,1,0,0,0,0,128,0,-1--1--1,,1|(1120,386)|
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10,24,Time,1180,374,24,10,8,2,0,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,25,24,17,1,0,0,0,0,64,0,-1--1--1,,1|(1161,402)|
1,26,24,15,1,0,0,0,0,128,0,-1--1--1,,1|(1245,380)|
1,27,15,11,1,0,0,0,0,128,0,-1--1--1,,1|(1347,392)|
10,28,Biased Lifetime Utility,987,894,48,18,8,3,0,0,0,0,0,0,0,0,0,0,0
10,29,FINAL TIME,1087,832,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0, |10||128-128-128,0,0,0,0,0
1,30,29,28,1,0,0,0,0,64,0,-1--1--1,,1|(1034,873)|
1,32,31,28,1,0,0,0,0,128,0,-1--1--1,,1|(968,851)|
12,33,48,1429,308,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,34,10,33,100,0,0,22,0,0,0,-1--1--1,,1|(1378,314)|
10,35,Initial Unconstrained Consumption Growth,1159,256,69,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,36,Unconstrained Consumption Growth Rate,1393,242,98,25,8,131,0,0,0,0,0,0,0,0,0,0,0
1,37,35,8,0,0,0,0,128,1,-1--1-1,,1|(1159,273)|
1,38,36,11,1,0,0,0,0,128,0,-1--1-1,,1 \mid (1368,293) \mid
10,39, "Biased Real Lifetime Utility ( U )",820,942,45,24,3,131,0,0,0,0,0,0,0,0,0,0,0
12,40,48,601,938,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,41,43,39,4,0,0,22,0,0,0,-1--1--1,,1|(739,939)|
1,42,43,40,100,0,0,22,0,0,0,-1--1--1,,1|(652,939)|
11,43,48,698,939,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,45, "Initial Biased Real Lifetime Utility (U)",816,868,56,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,46,45,39,0,1,0,0,0,128,1,-1--1-1,1|(816,895)|
1,47,39,28,1,0,0,0,0,128,0,-1--1--1,,1|(886,942)|
10,48,Biased Wealth,658,492,39,25,3,131,0,0,0,0,0,0,0,0,0,0,0
12,49,48,873,493,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-0,0,0,0,0,0
1,50,52,49,4,0,0,22,0,0,0,-1--1--1,,1|(820,488)|
1,51,52,48,100,0,0,22,0,0,0,-1--1--1,,1|(731,488)|
11,52,48,771,488,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,53,Biased Current Consumption,771,514,47,18,40,3,0,0,-1,0,0,0,0,0,0,0,0,0,0
12,54,48,654,318,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-0,0,0,0,0,0
1,55,57,48,4,0,0,22,0,0,0,-1--1--1,,1|(654,432)|
1,56,57,54,100,0,0,22,0,0,0,-1--1--1,,1|(654,355)|
11,57,48,654,391,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
10,58,Biased Wealth Return,707,391,45,18,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
10,59, "Time to Chg Biased Current Consumption ( C )",956,498,70,32,8,131,0,0,0,0,0,0,0,0,0,0,0,0
10,60, "Discrete Biased Wealth ( W ) ",662,113,40,24,3,131,0,0,0,0,0,0,1,0,0,0,0,0
1,62,61,60,1,0,0,0,0,128,0,-1--1--1,,1|(535,78)|
10,63, "Discrete Biased Wealth ( DW ) ",819,221,48,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,64,60,63,1,0,0,0,0,128,0,-1--1--1,,1|(754,121)|
10,65, "Biased Wealth ( W ) Discrete",577,194,60,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,66,65,63,1,0,0,0,0,128,0,-1--1--1,,1|(688,155)|
1,67,65,61,1,0,0,0,0,128,0,-1--1--1,,1|(483,170)|
1,68,65,60,1,0,0,0,0,128,0,-1--1--1,,1|(586,149)|
10,69,TIME STEP,757,63,40,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
10,70, "Biased Current Consumption ( C )",987,410,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,71,59,70,1,0,0,0,64,0,-1--1--1,,1|(985,455)|
10,72, "Discrete Biased Current Consumption ( DCC )",889,652,73,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
10,73, "Biased Current Consumption (C) Discrete",1044,594,57,27,8,131,0,0,0,0,0,0,0,0,0,0,0
1,74,73,72,1,0,0,0,0,128,0,-1--1--1,,1|(995,644)|
1,75,70,73,1,0,0,0,0,128,0,-1--1--1,,1|(1038,464)|
1,76,63,58,1,0,0,0,0,128,0,-1--1--1,,1|(814,314)|
1,77,69,60,1,1,0,0,0,128,0,-1--1--1,,1|(732,83)|
1,78,72,53,1,0,0,0,0,128,0,-1--1--1,,1|(792,585)|
1,79,48,65,1,0,0,0,0,128,0,-1--1--1,,1|(525,411)|
1,82,81,58,1,1,0,0,0,128,0,-1--1--1,,1|(648,331)|
1,83,80,53,1,0,0,0,0,128,0,-1--1--1,,1|(843,557)|
12,84,48,656,642,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,85,87,84,4,0,0,22,0,0,0,-1--1--1,,1|(658,603)|
1,86,87,48,100,0,0,22,0,0,0,-1--1--1,,1|(658,539)|
11,87,48,658,567,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
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10,88,Biased Last Consumption,718,567,44,18,40,131,0,0,-1,0,0,0,0,0,0,0,0,0,0
