

## Supporting material: model equations

The list below gives the source code for the equations from the Stella model. As the model is arrayed, the list below only shows equations for the top level model. Due to the software adding all relevant dimensions as an ending to each variable's name, the naming in the equation list became long and therefore also hard to present in a straightforwardly way.

The model has 43 (805) variables (array expansion in parenthesis).

Stocks: 4 (108) Flows: 4 (108) Converters: 35 (589)

Constants: 11 (91) Equations: 28 (606) Graphicals: 7 (139)

There are also 135 expanded macro variables.

### Top-Level Model:

Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level](t) =

Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level](t - dt) +

(adjustment\_of\_grandmothers\_CC\_hours[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level]) \* dt

INIT Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level] =

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers

UNITS: Hours

INFLOWS:

adjustment\_of\_grandmothers\_CC\_hours[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level] =

(desired\_cc\_hours\_to\_be\_Covered\_by\_grandmothers-

Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers)/time\_to\_adj\_CC\_hours\_covered\_by\_g  
randmothers

UNITS: Hours/Years

Average\_Work\_Participation\_Grandmothers[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level](t) =

Average\_Work\_Participation\_Grandmothers[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level](t - dt) +

(adjustment\_of\_grandmothers\_work\_participation[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level]) \* dt

INIT Average\_Work\_Participation\_Grandmothers[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level] =

INIT\_Average\_Work\_Participation\_Grandmothers

UNITS: Hours

INFLOWS:

adjustment\_of\_grandmothers\_work\_participation[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level] =

(work\_participation\_grandmothers-

Average\_Work\_Participation\_Grandmothers)/time\_to\_adj\_work\_participation\_grandmothers

UNITS: Hours/Years

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, Low\_Income](t) =  
Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, Low\_Income](t - dt) +  
(avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, One\_Child, Low\_Income]) \* dt  
INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, Low\_Income] =  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Low\_Income, One\_Child]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, Medium\_Income](t) =  
Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, Medium\_Income](t -  
dt) + (avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, One\_Child,  
Medium\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child,  
Medium\_Income] = INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Medium\_Income,  
One\_Child]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, High\_Income](t) =  
Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, High\_Income](t - dt) +  
(avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, One\_Child, High\_Income]) \* dt  
INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, One\_Child, High\_Income] =  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, High\_Income, One\_Child]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children, Low\_Income](t) =  
Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children, Low\_Income](t -  
dt) + (avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, Two\_Children,  
Low\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children,  
Low\_Income] = INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Low\_Income,  
Two\_Children]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children,  
Medium\_Income](t) = Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive,  
Two\_Children, Medium\_Income](t - dt) +  
(avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, Two\_Children,  
Medium\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children,  
Medium\_Income] = INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Medium\_Income,  
Two\_Children]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children, High\_Income](t) =  
Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children, High\_Income](t -  
dt) + (avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, Two\_Children,  
High\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Two\_Children,  
High\_Income] = INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, High\_Income,  
Two\_Children]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, Low\_Income](t)  
= Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, Low\_Income](t  
- dt) + (avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, Three\_Children,  
Low\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Low\_Income, Three\_Children]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income](t) = Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income](t - dt) + (avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Medium\_Income, Three\_Children]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, High\_Income](t) = Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, High\_Income](t - dt) + (avg\_work\_participation\_adjustment[sixteen\_to\_twentyfive, Three\_Children, High\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[sixteen\_to\_twentyfive, Three\_Children, High\_Income] = INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, High\_Income, Three\_Children]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, Low\_Income](t) = Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, Low\_Income](t - dt) + (avg\_work\_participation\_adjustment[twentysix\_to\_thirtyfive, One\_Child, Low\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] = INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, Low\_Income, One\_Child]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income](t) = Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income](t - dt) + (avg\_work\_participation\_adjustment[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] = INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, Medium\_Income, One\_Child]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, High\_Income](t) = Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, High\_Income](t - dt) + (avg\_work\_participation\_adjustment[twentysix\_to\_thirtyfive, One\_Child, High\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, One\_Child, High\_Income] = INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, High\_Income, One\_Child]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income](t) = Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income](t - dt) + (avg\_work\_participation\_adjustment[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income] = INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, Low\_Income, Two\_Children]

UNITS: Hours

$$\text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{Medium\_Income}](t) = \text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{Medium\_Income}](t - dt) + (\text{avg\_work\_participation\_adjustment}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{Medium\_Income}]) * dt$$

$$\text{INIT Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{Medium\_Income}] = \text{INIT\_avg\_WP\_mothers}[\text{twentysix\_to\_thirtyfive}, \text{Medium\_Income}, \text{Two\_Children}]$$

UNITS: Hours

$$\text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{High\_Income}](t) = \text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{High\_Income}](t - dt) + (\text{avg\_work\_participation\_adjustment}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{High\_Income}]) * dt$$

$$\text{INIT Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Two\_Children}, \text{High\_Income}] = \text{INIT\_avg\_WP\_mothers}[\text{twentysix\_to\_thirtyfive}, \text{High\_Income}, \text{Two\_Children}]$$

UNITS: Hours

$$\text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Low\_Income}](t) = \text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Low\_Income}](t - dt) + (\text{avg\_work\_participation\_adjustment}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Low\_Income}]) * dt$$

$$\text{INIT Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Low\_Income}] = \text{INIT\_avg\_WP\_mothers}[\text{twentysix\_to\_thirtyfive}, \text{Low\_Income}, \text{Three\_Children}]$$

UNITS: Hours

$$\text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Medium\_Income}](t) = \text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Medium\_Income}](t - dt) + (\text{avg\_work\_participation\_adjustment}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Medium\_Income}]) * dt$$

$$\text{INIT Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{Medium\_Income}] = \text{INIT\_avg\_WP\_mothers}[\text{twentysix\_to\_thirtyfive}, \text{Medium\_Income}, \text{Three\_Children}]$$

