

Reverse Engineering the FRB/US Model in R

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Chapter 1

Introduction

I am starting to reverse engineer¹ the Federal Reserve's FRB/US model packages to create my own version in the R Language. I quote their about page:

The FRB/US model is a large-scale estimated general equilibrium model of the U.S. economy that has been in use at the Federal Reserve Board since 1996. The model is designed for detailed analysis of monetary and fiscal policies. One distinctive feature compared to dynamic stochastic general equilibrium (DSGE) models is the ability to switch between alternative assumptions about expectations formation of economic agents. Another is the models level of detail: FRB/US contains all major components of the product and income sides of the U.S. national accounts. Since its original development, the model has continuously undergone changes to cope with the evolving structure of the economy, including conceptual revisions to sectoral definitions of the national accounts.

The article "The FRB/US Model: A Tool for Macroeconomic Policy Analysis" provides a brief overview of the structure of FRB/US, and presents some key properties of the model and some applications, code for which is included with the main FRB/US model package. The article "November 2014 Update of the FRB/US Model" presents some model properties of the most recently released version of FRB/US.

This is an evolving document, where I will initially create the Fed's model files byte for byte and reverse engineer the structure of the model. Then I

¹The pdf was created with noweb, the literate programming tool: "noweb frbus.nw — pdflatex -synctex=1 -interaction=nonstopmode frbus.tex"

plan to morph it into the R software environment for statistical computing and graphics, to use to create my own models. I'm using the literate programming method of Donald Knuth to combine the documentation with the actual code.

Chapter 2

Model Equations and Coefficients

Compare my version of the "Model Equations and Coefficients" to the documentation.

2.1 Household Expenditures

2.1.1 a.1 ECO: Consumer expenditures on non-durable goods and non-housing services, cw 2009\$

17a $\langle \text{variable } ECO \text{ 17a} \rangle \equiv$ (211)
ECO = Consumer expenditures on non-durable goods and non-housing services, cw 2009\$

Defines:

ECO, used in chunks 178c and 223.

17b $\langle \text{equation } eco \text{ 17b} \rangle \equiv$ (244)
eco: d(log(eco), 0, 1) - eco_aerr _
= (y_eco(1) * log(qeco(-1)/eco(-1)) _
+ y_eco(2) * d(log(eco(-1)), 0, 1) _
+ y_eco(3) * zeco) * (1-y_eco(4)) _
+ y_eco(4) * (d(log(yhl+yht), 0, 1))

Defines:

eco, used in chunks 21d, 24c, and 111c.

Uses qeco 20b, y_eco 17c, yhl 81d, yht 84f, and zeco 179a.

17c $\langle \text{coefficient } y_eco \text{ 17c} \rangle \equiv$ (253)
y_eco 4 0.1088704831212408, 0.4609714707829828, 1, 0.252176379778204

Defines:

y_eco, used in chunk 17b.

2.1.2 a.2 ECD: Consumer expenditures on durable goods, cw 2009\$

18a $\langle \text{variable } ECD \text{ 18a} \rangle \equiv$ (211)
 ECD = Consumer expenditures on durable goods, cw 2009\$

Defines:

 ECD, used in chunks 179c, 180c, and 223.

18b $\langle \text{equation } ecd \text{ 18b} \rangle \equiv$ (244)
 ecd: d(log(ecd), 0, 1) - ecd_aerr _
 = y_ecd(1) * log(qecd(-1)/ecd(-1)) _
 + y_ecd(2) * d(log(ecd(-1)), 0, 1) _
 + y_ecd(3) * zecd _
 + y_ecd(4) * zgapc2 / 400

Defines:

 ecd, used in chunks 21d, 22e, 80d, 111c, and 155a.

Uses qecd 20e, y_ecd 18c, zecd 180a, and zgapc2 180d.

18c $\langle \text{coefficient } y_ecd \text{ 18c} \rangle \equiv$ (253)
 y_ecd 4 0.1553557918476032, -0.05860156240430123, 1, 9.039065475739223

Defines:

 y_ecd, used in chunk 18b.

2.1.3 a.3 EH: Residential investment expenditures, cw 2009\$

18d $\langle \text{variable } EH \text{ 18d} \rangle \equiv$ (211)
 EH = Residential investment expenditures, cw 2009\$

Defines:

 EH, used in chunks 181a and 223.

18e $\langle \text{equation } eh \text{ 18e} \rangle \equiv$ (244)
 eh: d(log(eh), 0, 1) - eh_aerr _
 = y_eh(1) * log(qeh(-1)/eh(-1)) _
 + y_eh(2) * d(log(eh(-1)), 0, 1) _
 + y_eh(3) * d(log(eh(-2)), 0, 1) _
 + y_eh(4) * zeh _
 + y_eh(5) * d(rme(-1), 0, 1) _
 + y_eh(6) * d83 * d(rme(-1), 0, 1)

Defines:

 eh, used in chunks 22c, 23a, 48b, and 51a.

Uses d83 196b, qeh 21a, rme 152a, y_eh 18f, and zeh 181b.

18f $\langle \text{coefficient } y_eh \text{ 18f} \rangle \equiv$ (253)
 y_eh 6 0.01184830003855771, 0.3575993755366778, 0.2161402157869259, 1, -0.051357

Defines:

 y_eh, used in chunk 18e.

2.1.4 a.4 ECH: Consumer expenditures on housing services, cw 2009\$

19a $\langle \text{variable } ECH \text{ 19a} \rangle \equiv$ (211)
 ECH = Consumer expenditures on housing services, cw 2009\$

Defines:

 ECH, used in chunk 223.

19b $\langle \text{equation } ech \text{ 19b} \rangle \equiv$ (244)
 ech: d(ech)/kh(-1), 0, 1) - ech_aerr _
 = y_ech(1) _
 + y_ech(2) * ech(-1)/kh(-2) _
 + y_ech(3) * d(ech(-1)/kh(-2), 0, 1) _
 + y_ech(4) * rrmet/100

Defines:

 ech, used in chunks 21d, 24c, and 111c.

Uses kh 23a, rrmet 157f, and y_ech 19c.

19c $\langle \text{coefficient } y_ech \text{ 19c} \rangle \equiv$ (253)
 y_ech 4 0.002890569762594884, -0.02415873224871467, 0.5006794105950545, 0.0017367936693711

Defines:

 y_ech, used in chunk 19b.

2.1.5 a.5 QEC: Desired level of consumption (FRBUS definition)

19d $\langle \text{variable } QEC \text{ 19d} \rangle \equiv$ (211)
 QEC = Desired level of consumption (FRBUS definition)

Defines:

 QEC, used in chunks 187–89 and 223.

19e $\langle \text{equation } qec \text{ 19e} \rangle \equiv$ (244)
 qec: qec - qec_aerr = y_qec(1) * zyh _
 + y_qec(2) * (dcon*(zyh-zyht)) _
 + y_qec(3) * zyht _
 + y_qec(4) * zyhp _
 + y_qec(5) * (wps+wpo)

Defines:

 qec, used in chunks 20 and 21a.

Uses dcon 196e, wpo 156a, wps 153e, y_qec 19f, zyh 188a, zyhp 188d, and zyht 189b.

19f $\langle \text{coefficient } y_qec \text{ 19f} \rangle \equiv$ (253)
 y_qec 5 0.7592609842874721, 0.002578773939057793, 0.2407390157125279, -0.2514158240890368,

Defines:

 y_qec, used in chunk 19e.

2.1.6 a.6 QECO: Desired level of consumption of non-durable goods and nonhousing services

20a $\langle \text{variable } QECO \text{ 20a} \rangle \equiv$ (211)
 $QECO = \text{Desired level of consumption of nondurable goods and nonhousing services}$
 Defines:
 $QECO$, used in chunk 223.

20b $\langle \text{equation } qeco \text{ 20b} \rangle \equiv$ (244)
 $qeco: \log(qeco) - qeco_aerr = \log(qec) - \log(pcor) + y_qeco(1)$

Defines:
 $qeco$, used in chunks 17b and 179a.
 Uses $pcor$ 111c, qec 19e, and y_qeco 20c.

20c $\langle \text{coefficient } y_qeco \text{ 20c} \rangle \equiv$ (253)
 $y_qeco \quad 1 \quad -0.3372292498223053$
 Defines:
 y_qeco , used in chunk 20b.

2.1.7 a.7 QECD: Target level of consumption of durable goods, trending component

20d $\langle \text{variable } QECD \text{ 20d} \rangle \equiv$ (211)
 $QECD = \text{Target level of consumption of durable goods, trending component}$
 Defines:
 $QECD$, used in chunk 223.

20e $\langle \text{equation } qecd \text{ 20e} \rangle \equiv$ (244)
 $qecd: qecd - qecd_aerr = qec _$
 $\quad \quad \quad * (jr cd/4 + hggdpt/400 + y_qecd(1)*hgpcdr/400) _$
 $\quad \quad \quad * \exp(y_qecd(2) + y_qecd(3)*\log(pcdr*rccd))$

Defines:
 $qecd$, used in chunks 18b and 180a.
 Uses $hggdpt$ 60d, $hgpcdr$ 199f, $jr cd$ 199h, $pcdr$ 112f, qec 19e, $rccd$ 23c, and y_qecd 20f.

20f $\langle \text{coefficient } y_qecd \text{ 20f} \rangle \equiv$ (253)
 $y_qecd \quad 3 \quad -0.6165972226120303, 2.557266037164673, -0.6165972226120303$
 Defines:
 y_qecd , used in chunk 20e.

2.1.8 a.8 QEH: Target level of residential investment

20g $\langle \text{variable } QEH \text{ 20g} \rangle \equiv$ (211)
 $QEH = \text{Target level of residential investment}$
 Defines:
 QEH , used in chunk 223.

21a $\langle \text{equation } qeh \text{ 21a} \rangle \equiv$ (244)

$$\begin{aligned} qeh: qeh - qeh_aerr = qec _ \\ * (jrh/4 + hggdpt/400) _ \\ * \exp(y_qeh(1) - \log(phr*pxp/pcnia) + y_qeh(2)*\log(rcch)) \end{aligned}$$

Defines:

`qeh`, used in chunks 18e and 181b.

Uses `hggdpt` 60d, `jrh` 200a, `pcnia` 89b, `phr` 95d, `pxp` 93b, `qec` 19e, `rcch` 23e, and `y_qeh` 21b.

21b $\langle \text{coefficient } y_qeh \text{ 21b} \rangle \equiv$ (253)

$$y_qeh \quad 2 \quad 1.935026993649364, -0.1570195518635583$$

Defines:

`y_qeh`, used in chunk 21a.

2.1.9 a.9 ECNIA: Personal consumption expenditures, cw 2009\$ (NIPA definition)

21c $\langle \text{variable } ECNIA \text{ 21c} \rangle \equiv$ (211)

$$ECNIA = \text{Personal consumption expenditures, cw 2009\$ (NIPA definition)}$$

Defines:

`ECNIA`, used in chunk 223.

21d $\langle \text{equation } ecnia \text{ 21d} \rangle \equiv$ (244)

$$\begin{aligned} ecnia: \log(ecnia) - ecnia_aerr = \log(ecnia(-1)) + _ \\ .5 * .01 * (pcor*pcnia*eco/ecnian _ \\ + pcor(-1)*pcnia(-1)*eco(-1)/ecnian(-1)) _ \\ * d(\log(eco), 0, 1) _ \\ + .5 * .01 * (pcdr*pcnia*ecd/ecnian _ \\ + pcdr(-1)*pcnia(-1)*ecd(-1)/ecnian(-1)) _ \\ * d(\log(ecd), 0, 1) _ \\ + .5 * .01 * (pchr*pcnia*ech/ecnian _ \\ + pchr(-1)*pcnia(-1)*ech(-1)/ecnian(-1)) _ \\ * d(\log(ech), 0, 1) \end{aligned}$$

Defines:

`ecnia`, used in chunks 22a, 48b, and 51a.

Uses `ecd` 18b, `ech` 19b, `ecnian` 22a, `eco` 17b, `pcdr` 112f, `pchr` 112a, `pcnia` 89b, and `pcor` 111c.

2.1.10 a.10 ECNIAN: Personal consumption expenditures, current \$ (NIPA definition)

21e $\langle \text{variable } ECNIAN \text{ 21e} \rangle \equiv$ (211)

$$ECNIAN = \text{Personal consumption expenditures, current \$ (NIPA definition)}$$

Defines:

`ECNIAN`, used in chunk 223.

$$22a \quad \langle \text{equation } ecnian \text{ 22a} \rangle \equiv \quad (244)$$

$$ecnian: ecnian - ecnian_aerr = .01 * pcnia * ecnia$$

Defines:

ecnian, used in chunks 21d, 48b, 51a, 80d, 84d, 93b, 98a, 111c, 131c, 137b, and 155a.
 Uses **ecnia** 21d and **pcnia** 89b.

2.1.11 a.11 EHN: Residential investment expenditures

$$22b \quad \langle \text{variable } EHN \text{ 22b} \rangle \equiv \quad (211)$$

$$EHN = \text{Residential investment expenditures}$$

Defines:

EHN, used in chunk 223.

$$22c \quad \langle \text{equation } ehn \text{ 22c} \rangle \equiv \quad (244)$$

$$ehn: ehn - ehn_aerr = .01 * phr * ppx * eh$$

Defines:

ehn, used in chunks 38c, 48b, 51a, and 98a.
 Uses **eh** 18e, **phr** 95d, and **ppx** 93b.

2.1.12 a.12 KCD: Stock of consumer durables, cw 2009\$

$$22d \quad \langle \text{variable } KCD \text{ 22d} \rangle \equiv \quad (211)$$

$$KCD = \text{Stock of consumer durables, cw 2009\$}$$

Defines:

KCD, used in chunk 223.

$$22e \quad \langle \text{equation } kcd \text{ 22e} \rangle \equiv \quad (244)$$

$$kcd: kcd - kcd_aerr = .25 * ecd + (1 - jrcd / 4) * kcd(-1)$$

Defines:

kcd, used in chunk 24.
 Uses **ecd** 18b and **jrcd** 199h.

2.1.13 a.13 KH: Stock of residential structures, cw 2009\$

$$22f \quad \langle \text{variable } KH \text{ 22f} \rangle \equiv \quad (211)$$

$$KH = \text{Stock of residential structures, cw 2009\$}$$

Defines:

KH, used in chunk 223.

23a $\langle \text{equation } kh \text{ 23a} \rangle \equiv$ (244)

$$kh: kh - kh_aerr = .25*eh + (1-jrh/4)*kh(-1)$$

Defines:

`kh`, used in chunks 19b, 72, 75d, and 155a.

Uses `eh` 18e and `jrh` 200a.

2.1.14 a.14 RCCD: Cost of capital for consumer durables

23b $\langle \text{variable } RCCD \text{ 23b} \rangle \equiv$ (211)

$$RCCD = \text{Cost of capital for consumer durables}$$

Defines:

`RCCD`, used in chunks 173c and 223.

23c $\langle \text{equation } rccd \text{ 23c} \rangle \equiv$ (244)

$$rccd: rccd - rccd_aerr = (@recode((100*jrcd + rcar - zpi5)>(.01),100*jrcd + rcar - zpi5, .01))$$

Defines:

`rccd`, used in chunk 20e.

Uses `jrcd` 199h, `rcar` 151d, and `zpi5` 173d.

2.1.15 a.15 RCCH: Cost of capital for residential investment

23d $\langle \text{variable } RCCH \text{ 23d} \rangle \equiv$ (211)

$$RCCH = \text{Cost of capital for residential investment}$$

Defines:

`RCCH`, used in chunks 174d and 223.

23e $\langle \text{equation } rcch \text{ 23e} \rangle \equiv$ (244)

$$rcch: rcch - rcch_aerr = (@recode((100*jrh + (1-trfpm/100)*(rme+100*trspp) - zpi10)>(.1),100*jrh + (1-trfpm/100)*(rme+100*trspp) - zpi10, .1))$$

Defines:

`rcch`, used in chunk 21a.

Uses `jrh` 200a, `rme` 152a, `trfpm` 203g, `trspp` 204c, and `zpi10` 174e.

2.1.16 a.16 JKCD: Consumption of fixed capital, consumer durables

23f $\langle \text{variable } JKCD \text{ 23f} \rangle \equiv$ (211)

$$JKCD = \text{Consumption of fixed capital, consumer durables}$$

Defines:

`JKCD`, used in chunk 223.

$$\langle \text{equation } jkcd \text{ 24a} \rangle \equiv \quad (244)$$

$$jkcd: jkcd - jkcd_aerr = jrcd * kcd(-1)$$

Defines:

`jkcd`, used in chunks 24c and 155a.

Uses `jrcd` 199h and `kcd` 22e.

2.1.17 a.17 EC: Consumption, cw 2009\$ (FRB/US definition)

$$\langle \text{variable } EC \text{ 24b} \rangle \equiv \quad (211)$$

$$EC = \text{Consumption, cw 2009\$ (FRB/US definition)}$$

Defines:

`EC`, used in chunk 223.

$$\langle \text{equation } ec \text{ 24c} \rangle \equiv \quad (244)$$

$$\begin{aligned} ec: \log(ec) - ec_aerr = & \log(ec(-1)) + _ \\ & .5 * (pcor*pcnia*eco/(ec*pcnia) _ \\ & + pcor(-1)*pcnia(-1)*eco(-1)/(ec(-1)*pcnia(-1))) _ \\ & * d(\log(eco), 0, 1) _ \\ + .5 * & (pchr*pcnia*ech/(ec*pcnia) _ \\ & + pchr(-1)*pcnia(-1)*ech(-1)/(ec(-1)*pcnia(-1))) _ \\ & * d(\log(ech), 0, 1) _ \\ + .5 * & ((pcdr*pcnia*yhpcd+pcdr*pcnia*jkcd)/(ec*pcnia) _ \\ & + (pcdr(-1)*pcnia(-1)*yhpcd(-1)+pcdr(-1)*pcnia(-1)*jkcd(-1))/(ec(-1)*pcnia(-1)) \\ & * d(\log(yhpcd+jkcd), 0, 1) \end{aligned}$$

Defines:

`ec`, never used.

Uses `ech` 19b, `eco` 17b, `jkcd` 24a, `pcdr` 112f, `pchr` 112a, `pcnia` 89b, `pcor` 111c, and `yhpcd` 24e.

2.1.18 a.18 YHPCD: Imputed income of the stock of consumer durables, 2009\$

$$\langle \text{variable } YHPCD \text{ 24d} \rangle \equiv \quad (211)$$

$$YHPCD = \text{Imputed income of the stock of consumer durables, 2009\$}$$

Defines:

`YHPCD`, used in chunk 223.

$$\langle \text{equation } yhpcd \text{ 24e} \rangle \equiv \quad (244)$$

$$yhpcd: \log(yhpcd) - yhpcd_aerr = \log(y_yhpcd(1)) + \log(kcd(-1))$$

Defines:

`yhpcd`, used in chunks 24c and 83a.

Uses `kcd` 22e and `y_yhpcd` 25a.

$$25a \quad \langle \text{coefficient } y_{\text{yhpcd}} 25a \rangle \equiv \quad (253)$$

$$y_{\text{yhpcd}} 1 \quad 0.053750000000000000E+00$$

Defines:

y_{yhpcd} , used in chunk 24e.

2.2 Business Expenditures

2.2.1 b.1 EPD: Investment in equipment, cw 2009\$

$$25b \quad \langle \text{variable } EPD 25b \rangle \equiv \quad (211)$$

$$EPD = \text{Investment in equipment, cw 2009\$}$$

Defines:

EPD , used in chunks 95f, 182c, 184c, and 223.

$$25c \quad \langle \text{equation } epd 25c \rangle \equiv \quad (244)$$

$$\begin{aligned} epd: & d(\log(epd), 0, 1) - epd_aerr = _ \\ & (y_epd(1) * (\log(qepd(-2)/epd(-2))) _ \\ & + (y_epd(2) * d(\log(epd(-1)), 0, 1) + y_epd(3) * d(\log(epd(-2)), 0, 1)) _ \\ & + zxbd(-1) _ \\ & + zvpd(-1) * (1 - y_epd(4)) _ \\ & + y_epd(4) * (d(\log(xbo(-1)), 0, 1) + hgvpd(-1)) \end{aligned}$$

Defines:

epd , used in chunks 29g, 35d, 48b, 51a, and 132c.

Uses $hgvpd$ 34d, $qepd$ 28a, xbo 50e, y_epd 25d, $zvpd$ 182d, and $zxbd$ 184d.

$$25d \quad \langle \text{coefficient } y_epd 25d \rangle \equiv \quad (253)$$

$$y_epd 4 \quad 0.1639648722427122, 0.4446158979500308, 0.3699597791648127, 0.5$$

Defines:

y_epd , used in chunk 25c.

2.2.2 b.2 EPI: Investment in intellectual property, cw 2009\$

$$25e \quad \langle \text{variable } EPI 25e \rangle \equiv \quad (211)$$

$$EPI = \text{Investment in intellectual property, cw 2009\$}$$

Defines:

EPI , used in chunks 96b, 183b, 185b, and 223.

26a $\langle \text{equation } \text{epi } 26a \rangle \equiv$ (244)

```

epi: d( log(epi), 0, 1 ) - epi_aerr = _
( y_epi(1)*(log(qepi(-2)/epi(-2))) _
+ ( y_epi(2) * d( log(epi(-1)), 0, 1 ) + y_epi(3) * d( log(epi(-2)), 0, 1 )) _
+ zxbi(-1) _
+ zvpi(-1) )*(1-y_epi(4)) _
+ y_epi(4) * d( log(xbo(-1)), 0, 1 )

```

Defines:

epi, used in chunks 30b, 35f, 48b, and 51a.

Uses **qepi** 29a, **xbo** 50e, **y_epi** 26b, **zvpi** 183c, and **zxbi** 185c.

26b $\langle \text{coefficient } y_epi \text{ 26b} \rangle \equiv$ (253)

```

y_epi 4 0.01211724517486588,0.6819035622357826,0.1766782129232528,0.21229452

```

Defines:

y_epi, used in chunk 26a.

2.2.3 b.3 EPS: Investment in nonresidential structures, cw 2009\$

26c $\langle \text{variable } \text{EPS } 26c \rangle \equiv$ (211)

EPS = Investment in nonresidential structures, cw 2009\$

Defines:

EPS, used in chunks 183e, 185e, and 223.

26d $\langle \text{equation } \text{eps } 26d \rangle \equiv$ (244)

```

eps: d( log(eps), 0, 1 ) - eps_aerr = _
(y_eps(1) * log(qeps(-2)/eps(-2)) _
+ ( y_eps(2) * d( log(eps(-1)), 0, 1 ) + y_eps(3) * d( log(eps
+ zxbs(-1) _
+ zvps(-1)) * (1-y_eps(4)) _
+ y_eps(4) * (d( log(xbo(-1)), 0, 1 )) _
+ y_eps(5) * d01q4

```

Defines:

eps, used in chunks 30d, 36b, 48b, and 51a.

Uses **d01q4** 195a, **qeps** 28d, **xbo** 50e, **y_eps** 26e, **zvps** 184a, and **zxbs** 186a.

26e $\langle \text{coefficient } y_eps \text{ 26e} \rangle \equiv$ (253)

```

y_eps 5 0.06660965676110558,0.5425646472109228,0.3261733908091358,0.5,-0.096

```

Defines:

y_eps, used in chunk 26d.

2.2.4 b.4 KI: Stock of private inventories, cw 2009\$

$$27a \quad \langle \text{variable } KI \text{ 27a} \rangle \equiv \text{KI} = \text{Stock of private inventories, cw 2009\$} \quad (211)$$

Defines:

KI, used in chunk 223.

$$27b \quad \langle \text{equation } ki \text{ 27b} \rangle \equiv \text{ki: d(log(ki), 0, 1) - ki_aerr } _ \\ = \text{y_ki(5) } _ \\ + \text{y_ki(1) * (log(qkir) - log(ki(-1)/xfs(-1))) } _ \\ + \text{y_ki(2) * (d(log(ki(-1)), 0, 1) - y_ki(5)) } _ \\ + \text{y_ki(3) * d(log(xfs(-1)), 0, 1) } _ \\ + \text{y_ki(4) * d(log(xfs(-2)), 0, 1) } \quad (244)$$

Defines:

ki, used in chunks 27e, 31a, and 78f.

Uses qkir 29d, xfs 48b, and y_ki 27c.

$$27c \quad \langle \text{coefficient } y_ki \text{ 27c} \rangle \equiv \text{y_ki } 5 \quad 0.01679108530917215, 0.451650730999944, 0.2617948535758293, 0.2865544154242267, -0. \quad (253)$$

Defines:

y_ki, used in chunk 27b.

2.2.5 b.5 EI: Change in private inventories, cw 2009\$

$$27d \quad \langle \text{variable } EI \text{ 27d} \rangle \equiv \text{EI} = \text{Change in private inventories, cw 2009\$} \quad (211)$$

Defines:

EI, used in chunks 87d and 223.

$$27e \quad \langle \text{equation } ei \text{ 27e} \rangle \equiv \text{ei: ei - ei_aerr = 4*d(ki, 0, 1)} \quad (244)$$

Defines:

ei, used in chunks 36d and 49a.

Uses ki 27b.

2.2.6 b.6 QEPD: Desired level of investment in equipment

$$27f \quad \langle \text{variable } QEPD \text{ 27f} \rangle \equiv \text{QEPD} = \text{Desired level of investment in equipment} \quad (211)$$

Defines:

QEPD, used in chunk 223.

28a $\langle \text{equation } qepd \text{ 28a} \rangle \equiv$ (244)

$$\begin{aligned} qepd: \log(qepd) - qepd_aerr = & y_qepd(1) _ \\ & + y_qepd(2) * \log(xbo) _ \\ & + y_qepd(3) * \log(vpd) _ \\ & + y_qepd(4) * \log(hgx/100 + jrpd) \end{aligned}$$

Defines:

`qepd`, used in chunk 25c.

Uses `hgx` 59e, `jrpd` 200b, `vpd` 33d, `xbo` 50e, and `y_qepd` 28b.

28b $\langle \text{coefficient } y_qepd \text{ 28b} \rangle \equiv$ (253)

$$y_qepd \quad 4 \quad 0, 1.000000000000000000e+00, 1.000000000000000000e+00, 1.000000000000000000e+00$$

Defines:

`y_qepd`, used in chunk 28a.

2.2.7 b.7 QEPS: Desired level of investment in structures

28c $\langle \text{variable } QEPS \text{ 28c} \rangle \equiv$ (211)

$$QEPS = \text{Desired level of investment in structures}$$

Defines:

`QEPS`, used in chunk 223.

28d $\langle \text{equation } qeps \text{ 28d} \rangle \equiv$ (244)

$$\begin{aligned} qeps: \log(qeps) - qeps_aerr = & y_qeps(1) _ \\ & + y_qeps(2) * \log(xbo) _ \\ & + y_qeps(3) * \log(vps) _ \\ & + y_qeps(4) * \log(hgx/100 + jrps) \end{aligned}$$

Defines:

`qeps`, used in chunk 26d.

Uses `hgx` 59e, `jrps` 200d, `vps` 34b, `xbo` 50e, and `y_qeps` 28e.

28e $\langle \text{coefficient } y_qeps \text{ 28e} \rangle \equiv$ (253)

$$y_qeps \quad 4 \quad 0, 1.000000000000000000e+00, 1.000000000000000000e+00, 1.000000000000000000e+00$$

Defines:

`y_qeps`, used in chunk 28d.

2.2.8 b.8 QEPI: Desired level of investment in intellectual property

28f $\langle \text{variable } QEPI \text{ 28f} \rangle \equiv$ (211)

$$QEPI = \text{Desired level of investment in intellectual property}$$

Defines:

`QEPI`, used in chunk 223.

29a $\langle \text{equation } qepi \text{ 29a} \rangle \equiv$ (244)

$$\begin{aligned} qepi: \log(qepi) - qepi_aerr = & y_qepi(1) - \\ & + y_qepi(2) * \log(xbo) - \\ & + y_qepi(3) * \log(vpi) - \\ & + y_qepi(4) * \log(hgx/100 + jrpi) \end{aligned}$$

Defines:

`qepi`, used in chunk 26a.

Uses `hgx` 59e, `jrpi` 200c, `vpi` 33f, `xbo` 50e, and `y_qepi` 29b.

29b $\langle \text{coefficient } y_qepi \text{ 29b} \rangle \equiv$ (253)

$$y_qepi \quad 4 \quad 0, 1.00000000000000000000e+00, 1.00000000000000000000e+00, 1.00000000000000000000e+00$$

Defines:

`y_qepi`, used in chunk 29a.

2.2.9 b.9 QKIR: Desired Inventory Sales Ratio

29c $\langle \text{variable } QKIR \text{ 29c} \rangle \equiv$ (211)

$$QKIR = \text{Desired Inventory Sales Ratio}$$

Defines:

`QKIR`, used in chunk 223.

29d $\langle \text{equation } qkir \text{ 29d} \rangle \equiv$ (244)

$$qkir: \log(qkir) - qkir_aerr = (1 - dglprd) * y_qkir(1) + \log(qkir(-1))$$

Defines:

`qkir`, used in chunk 27b.

Uses `dglprd` 197d and `y_qkir` 29e.

29e $\langle \text{coefficient } y_qkir \text{ 29e} \rangle \equiv$ (253)

$$y_qkir \quad 1 \quad -0.001885366737710053$$

Defines:

`y_qkir`, used in chunk 29d.

2.2.10 b.10 KPD: Capital stock - Equipment, 2009\$

29f $\langle \text{variable } KPD \text{ 29f} \rangle \equiv$ (211)

$$KPD = \text{Capital stock - Equipment, 2009\$}$$

Defines:

`KPD`, used in chunks 107d and 223.

29g $\langle \text{equation } kpd \text{ 29g} \rangle \equiv$ (244)

$$kpd: kpd - kpd_aerr = 0.25 * epd + (1 - jrpd/4) * kpd(-1)$$

Defines:

`kpd`, used in chunks 31a, 72c, and 79b.

Uses `epd` 25c and `jrpd` 200b.

2.2.11 b.11 KPI: Capital Stock - Intellectual Property, 2009\$

$$\begin{aligned} 30a \quad \langle \text{variable } KPI \text{ 30a} \rangle &\equiv & (211) \\ KPI &= \text{Capital Stock - Intellectual Property, 2009\$} \end{aligned}$$

Defines:

KPI, used in chunk 223.

$$\begin{aligned} 30b \quad \langle \text{equation } kpi \text{ 30b} \rangle &\equiv & (244) \\ kpi: kpi - kpi_aerr &= 0.25 * epi + (1-jrpi/4) * kpi(-1) \end{aligned}$$

Defines:

kpi, never used.

Uses epi 26a and jrpi 200c.

2.2.12 b.12 KPS: Capital stock - nonresidential structures, 2009\$

$$\begin{aligned} 30c \quad \langle \text{variable } KPS \text{ 30c} \rangle &\equiv & (211) \\ KPS &= \text{Capital stock - nonresidential structures, 2009\$} \end{aligned}$$

Defines:

KPS, used in chunk 223.

$$\begin{aligned} 30d \quad \langle \text{equation } kps \text{ 30d} \rangle &\equiv & (244) \\ kps: kps - kps_aerr &= 0.25 * eps + (1-jrps/4) * kps(-1) \end{aligned}$$

Defines:

kps, used in chunks 31a, 72c, and 79d.

Uses eps 26d and jrps 200d.

2.2.13 b.13 HKS: Growth rate of KS, cw 2009\$ (compound annual rate)

$$\begin{aligned} 30e \quad \langle \text{variable } HKS \text{ 30e} \rangle &\equiv & (211) \\ HKS &= \text{Growth rate of KS, cw 2009$ (compound annual rate)} \end{aligned}$$

Defines:

HKS, used in chunk 223.

Uses KS 31b.

31a $\langle \text{equation } hks \text{ 31a} \rangle \equiv$ (244)

$$\begin{aligned} hks: hks - hks_aerr = & 400 * (ykpdn * d(\log(kpd), 0, 1) - \\ & + ykpsn * d(\log(kps), 0, 1) + ykin * d(\log(ki), 0, 1)) / - \\ & (ykpdn + ykpsn + ykin) + hksr \end{aligned}$$

Defines:

`hks`, used in chunks 31c and 59e.

Uses `hksr` 199g, `ki` 27b, `kpd` 29g, `kps` 30d, `ykin` 78f, `ykpdn` 79b, and `ykpsn` 79d.

2.2.14 b.14 KS: Capital services, 2009 \$

31b $\langle \text{variable } KS \text{ 31b} \rangle \equiv$ (211)

$$KS = \text{Capital services, 2009 \$}$$

Defines:

`KS`, used in chunks 30e and 223.

31c $\langle \text{equation } ks \text{ 31c} \rangle \equiv$ (244)

$$ks: \log(ks) - ks_aerr = \log(ks(-1)) + hks/400$$

Defines:

`ks`, used in chunk 52c.

Uses `hks` 31a.

2.2.15 b.15 RPD: After-tax real financial cost of capital for business investment

31d $\langle \text{variable } RPD \text{ 31d} \rangle \equiv$ (211)

$$RPD = \text{After-tax real financial cost of capital for business investment}$$

Defines:

`RPD`, used in chunks 174a and 223.

31e $\langle \text{equation } rpd \text{ 31e} \rangle \equiv$ (244)

$$rpd: rpd - rpd_aerr = 0.5*(7.2 + (1-trfcim)*(rg5e + rbbbe - rg10e) - zpib5) + 0.5*req$$

Defines:

`rpd`, used in chunks 32, 33b, 37a, and 38a.

Uses `rbbbe` 150f, `req` 153a, `rg10e` 148d, `rg5e` 147c, `trfcim` 203e, and `zpib5` 174b.

2.2.16 b.16 RTPD: User cost of capital for equipment

31f $\langle \text{variable } RTPD \text{ 31f} \rangle \equiv$ (211)

$$RTPD = \text{User cost of capital for equipment}$$

Defines:

`RTPD`, used in chunk 223.

32a $\langle \text{equation } rtpd \text{ 32a} \rangle \equiv$ (244)

$$\begin{aligned} rtpd: rtpd - rtpd_aerr = & (.01*rpdr + jrpd - .01*hgprdr) _ \\ & * ((1-.01*tapdr-trfcim*(1-tapddp*.01*tapdr)*tapdd)/(1-trfcim)) _ \\ & * ((pxd*pkpr + pxd(-1)*pkpr(-1)) /2)/pxb \end{aligned}$$

Defines:

`rtpd`, used in chunks 33d and 79b.

Uses `hgprdr` 108f, `jrpd` 200b, `pkpr` 107e, `pxb` 108d, `pxd` 93b, `rpdr` 31e, `tapdd` 38a, `tapddp` 202g, `tapdr` 203a, and `trfcim` 203e.

2.2.17 b.17 RTPI: User cost of capital for intellectual property

32b $\langle \text{variable } RTPI \text{ 32b} \rangle \equiv$ (211)

$$RTPI = \text{User cost of capital for intellectual property}$$

Defines:

`RTPI`, used in chunk 223.

32c $\langle \text{equation } rtpi \text{ 32c} \rangle \equiv$ (244)

$$\begin{aligned} rtpi: rtpi - rtpi_aerr = & (.01*rpdr + jrpi - .01*hgpir) _ \\ & * ((pxd*ppir + pxd(-1)*ppir(-1)) /2)/pxb \end{aligned}$$

Defines:

`rtpi`, used in chunk 33f.

Uses `hgpir` 109c, `jrpi` 200c, `ppir` 96c, `pxb` 108d, `pxd` 93b, and `rpdr` 31e.

2.2.18 b.18 RTPS: User cost of capital for nonresidential structures

32d $\langle \text{variable } RTPS \text{ 32d} \rangle \equiv$ (211)

$$RTPS = \text{User cost of capital for nonresidential structures}$$

Defines:

`RTPS`, used in chunk 223.