1,89,48,87,1,0,0,0,0,128,0,-1--1--1,,1|(622,534)|
10,90,Time,700,207,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,91,48,70,1,0,0,0,0,128,0,-1--1--1,,1|(835,392)|
1,92,90,58,1,0,0,0,0,128,0,-1--1--1,,1|(775,310)|
1,93,80,72,1,0,0,0,0,128,0,-1--1--1,,1|(882,597)|
1,94,80,73,1,0,0,0,0,128,0,-1--1--1,,1|(990,551)|
1,95,90,63,1,0,0,0,0,128,0,-1--1--1,,1|(746,219)|
1,97,96,88,0,1,0,0,0,128,0,-1--1--1,,1|(759,613)|
1,98,90,65,0,0,0,0,128,0,-1--1--1,,1|(663,204)|
10,99,FINAL TIME,755,649,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,100,99,88,1,0,0,0,64,0,-1--1--1,,1|(745,617)|
10,101,TIME STEP,660,691,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128-128,0,0,0,0,0
1,102,101,88,0,0,0,0,64,0,-1--1--1,,1|(683,639)|
10,104, "Delayed Biased Current Consumption ( C ) ",1094,689,73,18,8,131,0,0,0,0,0,0,0,0,0,0,0
1,105,104,103,1,0,0,0,0,128,0,-1--1--1,,1|(1025,724)|
1,106,73,104,1,0,0,0,0,128,0,-1--1--1,,1|(1091,654)|
1,107,8,70,1,0,0,0,128,0,-1--1--1,,1|(1029,328)|
1,108,103,72,1,0,0,0,0,128,0,-1--1--1,,1|(819,705)|
1,109,73,103,1,0,0,0,0,128,0,-1--1--1,,1|(1009,662)|
1,111,110,103,0,0,0,0,0,64,0,-1--1--1,,1|(993,748)|
10,112, "Biased Utility ( u )",653,762,53,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,113,5,112,1,0,0,0,128,0,-1--1--1,,1|(586,717)|
1,114,7,112,1,0,0,0,0,128,0,-1--1--1,,1|(571,773)|
1,115,6,112,1,0,0,0,0,128,0,-1--1--1,,1|(576,811)|
1,116,72,112,1,0,0,0,0,128,0,-1--1--1,,1|(744,691)|
1,117,112,44,1,0,0,0,0,128,0,-1--1--1,,1|(673,785)|
10,118,"Income Growth Rate (G)",440,426,49,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
10,119, Retirement Time,537,644,52,10,8,131,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
10,120, "Normal Labor Income (Y)",456,578,44,18,8,3,0,40,0,0,0,0,0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
10,122,Retirement Switch,565,571,45,17,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,123,119,122,1,0,0,0,0,64,0,-1--1--1,,1|(556,622)|
1,124,121,58,1,0,0,0,0,128,0,-1--1--1,,1|(615,388)|
12,125,48,437,487,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0
1,126,127,125,100,0,0,22,0,0,0,-1--1--1,,1|(482,487)|
11,127,48,524,487,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,128,"Labor Income ( Y )",524,505,56,10,40,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,129,118,128,1,0,0,0,0,64,0,-1--1--1,,1|(510,455)|
1,130,120,128,1,0,0,0,0,64,0,-1--1--1,,1|(470,533)|
1,131,122,128,1,0,0,0,0,64,0,-1--1--1,,1|(557,532)|
1,132,127,48,4,0,0,22,0,0,0,-1--1-1,,1|(574,487)|
10,134,FINAL TIME,932,243,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,135,134,133,1,0,0,0,0,64,0,-1--1--1,,1|(933,271)|
10,136,"Initial Wealth ( W )",597,419,43,26,8,131,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
1,137,136,48,1,0,0,0,0,128,1,-1--1-1,,1|(604,453)|
1,138,133,58,1,0,0,0,0,64,0,-1--1--1,,1|(805,386)|
10,139, "Perception of (\rho')",301,653,56,10,8,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,140,139,7,0,0,0,0,64,0,-1--1--1,,1|(366,693)|
10,141, "Countervail Biased Interest Rate ( r ' )",324,248,59,18,8,3,0,0,0,0,0,0,0,0,0,0,0
10,142, "Biased Coefficient of Relative Risk Aversion ( \rho' )",115,253,69,33,8,130,0,3,-
1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,143,142,141,0,0,0,0,128,0,-1--1--1,,1|(217,252)|
10,144,"delta (\delta)",411,355,37,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,145,144,141,1,0,0,0,0,128,0,-1--1--1,,1|(354,324)|
10,146, "Biased Interest Rate ( r ')",717,303,47,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,147, "Perception of ( r ' ) ",586,269,56,10,8,131,0,0,-1,0,0,0,0,0,0,0,0,0
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1,148,147,146,1,0,0,0,0,64,0,-1--1--1,,1|(631,293)|
1,149,146,58,1,0,0,0,0,128,0,-1--1--1,,1|(715,348)|
10,150, Death Time, 825,437,43,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0, |10||128-128-128,0,0,0,0,0
1,151,150,53,1,0,0,0,0,128,0,-1--1--1,,1|(809,467)|
10,152,"Countervail Biased Coefficient of Relative Risk Aversion ( \rho
)",357,880,82,27,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,153, "Biased Interest Rate ( r ' ) ",501,993,51,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