UNITS: Hours

$$\text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{High\_Income}](t) = \text{Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{High\_Income}](t - dt) + (\text{avg\_work\_participation\_adjustment}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{High\_Income}]) * dt$$

$$\text{INIT Avg\_Work\_Participation\_Mothers}[\text{twentysix\_to\_thirtyfive}, \text{Three\_Children}, \text{High\_Income}] = \text{INIT\_avg\_WP\_mothers}[\text{twentysix\_to\_thirtyfive}, \text{High\_Income}, \text{Three\_Children}]$$

UNITS: Hours

$$\text{Avg\_Work\_Participation\_Mothers}[\text{thirtysix\_to\_fourtyfive}, \text{One\_Child}, \text{Low\_Income}](t) = \text{Avg\_Work\_Participation\_Mothers}[\text{thirtysix\_to\_fourtyfive}, \text{One\_Child}, \text{Low\_Income}](t - dt) + (\text{avg\_work\_participation\_adjustment}[\text{thirtysix\_to\_fourtyfive}, \text{One\_Child}, \text{Low\_Income}]) * dt$$

$$\text{INIT Avg\_Work\_Participation\_Mothers}[\text{thirtysix\_to\_fourtyfive}, \text{One\_Child}, \text{Low\_Income}] = \text{INIT\_avg\_WP\_mothers}[\text{thirtysix\_to\_fourtyfive}, \text{Low\_Income}, \text{One\_Child}]$$

UNITS: Hours

$Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income](t) = Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income](t - dt) + (avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income]) * dt$

$INIT\ Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Medium\_Income, One\_Child]$

UNITS: Hours

$Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, One\_Child, High\_Income](t) = Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, One\_Child, High\_Income](t - dt) + (avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive, One\_Child, High\_Income]) * dt$

$INIT\ Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, High\_Income, One\_Child]$

UNITS: Hours

$Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income](t) = Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income](t - dt) + (avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income]) * dt$

$INIT\ Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Low\_Income, Two\_Children]$

UNITS: Hours

$Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income](t) = Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income](t - dt) + (avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income]) * dt$

$INIT\ Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Medium\_Income, Two\_Children]$

UNITS: Hours

$Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income](t) = Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income](t - dt) + (avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income]) * dt$

$INIT\ Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, High\_Income, Two\_Children]$

UNITS: Hours

$Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income](t) = Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income](t - dt) + (avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income]) * dt$

$INIT\ Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Low\_Income, Three\_Children]$

UNITS: Hours

$Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income](t) = Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive,$

Three\_Children, Medium\_Income](t - dt) +  
(avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive, Three\_Children,  
Medium\_Income]) \* dt  
INIT Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children,  
Medium\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Medium\_Income,  
Three\_Children]

UNITS: Hours

Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income](t)  
= Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children,  
High\_Income](t - dt) + (avg\_work\_participation\_adjustment[thirtysix\_to\_fourtyfive,  
Three\_Children, High\_Income]) \* dt

INIT Avg\_Work\_Participation\_Mothers[thirtysix\_to\_fourtyfive, Three\_Children,  
High\_Income] = INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, High\_Income,  
Three\_Children]

UNITS: Hours

UNITS: Hours

INFLOWS:

avg\_work\_participation\_adjustment[Age\_Group, Number\_of\_Children\_under\_School\_age,  
Income\_Level] = (work\_participation-  
Avg\_Work\_Participation\_Mothers)/time\_to\_adj\_work\_participation

UNITS: Hours/Years

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Low\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, One\_Child, Low\_Income]) \* dt

INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Low\_Income, One\_Child]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, One\_Child, Medium\_Income]) \* dt

INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Medium\_Income, One\_Child]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, High\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, One\_Child, High\_Income]) \* dt

INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, High\_Income, One\_Child]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Low\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]) \* dt

INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Low\_Income, Two\_Children]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]) \* dt

INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Medium\_Income, Two\_Children]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, High\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, Two\_Children, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, High\_Income, Two\_Children]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Low\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Low\_Income, Three\_Children]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Medium\_Income, Three\_Children]

UNITS: Hours

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, High\_Income](t) =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[sixteen\_to\_twentyfive, Three\_Children, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, High\_Income, Three\_Children]

UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Low\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, One\_Child, Low\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Low\_Income, One\_Child]

UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Medium\_Income, One\_Child]

UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, High\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, One\_Child, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, High\_Income, One\_Child]

UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Low\_Income, Two\_Children]

UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Medium\_Income, Two\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, High\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, Two\_Children, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, High\_Income, Two\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Low\_Income, Three\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Medium\_Income, Three\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, High\_Income](t) =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[twentysix\_to\_thirtyfive, Three\_Children, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, High\_Income, Three\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Low\_Income, One\_Child]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Medium\_Income, One\_Child]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, High\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, One\_Child, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, High\_Income, One\_Child]  
UNITS: Hours



Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Low\_Income, Two\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Medium\_Income, Two\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, High\_Income, Two\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Low\_Income, Three\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Medium\_Income, Three\_Children]  
UNITS: Hours

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income](t) =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income](t - dt) +  
(chng\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income]) \* dt  
INIT Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] =  
INIT\_Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, High\_Income, Three\_Children]  
UNITS: Hours

UNITS: Hours

INFLOWS:

chng\_in\_SF\_hours[sixteen\_to\_twentyfive, One\_Child, Low\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, One\_Child, Low\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chng\_in\_SF\_hours[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, One\_Child, Medium\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chng\_in\_SF\_hours[sixteen\_to\_twentyfive, One\_Child, High\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, One\_Child, High\_Income]-

Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[sixteen\_to\_twentyfive, Two\_Children, High\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Two\_Children, High\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[sixteen\_to\_twentyfive, Three\_Children, High\_Income] =  
(residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Three\_Children, High\_Income]-  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentsix\_to\_thirtyfive, One\_Child, Low\_Income] =  
(residual\_hours\_to\_SF[twentsix\_to\_thirtyfive, One\_Child, Low\_Income]-  
Hours\_to\_Self\_Finance[twentsix\_to\_thirtyfive, One\_Child,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentsix\_to\_thirtyfive, One\_Child, Medium\_Income] =  
(residual\_hours\_to\_SF[twentsix\_to\_thirtyfive, One\_Child, Medium\_Income]-  
Hours\_to\_Self\_Finance[twentsix\_to\_thirtyfive, One\_Child,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentsix\_to\_thirtyfive, One\_Child, High\_Income] =  
(residual\_hours\_to\_SF[twentsix\_to\_thirtyfive, One\_Child, High\_Income]-  
Hours\_to\_Self\_Finance[twentsix\_to\_thirtyfive, One\_Child,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentsix\_to\_thirtyfive, Two\_Children, Low\_Income] =  
(residual\_hours\_to\_SF[twentsix\_to\_thirtyfive, Two\_Children, Low\_Income]-

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income] =  
(residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income]-

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentysix\_to\_thirtyfive, Two\_Children, High\_Income] =  
(residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Two\_Children, High\_Income]-

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Two\_Children,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income] =  
(residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income]-

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income] =  
(residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income]-

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[twentysix\_to\_thirtyfive, Three\_Children, High\_Income] =  
(residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Three\_Children, High\_Income]-

Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, Three\_Children,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income]-

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income]-

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, One\_Child, High\_Income]-

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income]-

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chnge\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income]-

Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chg\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income]-  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chg\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income]-  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children,  
Low\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chg\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income]-  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children,  
Medium\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

chg\_in\_SF\_hours[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] =  
(residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income]-  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children,  
High\_Income])/time\_to\_adj\_hours\_to\_SF

UNITS: Hours/Years

UNITS: Hours/Years

actual\_subsidised\_hours = STEP(15, 2000)

UNITS: Hours

avg\_hourly\_income\_men[Low\_Income] = GRAPH(TIME)  
(1990,00, 2,550), (2015,00, 6,900)

UNITS: GBP/Hour

avg\_hourly\_income\_men[Medium\_Income] = GRAPH(TIME)  
(1990,00, 6,500), (2015,00, 13,000)

UNITS: GBP/Hour

avg\_hourly\_income\_men[High\_Income] = GRAPH(TIME)  
(1990,00, 20,00), (2015,00, 60,00)

UNITS: GBP/Hour

UNITS: GBP/Hour

avg\_hourly\_income\_mothers[Age\_Group, Number\_of\_Children\_under\_School\_age,  
Income\_Level] =

reference\_hourly\_income\_women[Income\_Level]\*effect\_of\_AWP\_on\_avg\_hourly\_income

UNITS: GBP/Hour

avg\_weekly\_income\_men[Low\_Income] =  
avg\_hourly\_income\_men[Low\_Income]\*standard\_work\_week

UNITS: GBP

avg\_weekly\_income\_men[Medium\_Income] =  
avg\_hourly\_income\_men[Medium\_Income]\*standard\_work\_week

UNITS: GBP

avg\_weekly\_income\_men[High\_Income] =  
avg\_hourly\_income\_men[High\_Income]\*standard\_work\_week

UNITS: GBP

UNITS: GBP

avg\_weekly\_income\_mothers[Age\_Group, Number\_of\_Children\_under\_School\_age, Income\_Level] = Avg\_Work\_Participation\_Mothers\*avg\_hourly\_income\_mothers  
UNITS: GBP

childcare\_cost\_fraction[sixteen\_to\_twentyfive, One\_Child, Low\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, One\_Child, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, One\_Child, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, One\_Child, High\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, One\_Child, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, Two\_Children, High\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, Two\_Children, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[sixteen\_to\_twentyfive, Three\_Children, High\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[sixteen\_to\_twentyfive, Three\_Children, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[twentysix\_to\_thirtyfive, One\_Child, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twentysix\_to\_thirtyfive, One\_Child, High\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[twentysix\_to\_thirtyfive, One\_Child, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twenty-six\_to\_thirty-five, Two\_Children, Low\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[twenty-six\_to\_thirty-five, Two\_Children, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twenty-six\_to\_thirty-five, Two\_Children, Medium\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[twenty-six\_to\_thirty-five, Two\_Children, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twenty-six\_to\_thirty-five, Two\_Children, High\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[twenty-six\_to\_thirty-five, Two\_Children, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twenty-six\_to\_thirty-five, Three\_Children, Low\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[twenty-six\_to\_thirty-five, Three\_Children, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twenty-six\_to\_thirty-five, Three\_Children, Medium\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[twenty-six\_to\_thirty-five, Three\_Children, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[twenty-six\_to\_thirty-five, Three\_Children, High\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[twenty-six\_to\_thirty-five, Three\_Children, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirty-six\_to\_forty-five, One\_Child, Low\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[thirty-six\_to\_forty-five, One\_Child, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirty-six\_to\_forty-five, One\_Child, Medium\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[thirty-six\_to\_forty-five, One\_Child, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirty-six\_to\_forty-five, One\_Child, High\_Income] =  
childcare\_costs\_per\_child\_per\_hour/avg\_hourly\_income\_mothers[thirty-six\_to\_forty-five, One\_Child, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirty-six\_to\_forty-five, Two\_Children, Low\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[thirty-six\_to\_forty-five, Two\_Children, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirty-six\_to\_forty-five, Two\_Children, Medium\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[thirty-six\_to\_forty-five, Two\_Children, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirty-six\_to\_forty-five, Two\_Children, High\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*2)/avg\_hourly\_income\_mothers[thirty-six\_to\_forty-five, Two\_Children, High\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[thirtysix\_to\_fourtyfive  
, Three\_Children, Low\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[thirtysix\_to\_fourtyfive  
, Three\_Children, Medium\_Income]