32e $\langle \text{equation } rtps \text{ 32e} \rangle \equiv$ (244)

$$\begin{aligned} rtps: rtps - rtps_aerr = & (@recode(((.01*rpdr + jrps - .01*hgppsr) _ \\ & * ((1-trfcim*tapsda)/(1-trfcim)) _ \\ & * ((pxd*ppsr + pxd(-1)*ppsr(-1)) /2)/pxb)>(.02),(.01*rpdr + jrps \\ & * ((1-trfcim*tapsda)/(1-trfcim)) _ \\ & * ((pxd*ppsr + pxd(-1)*ppsr(-1)) /2)/pxb, .02)) \end{aligned}$$

Defines:

`rtps`, used in chunks 34b and 79d.

Uses `hgppsr` 110b, `jrps` 200d, `ppsr` 96e, `pxb` 108d, `pxd` 93b, `rpdr` 31e, `tapsda` 37a, and `trfcim` 203e.

2.2.19 b.19 RTINV: User cost of capital for inventories

$$33a \quad \langle \text{variable } RTINV \text{ 33a} \rangle \equiv \quad (211)$$

$$RTINV = \text{User cost of capital for inventories}$$

Defines:

RTINV, used in chunk 223.

$$33b \quad \langle \text{equation } rtinv \text{ 33b} \rangle \equiv \quad (244)$$

$$rtinv: rtinv - rtinv_aerr = (.01*rpdr - .01*hgpkir) -$$

$$* ((pxp*pkir + pxp(-1)*pkir(-1)) / 2) / pxb$$

Defines:

rtinv, used in chunk 78f.

Uses hgpkir 109f, pkir 201d, pxb 108d, pxp 93b, and rpdr 31e.

2.2.20 b.20 VPD: Desired equipment-output ratio

$$33c \quad \langle \text{variable } VPD \text{ 33c} \rangle \equiv \quad (211)$$

$$VPD = \text{Desired equipment-output ratio}$$

Defines:

VPD, used in chunks 34c, 208d, and 223.

$$33d \quad \langle \text{equation } vpd \text{ 33d} \rangle \equiv \quad (244)$$

$$vpd: vpd - vpd_aerr = uvpd*(pkpdr/ppdr)/rtpd$$

Defines:

vpd, used in chunks 28a, 34d, 182d, and 184d.

Uses pkpdr 107e, ppdr 95g, rtpd 32a, and uvpd 208d.

2.2.21 b.21 VPI: Desired intellectual property-output ratio

$$33e \quad \langle \text{variable } VPI \text{ 33e} \rangle \equiv \quad (211)$$

$$VPI = \text{Desired intellectual property-output ratio}$$

Defines:

VPI, used in chunks 38d, 208e, and 223.

$$33f \quad \langle \text{equation } vpi \text{ 33f} \rangle \equiv \quad (244)$$

$$vpi: vpi - vpi_aerr = uvpi/rtpi$$

Defines:

vpi, used in chunks 29a, 38e, 183c, and 185c.

Uses rtpi 32c and uvpi 208e.

2.2.22 b.22 VPS: Desired structures-output ratio

$$34a \quad \langle \text{variable } VPS \text{ 34a} \rangle \equiv \text{VPS} = \text{Desired structures-output ratio} \quad (211)$$

Defines:

VPS, used in chunks 34f, 208f, and 223.

$$34b \quad \langle \text{equation } vps \text{ 34b} \rangle \equiv \text{vps: vps} - \text{vps_aerr} = \text{uvps/rtps} \quad (244)$$

Defines:

vps, used in chunks 28d, 35a, 184a, and 186a.

Uses rtps 32e and uvps 208f.

2.2.23 b.23 HGVPD: Trend Growth of VPD

$$34c \quad \langle \text{variable } HGVPD \text{ 34c} \rangle \equiv \text{HGVPD} = \text{Trend Growth of VPD} \quad (211)$$

Defines:

HGVPD, used in chunk 223.

Uses VPD 33c.

$$34d \quad \langle \text{equation } hgvpd \text{ 34d} \rangle \equiv \text{hgvpd: hgvpd} - \text{hgvpd_aerr} = \text{y_hgvpd}(1) * \text{hgvpd}(-1) _ \\ + \text{y_hgvpd}(2) * \log(\text{vpd}/\text{vpd}(-1)) \quad (244)$$

Defines:

hgvpd, used in chunks 25c and 182d.

Uses vpd 33d and y_hgvpd 34e.

$$34e \quad \langle \text{coefficient } y_hgvpd \text{ 34e} \rangle \equiv \text{y_hgvpd } 2 \quad 0.97, 0.03 \quad (253)$$

Defines:

y_hgvpd, used in chunk 34d.

2.2.24 b.24 HGVPs: Trend growth rate of VPS

$$34f \quad \langle \text{variable } HGVPs \text{ 34f} \rangle \equiv \text{HGVPs} = \text{Trend growth rate of VPS} \quad (211)$$

Defines:

HGVPs, used in chunk 223.

Uses VPS 34a.

35a $\langle \text{equation } hgvps \text{ 35a} \rangle \equiv$ (244)

$$\begin{aligned} hgvps: hgvps - hgvps_aerr = & y_hgvps(1) * hgvps(-1) - \\ & + y_hgvps(2) * \log(vps/vps(-1)) \end{aligned}$$

Defines:

hgvps, used in chunk 184a.

Uses **vps** 34b and **y_hgvps** 35b.

35b $\langle \text{coefficient } y_hgvps \text{ 35b} \rangle \equiv$ (253)

$$y_hgvps \text{ 2} \quad 0.97, 0.03$$

Defines:

y_hgvps, used in chunk 35a.

2.2.25 b.25 EPDN: Investment in equipment, current \$

35c $\langle \text{variable } EPDN \text{ 35c} \rangle \equiv$ (211)

$$EPDN = \text{Investment in equipment, current \$}$$

Defines:

EPDN, used in chunk 223.

35d $\langle \text{equation } epdn \text{ 35d} \rangle \equiv$ (244)

$$epdn: epdn - epdn_aerr = 0.01*ppdr*pxp*epd$$

Defines:

epdn, used in chunks 38c, 48b, 51a, and 98a.

Uses **epd** 25c, **ppdr** 95g, and **pxp** 93b.

2.2.26 b.26 EPIN: Investment in intellectual property, current \$

35e $\langle \text{variable } EPIN \text{ 35e} \rangle \equiv$ (211)

$$EPIN = \text{Investment in intellectual property, current \$}$$

Defines:

EPIN, used in chunk 223.

35f $\langle \text{equation } epin \text{ 35f} \rangle \equiv$ (244)

$$epin: epin - epin_aerr = 0.01*ppir*pxp*epi$$

Defines:

epin, used in chunks 38c, 48b, 51a, and 98a.

Uses **epi** 26a, **ppir** 96c, and **pxp** 93b.

2.2.27 b.27 EPSN: Investment in nonresidential structures, current \$

36a $\langle \text{variable } EPSN \text{ 36a} \rangle \equiv$ (211)
 EPSN = Investment in nonresidential structures, current \$

Defines:
 EPSN, used in chunk 223.

36b $\langle \text{equation } epsn \text{ 36b} \rangle \equiv$ (244)
 epsn: epsn - epsn_aerr = .01 * ppsr * pxp * eps

Defines:
 epsn, used in chunks 38c, 48b, 51a, and 98a.
 Uses eps 26d, ppsr 96e, and pxp 93b.

2.2.28 b.28 EIN: Change in business inventories, current \$

36c $\langle \text{variable } EIN \text{ 36c} \rangle \equiv$ (211)
 EIN = Change in business inventories, current \$

Defines:
 EIN, used in chunk 223.

36d $\langle \text{equation } ein \text{ 36d} \rangle \equiv$ (244)
 ein: ein - ein_aerr = .01*pxp*pkir*ei

Defines:
 ein, used in chunks 38c and 70.
 Uses ei 27e, pkir 201d, and pxp 93b.

2.2.29 b.29 TAPSDA: Present value of depreciation allowances for nonresidential structures

36e $\langle \text{variable } TAPSDA \text{ 36e} \rangle \equiv$ (211)
 TAPSDA = Present value of depreciation allowances for nonresidential structures

Defines:
 TAPSDA, used in chunk 223.

37a $\langle \text{equation tapsda 37a} \rangle \equiv$ (244)

$$\begin{aligned} \text{tapsda: tapsda} - \text{tapsda_aerr} = & (1 - \text{tapsad}) * (1 - \exp(-0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl})) / _ \\ & (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}) + _ \\ & \text{tapsad} * (1 - \text{d69}) * 2 * _ \\ & (1 - (1 - \exp(-0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl})) / _ \\ & (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl})) / (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}) _ \\ & + \text{tapsad} * (\text{d69} - \text{d81}) * ((1.5 / _ \\ & (1.5 + .01 * \text{tapssl} * (\text{rpd} + \text{zpib5}))) * _ \\ & (1 - \exp(-0.5 - 0.33 * (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}))) + _ \\ & (\exp(-0.5) / (0.67 * (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}))) * _ \\ & (\exp(-0.33 * (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}))) - _ \\ & \exp(-(0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl})))) _ \\ & + \text{tapsad} * (\text{d81} - \text{d86}) * ((1.75 / _ \\ & (1.75 + .01 * \text{tapssl} * (\text{rpd} + \text{zpib5}))) * _ \\ & (1 - \exp(-0.75 - 0.428 * (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}))) + _ \\ & (\exp(-0.75) / (0.572 * (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}))) * _ \\ & (\exp(-0.428 * (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}))) - _ \\ & \exp(-(0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl})))) _ \\ & + \text{tapsad} * \text{d86} * (1 - \exp(-0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl})) / _ \\ & (0.01 * (\text{rpd} + \text{zpib5}) * \text{tapssl}) \end{aligned}$$

Defines:

`tapsda`, used in chunk 32e.

Uses `d69` 195d, `d81` 196a, `d86` 196c, `rpd` 31e, `tapsad` 203b, `tapssl` 203c, and `zpib5` 174b.

2.2.30 b.30 TAPDD: Present value of depreciation allowances for equipment

37b $\langle \text{variable TAPDD 37b} \rangle \equiv$ (211)

$$\text{TAPDD} = \text{Present value of depreciation allowances for equipment}$$

Defines:

`TAPDD`, used in chunk 223.

38a $\langle \text{equation tapdd 38a} \rangle \equiv$ (244)

$$\begin{aligned} \text{tapdd: tapdd} - \text{tapdd_aerr} = & .5 * \text{d2003} + .5 * \text{d2003} * (2.0 / (2.0 + .01 * \text{tapds} * (\text{rpd} + \text{zpib5}))) \\ & + .3 * \text{d2002} + .7 * \text{d2002} * (2.0 / (2.0 + .01 * \text{tapds} * (\text{rpd} + \text{zpib5}))) \\ & + (\text{d87} - \text{d2002} - \text{d2003}) * (2.0 / (2.0 + .01 * \text{tapds} * (\text{rpd} + \text{zpib5}))) \\ & + (\text{d81} - \text{d87}) * (1.5 / (1.5 + .01 * \text{tapds} * (\text{rpd} + \text{zpib5}))) - \\ & + (1 - \text{d81}) - \\ & * (((1 - \text{tapdad}) * (1 - \exp(-(.01 * \text{tapds} * (\text{rpd} + \text{zpib5})))) - \\ & \quad / (.01 * \text{tapds} * (\text{rpd} + \text{zpib5}))) - \\ & \quad + \text{tapdad} * 2 * (1 - (1 - \exp(-(.01 * \text{tapds} * (\text{rpd} + \text{zpib5})))) - \\ & \quad / (.01 * \text{tapds} * (\text{rpd} + \text{zpib5}))) - \\ & \quad / (.01 * \text{tapds} * (\text{rpd} + \text{zpib5}))) \end{aligned}$$

Defines:

tapdd, used in chunk 32a.

Uses **d2002** 195b, **d2003** 195c, **d81** 196a, **d87** 196d, **rpd** 31e, **tapdad** 202f, **tapds** 202h, and **zpib5** 174b.

2.2.31 b.31 EGPDI: Gross private domestic investment

38b $\langle \text{variable EGPDI 38b} \rangle \equiv$ (211)

$$\text{EGPDIN} = \text{Gross private domestic investment}$$

Defines:

EGPDIN, used in chunk 223.

38c $\langle \text{equation egpdi 38c} \rangle \equiv$ (244)

$$\text{egpdi: egpdi} - \text{egpdi_aerr} = \text{epdn} + \text{epsn} + \text{epin} + \text{ehn} + \text{ein}$$

Defines:

egpdi, never used.

Uses **ehn** 22c, **ein** 36d, **epdn** 35d, **epin** 35f, and **epsn** 36b.

2.2.32 b.32 HGVPI: Trend growth rate of VPI

38d $\langle \text{variable HGVPI 38d} \rangle \equiv$ (211)

$$\text{HGVPI} = \text{Trend growth rate of VPI}$$

Defines:

HGVPI, used in chunk 223.

Uses **VPI** 33e.

38e $\langle \text{equation hgvpi 38e} \rangle \equiv$ (244)

$$\begin{aligned} \text{hgvpi: hgvpi} - \text{hgvpi_aerr} = & \text{y_hgvpi}(1) * \text{hgvpi}(-1) - \\ & + \text{y_hgvpi}(2) * \log(\text{vpi}/\text{vpi}(-1)) \end{aligned}$$

Defines:

hgvpi, used in chunk 183c.

Uses **vpi** 33f and **y_hgvpi** 39a.

$$39a \quad \langle \text{coefficient } y_{hgvp} \rangle \equiv \frac{y_{hgvp}}{2} = 0.97, 0.03 \quad (253)$$

Defines:

y_{hgvp} , used in chunk 38e.

2.3 Foreign Trade

2.3.1 c.1 EX: Exports of goods and services, cw 2009 \$

$$39b \quad \langle \text{variable } EX \rangle \equiv EX = \text{Exports of goods and services, cw 2009 \$} \quad (211)$$

Defines:

EX , used in chunk 223.

$$39c \quad \langle \text{equation } ex \rangle \equiv \begin{aligned} ex: & d(\log(ex), 0, 1) - ex_aerr \\ & = y_ex(1) \\ & + y_ex(2) * \log(ex(-1) * (pxr(-1) * pxp(-1) * fpx(-1)) / (fgdp(-1) * fpc(-1))) \\ & + y_ex(3) * (fxgap - fxgap(-1)) / 100 \\ & + y_ex(4) * (fxgap(-1) - fxgap(-2)) / 100 \\ & + y_ex(5) * ddockx \end{aligned} \quad (244)$$

Defines:

ex , used in chunks 39, 40, 48b, 49e, 51a, 62f, 63b, 67, 87a, 91d, 93f, 94f, 101c, 105d, 117, 118, 122, 123, 154f, 155e, and 223.

Uses $ddockx$ 196g, $fgdp$ 158e, fpc 161b, fpx 164d, $fxgap$ 158b, pxp 93b, pxr 97b, and y_ex 39d.

$$39d \quad \langle \text{coefficient } y_{ex} \rangle \equiv \frac{y_{ex}}{5} = 0.8118629319610274, -0.1074807087618527, 1.38575824141273, 1.092856118288064, 1.014 \quad (253)$$

Defines:

y_ex , used in chunk 39c.

2.3.2 c.2 EXN: Exports of goods and services, current \$

$$39e \quad \langle \text{variable } EXN \rangle \equiv EXN = \text{Exports of goods and services, current \$} \quad (211)$$

Defines:

EXN , used in chunk 223.

$$39f \quad \langle \text{equation } exn \rangle \equiv \begin{aligned} exn: & exn - exn_aerr = .01 * pxp * pxr * ex \end{aligned} \quad (244)$$

Defines:

exn , used in chunks 43a, 48b, 49e, 51a, 71a, and 98a.

Uses ex 39c, pxp 93b, and pxr 97b.

2.3.3 c.3 EMO: Imports of goods and services ex. petroleum, cw 2009\$

40a $\langle \text{variable } EMO \text{ 40a} \rangle \equiv$ (211)
 $EMO = \text{Imports of goods and services ex. petroleum, cw 2009\$}$

Defines:

EMO , used in chunk 223.

Uses ex 39c.

40b $\langle \text{equation } emo \text{ 40b} \rangle \equiv$ (244)

$$\begin{aligned} emo: d(\log(emo), 0, 1) - emo_aerr _ \\ = y_emo(1) _ \\ + y_emo(2) * \log(emo(-1)*(pmo(-1)/100)/(uemot(-1)*xgden(-1))) _ \\ + y_emo(3) * (xgap2-xgap2(-1))/100 _ \\ + y_emo(4) * (xgap2(-1)-xgap2(-2))/100 _ \\ + y_emo(5) * \log(ddockm) _ \\ + y_emo(6) * \log(ddockm/ddockm(-1)) \end{aligned}$$

Defines:

emo , used in chunks 40e, 42e, 48b, and 49e.

Uses $ddockm$ 196f, pmo 105e, $uemot$ 204f, $xgap2$ 59c, $xgden$ 71a, and y_emo 40c.

40c $\langle \text{coefficient } y_emo \text{ 40c} \rangle \equiv$ (253)
 $y_emo \quad 6 \quad 0.01701497186817749, -0.1984753225812535, 1.352328263830308, 1.67397668$

Defines:

y_emo , used in chunk 40b.

2.3.4 c.4 EMON: Imports of goods and services ex. petroleum

40d $\langle \text{variable } EMON \text{ 40d} \rangle \equiv$ (211)
 $EMON = \text{Imports of goods and services ex. petroleum}$

Defines:

$EMON$, used in chunks 204f and 223.

Uses ex 39c.

40e $\langle \text{equation } emon \text{ 40e} \rangle \equiv$ (244)
 $emon: emon - emon_aerr = .01 * pmo * emo$

Defines:

$emon$, used in chunks 42, 48b, 49e, and 88c.

Uses emo 40b and pmo 105e.

2.3.5 c.5 CENG: Consumption of crude energy (oil, coal, natural gas), 2009 \$

41a $\langle \text{variable } CENG \text{ 41a} \rangle \equiv$ (211)
CENG = Consumption of crude energy (oil, coal, natural gas), 2009 \$

Defines:

CENG, used in chunk 223.

41b $\langle \text{equation } ceng \text{ 41b} \rangle \equiv$ (244)
ceng: $d(\log(ceng), 0, 1) - ceng_aerr =$
 $\quad y_ceng(1) * (\log(ceng(-1)) - \log(xg(-1)*veoa(-1))) -$
 $\quad + y_ceng(2) * d(\log(xg), 0, 1) -$
 $\quad + y_ceng(3) * d(\log(xg(-1)), 0, 1) -$
 $\quad + y_ceng(4) * d(\log(ceng(-1)), 0, 1) -$
 $\quad + y_ceng(5) * d(\log(veoa(-1)), 0, 1) -$
 $\quad + y_ceng(6) * hgx(-1)/400$

Defines:

ceng, used in chunks 41e, 52a, 55a, 60b, 104d, and 110e.

Uses **hgx** 59e, **veoa** 54a, **xg** 52a, and **y_ceng** 41c.

41c $\langle \text{coefficient } y_ceng \text{ 41c} \rangle \equiv$ (253)
y_ceng 6 -0.1483451935619194, 0.475653118183134, 0.5437644321944857, -0.2301598753097478, 0.

Defines:

y_ceng, used in chunk 41b.

2.3.6 c.6 EMP: Petroleum imports, cw 2009\$

41d $\langle \text{variable } EMP \text{ 41d} \rangle \equiv$ (211)
EMP = Petroleum imports, cw 2009\$

Defines:

EMP, used in chunks 204g and 223.

41e $\langle \text{equation } emp \text{ 41e} \rangle \equiv$ (244)
emp: **emp** - **emp_aerr** = **uemp***(**ceng**-**xeng**)

Defines:

emp, used in chunks 42, 44f, 48b, 49e, 52a, 54d, 55a, 62c, 93f, 94f, and 223.

Uses **ceng** 41b, **uemp** 204g, and **xeng** 55e.

2.3.7 c.7 EMPN: Petroleum imports, current \$

41f $\langle \text{variable } EMPN \text{ 41f} \rangle \equiv$ (211)
EMPN = Petroleum imports, current \$

Defines:

EMPN, used in chunk 223.

42a $\langle \text{equation } empn \text{ 42a} \rangle \equiv$ (244)

$$empn: empn - empn_aerr = .01 * pmp * emp$$

Defines:

empn, used in chunks 42, 48b, 49e, 52a, 55a, 60b, and 71e.

Uses **emp** 41e and **pmp** 102b.

2.3.8 c.8 EMN: Imports of goods and services, current \$

42b $\langle \text{variable } EMN \text{ 42b} \rangle \equiv$ (211)

$$EMN = \text{Imports of goods and services, current \$}$$

Defines:

EMN, used in chunk 223.

42c $\langle \text{equation } emn \text{ 42c} \rangle \equiv$ (244)

$$emn: emn - emn_aerr = emon + empn$$

Defines:

emn, used in chunks 42e, 43a, 70c, and 71a.

Uses **emon** 40e and **empn** 42a.

2.3.9 c.9 EM: Imports of goods and services, cw 2009\$

42d $\langle \text{variable } EM \text{ 42d} \rangle \equiv$ (211)

$$EM = \text{Imports of goods and services, cw 2009\$}$$

Defines:

EM, used in chunk 223.

42e $\langle \text{equation } em \text{ 42e} \rangle \equiv$ (244)

$$em: \log(em) - em_aerr = \log(em(-1)) \quad _ \\ + .5 * (emon/emn + emon(-1)/emn(-1)) * d(\log(emo), 0, 1) \quad _ \\ + .5 * (empn/emn + empn(-1)/emn(-1)) * d(\log(emp), 0, 1)$$

Defines:

em, never used.

Uses **emn** 42c, **emo** 40b, **emon** 40e, **emp** 41e, and **empn** 42a.

2.3.10 c.10 FCBN: US current account balance, current \$

42f $\langle \text{variable } FCBN \text{ 42f} \rangle \equiv$ (211)

$$FCBN = \text{US current account balance, current \$}$$

Defines:

FCBN, used in chunk 223.

43a $\langle \text{equation } fcbn \text{ 43a} \rangle \equiv$ (244)

$$fcbn: fcbn - fcbn_aerr = exn - emn + fynin + fcbn$$

Defines:

`fcbn`, used in chunk 43e.

Uses `emn` 42c, `exn` 39f, `fcbn` 43c, and `fynin` 44d.

2.3.11 c.11 FCBRN: US current account balance residual, current \$

43b $\langle \text{variable } FCBRN \text{ 43b} \rangle \equiv$ (211)

$$FCBRN = \text{US current account balance residual, current \$}$$

Defines:

`FCBRN`, used in chunks 204h and 223.

43c $\langle \text{equation } fcbn \text{ 43c} \rangle \equiv$ (244)

$$fcbn: fcbn - fcbn_aerr = ufcbn * pxg * xgpot / 100$$

Defines:

`fcbn`, used in chunk 43a.

Uses `pxg` 108b, `ufcbn` 204h, and `xgpot` 52c.

2.3.12 c.12 FNIN: Net stock of claims of US residents on the rest of the world, current \$

43d $\langle \text{variable } FNIN \text{ 43d} \rangle \equiv$ (211)

$$FNIN = \text{Net stock of claims of US residents on the rest of the world, current \$}$$

Defines:

`FNIN`, used in chunk 223.

43e $\langle \text{equation } fnin \text{ 43e} \rangle \equiv$ (244)

$$\begin{aligned} fnin: d(fnin, 0, 1) - fnin_aerr = & .25 * fcbn \quad - \\ & + .54 * (d(\log(fpc), 0, 1) * fnicn(-1)) \quad - \\ & - .32 * (d(\log(pgdg), 0, 1) * fniln(-1)) \quad - \\ & - .67 * (d(\log(fpx), 0, 1) * fnicn(-1)) \quad - \\ & + .06 * (d(\log(fpx), 0, 1) * fniln(-1)) \quad - \\ & + fnirn \end{aligned}$$

Defines:

`fnin`, used in chunks 45e, 75d, and 163d.

Uses `fcbn` 43a, `fnicn` 45c, `fniln` 45e, `fnirn` 47e, `fpc` 161b, `fpx` 164d, and `pgdp` 106f.

2.3.13 c.13 FTCIN: Corporate taxes paid to rest of world, current \$

44a $\langle \text{variable } FTCIN \text{ 44a} \rangle \equiv$ (211)
 $FTCIN = \text{Corporate taxes paid to rest of world, current \$}$

Defines:

$FTCIN$, used in chunks 205d and 223.

44b $\langle \text{equation } ftcin \text{ 44b} \rangle \equiv$ (244)
 $ftcin: ftcin - ftcin_aerr = uftcin * ynicpn$

Defines:

$ftcin$, used in chunk 78d.

Uses $uftcin$ 205d and $ynicpn$ 77b.

2.3.14 c.14 FYNIN: Net investment income received from the rest of the world, current \$

44c $\langle \text{variable } FYNIN \text{ 44c} \rangle \equiv$ (211)
 $FYNIN = \text{Net investment income received from the rest of the world, current \$}$

Defines:

$FYNIN$, used in chunk 223.

44d $\langle \text{equation } fynin \text{ 44d} \rangle \equiv$ (244)
 $fynin: fynin - fynin_aerr = fynicn - fyniln$

Defines:

$fynin$, used in chunks 43a and 74d.

Uses $fynicn$ 46a and $fyniln$ 46c.

2.3.15 c.15 HGEMP: Petroleum imports, cw 2009\$, trend growth rate

44e $\langle \text{variable } HGEMP \text{ 44e} \rangle \equiv$ (211)
 $HGEMP = \text{Petroleum imports, cw 2009$, trend growth rate}$

Defines:

$HGEMP$, used in chunk 223.

44f $\langle \text{equation } hgemp \text{ 44f} \rangle \equiv$ (244)
 $hgemp: hgemp - hgemp_aerr = y_hgemp(1) * hgemp(-1) -$
 $+ y_hgemp(2) * 400 * \log(emp/emp(-1))$

Defines:

$hgemp$, never used.

Uses emp 41e and y_hgemp 45a.

45a $\langle \text{coefficient } y_hgemp \text{ 45a} \rangle \equiv$ (253)

$$y_hgemp \ 2 \quad .9, .1$$

Defines:

`y_hgemp`, used in chunk 44f.

2.3.16 c.16 FNICN: Gross stock of claims of US residents on the rest of the world, current \$

45b $\langle \text{variable } FNICN \text{ 45b} \rangle \equiv$ (211)

$$FNICN = \text{Gross stock of claims of US residents on the rest of the world, current \$}$$

Defines:

`FNICN`, used in chunks 202b and 223.

45c $\langle \text{equation } fnicn \text{ 45c} \rangle \equiv$ (244)

$$\begin{aligned} fnicn: d(fnicn, 0, 1)/xgdptn - fnicn_aerr = & .54 * d(\log(fpc), 0, 1)*fnicn(-1)/xgdptn _ \\ & - .67 * d(\log(fpx), 0, 1)*fnicn(-1)/xgdptn _ \\ & + rfncit \end{aligned}$$

Defines:

`fnicn`, used in chunks 43e, 45e, and 46a.

Uses `fpc` 161b, `fpx` 164d, `rfncit` 202b, and `xgdptn` 61a.

2.3.17 c.17 FNILN: Gross stock of liabilities of US residents to the rest of the world, current \$

45d $\langle \text{variable } FNILN \text{ 45d} \rangle \equiv$ (211)

$$FNILN = \text{Gross stock of liabilities of US residents to the rest of the world, current \$}$$

Defines:

`FNILN`, used in chunk 223.

45e $\langle \text{equation } fniln \text{ 45e} \rangle \equiv$ (244)

$$fniln: fniln - fniln_aerr = fnicn - fnin$$

Defines:

`fniln`, used in chunks 43e and 46c.

Uses `fnicn` 45c and `fnin` 43e.

2.3.18 c.18 FYNICN: Gross investment income received from the rest of the world, current \$

45f $\langle \text{variable } FYNICN \text{ 45f} \rangle \equiv$ (211)

$$FYNICN = \text{Gross investment income received from the rest of the world, current \$}$$

Defines:

`FYNICN`, used in chunk 223.

46a $\langle \text{equation } fynicn \text{ 46a} \rangle \equiv$ (244)

$$fynicn: fynicn - fynicn_aerr = .01 * rfynic * fnicn(-1)$$

Defines:

`fynicn`, used in chunk 44d.

Uses `fnicn` 45c and `rfynic` 46e.

2.3.19 c.19 FYNILN: Gross investment income paid to the rest of the world, current \$

46b $\langle \text{variable } FYNILN \text{ 46b} \rangle \equiv$ (211)

$$FYNILN = \text{Gross investment income paid to the rest of the world, current \$}$$

Defines:

`FYNILN`, used in chunk 223.

46c $\langle \text{equation } fyniln \text{ 46c} \rangle \equiv$ (244)

$$fyniln: fyniln - fyniln_aerr = .01 * rfynil * fniln(-1)$$

Defines:

`fyniln`, used in chunk 44d.

Uses `fniln` 45e and `rfynil` 47b.

2.3.20 c.20 RFYNIC: Average yield earned on gross claims of US residents on the rest of the world

46d $\langle \text{variable } RFYNIC \text{ 46d} \rangle \equiv$ (211)

$$RFYNIC = \text{Average yield earned on gross claims of US residents on the rest of the world}$$

Defines:

`RFYNIC`, used in chunk 223.

46e $\langle \text{equation } rfynic \text{ 46e} \rangle \equiv$ (244)

$$\begin{aligned} rfynic: d(rfynic, 0, 1) - rfynic_aerr = & y_rfynic(1) _ \\ & + y_rfynic(2) * (rfynic(-1) - rfynil(-1)) _ \\ & + y_rfynic(3) * d(rfynic(-1), 0, 1) _ \\ & + y_rfynic(4) * d(rfynil, 0, 1) \end{aligned}$$

Defines:

`rfynic`, used in chunk 46a.

Uses `rfynil` 47b and `y_rfynic` 46f.

46f $\langle \text{coefficient } y_rfynic \text{ 46f} \rangle \equiv$ (253)

$$y_rfynic \quad 4 \quad 0.2599432734430575, -0.1468767116652314, 0.1482396937168886, 0.1482396937168886$$

Defines:

`y_rfynic`, used in chunk 46e.

2.3.21 c.21 RFYNIL: Average yield earned on liabilities of US residents on the rest of the world

47a $\langle \text{variable } RFYNIL \text{ 47a} \rangle \equiv$ (211)
 $RFYNIL = \text{Average yield earned on liabilities of US residents on the rest of the world}$
 Defines:
 $RFYNIL$, used in chunk 223.

47b $\langle \text{equation } rfynil \text{ 47b} \rangle \equiv$ (244)

$$\begin{aligned} rfynil: d(rfynil, 0, 1) - rfynil_aerr = & y_rfynil(1) _ \\ & + y_rfynil(2) * rfynil(-1) _ \\ & + y_rfynil(3) * rg10(-1) _ \\ & + y_rfynil(4) * rtb(-1) _ \\ & + y_rfynil(5) * reqp(-1) _ \\ & + y_rfynil(6) * d(rfynil(-1), 0, 1) _ \\ & + y_rfynil(7) * d(rg10, 0, 1) _ \\ & + y_rfynil(8) * d(rtb, 0, 1) _ \\ & + y_rfynil(9) * d(reqp, 0, 1) \end{aligned}$$

Defines:
 $rfynil$, used in chunk 46.
 Uses $reqp$ 152d, $rg10$ 148f, rtb 146d, and y_rfynil 47c.

47c $\langle \text{coefficient } y_rfynil \text{ 47c} \rangle \equiv$ (253)
 $y_rfynil \quad 9 \quad 0.1878356791714486, -0.2435367622231839, 0.07902780819914431, 0.0888015190$
 Defines:
 y_rfynil , used in chunk 47b.

2.3.22 c.22 FNIRN: Net stock of claims of US residents on the rest of the world, residual

47d $\langle \text{variable } FNIRN \text{ 47d} \rangle \equiv$ (211)
 $FNIRN = \text{Net stock of claims of US residents on the rest of the world, residual}$
 Defines:
 $FNIRN$, used in chunks 205a and 223.

47e $\langle \text{equation } fnirn \text{ 47e} \rangle \equiv$ (244)
 $fnirn: fnirn - fnirn_aerr = ufnir * xgdpn$

Defines:
 $fnirn$, used in chunk 43e.
 Uses $ufnir$ 205a and $xgdpn$ 70c.

2.4 Aggregate Output Identities

2.4.1 d.1 XFS: Final sales of gross domestic product, cw 2009\$

$$48a \quad \langle \text{variable } XFS \text{ 48a} \rangle \equiv \quad (211)$$

$$XFS = \text{Final sales of gross domestic product, cw 2009\$}$$

Defines:

XFS , used in chunk 223.

$$48b \quad \langle \text{equation } xfs \text{ 48b} \rangle \equiv \quad (244)$$

$$\begin{aligned} xfs: & \log(xfs) - xfs_aerr = \log(xfs(-1)) - \\ & + .5*((ecnian/xfsn + ecnian(-1)/xfsn(-1)) * d(\log(ecnia), 0, 1) - \\ & + (ehn/xfsn + eh(-1)/xfsn(-1)) * d(\log(eh), 0, 1) - \\ & + (epdn/xfsn + epdn(-1)/xfsn(-1)) * d(\log(epd), 0, 1) - \\ & + (epsn/xfsn + epsn(-1)/xfsn(-1)) * d(\log(eps), 0, 1) - \\ & + (epin/xfsn + epin(-1)/xfsn(-1)) * d(\log(epi), 0, 1) - \\ & + (egfon/xfsn + egfon(-1)/xfsn(-1)) * d(\log(egfo), 0, 1) - \\ & + (egfin/xfsn + egfin(-1)/xfsn(-1)) * d(\log(egfi), 0, 1) - \\ & + (egfln/xfsn + egfln(-1)/xfsn(-1)) * d(\log(egfl), 0, 1) - \\ & + (egson/xfsn + egson(-1)/xfsn(-1)) * d(\log(egso), 0, 1) - \\ & + (egsin/xfsn + egsin(-1)/xfsn(-1)) * d(\log(egsi), 0, 1) - \\ & + (egsln/xfsn + egsln(-1)/xfsn(-1)) * d(\log(egsl), 0, 1) - \\ & + (exn/xfsn + exn(-1)/xfsn(-1)) * d(\log(ex), 0, 1) - \\ & - (emon/xfsn + emon(-1)/xfsn(-1)) * d(\log(emo), 0, 1) - \\ & - (empn/xfsn + empn(-1)/xfsn(-1)) * d(\log(emp), 0, 1) \end{aligned}$$

Defines:

xfs , used in chunks 27b and 49a.

Uses $ecnia$ 21d, $ecnian$ 22a, $egfi$ 114d, $egfin$ 115a, $egfl$ 116a, $egfln$ 116d, $egfo$ 117d, $egfon$ 118b, $egsi$ 119e, $egsin$ 120c, $egsl$ 121b, $egsln$ 121e, $egso$ 122d, $egson$ 123b, eh 18e, ehn 22c, emo 40b, $emon$ 40e, emp 41e, $empn$ 42a, epd 25c, $epdn$ 35d, epi 26a, $epin$ 35f, eps 26d, $epsn$ 36b, ex 39c, exn 39f, and $xfsn$ 70e.

2.4.2 d.2 XGDP: GDP, cw 2009\$

$$48c \quad \langle \text{variable } XGDP \text{ 48c} \rangle \equiv \quad (211)$$

$$XGDP = \text{GDP, cw 2009\$}$$

Defines:

$XGDP$, used in chunks 60c, 80a, 84a, 156b, and 223.

49a $\langle \text{equation } xgdp \text{ 49a} \rangle \equiv$ (244)

$$\begin{aligned} xgdp: xgdp - xgdp_aerr = xgdp(-1) * @sqrt(_ \\ (xfsn(-1)/xgdpn(-1)) * (xfs/xfs(-1)) _ \\ + (.01 * ei(-1)*pkir(-1)*pxp(-1) / xgdpn(-1)) * (ei/ei(-1))) _ \\ * 1/ _ \\ ((xfsn/xgdpn) * (xfs(-1)/xfs) _ \\ + (.01 * ei*pkir*pxp / xgdpn) * (ei(-1)/ei))) \end{aligned}$$

Defines:

`xgdp`, used in chunks 49, 56c, 84b, and 106f.

