

"Quasi-Hyperbolic Discounting"=

```
IF THEN ELSE( Time <= INITIAL TIME + 1 , 1, "beta (  $\beta$  )" * Exponential Discounting t\
)
~ Dmnl
~ |
```

"Quasi-hyperbolic Discount"=

```
IF THEN ELSE( Time <= INITIAL TIME + 1 , 1, "beta =  $\beta$ " * Exponential Discounting t)
~ Dmnl
~ |
```

"beta = β "=

```
1
~ Dmnl
~ |
```

Optimal Real Instantaneous Optimal Utility=

```
"Optimal Utility ( u )" * "Quasi-hyperbolic Discount"
~ Util / Year
~ |
```

"Current Consumption (CC)"=

```
IF THEN ELSE("Consumption ( C )" > "Delayed Current Consumption ( CC )", "Consumption ( C
)"
, :NA:)
~ Dollar/Year
~ ~ :SUPPLEMENTARY
|
```

"Delayed Current Consumption (CC)"= DELAY FIXED (

```
"Consumption ( C )", TIME STEP, "Consumption ( C )")
~ Dollar/Year
~ |
```

"Real Lifetime Utility (U) Discrete"=

```
IF THEN ELSE(Time = INTEGER(Time), "Real Lifetime Utility ( U )", 0)
~ Util
```

```

~          |

"Optimal Discrete Real Lifetime Utility ( DRLU )"=
    IF THEN ELSE(Time >= FINAL TIME,"Discrete Real Lifetime Utility ( DRLU )",0)
~          Util
~          ~          :SUPPLEMENTARY
|

"Discrete Real Lifetime Utility ( U )"= INTEG (
    ("Real Lifetime Utility ( U ) Discrete" - "Delayed Real Lifetime Utility ( U )" ) / TIME
STEP\
    ,
    0)
~          Util
~          |

"Delayed Current Optimal Consumption ( COC )"= DELAY FIXED (
    "Current Optimal Consumption ( C )", TIME STEP, "Current Optimal Consumption ( C )" )
~          Dollar/Year
~          |

Discrete Real Lifetime Utility=
    IF THEN ELSE("Current Optimal Consumption ( COC )" = :NA:, :NA:, "Discrete Real Lifetime
Utility ( DRLU )" \
    )
~          Util
~          ~          :SUPPLEMENTARY
|

"Discrete Real Lifetime Utility ( DRLU )"=
    IF THEN ELSE(Time = INTEGER(Time), "Real Lifetime Utility ( U ) Discrete", "Discrete Real
Lifetime Utility ( U )" \
    )
~          Util
~          |

"Delayed Real Lifetime Utility ( U )"= DELAY FIXED (
    "Real Lifetime Utility ( U ) Discrete", 1 , 0)

```

~ Util
~ |

"Current Optimal Consumption (COC)"=

IF THEN ELSE("Current Optimal Consumption (C)" > "Delayed Current Optimal Consumption (COC)" \

, "Current Optimal Consumption (C)", :NA:)

~ Dollar/Year
~ |

Initial Exponential Discounting t 1=

1
~ 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
~ |

Real Instantaneous Optimal Utility=

"Utility (u)" * "Quasi-Hyperbolic Discounting"

~ Util / Year
~ |

"Exponential Discounting t - 1"=

IF THEN ELSE(Time = INTEGER (Time), Exponential Discounting t 1, Lagged Exponential Discounting t 1 \

)

~ Dmnl
~ |

Exponential Discounting t=

"delta (δ)" * "Exponential Discounting t - 1"

~ Dmnl
~ |

Exponential Discounting t 1= INTEG (

Chge in Exponential Discounting t 1,
Initial Exponential Discounting t 1)
~ Dmnl
~ |

Lagged Exponential Discounting t 1=

DELAY FIXED(Exponential Discounting t 1, 1 , Exponential Discounting t 1)
~ Dmnl
~ |

Optimal Lifetime Utility=

IF THEN ELSE(Time >= FINAL TIME, "Optimal Real Lifetime Utility (U)", 0)
~ Util
~ ~ :SUPPLEMENTARY
|

"Optimal Real Lifetime Utility (U)"= INTEG (

Optimal Real Instantaneous Optimal Utility,
"Initial Optimal Real Lifetime Utility (U)")
~ Util
~ |

"Initial Optimal Real Lifetime Utility (U)"=

1
~ Util
~ |

Total Income=

"Labor Income (Y)" + Wealth Return
~ Dollar/Year
~ |

"Utility (u)"=

IF THEN ELSE ("Coefficient of Relative Risk Aversion (ρ)" = 1, IF THEN
ELSE("Consumption (C)")

```

= 0, 0, ln (
"Consumption ( C )" / Normal Consumption)
) * Util per Year
, ((( "Consumption ( C )"
/ Normal Consumption) ^ (1 - "Coefficient of Relative Risk Aversion ( ρ )" )) / (1\
- "Coefficient of Relative Risk Aversion ( ρ )"
)) * Util per Year )
~ Util / Year
~ |

```

Time to Chg Last Consumption=

```

1
~ Year
~ |

```

Last Consumption=

```

IF THEN ELSE(Time = FINAL TIME - TIME STEP, "Wealth ( W )" / TIME STEP, 0)
~ Dollar/Year
~ |

```

Risk Adjusted Savings Fraction=

```

Effect of Coefficient of Relative Risk Aversion * Saving Fraction
~ Dmnl
~ |

```

Minimum Consumption=

```

600
~ Dollar/Year
~ |

```

"Consumption (C)"=

```

(Current Consumption + (Last Consumption * TIME STEP / Time to Chg Last Consumption)\
)
~ Dollar/Year
~ |

```

Current Consumption=

```
IF THEN ELSE(Time < FINAL TIME - TIME STEP , min(Risk Adjusted Consumption, "Wealth ( W  
)" \
```

```
    / "Time to Chg Current Consumption ( C )" ) , 0)
```

```
~ Dollar/Year
```

```
~ |
```