UNITS: Dimensionless

childcare\_cost\_fraction[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] =  
(childcare\_costs\_per\_child\_per\_hour\*3)/avg\_hourly\_income\_mothers[thirtysix\_to\_fourtyfive  
, Three\_Children, High\_Income]

UNITS: Dimensionless

UNITS: Dimensionless

childcare\_costs\_per\_child\_per\_hour = GRAPH(TIME)

(1990,00, 1,600), (2002,50, 2,900), (2015,00, 5,000)

UNITS: GBP/Hour

desired\_cc\_hours\_to\_be\_Covered\_by\_grandmothers[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level] =

Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers\*effect\_of\_PFI\_spent\_on\_CC\_on\_gran  
dmothers\_CC\_hours\_decisions

UNITS: Hours

effect\_of\_AWP\_on\_avg\_hourly\_income[Age\_Group,

Number\_of\_Children\_under\_School\_age, Income\_Level] =

GRAPH(Avg\_Work\_Participation\_Mothers/standard\_work\_week)

(0,000, 0,099), (0,100, 0,099), (0,200, 0,165), (0,300, 0,351), (0,400, 0,574), (0,500, 0,739),  
(0,600, 0,839), (0,700, 0,900), (0,800, 0,945), (0,900, 0,986), (1,000, 1,000)

UNITS: Dimensionless

effect\_of\_CCCF\_on\_SFWHA[Age\_Group, Number\_of\_Children\_under\_School\_age,

Income\_Level] = GRAPH(childcare\_cost\_fraction)

(0,000, 1,000), (0,200, 1,000), (0,400, 0,951), (0,600, 0,821), (0,800, 0,587), (1,000, 0,300),  
(1,200, 0,147), (1,400, 0,079), (1,600, 0,017), (1,800, 0,000), (2,000, 0,000)

UNITS: Dimensionless

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive,

One\_Child, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,688), (20,0, 0,455), (30,0, 0,960), (40,0, 1,361), (50,0, 1,658), (60,0,  
1,807), (70,0, 1,881), (80,0, 1,896), (90,0, 1,926), (100,0, 1,926)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive,

One\_Child, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,688), (20,0, 0,455), (30,0, 0,960), (40,0, 1,361), (50,0, 1,658), (60,0,  
1,807), (70,0, 1,881), (80,0, 1,896), (90,0, 1,926), (100,0, 1,926)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive,

One\_Child, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,688), (20,0, 0,455), (30,0, 0,960), (40,0, 1,361), (50,0, 1,658), (60,0,  
1,807), (70,0, 1,881), (80,0, 1,896), (90,0, 1,926), (100,0, 1,926)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive,

Two\_Children, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -0,881), (30,0, -0,658), (40,0, -0,035), (50,0, 0,455), (60,0, 0,723), (70,0, 1,020), (80,0, 1,302), (90,0, 1,465), (100,0, 1,554)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,703), (20,0, 0,084), (30,0, 0,842), (40,0, 1,272), (50,0, 1,465), (60,0, 1,599), (70,0, 1,688), (80,0, 1,762), (90,0, 1,807), (100,0, 1,851)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive, Two\_Children, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -0,881), (30,0, -0,658), (40,0, -0,035), (50,0, 0,455), (60,0, 0,723), (70,0, 1,020), (80,0, 1,302), (90,0, 1,465), (100,0, 1,554)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -1,000), (30,0, -1,000), (40,0, -0,688), (50,0, -0,243), (60,0, 0,158), (70,0, 0,470), (80,0, 0,723), (90,0, 0,782), (100,0, 0,812)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,881), (20,0, -0,569), (30,0, -0,153), (40,0, 0,337), (50,0, 0,960), (60,0, 1,272), (70,0, 1,450), (80,0, 1,629), (90,0, 1,688), (100,0, 1,688)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[sixteen\_to\_twentyfive, Three\_Children, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -1,000), (30,0, -1,000), (40,0, -0,688), (50,0, -0,243), (60,0, 0,158), (70,0, 0,470), (80,0, 0,723), (90,0, 0,782), (100,0, 0,812)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,748), (20,0, 0,203), (30,0, 0,871), (40,0, 1,391), (50,0, 1,614), (60,0, 1,718), (70,0, 1,762), (80,0, 1,807), (90,0, 1,851), (100,0, 1,926)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,688), (20,0, 0,455), (30,0, 0,960), (40,0, 1,361), (50,0, 1,658), (60,0, 1,807), (70,0, 1,881), (80,0, 1,896), (90,0, 1,926), (100,0, 1,926)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, One\_Child, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,688), (20,0, 0,455), (30,0, 0,960), (40,0, 1,361), (50,0, 1,658), (60,0, 1,807), (70,0, 1,881), (80,0, 1,896), (90,0, 1,926), (100,0, 1,926)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -0,881), (30,0, -0,658), (40,0, -0,064), (50,0, 0,366), (60,0, 0,738), (70,0, 0,946), (80,0, 1,168), (90,0, 1,332), (100,0, 1,361)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)