Uses `ei` 27e, `pkir` 201d, `pxp` 93b, `xfs` 48b, `xfsn` 70e, and `xgdpn` 70c.

2.4.3 d.3 HGGDP: Growth rate of GDP, cw 2009\$ (annual rate)

49b $\langle \text{variable } HGGDP \text{ 49b} \rangle \equiv$ (211)

$$HGGDP = \text{Growth rate of GDP, cw 2009\$ (annual rate)}$$

Defines:

`HGGDP`, used in chunk 223.

49c $\langle \text{equation } hggdp \text{ 49c} \rangle \equiv$ (244)

$$hggdp: hggdp - hggdp_aerr = 400*d(\log(xgdp), 0, 1)$$

Defines:

`hggdp`, never used.

Uses `xgdp` 49a.

2.4.4 d.4 XGDE: Domestic absorption, cw 2009\$

49d $\langle \text{variable } XGDE \text{ 49d} \rangle \equiv$ (211)

$$XGDE = \text{Domestic absorption, cw 2009\$}$$

Defines:

`XGDE`, used in chunk 223.

49e $\langle \text{equation } xgde \text{ 49e} \rangle \equiv$ (244)

$$\begin{aligned} xgde: \log(xgde) - xgde_aerr = \log(xgde(-1)) _ \\ + .5*((xgdpn/xgden + xgdpn(-1)/xgden(-1)) * d(\log(xgdp), 0, 1) _ \\ - (exn/xgden + exn(-1)/xgden(-1)) * d(\log(ex), 0, 1) _ \\ + (emon/xgden + emon(-1)/xgden(-1)) * d(\log(emo), 0, 1) _ \\ + (empn/xgden + empn(-1)/xgden(-1)) * d(\log(emp), 0, 1)) \end{aligned}$$

Defines:

`xgde`, never used.

Uses `emo` 40b, `emon` 40e, `emp` 41e, `empn` 42a, `ex` 39c, `exn` 39f, `xgden` 71a, `xgdp` 49a, and `xgdpn` 70c.

2.4.5 d.5 XGO: Output of business sector plus oil imports, adjusted for measurement error, cw 2009\$

50a $\langle \text{variable } XGO \text{ 50a} \rangle \equiv$ (211)
 $XGO = \text{Output of business sector plus oil imports, adjusted for measurement error}$
 Defines:
 XGO , used in chunk 223.

50b $\langle \text{equation } xgo \text{ 50b} \rangle \equiv$ (244)
 $xgo: \log(xgo) - xgo_aerr = \log(xgpot) + y_xgo(1) * xgap2/100$

Defines:
 xgo , used in chunks 56e, 57c, 59a, and 182a.
 Uses $xgap2$ 59c, $xgpot$ 52c, and y_xgo 50c.

50c $\langle \text{coefficient } y_xgo \text{ 50c} \rangle \equiv$ (253)
 $y_xgo \quad 1 \quad 1.313096$
 Defines:
 y_xgo , used in chunk 50b.

2.4.6 d.6 XBO: Business output, adjusted for measurement error, cw 2009\$

50d $\langle \text{variable } XBO \text{ 50d} \rangle \equiv$ (211)
 $XBO = \text{Business output, adjusted for measurement error, cw 2009\$}$
 Defines:
 XBO , used in chunk 223.

50e $\langle \text{equation } xbo \text{ 50e} \rangle \equiv$ (244)
 $xbo: \log(xbo) - xbo_aerr = \log(xbt) + y_xbo(1) * xgap2/100$

Defines:
 xbo , used in chunks 25, 26, 28, 29a, 71c, and 182–86.
 Uses xbt 55a, $xgap2$ 59c, and y_xbo 50f.

50f $\langle \text{coefficient } y_xbo \text{ 50f} \rangle \equiv$ (253)
 $y_xbo \quad 1 \quad 1.338129148984226$
 Defines:
 y_xbo , used in chunk 50e.

2.4.7 d.7 XP: Final sales plus imports less government labor, cw 2009\$

50g $\langle \text{variable } XP \text{ 50g} \rangle \equiv$ (211)
 $XP = \text{Final sales plus imports less government labor, cw 2009\$}$
 Defines:
 XP , used in chunk 223.

51a $\langle \text{equation } xp \text{ 51a} \rangle \equiv$ (244)

$$\begin{aligned}
 xp: \log(xp) - xp_aerr = \log(xp(-1)) & _ \\
 + .5 * (ecnia/xpn + ecnia(-1)/xpn(-1)) & * d(\log(ecnia), 0, 1) _ \\
 + .5 * (ehn/xpn + ehn(-1)/xpn(-1)) & * d(\log(eh), 0, 1) _ \\
 + .5 * (epdn/xpn + epdn(-1)/xpn(-1)) & * d(\log(epd), 0, 1) _ \\
 + .5 * (epin/xpn + epin(-1)/xpn(-1)) & * d(\log(epi), 0, 1) _ \\
 + .5 * (epsn/xpn + epsn(-1)/xpn(-1)) & * d(\log(eps), 0, 1) _ \\
 + .5 * (egfon/xpn + egfon(-1)/xpn(-1)) & * d(\log(egfo), 0, 1) _ \\
 + .5 * (egfin/xpn + egfin(-1)/xpn(-1)) & * d(\log(egfi), 0, 1) _ \\
 + .5 * (egson/xpn + egson(-1)/xpn(-1)) & * d(\log(egso), 0, 1) _ \\
 + .5 * (egsin/xpn + egsin(-1)/xpn(-1)) & * d(\log(egsi), 0, 1) _ \\
 + .5 * (exn/xpn + exn(-1)/xpn(-1)) & * d(\log(ex), 0, 1)
 \end{aligned}$$

Defines:

xp , used in chunks 70a, 92d, and 110e.

Uses $ecnia$ 21d, $ecnia$ 22a, $egfi$ 114d, $egfin$ 115a, $egfo$ 117d, $egfon$ 118b, $egsi$ 119e, $egsin$ 120c, $egso$ 122d, $egson$ 123b, eh 18e, ehn 22c, epd 25c, $epdn$ 35d, epi 26a, $epin$ 35f, eps 26d, $epsn$ 36b, ex 39c, exn 39f, and xpn 70a.

2.4.8 d.8 XB: Business output (BEA definition), cw 2009\$

51b $\langle \text{variable } XB \text{ 51b} \rangle \equiv$ (211)

$$XB = \text{Business output (BEA definition), cw 2009\$}$$

Defines:

XB , used in chunks 60a and 223.

51c $\langle \text{equation } xb \text{ 51c} \rangle \equiv$ (244)

$$xb: xb - xb_aerr = xbn / (pxb/100)$$

Defines:

xb , used in chunks 52a and 55a.

Uses pxb 108d and xbn 71c.

2.4.9 d.9 XG: Output of business sector plus oil imports, cw 2009\$

51d $\langle \text{variable } XG \text{ 51d} \rangle \equiv$ (211)

$$XG = \text{Output of business sector plus oil imports, cw 2009\$}$$

Defines:

XG , used in chunks 59d and 223.

52a $\langle \text{equation } xg \text{ 52a} \rangle \equiv$ (244)

$$\begin{aligned} xg: \log(xg) - xg_aerr = \log(xg(-1)) & - \\ + (1 - .5*(.035*empn/ (.01*pceng*ceng) + .035*empn(-1)/ (.01*pceng(-1)*ceng(-1)))) * & \\ + .5*(.035*empn/ (.01*pceng*ceng) + .035*empn(-1)/ (.01*pceng(-1)*ceng(-1))) * d(\log & \end{aligned}$$

Defines:

xg, used in chunks 41b, 55a, 92d, 104d, and 108b.

Uses **ceng** 41b, **emp** 41e, **empn** 42a, **pceng** 103a, and **xb** 51c.

2.4.10 d.10 XGPOT: Potential output of business sector plus oil imports, cw 2009\$

52b $\langle \text{variable } XGPOT \text{ 52b} \rangle \equiv$ (211)

XGPOT = Potential output of business sector plus oil imports, cw 2009\$

Defines:

XGPOT, used in chunk 223.

52c $\langle \text{equation } xgpot \text{ 52c} \rangle \equiv$ (244)

$$\begin{aligned} xgpot: \log(xgpot) - xgpot_aerr = (y_xgpot(1) * (\log(leppot) + \log(qlww) + \log(lqualt) & \\ + y_xgpot(2) * \log(ks) & - \\ + y_xgpot(3) * \log(veoa) & - \\ + \log(mfpt)) / (1-y_xgpot(4)) & \end{aligned}$$

Defines:

xgpot, used in chunks 43c, 50b, 55, 59a, and 69a.

Uses **ks** 31c, **leppot** 68b, **lqualt** 200f, **mfpt** 53c, **qlww** 61c, **veoa** 54a, and **y_xgpot** 52d.

52d $\langle \text{coefficient } y_xgpot \text{ 52d} \rangle \equiv$ (253)

y_xgpot 4 .7000, .265, .035, .035

Defines:

y_xgpot, used in chunk 52c.

2.4.11 d.11 HMFPT: Trend growth rate of multifactor productivity

52e $\langle \text{variable } HMFPT \text{ 52e} \rangle \equiv$ (211)

HMFPT = Trend growth rate of multifactor productivity

Defines:

HMFPT, used in chunk 223.

52f $\langle \text{equation } hmfpt \text{ 52f} \rangle \equiv$ (244)

$$hmfpt: hmfpt - hmfpt_aerr = y_hmfpt(1) + y_hmfpt(2)*hmfpt(-1)$$

Defines:

hmfpt, used in chunks 53c, 56e, and 59e.

Uses **y_hmfpt** 53a.

$$53a \quad \langle \text{coefficient } y_{\text{hmfpt}} 53a \rangle \equiv \quad (253)$$

$$y_{\text{hmfpt}} \ 2 \quad 0.055, 0.95$$

Defines:

y_{hmfpt} , used in chunk 52f.

2.4.12 d.12 MFPT: Multifactor productivity, trend level

$$53b \quad \langle \text{variable } MFPT 53b \rangle \equiv \quad (211)$$

$$MFPT \quad = \text{Multifactor productivity, trend level}$$

Defines:

$MFPT$, used in chunk 223.

$$53c \quad \langle \text{equation } mfpt 53c \rangle \equiv \quad (244)$$

$$mfpt: \log(mfpt) - mfpt_aerr = y_mfpt(1) + \log(mfpt(-1)) + hmfpt/400$$

Defines:

$mfpt$, used in chunks 52c and 56e.

Uses $hmfpt$ 52f and y_mfpt 53d.

$$53d \quad \langle \text{coefficient } y_mfpt 53d \rangle \equiv \quad (253)$$

$$y_mfpt \ 1 \quad 0.0$$

Defines:

y_mfpt , used in chunk 53c.

2.4.13 d.13 VEO: Desired energy-output ratio

$$53e \quad \langle \text{variable } VEO 53e \rangle \equiv \quad (211)$$

$$VEO \quad = \text{Desired energy-output ratio}$$

Defines:

VEO , used in chunk 223.

$$53f \quad \langle \text{equation } veo 53f \rangle \equiv \quad (244)$$

$$veo: \log(veo) - veo_aerr = \log(pxb/pceng)$$

Defines:

veo , used in chunk 54a.

Uses $pceng$ 103a and pxb 108d.

2.4.14 d.14 VEOA: Average energy-output ratio of existing capital stock

$$53g \quad \langle \text{variable } VEOA 53g \rangle \equiv \quad (211)$$

$$VEOA \quad = \text{Average energy-output ratio of existing capital stock}$$

Defines:

$VEOA$, used in chunks 208c and 223.

54a $\langle \text{equation } \text{veoa} \text{ 54a} \rangle \equiv$ (244)

$$\begin{aligned} \text{veoa: } \log(\text{veoa}) - \text{veoa_aerr} = & \text{y_veoa}(1) * \log(\text{veoa}(-1)) - \\ & + \text{y_veoa}(2) * \log(\text{veo}(-1)) - \\ & + \text{uveoa} \end{aligned}$$

Defines:

veoa, used in chunks 41b, 52c, and 59e.

Uses **uveoa** 208c, **veo** 53f, and **y_veoa** 54b.

54b $\langle \text{coefficient } \text{y_veoa} \text{ 54b} \rangle \equiv$ (253)

$$\text{y_veoa} \quad 2 \quad 0.988, 0.012$$

Defines:

y_veoa, used in chunk 54a.

2.4.15 d.15 EMPT: Petroleum imports trend, cw 2009\$

54c $\langle \text{variable } \text{EMPT} \text{ 54c} \rangle \equiv$ (211)

$$\text{EMPT} = \text{Petroleum imports trend, cw 2009\$}$$

Defines:

EMPT, used in chunk 223.

54d $\langle \text{equation } \text{empt} \text{ 54d} \rangle \equiv$ (244)

$$\begin{aligned} \text{empt: } d(\log(\text{empt}), 0, 1) - \text{empt_aerr} - \\ = \text{y_empt}(1) * \log(\text{emp}(-1)/\text{empt}(-1)) - \\ + \text{y_empt}(2) * \text{hgx}/400 \end{aligned}$$

Defines:

empt, used in chunks 55a and 60b.

Uses **emp** 41e, **hgx** 59e, and **y_empt** 54e.

54e $\langle \text{coefficient } \text{y_empt} \text{ 54e} \rangle \equiv$ (253)

$$\text{y_empt} \quad 2 \quad 0.10000000000000000E+00, 1.0000000000000000E+00$$

Defines:

y_empt, used in chunk 54d.

2.4.16 d.16 XBT: Potential business output, cw 2009\$

54f $\langle \text{variable } \text{XBT} \text{ 54f} \rangle \equiv$ (211)

$$\text{XBT} = \text{Potential business output, cw 2009\$}$$

Defines:

XBT, used in chunks 58a and 223.

55a $\langle \text{equation } xbt \text{ 55a} \rangle \equiv$ (244)

$$\begin{aligned} xbt: \log(xbt) - xbt_aerr = \log(xb) + (\log(xgpot/xg) - \\ - .5 * (.035 * empn / (.01 * pceng * ceng) + .035 * empn(-1) / (.01 * pceng(-1) * ceng(-1))) * \log(emp / emp)) \\ (1 - .5 * (.035 * empn / (.01 * pceng * ceng) + .035 * empn(-1) / (.01 * pceng(-1) * ceng(-1)))) \end{aligned}$$

Defines:

xbt, used in chunks 50e and 55c.

Uses **ceng** 41b, **emp** 41e, **empn** 42a, **empt** 54d, **pceng** 103a, **xb** 51c, **xg** 52a, and **xgpot** 52c.

2.4.17 d.17 XGDPT: Potential GDP, cw 2009\$

55b $\langle \text{variable } XGDPT \text{ 55b} \rangle \equiv$ (211)

$$XGDPT = \text{Potential GDP, cw 2009\$}$$

Defines:

XGDPT, used in chunks 58a and 223.

55c $\langle \text{equation } xgdpt \text{ 55c} \rangle \equiv$ (244)

$$xgdpt: \log(xgdpt) - xgdpt_aerr = \log(xbt) + \log(uxbt)$$

Defines:

xgdpt, used in chunks 59c, 61a, 72, 73, 126f, 129f, 130e, 159b, 188, and 189b.

Uses **uxbt** 58b and **xbt** 55a.

2.4.18 d.26 XENG: Crude energy production, cw 2009\$

55d $\langle \text{variable } XENG \text{ 55d} \rangle \equiv$ (211)

$$XENG = \text{Crude energy production, cw 2009\$}$$

Defines:

XENG, used in chunks 208g and 223.

55e $\langle \text{equation } xeng \text{ 55e} \rangle \equiv$ (244)

$$xeng: xeng - xeng_aerr = uxeng * xgpot$$

Defines:

xeng, used in chunk 41e.

Uses **uxeng** 208g and **xgpot** 52c.

2.4.19 d.27 XGDI: Gross domestic income, cw 2009\$

55f $\langle \text{variable } XGDI \text{ 55f} \rangle \equiv$ (211)

$$XGDI = \text{Gross domestic income, cw 2009\$}$$

Defines:

XGDI, used in chunks 155b and 223.

56a $\langle \text{equation } xgdi \text{ 56a} \rangle \equiv$ (244)

$$xgdi: xgdi - xgdi_aerr = xgdo * mei$$

Defines:

$xgdi$, used in chunk 86e.

Uses mei 155c and $xgdo$ 56c.

2.4.20 d.28 XGDO: Gross domestic product, adjusted for measurement error, cw 2009\$

56b $\langle \text{variable } XGDO \text{ 56b} \rangle \equiv$ (211)

$$XGDO = \text{Gross domestic product, adjusted for measurement error, cw 2009\$}$$

Defines:

$XGDO$, used in chunks 155b, 156b, and 223.

56c $\langle \text{equation } xgdo \text{ 56c} \rangle \equiv$ (244)

$$xgdo: xgdo - xgdo_aerr = xgdp / mep$$

Defines:

$xgdo$, used in chunks 56a, 59c, and 71c.

Uses mep 156c and $xgdp$ 49a.

2.5 Labor Market

2.5.1 e.1 LHP: Aggregate labor hours, business sector (employee and self-employed)

56d $\langle \text{variable } LHP \text{ 56d} \rangle \equiv$ (211)

$$LHP = \text{Aggregate labor hours, business sector (employee and self-employed)}$$

Defines:

LHP , used in chunk 223.

56e $\langle \text{equation } lhp \text{ 56e} \rangle \equiv$ (244)

$$\begin{aligned} lhp: & d(\log(lhp), 0, 1) - lhp_aerr = _ \\ & y_lhp(1) * (\log(qlhp(-1)/lhp(-1)) - d(\log(mfpt), 0, 1) / .965) _ \\ & + y_lhp(2) * d(\log(lhp(-1)), 0, 1) _ \\ & + y_lhp(3) * zlhp _ \\ & + y_lhp(4) * (d(\log(xgo), 0, 1) - hlprdt(-1)/400 - d(hmfpt, 0, 1) \\ & + y_lhp(5) * (d(\log(xgo(-1)), 0, 1) - hlprdt(-2)/400 - d(hmfpt(-1), 0, 1)) \end{aligned}$$

Defines:

lhp , used in chunks 57e, 62b, 66d, and 74f.

Uses $hlprdt$ 69c, $hmfpt$ 52f, $mfpt$ 53c, $qlhp$ 57c, xgo 50b, y_lhp 57a, and $zlhp$ 182a.

57a $\langle \text{coefficient } y_lhp \text{ 57a} \rangle \equiv$ (253)
 $y_lhp \quad 5 \quad 0.255040531063274, 0.1491232069118806, 0.3902648422452434, 0.6097351577547565, -0.0$
 Defines:
 y_lhp , used in chunk 56e.

2.5.2 e.2 QLHP: Desired level of business labor hours

57b $\langle \text{variable } QLHP \text{ 57b} \rangle \equiv$ (211)
 $QLHP \quad = \text{Desired level of business labor hours}$
 Defines:
 $QLHP$, used in chunk 223.

57c $\langle \text{equation } qlhp \text{ 57c} \rangle \equiv$ (244)
 $qlhp: qlhp - qlhp_aerr = xgo/lprdt$

Defines:
 $qlhp$, used in chunk 56e.
 Uses $lprdt$ 69a and xgo 50b.

2.5.3 e.3 LWW: Workweek, business sector (employee and self-employed)

57d $\langle \text{variable } LWW \text{ 57d} \rangle \equiv$ (211)
 $LWW \quad = \text{Workweek, business sector (employee and self-employed)}$
 Defines:
 LWW , used in chunk 223.

57e $\langle \text{equation } lww \text{ 57e} \rangle \equiv$ (244)
 $lww: d(\log(lww), 0, 1) - lww_aerr _$
 $\quad = hqlww/400 _$
 $\quad + y_lww(1) * \log(qlww(-1)/lww(-1)) _$
 $\quad + y_lww(2) * (d(\log(lhp), 0, 1) - (hlept + hqlww)/400)$

Defines:
 lww , used in chunk 62b.
 Uses $hlept$ 68d, $hqlww$ 61e, lhp 56e, $qlww$ 61c, and y_lww 57f.

57f $\langle \text{coefficient } y_lww \text{ 57f} \rangle \equiv$ (253)
 $y_lww \quad 2 \quad 0.1984470411422383, 0.3128887644653584$
 Defines:
 y_lww , used in chunk 57e.

2.5.4 d.18 UXBT: Stochastic component of trend ratio of XGDPT to XBT

$$\langle \text{variable } UXBT \text{ 58a} \rangle \equiv \quad (211)$$

$$UXBT = \text{Stochastic component of trend ratio of XGDPT to XBT}$$

Defines:

`UXBT`, used in chunks 58d and 223.

Uses `XBT` 54f and `XGDPT` 55b.

$$\langle \text{equation } uxbt \text{ 58b} \rangle \equiv \quad (244)$$

$$uxbt: \log(uxbt) - uxbt_aerr = y_uxbt(1) + \log(uxbt(-1)) + .0025*huxb$$

Defines:

`uxbt`, used in chunk 55c.

Uses `huxb` 58e and `y_uxbt` 58c.

$$\langle \text{coefficient } y_uxbt \text{ 58c} \rangle \equiv \quad (253)$$

$$y_uxbt \quad 1 \quad 0.0$$

Defines:

`y_uxbt`, used in chunk 58b.

2.5.5 d.19 HUXB: Drift term in UXBT

$$\langle \text{variable } HUXB \text{ 58d} \rangle \equiv \quad (211)$$

$$HUXB = \text{Drift term in UXBT}$$

Defines:

`HUXB`, used in chunk 223.

Uses `UXBT` 58a.

$$\langle \text{equation } huxb \text{ 58e} \rangle \equiv \quad (244)$$

$$huxb: huxb - huxb_aerr = (1-dglprd) * (y_huxb(1) + y_huxb(2)*huxb(-1))$$

Defines:

`huxb`, used in chunks 58b and 60d.

Uses `dglprd` 197d and `y_huxb` 58f.

$$\langle \text{coefficient } y_huxb \text{ 58f} \rangle \equiv \quad (253)$$

$$y_huxb \quad 2 \quad -0.01817091647656927, 0.95$$

Defines:

`y_huxb`, used in chunk 58e.

2.5.6 d.20 XGAP: Output gap for business plus oil imports (100*log(actual/potential))

$$\langle \text{variable } XGAP \text{ 58g} \rangle \equiv \quad (211)$$

$$XGAP = \text{Output gap for business plus oil imports } (100*\log(\text{actual/potential}))$$

Defines:

`XGAP`, used in chunk 223.

59a $\langle \text{equation } xgap \text{ 59a} \rangle \equiv$ (244)

$$xgap: xgap - xgap_aerr = 100 * \log(xgo/xgpot)$$

Defines:

xgap, used in chunks 170–76 and 182–87.

Uses **xgo** 50b and **xgpot** 52c.

2.5.7 d.21 XGAP2: Output gap for GDP (100*log(actual/potential)

59b $\langle \text{variable } XGAP2 \text{ 59b} \rangle \equiv$ (211)

$$XGAP2 = \text{Output gap for GDP (100*log(actual/potential)}$$

Defines:

XGAP2, used in chunk 223.

59c $\langle \text{equation } xgap2 \text{ 59c} \rangle \equiv$ (244)

$$xgap2: xgap2 - xgap2_aerr = 100 * \log(xgdo/xgdpt)$$

Defines:

xgap2, used in chunks 40b, 50, 62d, 86b, 114d, 116a, 117d, 119e, 121b, 122d, 127d, 130b, 132–36, 139–41, 154a, 158b, 177–81, 188, and 189b.

Uses **xgdo** 56c and **xgdpt** 55c.

2.5.8 d.22 HGX: Trend growth rate of XG, cw 2009\$ (annual rate)

59d $\langle \text{variable } HGX \text{ 59d} \rangle \equiv$ (211)

$$HGX = \text{Trend growth rate of XG, cw 2009$ (annual rate)}$$

Defines:

HGX, used in chunk 223.

Uses **XG** 51d.

59e $\langle \text{equation } hgx \text{ 59e} \rangle \equiv$ (244)

$$hgx: hgx - hgx_aerr = (.7 * (hlept + hqlww + 400 * d(\log(lqualt), 0, 1)) + .265 * hks_ + .035 * 400 * d(\log(veoa), 0, 1) + hmfpt) / .965$$

Defines:

hgx, used in chunks 28, 29a, 41b, 54d, 60b, 69c, and 184–86.

Uses **hks** 31a, **hlept** 68d, **hmfpt** 52f, **hqlww** 61e, **lqualt** 200f, and **veoa** 54a.

2.5.9 d.23 HXBT: Trend rate of growth of XB , cw 2009\$ (annual rate)

60a $\langle \text{variable } HXBT \text{ 60a} \rangle \equiv$ (211)
 $HXBT = \text{Trend rate of growth of XB , cw 2009\$ (annual rate)}$

Defines:

$HXBT$, used in chunk 223.

Uses XB 51b.

60b $\langle \text{equation } hxbt \text{ 60b} \rangle \equiv$ (244)

$$hxbt: hxbt - hxbt_aerr = (hgx -$$

$$- .5 * (.035 * empn / (.01 * pceng * ceng) + .035 * empn(-1) / (.01 * pceng(-1) * ceng(-1))) * 400 *$$

$$(1 - .5 * (.035 * empn / (.01 * pceng * ceng) + .035 * empn(-1) / (.01 * pceng(-1) * ceng(-1))))$$

Defines:

$hxbt$, used in chunk 60d.

Uses $ceng$ 41b, $empn$ 42a, $empt$ 54d, hgx 59e, and $pceng$ 103a.

2.5.10 d.24 HGGDPT: Trend growth rate of XGDP, cw 2009\$ (annual rate)

60c $\langle \text{variable } HGGDPT \text{ 60c} \rangle \equiv$ (211)
 $HGGDPT = \text{Trend growth rate of XGDP, cw 2009\$ (annual rate)}$

Defines:

$HGGDPT$, used in chunk 223.

Uses $XGDP$ 48c.

60d $\langle \text{equation } hggdpt \text{ 60d} \rangle \equiv$ (244)
 $hggdpt: hggdpt - hggdpt_aerr = hxbt + huxb$

Defines:

$hggdpt$, used in chunks 20e, 21a, 115c, 117a, 118d, 120e, 122–24, 126a, 159b, 179–81, and 187c.

Uses $huxb$ 58e and $hxbt$ 60b.

2.5.11 d.25 XGDPTN: Potential GDP, current \$

60e $\langle \text{variable } XGDPTN \text{ 60e} \rangle \equiv$ (211)
 $XGDPTN = \text{Potential GDP, current \$}$

Defines:

$XGDPTN$, used in chunk 223.

61a $\langle \text{equation } xgdptn \text{ 61a} \rangle \equiv$ (244)

$$xgdptn: xgdptn - xgdptn_aerr = .01 * pgdp * xgdpt$$

Defines:

$xgdptn$, used in chunks 45c, 84d, 115c, 117a, 118d, 120e, 122–24, and 126a.
 Uses $pgdp$ 106f and $xgdpt$ 55c.

2.5.12 e.4 QLWW: Trend workweek, business sector (employee and self-employed)

61b $\langle \text{variable } QLWW \text{ 61b} \rangle \equiv$ (211)

$$QLWW = \text{Trend workweek, business sector (employee and self-employed)}$$

Defines:

$QLWW$, used in chunk 223.

61c $\langle \text{equation } qlww \text{ 61c} \rangle \equiv$ (244)

$$qlww: \log(qlww) - qlww_aerr = \log(qlww(-1)) + hqlww(-1)/400$$

Defines:

$qlww$, used in chunks 52c, 57e, 66d, and 69a.
 Uses $hqlww$ 61e.

2.5.13 e.5 HQLWW: Trend growth rate of workweek

61d $\langle \text{variable } HQLWW \text{ 61d} \rangle \equiv$ (211)

$$HQLWW = \text{Trend growth rate of workweek}$$

Defines:

$HQLWW$, used in chunk 223.

61e $\langle \text{equation } hqlww \text{ 61e} \rangle \equiv$ (244)

$$hqlww: hqlww - hqlww_aerr = y_hqlww(1) * hqlww(-1) + (1 - y_hqlww(1)) * y_hqlww(2)$$

Defines:

$hqlww$, used in chunks 57e, 59e, 61c, 69c, and 182a.
 Uses y_hqlww 61f.

61f $\langle \text{coefficient } y_hqlww \text{ 61f} \rangle \equiv$ (253)

$$y_hqlww \text{ 2} \quad .95, -0.3129029344874886$$

Defines:

y_hqlww , used in chunk 61e.

2.5.14 e.6 LEP: Employment in business sector (employee and self-employed)

62a $\langle \text{variable } LEP \text{ 62a} \rangle \equiv$ (211)
 $LEP = \text{Employment in business sector (employee and self-employed)}$
 Defines:
 LEP , used in chunks 68c and 223.

62b $\langle \text{equation } lep \text{ 62b} \rangle \equiv$ (244)
 $lep: lep - lep_aerr = lhp / lww$

Defines:
 lep , used in chunk 63e.
 Uses lhp 56e and lww 57e.

2.5.15 e.7 LEO: Difference between household and business sector payroll employment, less gov't emp.

62c $\langle \text{variable } LEO \text{ 62c} \rangle \equiv$ (211)
 $LEO = \text{Difference between household and business sector payroll employment, less gov't emp.}$
 Defines:
 LEO , used in chunk 223.
 Uses emp 41e.

62d $\langle \text{equation } leo \text{ 62d} \rangle \equiv$ (244)
 $leo: \log(leo) - leo_aerr = \log(qleor * qlf) + y_leo(1) * \log(leo(-1) / (qleor(-1) * qlf(-1))) + y_leo(2) * xgap2(-1)$

Defines:
 leo , used in chunk 63e.
 Uses $qleor$ 201g, qlf 66f, $xgap2$ 59c, and y_leo 62e.

62e $\langle \text{coefficient } y_leo \text{ 62e} \rangle \equiv$ (253)
 $y_leo \quad 2 \quad 0.6995814979956745, -0.01620869768699893$
 Defines:
 y_leo , used in chunk 62d.

2.5.16 e.8 LEF: Federal civilian employment ex. gov. enterprise

62f $\langle \text{variable } LEF \text{ 62f} \rangle \equiv$ (211)
 $LEF = \text{Federal civilian employment ex. gov. enterprise}$
 Defines:
 LEF , used in chunks 207a and 223.
 Uses ex 39c.

63a $\langle \text{equation } lef \text{ 63a} \rangle \equiv$ (244)

$$\begin{aligned} lef: & d(\log(lef), 0, 1) - lef_aerr = d(\log(ulef), 0, 1) - \\ & + d(\log(egfl), 0, 1) - \\ & - dglprd*(d(\log(lprdt), 0, 1)) \end{aligned}$$

Defines:

`lef`, used in chunks 63e and 67b.

Uses `dglprd` 197d, `egfl` 116a, `lprdt` 69a, and `ulef` 207a.

2.5.17 e.9 LES: S&L government employment ex. gov. enterprise

63b $\langle \text{variable } LES \text{ 63b} \rangle \equiv$ (211)

$$LES = \text{S\&L government employment ex. gov. enterprise}$$

Defines:

`LES`, used in chunks 207b and 223.

Uses `ex` 39c.

63c $\langle \text{equation } les \text{ 63c} \rangle \equiv$ (244)

$$\begin{aligned} les: & d(\log(les), 0, 1) - les_aerr = d(\log(ules), 0, 1) - \\ & + d(\log(egsl), 0, 1) - \\ & - dglprd*(d(\log(lprdt), 0, 1)) \end{aligned}$$

Defines:

`les`, used in chunks 63e and 67e.

Uses `dglprd` 197d, `egsl` 121b, `lprdt` 69a, and `ules` 207b.

2.5.18 e.10 LEH: Civilian employment (break adjusted)

63d $\langle \text{variable } LEH \text{ 63d} \rangle \equiv$ (211)

$$LEH = \text{Civilian employment (break adjusted)}$$

Defines:

`LEH`, used in chunk 223.

63e $\langle \text{equation } leh \text{ 63e} \rangle \equiv$ (244)

$$leh: leh - leh_aerr = lep + leo + les + lef$$

Defines:

`leh`, used in chunk 65f.

Uses `lef` 63a, `leo` 62d, `lep` 62b, and `les` 63c.

2.5.19 e.11 LFPR: Labor force participation rate

$$64a \quad \langle \text{variable } LFPR \text{ 64a} \rangle \equiv \quad (211)$$

$$LFPR = \text{Labor force participation rate}$$

Defines:

LFPR, used in chunk 223.

$$64b \quad \langle \text{equation } lfpr \text{ 64b} \rangle \equiv \quad (244)$$

$$lfpr: d(lfpr, 0, 1) - lfpr_aerr = hqlfpr_$$

$$+ y_lfpr(1) * (qlfpr(-1) - lfpr(-1)) -$$

$$+ y_lfpr(2) * (lur(-1) - lurnat(-1))$$

Defines:

lfpr, used in chunk 65d.

Uses hqlfpr 65a, lur 65f, lurnat 69e, qlfpr 64e, and y_lfpr 64c.

$$64c \quad \langle \text{coefficient } y_lfpr \text{ 64c} \rangle \equiv \quad (253)$$

$$y_lfpr \quad 2 \quad 0.5580285205989896, -0.0008755566736369085$$

Defines:

y_lfpr, used in chunk 64b.

2.5.20 e.12 QLFPR: Trend labor force participation rate

$$64d \quad \langle \text{variable } QLFPR \text{ 64d} \rangle \equiv \quad (211)$$

$$QLFPR = \text{Trend labor force participation rate}$$

Defines:

QLFPR, used in chunks 64f and 223.

$$64e \quad \langle \text{equation } qlfpr \text{ 64e} \rangle \equiv \quad (244)$$

$$qlfpr: qlfpr - qlfpr_aerr = qlfpr(-1) + hqlfpr$$

Defines:

qlfpr, used in chunks 64b, 66f, and 68d.

Uses hqlfpr 65a.

2.5.21 e.13 HQLFPR: Drift component of change in QLFPR

$$64f \quad \langle \text{variable } HQLFPR \text{ 64f} \rangle \equiv \quad (211)$$

$$HQLFPR = \text{Drift component of change in QLFPR}$$

Defines:

HQLFPR, used in chunk 223.

Uses QLFPR 64d.

65a $\langle \text{equation } hqlfpr \text{ 65a} \rangle \equiv$ (244)

$$hqlfpr: hqlfpr - hqlfpr_aerr = y_hqlfpr(1) + y_hqlfpr(2)*hqlfpr(-1)$$

Defines:

$hqlfpr$, used in chunks 64, 67, and 68d.

Uses y_hqlfpr 65b.

65b $\langle \text{coefficient } y_hqlfpr \text{ 65b} \rangle \equiv$ (253)

$$y_hqlfpr \quad \quad \quad 2 \quad \quad \quad 0.00, 0.95$$

Defines:

y_hqlfpr , used in chunk 65a.

2.5.22 e.14 LF: Civilian labor force (break adjusted)

65c $\langle \text{variable } LF \text{ 65c} \rangle \equiv$ (211)

$$LF \quad \quad \quad = \text{Civilian labor force (break adjusted)}$$

Defines:

LF , used in chunk 223.

65d $\langle \text{equation } lf \text{ 65d} \rangle \equiv$ (244)

$$lf: lf - lf_aerr = lfpr * n16$$

Defines:

lf , used in chunk 65f.

Uses $lfpr$ 64b and $n16$ 200h.

2.5.23 e.15 LUR: Civilian unemployment rate (break adjusted)

65e $\langle \text{variable } LUR \text{ 65e} \rangle \equiv$ (211)

$$LUR \quad \quad \quad = \text{Civilian unemployment rate (break adjusted)}$$

Defines:

LUR , used in chunk 223.