Effect of Coefficient of Relative Risk Aversion= WITH LOOKUP (

```
"Coefficient of Relative Risk Aversion ( ρ )",
```

```
    [(0,0)-(10,2)], (0,0), (0.25,0.5), (0.5,0.75), (1,1), (3,1.5), (7,1.8), (10,2) ) )
```

```
~ Dmnl
```

```
~ |
```

"Wealth (W)"= INTEG (

```
"Labor Income ( Y )" + Wealth Return - Current Consumption - Last Consumption,
```

```
"Initial Wealth ( W )" )
```

```
~ Dollar
```

```
~ |
```

Wealth Return=

```
IF THEN ELSE(Time < FINAL TIME - TIME STEP , "Interest Rate ( r )" * "Wealth ( W )" \
```

```
    / Time to Chg WR , 0)
```

```
~ Dollar/Year
```

```
~ |
```

Risk Adjusted Consumption=

```
SMOOTH3( MAX(Total Income *(1- Risk Adjusted Savings Fraction), Minimum Consumption) \
```

```
    , Smoothing Years )
```

```
~ Dollar/Year
```

```
~ |
```

"Time to Chg Current Consumption (C)"=

```
1
```

```
~ Year
```

```
~ |
```

Time to Chg WR=

1
~ Year
~ |

Saving Fraction= WITH LOOKUP (
Total Income / Minimum Consumption,
((0,0)-(5,0.7)], (0,0), (1,0), (5,0.7)))
~ Dmnl
~ |

"Initial Wealth (W)"=
1000
~ Dollar
~ |

Smoothing Years=
5
~ Year
~ |

"beta (β)"=
0.6
~ Dmnl
~ |

Chg in Optimal Consumption=
("Discrete Optimal Consumption Growth (DOCG)" * Optimal Consumption Growth Rate)\
/ Time to Chg Optimal Consumption
~ Dollar / Year / Year
~ |

"Coefficient of Relative Risk Aversion (ρ)"=
0.67
~ Dmnl
~ |

Current Optimal Consumption=

```
IF THEN ELSE(Time <= Death Time , ("Discrete Current Optimal Consumption ( DCC )" ) \
, 0)
~ Dollar/Year
~ |
```

"Current Optimal Consumption (C) Discrete"=

```
IF THEN ELSE(Time = INTEGER(Time), "Current Optimal Consumption ( C )", 0)
~ Dollar/Year
~ |
```

"Current Optimal Consumption (C)"=

```
min(Optimal Consumption Growth , "Optimal Wealth ( W )" / "Time to Chg Current Optimal
Consumption ( C )" \
)
~ Dollar/Year
~ |
```

Death Time=

```
FINAL TIME - 1
~ Year
~ |
```

"Delayed Current Optimal Consumption (C)"= DELAY FIXED (

```
"Current Optimal Consumption ( C ) Discrete", 1 , 0)
~ Dollar/Year
~ |
```

Delayed Optimal Consumption Growth Discrete= DELAY FIXED (

```
Optimal Consumption Growth Discrete, 1 , 0)
~ Dollar/Year
~ |
```

"Delayed Optimal Wealth (W)"= DELAY FIXED (

```
"Wealth ( W ) Discrete", 1 , 0)
~ Dollar
~ |
```


"delta (δ)" =

0.99

~ Dmnl

~ |

"Discrete Current Optimal Consumption (C)" = INTEG (

("Current Optimal Consumption (C) Discrete" - "Delayed Current Optimal Consumption (C)") \

) / TIME STEP,

0)

~ Dollar/Year

~ |

"Discrete Current Optimal Consumption (DCC)" =

IF THEN ELSE(Time = INTEGER(Time), "Current Optimal Consumption (C) Discrete", "Discrete Current Optimal 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 Optimal Wealth (DW)" =

IF THEN ELSE(Time = INTEGER(Time), "Wealth (W) Discrete", "Discrete Optimal Wealth (W)" \

)
~ Dollar
~ |

"Discrete Optimal Wealth (W)" = INTEG (
("Wealth (W) Discrete" - "Delayed Optimal Wealth (W)") / TIME STEP,
0)
~ Dollar
~ |

"Income Growth Rate (G)" =
0
~ Fraction / Year
~ |

Initial Optimal Consumption Growth =
263.7
~ Dollar / Year
~ |

"Initial Optimal Wealth (W)" =
1000
~ Dollar
~ |

"Initial Real Lifetime Utility (U)" =
1
~ Util
~ |

"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 Optimal Consumption=

IF THEN ELSE(Time = FINAL TIME - TIME STEP, "Optimal Wealth (W)" / TIME STEP, 0)

~ Dollar/Year

~ |

Normal Consumption=

1

~ Dollar/Year

~ |

"Normal Labor Income (Y)"=

1000

~ Dollar

~ |

Optimal Consumption Growth= INTEG (

Chg in Optimal Consumption,

Initial Optimal Consumption Growth)

~ Dollar / Year

~ |

Optimal Consumption Growth Discrete=

IF THEN ELSE(Time = INTEGER(Time), Optimal Consumption Growth, 0)

~ Dollar/Year

~ |

Optimal Consumption Growth Rate=

0.05956

~ Fraction

~ |

"Optimal Utility (u)" =

IF THEN ELSE ("Coefficient of Relative Risk Aversion (ρ)" = 1, IF THEN ELSE("Discrete Current Optimal Consumption (DCC)" \

= 0, 0, ln (

"Discrete Current Optimal Consumption (DCC)" / Normal Consumption)

) * Util per Year

, ((("Discrete Current Optimal Consumption (DCC)" \

/ Normal Consumption) ^ (1 - "Coefficient of Relative Risk Aversion (ρ)")) / (1 \

- "Coefficient of Relative Risk Aversion (ρ)")) * Util per Year)