128.0.0.0.0.0.0
1,155,154,152,1,0,0,0,0,128,0,-1--1-1,1|(405,947)|
1,156,153,152,1,0,0,0,0,128,0,-1--1-1,1|(478,933)|
10,157, "Countervail Perception of (p')",174,815,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1,158,152,157,1,0,0,0,0,64,0,-1--1--1,,1|(222,865)|
10,159, "Countervail Perception of ( r ' )",359,133,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1, 160, 141, 159, 1, 0, 0, 0, 0, 128, 0, -1--1-1, , 1 \mid (361, 205) \mid
10,161,"Interest Rate ( r )",216,170,52,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,162,161,141,1,0,0,0,0,128,0,-1--1--1,,1|(237,210)|
10,163,"Interest Rate ( r )",677,242,59,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,164,163,146,1,0,0,0,128,0,-1--1-1,,1|(712,264)|
10,165, "Coefficient of Relative Risk Aversion ( \rho )",226,354,71,18,8,2,0,3,-1,0,0,0,128-128-
128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,166,165,141,0,0,0,0,64,0,-1--1--1,,1|(269,307)|
10,167, "Coefficient of Relative Risk Aversion ( p )",146,994,71,18,8,2,0,3,-1,0,0,0,128-128-
128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,168,167,152,1,0,0,0,64,0,-1--1--1,,1|(217,931)|
10,169, "Interest Rate ( r )",294,1007,59,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,170,169,152,1,0,0,0,0,128,0,-1--1-1,,1 \mid (311,941) \mid
10,171, "Coefficient of Relative Risk Aversion ( \rho )",259,723,71,18,8,2,0,3,-1,0,0,0,128-128-
128,0-0-0, | 10 | | 128-128-128,0,0,0,0,0,0
1,172,171,7,0,0,0,0,64,0,-1--1--1,,1|(350,736)|
1,173,161,159,1,0,0,0,0,64,0,-1--1--1,,1|(245,136)|
10,174, Time to Chg Unconstrained Consumption, 1492, 390, 92, 27, 8, 131, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
1,175,174,11,1,0,0,0,0,128,0,-1--1--1,,1|(1409,352)|
1,176,171,157,1,0,0,0,128,0,-1--1--1,,1|(200,772)|
10,177, "Discrete Biased Real Lifetime Utility (U)",2006,907,45,31,3,131,0,0,0,0,0,0,1,0,0,0,0
10,178, "Delayed Biased Real Lifetime Utility ( U )",1890,1025,62,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,179,178,177,1,0,0,0,128,0,-1--1--1,,1|(1997,982)|
10,180, "Discrete Biased Real Lifetime Utility ( DBRLU
)",1883,800,76,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,181,177,180,1,0,0,0,128,0,-1--1--1,,1|(1980,840)|
10,182, "Biased Real Lifetime Utility ( U ) Discrete",1792,922,62,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,183,182,180,1,0,0,0,128,0,-1--1--1,,1|(1810,860)|
1,184,182,178,1,0,0,0,128,0,-1--1--1,,1|(1816,982)|
1,185,182,177,1,0,0,0,0,128,0,-1--1--1,,1|(1900,956)|
10,186, "Biased Discrete Real Lifetime Utility ( DBRLU
)",1810,694,76,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,187,180,186,1,0,0,0,0,128,0,-1--1--1,,1|(1873,745)|
1,189,188,186,0,0,0,0,64,0,-1--1--1,,1|(1700,681)|
1,191,190,186,0,0,0,0,64,0,-1--1--1,,1|(1703,712)|
10,192,Time,1715,987,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,193,192,182,0,0,0,0,64,0,-1--1--1,,1|(1742,963)|
10,194, "Biased Real Lifetime Utility ( U )",1608,865,66,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-
0, | 10 | | 128-128-128, 0, 0, 0, 0, 0, 0
1,195,194,182,1,0,0,0,128,0,-1--1--1,,1|(1683,923)|
1,197,196,177,0,0,0,0,64,0,-1--1--1,,1|(2053,957)|
1,198,190,180,1,0,0,0,0,128,0,-1--1--1,,1|(1753,752)|
10,199,Biased Consumption,1828,461,44,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,201,200,199,1,0,0,0,64,0,-1--1--1,,1|(1753,497)|
```

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10,202, "Discrete Actual Current Consumption ( DACC )",1828,497,76,18,8,2,1,3,-1,0,0,0,128-128-
128,0-0-0, | 10 | | 128-128-128,0,0,0,0,0,0
10,203, "Discrete Actual Current Consumption ( DACC )",1744,580,76,18,8,2,1,3,-1,0,0,0,128-128-
128,0-0-0,|10||128-128-128,0,0,0,0,0,0
10,204, Discrete Biased Real Lifetime Utility, 2052, 636, 62, 18, 8, 3, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
10,205, "Discrete Biased Current Consumption ( DCC )",1910,597,77,18,8,2,0,3,-1,0,0,0,128-128-
128,0-0-0, | 10 | | 128-128-128,0,0,0,0,0,0
1,206,205,200,1,0,0,0,0,128,0,-1--1--1,,1|(1800,615)|
1,207,205,199,1,0,0,0,128,0,-1--1--1,,1|(1925,520)|