65f $\langle \text{equation } lur \text{ 65f} \rangle \equiv$ (244)

$$lur: lur - lur_aerr = 100*(1 - leh/lf)$$

Defines:

lur , used in chunks 64b, 66b, 87e, 139e, 141c, 143b, 177a, and 178a.

Uses leh 63e and lf 65d.

2.5.24 e.16 LURBLS: Civilian unemployment rate (published)

66a $\langle \text{variable } LURBLS \text{ 66a} \rangle \equiv$ (211)
 LURBLS = Civilian unemployment rate (published)

Defines:
 LURBLS, used in chunk 223.

66b $\langle \text{equation } lurb\text{ls 66b} \rangle \equiv$ (244)
 lurb\text{ls}: lurb\text{ls} - lurb\text{ls_aerr} = lur

Defines:
 lurb\text{ls}, never used.
 Uses lur 65f.

2.5.25 e.17 QLEP: Desired level of business employment

66c $\langle \text{variable } QLEP \text{ 66c} \rangle \equiv$ (211)
 QLEP = Desired level of business employment

Defines:
 QLEP, used in chunk 223.

66d $\langle \text{equation } qlep \text{ 66d} \rangle \equiv$ (244)
 ql\text{ep}: ql\text{ep} - ql\text{ep_aerr} = lhp / qlww

Defines:
 ql\text{ep}, never used.
 Uses lhp 56e and qlww 61c.

2.5.26 e.18 QLF: Desired level of civilian labor force

66e $\langle \text{variable } QLF \text{ 66e} \rangle \equiv$ (211)
 QLF = Desired level of civilian labor force

Defines:
 QLF, used in chunk 223.

66f $\langle \text{equation } qlf \text{ 66f} \rangle \equiv$ (244)
 qlf: qlf - qlf_aerr = qlfpr * n16

Defines:
 qlf, used in chunks 62d and 68b.
 Uses n16 200h and qlfpr 64e.

2.5.27 e.19 LEFT: Federal civilian employment ex. gov. enterprise, trend

67a $\langle \text{variable LEFT 67a} \rangle \equiv$ (211)
LEFT = Federal civilian employment ex. gov. enterprise, trend
Defines:
LEFT, used in chunk 223.
Uses ex 39c.

67b $\langle \text{equation left 67b} \rangle \equiv$ (244)
left: left - left_aerr = y_left(1) * left(-1) * (hqlfpr+n16/n16(-1)) -
+ y_left(2) * lef

Defines:
left, used in chunk 68.
Uses hqlfpr 65a, lef 63a, n16 200h, and y_left 67c.

67c $\langle \text{coefficient y_left 67c} \rangle \equiv$ (253)
y_left 2 0.9000000000000000E+00,0.1000000000000000E+00
Defines:
y_left, used in chunk 67b.

2.5.28 e.20 LEST: S&L government employment ex. gov. enterprise, trend

67d $\langle \text{variable LEST 67d} \rangle \equiv$ (211)
LEST = S&L government employment ex. gov. enterprise, trend
Defines:
LEST, used in chunk 223.
Uses ex 39c.

67e $\langle \text{equation lest 67e} \rangle \equiv$ (244)
lest: lest - lest_aerr = y_lest(1) * lest(-1) * (hqlfpr+n16/n16(-1)) -
+ y_lest(2) * les

Defines:
lest, used in chunk 68.
Uses hqlfpr 65a, les 63c, n16 200h, and y_lest 67f.

67f $\langle \text{coefficient y_lest 67f} \rangle \equiv$ (253)
y_lest 2 0.9000000000000000E+00,0.1000000000000000E+00
Defines:
y_lest, used in chunk 67e.

2.5.29 e.21 LEPPOT: Potential employment in business sector

68a $\langle \text{variable } LEPPOT \text{ 68a} \rangle \equiv$ (211)

LEPPOT = Potential employment in business sector

Defines:

LEPPOT, used in chunk 223.

68b $\langle \text{equation } leppot \text{ 68b} \rangle \equiv$ (244)

leppot: leppot - leppot_aerr = qlf*(1-.01*lurnat - qleor) - left - lest

Defines:

leppot, used in chunks 52c, 68d, and 69a.

Uses left 67b, lest 67e, lurnat 69e, qleor 201g, and qlf 66f.

2.5.30 e.22 HLEPT: Trend growth rate of LEP (annual rate)

68c $\langle \text{variable } HLEPT \text{ 68c} \rangle \equiv$ (211)

HLEPT = Trend growth rate of LEP (annual rate)

Defines:

HLEPT, used in chunk 223.

Uses LEP 62a.

68d $\langle \text{equation } hlept \text{ 68d} \rangle \equiv$ (244)

hlept: hlept - hlept_aerr = (1-dmpstb) * 400 * _
 (hqlfpr * n16 * (1-.01*lurnat-qleor) _
 + d(n16, 0, 1) * qlfpr * (1-.01*lurnat-qleor) _
 - d(left, 0, 1) _
 - d(lest, 0, 1)) _
 / (leppot/2 + leppot(-1)/2) _
 + dmpstb * 400 * d(log(n16), 0, 1)

Defines:

hlept, used in chunks 57e, 59e, 69c, and 182a.

Uses dmpstb 198a, hqlfpr 65a, left 67b, leppot 68b, lest 67e, lurnat 69e, n16 200h, qleor 201g, and qlfpr 64e.

2.5.31 e.23 LPRDT: Trend labor productivity

68e $\langle \text{variable } LPRDT \text{ 68e} \rangle \equiv$ (211)

LPRDT = Trend labor productivity

Defines:

LPRDT, used in chunk 223.

69a $\langle \text{equation } lprdt \text{ 69a} \rangle \equiv$ (244)

$$lprdt: \log(lprdt) - lprdt_aerr = \log(xgpot) - \log(leppot) - \log(qlww)$$

Defines:

$lprdt$, used in chunks 57c, 63, 91e, 107, and 182a.

Uses $leppot$ 68b, $qlww$ 61c, and $xgpot$ 52c.

2.5.32 e.24 HLPRDT: Trend growth rate of output per hour

69b $\langle \text{variable } HLPRDT \text{ 69b} \rangle \equiv$ (211)

$$HLPRDT = \text{Trend growth rate of output per hour}$$

Defines:

$HLPRDT$, used in chunk 223.

69c $\langle \text{equation } hlprdt \text{ 69c} \rangle \equiv$ (244)

$$hlprdt: hlprdt - hlprdt_aerr = hgx - hlept - hqlww$$

Defines:

$hlprdt$, used in chunks 56e, 87e, 177a, and 178a.

Uses hgx 59e, $hlept$ 68d, and $hqlww$ 61e.

2.5.33 e.25 LURNAT: Natural rate of unemployment

69d $\langle \text{variable } LURNAT \text{ 69d} \rangle \equiv$ (211)

$$LURNAT = \text{Natural rate of unemployment}$$

Defines:

$LURNAT$, used in chunk 223.

69e $\langle \text{equation } lurnat \text{ 69e} \rangle \equiv$ (244)

$$lurnat: lurnat - lurnat_aerr = lurnat(-1)$$

Defines:

$lurnat$, used in chunks 64b, 68, 87e, 139e, 141c, 177a, and 178a.

2.6 Nominal Income

2.6.1 f.1 XPN: Final sales plus imports less government labor, current \$

69f $\langle \text{variable } XPN \text{ 69f} \rangle \equiv$ (211)

$$XPN = \text{Final sales plus imports less government labor, current \$}$$

Defines:

XPN , used in chunk 223.

$$\begin{aligned} 70a \quad \langle \text{equation } xpn \text{ 70a} \rangle \equiv & \quad (244) \\ xpn: xpn - xpn_aerr = .01 * pxp * xp \end{aligned}$$

Defines:

xpn, used in chunks 51a, 70c, 88c, 92d, 93b, and 98a.

Uses **pxp** 93b and **xp** 51a.

2.6.2 f.2 XGDPN: GDP, current \$

$$\begin{aligned} 70b \quad \langle \text{variable } XGDPN \text{ 70b} \rangle \equiv & \quad (211) \\ XGDPN &= \text{GDP, current \$} \end{aligned}$$

Defines:

XGDPN, used in chunk 223.

$$\begin{aligned} 70c \quad \langle \text{equation } xgdpn \text{ 70c} \rangle \equiv & \quad (244) \\ xgdpn: xgdpn - xgdpn_aerr = xpn + ein - emn + egfln + egsln \end{aligned}$$

Defines:

xgdpn, used in chunks 47e, 49, 70, 71, 77b, 106f, 133d, 135e, and 163d.

Uses **egfln** 116d, **egsln** 121e, **ein** 36d, **emn** 42c, and **xpn** 70a.

2.6.3 f.3 XFSN: Final sales of gross domestic product, current \$

$$\begin{aligned} 70d \quad \langle \text{variable } XFSN \text{ 70d} \rangle \equiv & \quad (211) \\ XFSN &= \text{Final sales of gross domestic product, current \$} \end{aligned}$$

Defines:

XFSN, used in chunk 223.

$$\begin{aligned} 70e \quad \langle \text{equation } xfsn \text{ 70e} \rangle \equiv & \quad (244) \\ xfsn: xfsn - xfsn_aerr = xgdpn - ein \end{aligned}$$

Defines:

xfsn, used in chunks 48b and 49a.

Uses **ein** 36d and **xgdpn** 70c.

2.6.4 f.4 XGDEN: Nominal Absorption, current \$

$$\begin{aligned} 70f \quad \langle \text{variable } XGDEN \text{ 70f} \rangle \equiv & \quad (211) \\ XGDEN &= \text{Nominal Absorption, current \$} \end{aligned}$$

Defines:

XGDEN, used in chunks 204f and 223.

71a $\langle \text{equation } xgden \text{ 71a} \rangle \equiv$ (244)

$$xgden: xgden - xgden_aerr = xgdpn + emn - exn$$

Defines:

xgden, used in chunks 40b and 49e.

Uses **emn** 42c, **exn** 39f, and **xgdpn** 70c.

2.6.5 f.5 XBN: Business output (BEA definition), current \$

71b $\langle \text{variable } XBN \text{ 71b} \rangle \equiv$ (211)

$$XBN = \text{Business output (BEA definition), current \$}$$

Defines:

XBN, used in chunk 223.

71c $\langle \text{equation } xbn \text{ 71c} \rangle \equiv$ (244)

$$xbn: xbn - xbn_aerr = pxb/100*xbo + xgdpn - xgdo*pgdp/100$$

Defines:

xbn, used in chunks 51c, 71e, 75b, and 128c.

Uses **pgdp** 106f, **pxb** 108d, **xbo** 50e, **xgdo** 56c, and **xgdpn** 70c.

2.6.6 f.6 XGN: Output of business sector plus oil imports, current \$

71d $\langle \text{variable } XGN \text{ 71d} \rangle \equiv$ (211)

$$XGN = \text{Output of business sector plus oil imports, current \$}$$

Defines:

XGN, used in chunk 223.

71e $\langle \text{equation } xgn \text{ 71e} \rangle \equiv$ (244)

$$xgn: xgn - xgn_aerr = xbn + empn$$

Defines:

xgn, used in chunks 92d and 108b.

Uses **empn** 42a and **xbn** 71c.

2.6.7 f.7 JCCACN: Consumption of fixed capital, corporate, current \$

71f $\langle \text{variable } JCCACN \text{ 71f} \rangle \equiv$ (211)

$$JCCACN = \text{Consumption of fixed capital, corporate, current \$}$$

Defines:

JCCACN, used in chunks 206c and 223.

72a $\langle \text{equation } jccacn \text{ 72a} \rangle \equiv$ (244)

$$jccacn: jccacn - jccacn_aerr = ujccac*(jccan - jygfgn - jygfen - jygsgn - jygsen - .01*jrh*phr(-1)*pxp(-1)*kh(-1))$$

Defines:

jccacn, used in chunks 74b and 78d.

Uses *jccan* 72c, *jrh* 200a, *jygfen* 72e, *jygfgn* 73b, *jygsen* 73d, *jygsgn* 73f, *kh* 23a, *phr* 95d, *pxp* 93b, and *ujccac* 206c.

2.6.8 f.8 JCCAN: Consumption of fixed capital, current \$

72b $\langle \text{variable } JCCAN \text{ 72b} \rangle \equiv$ (211)

$$JCCAN = \text{Consumption of fixed capital, current \$}$$

Defines:

JCCAN, used in chunks 206b and 223.

72c $\langle \text{equation } jccan \text{ 72c} \rangle \equiv$ (244)

$$jccan: jccan - jccan_aerr = jygfgn + jygfen + jygsgn + jygsen + .01*ujcca*pxp(-1) * (phr(-1)*kh(-1)*jrh + ppsr(-1)*kps(-1)*jrps + pkpdr(-1)*kpd(-1)*jrpd)$$

Defines:

jccan, used in chunks 72a and 74.

Uses *jrh* 200a, *jrpd* 200b, *jrps* 200d, *jygfen* 72e, *jygfgn* 73b, *jygsen* 73d, *jygsgn* 73f, *kh* 23a, *kpd* 29g, *kps* 30d, *phr* 95d, *pkpdr* 107e, *ppsr* 96e, *pxp* 93b, and *ujcca* 206b.

2.6.9 f.9 JYGFEN: CFC, federal government enterprises, current \$

72d $\langle \text{variable } JYGFEN \text{ 72d} \rangle \equiv$ (211)

$$JYGFEN = \text{CFC, federal government enterprises, current \$}$$

Defines:

JYGFEN, used in chunks 206d and 223.

72e $\langle \text{equation } jygfen \text{ 72e} \rangle \equiv$ (244)

$$jygfen: jygfen - jygfen_aerr = ujugfe * (.01 * pgdp * xgdpt)$$

Defines:

jygfen, used in chunks 72, 74b, 124a, 133d, and 138b.

Uses *pgdp* 106f, *ujugfe* 206d, and *xgdpt* 55c.

2.6.10 f.10 JYGFGN: CFC, federal government, general, current \$

$$73a \quad \langle \text{variable } JYGFGN \text{ 73a} \rangle \equiv \quad (211)$$

$$JYGFGN = \text{CFC, federal government, general, current \$}$$

Defines:

JYGFGN, used in chunks 206e and 223.

$$73b \quad \langle \text{equation } jygfgn \text{ 73b} \rangle \equiv \quad (244)$$

$$jygfgn: jygfgn - jygfgn_aerr = ujygfg * (.01 * pgdp * xgdpt)$$

Defines:

jygfgn, used in chunks 72, 74b, 124a, 133d, and 138b.

Uses pgdp 106f, ujygfg 206e, and xgdpt 55c.

2.6.11 f.11 JYGSEN: CFC, state and local government enterprises, current \$

$$73c \quad \langle \text{variable } JYGSEN \text{ 73c} \rangle \equiv \quad (211)$$

$$JYGSEN = \text{CFC, state and local government enterprises, current \$}$$

Defines:

JYGSEN, used in chunks 206f and 223.

$$73d \quad \langle \text{equation } jygsen \text{ 73d} \rangle \equiv \quad (244)$$

$$jygsen: jygsen - jygsen_aerr = ujygse * (.01 * pgdp * xgdpt)$$

Defines:

jygsen, used in chunks 72, 74b, 128a, 135e, and 138d.

Uses pgdp 106f, ujygse 206f, and xgdpt 55c.

2.6.12 f.12 JYGSGN: CFC, state and local government, general, current \$

$$73e \quad \langle \text{variable } JYGSGN \text{ 73e} \rangle \equiv \quad (211)$$

$$JYGSGN = \text{CFC, state and local government, general, current \$}$$

Defines:

JYGSGN, used in chunks 206g and 223.

$$73f \quad \langle \text{equation } jygsn \text{ 73f} \rangle \equiv \quad (244)$$

$$jygsgn: jygsn - jygsn_aerr = ujygsg * (.01 * pgdp * xgdpt)$$

Defines:

jygsgn, used in chunks 72, 74b, 128a, 135e, and 138d.

Uses pgdp 106f, ujygsg 206g, and xgdpt 55c.

2.6.13 f.13 JYNCN: Noncorporate business CFC, current \$

$$74a \quad \langle \text{variable } JYNCN \text{ 74a} \rangle \equiv \quad (211)$$

$$JYNCN = \text{Noncorporate business CFC, current \$}$$

Defines:

JYNCN, used in chunk 223.

$$74b \quad \langle \text{equation } jyncn \text{ 74b} \rangle \equiv \quad (244)$$

$$jyncn: jyncn - jyncn_aerr = jccan - jccacn - jygfgn - jygfen - jygsn - jygsen$$

Defines:

jyncn, never used.

Uses jccacn 72a, jccan 72c, jygfen 72e, jygfgn 73b, jygsen 73d, and jygsn 73f.

2.6.14 f.14 YNIN: National income

$$74c \quad \langle \text{variable } YNIN \text{ 74c} \rangle \equiv \quad (211)$$

$$YNIN = \text{National income}$$

Defines:

YNIN, used in chunks 209h and 223.

$$74d \quad \langle \text{equation } ynin \text{ 74d} \rangle \equiv \quad (244)$$

$$ynin: ynin - ynin_aerr = uyni * (xgdin + fynin - jccan)$$

Defines:

ynin, used in chunks 75d, 77b, and 86b.

Uses fynin 44d, jccan 72c, uyni 209h, and xgdin 86e.

2.6.15 f.15 YNILN: Labor income (national income component)

$$74e \quad \langle \text{variable } YNILN \text{ 74e} \rangle \equiv \quad (211)$$

$$YNILN = \text{Labor income (national income component)}$$

Defines:

YNILN, used in chunk 223.

$$74f \quad \langle \text{equation } ynln \text{ 74f} \rangle \equiv \quad (244)$$

$$ynln: ynln - ynln_aerr = 0.01 * uyl * (pl*lhp + pgfl*egfl + pgs1*egs1)$$

Defines:

ynln, used in chunks 75d, 77b, 81f, 86b, 132a, and 137f.

Uses egfl 116a, egs1 121b, lhp 56e, pgfl 107a, pgs1 107c, pl 90d, and uyl 209g.

2.6.16 f.16 YNISEN: Proprietors' income (national income component)

75a $\langle \text{variable } YNISEN \text{ 75a} \rangle \equiv$ (211)
 YNISEN = Proprietors' income (national income component)

Defines:

 YNISEN, used in chunk 223.

75b $\langle \text{equation } ynisen \text{ 75b} \rangle \equiv$ (244)
 ynisen: ynisen - ynisen_aerr = uysen*xbn

Defines:

 ynisen, used in chunks 77b and 83e.

Uses uysen 210c and xbn 71c.

2.6.17 f.17 YNIIN: Net interest and rental income (national income component)

75c $\langle \text{variable } YNIIN \text{ 75c} \rangle \equiv$ (211)
 YNIIN = Net interest and rental income (national income component)

Defines:

 YNIIN, used in chunk 223.

75d $\langle \text{equation } yniin \text{ 75d} \rangle \equiv$ (244)
 yniin: yniin/(ynin(-1)-yniln(-1)) - yniin_aerr _
 = y_yniin(1) _
 + y_yniin(2) * (yniin(-1)/(ynin(-2)-yniln(-2))) _
 + y_yniin(3) * (.01*rrmet*.01*phr(-1)*pyp(-1)*kh(-1)/(ynin(-1)-yniln(-1))) _
 + y_yniin(4) * ((.01*rbbbe)*(wdnfc(-1)/(ynin(-1)-yniln(-1)))) _
 + y_yniin(5) * (.01*d(rbbbe*(wdnfc(-1)/(ynin(-1)-yniln(-1))), 0, 1)) _
 + y_yniin(6) * (.01*fnin(-1)/(ynin(-1)-yniln(-1)))

Defines:

 yniin, used in chunks 77b and 81b.

Uses fnin 43e, kh 23a, phr 95d, pyp 93b, rbbbe 150f, rrmet 157f, wdnfc 86b, y_yniin 75e,
 yniln 74f, and ynin 74d.

75e $\langle \text{coefficient } y_yniin \text{ 75e} \rangle \equiv$ (253)
 y_yniin 6 0.01335460515030035,0.8715712577633621,0.03107757397810296,0.1284287422366379,0

Defines:

 y_yniin, used in chunk 75d.

2.6.18 f.18 QYNIDN: Desired level of dividends

$$76a \quad \langle \text{variable } QYNIDN \ 76a \rangle \equiv \quad (211)$$

$$QYNIDN = \text{Desired level of dividends}$$

Defines:
QYNIDN, used in chunk 223.

$$76b \quad \langle equation \ qynidn \ 76b \rangle \equiv \quad (244)$$

$$\begin{aligned} & \text{qynidn: log(qynidn) - qynidn_aerr = y_qynidn(1) -} \\ & \quad + \text{y_qynidn(2)*d79a -} \\ & \quad + \text{y_qynidn(3)*log((@recode((ynicpn-tf} \end{aligned}$$

Defines:
qynidn, used in chunks 76e and 187c.
 Uses **tfcin** 131a, **tscin** 136f, **y-qynidn** 76c, and **ynicpn** 77b.

$$\langle \text{coefficient } y_qynidn \text{ } 76c \rangle \equiv \frac{y_qynidn}{3} - 0.9889159016018153, 0.3614481909275686, 1 \quad (253)$$

Defines:
 y_qynidn, used in chunk 76b.

2.6.19 f.19 YNIDN: Dividends (national income component)

$$76d \quad \langle \text{variable } YNIDN \ 76d \rangle \equiv \text{YNIDN} = \text{Dividends (national income component)} \quad (211)$$

Defines:
YNIDN, used in chunks 187b and 223.

$$76e \quad \langle \text{equation ynidn 76e} \rangle \equiv \quad (244)$$

$$\begin{aligned} \text{ynidn: d(log((ynidn-ymsdn)/pxb), 0, 1) - ynidn_aerr = } & _ \\ & \text{y_ynidn(1) * log(qynidn(-1)/(ynidn(-1)} \\ & + \text{y_ynidn(2) * d(log((ynidn(-1)-ymsdn(-} \\ & + \text{y_ynidn(3) * zynid} \end{aligned}$$

Defines:
ynidn, used in chunks 78d and 83.
 Uses **pxb** 108d, **qynidn** 76b, **y_ynidn** 76f, **ymsdn** 210d, and **zynid** 187c.

$$\langle \text{coefficient } y_{\text{ynidn}} \rangle = 0.0903554997290158, -0.1364018197288298, 1 \quad (253)$$

Defines:
 y_ynidn, used in chunk 76e.

2.6.20 f.20 YNICPN: Corporate profits (national income component)

$$77a \quad \langle \text{variable } YNICPN \text{ 77a} \rangle \equiv \quad (211)$$

$$YNICPN = \text{Corporate profits (national income component)}$$

Defines:

YNICPN, used in chunks 210a and 223.

$$77b \quad \langle \text{equation } ynicpn \text{ 77b} \rangle \equiv \quad (244)$$

$$ynicpn: ynicpn - ynicpn_aerr = uynicp * (@recode((ynin-yniln-yniin-ynisen-tfibn-tsibn+gfsubn+gs$$

Defines:

y \mathbf{nicpn} , used in chunks 44b, 76b, 78d, 83a, 131a, 132c, 136f, 153c, 186d, and 189e.

Uses g \mathbf{fsubn} 126d, g \mathbf{ssubn} 129b, t \mathbf{fcin} 131a, t \mathbf{fibn} 131c, t \mathbf{scin} 136f, t \mathbf{sibn} 137b,

u \mathbf{ynicp} 210a, x \mathbf{gdpn} 70c, y \mathbf{niin} 75d, y \mathbf{niln} 74f, y \mathbf{nin} 74d, and y \mathbf{nisen} 75b.

2.6.21 f.21 YPN: Personal income

$$77c \quad \langle \text{variable } YPN \text{ 77c} \rangle \equiv \quad (211)$$

$$YPN = \text{Personal income}$$

Defines:

YPN, used in chunks 210b and 223.

$$77d \quad \langle \text{equation } ypn \text{ 77d} \rangle \equiv \quad (244)$$

$$ypn: ypn - ypn_aerr = uyp * (yhl\mathbf{n} + yht\mathbf{n} + yhpt\mathbf{n})$$

Defines:

y \mathbf{pn} , used in chunks 77f, 131e, and 137d.

Uses u \mathbf{yp} 210b, y $\mathbf{hl\mathbf{n}}$ 81f, y $\mathbf{hpt\mathbf{n}}$ 83e, and y $\mathbf{ht\mathbf{n}}$ 85d.

2.6.22 f.22 YDN: Disposable income

$$77e \quad \langle \text{variable } YDN \text{ 77e} \rangle \equiv \quad (211)$$

$$YDN = \text{Disposable income}$$

Defines:

YDN, used in chunks 209a and 223.

$$77f \quad \langle \text{equation } ydn \text{ 77f} \rangle \equiv \quad (244)$$

$$ydn: ydn - ydn_aerr = uyd * (ypn - tfp\mathbf{n} - tsp\mathbf{n})$$

Defines:

y \mathbf{dn} , used in chunks 78b and 155a.

Uses t \mathbf{fpn} 131e, t \mathbf{spn} 137d, u \mathbf{yd} 209a, and y \mathbf{pn} 77d.

2.6.23 f.23 RSPNIA: Personal saving rate

78a $\langle \text{variable } RSPNIA \text{ 78a} \rangle \equiv$ (211)
 RSPNIA = Personal saving rate

Defines:
 RSPNIA, used in chunk 223.

78b $\langle \text{equation } rspnia \text{ 78b} \rangle \equiv$ (244)
 rspnia: rspnia - rspnia_aerr = 100 * yhsn / ydn

Defines:
 rspnia, never used.
 Uses ydn 77f and yhsn 84d.

2.6.24 f.24 YCSN: Net corporate cash flow with IVA and CCA

78c $\langle \text{variable } YCSN \text{ 78c} \rangle \equiv$ (211)
 YCSN = Net corporate cash flow with IVA and CCA

Defines:
 YCSN, used in chunk 223.

78d $\langle \text{equation } ycsn \text{ 78d} \rangle \equiv$ (244)
 ycsn: ycsn - ycsn_aerr = ynicpn - tfcin - tscin - ftcin - ynidn + jccacn

Defines:
 ycsn, never used.
 Uses ftcin 44b, jccacn 72a, tfcin 131a, tscin 136f, ynicpn 77b, and ynidn 76e.

2.6.25 f.25 YKIN: Income from stock of inventories

78e $\langle \text{variable } YKIN \text{ 78e} \rangle \equiv$ (211)
 YKIN = Income from stock of inventories

Defines:
 YKIN, used in chunk 223.

78f $\langle \text{equation } ykin \text{ 78f} \rangle \equiv$ (244)
 ykin: ykin - ykin_aerr = .01*rtinv*pxb* (ki + ki(-1)) /2

Defines:
 ykin, used in chunk 31a.
 Uses ki 27b, pxb 108d, and rtinv 33b.

2.6.26 f.26 YKPDN: Income from stock of equipment

$$\begin{aligned} 79a \quad \langle \text{variable } YKPDN \text{ 79a} \rangle &\equiv & (211) \\ YKPDN &= \text{Income from stock of equipment} \end{aligned}$$

Defines:

YKPDN, used in chunk 223.

$$\begin{aligned} 79b \quad \langle \text{equation } ykpdn \text{ 79b} \rangle &\equiv & (244) \\ ykpdn: ykpdn - ykpdn_aerr &= .01 * rtpd * pxb * (kpd + kpd(-1)) / 2 \end{aligned}$$

Defines:

ykpdn, used in chunk 31a.

Uses kpd 29g, pxb 108d, and rtpd 32a.

2.6.27 f.27 YKPSN: Income from stock of nonresidential structures

$$\begin{aligned} 79c \quad \langle \text{variable } YKPSN \text{ 79c} \rangle &\equiv & (211) \\ YKPSN &= \text{Income from stock of nonresidential structures} \end{aligned}$$

Defines:

YKPSN, used in chunk 223.

$$\begin{aligned} 79d \quad \langle \text{equation } ykpsn \text{ 79d} \rangle &\equiv & (244) \\ ykpsn: ykpsn - ykpsn_aerr &= .01 * rtps * pxb * (kps + kps(-1)) / 2 \end{aligned}$$

Defines:

ykpsn, used in chunk 31a.

Uses kps 30d, pxb 108d, and rtps 32e.

2.6.28 f.28 YH: Income, household, total (real after-tax)

$$\begin{aligned} 79e \quad \langle \text{variable } YH \text{ 79e} \rangle &\equiv & (211) \\ YH &= \text{Income, household, total (real after-tax)} \end{aligned}$$

Defines:

YH, used in chunks 82c, 83b, 85, and 223.

$$\begin{aligned} 79f \quad \langle \text{equation } yh \text{ 79f} \rangle &\equiv & (244) \\ yh: yh - yh_aerr &= yhl + yht + yhp \end{aligned}$$

Defines:

yh, used in chunks 83–85.

Uses yhl 81d, yhp 82b, and yht 84f.

2.6.29 f.29 YHGAP: Income, household, total, ratio to XGDP, cyclical component (real after-tax)

80a $\langle \text{variable } YHGAP \text{ 80a} \rangle \equiv$ (211)
 $YHGAP = \text{Income, household, total, ratio to XGDP, cyclical component (real after-tax)}$
 Defines:
 $YHGAP$, used in chunk 223.
 Uses $XGDP$ 48c.

80b $\langle \text{equation } yhgap \text{ 80b} \rangle \equiv$ (244)
 $yhgap: yhgap - yhgap_aerr = 100*(yhshr/zyhst-1)$

Defines:
 $yhgap$, used in chunks 179–81, 188, and 189b.
 Uses $yhshr$ 84b and $zyhst$ 167a.

2.6.30 f.30 YHIBN: Consumer interest payments to business

80c $\langle \text{variable } YHIBN \text{ 80c} \rangle \equiv$ (211)
 $YHIBN = \text{Consumer interest payments to business}$
 Defines:
 $YHIBN$, used in chunk 223.

80d $\langle \text{equation } yhibn \text{ 80d} \rangle \equiv$ (244)
 $yhibn: d(\log(yhibn), 0, 1) - yhibn_aerr _$
 $= y_yhibn(1) * (\text{picxfe}/1600 + \text{picxfe}(-1)/1600 + \text{picxfe}(-2)/1600$
 $+ y_yhibn(2) _$
 $+ y_yhibn(3) * \log(\text{ecnian}(-1)/yhibn(-1)) _$
 $+ y_yhibn(4) * (d(\log(yhibn(-1)), 0, 1) - (\text{picxfe}(-1)/1600$
 $+ y_yhibn(5) * d79a _$
 $+ y_yhibn(6) * \text{rcar}(-1) _$
 $+ y_yhibn(7) * \log(.01*\text{pcdr}(-1)*\text{pcnia}(-1)*\text{ecd}(-1)/\text{ecnian}(-1)) _$
 $+ y_yhibn(8) * d(\text{rffe}, 0, 1)$

Defines:
 $yhibn$, used in chunks 81b, 83a, 84d, and 155a.
 Uses ecd 18b, $ecnian$ 22a, $pcdr$ 112f, $pcnia$ 89b, $picxfe$ 87b, $rcar$ 151d, $rffe$ 144e,
 and y_yhibn 80e.

80e $\langle \text{coefficient } y_yhibn \text{ 80e} \rangle \equiv$ (253)
 $y_yhibn \text{ 8 } 1, -0.1336307554530098, 0.06545518537060361, 0.2942182559897778, 0.023569$
 Defines:
 y_yhibn , used in chunk 80d.

2.6.31 f.31 YHIN: Income, household, net interest and rent

$$81a \quad \langle \text{variable } YHIN \text{ 81a} \rangle \equiv \quad (211)$$

$$YHIN = \text{Income, household, net interest and rent}$$

Defines:

$YHIN$, used in chunks 209b and 223.

$$81b \quad \langle \text{equation } yhin \text{ 81b} \rangle \equiv \quad (244)$$

$$yhin: yhin - yhin_aerr = uyhi * (yniin + gfintn + gsintn + yhibn)$$

Defines:

$yhin$, used in chunk 83e.

Uses $gfintn$ 124c, $gsintn$ 128c, $uyhi$ 209b, $yhibn$ 80d, and $yniin$ 75d.

2.6.32 f.32 YHL: Income, household, labor compensation (real after-tax)

$$81c \quad \langle \text{variable } YHL \text{ 81c} \rangle \equiv \quad (211)$$

$$YHL = \text{Income, household, labor compensation (real after-tax)}$$

Defines:

YHL , used in chunk 223.

$$81d \quad \langle \text{equation } yhl \text{ 81d} \rangle \equiv \quad (244)$$

$$yhl: yhl - yhl_aerr = (1 - tryh) * yhl_n / (.01 * pcnia)$$

Defines:

yhl , used in chunks 17b and 79f.

Uses $pcnia$ 89b, $tryh$ 138f, and yhl_n 81f.

2.6.33 f.33 YHLN: Income, household, labor compensation

$$81e \quad \langle \text{variable } YHLN \text{ 81e} \rangle \equiv \quad (211)$$

$$YHLN = \text{Income, household, labor compensation}$$

Defines:

$YHLN$, used in chunks 209c and 223.

$$81f \quad \langle \text{equation } yhln \text{ 81f} \rangle \equiv \quad (244)$$

$$yhln: yhln - yhln_aerr = uyhln * (yniln - tfsin - tssin)$$

Defines:

$yhln$, used in chunks 77d, 81d, 84d, and 138f.

Uses $tfsin$ 132a, $tssin$ 137f, $uyhln$ 209c, and $yniln$ 74f.

2.6.34 f.34 YHP: Income, household, property (real after-tax)

$$82a \quad \langle \text{variable } YHP \text{ 82a} \rangle \equiv \text{YHP} = \text{Income, household, property (real after-tax)} \quad (211)$$

Defines:

YHP, used in chunk 223.

$$82b \quad \langle \text{equation } yhp \text{ 82b} \rangle \equiv \text{yhp: yhp} - \text{yhp_aerr} = ((1 - \text{tryh}) * \text{yhptn} + \text{yhpntn}) / (.01 * \text{pcnia}) \quad (244)$$

Defines:

yhp, used in chunks 79f and 83c.

Uses pcnia 89b, tryh 138f, yhpntn 83a, and yhptn 83e.

2.6.35 f.35 YHPGAP: Income, household, property, ratio to YH, cyclical component (real after-tax)

$$82c \quad \langle \text{variable } YHPGAP \text{ 82c} \rangle \equiv \text{YHPGAP} = \text{Income, household, property, ratio to YH, cyclical component (real after-tax)} \quad (211)$$

Defines:

YHPGAP, used in chunk 223.

Uses YH 79e.

$$82d \quad \langle \text{equation } yhpgap \text{ 82d} \rangle \equiv \text{yhpgap: yhpgap} - \text{yhpgap_aerr} = 100 * (\text{yhpshr} / \text{zyhpst} - 1) \quad (244)$$

Defines:

yhpgap, used in chunks 179–81 and 188d.

Uses yhpshr 83c and zyhpst 167d.

2.6.36 f.36 YHPNTN: Income, household, property, non-taxable component

$$82e \quad \langle \text{variable } YHPNTN \text{ 82e} \rangle \equiv \text{YHPNTN} = \text{Income, household, property, non-taxable component} \quad (211)$$

Defines:

YHPNTN, used in chunks 174d and 223.

83a $\langle \text{equation } yhpntn \text{ 83a} \rangle \equiv$ (244)

$$\begin{aligned} yhpntn: yhpntn - yhpntn_aerr = & .01*pcnia*pcdr*yhpcd _ \\ & - yhibn + ynicpn - tfcin - tscin - ynidn _ \\ & - .01 * zpi10 *(gfdbtn+gsdbtn) \end{aligned}$$

Defines:

`yhpntn`, used in chunk 82b.

Uses `gfdbtn` 124a, `gsdbtn` 128a, `pcdr` 112f, `pcnia` 89b, `tfcin` 131a, `tscin` 136f, `yhibn` 80d, `yhpcd` 24e, `ynicpn` 77b, `ynidn` 76e, and `zpi10` 174e.