~ Util / Year

~ |

"Optimal Wealth (W)" = INTEG (

"Labor Income (Y)" + Optimal Wealth Return - Current Optimal Consumption - Last Optimal Consumption \

,

"Initial Optimal Wealth (W)")

~ Dollar

~ |

Optimal Wealth Return =

IF THEN ELSE (Time < Death Time + TIME STEP, "Discrete Optimal Wealth (DW)" * "Interest Rate (r)" \

/ Time to Chg OWR,

0)

~ Dollar/Year

~ |

"Real Lifetime Utility (U)" = INTEG (

Real Instantaneous Optimal Utility,

"Initial Real Lifetime Utility (U)")

~ Util

~ |

Retirement Switch =

STEP (1, Retirement Time + TIME STEP)

~ Dmnl

~ |

Retirement Time=

58

~ Year

~ |

"Time to Chg Current Optimal Consumption (C)"=

1

~ Year

~ |

Time to Chg Optimal Consumption=

1

~ Year

~ |

Time to Chg OWR=

1

~ Year

~ |

Util per Year=

1

~ Util/Year

~ |

"Wealth (W) Discrete"=

IF THEN ELSE(Time = INTEGER(Time), "Optimal Wealth (W)", 0)

~ Dollar

~ |

.Control

*****~

Simulation Control Parameters

|

FINAL TIME = 79

~ Year
~ The final time for the simulation.
|

INITIAL TIME = 18

~ Year
~ The initial time for the simulation.
|

SAVEPER =

TIME STEP
~ Year [0,?]
~ The frequency with which output is stored.
|

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

\$192-192-192,0,Open Sans|10||0-0-0|0-0-0|0-0-255|-1--1--1|-1--1--1|96,96,80,0

10,1,"Optimal Wealth (W)",585,441,41,26,3,131,0,0,0,0,0,0,0,0,0,0,0,0,0

12,2,48,362,446,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0

1,3,5,1,4,0,0,22,0,0,0,-1--1--1,,1|(499,446)|

1,4,5,2,100,0,0,22,0,0,0,-1--1--1,,1|(407,446)|

11,5,48,449,446,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0

10,6,"Labor Income (Y)",449,464,56,10,40,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0

12,7,48,798,452,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0

1,8,10,7,4,0,0,22,0,0,0,-1--1--1,,1|(745,447)|

1,9,10,1,100,0,0,22,0,0,0,-1--1--1,,1|(658,447)|

11,10,48,696,447,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0

10,11,Current Optimal Consumption,696,473,52,18,40,3,0,0,-1,0,0,0,0,0,0,0,0,0
 10,12,Optimal Consumption Growth,1086,253,49,27,3,131,0,0,0,0,0,0,0,0,0,0,0,0
 12,13,48,579,277,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 1,14,16,1,4,0,0,22,0,0,0,-1--1--1,,1|(583,384)|
 1,15,16,13,100,0,0,22,0,0,0,-1--1--1,,1|(583,313)|
 11,16,48,583,348,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
 10,17,Optimal Wealth Return,638,348,47,25,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
 12,18,48,1343,246,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 1,19,21,12,4,0,0,22,0,0,0,-1--1--1,,1|(1189,247)|
 1,20,21,18,100,0,0,22,0,0,0,-1--1--1,,1|(1293,247)|
 11,21,48,1249,247,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
 10,22,Chg in Optimal Consumption,1249,273,47,18,40,131,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 10,23,"Initial Optimal Wealth (W)",527,384,41,17,8,131,0,8,0,0,0,0,0-0-0,0-0-0,|9||0-0-0,0,0,0,0,0,0
 10,24,Initial Optimal Consumption Growth,1084,193,62,17,8,3,0,8,0,0,0,0,0-0-0,0-0-0,|9||0-0-0,0,0,0,0,0,0
 10,25,"Optimal Utility (u)",565,717,58,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
 10,26,Optimal Consumption Growth Rate,1289,181,44,27,8,131,0,40,0,0,0,0,0-0-0,0-0-0,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|(1287,226)|
 1,28,24,12,0,1,0,0,0,128,1,-1--1--1,,1|(1084,211)|
 1,29,23,1,0,1,0,0,0,128,1,-1--1--1,,1|(546,403)|
 10,30,"Income Growth Rate (G)",380,380,49,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 10,31,"Time to Chg Current Optimal Consumption (C)",884,452,74,27,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 10,32,Normal Consumption,403,661,44,18,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 10,33,Util per Year,404,777,38,10,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 10,34,Retirement Time,468,609,52,10,8,131,0,40,0,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 1,35,33,25,1,0,0,0,0,128,0,-1--1--1,,1|(497,763)|
 10,36,"Normal Labor Income (Y)",373,534,44,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 10,37,Time to Chg OWR,522,335,54,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,38,30,6,1,0,0,0,0,64,0,-1--1--1,,1|(389,418)|
 1,39,36,6,1,0,0,0,0,64,0,-1--1--1,,1|(383,496)|
 10,40,Death Time,789,408,36,10,8,3,0,40,0,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
 1,41,32,25,1,0,0,0,0,128,0,-1--1--1,,1|(491,677)|
 10,42,Discrete Optimal Consumption Growth,1280,490,56,29,3,131,0,0,0,0,0,0,1,0,0,0,0,0