10,208, "Biased Current Consumption ( BCC )",2047,378,65,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,209, "Delayed Biased Current Consumption (BCC)", 1936,258,73,18,8,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,210,209,208,1,0,0,0,64,0,-1--1--1,,1|(2027,301)|
10,211, "Biased Current Consumption ( C ) ",1797,358,60,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-
0, | 10 | | 128-128-128, 0, 0, 0, 0, 0, 0
1,212,211,208,1,0,0,0,128,0,-1--1--1,,1|(1870,405)|
1,213,211,209,1,0,0,0,128,0,-1--1--1,,1|(1859,268)|
10,214,TIME STEP,1906,170,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,215,214,209,0,0,0,0,64,0,-1--1--1,,1|(1916,204)|
1,216,180,204,1,0,0,0,0,128,0,-1--1--1,,1|(2001,730)|
1,217,208,204,1,0,0,0,128,0,-1--1--1,,1|(2078,488)|
1,218,101,122,1,0,0,0,0,128,0,-1--1-1,,1|(619,627)|
10,219,INITIAL TIME,2018,478,48,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,220,219,208,0,0,0,0,64,0,-1--1--1,,1|(2028,438)|
10,221,Time,2073,302,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,222,221,208,0,0,0,0,64,0,-1--1--1,,1|(2063,330)|
10,223,"delta ( \delta )",1357,1213,30,10,8,131,0,0,0,0,0,0,0,0,0,0,0
128,0,0,0,0,0,0
10,225,INITIAL TIME,888,1053,48,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
10,226,Exponential Discounting t 1,1187,1044,50,28,3,131,0,0,0,0,0,0,0,0,0,0,0
12,227,48,1443,1048,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,228,230,226,4,0,0,22,0,0,0,-1--1--1,,1|(1288,1049)|
1,229,230,227,100,0,0,22,0,0,0,-1--1-1,1|(1392,1049)|
11,230,48,1345,1049,6,8,34,3,0,0,3,0,0,0,0,0,0,0,0,0
10,231,Chge in Exponential Discounting t 1,1345,1023,62,18,40,3,0,0,-1,0,0,0,0,0,0,0,0,0
10,232, Lagged Exponential Discounting t 1,1182,1145,62,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,233, "Exponential Discounting t - 1",1024,1092,55,16,8,131,0,0,0,0,0,0,0,0,0,0,0
10,234, Exponential Discounting t,1210,1211,53,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,235,226,230,1,0,0,0,0,128,0,-1--1--1,,1|(1262,1082)|
1,236,226,232,1,0,0,0,0,128,0,-1--1--1,,1|(1193,1090)|
1,237,232,233,1,0,0,0,0,128,0,-1--1--1,,1|(1069,1144)|
1,238,226,233,1,0,0,0,0,128,0,-1--1--1,,1|(1064,1047)|
1,239,233,234,1,0,0,0,0,128,0,-1--1--1,,1|(1072,1190)|
1,240,234,230,1,0,0,0,0,128,0,-1--1--1,,1|(1332,1118)|
10,241,Initial Exponential Discounting t 1,1207,951,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,242,241,226,0,0,0,0,128,1,-1--1-1,,1|(1200,985)|
10,243, "Quasi-Hyperbolic Discounting", 820,1127,55,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1,245,244,243,1,1,0,0,0,64,0,-1--1--1,,1|(865,1173)|
10,246,Time,1439,947,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,247,246,231,1,1,0,0,0,64,0,-1--1--1,,1|(1410,983)|
1,248,225,243,1,0,0,0,0,128,0,-1--1--1,,1|(853,1095)|
1,249,244,233,1,1,0,0,0,128,0,-1--1--1,,1|(980,1165)|
10,250,TIME STEP,1320,898,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,251,250,231,0,1,0,0,0,64,0,-1--1--1,,1|(1330,949)|
1,252,223,234,1,0,0,0,0,128,0,-1--1--1,,1|(1302,1230)|
1,253,224,243,1,0,0,0,0,128,0,-1--1--1,,1|(749,1165)|
1,254,243,44,1,0,0,0,0,128,0,-1--1--1,,1|(720,1060)|
1,255,234,243,1,0,0,0,64,0,-1--1--1,,1|(970,1229)|
\\---// Sketch information - do not modify anything except names
V300 Do not put anything below this section - it will be ignored
*Actual Behavior
$192-192-192,0,0pen Sans|10||0-0-0|0-0-0|0-0-255|-1--1-1|-1--1--1|96,96,75,0
10,1,"delta (δ)",1125,1140,30,10,8,131,0,0,0,0,0,0,0,0,0,0,0,0
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10,2,Time,1041,1102,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
10,4,Time,313,946,24,10,8,2,17,11,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
10,5,TIME STEP,246,1108,40,10,8,2,17,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
10,6,Normal Consumption,285,689,44,18,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-
0.0.0.0.0.0.0
10,7,Util per Year,287,801,38,10,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-0,0,0,0,0,0
10,8,Actual Lifetime Utility,775,799,47,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,10,9,8,1,0,0,0,64,0,-1--1--1,,1|(888,797)|
1,12,11,8,1,0,0,0,0,128,0,-1--1--1,,1|(854,771)|
10,13,"Actual Real Lifetime Utility ( U )",581,876,45,24,3,131,0,0,0,0,0,0,0,0,0,0,0