2.6.37 f.37 YHPSHR: Income, household, property, ratio to YH (real after-tax)

83b $\langle \text{variable } YHPSHR \text{ 83b} \rangle \equiv$ (211)

$$YHPSHR = \text{Income, household, property, ratio to YH (real after-tax)}$$

Defines:

`YHPSHR`, used in chunk 223.

Uses `YH` 79e.

83c $\langle \text{equation } yhpshr \text{ 83c} \rangle \equiv$ (244)

$$yhpshr: yhpshr - yhpshr_aerr = yhp/yh$$

Defines:

`yhpshr`, used in chunks 82d and 167d.

Uses `yh` 79f and `yhp` 82b.

2.6.38 f.38 YHPTN: Income, household, property, taxable component

83d $\langle \text{variable } YHPTN \text{ 83d} \rangle \equiv$ (211)

$$YHPTN = \text{Income, household, property, taxable component}$$

Defines:

`YHPTN`, used in chunks 209d and 223.

83e $\langle \text{equation } yhptn \text{ 83e} \rangle \equiv$ (244)

$$yhptn: yhptn - yhptn_aerr = uyhptn*(ynisen+yhin+ynidn)$$

Defines:

`yhptn`, used in chunks 77d, 82b, 84d, and 138f.

Uses `uyhptn` 209d, `yhin` 81b, `ynidn` 76e, and `ynisen` 75b.

84a $\langle \text{variable } YHSHR \text{ 84a} \rangle \equiv$ (211)
 $YHSHR = \text{Income, household, total, ratio to XGDP (real after-tax)}$
 Defines:
 $YHSHR$, used in chunk 223.
 Uses $XGDP$ 48c.

Defines:
yhshr, used in chunks 80b and 167a.
 Uses **xgdp** 49a and **yh** 79f.

84c $\langle variable\ YHSN\ 84c \rangle \equiv$ (211)
 $YHSN = \text{Personal saving}$
 Defines:
 $YHSN$, used in chunk 223.

Defines:
yhsn, used in chunk 78b.
 Uses **ecnian** 22a, **tfpn** 131e, **tspn** 137d, **uyhsn** 209e, **xgdptn** 61a, **yhibn** 80d, **yhlñ** 81f,
yhptn 83e, and **yhtn** 85d.

84e $\langle variable\ YHT\ 84e \rangle \equiv$ (211)
YHT = Income, household, transfer (real after-tax), net basis
Defines:
YHT, used in chunk 223.

Defines:
 yht, used in chunks 17b, 79f, and 85f.
 Uses **pcnia** 89b and **yhtn** 85d.

2.6.42 f.42 YHTGAP: Income, household, transfer, ratio to YH, cyclical component (real after-tax)

85a $\langle \text{variable } YHTGAP \text{ 85a} \rangle \equiv$ (211)
 $YHTGAP = \text{Income, household, transfer, ratio to YH, cyclical component (real after-tax)}$

Defines:

$YHTGAP$, used in chunk 223.

Uses YH 79e.

85b $\langle \text{equation } yhtgap \text{ 85b} \rangle \equiv$ (244)
 $yhtgap: yhtgap - yhtgap_aerr = 100*(yhtshr/zyhtst-1)$

Defines:

$yhtgap$, used in chunks 179–81 and 189b.

Uses $yhtshr$ 85f and $zyhtst$ 168a.

2.6.43 f.43 YHTN: Income, household, transfer payments. net basis

85c $\langle \text{variable } YHTN \text{ 85c} \rangle \equiv$ (211)
 $YHTN = \text{Income, household, transfer payments. net basis}$

Defines:

$YHTN$, used in chunks 209f and 223.

85d $\langle \text{equation } yhtn \text{ 85d} \rangle \equiv$ (244)
 $yhtn: yhtn - yhtn_aerr = uyhtn*(gftn+gstn)$

Defines:

$yhtn$, used in chunks 77d and 84.

Uses $gftn$ 127b, $gstn$ 129d, and $uyhtn$ 209f.

2.6.44 f.44 YHTSHR: Income, household, transfer, ratio to YH (real after-tax)

85e $\langle \text{variable } YHTSHR \text{ 85e} \rangle \equiv$ (211)
 $YHTSHR = \text{Income, household, transfer, ratio to YH (real after-tax)}$

Defines:

$YHTSHR$, used in chunk 223.

Uses YH 79e.

85f $\langle \text{equation } yhtshr \text{ 85f} \rangle \equiv$ (244)
 $yhtshr: yhtshr - yhtshr_aerr = yht/yh$

Defines:

$yhtshr$, used in chunks 85b and 168a.

Uses yh 79f and yht 84f.

2.6.45 f.45 WDNFCN: Net financial liabilities, nonfinancial nonfarm corporations

86a $\langle \text{variable } WDNFCN \text{ 86a} \rangle \equiv$ (211)
 WDNFCN = Net financial liabilities, nonfinancial nonfarm corporations
 Defines:
 WDNFCN, used in chunk 223.

86b $\langle \text{equation } wdnfcn \text{ 86b} \rangle \equiv$ (244)
 wdnfcn: d(log(wdnfcn), 0, 1) - wdnfcn_aerr _
 = y_wdnfcn(1) * log(wdnfcn(-1)/(ynin(-1)-yniln(-1))) _
 + y_wdnfcn(2) _
 + y_wdnfcn(3) * d(log(wdnfcn(-1)), 0, 1) _
 + y_wdnfcn(4) * d(log(wdnfcn(-2)), 0, 1) _
 + y_wdnfcn(5) * xgap2

Defines:
 wdnfcn, used in chunk 75d.
 Uses xgap2 59c, y_wdnfcn 86c, yniln 74f, and ynin 74d.

86c $\langle \text{coefficient } y_wdnfcn \text{ 86c} \rangle \equiv$ (253)
 y_wdnfcn 5 -0.02207644135378071, 0.01442097831747879, 0.2375257265379373,
 Defines:
 y_wdnfcn, used in chunk 86b.

2.6.46 f.46 XGDIN: Gross domestic income, current \$

86d $\langle \text{variable } XGDIN \text{ 86d} \rangle \equiv$ (211)
 XGDIN = Gross domestic income, current \$
 Defines:
 XGDIN, used in chunk 223.

86e $\langle \text{equation } xgdin \text{ 86e} \rangle \equiv$ (244)
 xgdin: xgdin - xgdin_aerr = xgdi *(pgdp/100)

Defines:
 xgdin, used in chunk 74d.
 Uses pgdp 106f and xgdi 56a.

2.7 Wages and Prices

2.7.1 g.1 PICXFE: Inflation rate, personal consumption expenditures, ex. food and energy, cw

87a $\langle \text{variable } PICXFE \text{ 87a} \rangle \equiv$ (211)
 PICXFE = Inflation rate, personal consumption expenditures, ex. food and energy, cw
 Defines:
 PICXFE, used in chunk 223.
 Uses ex 39c.

87b $\langle \text{equation } picxfe \text{ 87b} \rangle \equiv$ (244)
 picxfe: picxfe - picxfe_aerr = (y_picxfe(1)*picxfe(-1) _
 + y_picxfe(3)*zpicxfe _
 + (1-y_picxfe(3))*(1-y_picxfe(1))*ptr(-1) _
 + y_picxfe(2)*400*log(qpcnia(-1)/pcnia(-1))) / (1+y_picxfe(1)*y_picxfe(3))

Defines:
 picxfe, used in chunks 80d, 88f, 101d, 139–42, 145e, 168d, 176–78, and 223.
 Uses pcnia 89b, ptr 168d, qpcnia 92f, y_picxfe 87c, and zpicxfe 177a.

87c $\langle \text{coefficient } y_picxfe \text{ 87c} \rangle \equiv$ (253)
 y_picxfe 3 0.644974342322, 0.00373609153735, 0.98
 Defines:
 y_picxfe, used in chunk 87b.

2.7.2 g.2 PIECI: Annualized rate of growth of EI hourly compensation

87d $\langle \text{variable } PIECI \text{ 87d} \rangle \equiv$ (211)
 PIECI = Annualized rate of growth of EI hourly compensation
 Defines:
 PIECI, used in chunk 223.
 Uses EI 27d.

87e $\langle \text{equation } pieci \text{ 87e} \rangle \equiv$ (244)
 pieci: pieci - pieci_aerr = (.25*y_pieci(1)*((1-y_pieci(4))*(pieci(-1)+pieci(-2)+pieci(-3)) + p
 + y_pieci(4)*zpieci _
 + (1-y_pieci(4))*(1-y_pieci(1))*(ptr(-1) + hlprdt(-1) - 400*huqpct(-1)) _
 + y_pieci(2)*(lur(-1)-lurnat(-1)) _
 + y_pieci(3)*400*log(qpl(-1)/pl(-1))) / (1+.25*y_pieci(1)*y_pieci(4))

Defines:
 pieci, used in chunks 90b, 177, 178a, and 223.
 Uses hlprdt 69c, huqpct 100d, lur 65f, lurnat 69e, pl 90d, ptr 168d, qpl 92a, y_pieci 88a,
 and zpieci 178a.

88a $\langle \text{coefficient } y_pieci \text{ 88a} \rangle \equiv$ (253)
 $y_pieci \ 4 \quad 0.811777544324, -0.0148780773818, 0.00186804576867, 0.98$

Defines:
 y_pieci , used in chunk 87e.

2.7.3 g.3 PIPXNC: Inflation rate, price of adjusted final sales excluding consumption (annual rate)

88b $\langle \text{variable } PIPXNC \text{ 88b} \rangle \equiv$ (211)
 $PIPXNC = \text{Inflation rate, price of adjusted final sales excluding consumption (annual rate)}$

Defines:
 $PIPXNC$, used in chunk 223.

88c $\langle \text{equation } pipxnc \text{ 88c} \rangle \equiv$ (244)

$$\begin{aligned} pipxnc: pipxnc - pipxnc_aerr = & picnia - 1.99 * 400 * huqpcr_ \\ & + y_pipxnc(1) * (pipxnc(-1) - picnia(-1) + 1.99 * 400 * huqpcr(-1) \\ & + y_pipxnc(2) * (pipxnc(-2) - picnia(-2) + 1.99 * 400 * huqpcr(-2) \\ & + y_pipxnc(3) * .5 * ((emon/xpn) + (emon(-1)/xpn(-1)))) * 4 \end{aligned}$$

Defines:
 $pipxnc$, used in chunks 90f and 93–98.
 Uses $emon$ 40e, $fpxr$ 163d, $huqpcr$ 100d, $picnia$ 88f, xpn 70a, and y_pipxnc 88d.

88d $\langle \text{coefficient } y_pipxnc \text{ 88d} \rangle \equiv$ (253)
 $y_pipxnc \quad 3 \quad .462801, .229745, -.284477$

Defines:
 y_pipxnc , used in chunk 88c.

2.7.4 g.4 PICNIA: Inflation rate, personal consumption expenditures, cw

88e $\langle \text{variable } PICNIA \text{ 88e} \rangle \equiv$ (211)
 $PICNIA = \text{Inflation rate, personal consumption expenditures, cw}$

Defines:
 $PICNIA$, used in chunk 223.

88f $\langle \text{equation } picnia \text{ 88f} \rangle \equiv$ (244)

$$\begin{aligned} picnia: picnia - picnia_aerr = & picxfe_ \\ & + ((ucfs + ucfs(-1)) / 2) * 400 * d(\log(pcfcr), 0, 1) _ \\ & + ((uces + uces(-1)) / 2) * 400 * d(\log(pcer), 0, 1) \end{aligned}$$

Defines:
 $picnia$, used in chunks 88c, 89b, 132c, 141c, 170–76, and 179–89.
 Uses $pcer$ 103c, $pcfr$ 104a, $picxfe$ 87b, $uces$ 104d, and $ucfs$ 105b.

2.7.5 g.5 PCNIA: Price index for personal consumption expenditures, cw (NIPA definition)

$$\begin{aligned} 89a \quad \langle \text{variable } PCNIA \text{ 89a} \rangle &\equiv & (211) \\ PCNIA &= \text{Price index for personal consumption expenditures, cw (NIPA definition)} \end{aligned}$$

Defines:

PCNIA, used in chunks 99f, 100c, 111, 112e, 199f, and 223.

$$\begin{aligned} 89b \quad \langle \text{equation } pcnia \text{ 89b} \rangle &\equiv & (244) \\ pcnia: d(\log(pcnia), 0, 1) - pcnia_aerr &= picnia / 400 \end{aligned}$$

Defines:

pcnia, used in chunks 21, 22a, 24c, 80–84, 87b, 89d, 93b, 99d, 111c, 113c, 141c, 153–56, 177a, and 178a.

Uses picnia 88f.

2.7.6 g.6 PCPI: Consumer price index,total

$$\begin{aligned} 89c \quad \langle \text{variable } PCPI \text{ 89c} \rangle &\equiv & (211) \\ PCPI &= \text{Consumer price index,total} \end{aligned}$$

Defines:

PCPI, used in chunks 207c and 223.

$$\begin{aligned} 89d \quad \langle \text{equation } pcpi \text{ 89d} \rangle &\equiv & (244) \\ pcpi: pcpi - pcpi_aerr &= upcpi * \exp(.025 * \log(pcer)) * pcnia \end{aligned}$$

Defines:

pcpi, used in chunk 164d.

Uses pcer 103c, pcnia 89b, and upcpi 207c.

2.7.7 g.7 PCPIX: Consumer price index,excluding food and energy

$$\begin{aligned} 89e \quad \langle \text{variable } PCPIX \text{ 89e} \rangle &\equiv & (211) \\ PCPIX &= \text{Consumer price index,excluding food and energy} \end{aligned}$$

Defines:

PCPIX, used in chunks 207d and 223.

$$\begin{aligned} 89f \quad \langle \text{equation } pcpix \text{ 89f} \rangle &\equiv & (244) \\ pcpix: pcpix - pcpix_aerr &= upcpix * pcxfe \end{aligned}$$

Defines:

pcpix, never used.

Uses pcxfe 101d and upcpix 207d.

2.7.8 g.8 PIPL: Rate of growth of PL

$$\begin{aligned} 90a \quad \langle \text{variable } PIPL \text{ } 90a \rangle &\equiv & (211) \\ PIPL &= \text{Rate of growth of PL} \end{aligned}$$

Defines:

PIPL, used in chunk 223.

Uses PL 90c.

$$\begin{aligned} 90b \quad \langle \text{equation } pipl \text{ } 90b \rangle &\equiv & (244) \\ pipl: pipl - pipl_aerr &= pieci \end{aligned}$$

Defines:

pip1, used in chunk 90d.

Uses pieci 87e.

2.7.9 g.9 PL: Compensation per hour, business

$$\begin{aligned} 90c \quad \langle \text{variable } PL \text{ } 90c \rangle &\equiv & (211) \\ PL &= \text{Compensation per hour, business} \end{aligned}$$

Defines:

PL, used in chunks 90a and 223.

$$\begin{aligned} 90d \quad \langle \text{equation } pl \text{ } 90d \rangle &\equiv & (244) \\ pl: \log(pl) - pl_aerr &= \log(pl(-1)) + pip1/400 \end{aligned}$$

Defines:

pl, used in chunks 74f, 87e, 91e, 92a, 99b, 107, 177a, and 178a.

Uses pip1 90b.

2.7.10 g.10 PXNC: Price of adjusted final sales excluding consumption

$$\begin{aligned} 90e \quad \langle \text{variable } PXNC \text{ } 90e \rangle &\equiv & (211) \\ PXNC &= \text{Price of adjusted final sales excluding consumption} \end{aligned}$$

Defines:

PXNC, used in chunk 223.

$$\begin{aligned} 90f \quad \langle \text{equation } pxnc \text{ } 90f \rangle &\equiv & (244) \\ pxnc: d(\log(pxnc), 0, 1) - pxnc_aerr &= pipxnc/400 \end{aligned}$$

Defines:

pxnc, used in chunks 93b and 99d.

Uses pipxnc 88c.

2.7.11 g.11 PWSTAR: Equilibrium business sector price markup

91a $\langle \text{variable } PWSTAR \text{ 91a} \rangle \equiv$ (211)
 $PWSTAR = \text{Equilibrium NFB price markup}$

Defines:

$PWSTAR$, used in chunk 223.

91b $\langle \text{equation } pwstar \text{ 91b} \rangle \equiv$ (244)
 $pwstar: pwstar - pwstar_aerr = y_pwstar(1) + y_pwstar(2)*pwstar(-1)$

Defines:

$pwstr$, never used.

Uses y_pwstar 91c.

91c $\langle \text{coefficient } y_pwstar \text{ 91c} \rangle \equiv$ (253)
 $y_pwstar \quad \quad \quad 2 \quad \quad \quad 0.00, 1.00$

Defines:

y_pwstar , used in chunk 91b.

2.7.12 g.12 QPXG: Desired price level of private output ex. energy, housing, and farm

91d $\langle \text{variable } QPXG \text{ 91d} \rangle \equiv$ (211)
 $QPXG = \text{Desired price level of private output ex. energy, housing, and farm}$

Defines:

$QPXG$, used in chunk 223.

Uses ex 39c.

91e $\langle \text{equation } qpxg \text{ 91e} \rangle \equiv$ (244)
 $qpxg: \log(qpxg) - qpxg_aerr = \log(pwstar) + y_qpxg(1) + y_qpxg(2)*\log(pl/lprdt)$

Defines:

$qpxg$, used in chunk 92.

Uses $lprdt$ 69a, pl 90d, and y_qpxg 91f.

91f $\langle \text{coefficient } y_qpxg \text{ 91f} \rangle \equiv$ (253)
 $y_qpxg \quad 2 \quad \quad \quad 0.0, 1$

Defines:

y_qpxg , used in chunk 91e.

2.7.13 g.13 QPL: Desired level of compensation per hour, trending component

91g $\langle \text{variable } QPL \text{ 91g} \rangle \equiv$ (211)
 $QPL = \text{Desired level of compensation per hour, trending component}$

Defines:

QPL , used in chunk 223.

$$92a \quad \langle \text{equation } qpl \text{ 92a} \rangle \equiv \quad (244)$$

$$qpl: \log(qpl) - qpl_aerr = \log(pl) + y_qpl(1) * \log(pxg/qp\!xg)$$

Defines:

`qpl`, used in chunks 87e, 177a, and 178a.

Uses `pl` 90d, `pxg` 108b, `qp\!xg` 91e, and `y_qpl` 92b.

$$92b \quad \langle \text{coefficient } y_qpl \text{ 92b} \rangle \equiv \quad (253)$$

$$y_qpl \quad 1 \quad 1.0$$

Defines:

`y_qpl`, used in chunk 92a.

2.7.14 g.14 QPXP: Desired price level of adjusted final sales

$$92c \quad \langle \text{variable } QPXP \text{ 92c} \rangle \equiv \quad (211)$$

$$QPXP \quad = \text{Desired price level of adjusted final sales}$$

Defines:

`QPXP`, used in chunk 223.

$$92d \quad \langle \text{equation } qp\!xp \text{ 92d} \rangle \equiv \quad (244)$$

$$qp\!xp: qp\!xp - qp\!xp_aerr = 100*(xpn + (.01*qp\!xg*xg-xgn))/xp$$

Defines:

`qp\!xp`, used in chunks 92f and 99d.

Uses `qp\!xg` 91e, `xg` 52a, `xgn` 71e, `xp` 51a, and `xpn` 70a.

2.7.15 g.15 QPCNIA: Desired level of consumption price

$$92e \quad \langle \text{variable } QPCNIA \text{ 92e} \rangle \equiv \quad (211)$$

$$QPCNIA \quad = \text{Desired level of consumption price}$$

Defines:

`QPCNIA`, used in chunk 223.

$$92f \quad \langle \text{equation } qp\!cnia \text{ 92f} \rangle \equiv \quad (244)$$

$$qp\!cnia: \log(qp\!cnia) - qp\!cnia_aerr = \log(qp\!xp) + \log(uqp\!ct)$$

Defines:

`qp\!cnia`, used in chunks 87b, 99d, 177a, and 178a.

Uses `qp\!xp` 92d and `uqp\!ct` 100a.

2.7.16 g.16 PXP: Price index for final sales plus imports less gov. labor

93a $\langle \text{variable } PXP \text{ 93a} \rangle \equiv$ (211)
 PXP = Price index for final sales plus imports less gov. labor

Defines:

 PXP, used in chunks 93–97, 99f, 100c, 107d, 201d, and 223.

93b $\langle \text{equation } prp \text{ 93b} \rangle \equiv$ (244)
 p_{xp}: $d(\log(p_{xp}), 0, 1) - p_{xp_aerr} =$
 $.5 * (ec_{nian}/x_{pn} + ec_{nian}(-1)/x_{pn}(-1)) * d(\log(p_{c_{nia}}), 0, 1) -$
 $+ .5 * ((x_{pn} - ec_{nian})/x_{pn} + (x_{pn}(-1) - ec_{nian}(-1))/x_{pn}(-1)) * d(\log(p_{xnc}), 0, 1)$

Defines:

 p_{xp}, used in chunks 21a, 22c, 32, 33b, 35, 36, 39, 49a, 70a, 72, 75d, 93–99, 110e, 115, 118,
 120, 123, and 132c.

Uses *ec_{nian}* 22a, *pc_{nia}* 89b, *pxnc* 90f, and *x_{pn}* 70a.

2.7.17 g.17 PGFIR: Price index for federal gov. investment, cw (relative to PXP)

93c $\langle \text{variable } PGFIR \text{ 93c} \rangle \equiv$ (211)
 PGFIR = Price index for federal gov. investment, cw (relative to PXP)

Defines:

 PGFIR, used in chunk 223.

Uses PXP 93a.

93d $\langle \text{equation } pgfir \text{ 93d} \rangle \equiv$ (244)
 p_{gfir}: $\log(p_{gfir}) - p_{gfir_aerr} - \log(p_{gfir}(-1)) = y_{pgfir}(1) + p_{ipxnc}/400 + dp_{adj} - d(\log(p_{xp}),$

Defines:

 p_{gfir}, used in chunks 98a and 115.

Uses *dp_{adj}* 98c, *pip_{xnc}* 88c, *p_{xp}* 93b, and *y_{pgfir}* 93e.

93e $\langle \text{coefficient } y_{pgfir} \text{ 93e} \rangle \equiv$ (253)
 y_{pgfir} 1 = 0.0

Defines:

 y_{pgfir}, used in chunk 93d.

2.7.18 g.18 PGFOR: Price index for federal governemnt consumption ex. emp. comp., cw (relative to PXP)

93f $\langle \text{variable } PGFOR \text{ 93f} \rangle \equiv$ (211)
 PGFOR = Price index for federal governemnt consumption ex. emp. comp., cw (relative to PXP)

Defines:

 PGFOR, used in chunk 223.

Uses *emp* 41e, *ex* 39c, and PXP 93a.

$$94a \quad \langle \text{equation } pgfor \text{ 94a} \rangle \equiv \quad (244)$$

$$pgfor: \log(pgfor) - pgfor_aerr - \log(pgfor(-1)) = y_pgfor(1) + pipxnc/400 + dpadj - c$$

Defines:

pgfor, used in chunks 98a and 118.

Uses **dpadj** 98c, **pipxnc** 88c, **pxp** 93b, and **y_pgfor** 94b.

$$94b \quad \langle \text{coefficient } y_pgfor \text{ 94b} \rangle \equiv \quad (253)$$

$$y_pgfor \ 1 \quad 0.0$$

Defines:

y_pgfor, used in chunk 94a.

2.7.19 g.19 PGSIR: Price index for S&L government investment (relative to PXP)

$$94c \quad \langle \text{variable } PGSIR \text{ 94c} \rangle \equiv \quad (211)$$

$$PGSIR \quad = \text{Price index for S\&L government investment (relative to PXP)}$$

Defines:

PGSIR, used in chunk 223.

Uses **PXP** 93a.

$$94d \quad \langle \text{equation } pgsir \text{ 94d} \rangle \equiv \quad (244)$$

$$pgsir: \log(pgsir) - pgsir_aerr - \log(pgsir(-1)) = y_pgsir(1) + pipxnc/400 + dpadj - c$$

Defines:

pgsir, used in chunks 98a and 120.

Uses **dpadj** 98c, **pipxnc** 88c, **pxp** 93b, and **y_pgsir** 94e.

$$94e \quad \langle \text{coefficient } y_pgsir \text{ 94e} \rangle \equiv \quad (253)$$

$$y_pgsir \ 1 \quad 0.0$$

Defines:

y_pgsir, used in chunk 94d.

2.7.20 g.20 PGSOR: Price index for S&L government consumption ex. emp. comp., cw (relative to PXP)

$$94f \quad \langle \text{variable } PGSOR \text{ 94f} \rangle \equiv \quad (211)$$

$$PGSOR \quad = \text{Price index for S\&L government consumption ex. emp. comp., cw (relative to PXP)}$$

Defines:

PGSOR, used in chunk 223.

Uses **emp** 41e, **ex** 39c, and **PXP** 93a.

95a $\langle \text{equation } pgsor \text{ 95a} \rangle \equiv$ (244)

$$pgsor: \log(pgsor) - pgsor_aerr - \log(pgsor(-1)) = y_pgsor(1) + pipxnc/400 + dpadj - d(\log(pxp),$$

Defines:

pgsor, used in chunks 98a and 123.

Uses **dpadj** 98c, **pipxnc** 88c, **pxp** 93b, and **y_pgsor** 95b.

95b $\langle \text{coefficient } y_pgsor \text{ 95b} \rangle \equiv$ (253)

$$y_pgsor \quad 1 \quad \quad 0.0$$

Defines:

y_pgsor, used in chunk 95a.

2.7.21 g.21 PHR: Price index for residential investment, cw (relative to PXP)

95c $\langle \text{variable } PHR \text{ 95c} \rangle \equiv$ (211)

$$PHR \quad \quad = \text{Price index for residential investment, cw (relative to PXP)}$$

Defines:

PHR, used in chunk 223.

Uses **PXP** 93a.

95d $\langle \text{equation } phr \text{ 95d} \rangle \equiv$ (244)

$$phr: \log(phr) - phr_aerr - \log(phr(-1)) = y_phr(1) + pipxnc/400 + dpadj - d(\log(pxp), 0, 1)$$

Defines:

phr, used in chunks 21a, 22c, 72, 75d, and 98a.

Uses **dpadj** 98c, **pipxnc** 88c, **pxp** 93b, and **y_phr** 95e.

95e $\langle \text{coefficient } y_phr \text{ 95e} \rangle \equiv$ (253)

$$y_phr \quad 1 \quad \quad 0.0$$

Defines:

y_phr, used in chunk 95d.

2.7.22 g.22 PPDR: Price level of EPD compared to PXP

95f $\langle \text{variable } PPDR \text{ 95f} \rangle \equiv$ (211)

$$PPDR \quad \quad = \text{Price level of EPD compared to PXP}$$

Defines:

PPDR, used in chunks 108e and 223.

Uses **EPD** 25b and **PXP** 93a.

95g $\langle \text{equation } ppdr \text{ 95g} \rangle \equiv$ (244)

$$ppdr: \log(ppdr) - ppdr_aerr - \log(ppdr(-1)) = y_ppdr(1) + pipxnc/400 + dpadj - d(\log(pxp), 0, 1)$$

Defines:

ppdr, used in chunks 33d, 35d, 98a, 107e, 108f, and 132c.

Uses **dpadj** 98c, **pipxnc** 88c, **pxp** 93b, and **y_ppdr** 96a.

$$96a \quad \langle \text{coefficient } y_ppdr \text{ } 96a \rangle \equiv \quad (253)$$

$$y_ppdr \quad 1 \quad 0.0$$

Defines:

`y_ppdr`, used in chunk 95g.

2.7.23 g.23 PPIR: Price level of EPI compared to PXP

$$96b \quad \langle \text{variable } PPIR \text{ } 96b \rangle \equiv \quad (211)$$

$$PPIR \quad = \text{Price level of EPI compared to PXP}$$

Defines:

`PPIR`, used in chunks 109b and 223.

Uses `EPI` 25e and `PXP` 93a.

$$96c \quad \langle \text{equation } ppir \text{ } 96c \rangle \equiv \quad (244)$$

$$ppir: \log(ppir) - ppir_aerr - \log(ppir(-1)) = pipxnc/400 + dpadj - d(\log(pxp), 0, 1)$$

Defines:

`ppir`, used in chunks 32c, 35f, 98a, and 109c.

Uses `dpadj` 98c, `pipxnc` 88c, and `pxp` 93b.

2.7.24 g.24 PPSR: Price index for nonresidential structures, cw (relative to PXP)

$$96d \quad \langle \text{variable } PPSR \text{ } 96d \rangle \equiv \quad (211)$$

$$PPSR \quad = \text{Price index for nonresidential structures, cw (relative to PXP)}$$

Defines:

`PPSR`, used in chunks 110a and 223.

Uses `PXP` 93a.

$$96e \quad \langle \text{equation } ppsr \text{ } 96e \rangle \equiv \quad (244)$$

$$ppsr: \log(ppsr) - ppsr_aerr - \log(ppsr(-1)) = y_ppsr(1) + pipxnc/400 + dpadj - d(\log$$

Defines:

`ppsr`, used in chunks 32e, 36b, 72c, 98a, and 110b.

Uses `dpadj` 98c, `pipxnc` 88c, `pxp` 93b, and `y_ppsr` 96f.

$$96f \quad \langle \text{coefficient } y_ppsr \text{ } 96f \rangle \equiv \quad (253)$$

$$y_ppsr \quad 1 \quad 0.0$$

Defines:

`y_ppsr`, used in chunk 96e.

2.7.25 g.25 PXR: Price index for exports, cw (relative to PXP)

$$97a \quad \langle \text{variable } PXR \text{ 97a} \rangle \equiv \quad (211)$$

$$PXR = \text{Price index for exports, cw (relative to PXP)}$$

Defines:

PXR, used in chunk 223.

Uses PXP 93a.

$$97b \quad \langle \text{equation } pxr \text{ 97b} \rangle \equiv \quad (244)$$

$$pxr: \log(pxr) - pxr_aerr - \log(pxr(-1)) = y_pxr(1) + pipxnc/400 + dpadj - d(\log(pxp), 0, 1)$$

Defines:

pxr, used in chunks 39 and 98a.

Uses dpadj 98c, pipxnc 88c, ppx 93b, and y_pxr 97c.

$$97c \quad \langle \text{coefficient } y_pxr \text{ 97c} \rangle \equiv \quad (253)$$

$$y_pxr \quad 1 \quad 0.0$$

Defines:

y_pxr, used in chunk 97b.

2.7.26 g.26 DPGAP: Price inflation aggregation discrepancy

$$97d \quad \langle \text{variable } DPGAP \text{ 97d} \rangle \equiv \quad (211)$$

$$DPGAP = \text{Price inflation aggregation discrepancy}$$

Defines:

DPGAP, used in chunk 223.

98a $\langle \text{equation } dpgap \text{ 98a} \rangle \equiv$ (244)

$$\begin{aligned}
 dpgap: dpgap - dpgap_aerr = & \text{pipxnc}/400 - (_ \\
 & .5 * (\text{ehn}/(\text{xpn} - \text{ecnian}) + \text{ehn}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{phr} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{epdn}/(\text{xpn} - \text{ecnian}) + \text{epdn}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{ppdr} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{epin}/(\text{xpn} - \text{ecnian}) + \text{epin}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{ppir} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{epsn}/(\text{xpn} - \text{ecnian}) + \text{epsn}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{ppsr} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{egfon}/(\text{xpn} - \text{ecnian}) + \text{egfon}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{pgfor} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{egfin}/(\text{xpn} - \text{ecnian}) + \text{egfin}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{pgfir} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{egson}/(\text{xpn} - \text{ecnian}) + \text{egson}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{pgsor} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{egsin}/(\text{xpn} - \text{ecnian}) + \text{egsin}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{pgsir} * \text{pxp}), 0, 1) _ \\
 + & .5 * (\text{exn}/(\text{xpn} - \text{ecnian}) + \text{exn}(-1)/(\text{xpn}(-1) - \text{ecnian}(-1))) _ \\
 & \quad * d(\log(\text{pxr} * \text{pxp}), 0, 1))
 \end{aligned}$$

Defines:

`dpgap`, used in chunk 98c.

Uses `ecnian` 22a, `egfin` 115a, `egfon` 118b, `egsin` 120c, `egson` 123b, `ehn` 22c, `epdn` 35d, `epin` 35f, `epsn` 36b, `exn` 39f, `pgfir` 93d, `pgfor` 94a, `pgsir` 94d, `pgsor` 95a, `phr` 95d, `pipxnc` 88c, `ppdr` 95g, `ppir` 96c, `ppsr` 96e, `pxp` 93b, `pxr` 97b, and `xpn` 70a.

2.7.27 g.27 DPADJ: Price inflation aggregation adjustment

98b $\langle \text{variable } DPADJ \text{ 98b} \rangle \equiv$ (211)

$$DPADJ = \text{Price inflation aggregation adjustment}$$

Defines:

`DPADJ`, used in chunk 223.

98c $\langle \text{equation } dpadj \text{ 98c} \rangle \equiv$ (244)

$$dpadj: dpadj - dpadj_aerr - dpadj(-1) = y_dpadj(1) * dpgap(-1)$$

Defines:

`dpadj`, used in chunks 93–97.

Uses `dpgap` 98a and `y_dpadj` 98d.

98d $\langle \text{coefficient } y_dpadj \text{ 98d} \rangle \equiv$ (253)

$$y_dpadj \text{ 1} \quad 1.0000$$

Defines:

`y_dpadj`, used in chunk 98c.

2.7.28 g.28 PLMIN: Minimum wage

$$99a \quad \langle \text{variable } PLMIN \text{ 99a} \rangle \equiv \text{PLMIN} = \text{Minimum wage} \quad (211)$$

Defines:

PLMIN, used in chunk 223.

$$99b \quad \langle \text{equation } plmin \text{ 99b} \rangle \equiv \text{plmin: plmin} - \text{plmin_aerr} = \text{plminr} * .01 * \text{pl} \quad (244)$$

Defines:

plmin, never used.

Uses pl 90d and plminr 201e.

2.7.29 g.29 QPXNC: Desired level of nonconsumption price

$$99c \quad \langle \text{variable } QPXNC \text{ 99c} \rangle \equiv \text{QPXNC} = \text{Desired level of nonconsumption price} \quad (211)$$

Defines:

QPXNC, used in chunk 223.

$$99d \quad \langle \text{equation } qpxnc \text{ 99d} \rangle \equiv \begin{aligned} \text{qpxnc: } \log(\text{qpxnc}) - \text{qpxnc_aerr} = & \log(\text{pxnc}) - \\ & + \text{y_qpxnc}(1) * \log(\text{qpxp}/\text{pxp}) - \\ & + \text{y_qpxnc}(2) * \log(\text{qpcnia}/\text{pcnia}) \end{aligned} \quad (244)$$

Defines:

qpxnc, never used.

Uses pcnia 89b, pxnc 90f, ppx 93b, qpcnia 92f, qpxp 92d, and y-qpxnc 99e.

$$99e \quad \langle \text{coefficient } y_qpxnc \text{ 99e} \rangle \equiv \text{y_qpxnc } 2 \quad 2.98507462687, -1.98507462687 \quad (253)$$

Defines:

y-qpxnc, used in chunk 99d.

2.7.30 g.30 UQPCT: Stochastic component of trend ratio of PCNIA to PXP

$$99f \quad \langle \text{variable } UQPCT \text{ 99f} \rangle \equiv \text{UQPCT} = \text{Stochastic component of trend ratio of PCNIA to PXP} \quad (211)$$

Defines:

UQPCT, used in chunk 223.

Uses PCNIA 89a and PXP 93a.

$$100a \quad \langle \text{equation } uqpct \text{ } 100a \rangle \equiv \quad (244)$$

$$uqpct: \log(uqpct) - uqpct_aerr = y_uqpct(1) + \log(uqpct(-1)) + huqpct$$

Defines:
uqpct, used in chunk 92f.
 Uses huqpct 100d and y_uqpct 100b.

$$100b \quad \langle \text{coefficient } y_uqpct \text{ } 100b \rangle \equiv \quad (253)$$

$$y_uqpct \quad 1 \quad 0.0$$

Defines:
y_uqpct, used in chunk 100a.