10,43,Delayed Optimal Consumption Growth Discrete,1209,606,69,27,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,44,43,42,1,0,0,0,0,128,0,-1--1--1,,1|(1271,549)|
 10,45,"Discrete Optimal Consumption Growth (DOCG)",1235,398,72,27,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,46,42,45,1,0,0,0,0,128,0,-1--1--1,,1|(1278,451)|
 10,47,Optimal Consumption Growth Discrete,1065,394,70,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,48,47,45,1,0,0,0,0,128,0,-1--1--1,,1|(1129,440)|
 1,49,47,43,1,0,0,0,0,128,0,-1--1--1,,1|(1091,507)|
 1,50,47,42,1,0,0,0,0,128,0,-1--1--1,,1|(1124,497)|
 10,51,TIME STEP,1419,462,40,10,8,2,0,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
 128,0,0,0,0,0,0
 1,52,51,42,1,0,0,0,0,64,0,-1--1--1,,1|(1364,489)|
 1,53,12,47,1,0,0,0,0,128,0,-1--1--1,,1|(1043,327)|
 10,54,Time,1103,315,24,10,8,2,0,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
 128,0,0,0,0,0,0
 1,55,54,47,1,0,0,0,0,64,0,-1--1--1,,1|(1084,343)|
 1,56,54,45,1,0,0,0,0,128,0,-1--1--1,,1|(1168,321)|
 10,57,"Discrete Optimal Wealth (W)",555,105,40,24,3,131,0,0,0,0,0,0,0,1,0,0,0,0,0
 10,58,"Delayed Optimal Wealth (W)",393,130,53,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,59,58,57,1,0,0,0,0,128,0,-1--1--1,,1|(444,94)|
 10,60,"Discrete Optimal Wealth (DW)",740,220,53,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,61,57,60,1,0,0,0,0,128,0,-1--1--1,,1|(663,96)|
 10,62,"Wealth (W) Discrete",504,185,38,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,63,62,60,1,0,0,0,0,128,0,-1--1--1,,1|(624,149)|
 1,64,62,58,1,0,0,0,0,128,0,-1--1--1,,1|(437,197)|
 1,65,62,57,1,0,0,0,0,128,0,-1--1--1,,1|(513,153)|
 10,66,TIME STEP,652,48,40,10,8,2,1,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-
 128,0,0,0,0,0,0
 10,67,Time to Chg Optimal Consumption,1358,343,65,18,8,3,0,40,0,0,0,0,0,0-0-0,0-0-0,Open
 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|(1336,297)|
 10,69,"Current Optimal Consumption (C)",912,369,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,70,31,69,1,0,0,0,0,64,0,-1--1--1,,1|(910,414)|
 10,71,"Discrete Current Optimal Consumption (C)",835,681,58,35,3,131,0,0,0,0,0,0,0,1,0,0,0,0,0
 10,72,"Delayed Current Optimal Consumption (C)",1038,651,71,34,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,73,72,71,1,0,0,0,0,128,0,-1--1--1,,1|(939,704)|
 10,74,"Discrete Current Optimal Consumption (DCC)",808,585,68,27,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
 1,75,71,74,1,0,0,0,0,128,0,-1--1--1,,1|(811,658)|
 10,76,"Current Optimal Consumption (C) Discrete",969,553,57,27,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0

1,77,76,74,1,0,0,0,0,128,0,-1--1--1,,1|(915,592)|
1,78,76,72,1,0,0,0,0,128,0,-1--1--1,,1|(1046,578)|
1,79,76,71,1,0,0,0,0,128,0,-1--1--1,,1|(918,659)|
10,80,TIME STEP,757,753,40,10,8,2,0,43,-1,0,0,0,128-128-128,0-0-0,Open Sans|10||128-128-128,0,0,0,0,0,0
1,81,80,71,1,0,0,0,0,64,0,-1--1--1,,1|(793,725)|
1,82,69,76,1,0,0,0,0,128,0,-1--1--1,,1|(963,423)|
1,83,45,22,1,0,0,0,0,128,0,-1--1--1,,1|(1269,328)|
1,84,60,17,1,0,0,0,0,128,0,-1--1--1,,1|(743,277)|
1,85,66,57,1,1,0,0,0,128,0,-1--1--1,,1|(594,61)|
1,86,74,11,1,0,0,0,0,128,0,-1--1--1,,1|(723,532)|
10,87,Retirement Switch,484,539,57,10,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,88,34,87,1,0,0,0,0,64,0,-1--1--1,,1|(482,586)|
1,89,87,6,1,0,0,0,0,128,0,-1--1--1,,1|(477,498)|
1,90,1,62,1,0,0,0,0,128,0,-1--1--1,,1|(445,303)|
1,91,37,17,1,0,0,0,0,128,0,-1--1--1,,1|(563,363)|
10,92,Time,829,516,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|12||128-128-128,0,0,0,0,0,0
10,93,TIME STEP,506,281,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|12||128-128-128,0,0,0,0,0,0
1,94,93,17,1,0,0,0,0,128,0,-1--1--1,,1|(582,300)|
1,95,92,11,1,0,0,0,0,128,0,-1--1--1,,1|(768,516)|
1,96,12,69,1,0,0,0,0,128,0,-1--1--1,,1|(985,270)|
12,97,48,581,601,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,98,100,97,4,0,0,22,0,0,0,-1--1--1,,1|(583,562)|
1,99,100,1,100,0,0,22,0,0,0,-1--1--1,,1|(583,493)|
11,100,48,583,526,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0
10,101,Last Optimal Consumption,643,526,44,18,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
1,102,1,100,1,0,0,0,0,128,0,-1--1--1,,1|(534,488)|
10,103,"delta (δ)",1339,1117,30,10,8,131,0,0,0,0,0,0,0,0,0,0,0,0
10,104,Optimal Lifetime Utility,897,776,53,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,105,FINAL TIME,1092,767,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,106,105,104,1,0,0,0,0,64,0,-1--1--1,,1|(997,761)|
10,107,Time,615,195,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,108,1,69,1,0,0,0,0,128,0,-1--1--1,,1|(758,334)|
1,109,74,25,1,0,0,0,0,128,0,-1--1--1,,1|(724,666)|
1,110,40,11,1,0,0,0,0,128,0,-1--1--1,,1|(734,428)|
1,111,107,17,1,0,0,0,0,128,0,-1--1--1,,1|(656,259)|
1,112,92,74,1,0,0,0,0,128,0,-1--1--1,,1|(814,545)|