(0,0, -1,000), (10,0, -0,703), (20,0, 0,084), (30,0, 0,842), (40,0, 1,272), (50,0, 1,465), (60,0, 1,599), (70,0, 1,688), (80,0, 1,762), (90,0, 1,807), (100,0, 1,851)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, Two\_Children, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -0,881), (30,0, -0,658), (40,0, -0,035), (50,0, 0,455), (60,0, 0,723), (70,0, 1,020), (80,0, 1,302), (90,0, 1,465), (100,0, 1,554)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -1,000), (30,0, -1,000), (40,0, -0,688), (50,0, -0,243), (60,0, 0,158), (70,0, 0,470), (80,0, 0,574), (90,0, 0,604), (100,0, 0,589)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,881), (20,0, -0,569), (30,0, -0,153), (40,0, 0,337), (50,0, 0,782), (60,0, 1,168), (70,0, 1,450), (80,0, 1,614), (90,0, 1,688), (100,0, 1,688)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[twentysix\_to\_thirtyfive, Three\_Children, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -1,000), (30,0, -1,000), (40,0, -0,688), (50,0, -0,243), (60,0, 0,158), (70,0, 0,470), (80,0, 0,723), (90,0, 0,782), (100,0, 0,812)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,169), (20,0, 0,361), (30,0, 0,635), (40,0, 0,826), (50,0, 0,982), (60,0, 1,000), (70,0, 1,000), (80,0, 1,000), (90,0, 1,000), (100,0, 1,000)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,169), (20,0, 0,361), (30,0, 0,635), (40,0, 0,826), (50,0, 0,982), (60,0, 1,000), (70,0, 1,000), (80,0, 1,000), (90,0, 1,000), (100,0, 1,000)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,169), (20,0, 0,361), (30,0, 0,635), (40,0, 0,826), (50,0, 0,982), (60,0, 1,000), (70,0, 1,000), (80,0, 1,000), (90,0, 1,000), (100,0, 1,000)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -0,881), (30,0, -0,658), (40,0, -0,257), (50,0, 0,099), (60,0, 0,441), (70,0, 0,856), (80,0, 1,168), (90,0, 1,317), (100,0, 1,317)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,703), (20,0, 0,084), (30,0, 0,842), (40,0, 1,272), (50,0, 1,465), (60,0, 1,599), (70,0, 1,688), (80,0, 1,762), (90,0, 1,807), (100,0, 1,851)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -0,881), (30,0, -0,658), (40,0, -0,035), (50,0, 0,455), (60,0, 0,723), (70,0, 1,020), (80,0, 1,302), (90,0, 1,465), (100,0, 1,554)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -1,000), (30,0, -1,000), (40,0, -0,955), (50,0, -0,554), (60,0, -0,213), (70,0, 0,203), (80,0, 0,545), (90,0, 0,604), (100,0, 0,649)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -0,881), (20,0, -0,480), (30,0, -0,020), (40,0, 0,396), (50,0, 0,782), (60,0, 1,168), (70,0, 1,450), (80,0, 1,614), (90,0, 1,718), (100,0, 1,718)

UNITS: dmn1

effect\_of\_PFI\_spent\_on\_CC\_on\_grandmothers\_CC\_hours\_decisions[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] = GRAPH(pct\_of\_family\_income\_spent\_on\_childcare)

(0,0, -1,000), (10,0, -1,000), (20,0, -1,000), (30,0, -1,000), (40,0, -0,688), (50,0, -0,243), (60,0, 0,158), (70,0, 0,470), (80,0, 0,723), (90,0, 0,782), (100,0, 0,812)

UNITS: dmn1

UNITS: dmn1

family\_income[sixteen\_to\_twentyfive, One\_Child, Low\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, One\_Child, Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, One\_Child, Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, One\_Child, High\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, One\_Child, High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, Two\_Children, High\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, Two\_Children, High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[sixteen\_to\_twentyfive, Three\_Children, High\_Income] =  
avg\_weekly\_income\_mothers[sixteen\_to\_twentyfive, Three\_Children,  
High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, One\_Child,  
Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, One\_Child,  
Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, One\_Child, High\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, One\_Child,  
High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, Two\_Children,  
Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, Two\_Children,  
Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, Two\_Children, High\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, Two\_Children,  
High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, Three\_Children,  
Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, Three\_Children,  
Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[twentysix\_to\_thirtyfive, Three\_Children, High\_Income] =  
avg\_weekly\_income\_mothers[twentysix\_to\_thirtyfive, Two\_Children,  
High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, One\_Child,  
Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, One\_Child,  
Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, One\_Child,  
High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, Two\_Children,  
Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, Two\_Children,  
Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, Two\_Children,  
High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, Three\_Children,  
Low\_Income]+avg\_weekly\_income\_men[Low\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, Three\_Children,  
Medium\_Income]+avg\_weekly\_income\_men[Medium\_Income]

UNITS: GBP

family\_income[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] =  
avg\_weekly\_income\_mothers[thirtysix\_to\_fourtyfive, Three\_Children,  
High\_Income]+avg\_weekly\_income\_men[High\_Income]

UNITS: GBP

UNITS: GBP

gender\_adj\_pct[Low\_Income] = 0.05

UNITS: Dimensionless

gender\_adj\_pct[Medium\_Income] = 0.1

UNITS: Dimensionless

gender\_adj\_pct[High\_Income] = 0.2

UNITS: Dimensionless

UNITS: Dimensionless

hours\_covered\_by\_subsidised\_childcare[Age\_Group,  
Number\_of\_Children\_under\_School\_age, Income\_Level] =  
actual\_subsidised\_hours+scenario

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, One\_Child,  
Low\_Income] = 15

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, One\_Child,  
Medium\_Income] = 3

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, One\_Child,  
High\_Income] = 5

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] = 12

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] = 8

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Two\_Children, High\_Income] = 4

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = 10

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = 6

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Three\_Children, High\_Income] = 3

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, One\_Child, Low\_Income] = 15

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, One\_Child, Medium\_Income] = 3

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, One\_Child, High\_Income] = 5

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, Two\_Children, Low\_Income] = 12

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, Two\_Children, Medium\_Income] = 8