2.7.31 g.31 HUQPCT: Drift term in stochastic component of trend ratio of PCNIA to PXP

$$100c \quad \langle \text{variable } HUQPCT \text{ } 100c \rangle \equiv \quad (211)$$

$$HUQPCT = \text{Drift term in stochastic component of trend ratio of PCNIA to PXP}$$

Defines:
HUQPCT, used in chunk 223.
 Uses PCNIA 89a and PXP 93a.

$$100d \quad \langle \text{equation } huqpct \text{ } 100d \rangle \equiv \quad (244)$$

$$huqpct: huqpct - huqpct_aerr = y_huqpct(1) + y_huqpct(2)*huqpct(-1)$$

Defines:
huqpct, used in chunks 87e, 88c, 100a, 177a, and 178a.
 Uses y_huqpct 100e.

$$100e \quad \langle \text{coefficient } y_huqpct \text{ } 100e \rangle \equiv \quad (253)$$

$$y_huqpct \quad 2 \quad 0.00, 0.95$$

Defines:
y_huqpct, used in chunk 100d.

2.7.32 g.32 POILR: Price of imported oil, relative to price index for bus. sector output

$$100f \quad \langle \text{variable } POILR \text{ } 100f \rangle \equiv \quad (211)$$

$$POILR = \text{Price of imported oil, relative to price index for bus. sector output}$$

Defines:
POILR, used in chunk 223.

101a $\langle \text{equation } \textit{poilr} \text{ 101a} \rangle \equiv$ (244)

$$\begin{aligned} \text{poilr: } & d(\log(\text{poilr}), 0, 1) - \text{poilr_aerr} _ \\ & = y_poilr(1) * \log(\text{poilr}(-1)/\text{poilrt}(-1)) _ \\ & + y_poilr(2) _ \\ & + y_poilr(3) * d(\log(\text{poilr}(-1)), 0, 1) _ \\ & + y_poilr(4) * d(\log(\text{poilrt}), 0, 1) \end{aligned}$$

Defines:

poilr, used in chunks 101f, 102d, and 159e.

Uses **poilrt** 201f and **y_poilr** 101b.

101b $\langle \text{coefficient } y_poilr \text{ 101b} \rangle \equiv$ (253)

$$y_poilr \ 4 \quad -0.2386347615324657, -0.003817963307816998, 0.3988973185364578, 0.2246596594065311$$

Defines:

y_poilr, used in chunk 101a.

2.7.33 g.33 PCXFE: Price index for personal consumption expendits ex. food and energy, cw (NIPA defini- tion)

101c $\langle \text{variable } \textit{PCXFE} \text{ 101c} \rangle \equiv$ (211)

$$\text{PCXFE} = \text{Price index for personal consumption expendits ex. food and energy, cw (NIPA defini}$$

Defines:

PCXFE, used in chunks 103 and 223.

Uses **ex** 39c.

101d $\langle \text{equation } \textit{pcxfe} \text{ 101d} \rangle \equiv$ (244)

$$\text{pcxfe: } d(\log(\text{pcxfe}), 0, 1) - \text{pcxfe_aerr} = \text{picxfe}/400$$

Defines:

pcxfe, used in chunks 89f, 103c, and 112d.

Uses **picxfe** 87b.

2.7.34 g.34 POIL: Price of imported oil (\$ per barrel)

101e $\langle \text{variable } \textit{POIL} \text{ 101e} \rangle \equiv$ (211)

$$\text{POIL} = \text{Price of imported oil (\$ per barrel)}$$

Defines:

POIL, used in chunk 223.

101f $\langle \text{equation } \textit{poil} \text{ 101f} \rangle \equiv$ (244)

$$\text{poil: } \text{poil} - \text{poil_aerr} = \text{poilr} * \text{pxb}$$

Defines:

poil, used in chunk 102b.

Uses **poilr** 101a and **pxb** 108d.

2.7.35 g.35 PMP: Price index for petroleum imports

$$102a \quad \langle \text{variable } PMP_{102a} \rangle \equiv \text{PMP} = \text{Price index for petroleum imports} \quad (211)$$

Defines:
PMP, used in chunks 208a and 223.

$$102b \quad \langle equation \ pmp \ 102b \rangle \equiv \quad (244)$$

Defines:
 pmp, used in chunk 42a.
 Uses **poil** 101f and **upmp** 208a.

2.7.36 g.36 PCENGR: Price index for aggregate energy consumption (relative to PXB)

102c $\langle variable\ PCENGR\ 102c \rangle \equiv$ (211)
PCENGR = Price index for aggregate energy consumption (relative to PXB)

Defines:
PCENGR, used in chunk 223.
Uses PXB 108c.

$$\begin{aligned} 102d \quad \langle equation \text{ pcengr } 102d \rangle \equiv & \quad (244) \\ & \text{pcengr: } d(\log(\text{pcengr}), 0, 1) - \text{pcengr_aerr} - \\ & \quad = y_{\text{pcengr}}(1) - \\ & \quad + y_{\text{pcengr}}(2) * d(\log(\text{pcengr}(-1)), 0, 1) - \\ & \quad + y_{\text{pcengr}}(3) * \log(\text{pcengr}(-1)) - \\ & \quad + y_{\text{pcengr}}(4) * \log(\text{poilr}(-1)) - \\ & \quad + y_{\text{pcengr}}(5) * d(\log(\text{poilr}), 0, 1) \end{aligned}$$

Defines:
 pcngr, used in chunk 103a.
 Uses **poilr** 101a and **y_pcngr** 102e.

$${}^{102}\text{e} \quad \langle \text{coefficient } y\text{-pcngr} \text{ }^{102}\text{e} \rangle \equiv \text{y_pcngr} \quad 5 \quad (253) \quad 0.04621048926220116, -0.01053548206463643, -0.0961735014875454$$

Defines:
 y_pcengr, used in chunk 102d.

2.7.37 g.37 PCENG: Price index for aggregate energy consumption

$$102f \quad \langle variable PCENG \ 102f \rangle \equiv \quad (211)$$

PCENG = Price index for aggregate energy consumption

Defines:
PCENG, used in chunk 223.

$$103a \quad \langle \text{equation } pceng \text{ 103a} \rangle \equiv \quad (244)$$

$$pceng: pceng - pceng_aerr = pcengr*pxb$$

Defines:

pceng, used in chunks 52a, 53f, 55a, 60b, 103c, and 110e.

Uses **pcengr** 102d and **pxb** 108d.

2.7.38 g.38 PCER: Price index for personal consumption expenditures on energy (relative to PCXFE)

$$103b \quad \langle \text{variable } PCER \text{ 103b} \rangle \equiv \quad (211)$$

$$PCER = \text{Price index for personal consumption expenditures on energy (relative to PCXFE)}$$

Defines:

PCER, used in chunk 223.

Uses **PCXFE** 101c.

$$103c \quad \langle \text{equation } pcer \text{ 103c} \rangle \equiv \quad (244)$$

$$pcer: d(\log(pcer), 0, 1) - pcer_aerr _$$

$$= y_pcer(1) * \log((y_pcer(2) * pceng(-1) + (1-y_pcer(2))*pcxfe(-1))/(pcer(-1)$$

$$+ y_pcer(3) * d(\log((y_pcer(2) * pceng + (1-y_pcer(2))*pcxfe)/pcxfe), 0, 1)$$

$$+ y_pcer(4) * d(\log((y_pcer(2) * pceng(-1) + (1-y_pcer(2))*pcxfe(-1))/pcxfe$$

Defines:

pcer, used in chunks 88f, 89d, and 104d.

Uses **pceng** 103a, **pcxfe** 101d, and **y_pcer** 103d.

$$103d \quad \langle \text{coefficient } y_pcer \text{ 103d} \rangle \equiv \quad (253)$$

$$y_pcer \quad 4 \quad 0.1050137345817281, 0.5632388610140522, 0.6858569548199248, 0.04030768373454912$$

Defines:

y_pcer, used in chunk 103c.

2.7.39 g.39 PCFR: Price index for personal consumption expenditures on food (relative to PCXFE)

$$103e \quad \langle \text{variable } PCFR \text{ 103e} \rangle \equiv \quad (211)$$

$$PCFR = \text{Price index for personal consumption expenditures on food (relative to PCXFE)}$$

Defines:

PCFR, used in chunk 223.

Uses **PCXFE** 101c.

104a $\langle \text{equation } pcfr \text{ 104a} \rangle \equiv$ (244)

$$\begin{aligned}
 pcfr: & d(\log(pcfr), 0, 1) - pcfr_aerr _ \\
 & = y_pcfr(1) * \log(pcfr(-1)/pcfrt(-1)) _ \\
 & + y_pcfr(2) _ \\
 & + (y_pcfr(3) * d(\log(pcfr(-1)), 0, 1) + y_pcfr(4) * d(\log \\
 & + y_pcfr(6) * d(\log(pcfrt), 0, 1)
 \end{aligned}$$

Defines:

`pcfr`, used in chunks 88f and 105b.

Uses `pcfrt` 200i and `y_pcfr` 104b.

104b $\langle \text{coefficient } y_pcfr \text{ 104b} \rangle \equiv$ (253)

$$y_pcfr \quad 6 \quad -0.1757649679968763, -7.899990101672884e-05, 0.3777936884215714, 0.02349$$

Defines:

`y_pcfr`, used in chunk 104a.

2.7.40 g.40 UCES: Energy share of nominal consumption expenditures

104c $\langle \text{variable } UCES \text{ 104c} \rangle \equiv$ (211)

$$UCES = \text{Energy share of nominal consumption expenditures}$$

Defines:

`UCES`, used in chunk 223.

104d $\langle \text{equation } uces \text{ 104d} \rangle \equiv$ (244)

$$\begin{aligned}
 uces: & d(\log(uces), 0, 1) - uces_aerr _ \\
 & = y_uces(1) * \log(uces(-1)) _ \\
 & + y_uces(2) * \log(pcer(-1)) _ \\
 & + y_uces(3) * \log(ceng(-1)/xg(-1)) _ \\
 & + y_uces(4) * t47 _ \\
 & + y_uces(5) _ \\
 & + y_uces(6) * d(\log(uces(-1)), 0, 1) _ \\
 & + y_uces(7) * d(\log(pcer), 0, 1) _ \\
 & + y_uces(8) * d(\log(ceng/xg), 0, 1)
 \end{aligned}$$

Defines:

`uces`, used in chunk 88f.

Uses `ceng` 41b, `pcer` 103c, `t47` 202e, `xg` 52a, and `y_uces` 104e.

104e $\langle \text{coefficient } y_uces \text{ 104e} \rangle \equiv$ (253)

$$y_uces \quad 8 \quad -0.1834529206587357, 0.1554187181683198, 0.08000391518229149, -0.000441$$

Defines:

`y_uces`, used in chunk 104d.

2.7.41 g.41 UCFS: Food share of nominal consumption expenditures

105a $\langle \text{variable } UCFS \text{ 105a} \rangle \equiv$ (211)
 UCFS = Food share of nominal consumption expenditures

Defines:

UCFS, used in chunk 223.

105b $\langle \text{equation } ucfs \text{ 105b} \rangle \equiv$ (244)
 ucfs: d(log(ucfs), 0, 1) - ucfs_aerr _
 = y_ucfs(1) * log(ucfs(-1)) _
 + y_ucfs(2) * log(pcfr(-1)) _
 + y_ucfs(3) * t47 _
 + y_ucfs(4) _
 + y_ucfs(5) * d(log(ucfs(-1)), 0, 1) _
 + y_ucfs(6) * d(log(pcfrt), 0, 1) _
 + y_ucfs(7) * d(log(pcfr/pcfrt), 0, 1)

Defines:

ucfs, used in chunk 88f.

Uses pcfr 104a, pcfrt 200i, t47 202e, and y_ucfs 105c.

105c $\langle \text{coefficient } y_ucfs \text{ 105c} \rangle \equiv$ (253)
 y_ucfs 7 -0.03523462021069426, 0.0453107908363, -0.0001497160154925362, -0.0564600435216084

Defines:

y_ucfs, used in chunk 105b.

2.7.42 g.42 PMO: Price index for imports ex. petroleum, cw

105d $\langle \text{variable } PMO \text{ 105d} \rangle \equiv$ (211)
 PMO = Price index for imports ex. petroleum, cw

Defines:

PMO, used in chunk 223.

Uses ex 39c.

105e $\langle \text{equation } pmo \text{ 105e} \rangle \equiv$ (244)
 pmo: d(log(pmo), 0, 1) - pmo_aerr = y_pmo(1) _
 + y_pmo(2) * (log(qpmo) + .64*log(fpcm(-1)/fpxm(-1)) + .36*log(pxb(-1)) _
 - log(pmo(-1))) _
 + y_pmo(3) * d(log(fpcm/fpxm), 0, 1) _
 + y_pmo(4) * d(log(pxb), 0, 1)

Defines:

pmo, used in chunk 40.

Uses fpcm 161d, fpxm 164f, pxb 108d, qpmo 106c, and y_pmo 106a.

106a $\langle \text{coefficient } y_{pmo} \text{ 106a} \rangle \equiv$ (253)
 $y_{pmo} \quad 4 \quad -0.003166815111887241, 0.4492916534287926, 0.2944651755345454, 0.705534$
 Defines:
 y_{pmo} , used in chunk 105e.

2.7.43 g.43 QPMO: Random walk component of non-oil import prices

106b $\langle \text{variable } QPMO \text{ 106b} \rangle \equiv$ (211)
 $QPMO = \text{Random walk component of non-oil import prices}$
 Defines:
 $QPMO$, used in chunk 223.

106c $\langle \text{equation } qpmo \text{ 106c} \rangle \equiv$ (244)
 $qpmo: \log(qpmo) - qpmo_aerr = \log(qpmo(-1)) + y_{qpmo}(1)$
 Defines:
 $qpmo$, used in chunk 105e.
 Uses y_{qpmo} 106d.

106d $\langle \text{coefficient } y_{qpmo} \text{ 106d} \rangle \equiv$ (253)
 $y_{qpmo} \quad 1 \quad -.003347$
 Defines:
 y_{qpmo} , used in chunk 106c.

2.7.44 g.44 PGDP: Price index for GDP, cw

106e $\langle \text{variable } PGDP \text{ 106e} \rangle \equiv$ (211)
 $PGDP = \text{Price index for GDP, cw}$
 Defines:
 $PGDP$, used in chunks 124–26, 129e, 130d, and 223.

106f $\langle \text{equation } pgdp \text{ 106f} \rangle \equiv$ (244)
 $pgdp: pgdp - pgdp_aerr = 100 * xgdpn / xgdp$
 Defines:
 $pgdp$, used in chunks 43e, 61a, 71–73, 86e, 108d, 111a, 125–27, and 129.
 Uses $xgdp$ 49a and $xgdpn$ 70c.

2.7.45 g.45 PGFL: Price index for federal government employee compensation, cw

106g $\langle \text{variable } PGFL \text{ 106g} \rangle \equiv$ (211)
 $PGFL = \text{Price index for federal government employee compensation, cw}$
 Defines:
 $PGFL$, used in chunks 207e and 223.

$$\begin{aligned}
 107a \quad \langle \text{equation } pgfl \text{ 107a} \rangle \equiv & \quad (244) \\
 pgfl: d(\log(pgfl), 0, 1) - pgfl_aerr = & d(\log(upgfl), 0, 1) - \\
 & + d(\log(pl), 0, 1) - \\
 & - dglprd*(d(\log(lprdt), 0, 1))
 \end{aligned}$$

Defines:

`pgfl`, used in chunks 74f, 116d, and 117a.

Uses `dglprd` 197d, `lprdt` 69a, `pl` 90d, and `upgfl` 207e.

2.7.46 g.46 PGSL: Price index for S&L government employee compensation, cw

$$\begin{aligned}
 107b \quad \langle \text{variable } PGSL \text{ 107b} \rangle \equiv & \quad (211) \\
 PGSL & = \text{Price index for S\&L government employee compensation, cw}
 \end{aligned}$$

Defines:

`PGSL`, used in chunks 207f and 223.

$$\begin{aligned}
 107c \quad \langle \text{equation } pgsl \text{ 107c} \rangle \equiv & \quad (244) \\
 pgsl: d(\log(pgsl), 0, 1) - pgsl_aerr = & d(\log(upgsl), 0, 1) - \\
 & + d(\log(pl), 0, 1) - \\
 & - dglprd*(d(\log(lprdt), 0, 1))
 \end{aligned}$$

Defines:

`pgsl`, used in chunks 74f, 121e, and 122a.

Uses `dglprd` 197d, `lprdt` 69a, `pl` 90d, and `upgsl` 207f.

2.7.47 g.47 PKPDR: Ratio of price of equipment stock (KPD) to PXP

$$\begin{aligned}
 107d \quad \langle \text{variable } PKPDR \text{ 107d} \rangle \equiv & \quad (211) \\
 PKPDR & = \text{Ratio of price of equipment stock (KPD) to PXP}
 \end{aligned}$$

Defines:

`PKPDR`, used in chunks 207g and 223.

Uses `KPD` 29f and `PXP` 93a.

$$\begin{aligned}
 107e \quad \langle \text{equation } pkpdr \text{ 107e} \rangle \equiv & \quad (244) \\
 pkpdr: pkpdr - pkpdr_aerr = & upkpd * ppdr
 \end{aligned}$$

Defines:

`pkpdr`, used in chunks 32a, 33d, and 72c.

Uses `ppdr` 95g and `upkpd` 207g.

2.7.48 g.48 PXG: Price index for business output plus oil imports

$$108a \quad \langle \text{variable } PXG_{108a} \rangle \equiv \quad (211)$$

PXG = Price index for business output plus oil imports

Defines:
 PXG, used in chunk 223.

$$108b \quad \langle equation \; pxg \; 108b \rangle \equiv \quad (244)$$

Defines:
 pxg, used in chunks 43c, 92a, 186d, and 189e.
 Uses **xg** 52a and **xgn** 71e.

2.7.49 g.49 PXB: Price index for business sector output

$$108c \quad \langle variable \ PXB \ 108c \rangle \equiv \quad (211)$$

PXB = Price index for NFB output

Defines:
PXB, used in chunks 102c, 208b, and 223.

$$108d \quad \langle equation pxb \ 108d \rangle = \quad (244)$$

Defines:
pxb, used in chunks 32, 33b, 51c, 53f, 71c, 76e, 78, 79, 101f, 103a, 105e, 174b, and 187c.
 Uses **pgdp** 106f and **upxb** 208b.

2.7.50 g.50 HGPDR: Trend Price Growth of PPDR

$$108e \quad \langle variable \ HGPDR \ 108e \rangle \equiv \quad (211)$$

Defines:
 HGPDR, used in chunk 223.
 Uses PPDR 95f.

$$\begin{aligned} 108f \quad \langle equation \ hgpdr \ 108f \rangle \equiv & \quad (244) \\ & \text{hgpdr} : \text{hgpdr} - \text{hgpdr_aerr} = y_{\text{hgpdr}}(1) * \text{hgpdr}(-1) - \\ & \quad + y_{\text{hgpdr}}(2) * 400 * \log(\text{ppdr} / \text{ppdr}(-1)) \end{aligned}$$

Defines:
 hgpdr, used in chunk 32a.
 Uses **ppdr** 95g and **y_hgpdr** 109a.

$$109a \quad \langle \text{coefficient } y_{hgpd} \text{ } 109a \rangle \equiv \quad (253)$$

$$y_{hgpd} \text{ } 2 \quad .9, .1$$

Defines:

y_{hgpd} , used in chunk 108f.

2.7.51 g.51 HGPIR: Trend Price Growth of PPIR

$$109b \quad \langle \text{variable } HGPIR \text{ } 109b \rangle \equiv \quad (211)$$

$$HGPIR = \text{Trend Price Growth of PPIR}$$

Defines:

$HGPIR$, used in chunk 223.

Uses $PPIR$ 96b.

$$109c \quad \langle \text{equation } hgp \text{ } 109c \rangle \equiv \quad (244)$$

$$hgp: hgp - hgp_aerr = y_{hgp}(1) * hgp(-1) _$$

$$+ y_{hgp}(2) * 400 * \log(ppir/ppir(-1))$$

Defines:

hgp , used in chunk 32c.

Uses $ppir$ 96c and y_{hgp} 109d.

$$109d \quad \langle \text{coefficient } y_{hgp} \text{ } 109d \rangle \equiv \quad (253)$$

$$y_{hgp} \text{ } 2 \quad .9, .1$$

Defines:

y_{hgp} , used in chunk 109c.

2.7.52 g.52 HGPKIR: Trend growth rate of PKIR

$$109e \quad \langle \text{variable } HGPKIR \text{ } 109e \rangle \equiv \quad (211)$$

$$HGPKIR = \text{Trend growth rate of PKIR}$$

Defines:

$HGPKIR$, used in chunk 223.

Uses $PKIR$ 201d.

$$109f \quad \langle \text{equation } hgp \text{ } 109f \rangle \equiv \quad (244)$$

$$hgp: hgp - hgp_aerr = y_{hgp}(1) * hgp(-1) _$$

$$+ y_{hgp}(2) * 400 * \log(pkir/pkir(-1))$$

Defines:

hgp , used in chunk 33b.

Uses $pkir$ 201d and y_{hgp} 109g.

$$109g \quad \langle \text{coefficient } y_{hgp} \text{ } 109g \rangle \equiv \quad (253)$$

$$y_{hgp} \text{ } 2 \quad .9, .1$$

Defines:

y_{hgp} , used in chunk 109f.

2.7.53 g.53 HGPPSR: Trend growth rate of PPSR

$$110a \quad \langle variable \ HGPPSR \ 110a \rangle \equiv \quad (211)$$

HGPPSR = Trend growth rate of PPSR.

Defines:

HGPPSR, used in chunk 223.

Uses PPSR 96d.

$$110b \quad \langle equation \ hgpps \ 110b \rangle \equiv \quad (244)$$
[illegible]

Defines:

hgppsr, used in chunk 32e.

Uses ppsr 96e and y_hgppsr 110c.

$$110c \quad \langle coefficient \ y_hgppsr \ 110c \rangle \equiv \quad (253)$$

y_hgppsr	2	.9, .1
----------	---	--------

Defines:

y_hgppsr, used in chunk 110b.

2.7.54 g.54 PICNGR: Weighted growth rate of relative energy price

$$110d \quad \langle variable \text{ PICNGR } 110d \rangle \equiv \quad (211)$$

PICNGR = Weighted growth rate of relative energy price

Defines:

PICNGR, used in chunk 223.

$$110e \quad \langle equation picngr 110e \rangle \equiv \quad (244)$$

```
picngr: picngr - picngr_aerr = (d( log(pceng/pxp(-1)), 0, 1 ) * -
                                ( pceng*ceng/(pxp*xp) + pceng(-1)*ceng(-1)/(pxp(-1)*xp(-1)) )
```

Defines:

picngr, never used.

Uses `ceng` 41b, `pceng` 103a, `pxp` 93b, and `xp` 51a.

2.7.55 g.55 PIGDP: Inflation rate, GDP, cw

$${}_{110f} \langle variable \textit{PIGDP}_{110f} \rangle \equiv \quad (211)$$

PIGDP = Inflation rate, GDP, cw

Defines:

PIGDP, used in chunk 223.

$$111a \quad \langle \text{equation } pigdp \text{ } 111a \rangle \equiv \quad (244)$$

$$pigdp: pigdp - pigdp_aerr = 400 * d(\log(pgdp), 0, 1)$$

Defines:

igdp, never used.

Uses **igdp** 106f.

2.7.56 g.56 PCOR: Price index for non-durable goods and non-housing services, cw (relative to to PCNIA)

$$111b \quad \langle \text{variable } PCOR \text{ } 111b \rangle \equiv \quad (211)$$

$$PCOR = \text{Price index for non-durable goods and non-housing services, cw (relative to to PCNIA)}$$

Defines:

PCOR, used in chunk 223.

Uses **PCNIA** 89a.

$$111c \quad \langle \text{equation } pcor \text{ } 111c \rangle \equiv \quad (244)$$

$$\begin{aligned} pcor: \log(pcor) - \log(pcor(-1)) - pcor_aerr = & \quad - \\ & (-.5 * .01 * (pcdr*pcnia*ecd/ecnian \quad - \\ & + pcdr(-1)*pcnia(-1)*ecd(-1)/ecnian(-1))) \quad - \\ & / (.5 * .01 * (pcor*pcnia*eco/ecnian \quad - \\ & + pcor(-1)*pcnia(-1)*eco(-1)/ecnian(-1))) \quad - \\ & * d(\log(pcdr), 0, 1) \quad - \\ & - .5 * .01 * (pchr*pcnia*ech/ecnian \quad - \\ & + pchr(-1)*pcnia(-1)*ech(-1)/ecnian(-1)) \quad - \\ & * d(\log(pchr), 0, 1) \quad - \\ & / (.5 * .01 * (pcor*pcnia*eco/ecnian \quad - \\ & + pcor(-1)*pcnia(-1)*eco(-1)/ecnian(-1))) \end{aligned}$$

Defines:

pcor, used in chunks 20b, 21d, and 24c.

Uses **ecd** 18b, **ech** 19b, **ecnian** 22a, **eco** 17b, **pcdr** 112f, **pchr** 112a, and **pcnia** 89b.

2.7.57 g.57 PCHR: Price index for housing services, cw (relative to to PCNIA)

$$111d \quad \langle \text{variable } PCHR \text{ } 111d \rangle \equiv \quad (211)$$

$$PCHR = \text{Price index for housing services, cw (relative to to PCNIA)}$$

Defines:

PCHR, used in chunk 223.

Uses **PCNIA** 89a.

$$112a \quad \langle \text{equation } pchr \text{ 112a} \rangle \equiv \quad (244)$$

$$pchr: d(\log(pchr), 0, 1) - pchr_aerr = y_pchr(1) -$$

$$+ y_pchr(2)*d(\log(pchr(-1)), 0, 1)$$

Defines:

`pchr`, used in chunks 21d, 24c, 111c, and 154d.

Uses `y_pchr` 112b.

$$112b \quad \langle \text{coefficient } y_pchr \text{ 112b} \rangle \equiv \quad (253)$$

$$y_pchr \quad 2 \quad 0.0005315862255843622, 0.5948038682986249$$

Defines:

`y_pchr`, used in chunk 112a.

2.7.58 g.58 PICX4: Four-quarter percent change core in PCE prices

$$112c \quad \langle \text{variable } PICX4 \text{ 112c} \rangle \equiv \quad (211)$$

$$PICX4 \quad = \text{Four-quarter percent change core in PCE prices}$$

Defines:

`PICX4`, used in chunk 223.

$$112d \quad \langle \text{equation } picx4 \text{ 112d} \rangle \equiv \quad (244)$$

$$picx4: \quad picx4 - picx4_aerr = 100*(pcxfe/pcxfe(-4) - 1)$$

Defines:

`picx4`, used in chunk 154a.

Uses `pcxfe` 101d.

2.7.59 g.59 PCDR: Price index for consumer durables, cw (relative to to PCNIA)

$$112e \quad \langle \text{variable } PCDR \text{ 112e} \rangle \equiv \quad (211)$$

$$PCDR \quad = \text{Price index for consumer durables, cw (relative to to PCNIA)}$$

Defines:

`PCDR`, used in chunk 223.

Uses `PCNIA` 89a.

$$112f \quad \langle \text{equation } pcdr \text{ 112f} \rangle \equiv \quad (244)$$

$$pcdr: d(\log(pcdr), 0, 1) - pcdr_aerr = y_pcdr(1) -$$

$$+ y_pcdr(2)*d(\log(pcdr(-1)), 0, 1)$$

Defines:

`pcdr`, used in chunks 20e, 21d, 24c, 80d, 83a, 111c, and 155a.

Uses `y_pcdr` 113a.

113a $\langle \text{coefficient } y_pcdr \text{ 113a} \rangle \equiv$ (253)

$$y_pcdr \quad 2 \quad -0.003205436686618677, 0.5065758198036935$$

Defines:

`y_pcdr`, used in chunk 112f.

2.7.60 g.60 PIC4: Four-quarter percent change in PCE prices

113b $\langle \text{variable } PIC4 \text{ 113b} \rangle \equiv$ (211)

$$PIC4 \quad = \text{Four-quarter percent change in PCE prices}$$

Defines:

`PIC4`, used in chunk 223.

113c $\langle \text{equation } pic4 \text{ 113c} \rangle \equiv$ (244)

$$pic4: \quad pic4 - pic4_aerr = 100*(pcnia/pcnia(-4) - 1)$$

Defines:

`pic4`, never used.

Uses `pcnia` 89b.

2.8 Government

2.8.1 h.1 EGF: Federal government consumption and gross investment, cw 2009\$

113d $\langle \text{variable } EGF \text{ 113d} \rangle \equiv$ (211)

$$EGF \quad = \text{Federal government consumption and gross investment, cw 2009\$}$$

Defines:

`EGF`, used in chunk 223.

113e $\langle \text{equation } egf \text{ 113e} \rangle \equiv$ (244)

$$\begin{aligned} egf: \log(egf) - egf_aerr = \log(egf(-1)) _ \\ + .5 * (egfon/egfn + egfon(-1)/egfn(-1)) * d(\log(egfo), 0, 1) _ \\ + .5 * (egfin/egfn + egfin(-1)/egfn(-1)) * d(\log(egfi), 0, 1) _ \\ + .5 * (egfln/egfn + egfln(-1)/egfn(-1)) * d(\log(egfl), 0, 1) \end{aligned}$$

Defines:

`egf`, never used.

Uses `egfi` 114d, `egfin` 115a, `egfl` 116a, `egfln` 116d, `egfn` 114b, `egfo` 117d, and `egfon` 118b.

2.8.2 h.2 EGFN: Federal government consumption and gross investment, current \$

114a $\langle \text{variable } EGFN \text{ 114a} \rangle \equiv$ (211)
 $EGFN = \text{Federal government consumption and gross investment, current \$}$
 Defines:
 $EGFN$, used in chunk 223.

114b $\langle \text{equation } egfn \text{ 114b} \rangle \equiv$ (244)
 $egfn: egfn - egfn_aerr = egfln + egfin + egfon$

Defines:
 $egfn$, used in chunk 113e.
 Uses $egfin$ 115a, $egfln$ 116d, and $egfon$ 118b.

2.8.3 h.3 EGFI: Federal government gross investment, cw 2009\$

114c $\langle \text{variable } EGFI \text{ 114c} \rangle \equiv$ (211)
 $EGFI = \text{Federal government gross investment, cw 2009\$}$
 Defines:
 $EGFI$, used in chunk 223.

114d $\langle \text{equation } egfi \text{ 114d} \rangle \equiv$ (244)
 $egfi: d(\log(egfi), 0, 1) - egfi_aerr _$
 $= y_egfi(1) _$
 $+ y_egfi(2) * \log(egfi(-1)/egfit(-1)) _$
 $+ (y_egfi(3) * d(\log(egfi(-1)), 0, 1) + y_egfi(4) * d(\log$
 $+ y_egfi(5) * d(\log(egfit), 0, 1) _$
 $+ (y_egfi(6) * xgap2 + y_egfi(7) * xgap2(-1))$

Defines:
 $egfi$, used in chunks 48b, 51a, 113e, and 115a.
 Uses $egfit$ 115c, $xgap2$ 59c, and y_egfi 114e.

114e $\langle \text{coefficient } y_egfi \text{ 114e} \rangle \equiv$ (253)
 $y_egfi \text{ 7} -0.001620944144695763, -0.1243761665741676, -0.1946254304372423, -0.102$
 Defines:
 y_egfi , used in chunk 114d.

2.8.4 h.4 EGFIN: Federal government gross investment, current \$

114f $\langle \text{variable } EGFIN \text{ 114f} \rangle \equiv$ (211)
 $EGFIN = \text{Federal government gross investment, current \$}$
 Defines:
 $EGFIN$, used in chunk 223.

115a $\langle \text{equation } egfin \text{ 115a} \rangle \equiv$ (244)

$$egfin: egfin - egfin_aerr = .01 * pxp * pgfir * egfi$$

Defines:

egfin, used in chunks 48b, 51a, 98a, 113e, 114b, 124a, and 133d.

Uses **egfi** 114d, **pgfir** 93d, and **pxp** 93b.

2.8.5 h.5 EGFIT: Federal government gross investment, cw 2009\$, trend

115b $\langle \text{variable } EGFIT \text{ 115b} \rangle \equiv$ (211)

$$EGFIT = \text{Federal government gross investment, cw 2009$, trend}$$

Defines:

EGFIT, used in chunk 223.

115c $\langle \text{equation } egfit \text{ 115c} \rangle \equiv$ (244)

$$\begin{aligned} egfit: d(\log(egfit), 0, 1) - egfit_aerr \quad & _ \\ & = y_egfit(1) \quad _ \\ & + y_egfit(2) * \log(.01*pgfir(-1)*pxp(-1)*egfit(-1)/xgdptn(-1)) \quad _ \\ & + y_egfit(3) * (hggdpt+hggdpt(-1)+hggdpt(-2)+hggdpt(-3)) / 1600 \end{aligned}$$

Defines:

egfit, used in chunk 114d.

Uses **hggdpt** 60d, **pgfir** 93d, **pxp** 93b, **xgdptn** 61a, and **y_egfit** 115d.

115d $\langle \text{coefficient } y_egfit \text{ 115d} \rangle \equiv$ (253)

$$y_egfit \quad 3 \quad - .4027, -.1, 1.0$$

Defines:

y_egfit, used in chunk 115c.

2.8.6 h.6 EGFL: Federal government employee compensation, cw 2009\$

115e $\langle \text{variable } EGFL \text{ 115e} \rangle \equiv$ (211)

$$EGFL = \text{Federal government employee compensation, cw 2009$}$$

Defines:

EGFL, used in chunk 223.

116a $\langle \text{equation } egfl \text{ 116a} \rangle \equiv$ (244)

$$\begin{aligned} egfl: & d(\log(egfl), 0, 1) - egfl_aerr _ \\ & = y_egfl(1) _ \\ & + y_egfl(2) * \log(egfl(-1)/egflt(-1)) _ \\ & + (y_egfl(3) * d(\log(egfl(-1)), 0, 1) + y_egfl(4) * d(\log \\ & + y_egfl(5) * d(\log(egflt), 0, 1) _ \\ & + (y_egfl(6) * xgap2 + y_egfl(7) * xgap2(-1)) \end{aligned}$$

Defines:

egfl, used in chunks 48b, 63a, 74f, 113e, and 116d.

Uses **egflt** 117a, **xgap2** 59c, and **y_egfl** 116b.

116b $\langle \text{coefficient } y_egfl \text{ 116b} \rangle \equiv$ (253)

$$y_egfl \quad 7 \quad -6.057249900438316e-05, -0.06931736294593471, 0.3048866347485139, -0.049$$

Defines:

y_egfl, used in chunk 116a.

2.8.7 h.7 EGFLN: Federal government employee compensation, current \$

116c $\langle \text{variable } EGFLN \text{ 116c} \rangle \equiv$ (211)

$$EGFLN \quad = \text{Federal government employee compensation, current \$}$$

Defines:

EGFLN, used in chunk 223.

116d $\langle \text{equation } egfln \text{ 116d} \rangle \equiv$ (244)

$$egfln: egfln - egfln_aerr = .01 * pgfl * egfl$$

Defines:

egfln, used in chunks 48b, 70c, 113e, 114b, and 125d.

Uses **egfl** 116a and **pgfl** 107a.

2.8.8 h.8 EGFLT: Federal government employee compensation, cw 2009\$, trend

116e $\langle \text{variable } EGFLT \text{ 116e} \rangle \equiv$ (211)

$$EGFLT \quad = \text{Federal government employee compensation, cw 2009$, trend}$$

Defines:

EGFLT, used in chunk 223.

117a $\langle \text{equation } egflt \text{ 117a} \rangle \equiv$ (244)

$$\begin{aligned} egflt: & d(\log(egflt), 0, 1) - egflt_aerr _ \\ & = y_egflt(1) _ \\ & + y_egflt(2) * \log(.01*pgfl(-1)*egflt(-1)/xgdptn(-1)) _ \\ & + y_egflt(3) * (hggdpt+hggdpt(-1)+hggdpt(-2)+hggdpt(-3)) / 1600 \end{aligned}$$

Defines:

egflt, used in chunk 116a.