1,113,92,76,1,0,0,0,0,128,0,-1--1--1,,1|(915,510)|
1,114,107,60,1,0,0,0,0,128,0,-1--1--1,,1|(666,210)|
10,115,Death Time,691,272,35,19,8,130,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,116,115,17,1,0,0,0,0,128,0,-1--1--1,,1|(696,301)|
10,117,Time,1038,712,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,118,117,104,1,0,0,0,0,128,0,-1--1--1,,1|(989,717)|
1,119,107,62,0,0,0,0,0,128,0,-1--1--1,,1|(573,191)|
10,120,"Coefficient of Relative Risk Aversion (ρ)",364,723,68,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,121,120,25,1,0,0,0,0,128,0,-1--1--1,,1|(473,722)|
10,122,"Interest Rate (r)",558,239,52,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0
1,123,122,17,1,0,0,0,0,128,0,-1--1--1,,1|(618,281)|
10,124,FINAL TIME,778,361,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,125,124,40,0,0,0,0,0,64,0,-1--1--1,,1|(781,377)|
10,126,FINAL TIME,688,620,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,127,126,101,0,0,0,0,0,64,0,-1--1--1,,1|(670,583)|
10,128,Time,702,571,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,129,128,101,0,0,0,0,0,64,0,-1--1--1,,1|(683,556)|
10,130,TIME STEP,585,629,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,131,130,101,0,0,0,0,0,64,0,-1--1--1,,1|(607,587)|
1,132,130,87,1,0,0,0,0,128,0,-1--1--1,,1|(546,587)|
10,133,"Real Lifetime Utility (U)",1411,798,44,18,8,2,17,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0
10,134,"Optimal Real Lifetime Utility (U)",739,845,45,24,3,131,0,0,0,0,0,0,0,0,0,0,0,0,0
12,135,48,488,840,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,136,138,134,4,0,0,22,0,0,0,-1--1--1,,1|(650,842)|
1,137,138,135,100,0,0,22,0,0,0,-1--1--1,,1|(547,842)|
11,138,48,601,842,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,139,Optimal Real Instantaneous Optimal Utility,601,883,89,33,40,131,0,0,-1,0,0,0,0,0,0,0,0,0,0
10,140,"Initial Optimal Real Lifetime Utility (U)",736,790,55,17,8,3,0,8,0,0,0,0,0-0-0,0-0-0,
0,|9||0-0-0,0,0,0,0,0
1,141,140,134,0,1,0,0,0,128,1,-1--1--1,,1|(736,807)|
1,142,25,139,1,0,0,0,0,128,0,-1--1--1,,1|(596,764)|
1,143,134,104,1,0,0,0,0,128,0,-1--1--1,,1|(830,796)|
10,144,INITIAL TIME,597,1002,48,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-
128,0,0,0,0,0,0
10,145,Exponential Discounting t ,1154,931,50,28,3,131,0,0,0,0,0,0,0,0,0,0,0,0
12,146,48,1410,935,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,147,149,145,4,0,0,22,0,0,0,-1--1--1,,1|(1255,936)|

1,148,149,146,100,0,0,22,0,0,0,-1--1--1,,1| (1359,936) |
11,149,48,1312,936,6,8,34,3,0,0,3,0,0,0,0,0,0,0,0,0,0,0
10,150,Chge in Exponential Discounting t 1,1312,910,62,18,40,3,0,0,-1,0,0,0,0,0,0,0,0,0,0,0
10,151,Lagged Exponential Discounting t 1,1149,1032,62,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0,0
10,152,"Exponential Discounting t - 1",974,981,51,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0,0
10,153,Exponential Discounting t,1170,1097,42,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0,0
1,154,145,149,1,0,0,0,0,128,0,-1--1--1,,1| (1229,969) |
1,155,145,151,1,0,0,0,0,128,0,-1--1--1,,1| (1160,977) |
1,156,151,152,1,0,0,0,0,128,0,-1--1--1,,1| (1036,1031) |
1,157,145,152,1,0,0,0,0,128,0,-1--1--1,,1| (1031,934) |
1,158,152,153,1,0,0,0,0,128,0,-1--1--1,,1| (1037,1074) |
1,159,153,149,1,0,0,0,0,128,0,-1--1--1,,1| (1297,1006) |
10,160,Initial Exponential Discounting t 1,1174,838,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0,0
1,161,160,145,0,0,0,0,0,128,1,-1--1--1,,1| (1167,872) |
10,162,Time,904,1085,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
10,163,Time,1406,834,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,164,163,150,1,0,0,0,0,64,0,-1--1--1,,1| (1377,870) |
1,165,162,152,1,1,0,0,0,128,0,-1--1--1,,1| (947,1052) |
10,166,TIME STEP,1306,812,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,167,166,150,1,0,0,0,0,64,0,-1--1--1,,1| (1318,854) |
1,168,103,153,1,0,0,0,0,128,0,-1--1--1,,1| (1276,1138) |
10,169,"Discrete Real Lifetime Utility (U)",1997,1106,45,31,3,131,0,0,0,0,0,0,0,1,0,0,0,0,0
10,170,"Delayed Real Lifetime Utility (U)",1881,1224,59,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
1,171,170,169,1,0,0,0,0,128,0,-1--1--1,,1| (1988,1181) |
10,172,"Discrete Real Lifetime Utility (DRLU)",1894,994,67,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
1,173,169,172,1,0,0,0,0,128,0,-1--1--1,,1| (1978,1043) |
10,174,"Real Lifetime Utility (U) Discrete",1783,1121,64,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0
1,175,174,172,1,0,0,0,0,128,0,-1--1--1,,1| (1806,1052) |
1,176,174,170,1,0,0,0,0,128,0,-1--1--1,,1| (1807,1181) |
1,177,174,169,1,0,0,0,0,128,0,-1--1--1,,1| (1891,1155) |
10,178,"Real Lifetime Utility (U)",1630,1088,44,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-
128-128,0,0,0,0,0,0,0
1,179,178,174,1,0,0,0,0,128,0,-1--1--1,,1| (1678,1119) |
10,180,TIME STEP,2121,1216,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,181,180,169,0,0,0,0,0,64,0,-1--1--1,,1| (2075,1176) |
10,182,"Optimal Discrete Real Lifetime Utility (DRLU
)",1801,893,72,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0,0