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, Two\_Children, High\_Income] = 4

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, Three\_Children, Low\_Income] = 10

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, Three\_Children, Medium\_Income] = 6

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[twentsix\_to\_thirtyfive, Three\_Children, High\_Income] = 3

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] = 10

UNITS: Hours

INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] = 3

UNITS: Hours  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] = 5  
UNITS: Hours  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] = 8  
UNITS: Hours  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] = 6  
UNITS: Hours  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] = 3  
UNITS: Hours  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] = 6  
UNITS: Hours  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] = 4  
UNITS: Hours  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] = 2  
UNITS: Hours  
UNITS: Hours  
INIT\_Average\_Work\_Participation\_Grandmothers[Age\_Group, Number\_of\_Children\_under\_School\_age, Income\_Level] = standard\_work\_week-  
INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Low\_Income, One\_Child] = 10  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Low\_Income, Two\_Children] = 9  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Low\_Income, Three\_Children] = 8  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Medium\_Income, One\_Child] = 36  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Medium\_Income, Two\_Children] = 7  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, Medium\_Income, Three\_Children] = 6  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, High\_Income, One\_Child] = 37  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, High\_Income, Two\_Children] = 37  
UNITS: Hours  
INIT\_avg\_WP\_mothers[sixteen\_to\_twentyfive, High\_Income, Three\_Children] = 3  
UNITS: Hours  
INIT\_avg\_WP\_mothers[twentsix\_to\_thirtyfive, Low\_Income, One\_Child] = 10  
UNITS: Hours  
INIT\_avg\_WP\_mothers[twentsix\_to\_thirtyfive, Low\_Income, Two\_Children] = 9  
UNITS: Hours  
INIT\_avg\_WP\_mothers[twentsix\_to\_thirtyfive, Low\_Income, Three\_Children] = 8

UNITS: Hours  
 INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, Medium\_Income, One\_Child] = 36  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, Medium\_Income, Two\_Children] = 7  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, Medium\_Income, Three\_Children] = 6  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, High\_Income, One\_Child] = 37  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, High\_Income, Two\_Children] = 37  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[twentysix\_to\_thirtyfive, High\_Income, Three\_Children] = 2.5  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Low\_Income, One\_Child] = 8  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Low\_Income, Two\_Children] = 7  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Low\_Income, Three\_Children] = 5  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Medium\_Income, One\_Child] = 36  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Medium\_Income, Two\_Children] = 7  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, Medium\_Income, Three\_Children] = 6  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, High\_Income, One\_Child] = 37  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, High\_Income, Two\_Children] = 37  
 UNITS: Hours  
 INIT\_avg\_WP\_mothers[thirtysix\_to\_fourtyfive, High\_Income, Three\_Children] = 2  
 UNITS: Hours  
 UNITS: Hours  
 INIT\_Hours\_to\_Self\_Finance[Age\_Group, Number\_of\_Children\_under\_School\_age, Income\_Level] = (standard\_work\_week-  
 INIT\_Actual\_CC\_Hours\_Covered\_by\_Grandmothers)\*number\_of\_childrem  
 UNITS: Hours  
 number\_of\_childrem[sixteen\_to\_twentyfive, One\_Child, Low\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_childrem[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_childrem[sixteen\_to\_twentyfive, One\_Child, High\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_childrem[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_childrem[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_childrem[sixteen\_to\_twentyfive, Two\_Children, High\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_childrem[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = 3  
 UNITS: Dimensionless

number\_of\_children[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = 3  
 UNITS: Dimensionless  
 number\_of\_children[sixteen\_to\_twentyfive, Three\_Children, High\_Income] = 3  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, One\_Child, Low\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, One\_Child, Medium\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, One\_Child, High\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, Two\_Children, Low\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, Two\_Children, Medium\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, Two\_Children, High\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, Three\_Children, Low\_Income] = 3  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, Three\_Children, Medium\_Income] = 3  
 UNITS: Dimensionless  
 number\_of\_children[twentsix\_to\_thirtyfive, Three\_Children, High\_Income] = 3  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] = 1  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] = 2  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] = 3  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] = 3  
 UNITS: Dimensionless  
 number\_of\_children[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] = 3  
 UNITS: Dimensionless  
 UNITS: Dimensionless  
 pct = 100  
 UNITS: Dimensionless  
 pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, One\_Child, Low\_Income]  
 = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, One\_Child,  
 Low\_Income]/family\_income[sixteen\_to\_twentyfive, One\_Child, Low\_Income])\*pct), pct)  
 UNITS: Dimensionless  
 pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, One\_Child,  
 Medium\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, One\_Child,



Medium\_Income]/family\_income[sixteen\_to\_twentyfive, One\_Child, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, One\_Child, High\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, One\_Child, High\_Income]/family\_income[sixteen\_to\_twentyfive, One\_Child, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]/family\_income[sixteen\_to\_twentyfive, Two\_Children, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]/family\_income[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, Two\_Children, High\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, Two\_Children, High\_Income]/family\_income[sixteen\_to\_twentyfive, Two\_Children, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]/family\_income[sixteen\_to\_twentyfive, Three\_Children, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]/family\_income[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[sixteen\_to\_twentyfive, Three\_Children, High\_Income] = MIN (((weekly\_childcare\_cost[sixteen\_to\_twentyfive, Three\_Children, High\_Income]/family\_income[sixteen\_to\_twentyfive, Three\_Children, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, One\_Child, Low\_Income]/family\_income[twentysix\_to\_thirtyfive, One\_Child, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income]/family\_income[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, One\_Child, High\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, One\_Child, High\_Income]/family\_income[twentysix\_to\_thirtyfive, One\_Child, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income]/family\_income[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income]/family\_income[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, Two\_Children, High\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Two\_Children, High\_Income]/family\_income[twentysix\_to\_thirtyfive, Two\_Children, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income]/family\_income[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income]/family\_income[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[twentysix\_to\_thirtyfive, Three\_Children, High\_Income] = MIN (((weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Three\_Children, High\_Income]/family\_income[twentysix\_to\_thirtyfive, Three\_Children, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income]/family\_income[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income]/family\_income[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, One\_Child, High\_Income]/family\_income[thirtysix\_to\_fourtyfive, One\_Child, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income]/family\_income[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income]/family\_income[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income])\*pct), pct)