Uses **hggdpt** 60d, **pgfl** 107a, **xgdptn** 61a, and **y_egflt** 117b.

117b $\langle \text{coefficient } y_egflt \text{ 117b} \rangle \equiv$ (253)

$$y_egflt \ 3 \quad - .375978, -.1, 1.0$$

Defines:

y_egflt, used in chunk 117a.

2.8.9 h.9 EGFO: Federal government consumption ex. employee comp., cw 2009\$

117c $\langle \text{variable } EGFO \text{ 117c} \rangle \equiv$ (211)

$$EGFO \quad = \text{Federal government consumption ex. employee comp., cw 2009\$}$$

Defines:

EGFO, used in chunk 223.

Uses **ex** 39c.

117d $\langle \text{equation } egfo \text{ 117d} \rangle \equiv$ (244)

$$\begin{aligned} egfo: & d(\log(egfo), 0, 1) - egfo_aerr _ \\ & = y_egfo(1) _ \\ & + y_egfo(2) * \log(egfo(-1)/egfot(-1)) _ \\ & + (y_egfo(3) * d(\log(egfo(-1)), 0, 1) + y_egfo(4) * d(\log(egfo(-2))), \\ & + y_egfo(5) * d(\log(egfot), 0, 1) _ \\ & + (y_egfo(6) * xgap2 + y_egfo(7) * xgap2(-1)) \end{aligned}$$

Defines:

egfo, used in chunks 48b, 51a, 113e, and 118b.

Uses **egfot** 118d, **xgap2** 59c, and **y_egfo** 117e.

117e $\langle \text{coefficient } y_egfo \text{ 117e} \rangle \equiv$ (253)

$$y_egfo \ 7 \quad -0.00272437480660757, -0.165188738562342, -0.2655033775214354, -0.1381332991300448$$

Defines:

y_egfo, used in chunk 117d.

118a $\langle variable\ EGFON\ 118a \rangle \equiv$ (211)
 EGFON = Federal government consumption ex. employee comp., current \$
 Defines:
 EGFON, used in chunk 223.
 Uses **ex** 39c.

Defines:
 egfon, used in chunks 48b, 51a, 98a, 113e, 114b, and 125d.
 Uses **egfo** 117d, **pgfor** 94a, and **pxp** 93b.

```

118c      <variable EGFOT 118c>≡ (211)
      EGFOT    = Federal government consumption ex. employee comp., cw 2009$, trend
Defines:
      EGFOT, used in chunk 223.
Uses ex 39c.

```

Defines:
 egfot, used in chunk 117d.
 Uses **hgdpt** 60d, **pgfor** 94a, **pxp** 93b, **xgdptn** 61a, and **y_egfot** 118e.

118f $\langle \text{variable } EGS_{118f} \rangle \equiv$ (211)
 EGS = S&L government consumption and gross investment, cw 2009\$
 Defines:
 EGS, used in chunk 223.

119a $\langle \text{equation } \text{egs } 119a \rangle \equiv$ (244)

$$\begin{aligned} \text{egs: } & \log(\text{egs}) - \text{egs_aerr} = \log(\text{egs}(-1)) _ \\ & + .5 * (\text{egson}/\text{egsn} + \text{egson}(-1)/\text{egsn}(-1)) * d(\log(\text{egso}), 0, 1) _ \\ & + .5 * (\text{egsin}/\text{egsn} + \text{egsin}(-1)/\text{egsn}(-1)) * d(\log(\text{egsi}), 0, 1) _ \\ & + .5 * (\text{egsln}/\text{egsn} + \text{egsln}(-1)/\text{egsn}(-1)) * d(\log(\text{egsl}), 0, 1) \end{aligned}$$

Defines:

egs, never used.

Uses **egsi** 119e, **egsin** 120c, **egsl** 121b, **egsln** 121e, **egsn** 119c, **egso** 122d, and **egson** 123b.

2.8.13 h.13 EGSN: S&L government consumption and gross investment, current \$

119b $\langle \text{variable } \text{EGSN } 119b \rangle \equiv$ (211)

$$\text{EGSN} = \text{S\&L government consumption and gross investment, current \$}$$

Defines:

EGSN, used in chunk 223.

119c $\langle \text{equation } \text{egsn } 119c \rangle \equiv$ (244)

$$\text{egsn: } \text{egsn} - \text{egsn_aerr} = \text{egsln} + \text{egsin} + \text{egson}$$

Defines:

egsn, used in chunk 119a.

Uses **egsin** 120c, **egsln** 121e, and **egson** 123b.

2.8.14 h.14 EGSI: S&L government gross investment, cw 2009\$

119d $\langle \text{variable } \text{EGSI } 119d \rangle \equiv$ (211)

$$\text{EGSI} = \text{S\&L government gross investment, cw 2009\$}$$

Defines:

EGSI, used in chunk 223.

119e $\langle \text{equation } \text{egsi } 119e \rangle \equiv$ (244)

$$\begin{aligned} \text{egsi: } & d(\log(\text{egsi}), 0, 1) - \text{egsi_aerr} _ \\ & = \text{y_egsi}(1) _ \\ & + \text{y_egsi}(2) * \log(\text{egsi}(-1)/\text{egsit}(-1)) _ \\ & + (\text{y_egsi}(3) * d(\log(\text{egsi}(-1)), 0, 1) + \text{y_egsi}(4) * d(\log(\text{egsi}(-2))), \\ & + \text{y_egsi}(5) * d(\log(\text{egsit}), 0, 1) _ \\ & + (\text{y_egsi}(6) * \text{xgap2} + \text{y_egsi}(7) * \text{xgap2}(-1)) \end{aligned}$$

Defines:

egsi, used in chunks 48b, 51a, 119a, and 120c.

Uses **egsit** 120e, **xgap2** 59c, and **y_egsi** 120a.

120a $\langle \text{coefficient } y_{\text{egsi}} \text{ 120a} \rangle \equiv$ (253)
 $y_{\text{egsi}} \text{ 7} \quad -1.405740361028989\text{e-}05, -0.2020609033108234, 0.05134522874864941, -0.080$
 Defines:
 y_{egsi} , used in chunk 119e.

2.8.15 h.15 EGSIN: S&L government gross investment, current \$

120b $\langle \text{variable } EGSIN \text{ 120b} \rangle \equiv$ (211)
 $EGSIN = \text{S\&L government gross investment, current \$}$
 Defines:
 $EGSIN$, used in chunk 223.

120c $\langle \text{equation } \text{egsin} \text{ 120c} \rangle \equiv$ (244)
 $\text{egsin: } \text{egsin} - \text{egsin_aerr} = .01 * \text{pxp} * \text{pgsir} * \text{egsi}$
 Defines:
 egsin , used in chunks 48b, 51a, 98a, 119, 128a, and 135e.
 Uses egsi 119e, pgsir 94d, and pxp 93b.

2.8.16 h.16 EGSIT: S&L government gross investment, cw 2009\$, trend

120d $\langle \text{variable } EGSIT \text{ 120d} \rangle \equiv$ (211)
 $EGSIT = \text{S\&L government gross investment, cw 2009\$, trend}$
 Defines:
 $EGSIT$, used in chunk 223.

120e $\langle \text{equation } \text{egsit} \text{ 120e} \rangle \equiv$ (244)
 $\text{egsit: } d(\log(\text{egsit}), 0, 1) - \text{egsit_aerr} \quad _$
 $\quad \quad \quad = y_{\text{egsit}}(1) \quad _$
 $\quad \quad \quad + y_{\text{egsit}}(2) * \log(.01 * \text{pgsir}(-1) * \text{pxp}(-1) * \text{egsit}(-1) / \text{xgdptn}(-1)) \quad _$
 $\quad \quad \quad + y_{\text{egsit}}(3) * (\text{hggdpt} + \text{hggdpt}(-1) + \text{hggdpt}(-2) + \text{hggdpt}(-3)) / 1600$

Defines:
 egsit , used in chunk 119e.
 Uses hggdpt 60d, pgsir 94d, pxp 93b, xgdptn 61a, and y_{egsit} 120f.

120f $\langle \text{coefficient } y_{\text{egsit}} \text{ 120f} \rangle \equiv$ (253)
 $y_{\text{egsit}} \text{ 3} \quad -.379944, -.1, 1.0$
 Defines:
 y_{egsit} , used in chunk 120e.

2.8.17 h.17 EGSL: S&L government employee compensation, cw 2009\$

121a $\langle \text{variable } EGSL \text{ 121a} \rangle \equiv$ (211)
 EGSL = S&L government employee compensation, cw 2009\$

Defines:

EGSL, used in chunk 223.

121b $\langle \text{equation } egsl \text{ 121b} \rangle \equiv$ (244)
 egsl: d(log(egsl), 0, 1) - egsl_aerr _
 = y_egsl(1) _
 + y_egsl(2) * log(egsl(-1)/egslt(-1)) _
 + (y_egsl(3) * d(log(egsl(-1)), 0, 1) + y_egsl(4) * d(log(egsl(-2)),
 + y_egsl(5) * d(log(egslt), 0, 1) _
 + (y_egsl(6) * xgap2 + y_egsl(7) * xgap2(-1))

Defines:

egsl, used in chunks 48b, 63c, 74f, 119a, and 121e.

Uses egslt 122a, xgap2 59c, and y_egsl 121c.

121c $\langle \text{coefficient } y_egsl \text{ 121c} \rangle \equiv$ (253)
 y_egsl 7 0.000432632357275569, -0.1411968485071547, 0.173955823870621, 0.03758904468718688,

Defines:

y_egsl, used in chunk 121b.

2.8.18 h.18 EGSLN: S&L government employee compensation, current \$

121d $\langle \text{variable } EGSLN \text{ 121d} \rangle \equiv$ (211)
 EGSLN = S&L government employee compensation, current \$

Defines:

EGSLN, used in chunk 223.

121e $\langle \text{equation } egsln \text{ 121e} \rangle \equiv$ (244)
 egsln: egsln - egsln_aerr = .01 * pgsl * egsl

Defines:

egsln, used in chunks 48b, 70c, 119, and 128e.

Uses egsl 121b and pgsl 107c.

2.8.19 h.19 EGSLT: S&L government employee compensation, cw 2009\$, trend

121f $\langle \text{variable } EGSLT \text{ 121f} \rangle \equiv$ (211)
 EGSLT = S&L government employee compensation, cw 2009\$, trend

Defines:

EGSLT, used in chunk 223.

122a $\langle \text{equation } \text{egslt } 122a \rangle \equiv$ (244)

$$\begin{aligned} \text{egslt: } & d(\log(\text{egslt}), 0, 1) - \text{egslt_aerr} _ \\ & = \text{y_egslt}(1) _ \\ & + \text{y_egslt}(2) * \log(.01 * \text{pgsl}(-1) * \text{egslt}(-1) / \text{xdptn}(-1)) _ \\ & + \text{y_egslt}(3) * (\text{hggdpt} + \text{hggdpt}(-1) + \text{hggdpt}(-2) + \text{hggdpt}(-3)) / 1600 \end{aligned}$$

Defines:

egslt, used in chunk 121b.

Uses **hggdpt** 60d, **pgsl** 107c, **xdptn** 61a, and **y_egslt** 122b.

122b $\langle \text{coefficient } \text{y_egslt } 122b \rangle \equiv$ (253)

$$\text{y_egslt } 3 \quad - .259779, - .1, 1.0$$

Defines:

y_egslt, used in chunk 122a.

2.8.20 h.20 EGSO: S&L government consumption ex. employee comp., cw 2009\$

122c $\langle \text{variable } \text{EGSO } 122c \rangle \equiv$ (211)

$$\text{EGSO} \quad = \text{S\&L government consumption ex. employee comp., cw 2009\$}$$

Defines:

EGSO, used in chunk 223.

Uses **ex** 39c.

122d $\langle \text{equation } \text{egso } 122d \rangle \equiv$ (244)

$$\begin{aligned} \text{egso: } & d(\log(\text{egso}), 0, 1) - \text{egso_aerr} _ \\ & = \text{y_egso}(1) _ \\ & + \text{y_egso}(2) * \log(\text{egso}(-1) / \text{egsot}(-1)) _ \\ & + (\text{y_egso}(3) * d(\log(\text{egso}(-1)), 0, 1) + \text{y_egso}(4) * d(\log \\ & + \text{y_egso}(5) * d(\log(\text{egsot}), 0, 1) _ \\ & + (\text{y_egso}(6) * \text{xgap2} + \text{y_egso}(7) * \text{xgap2}(-1)) \end{aligned}$$

Defines:

egso, used in chunks 48b, 51a, 119a, and 123b.

Uses **egsot** 123d, **xgap2** 59c, and **y_egso** 122e.

122e $\langle \text{coefficient } \text{y_egso } 122e \rangle \equiv$ (253)

$$\text{y_egso } 7 \quad -0.0002007505801469657, -0.09372198933526569, 0.5475507872556951, 0.164$$

Defines:

y_egso, used in chunk 122d.

2.8.21 h.21 EGSON: S&L government consumption ex. employee comp., current \$

123a $\langle \text{variable EGSON 123a} \rangle \equiv$ (211)
 $\text{EGSON} = \text{S\&L government consumption ex. employee comp., current \$}$
 Defines:
 EGSON , used in chunk 223.
 Uses ex 39c.

123b $\langle \text{equation egson 123b} \rangle \equiv$ (244)
 $\text{egson: egson} - \text{egson_aerr} = .01 * \text{pxp} * \text{pgsor} * \text{egso}$

Defines:
 egson , used in chunks 48b, 51a, 98a, 119, and 128e.
 Uses egso 122d, pgsor 95a, and pxp 93b.

2.8.22 h.22 EGSOT: S&L government consumption ex. employee comp., cw 2009\$, trend

123c $\langle \text{variable EGSOT 123c} \rangle \equiv$ (211)
 $\text{EGSOT} = \text{S\&L government consumption ex. employee comp., cw 2009\$, trend}$
 Defines:
 EGSOT , used in chunk 223.
 Uses ex 39c.

123d $\langle \text{equation egstot 123d} \rangle \equiv$ (244)
 $\text{egstot: d(log(egstot), 0, 1) - egstot_aerr} -$
 $\quad = \text{y_egstot(1) -}$
 $\quad + \text{y_egstot(2) * log(.01*pgsor(-1)*pxp(-1)*egstot(-1)/xgdptn(-1)) -}$
 $\quad + \text{y_egstot(3) * (hggdpt+hggdpt(-1)+hggdpt(-2)+hggdpt(-3)) / 1600}$

Defines:
 egstot , used in chunk 122d.
 Uses hggdpt 60d, pgsor 95a, pxp 93b, xgdptn 61a, and y_egstot 123e.

123e $\langle \text{coefficient y_egstot 123e} \rangle \equiv$ (253)
 $\text{y_egstot 3} \quad - .382643, - .1, 1.0$
 Defines:
 y_egstot , used in chunk 123d.

2.8.23 h.23 GFDBTN: Federal government debt stock, current \$

123f $\langle \text{variable GFDBTN 123f} \rangle \equiv$ (211)
 $\text{GFDBTN} = \text{Federal government debt stock, current \$}$
 Defines:
 GFDBTN , used in chunks 205e and 223.

$$\begin{aligned} \langle \text{equation } gfdbtn \text{ 124a} \rangle \equiv & \quad (244) \\ gfdbtn: gfdbtn - gfdbtn_aerr = ugfdbt*(gfdbtn(-1) - .25*gfsrpn + .25*egfin _ \\ & - .25*jygfgn - .25*jygfen) \end{aligned}$$

Defines:

gfdbtn, used in chunks 83a, 124c, 133d, and 157c.

Uses **egfin** 115a, **gfsrpn** 125d, **jygfen** 72e, **jygfgn** 73b, and **ugfdbt** 205e.

2.8.24 h.24 GFINTN: Federal government net interest payments, current \$

$$\begin{aligned} \langle \text{variable } GFINTN \text{ 124b} \rangle \equiv & \quad (211) \\ GFINTN & = \text{Federal government net interest payments, current \$} \end{aligned}$$

Defines:

GFINTN, used in chunk 223.

$$\begin{aligned} \langle \text{equation } gfintn \text{ 124c} \rangle \equiv & \quad (244) \\ gfintn: gfintn - gfintn_aerr = rgfint*gfdbtn(-1) \end{aligned}$$

Defines:

gfintn, used in chunks 81b and 125d.

Uses **gfdbtn** 124a and **rgfint** 157c.

2.8.25 h.25 GFS: Federal government grants-in-aid to S&L government, deflated by PGDP

$$\begin{aligned} \langle \text{variable } GFS \text{ 124d} \rangle \equiv & \quad (211) \\ GFS & = \text{Federal government grants-in-aid to S\&L government, deflated by PGDP} \end{aligned}$$

Defines:

GFS, used in chunk 223.

Uses **PGDP** 106e.

$$\begin{aligned} \langle \text{equation } gfs \text{ 124e} \rangle \equiv & \quad (244) \\ gfs: d(\log(gfs), 0, 1) - gfs_aerr _ \\ & = y_gfs(1) _ \\ & + y_gfs(2) * \log(gfsn(-1)/xgdptn(-1)) _ \\ & + y_gfs(3) * (hggdpt+hggdpt(-1)+hggdpt(-2)+hggdpt(-3)) / 1600 \end{aligned}$$

Defines:

gfs, used in chunk 125b.

Uses **gfsn** 125b, **hggdpt** 60d, **xgdptn** 61a, and **y_gfs** 124f.

$$\begin{aligned} \langle \text{coefficient } y_gfs \text{ 124f} \rangle \equiv & \quad (253) \\ y_gfs \quad 3 & \quad - .361185, -.1, 1.0 \end{aligned}$$

Defines:

y_gfs, used in chunk 124e.

2.8.26 h.26 GFSN: Federal government grants-in-aid to S&L government, current \$

$$125a \quad \langle \text{variable } GFSN \text{ 125a} \rangle \equiv \quad (211)$$

$$GFSN = \text{Federal government grants-in-aid to S\&L government, current \$}$$

Defines:

$GFSN$, used in chunk 223.

$$125b \quad \langle \text{equation } gfsn \text{ 125b} \rangle \equiv \quad (244)$$

$$gfsn: gfsn - gfsn_aerr = .01 * pgdp * gfs$$

Defines:

$gfsn$, used in chunks 124e, 125d, and 128e.

Uses gfs 124e and $pgdp$ 106f.

2.8.27 h.27 GFSRPN: Federal government budget surplus, current \$

$$125c \quad \langle \text{variable } GFSRPN \text{ 125c} \rangle \equiv \quad (211)$$

$$GFSRPN = \text{Federal government budget surplus, current \$}$$

Defines:

$GFSRPN$, used in chunk 223.

$$125d \quad \langle \text{equation } gfsrpn \text{ 125d} \rangle \equiv \quad (244)$$

$$gfsrpn: gfsrpn - gfsrpn_aerr = tfpn + tfcin + tfibn + tfsin + tfdiv _ \\ - egfln - egfon - gftn - gfintn _ \\ - gfsbn - gfsn$$

Defines:

$gfsrpn$, used in chunks 124a, 133d, and 138b.

Uses $egfln$ 116d, $egfon$ 118b, $gfintn$ 124c, $gfsn$ 125b, $gfsbn$ 126d, $gftn$ 127b, $tfcin$ 131a, $tfibn$ 131c, $tfpn$ 131e, and $tfsin$ 132a.

2.8.28 h.28 GFSUB: Federal government subsidies less surplus, deflated by PGDP

$$125e \quad \langle \text{variable } GFSUB \text{ 125e} \rangle \equiv \quad (211)$$

$$GFSUB = \text{Federal government subsidies less surplus, deflated by PGDP}$$

Defines:

$GFSUB$, used in chunk 223.

Uses $PGDP$ 106e.

126a $\langle \text{equation } gfsub \text{ 126a} \rangle \equiv$ (244)

$$\begin{aligned} gfsub: & d(\log(gfsub), 0, 1) - gfsub_aerr _ \\ & = y_gfsub(1) _ \\ & + y_gfsub(2) * \log(gfsubn(-1)/xgdptn(-1)) _ \\ & + y_gfsub(3) * (hggdpt+hggdpt(-1)+hggdpt(-2)+hggdpt(-3)) / 1600 \end{aligned}$$

Defines:

gfsub, used in chunk 126d.

Uses **gfsubn** 126d, **hggdpt** 60d, **xgdptn** 61a, and **y_gfsub** 126b.

126b $\langle \text{coefficient } y_gfsub \text{ 126b} \rangle \equiv$ (253)

$$y_gfsub \text{ 3} \quad - .550087, -.1, 1.0$$

Defines:

y_gfsub, used in chunk 126a.

2.8.29 h.29 GFSUBN: Federal government subsidies less surplus, current \$

126c $\langle \text{variable } GFSUBN \text{ 126c} \rangle \equiv$ (211)

$$GFSUBN = \text{Federal government subsidies less surplus, current \$}$$

Defines:

GFSUBN, used in chunk 223.

126d $\langle \text{equation } gfsubn \text{ 126d} \rangle \equiv$ (244)

$$gfsubn: gfsubn - gfsubn_aerr = .01*pgdp*gfsub$$

Defines:

gfsubn, used in chunks 77b, 125d, and 126a.

Uses **gfsub** 126a and **pgdp** 106f.

2.8.30 h.30 GFT: Federal government net transfer payments, deflated by PGDP

126e $\langle \text{variable } GFT \text{ 126e} \rangle \equiv$ (211)

$$GFT = \text{Federal government net transfer payments, deflated by PGDP}$$

Defines:

GFT, used in chunk 223.

Uses **PGDP** 106e.

126f $\langle \text{equation } gft \text{ 126f} \rangle \equiv$ (244)

$$gft: gft - gft_aerr = (gftrd+gftrt)*xgdpt$$

Defines:

gft, used in chunk 127b.

Uses **gftrd** 127d, **gftrt** 199b, and **xgdpt** 55c.

2.8.31 h.31 GFTN: Federal government net transfer payments, current \$

$$127a \quad \langle \text{variable } GFTN \text{ 127a} \rangle \equiv \quad (211)$$

$$GFTN = \text{Federal government net transfer payments, current \$}$$

Defines:

GFTN, used in chunk 223.

$$127b \quad \langle \text{equation } gftn \text{ 127b} \rangle \equiv \quad (244)$$

$$gftn: gftn - gftn_aerr = .01 * pgdp * gft$$

Defines:

gftn, used in chunks 85d, 125d, 131e, and 137d.

Uses gft 126f and pgdp 106f.

2.8.32 h.32 GFTRD: Deviation of ratio of federal transfers to GDP from trend ratio

$$127c \quad \langle \text{variable } GFTRD \text{ 127c} \rangle \equiv \quad (211)$$

$$GFTRD = \text{Deviation of ratio of federal transfers to GDP from trend ratio}$$

Defines:

GFTRD, used in chunk 223.

$$127d \quad \langle \text{equation } gftrd \text{ 127d} \rangle \equiv \quad (244)$$

$$gftrd: gftrd - gftrd_aerr = y_gftrd(1) _ \\ + y_gftrd(2) * gftrd(-1) _ \\ + y_gftrd(3) * xgap2$$

Defines:

gftrd, used in chunk 126f.

Uses xgap2 59c and y_gftrd 127e.

$$127e \quad \langle \text{coefficient } y_gftrd \text{ 127e} \rangle \equiv \quad (253)$$

$$y_gftrd \ 3 \quad -3.598159243340642e-05, 0.6589196196672864, -0.0002408286743628969$$

Defines:

y_gftrd, used in chunk 127d.

2.8.33 h.33 GSDBTN: S&L government debt stock, current \$

$$127f \quad \langle \text{variable } GSDBTN \text{ 127f} \rangle \equiv \quad (211)$$

$$GSDBTN = \text{S\&L government debt stock, current \$}$$

Defines:

GSDBTN, used in chunks 205f and 223.

128a $\langle \text{equation } gsdbtn \text{ 128a} \rangle \equiv$ (244)

$$gsdbtn: gsdbtn - gsdbtn_aerr = ugsdbt*(gsdbtn(-1) - .25*gssrpn + .25 * eg\sin _$$

$$- .25*jygsgn - .25*jyg\sin)$$

Defines:

gsdbtn, used in chunks 83a, 128c, and 135e.

Uses **egsin** 120c, **gssrpn** 128e, **jyg\sin** 73d, **jygsgn** 73f, and **ugsdbt** 205f.

2.8.34 h.34 GSINTN: S&L government net interest payments, current \$

128b $\langle \text{variable } GSINTN \text{ 128b} \rangle \equiv$ (211)

$$GSINTN = \text{S\&L government net interest payments, current \$}$$

Defines:

GSINTN, used in chunks 205g and 223.

128c $\langle \text{equation } gsintn \text{ 128c} \rangle \equiv$ (244)

$$gsintn: gsintn - gsintn_aerr = rgfint*gsdbtn(-1) + ugsint*xbn$$

Defines:

gsintn, used in chunks 81b and 128e.

Uses **gsdbtn** 128a, **rgfint** 157c, **ugsint** 205g, and **xbn** 71c.

2.8.35 h.35 GSSRPN: S&L government budget surplus, current \$

128d $\langle \text{variable } GSSRPN \text{ 128d} \rangle \equiv$ (211)

$$GSSRPN = \text{S\&L government budget surplus, current \$}$$

Defines:

GSSRPN, used in chunk 223.

128e $\langle \text{equation } gssrpn \text{ 128e} \rangle \equiv$ (244)

$$gssrpn: gssrpn - gssrpn_aerr = tspn + tscin + tsibn + tssin + gfsn _$$

$$- egsln - egson - g\sin - gsintn - gssubn$$

Defines:

gssrpn, used in chunks 128a, 135e, and 138d.

Uses **egsln** 121e, **egson** 123b, **gfsn** 125b, **gsintn** 128c, **gssubn** 129b, **g\sin** 129d, **tscin** 136f, **tsibn** 137b, **tspn** 137d, and **tssin** 137f.

2.8.36 h.36 GSSUBN: S&L government subsidies less surplus, current \$

$$129a \quad \langle \text{variable } GSSUBN \text{ 129a} \rangle \equiv \quad (211)$$

$$GSSUBN = \text{S\&L government subsidies less surplus, current \$}$$

Defines:

`GSSUBN`, used in chunk 223.

$$129b \quad \langle \text{equation } gssubn \text{ 129b} \rangle \equiv \quad (244)$$

$$gssubn: gssubn - gssubn_aerr = .01 * pgdp * gssub$$

Defines:

`gssubn`, used in chunks 77b and 128e.

Uses `gssub` 130e and `pgdp` 106f.

2.8.37 h.37 GSTN: S&L government net transfer payments, current \$

$$129c \quad \langle \text{variable } GSTN \text{ 129c} \rangle \equiv \quad (211)$$

$$GSTN = \text{S\&L government net transfer payments, current \$}$$

Defines:

`GSTN`, used in chunk 223.

$$129d \quad \langle \text{equation } gstn \text{ 129d} \rangle \equiv \quad (244)$$

$$gstn: gstn - gstn_aerr = .01 * pgdp * gst$$

Defines:

`gstn`, used in chunks 85d, 128e, 131e, and 137d.

Uses `gst` 129f and `pgdp` 106f.

2.8.38 h.38 GST: S&L government net transfer payments, deflated by PGDP

$$129e \quad \langle \text{variable } GST \text{ 129e} \rangle \equiv \quad (211)$$

$$GST = \text{S\&L government net transfer payments, deflated by PGDP}$$

Defines:

`GST`, used in chunk 223.

Uses `PGDP` 106e.

$$129f \quad \langle \text{equation } gst \text{ 129f} \rangle \equiv \quad (244)$$

$$gst: gst - gst_aerr = (gstrd + gstrt) * xgdpt$$

Defines:

`gst`, used in chunk 129d.

Uses `gstrd` 130b, `gstrt` 199e, and `xgdpt` 55c.

2.8.39 h.39 GSTRD: Deviation of ratio of S&L transfers to GDP from trend ratio

130a $\langle \text{variable } GSTRD \text{ 130a} \rangle \equiv$ (211)
 GSTRD = Deviation of ratio of S&L transfers to GDP from trend ratio
 Defines:
 GSTRD, used in chunk 223.

130b $\langle \text{equation } gstrd \text{ 130b} \rangle \equiv$ (244)
 gstrd: gstrd - gstrd_aerr = y_gstrd(1) _
 + y_gstrd(2) * gstrd(-1) _
 + y_gstrd(3) * xgap2

Defines:
 gstrd, used in chunk 129f.
 Uses xgap2 59c and y_gstrd 130c.

130c $\langle \text{coefficient } y_gstrd \text{ 130c} \rangle \equiv$ (253)
 y_gstrd 3 -1.235658095172135e-05,0.7366990097980338,-4.483509762335216e-05
 Defines:
 y_gstrd, used in chunk 130b.

2.8.40 h.40 GSSUB: S&L government subsidies less surplus, deflated by PGDP

130d $\langle \text{variable } GSSUB \text{ 130d} \rangle \equiv$ (211)
 GSSUB = S&L government subsidies less surplus, deflated by PGDP
 Defines:
 GSSUB, used in chunks 206a and 223.
 Uses PGDP 106e.

130e $\langle \text{equation } gssub \text{ 130e} \rangle \equiv$ (244)
 gssub: gssub - gssub_aerr = ugssub*xgdpt

Defines:
 gssub, used in chunk 129b.
 Uses ugssub 206a and xgdpt 55c.

2.8.41 h.41 TFCIN: Federal corporate income tax accruals, current \$

130f $\langle \text{variable } TFCIN \text{ 130f} \rangle \equiv$ (211)
 TFCIN = Federal corporate income tax accruals, current \$
 Defines:
 TFCIN, used in chunk 223.

$$131a \quad \langle \text{equation } tfcin \text{ 131a} \rangle \equiv \quad (244)$$

$$tfcin: tfcin - tfcin_aerr = trfci * ynicpn$$

Defines:

`tfcin`, used in chunks 76–78, 83a, 125d, 153c, 186d, and 189e.
 Uses `trfci` 132c and `ynicpn` 77b.

2.8.42 h.42 TFIBN: Federal indirect business tax receipts, current \$

$$131b \quad \langle \text{variable } TFIBN \text{ 131b} \rangle \equiv \quad (211)$$

$$TFIBN = \text{Federal indirect business tax receipts, current \$}$$

Defines:

`TFIBN`, used in chunk 223.

$$131c \quad \langle \text{equation } tfibn \text{ 131c} \rangle \equiv \quad (244)$$

$$tfibn: tfibn - tfibn_aerr = trfib * ecnian$$

Defines:

`tfibn`, used in chunks 77b and 125d.
 Uses `ecnian` 22a and `trfib` 203f.

2.8.43 h.43 TFPN: Federal personal income tax and non-tax receipts, current \$

$$131d \quad \langle \text{variable } TFPN \text{ 131d} \rangle \equiv \quad (211)$$

$$TFPN = \text{Federal personal income tax and nontax receipts, current \$}$$

Defines:

`TFPN`, used in chunk 223.

$$131e \quad \langle \text{equation } tfpn \text{ 131e} \rangle \equiv \quad (244)$$

$$tfpn: tfpn - tfpn_aerr = trfp * (ypn - gftn - gstn)$$

Defines:

`tfpn`, used in chunks 77f, 84d, 125d, and 138f.
 Uses `gftn` 127b, `gstn` 129d, `trfp` 133a, and `ypn` 77d.

2.8.44 h.44 TFSIN: Federal social insurance tax receipts

$$131f \quad \langle \text{variable } TFSIN \text{ 131f} \rangle \equiv \quad (211)$$

$$TFSIN = \text{Federal social insurance tax receipts}$$

Defines:

`TFSIN`, used in chunk 223.

$$132a \quad \langle \text{equation } tfsin \text{ 132a} \rangle \equiv \quad (244)$$

$$tfsin: tfsin - tfsin_aerr = trfsi * yniln$$

Defines:

`tfsin`, used in chunks 81f and 125d.

Uses `trfsi` 203i and `yniln` 74f.

2.8.45 h.45 TRFCI: Average federal corporate income tax rate

$$132b \quad \langle \text{variable } TRFCI \text{ 132b} \rangle \equiv \quad (211)$$

$$TRFCI = \text{Average federal corporate income tax rate}$$

Defines:

`TRFCI`, used in chunk 223.

$$132c \quad \langle \text{equation } trfci \text{ 132c} \rangle \equiv \quad (244)$$

$$trfci: trfci - trfci_aerr = y_trfci(1) _ \\ + y_trfci(2) * trfci(-1) _ \\ + y_trfci(3) * trfcim _ \\ + y_trfci(4) * .01*pxp*epd*ppdr*.01*tapdt/ynicpn _ \\ + y_trfci(5) * xgap2 _ \\ + y_trfci(6) * picnia$$

Defines:

`trfci`, used in chunks 131a and 134b.

Uses `epd` 25c, `picnia` 88f, `ppdr` 95g, `pxp` 93b, `tapdt` 203a, `trfcim` 203e, `xgap2` 59c, `y_trfci` 132d, and `ynicpn` 77b.

$$132d \quad \langle \text{coefficient } y_trfci \text{ 132d} \rangle \equiv \quad (253)$$

$$y_trfci \ 6 \quad 0.00133892767133083, 0.8130157141532537, 0.1085501838146501, -0.2191884$$

Defines:

`y_trfci`, used in chunk 132c.

2.8.46 h.46 TRFP: Average federal tax rate for personal income tax and nontax receipts

$$132e \quad \langle \text{variable } TRFP \text{ 132e} \rangle \equiv \quad (211)$$

$$TRFP = \text{Average federal tax rate for personal income tax and nontax receipts}$$

Defines:

`TRFP`, used in chunk 223.

133a $\langle \text{equation } trfp \text{ 133a} \rangle \equiv$ (244)

$$\begin{aligned} trfp: trfp - trfp_aerr = & y_trfp(1) * trfpt_ \\ & + (y_trfp(2) * (trfp(-1) - trfpt(-1))) + y_trfp(3) * (trfp(-2) - trfpt(-2))) \\ & + y_trfp(4) * xgap2(-1) \end{aligned}$$

Defines:

trfp, used in chunks 131e and 135b.

Uses **trfpt** 133d, **xgap2** 59c, and **y_trfp** 133b.

133b $\langle \text{coefficient } y_trfp \text{ 133b} \rangle \equiv$ (253)

$$y_trfp \quad 4 \quad 1, 0.6249369098272274, 0.2896464773374296, 0.0003722869429144596$$

Defines:

y_trfp, used in chunk 133a.

2.8.47 h.47 TRFPT: Average federal tax rate for personal income tax, trend

133c $\langle \text{variable } TRFPT \text{ 133c} \rangle \equiv$ (211)

$$TRFPT = \text{Average federal tax rate for personal income tax, trend}$$

Defines:

TRFPT, used in chunk 223.

133d $\langle \text{equation } trfpt \text{ 133d} \rangle \equiv$ (244)

$$\begin{aligned} trfpt: trfpt - trfpt_aerr = & dfpex * trfptx_ \\ & + dfpdbt * (trfpt(-1) - \\ & \quad + y_trfpt(1) * (gfdbtn(-1)/xgdpn(-1) - gfdrt(-1)) - \\ & \quad + y_trfpt(2) * d(gfdbtn(-1)/xgdpn(-1) - gfdrt(-1), 0, 1)) - \\ & + dfpsrp * (trfpt(-1) - \\ & \quad + y_trfpt(3) * ((gfsrpn(-1) - egfin(-1) + jygfgn(-1) - \\ & \quad + jygfen(-1))/xgdpn(-1) - gfsrt(-1))) \end{aligned}$$

Defines:

trfpt, used in chunk 133a.

Uses **dfpdbt** 197a, **dfpex** 197b, **dfpsrp** 197c, **egfin** 115a, **gfdbtn** 124a, **gfdrt** 198h, **gfsrpn** 125d, **gfsrt** 199a, **jygfen** 72e, **jygfgn** 73b, **trfptx** 203h, **xgdpn** 70c, and **y_trfpt** 133e.