1,183,172,182,1,0,0,0,0,128,0,-1--1--1,,1| (1876,936) |
10,184,FINAL TIME,1628,873,44,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,185,184,182,0,0,0,0,0,64,0,-1--1--1,,1| (1693,880) |
10,186,Time,1654,919,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,187,186,182,0,0,0,0,0,64,0,-1--1--1,,1| (1696,911) |
10,188,Discrete Real Lifetime Utility,2069,875,46,18,8,3,0,0,0,0,0,0,0,0,0,0,0
10,189,"Current Optimal Consumption (COC)",1965,724,66,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1,190,172,188,1,0,0,0,0,128,0,-1--1--1,,1| (1924,948) |
1,191,189,188,1,0,0,0,0,128,0,-1--1--1,,1| (1983,831) |
10,192,"Delayed Current Optimal Consumption (COC)",2045,592,74,27,8,131,0,0,0,0,0,0,0,0,0,0,0
1,193,192,189,1,0,0,0,0,128,0,-1--1--1,,1| (1958,655) |
10,194,TIME STEP,1876,513,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,195,194,192,0,0,0,0,0,64,0,-1--1--1,,1| (1935,541) |
10,196,Time,1751,962,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,197,196,172,0,0,0,0,0,64,0,-1--1--1,,1| (1794,971) |
10,198,Time,1745,1196,24,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,199,198,174,0,0,0,0,0,64,0,-1--1--1,,1| (1758,1168) |
10,200,"Current Optimal Consumption (C)",2171,710,60,18,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,201,200,189,1,0,0,0,0,128,0,-1--1--1,,1| (2084,772) |
1,202,200,192,1,0,0,0,0,128,0,-1--1--1,,1| (2171,638) |
10,203,"Quasi-Hyperbolic Discounting",601,934,58,18,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
10,204,"beta = β ",773,1100,26,10,8,3,0,0,0,0,0,0,0,0,0,0,0
10,205,"Quasi-hyperbolic Discount",775,995,54,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1,206,144,205,1,0,0,0,0,128,0,-1--1--1,,1| (651,981) |
1,207,204,205,1,0,0,0,0,128,0,-1--1--1,,1| (755,1048) |
1,208,162,205,1,1,0,0,0,128,0,-1--1--1,,1| (845,1061) |
1,209,205,139,1,0,0,0,0,128,0,-1--1--1,,1| (732,917) |
1,210,153,205,1,0,0,0,0,128,0,-1--1--1,,1| (958,1125) |
\\--// Sketch information - do not modify anything except names
V300 Do not put anything below this section - it will be ignored
*Heuristic
\$192-192-192,0,Open Sans|10||0-0-0|0-0-0|0-0-255|-1--1--1|-1--1--1|96,96,70,0
10,1,"Wealth (W)",852,334,36,22,3,131,0,8,0,0,0,0,-1--1--1,0-0-0,|9||0-0-0,0,0,0,0,0,0
12,2,48,1114,339,10,8,0,3,0,8,-1,0,0,0,0-0-0,0-0-0,|10||0-0-0,0,0,0,0,0,0
1,3,5,2,4,0,0,22,0,0,0,-1--1--1,,1| (1053,336) |

1,4,5,1,100,0,0,22,0,0,0,-1--1--1,,1| (939,336) |
11,5,48,997,336,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0
10,6,Current Consumption,997,362,44,18,40,3,0,0,-1,0,0,0,0,0,0,0,0,0
12,7,48,849,166,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,8,10,1,4,0,0,22,0,0,0,-1--1--1,,1| (848,276) |
1,9,10,7,100,0,0,22,0,0,0,-1--1--1,,1| (848,201) |
11,10,48,848,234,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
10,11,Wealth Return,896,234,40,19,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
1,12,1,6,1,0,0,0,0,128,0,-1--1--1,,1| (901,379) |
10,13,"Time to Chg Current Consumption (C)",1161,436,64,18,8,131,0,0,0,0,0,0,0,0,0,0,0,0
1,14,13,6,1,0,0,0,0,128,0,-1--1--1,,1| (1080,384) |
10,15,Time to Chg WR,984,284,49,10,8,131,0,0,0,0,0,0,0,0,0,0,0,0
12,16,48,851,497,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0
1,17,19,16,4,0,0,22,0,0,0,-1--1--1,,1| (851,458) |
1,18,19,1,100,0,0,22,0,0,0,-1--1--1,,1| (851,386) |
11,19,48,851,422,8,6,33,3,0,0,4,0,0,0,0,0,0,0,0,0
10,20,Last Consumption,913,422,54,21,40,131,0,0,-1,0,0,0,0,0,0,0,0,0
1,21,1,19,1,0,0,0,0,128,0,-1--1--1,,1| (820,385) |
10,22,"Consumption (C)",1034,537,56,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,23,20,22,1,0,0,0,0,128,0,-1--1--1,,1| (935,513) |
1,24,6,22,1,0,0,0,0,128,0,-1--1--1,,1| (1076,468) |
10,25,FINAL TIME,1218,433,44,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
10,26,TIME STEP,791,535,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,27,26,22,1,1,0,0,0,128,0,-1--1--1,,1| (847,561) |
1,28,26,20,1,1,0,0,0,128,0,-1--1--1,,1| (819,474) |
10,29,Time to Chg Last Consumption,1177,526,53,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,30,Total Income,887,66,41,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,31,Risk Adjusted Consumption,1118,229,44,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,32,Minimum Consumption,1187,148,44,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,33,Saving Fraction,1183,62,48,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,34,Risk Adjusted Savings Fraction,1329,164,52,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
10,35,Effect of Coefficient of Relative Risk Aversion,1357,428,68,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,36,35,34,1,0,0,0,0,128,0,-1--1--1,,1| (1374,294) |
1,37,31,6,1,0,43,15,2,64,0,-1--1--1,|10||0-0-0,1| (1093,297) |
1,38,32,31,1,0,0,0,2,128,0,-1--1--1,|10||0-0-0,1| (1175,181) |
1,39,32,33,1,0,0,0,0,128,0,-1--1--1,,1| (1193,106) |