12, 14, 48, 362, 872, 10, 8, 0, 3, 0, 0, -1, 0, 0, 0, 0, 0, 0, 0, 0
1, 15, 17, 13, 4, 0, 0, 22, 0, 0, 0, -1 --1 --1, 1 | (502, 874) |
1,16,17,14,100,0,0,22,0,0,0,-1--1--1,,1|(415,874)|
11,17,48,464,874,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,18,Actual Real Instanteneous Utility,464,900,66,18,40,3,0,0,-1,0,0,0,0,0,0,0,0
10,19,"Initial Actual Real Lifetime Utility (U)",567,821,56,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,20,19,13,0,1,0,0,0,128,1,-1--1--1,,1|(570,838)|
1,21,13,8,1,0,0,0,0,128,0,-1--1--1,,1|(675,845)|
10,22,Actual Wealth, 453, 467, 39, 25, 3, 131, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
1,24,26,23,4,0,0,22,0,0,0,-1--1--1,,1|(615,463)|
1,25,26,22,100,0,0,22,0,0,0,-1--1--1,,1|(526,463)|
11,26,48,566,463,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,27,Actual Current Consumption,566,489,46,18,40,3,0,0,-1,0,0,0,0,0,0,0,0,0,0
12,28,48,449,293,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-0,0,0,0,0,0
1,29,31,22,4,0,0,22,0,0,0,-1--1--1,,1|(452,407)|
1,30,31,28,100,0,0,22,0,0,0,-1--1--1,,1|(452,331)|
11,31,48,452,367,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
10,32,Actual Wealth Return,504,367,44,18,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
10,34,"Actual Utility ( u )",435,733,52,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,35,33,22,0,1,0,0,0,128,1,-1--1--1,,1|(416,430)|
10,36,"Time to Chg Actual Current Consumption ( C )",766,461,83,27,8,131,0,0,0,0,0,0,0,0,0,0,0,0
10,37,"Discrete Actual Wealth ( W )",444,126,53,30,3,131,0,0,0,0,0,0,1,0,0,0,0,0
10,38,"Delayed Actual Wealth ( W )",240,143,47,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,39,38,37,1,0,0,0,0,128,0,-1--1-1,1|(294,95)|
10,40,"Discrete Actual Wealth ( DW )",602,236,47,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,41,37,40,1,0,0,0,128,0,-1--1--1,,1|(529,135)|
10,42,"Actual Wealth ( W ) Discrete",366,217,59,18,8,131,0,0,0,0,0,0,0,0,0,0,0
1,43,42,40,1,0,0,0,0,128,0,-1--1--1,,1|(480,178)|
1,44,42,38,1,0,0,0,0,128,0,-1--1--1,,1|(271,212)|
1,45,42,37,1,0,0,0,0,128,0,-1--1--1,,1|(392,167)|
10,46,TIME STEP,510,67,40,10,8,2,0,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
10,47, "Actual Current Consumption ( C ) ",773,366,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,48,36,47,1,0,0,0,64,0,-1--1--1,,1|(781,416)|
10,49, "Discrete Actual Current Consumption ( C )",705,697,58,35,3,131,0,0,0,0,0,1,0,0,0,0
10,50, "Delayed Actual Current Consumption ( C ) ",889,664,72,18,8,131,0,0,0,0,0,0,0,0,0,0,0
1,51,50,49,1,0,0,0,0,128,0,-1--1-1,1|(820,699)|
10,52, "Discrete Actual Current Consumption ( DACC )",682,606,72,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,53,49,52,1,0,0,0,0,128,0,-1--1--1,,1|(682,675)|
10,54,"Actual Current Consumption ( C ) Discrete",839,569,57,27,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,55,54,52,1,0,0,0,0,128,0,-1--1--1,,1|(785,611)|
1,56,54,50,1,0,0,0,0,128,0,-1--1--1,,1|(874,612)|
1,57,54,49,1,0,0,0,128,0,-1--1--1,,1|(788,675)|
10,58,TIME STEP,675,783,40,10,8,2,0,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,59,58,49,1,0,0,0,64,0,-1--1--1,,1|(690,747)|
1,60,47,54,1,0,0,0,0,128,0,-1--1--1,,1|(847,428)|
1,61,40,32,1,0,0,0,0,128,0,-1--1--1,,1|(581,281)|
1,62,46,37,0,0,0,0,128,0,-1--1--1,,1|(493,82)|
1,63,52,27,1,0,0,0,0,128,0,-1--1--1,,1|(592,550)|
1,64,22,42,1,0,0,0,0,128,0,-1--1-1,1|(329,418)|
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10,66,TIME STEP,376,297,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|12||128-128-128,0,0,0,0,0,0
1,67,66,32,1,1,0,0,0,128,0,-1--1--1,,1|(457,315)|
1,68,65,27,1,0,0,0,0,128,0,-1--1--1,,1|(638,532)|
12,69,48,451,617,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,70,72,69,4,0,0,22,0,0,0,-1--1-1,1|(453,578)|
1,71,72,22,100,0,0,22,0,0,0,-1--1--1,,1|(453,514)|
11,72,48,453,542,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
10,73,Actual Last Consumption,513,542,44,18,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
1,75,74,73,0,0,0,0,64,0,-1--1--1,,1|(528,613)|
1,77,76,73,1,0,0,0,64,0,-1--1--1,,1|(469,615)|
1,78,22,72,1,0,0,0,0,128,0,-1--1--1,,1|(417,509)|