Medium\_Income]/family\_income[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income]/family\_income[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income]/family\_income[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income]/family\_income[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income])\*pct), pct)

UNITS: Dimensionless

pct\_of\_family\_income\_spent\_on\_childcare[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] = MIN (((weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income]/family\_income[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income])\*pct), pct)

UNITS: Dimensionless

UNITS: Dimensionless

reference\_hourly\_income\_women[Low\_Income] = avg\_hourly\_income\_men[Low\_Income]-avg\_hourly\_income\_men[Low\_Income]\*gender\_adj\_pct[Low\_Income]

UNITS: GBP/Hour

reference\_hourly\_income\_women[Medium\_Income] = avg\_hourly\_income\_men[Medium\_Income]-avg\_hourly\_income\_men[Medium\_Income]\*gender\_adj\_pct[Medium\_Income]

UNITS: GBP/Hour

reference\_hourly\_income\_women[High\_Income] = avg\_hourly\_income\_men[High\_Income]-avg\_hourly\_income\_men[High\_Income]\*gender\_adj\_pct[High\_Income]

UNITS: GBP/Hour

UNITS: GBP/Hour

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, One\_Child, Low\_Income] = MAX ((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, One\_Child, Low\_Income]-Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, One\_Child, Low\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] = MAX ((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, One\_Child, Medium\_Income]-Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, One\_Child, Medium\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, One\_Child, High\_Income] = MAX ((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, One\_Child, High\_Income]-

Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, One\_Child, High\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]\*2)-

(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]\*2)-

(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Two\_Children, High\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, Two\_Children, High\_Income]\*2)-

(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Two\_Children, High\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]\*3)-

(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]\*3)-

(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[sixteen\_to\_twentyfive, Three\_Children, High\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[sixteen\_to\_twentyfive, Three\_Children, High\_Income]\*3)-

(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[sixteen\_to\_twentyfive, Three\_Children, High\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] = MAX  
((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive, One\_Child, Low\_Income]-

Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive, One\_Child, Low\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] = MAX  
((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income]-

Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, One\_Child, High\_Income] = MAX  
(((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive,  
One\_Child, High\_Income]-  
Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive, One\_Child,  
High\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive,  
Two\_Children, Low\_Income]\*2)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive,  
Two\_Children, Low\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive,  
Two\_Children, Medium\_Income]\*2)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive,  
Two\_Children, Medium\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Two\_Children, High\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive,  
Two\_Children, High\_Income]\*2)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive,  
Two\_Children, High\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive,  
Three\_Children, Low\_Income]\*3)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive,  
Three\_Children, Low\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive,  
Three\_Children, Medium\_Income]\*3)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive,  
Three\_Children, Medium\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[twentysix\_to\_thirtyfive, Three\_Children, High\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[twentysix\_to\_thirtyfive,  
Three\_Children, High\_Income]\*3)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[twentysix\_to\_thirtyfive,  
Three\_Children, High\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] = MAX  
((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
One\_Child, Low\_Income]-  
Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, One\_Child,  
Low\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] = MAX  
((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
One\_Child, Medium\_Income]-  
Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, One\_Child,  
Medium\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] = MAX  
((standard\_work\_week-hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
One\_Child, High\_Income]-  
Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive, One\_Child,  
High\_Income]), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
Two\_Children, Low\_Income]\*2)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive,  
Two\_Children, Low\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
Two\_Children, Medium\_Income]\*2)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive,  
Two\_Children, Medium\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] = MAX  
(((standard\_work\_week\*2)-(hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
Two\_Children, High\_Income]\*2)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive,  
Two\_Children, High\_Income]\*2)), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
Three\_Children, Low\_Income]\*3)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive,  
Three\_Children, Low\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
Three\_Children, Medium\_Income]\*3)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive,  
Three\_Children, Medium\_Income]\*3)), 0)

UNITS: Hours

residual\_hours\_to\_SF[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] = MAX  
(((standard\_work\_week\*3)-(hours\_covered\_by\_subsidised\_childcare[thirtysix\_to\_fourtyfive,  
Three\_Children, High\_Income]\*3)-  
(Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers[thirtysix\_to\_fourtyfive,  
Three\_Children, High\_Income]\*3)), 0)

UNITS: Hours

UNITS: Hours

scenario = STEP(scenario\_step, 2017)

UNITS: Hours

scenario\_step = -15

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, One\_Child, Low\_Income] =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child,  
Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, One\_Child,  
Low\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child,  
Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, One\_Child,  
Medium\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, One\_Child, High\_Income] =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child,  
High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, One\_Child,  
High\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children,  
Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, Two\_Children,  
Low\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, Two\_Children,  
Medium\_Income] = Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children,  
Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, Two\_Children,  
Medium\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, Two\_Children, High\_Income] =  
Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children,  
High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, Two\_Children,  
High\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]  
= Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children,  
Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, Three\_Children,  
Low\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, Three\_Children,  
Medium\_Income] = Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children,  
Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, Three\_Children,  
Medium\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[sixteen\_to\_twentyfive, Three\_Children, High\_Income]  
= Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children,  
High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[sixteen\_to\_twentyfive, Three\_Children,  
High\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] =  
Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child,

Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, One\_Child,  
 Low\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, One\_Child, Medium\_Income]  
 = Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, One\_Child,  
 Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, One\_Child,  
 Medium\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, One\_Child, High\_Income] =  
 Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, One\_Child,  
 High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, One\_Child,  
 High\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, Two\_Children, Low\_Income]  
 = Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, Two\_Children,  
 Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, Two\_Children,  
 Low\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, Two\_Children,  
 Medium\_Income] = Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, Two\_Children,  
 Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, Two\_Children,  
 Medium\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, Two\_Children, High\_Income]  
 = Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, Two\_Children,  
 High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, Two\_Children,  
 High\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, Three\_Children, Low\_Income]  
 = Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, Three\_Children,  
 Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, Three\_Children,  
 Low\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, Three\_Children,  
 Medium\_Income] = Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, Three\_Children,  
 Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, Three\_Children,  
 Medium\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[twenty-six\_to\_thirty-five, Three\_Children, High\_Income]  
 = Hours\_to\_Self\_Finance[twenty-six\_to\_thirty-five, Three\_Children,  
 High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[twenty-six\_to\_thirty-five, Three\_Children,  
 High\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[thirty-six\_to\_forty-five, One\_Child, Low\_Income] =  
 Hours\_to\_Self\_Finance[thirty-six\_to\_forty-five, One\_Child,  
 Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirty-six\_to\_forty-five, One\_Child,  
 Low\_Income]  
 UNITS: Hours  
 self\_financed\_work\_hours\_available[thirty-six\_to\_forty-five, One\_Child, Medium\_Income] =  
 Hours\_to\_Self\_Finance[thirty-six\_to\_forty-five, One\_Child,



Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, One\_Child,  
Medium\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, One\_Child,

High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, One\_Child,  
High\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children,

Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, Two\_Children,  
Low\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[thirtysix\_to\_fourtyfive, Two\_Children,  
Medium\_Income] = Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children,  
Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, Two\_Children,  
Medium\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] =  
Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Two\_Children,

High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, Two\_Children,  
High\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income]  
= Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children,

Low\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, Three\_Children,  
Low\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[thirtysix\_to\_fourtyfive, Three\_Children,  
Medium\_Income] = Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children,  
Medium\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, Three\_Children,  
Medium\_Income]

UNITS: Hours

self\_financed\_work\_hours\_available[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income]  
= Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive, Three\_Children,

High\_Income]\*effect\_of\_CCCF\_on\_SFWHA[thirtysix\_to\_fourtyfive, Three\_Children,  
High\_Income]

UNITS: Hours

UNITS: Hours

standard\_work\_week = 40

UNITS: Hours

time\_to\_adj\_CC\_hours\_covered\_by\_grandmothers = 1.5

UNITS: Years

time\_to\_adj\_hours\_to\_SF = 1

UNITS: Years

time\_to\_adj\_work\_participation = 1

UNITS: Years

time\_to\_adj\_work\_participation\_grandmothers = 2

UNITS: Years

total\_work\_hours\_available[Age\_Group, Number\_of\_Children\_under\_School\_age, Income\_Level] =  
hours\_covered\_by\_subsidised\_childcare+Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers+self\_financed\_work\_hours\_available

UNITS: Hours

weekly\_childcare\_cost[sixteen\_to\_twentyfive, One\_Child, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, One\_Child, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, One\_Child, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, One\_Child, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, Two\_Children, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, Two\_Children, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Two\_Children, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, Three\_Children, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[sixteen\_to\_twentyfive, Three\_Children, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[sixteen\_to\_twentyfive, Three\_Children, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, One\_Child, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive, One\_Child, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, One\_Child, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive,  
One\_Child, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Two\_Children, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive,  
Two\_Children, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Two\_Children, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive,  
Two\_Children, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Two\_Children, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive,  
Two\_Children, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Three\_Children, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive,  
Three\_Children, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Three\_Children, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive,  
Three\_Children, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[twentysix\_to\_thirtyfive, Three\_Children, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[twentysix\_to\_thirtyfive,  
Three\_Children, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, One\_Child, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
One\_Child, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, One\_Child, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
One\_Child, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, One\_Child, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
One\_Child, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Two\_Children, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
Two\_Children, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Two\_Children, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
Two\_Children, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Two\_Children, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
Two\_Children, High\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Three\_Children, Low\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
Three\_Children, Low\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Three\_Children, Medium\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
Three\_Children, Medium\_Income]), 0)

UNITS: GBP

weekly\_childcare\_cost[thirtysix\_to\_fourtyfive, Three\_Children, High\_Income] = MAX  
((childcare\_costs\_per\_child\_per\_hour\*Hours\_to\_Self\_Finance[thirtysix\_to\_fourtyfive,  
Three\_Children, High\_Income]), 0)

UNITS: GBP

UNITS: GBP

work\_participation[Age\_Group, Number\_of\_Children\_under\_School\_age, Income\_Level] =  
GRAPH(SMTH1 (total\_work\_hours\_available, 2))

(0,00, 0,00), (4,00, 3,99), (8,00, 7,08), (12,00, 9,00), (16,00, 10,99), (20,00, 14,57), (24,00,  
19,46), (28,00, 26,75), (32,00, 30,69), (36,00, 35,22), (40,00, 38,28)UNITS: Hours

work\_participation\_grandmothers[Age\_Group, Number\_of\_Children\_under\_School\_age,  
Income\_Level] = GRAPH(standard\_work\_week-  
Actual\_Childcare\_Hours\_Covered\_by\_Grandmothers)

(0,00, 0,00), (4,00, 3,99), (8,00, 7,08), (12,00, 9,00), (16,00, 10,99), (20,00, 14,57), (24,00,  
19,46), (28,00, 26,75), (32,00, 30,69), (36,00, 35,22), (40,00, 38,28)

UNITS: Hours