1,40,30,33,1,0,43,15,2,192,0,-1--1--1,|10||0-0-0,1|(1017,26)|
1,41,33,34,1,0,43,15,2,192,0,-1--1--1,|10||0-0-0,1|(1271,98)|
1,42,34,31,1,0,45,15,2,192,0,-1--1--1,|10||0-0-0,1|(1251,239)|
1,43,30,31,1,0,43,15,2,64,0,-1--1--1,|10||0-0-0,1|(1056,87)|
10,44,Smoothing Years,1224,316,53,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0
1,45,44,31,1,0,0,0,0,128,0,-1--1--1,,1|(1138,279)|
1,46,1,11,1,0,43,15,2,192,0,-1--1--1,|10||0-0-0,1|(913,305)|
1,47,15,11,1,0,0,0,0,128,0,-1--1--1,,1|(949,242)|
1,48,29,22,1,0,0,0,0,128,0,-1--1--1,,1|(1131,549)|
12,49,0,878,278,20,20,5,7,0,0,-1,0,0,0,0,0,0,0,0,0,0
R1
12,50,0,976,104,20,20,4,7,0,0,-1,0,0,0,0,0,0,0,0,0,0
B1
12,51,0,1247,196,20,20,4,7,0,0,-1,0,0,0,0,0,0,0,0,0,0
R2
10,52,Time,1034,446,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,53,52,6,0,1,0,0,0,64,0,-1--1--1,,1|(1019,414)|
10,54,FINAL TIME,1004,501,44,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0,0
1,55,54,20,0,1,0,0,0,64,0,-1--1--1,,1|(970,471)|
1,56,52,20,0,1,0,0,0,128,0,-1--1--1,,1|(995,438)|
10,57,Time,881,115,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,58,57,11,1,1,0,0,0,64,0,-1--1--1,,1|(874,168)|
12,59,48,650,343,10,8,0,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0
1,60,61,59,100,0,0,22,0,0,0,-1--1--1,,1|(695,343)|
11,61,48,737,343,6,8,34,3,0,0,1,0,0,0,0,0,0,0,0,0,0
10,62,"Labor Income (Y)",737,361,56,10,40,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-
0,0,0,0,0,0,0
10,63,"Income Growth Rate (G)",668,277,49,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-
0,0,0,0,0,0,0
10,64,Retirement Time,756,506,52,10,8,131,0,40,0,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-
0,0,0,0,0,0,0
10,65,"Normal Labor Income (Y)",661,431,44,18,8,3,0,40,0,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-
0,0,0,0,0,0,0
1,66,63,62,1,0,0,0,0,64,0,-1--1--1,,1|(677,315)|
1,67,65,62,1,0,0,0,0,64,0,-1--1--1,,1|(671,393)|
10,68,Retirement Switch,772,436,57,10,8,131,0,0,0,0,0,0,0,0,0,0,0,0,0,0
1,69,64,68,1,0,0,0,0,64,0,-1--1--1,,1|(770,483)|
1,70,68,62,1,0,0,0,0,128,0,-1--1--1,,1|(765,395)|

1,71,61,1,4,0,0,22,0,0,0,-1--1--1,,1|(779,343)|

10,72,Normal Consumption,1118,590,44,18,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0

10,73,Util per Year,1162,690,38,10,8,3,0,40,-1,0,0,0,0-0-0,0-0-0,Open Sans|10||0-0-0,0,0,0,0,0,0

10,74,"Coefficient of Relative Risk Aversion (ρ)",1180,639,68,18,8,3,0,0,0,0,0,0,0,0,0,0,0

1,75,74,35,1,0,0,0,0,128,0,-1--1--1,,1|(1279,577)|

10,76,"Initial Wealth (W)",784,260,43,22,8,131,0,0,-1,0,0,0,0,0,0,0,0,0

1,77,76,1,0,1,0,0,0,64,1,-1--1--1,,1|(812,291)|

1,78,62,30,1,0,0,0,0,128,0,-1--1--1,,1|(741,186)|

10,79,"Interest Rate (r)",1004,164,52,10,8,3,0,0,0,0,0,0,0,0,0,0,0

1,80,79,11,1,0,0,0,0,128,0,-1--1--1,,1|(927,193)|

10,81,FINAL TIME,1017,226,44,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

1,82,81,11,1,1,0,0,0,64,0,-1--1--1,,1|(959,199)|

1,83,81,6,1,1,0,0,0,128,0,-1--1--1,,1|(1044,284)|

10,84,TIME STEP,935,139,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

1,85,84,11,1,1,0,0,0,64,0,-1--1--1,,1|(907,179)|

10,86,TIME STEP,1147,365,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

1,87,86,6,0,1,0,0,0,64,0,-1--1--1,,1|(1080,363)|

10,88,TIME STEP,847,534,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

1,89,88,68,0,1,0,0,0,64,0,-1--1--1,,1|(813,490)|

10,90,"Real Lifetime Utility (U)",956,782,45,24,3,131,0,0,0,0,0,0,0,0,0,0,0

12,91,48,705,777,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0

1,92,94,90,4,0,0,22,0,0,0,-1--1--1,,1|(875,779)|

1,93,94,91,100,0,0,22,0,0,0,-1--1--1,,1|(772,779)|

11,94,48,834,779,5,8,34,3,0,0,1,0,0,0,0,0,0,0,0

10,95,Real Instantaneous Optimal Utility,834,805,61,18,40,3,0,0,-1,0,0,0,0,0,0,0,0