1,80,22,47,1,0,0,0,0,128,0,-1--1--1,,1|(595,374)|
1,81,52,34,1,0,0,0,0,128,0,-1--1--1,,1|(596,691)|
1,82,79,32,1,0,0,0,0,128,0,-1--1--1,,1|(531,274)|
1,83,65,52,1,0,0,0,0,128,0,-1--1--1,,1|(682,563)|
1,84,65,54,1,0,0,0,0,128,0,-1--1--1,,1|(785,526)|
1,85,79,40,1,0,0,0,0,128,0,-1--1--1,,1|(530,227)|
10,86,Time,573,618,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,87,86,73,0,1,0,0,0,128,0,-1--1--1,,1|(550,589)|
1,88,79,42,0,0,0,0,128,0,-1--1--1,,1|(449,212)|
1,89,6,34,1,0,0,0,0,128,0,-1--1--1,,1|(363,694)|
1,90,7,34,1,0,0,0,0,128,0,-1--1--1,,1|(390,772)|
10,91,Unconstrained Consumption Growth,1026,217,49,27,3,131,0,0,0,0,0,0,0,0,0,0,0,0,0
1,92,93,91,4,0,0,22,0,0,0,-1--1--1,,1|(1132,219)|
11,93,1344,1195,219,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,94,Chg in Unconstrained Consumption,1195,245,68,18,40,131,0,0,-1,0,0,0,0,0,0,0,0
10,95,Discrete Unconstrained Consumption Growth,1220,460,56,35,3,131,0,0,0,0,0,0,1,0,0,0,0
10,96, Delayed Unconstrained Consumption Growth
Discrete, 1149, 570, 73, 27, 8, 131, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
1,97,96,95,1,0,0,0,0,128,0,-1--1--1,,1|(1201,527)|
10,98, "Discrete Unconstrained Consumption Growth ( DUCG
)",1198,359,96,24,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,99,95,98,1,0,0,0,0,128,0,-1--1--1,,1|(1218,415)|
10,100,Unconstrained Consumption Growth Discrete,1005,358,69,27,8,131,0,0,0,0,0,0,0,0,0,0,0
1,101,100,98,1,0,0,0,0,128,0,-1--1--1,,1|(1069,404)|
1,102,100,96,1,0,0,0,128,0,-1--1-1,,1|(1009,485)|
1,103,100,95,1,0,0,0,0,128,0,-1--1--1,,1|(1064,461)|
10,104,TIME STEP,1359,426,40,10,8,2,0,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,105,104,95,1,0,0,0,64,0,-1--1--1,,1|(1304,453)|
1,106,91,100,1,0,0,0,0,128,0,-1--1--1,,1|(983,291)|
10,107,Time,1043,279,24,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
128,0,0,0,0,0,0
1,108,107,100,1,1,0,0,0,64,0,-1--1-1,1|(1024,307)|
1,109,107,98,1,1,0,0,0,128,0,-1--1--1,,1|(1108,285)|
1,110,98,94,1,0,0,0,0,128,0,-1--1--1,,1|(1210,297)|
12,111,48,1292,213,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,112,93,111,100,0,0,22,0,0,0,-1--1--1,,1|(1241,219)|
1,115,113,91,0,0,0,0,128,1,-1--1--1,,1|(1022,178)|
1,116,114,94,1,0,0,0,0,128,0,-1--1--1,,1|(1231,198)|
10,117, Time to Chg Unconstrained Consumption, 1355,295,92,27,8,131,0,0,0,0,0,0,0,0,0,0,0
1,118,117,94,1,0,0,0,0,128,0,-1--1--1,,1|(1272,257)|
1,119,91,47,1,0,0,0,0,128,0,-1--1--1,,1|(895,246)|
1,120,34,18,1,0,0,0,0,128,0,-1--1--1,,1|(463,789)|
1,122,121,27,1,0,0,0,0,128,0,-1--1--1,,1|(594,450)|
1,124,123,32,1,0,0,0,0,128,0,-1--1--1,,1|(609,321)|
10,125, "Interest Rate ( r )",434,256,59,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
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1,126,125,32,1,0,0,0,0,128,0,-1--1--1,,1|(475,291)|
10, 127, \texttt{Time to Chg WR}, 361, 345, 56, 10, 8, 2, 0, 3, -1, 0, 0, 0, 128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 0, |10| \, |128 - 128, 0 - 
128,0,0,0,0,0,0
1,128,127,32,1,0,0,0,0,128,0,-1--1--1,,1|(398,369)|
10,129, "Coefficient of Relative Risk Aversion ( \rho )",251,757,71,18,8,2,0,3,-1,0,0,0,128-128-
128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,130,129,34,0,0,0,0,64,0,-1--1--1,,1|(345,744)|
12,131,48,237,462,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0
1,132,133,131,100,0,0,22,0,0,0,-1--1--1,,1|(281,464)|
11,133,48,321,464,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,134, "Labor Income (Y)",321,482,53,10,40,3,0,40,-1,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
10,135,"Income Growth Rate (G)",253,407,49,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
10,136, Retirement Time, 341,636,52,10,8,131,0,40,0,0,0,0,0-0-0,0-0-0,0pen Sans|10||0-0-
0.0.0.0.0.0.0
10,137, "Normal Labor Income (Y)",246,561,44,18,8,3,0,40,0,0,0,0,0,0-0-0,0pen Sans|10||0-0-
0,0,0,0,0,0,0
1,138,135,134,1,0,0,0,0,64,0,-1--1--1,,1|(264,441)|
1,139,137,134,1,0,0,0,0,64,0,-1--1--1,,1|(253,519)|
10,140, Retirement Switch, 357,566,45,17,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,141,136,140,1,0,0,0,64,0,-1--1--1,,1|(355,613)|
1,142,140,134,1,0,0,0,0,128,0,-1--1--1,,1|(352,520)|
1,143,133,22,4,0,0,22,0,0,0,-1--1--1,,1|(370,464)|