10,96,"Initial Real Lifetime Utility (U)",961,731,56,17,8,3,0,8,0,0,0,0,0-0-0,0-0-0,|9||0-0-0,0,0,0,0,0,0

1,97,96,90,0,1,0,0,0,128,1,-1--1--1,,1|(960,746)|

10,98,"delta (δ)",1467,1009,30,10,8,131,0,0,0,0,0,0,0,0,0,0,0

10,99,INITIAL TIME,944,861,48,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,100,TIME STEP,595,965,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,101,Time,1383,1004,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,102,TIME STEP,1618,1033,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,103,Time,976,928,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,104,"beta (β)",906,1028,28,10,8,3,0,0,0,0,0,0,0,0,0,0,0

10,105,Time,669,854,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,106,"Optimal Utility (u)",834,881,53,18,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,107,"Utility (u)",964,673,32,10,8,3,0,0,0,0,0,0,0,0,0,0,0,0,0,0

1,108,72,107,1,0,0,0,0,128,0,-1--1--1,,1|(1020,626)|

1,109,22,107,1,0,0,0,0,128,0,-1--1--1,,1|(972,598)|

1,110,74,107,1,0,0,0,0,128,0,-1--1--1,,1|(1030,671)|

1,111,73,107,1,0,0,0,0,128,0,-1--1--1,,1|(1051,693)|

1,112,107,95,1,0,0,0,0,128,0,-1--1--1,,1|(859,756)|

1,113,11,30,1,0,0,15,2,128,0,-1--1--1,|10||0-0-0,1|(864,133)|

10,114,INITIAL TIME,1048,880,48,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

10,115,Exponential Discounting t 1,1293,812,50,28,3,131,0,0,0,0,0,0,0,0,0,0,0,0

12,116,48,1549,816,10,8,0,3,0,0,-1,0,0,0,0,0,0,0,0,0

1,117,119,115,4,0,0,22,0,0,0,-1--1--1,,1|(1394,817)|

1,118,119,116,100,0,0,22,0,0,0,-1--1--1,,1|(1498,817)|

11,119,48,1451,817,6,8,34,3,0,0,3,0,0,0,0,0,0,0,0,0

10,120,Chge in Exponential Discounting t 1,1451,791,62,18,40,3,0,0,-1,0,0,0,0,0,0,0,0,0

10,121,Lagged Exponential Discounting t 1,1288,913,62,18,8,3,0,0,0,0,0,0,0,0,0,0,0

10,122,"Exponential Discounting t - 1",1131,866,56,22,8,131,0,0,0,0,0,0,0,0,0,0,0,0

10,123,Exponential Discounting t,1316,979,53,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0

1,124,115,119,1,0,0,0,0,128,0,-1--1--1,,1|(1368,850)|

1,125,115,121,1,0,0,0,0,128,0,-1--1--1,,1|(1299,858)|

1,126,121,122,1,0,0,0,0,128,0,-1--1--1,,1|(1175,912)|

1,127,115,122,1,0,0,0,0,128,0,-1--1--1,,1|(1170,815)|

1,128,122,123,1,0,0,0,0,128,0,-1--1--1,,1|(1178,958)|

1,129,123,119,1,0,0,0,0,128,0,-1--1--1,,1|(1438,886)|

10,130,Initial Exponential Discounting t 1,1299,736,57,18,8,3,0,0,0,0,0,0,0,0,0,0,0

1,131,130,115,0,1,0,0,0,128,1,-1--1--1,,1|(1297,762)|

10,132,"Quasi-Hyperbolic Discounting",976,949,55,18,8,3,0,0,0,0,0,0,0,0,0,0,0,0

10,133,Time,1097,1025,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

1,134,133,132,1,1,0,0,0,64,0,-1--1--1,,1|(1022,998)|

10,135,Time,1599,774,24,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

1,136,135,120,1,1,0,0,0,64,0,-1--1--1,,1|(1516,751)|

1,137,114,132,1,1,0,0,0,128,0,-1--1--1,,1|(1003,906)|

1,138,133,122,1,1,0,0,0,128,0,-1--1--1,,1|(1097,992)|

10,139,TIME STEP,1499,752,40,10,8,2,1,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0

1,140,139,120,1,1,0,0,0,64,0,-1--1--1,,1|(1457,735)|

1,141,104,132,1,0,0,0,0,128,0,-1--1--1,,1|(909,994)|
1,142,98,123,1,0,0,0,0,128,0,-1--1--1,,1|(1387,1021)|
1,143,132,95,1,0,0,0,0,128,0,-1--1--1,,1|(880,892)|
10,144,"Current Consumption (CC)",1939,679,61,18,8,3,0,0,0,0,0,0,0,0,0,0,0
10,145,"Delayed Current Consumption (CC)",2042,583,61,18,8,3,0,0,0,0,0,0,0,0,0,0,0
1,146,145,144,1,0,0,0,0,128,0,-1--1--1,,1|(1954,614)|
10,147,TIME STEP,1884,552,40,10,8,2,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,148,147,145,0,0,0,0,0,64,0,-1--1--1,,1|(1945,563)|
10,149,"Consumption (C)",2124,689,51,18,8,130,0,3,-1,0,0,0,128-128-128,0-0-0,|10||128-128-128,0,0,0,0,0,0
1,150,149,144,1,0,0,0,0,128,0,-1--1--1,,1|(2036,748)|
1,151,149,145,1,0,0,0,0,128,0,-1--1--1,,1|(2117,643)|
1,152,123,132,1,0,0,0,0,128,0,-1--1--1,,1|(1107,1021)|