10,144,"Discrete Actual Real Lifetime Utility ( U )",2006,891,45,31,3,131,0,0,0,0,0,1,0,0,0,0
10,145, "Delayed Actual Real Lifetime Utility ( U )",1890,1009,61,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,146,145,144,1,0,0,0,0,128,0,-1--1--1,,1|(1997,966)|
10,147, "Discrete Actual Real Lifetime Utility ( DARLU
)",1883,784,76,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,148,144,147,1,0,0,0,0,128,0,-1--1--1,,1|(1980,824)|
10,149,"Actual Real Lifetime Utility ( U ) Discrete",1792,906,61,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,150,149,147,1,0,0,0,0,128,0,-1--1--1,,1|(1810,844)|
1,151,149,145,1,0,0,0,0,128,0,-1--1--1,,1|(1816,966)|
1,152,149,144,1,0,0,0,0,128,0,-1--1--1,,1|(1900,940)|
10,153, "Actual Discrete Real Lifetime Utility ( DBRLU
)",1810,678,76,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,154,147,153,1,0,0,0,0,128,0,-1--1--1,,1|(1873,729)|
10,155,FINAL TIME,1637,658,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,156,155,153,0,0,0,0,64,0,-1--1--1,,1|(1700,665)|
1,158,157,153,0,0,0,0,64,0,-1--1--1,,1|(1703,696)|
1,160,159,149,0,0,0,0,64,0,-1--1--1,,1|(1742,947)|
10,161,TIME STEP,2071,960,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,162,161,144,0,0,0,0,0,64,0,-1--1--1,,1|(2053,941)|
1,163,157,147,1,0,0,0,0,128,0,-1--1--1,,1|(1753,736)|
10,164, "Actual Real Lifetime Utility ( U ) ",1594,842,65,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-
0, |10| |128-128-128, 0, 0, 0, 0, 0, 0
1,165,164,149,1,0,0,0,0,128,0,-1--1--1,,1|(1650,884)|
10,166,Actual Consumption,1835,444,44,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
10,167, "Delayed Actual Consumption ( C ) ",1746,545,57,18,8,3,0,0,-1,0,0,0,0,0,0,0,0
1,168,167,166,1,0,0,0,64,0,-1--1--1,,1|(1761,488)|
10,169, "Current Consumption ( C )",1744,564,60,18,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
10,170,"beta (β)",498,1122,35,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
10,171,Discrete Actual Real Lifetime Utility,2124,633,61,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,172, "Discrete Actual Current Consumption ( DACC )",1960,569,76,18,8,2,0,3,-1,0,0,0,128-128-
128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,173,172,166,1,0,0,0,0,128,0,-1--1--1,,1|(1955,492)|
1,174,172,167,1,0,0,0,0,128,0,-1--1--1,,1|(1806,607)|
10,175, "Delayed Discrete Actual Real Lifetime Utility ( DARLU
)",2209,766,73,27,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1, 176, 147, 175, 1, 0, 0, 0, 0, 128, 0, -1--1--1, , 1 \mid (2065, 795) \mid
10,177,TIME STEP,2148,838,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,178,177,175,0,0,0,0,64,0,-1--1-1,1|(2166,815)|
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10,179, "Actual Current Consumption ( ACC )",2056,411,65,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,180, "Delayed Actual Current Consumption ( ACC )",2040,232,72,18,8,3,0,0,-1,0,0,0,0,0,0,0,0
1,181,180,179,1,0,0,0,64,0,-1--1--1,,1|(2093,298)|
10,182, "Actual Current Consumption ( C )",1843,287,60,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-
0, | 10 | | 128-128-128, 0, 0, 0, 0, 0, 0
1,183,182,180,1,0,0,0,0,128,0,-1--1--1,,1|(1918,242)|
1,184,182,179,1,0,0,0,0,128,0,-1--1--1,,1|(1949,371)|
1,185,179,171,1,0,0,0,0,128,0,-1--1--1,,1|(2133,538)|
10,186,TIME STEP,1911,168,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,187,186,180,0,0,0,0,64,0,-1--1--1,,1|(1960,192)|
1,188,147,171,1,0,0,0,0,128,0,-1--1--1,,1|(2044,735)|
1,189,76,140,1,0,0,0,0,128,0,-1--1--1,,1|(402,604)|
10,190,INITIAL TIME,2204,343,48,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,191,190,179,0,0,0,0,64,0,-1--1--1,,1|(2145,370)|
10,192,Time,2192,452,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,193,192,179,0,0,0,0,64,0,-1--1--1,,1|(2148,439)|
10,195,Exponential Discounting t 1,955,971,50,28,3,131,0,0,0,0,0,0,0,0,0,0,0
12,196,48,1211,975,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,197,199,195,4,0,0,22,0,0,0,-1--1--1,,1|(1056,976)|
1,198,199,196,100,0,0,22,0,0,0,-1--1--1,,1|(1160,976)|
11,199,48,1113,976,6,8,34,3,0,0,3,0,0,0,0,0,0,0,0,0
10,200, Chge in Exponential Discounting t 1,1113,950,62,18,40,3,0,0,-1,0,0,0,0,0,0,0,0
10,201,Lagged Exponential Discounting t 1,950,1072,62,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,202, "Exponential Discounting t - 1",775,1021,51,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,203,Exponential Discounting t,978,1138,53,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,204,195,199,1,0,0,0,128,0,-1--1--1,,1|(1030,1009)|
1,205,195,201,1,0,0,0,128,0,-1--1--1,,1|(961,1017)|
1,206,201,202,1,0,0,0,128,0,-1--1--1,,1|(837,1071)|
1,207,195,202,1,0,0,0,0,128,0,-1--1--1,,1|(832,974)|
1,208,202,203,1,0,0,0,128,0,-1--1--1,,1|(840,1117)|
1,209,203,199,1,0,0,0,0,128,0,-1--1--1,,1|(1100,1045)|
10,210,Initial Exponential Discounting t 1,975,878,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,211,210,195,0,0,0,0,128,1,-1--1-1,,1|(968,912)|
10,212, "Quasi-Hyperbolic Discounting",584,1049,55,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1,214,213,212,1,1,0,0,0,64,0,-1--1--1,,1|(630,1098)|
1,216,215,200,1,1,0,0,0,64,0,-1--1--1,,1|(1178,910)|
1,217,194,212,1,1,0,0,0,128,0,-1--1--1,,1|(619,1019)|
1,218,213,202,1,1,0,0,0,128,0,-1--1--1,,1|(748,1092)|
1,220,219,200,0,1,0,0,0,64,0,-1--1--1,,1|(1108,890)|
1,221,1,203,1,0,0,0,0,128,0,-1--1--1,,1|(1070,1157)|
1,222,170,212,1,0,0,0,0,128,0,-1--1--1,,1|(515,1091)|
1,223,212,18,1,0,0,0,0,128,0,-1--1--1,,1|(508,989)|
1,224,203,212,1,0,0,0,0,128,0,-1--1--1,,1|(842,1159)|
\\\---// Sketch information - do not modify anything except names
V300 Do not put anything below this section - it will be ignored
*Outcomes
$192-192-192,0,0pen Sans|10||0-0-0|0-0-0|0-0-255|-1--1-1|-1-1-1-1|96,96,74,0
10,1,Normalized Lifetime Utility,528,965,46,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,2,Normalized Consumption Growth,966,902,69,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
10,3,0ptimal Consumption Growth Rate,831,1037,69,27,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
1,4,3,2,1,0,0,0,0,128,0,-1--1--1,,1|(865,973)|
10,5,FINAL TIME,528,876,44,10,8,2,0,3,-1,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0
1,6,5,1,0,0,0,0,64,0,-1--1--1,,1|(528,909)|
1, 8, 7, 1, 0, 0, 0, 0, 0, 64, 0, -1 --1 --1, 1 | (457, 934) |
10,9,Unconstrained Consumption Growth,893,668,72,18,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
10,10,Unconstrained Consumption Growth Rate,1090,1038,69,27,8,2,0,3,-1,0,0,0,128-128-128,0-0-
0, | 10 | | 128-128-128, 0, 0, 0, 0, 0, 0
1,11,10,2,1,0,0,0,0,128,0,-1--1-1,,1 \mid (1050,951) \mid
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12, 12, 0, 1482, 407, 280, 135, 3, 188, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0
Lifetime Utility
12,13,0,1480,124,280,108,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Optimal & Biased Values
12,14,0,1486,758,286,175,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Constants
12, 15, 0, 338, 194, 259, 192, 3, 188, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0
12,16,0,874,195,254,195,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Wealth
12,17,0,873,616,259,207,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Lifetime Utility Consumption
12,18,0,2108,836,316,254,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Real Lifetime Utility
12,19,0,334,616,262,205,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Optimal Lifetime Utility
10,20, "Consumption ( C )",264,959,56,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,21, "Biased Current Consumption ( BCC )",277,862,72,29,8,130,0,3,-1,0,0,0,128-128-128,0-0-
0, | 10 | | 128-128-128, 0, 0, 0, 0, 0, 0
1,22,21,20,1,0,0,0,128,0,-1--1--1,,1|(289,915)|
10,23, "Current Consumption ( CC )",220,1042,65,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
1,24,23,20,1,0,0,0,0,128,0,-1--1--1,,1|(222,995)|
12,25,0,2106,281,315,262,3,188,0,0,1,0,0,0,0,0,0,0,0,0
Continuous Consumption
10,26,Optimal Lifetime Utility,432,1063,56,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
10,27,Actual Lifetime Utility,611,1067,50,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
1,28,26,1,1,0,0,0,0,128,0,-1--1--1,,1|(452,1016)|
1,29,27,1,1,0,0,0,0,128,0,-1--1--1,,1|(597,1013)|
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