133e $\langle \text{coefficient } y_trfpt \text{ 133e} \rangle \equiv$ (253)

$$y_trfpt \quad 3 \quad 0.05000000000000000E+00, 0.50000000000000000E+00, -0.10000000000000000E+00$$

Defines:

y_trfpt, used in chunk 133d.

2.8.48 h.48 TRSCI: Average S&L corporate income tax rate

$$134a \quad \langle \text{variable } TRSCI \text{ } 134a \rangle \equiv \quad (211)$$

$$TRSCI = \text{Average S\&L corporate income tax rate}$$

Defines:

TRSCI, used in chunk 223.

$$134b \quad \langle \text{equation } trsci \text{ } 134b \rangle \equiv \quad (244)$$

$$\begin{aligned} trsci: trsci - trsci_aerr = & y_trsci(1) * trsci(-1) _ \\ & + (y_trsci(2) * trscit + y_trsci(3) * trscit(-1)) _ \\ & + (y_trsci(4) * xgap2 + y_trsci(5) * xgap2(-1)) _ \\ & + y_trsci(6) * d(trfci, 0, 1) \end{aligned}$$

Defines:

trsci, used in chunk 136f.

Uses trfci 132c, trscit 204a, xgap2 59c, and y_trsci 134c.

$$134c \quad \langle \text{coefficient } y_trsci \text{ } 134c \rangle \equiv \quad (253)$$

$$y_trsci \text{ } 6 \quad 0.791150698521011, 0.9058859419794156, -0.6970366405004266, -0.00076812$$

Defines:

y_trsci, used in chunk 134b.

2.8.49 h.49 TRSIB: Average S&L indirect business tax rate

$$134d \quad \langle \text{variable } TRSIB \text{ } 134d \rangle \equiv \quad (211)$$

$$TRSIB = \text{Average S\&L indirect business tax rate}$$

Defines:

TRSIB, used in chunk 223.

$$134e \quad \langle \text{equation } trsib \text{ } 134e \rangle \equiv \quad (244)$$

$$\begin{aligned} trsib: trsib - trsib_aerr = & y_trsib(1) * trsib(-1) _ \\ & + (y_trsib(2) * trsibt + y_trsib(3) * trsibt(-1)) _ \\ & + y_trsib(4) * xgap2 \end{aligned}$$

Defines:

trsib, used in chunk 137b.

Uses trsibt 204b, xgap2 59c, and y_trsib 134f.

$$134f \quad \langle \text{coefficient } y_trsib \text{ } 134f \rangle \equiv \quad (253)$$

$$y_trsib \text{ } 4 \quad 0.9134383490112551, 1.33647889726315, -1.249917246274406, -3.3538066843$$

Defines:

y_trsib, used in chunk 134e.

2.8.50 h.50 TRSP: Average S&L tax rate for personal income tax and nontax receipts

135a $\langle \text{variable } TRSP \text{ 135a} \rangle \equiv$ (211)
 TRSP = Average S&L tax rate for personal income tax and nontax receipts

Defines:

TRSP, used in chunk 223.

135b $\langle \text{equation } trsp \text{ 135b} \rangle \equiv$ (244)
 trsp: trsp - trsp_aerr = y_trsp(1) * trsp(-1) _
 + (y_trsp(2) * trspt + y_trsp(3) * trspt(-1)) _
 + y_trsp(4) * xgap2(-1) _
 + y_trsp(5) * d(trfp, 0, 1)

Defines:

trsp, used in chunk 137d.

Uses trfp 133a, trspt 135e, xgap2 59c, and y_trsp 135c.

135c $\langle \text{coefficient } y_trsp \text{ 135c} \rangle \equiv$ (253)
 y_trsp 5 0.632946369509944, 0.882450152119161, -0.515396521629105, 2.414664053290023e-05, 0.

Defines:

y_trsp, used in chunk 135b.

2.8.51 h.51 TRSPT: Trend S&L personal income tax rate

135d $\langle \text{variable } TRSPT \text{ 135d} \rangle \equiv$ (211)
 TRSPT = Trend S&L personal income tax rate

Defines:

TRSPT, used in chunk 223.

135e $\langle \text{equation } trspt \text{ 135e} \rangle \equiv$ (244)
 trspt: trspt - trspt_aerr = dfpex * trsptx _
 + dfpdbt * (trspt(-1) _
 + y_trspt(1) * (gsdbtn(-1)/xgdpn(-1) - gsdrtr(-1)) _
 + y_trspt(2) * d(gsdbtn(-1)/xgdpn(-1) - gsdrtr(-1), 0, 1)) _
 + dfpsrp * (trspt(-1) _
 + y_trspt(3) * ((gssrpn(-1) - egsgn(-1) + jygsgrn(-1) _
 + jygsgrn(-1))/xgdpn(-1) - gssrt(-1)))

Defines:

trspt, used in chunk 135b.

Uses dfpdbt 197a, dfpex 197b, dfpsrp 197c, egsgn 120c, gsdbtn 128a, gsdrtr 199c,
 gssrpn 128e, gssrt 199d, jygsgrn 73d, jygsgrn 73f, trsptx 204d, xgdpn 70c,
 and y_trspt 136a.

136a $\langle \text{coefficient } y_{\text{trspt}} \text{ 136a} \rangle \equiv$ (253)
 $y_{\text{trspt}} \text{ 3} \quad 0.050000000000000000\text{E}+00, 0.500000000000000000\text{E}+00, -0.250000000000000000\text{E}+00$
 Defines:
 y_{trspt} , used in chunk 135e.

2.8.52 h.52 TRSSI: Average S&L social insurance tax rate

136b $\langle \text{variable } TRSSI \text{ 136b} \rangle \equiv$ (211)
 $TRSSI = \text{Average S\&L social insurance tax rate}$
 Defines:
 $TRSSI$, used in chunk 223.

136c $\langle \text{equation } trssi \text{ 136c} \rangle \equiv$ (244)
 $trssi: trssi - trssi_aerr = (y_trssi(1) * trssi(-1) + y_trssi(2) * trssi(-2))$
 $+ (y_trssi(3) * trssit + y_trssi(4) * trssit(-1))$
 $+ y_trssi(5) * xgap2$

Defines:
 $trssi$, used in chunk 137f.
 Uses $trssit$ 204e, $xgap2$ 59c, and y_trssi 136d.

136d $\langle \text{coefficient } y_{\text{trssi}} \text{ 136d} \rangle \equiv$ (253)
 $y_{\text{trssi}} \text{ 5} \quad 1.18174981903228, -0.2318024453193926, 1.575674530080275, -1.52562190379$
 Defines:
 y_{trssi} , used in chunk 136c.

2.8.53 h.53 TSCIN: S&L corporate income tax accruals, current \$

136e $\langle \text{variable } TSCIN \text{ 136e} \rangle \equiv$ (211)
 $TSCIN = \text{S\&L corporate income tax accruals, current \$}$
 Defines:
 $TSCIN$, used in chunk 223.

136f $\langle \text{equation } tscin \text{ 136f} \rangle \equiv$ (244)
 $tscin: tscin - tscin_aerr = trsci * ynicpn$

Defines:
 $tscin$, used in chunks 76–78, 83a, 128e, 153c, 186d, and 189e.
 Uses $trsci$ 134b and $ynicpn$ 77b.

2.8.54 h.54 TSIBN: S&L indirect business tax receipts, current \$

137a $\langle \text{variable } TSIBN \text{ 137a} \rangle \equiv$ (211)
 $TSIBN = \text{S\&L indirect business tax receipts, current \$}$

Defines:

$TSIBN$, used in chunk 223.

137b $\langle \text{equation } tsibn \text{ 137b} \rangle \equiv$ (244)
 $tsibn: tsibn - tsibn_aerr = trsib * ecnian$

Defines:

$tsibn$, used in chunks 77b and 128e.

Uses $ecnian$ 22a and $trsib$ 134e.

2.8.55 h.55 TSPN: S&L personal income tax and nontax receipts, current \$

137c $\langle \text{variable } TSPN \text{ 137c} \rangle \equiv$ (211)
 $TSPN = \text{S\&L personal income tax and nontax receipts, current \$}$

Defines:

$TSPN$, used in chunk 223.

137d $\langle \text{equation } tspn \text{ 137d} \rangle \equiv$ (244)
 $tspn: tspn - tspn_aerr = trsp * (ypn - gftn - gstd)$

Defines:

$tspn$, used in chunks 77f, 84d, 128e, and 138f.

Uses $gftn$ 127b, $gstd$ 129d, $trsp$ 135b, and ypn 77d.

2.8.56 h.56 TSSIN: S&L social insurance tax receipts, current \$

137e $\langle \text{variable } TSSIN \text{ 137e} \rangle \equiv$ (211)
 $TSSIN = \text{S\&L social insurance tax receipts, current \$}$

Defines:

$TSSIN$, used in chunk 223.

137f $\langle \text{equation } tssin \text{ 137f} \rangle \equiv$ (244)
 $tssin: tssin - tssin_aerr = trssi * yniln$

Defines:

$tssin$, used in chunks 81f and 128e.

Uses $trssi$ 136c and $yniln$ 74f.

2.8.57 h.57 YGFSN: Federal government saving

$$138a \quad \langle \text{variable } YGFSN \text{ 138a} \rangle \equiv \quad (211)$$

$$YGFSN = \text{Federal government saving}$$

Defines:

`YGFSN`, used in chunk 223.

$$138b \quad \langle \text{equation } ygfsn \text{ 138b} \rangle \equiv \quad (244)$$

$$ygfsn: ygfsn - ygfsn_aerr = gfsrpn + jygfgn + jygfen$$

Defines:

`ygfsn`, never used.

Uses `gfsrpn` 125d, `jygfen` 72e, and `jygfgn` 73b.

2.8.58 h.58 YGSSN: State and Local government saving

$$138c \quad \langle \text{variable } YGSSN \text{ 138c} \rangle \equiv \quad (211)$$

$$YGSSN = \text{State and Local government saving}$$

Defines:

`YGSSN`, used in chunk 223.

$$138d \quad \langle \text{equation } ygssn \text{ 138d} \rangle \equiv \quad (244)$$

$$ygssn: ygssn - ygssn_aerr = gssrpn + jygsn + jygsen$$

Defines:

`ygssn`, never used.

Uses `gssrpn` 128e, `jygsen` 73d, and `jygsn` 73f.

2.8.59 h.59 TRYH: Average tax rate on household income

$$138e \quad \langle \text{variable } TRYH \text{ 138e} \rangle \equiv \quad (211)$$

$$TRYH = \text{Average tax rate on household income}$$

Defines:

`TRYH`, used in chunk 223.

$$138f \quad \langle \text{equation } tryh \text{ 138f} \rangle \equiv \quad (244)$$

$$tryh: tryh - tryh_aerr = (tfpn+tspn)/(yhln+yhptn)$$

Defines:

`tryh`, used in chunks 81d and 82b.

Uses `tfpn` 131e, `tspn` 137d, `yhln` 81f, and `yhptn` 83e.

2.9 Financial Sector

2.9.1 i.1 RFFTAY: Value of eff. federal funds rate given by the Taylor rule with output gap

139a $\langle \text{variable } RFFTAY \text{ 139a} \rangle \equiv$ (211)
 $RFFTAY$ = Value of eff. federal funds rate given by the Taylor rule with output gap
 Defines:
 $RFFTAY$, used in chunk 223.

139b $\langle \text{equation } rfftay \text{ 139b} \rangle \equiv$ (244)
 $rfftay: rfftay - rfftay_aerr = rstar _$
 $\quad + (picxfe + picxfe(-1) + picxfe(-2) + picxfe(-3)) / 4 _$
 $\quad + y_rfftay(1) * ((picxfe + picxfe(-1) + picxfe(-2) + picxfe(-3)) / 4$
 $\quad + y_rfftay(2) * xgap2$

Defines:
 $rfftay$, used in chunk 142d.
 Uses $picxfe$ 87b, $pitarg$ 201b, $rstar$ 142a, $xgap2$ 59c, and y_rfftay 139c.

139c $\langle \text{coefficient } y_rfftay \text{ 139c} \rangle \equiv$ (253)
 $y_rfftay \quad 2 \quad 0.5, 1.0$
 Defines:
 y_rfftay , used in chunk 139b.

2.9.2 i.2 RFFTLR: Value of eff. federal funds rate given by the Taylor rule with unemployment gap

139d $\langle \text{variable } RFFTLR \text{ 139d} \rangle \equiv$ (211)
 $RFFTLR$ = Value of eff. federal funds rate given by the Taylor rule with unemployment gap
 Defines:
 $RFFTLR$, used in chunk 223.

139e $\langle \text{equation } rfftlr \text{ 139e} \rangle \equiv$ (244)
 $rfftlr: rfftlr - rfftlr_aerr = rstar _$
 $\quad + y_rfftlr(1) * pitarg _$
 $\quad + y_rfftlr(2) * ((picxfe + picxfe(-1) + picxfe(-2) + picxfe(-3)) _)$
 $\quad + y_rfftlr(3) * (lurnat + deuc * leuc - lur)$

Defines:
 $rfftlr$, used in chunk 142d.
 Uses $deuc$ 196h, $leuc$ 200e, lur 65f, $lurnat$ 69e, $picxfe$ 87b, $pitarg$ 201b, $rstar$ 142a, and y_rfftlr 139f.

139f $\langle \text{coefficient } y_rfftlr \text{ 139f} \rangle \equiv$ (253)
 $y_rfftlr \quad 3 \quad -0.5, .375, 1.1$
 Defines:
 y_rfftlr , used in chunk 139e.

140a $\langle \text{variable } RFFINTAY \text{ 140a} \rangle \equiv$ (211)
RFFINTAY = Value of eff. federal funds rate given by the inertial Taylor rule
Defines:
RFFINTAY, used in chunk 223.

140b $\langle \text{equation } rffintay \text{ 140b} \rangle \equiv$ (244)
rffintay: rffintay - rffintay_aerr = y_rffintay(3) * rffe(-1) _
+ (1-y_rffintay(3)) * (rstar _
+ (picxfe + picxfe(-1) + picxfe(-2) + picxfe(-3)) / 4 _
+ y_rffintay(1) * ((picxfe + picxfe(-1) + picxfe(-2) + picxfe(-3)) / 4 _
+ y_rffintay(2) * xgap2)

Defines:
rffintay, used in chunk 142d.
 Uses **picxfe** 87b, **pitarg** 201b, **rffe** 144e, **rstar** 142a, **xgap2** 59c, and **y_rffintay** 140c.

$$140c \quad \langle \text{coefficient } y_rffintay \ 140c \rangle \equiv \frac{y_rffintay}{3} \quad 0.5, 1.0, .85 \quad (253)$$

Defines:
 y_rffintay, used in chunk 140b.

140d $\langle \text{variable } RFFALT \text{ 140d} \rangle \equiv$ (211)
 $RFFALT$ = Value of eff. federal funds rate given by estimated policy rule
 Defines:
 $RFFALT$, used in chunk 223.

140e $\langle \text{equation } rffalt \text{ 140e} \rangle \equiv$ (244)
 $rffalt: rffalt - rffalt_aerr = y_rffalt(1) _$
 $\quad + y_rffalt(2) * rff(-1) _$
 $\quad + y_rffalt(3) * rff(-2) _$
 $\quad + y_rffalt(4) * xgap2 _$
 $\quad + y_rffalt(5) * xgap2(-1) _$
 $\quad + y_rffalt(6) * ((picxfe + picxfe(-1) + picxfe(-2) + picxfe(-3))$

Defines:
rffalt, used in chunk 142d.
 Uses **picxfe** 87b, **rff** 145a, **xgap2** 59c, and **y_rffalt** 141a.

$$141a \quad \langle \text{coefficient } y_rffalt \text{ } 141a \rangle \equiv \quad (253)$$

$$y_rffalt \quad 6 \quad .0551, 1.2, -.39, .6954, -.5168, .3287$$

Defines:

`y_rffalt`, used in chunk 140e.

2.9.5 i.5 RFFGEN: Value of eff. federal funds rate given by the generalized reaction function

$$141b \quad \langle \text{variable } RFFGEN \text{ } 141b \rangle \equiv \quad (211)$$

$$RFFGEN \quad = \text{Value of eff. federal funds rate given by the generalized reaction function}$$

Defines:

`RFFGEN`, used in chunks 201a and 223.

$$141c \quad \langle \text{equation } rffgen \text{ } 141c \rangle \equiv \quad (244)$$

```
rffgen: rffgen - rffgen_aerr = y_rffgen(1) _
      + ( y_rffgen(2) * rffe(-1) + y_rffgen(3) * rffe(-2) + y_rffgen(4) *
      + ( y_rffgen(6) * picnia + y_rffgen(7) * picnia(-1) + y_rffgen(8) *
      + ( y_rffgen(11) * xgap2 + y_rffgen(12) * xgap2(-1) + y_rffgen(13) *
      + ( y_rffgen(16) * lur + y_rffgen(17) * lur(-1) + y_rffgen(18) * lur
      + ( y_rffgen(21) * pcnia + y_rffgen(22) * pcnia(-1) + y_rffgen(23) *
      + ( y_rffgen(26) * rstar + y_rffgen(27) * rstar(-1) + y_rffgen(28) *
      + ( y_rffgen(31) * pitarg + y_rffgen(32) * pitarg(-1) + y_rffgen(33)
      + ( y_rffgen(36) * lurnat + y_rffgen(37) * lurnat(-1) + y_rffgen(38)
      + ( y_rffgen(41) * pcstar + y_rffgen(42) * pcstar(-1) + y_rffgen(43)
      + ( y_rffgen(46) * picxfe + y_rffgen(47) * picxfe(-1) + y_rffgen(48)
```

Defines:

`rffgen`, used in chunk 142d.

Uses `lur` 65f, `lurnat` 69e, `pcnia` 89b, `pcstar` 201a, `picnia` 88f, `picxfe` 87b, `pitarg` 201b,

`rffe` 144e, `rstar` 142a, `xgap2` 59c, and `y_rffgen` 141d.

$$141d \quad \langle \text{coefficient } y_rffgen \text{ } 141d \rangle \equiv \quad (253)$$

`y_rffgen` 50 0.000000000000000000e+00, 0.000000000000000000e+00, 0.000000000000000000e+00

Defines:

`y_rffgen`, used in chunk 141c.

2.9.6 i.6 RSTAR: Equilibrium real federal funds rate (for monetary policy reaction functions)

$$141e \quad \langle \text{variable } RSTAR \text{ } 141e \rangle \equiv \quad (211)$$

$$RSTAR \quad = \text{Equilibrium real federal funds rate (for monetary policy reaction functions)}$$

Defines:

`RSTAR`, used in chunks 198e and 223.

142a $\langle \text{equation } rstar \text{ 142a} \rangle \equiv$ (244)
`rstar: rstar - rstar_aerr = rstar(-1) _
+ y_rstar(1) * ((rrffe-rstar(-1))*drstar)`

Defines:

`rstar`, used in chunks 139–41.

Uses `drstar` 198e, `rrffe` 145e, and `y_rstar` 142b.

142b $\langle \text{coefficient } y_rstar \text{ 142b} \rangle \equiv$ (253)
`y_rstar 1 .05`

Defines:

`y_rstar`, used in chunk 142a.

2.9.7 i.7 RFFRULE: Federal funds rate (effective ann. yield)

142c $\langle \text{variable } RFFRULE \text{ 142c} \rangle \equiv$ (211)
`RFFRULE = Federal funds rate (effective ann. yield)`

Defines:

`RFFRULE`, used in chunk 223.

142d $\langle \text{equation } rffrule \text{ 142d} \rangle \equiv$ (244)
`rffrule: rffrule - rffrule_aerr = (@recode((dmpex * 100 * ((1+rfffix/36000)^365-1) _
+ dmprr * (rrfix + (picxfe + picxfe(-1) + picxfe(-2) + p
+ dmptay * rfftay _
+ dmptlr * rfftlr _
+ dmpintay * rffintay _
+ dmpalt * 100*((1+rffalt/36000)^365-1) _
+ dmpgen * rffgen)>(rffmin),dmpex * 100 * ((1+rfffix/36000)^3
+ dmprr * (rrfix + (picxfe + picxfe(-1) + picxfe(-2) + p
+ dmptay * rfftay _
+ dmptlr * rfftlr _
+ dmpintay * rffintay _
+ dmpalt * 100*((1+rffalt/36000)^365-1) _
+ dmpgen * rffgen,rffmin))`

Defines:

`rffrule`, used in chunk 144e.

Uses `dmpalt` 197e, `dmpex` 197f, `dmpgen` 197g, `dmpintay` 197h, `dmprr` 197i, `dmptay` 198b,
`dmptlr` 198c, `picxfe` 87b, `rffalt` 140e, `rfffix` 201h, `rffgen` 141c, `rffintay` 140b,
`rffmin` 202a, `rfftay` 139b, `rfftlr` 139e, and `rrfix` 202d.

2.9.8 i.8 DMPTLUR: Monetary policy indicator for unemployment threshold

143a $\langle \text{variable } DMPTLUR \text{ 143a} \rangle \equiv$ (211)
 DMPTLUR = Monetary policy indicator for unemployment threshold

Defines:

 DMPTLUR, used in chunk 223.

143b $\langle \text{equation } dmptlur \text{ 143b} \rangle \equiv$ (244)
 dmptlur: dmptlur - dmptlur_aerr = 1/(1+exp(y_dmptlur(1)*(lur-lurtrsh)))

Defines:

 dmptlur, used in chunk 144a.

Uses lur 65f, lurtrsh 200g, and y_dmptlur 143c.

143c $\langle \text{coefficient } y_dmptlur \text{ 143c} \rangle \equiv$ (253)
 y_dmptlur 1 25

Defines:

 y_dmptlur, used in chunk 143b.

2.9.9 i.9 DMPTPI: Monetary policy indicator for inflation threshold

143d $\langle \text{variable } DMPTPI \text{ 143d} \rangle \equiv$ (211)
 DMPTPI = Monetary policy indicator for inflation threshold

Defines:

 DMPTPI, used in chunk 223.

143e $\langle \text{equation } dmptpi \text{ 143e} \rangle \equiv$ (244)
 dmptpi: dmptpi - dmptpi_aerr = 1/(1+exp(y_dmptpi(1)*(zpic58-pitrsh)))

Defines:

 dmptpi, used in chunk 144a.

Uses pitrsh 201c, y_dmptpi 143f, and zpic58 176b.

143f $\langle \text{coefficient } y_dmptpi \text{ 143f} \rangle \equiv$ (253)
 y_dmptpi 1 -25

Defines:

 y_dmptpi, used in chunk 143e.

2.9.10 i.10 DMPTMAX: Monetary policy indicator for both thresholds

143g $\langle \text{variable } DMPTMAX \text{ 143g} \rangle \equiv$ (211)
 DMPTMAX = Monetary policy indicator for both thresholds

Defines:

 DMPTMAX, used in chunk 223.

144a $\langle \text{equation } dmptmax \text{ 144a} \rangle \equiv$ (244)
`dmptmax: dmptmax - dmptmax_aerr = (@recode((dmptlur)>(dmptpi),dmptlur,dmptpi))`

Defines:

`dmptmax`, used in chunk 144c.

Uses `dmptlur` 143b and `dmptpi` 143e.

2.9.11 i.11 DMPTR: Monetary policy indicator for policy rule thresholds

144b $\langle \text{variable } DMPTR \text{ 144b} \rangle \equiv$ (211)
`DMPTR = Monetary policy indicator for policy rule thresholds`

Defines:

`DMPTR`, used in chunk 223.

144c $\langle \text{equation } dmptr \text{ 144c} \rangle \equiv$ (244)
`dmptr: dmptr - dmptr_aerr = (@recode((dmptmax)>(dmptr(-1)),dmptmax,dmptr(-1)))`

Defines:

`dmptr`, used in chunk 144e.

Uses `dmptmax` 144a.

2.9.12 i.12 RFFE: Federal funds rate (effective ann. yield)

144d $\langle \text{variable } RFFE \text{ 144d} \rangle \equiv$ (211)
`RFFE = Federal funds rate (effective ann. yield)`

Defines:

`RFFE`, used in chunk 223.

144e $\langle \text{equation } rffe \text{ 144e} \rangle \equiv$ (244)
`rffe: rffe - rffe_aerr = (1-dmptrsh) * (@recode((rffrule)>(rffmin),rffrule, rffmin))
+ dmptrsh * (@recode(((dmptr(-1)*rffrule + (1-dmptr(-1))*rffmin)))`

Defines:

`rffe`, used in chunks 80d, 140b, 141c, 145, 146a, and 170–89.

Uses `dmptr` 144c, `dmptrsh` 198d, `rffmin` 202a, and `rffrule` 142d.

2.9.13 i.13 RFF: Federal funds rate

144f $\langle \text{variable } RFF \text{ 144f} \rangle \equiv$ (211)
`RFF = Federal funds rate`

Defines:

`RFF`, used in chunk 223.

145a $\langle \text{equation } rff \text{ 145a} \rangle \equiv$ (244)

$$rff: rff - rff_aerr = 36000 * ((1+.01*rffe)^{(1/365)} - 1)$$

Defines:

rff, used in chunks 140e and 145c.

Uses **rffe** 144e.

2.9.14 i.14 DELRFF: Federal funds rate, first diff

145b $\langle \text{variable } DELRFF \text{ 145b} \rangle \equiv$ (211)

$$DELRFF = \text{Federal funds rate, first diff}$$

Defines:

DELRFF, used in chunk 223.

145c $\langle \text{equation } delrff \text{ 145c} \rangle \equiv$ (244)

$$delrff: delrff - delrff_aerr = rff - rff(-1)$$

Defines:

delrff, never used.

Uses **rff** 145a.

2.9.15 i.15 RRFEE: Real federal funds rate (effective ann. yield)

145d $\langle \text{variable } RRFEE \text{ 145d} \rangle \equiv$ (211)

$$RRFEE = \text{Real federal funds rate (effective ann. yield)}$$

Defines:

RRFEE, used in chunk 223.

145e $\langle \text{equation } rrffe \text{ 145e} \rangle \equiv$ (244)

$$rrffe: rrffe - rrffe_aerr = rffe - (\text{picxfe} + \text{picxfe}(-1) + \text{picxfe}(-2) + \text{picxfe}(-3)) / 4$$

Defines:

rrffe, used in chunks 142a and 169a.

Uses **picxfe** 87b and **rffe** 144e.

2.9.16 i.16 RTBE: 3-month Treasury bill rate (effective ann. yield)

145f $\langle \text{variable } RTBE \text{ 145f} \rangle \equiv$ (211)

$$RTBE = \text{3-month Treasury bill rate (effective ann. yield)}$$

Defines:

RTBE, used in chunk 223.

146a $\langle \text{equation } rtbe \text{ 146a} \rangle \equiv$ (244)

$$\begin{aligned} rtbe: rtbe - rtbe_aerr = & y_rtbe(1) _ \\ & + (y_rtbe(2) * rtbe(-1) + y_rtbe(3) * rtbe(-2)) _ \\ & + (y_rtbe(4) * rffe + y_rtbe(5) * rffe(-1)) \end{aligned}$$

Defines:

rtbe, used in chunk 146d.

Uses **rffe** 144e and **y_rtbe** 146b.

146b $\langle \text{coefficient } y_rtbe \text{ 146b} \rangle \equiv$ (253)

$$y_rtbe \quad 5 \quad -0.06677368009690213, 0.7720707564737897, 0.1224099968713681, 0.78509523$$

Defines:

y_rtbe, used in chunk 146a.

2.9.17 i.17 RTB: 3-month Treasury bill rate

146c $\langle \text{variable } RTB \text{ 146c} \rangle \equiv$ (211)

$$RTB = \text{3-month Treasury bill rate}$$

Defines:

RTB, used in chunk 223.

146d $\langle \text{equation } rtb \text{ 146d} \rangle \equiv$ (244)

$$rtb: rtb - rtb_aerr = 36000/90 * (1 - (.01 * rtbe + 1)^{-90/365})$$

Defines:

rtb, used in chunks 47b and 156f.

Uses **rtbe** 146a.

2.9.18 i.18 RG5P: 5-year Treasury note rate. term premium

146e $\langle \text{variable } RG5P \text{ 146e} \rangle \equiv$ (211)

$$RG5P = \text{5-year Treasury note rate. term premium}$$

Defines:

RG5P, used in chunk 223.

146f $\langle \text{equation } rg5p \text{ 146f} \rangle \equiv$ (244)

$$\begin{aligned} rg5p: rg5p - rg5p_aerr = & y_rg5p(1) _ \\ & + y_rg5p(2) * zgap05 _ \\ & + y_rg5p(3) * (rg5p(-1) - y_rg5p(1) - y_rg5p(2) * zgap05(-1)) \end{aligned}$$

Defines:

rg5p, used in chunk 147c.

Uses **y_rg5p** 147a and **zgap05** 171e.

147a $\langle \text{coefficient } y_{rg5p} \text{ 147a} \rangle \equiv$ (253)
 $y_{rg5p} \quad 3 \quad 0.7478923780795074, -0.3984697511015516, 0.9119509672669279$
 Defines:
 y_{rg5p} , used in chunk 146f.

2.9.19 i.19 RG5E: 5-year Treasury note rate (effective ann. yield)

147b $\langle \text{variable } RG5E \text{ 147b} \rangle \equiv$ (211)
 $RG5E \quad = \text{5-year Treasury note rate (effective ann. yield)}$
 Defines:
 $RG5E$, used in chunks 169e, 171d, and 223.

147c $\langle \text{equation } rg5e \text{ 147c} \rangle \equiv$ (244)
 $rg5e: rg5e - rg5e_aerr = zrff5 + rg5p$

Defines:
 $rg5e$, used in chunks 31e and 147e.
 Uses $rg5p$ 146f and $zrff5$ 170a.

2.9.20 i.20 RG5: 5-year Treasury note rate

147d $\langle \text{variable } RG5 \text{ 147d} \rangle \equiv$ (211)
 $RG5 \quad = \text{5-year Treasury note rate}$
 Defines:
 $RG5$, used in chunk 223.

147e $\langle \text{equation } rg5 \text{ 147e} \rangle \equiv$ (244)
 $rg5: rg5 - rg5_aerr = (((.01*rg5e + 1)^.5 - 1) * 200)$

Defines:
 $rg5$, used in chunks 151d and 156f.
 Uses $rg5e$ 147c.

2.9.21 i.21 RG10P: 10-year Treasury bond rate, term premium

147f $\langle \text{variable } RG10P \text{ 147f} \rangle \equiv$ (211)
 $RG10P \quad = \text{10-year Treasury bond rate, term premium}$
 Defines:
 $RG10P$, used in chunk 223.

148a $\langle \text{equation } rg10p \text{ 148a} \rangle \equiv$ (244)

$$\begin{aligned} \text{rg10p: rg10p} - \text{rg10p_aerr} = & \text{y_rg10p}(1) _ \\ & + \text{y_rg10p}(2) * \text{zgap10} _ \\ & + \text{y_rg10p}(3) * \text{d8095} _ \\ & + \text{y_rg10p}(4) * (\text{rg10p}(-1) - \text{y_rg10p}(1) - \text{y_rg10p}(2) * \text{zgap10}(-1) - \end{aligned}$$

Defines:

rg10p, used in chunk 148d.

Uses **d8095** 195f, **y_rg10p** 148b, and **zgap10** 172c.

148b $\langle \text{coefficient } y_rg10p \text{ 148b} \rangle \equiv$ (253)

$$\text{y_rg10p } 4 \quad 0.9985065593208419, -0.4718548432007495, 0.7314217770878953, 0.89593363$$

Defines:

y_rg10p, used in chunk 148a.

2.9.22 i.22 RG10E: 10-year Treasury bond rate (effective ann. yield)

148c $\langle \text{variable } RG10E \text{ 148c} \rangle \equiv$ (211)

$$\text{RG10E} = \text{10-year Treasury bond rate (effective ann. yield)}$$

Defines:

RG10E, used in chunks 170c, 172b, and 223.

148d $\langle \text{equation } rg10e \text{ 148d} \rangle \equiv$ (244)

$$\text{rg10e: rg10e} - \text{rg10e_aerr} = \text{zrff10} + \text{rg10p}$$

Defines:

rg10e, used in chunks 31e, 148f, 150f, 152a, and 163d.

Uses **rg10p** 148a and **zrff10** 170d.

2.9.23 i.23 RG10: 10-year Treasury bond rate

148e $\langle \text{variable } RG10 \text{ 148e} \rangle \equiv$ (211)

$$\text{RG10} = \text{10-year Treasury bond rate}$$

Defines:

RG10, used in chunk 223.

148f $\langle \text{equation } rg10 \text{ 148f} \rangle \equiv$ (244)

$$\text{rg10: rg10} - \text{rg10_aerr} = (((.01 * \text{rg10e} + 1)^{.5} - 1) * 200)$$

Defines:

rg10, used in chunks 47b and 156f.

Uses **rg10e** 148d.

2.9.24 i.24 RG30P: 30-year Treasury bond rate, term premium

$$149a \quad \langle \text{variable } RG30P \text{ } 149a \rangle \equiv \quad (211)$$

$$RG30P = 30\text{-year Treasury bond rate, term premium}$$

Defines:

RG30P, used in chunk 223.

$$149b \quad \langle \text{equation } rg30p \text{ } 149b \rangle \equiv \quad (244)$$

$$\begin{aligned} rg30p: rg30p - rg30p_aerr = & y_rg30p(1) _ \\ & + y_rg30p(2) * zgap30 _ \\ & + y_rg30p(3) * d8095 _ \\ & + y_rg30p(4) * (rg30p(-1) - y_rg30p(1) - y_rg30p(2)*zgap30(-1) - y_rg30p(3)* \end{aligned}$$

Defines:

rg30p, used in chunk 149e.

Uses d8095 195f, y_rg30p 149c, and zgap30 173a.

$$149c \quad \langle \text{coefficient } y_rg30p \text{ } 149c \rangle \equiv \quad (253)$$

$$y_rg30p \text{ } 4 \quad 1.337544689343979, -0.5892843861420656, 0.8365523842356651, 0.9045588991659449$$

Defines:

y_rg30p, used in chunk 149b.

2.9.25 i.25 RG30E: 30-year Treasury bond rate (effective ann. yield)

$$149d \quad \langle \text{variable } RG30E \text{ } 149d \rangle \equiv \quad (211)$$

$$RG30E = 30\text{-year Treasury bond rate (effective ann. yield)}$$

Defines:

RG30E, used in chunks 171a, 172e, and 223.

$$149e \quad \langle \text{equation } rg30e \text{ } 149e \rangle \equiv \quad (244)$$

$$rg30e: rg30e - rg30e_aerr = zrff30 + rg30p$$

Defines:

rg30e, used in chunks 150a and 153a.

Uses rg30p 149b and zrff30 171b.

2.9.26 i.26 RG30: 30-year Treasury bond rate

$$149f \quad \langle \text{variable } RG30 \text{ } 149f \rangle \equiv \quad (211)$$

$$RG30 = 30\text{-year Treasury bond rate}$$

Defines:

RG30, used in chunk 223.

150a $\langle \text{equation } rg30 \text{ 150a} \rangle \equiv$ (244)

$$rg30: rg30 - rg30_aerr = (((.01*rg30e + 1)^{.5} - 1) * 200)$$

Defines:

`rg30`, used in chunk 156f.

Uses `rg30e` 149e.

2.9.27 i.27 RBBBP: S&P BBB corporate bond rate, risk/term premium

150b $\langle \text{variable } RBBBP \text{ 150b} \rangle \equiv$ (211)

$$RBBBP = \text{S\&P BBB corporate bond rate, risk/term premium}$$

Defines:

`RBBBP`, used in chunk 223.

150c $\langle \text{equation } rbbbp \text{ 150c} \rangle \equiv$ (244)

$$rbbbp: rbbbp - rbbbp_aerr = y_rbbbp(1) _ \\ + y_rbbbp(2) * zgap10 _ \\ + y_rbbbp(3) * (rbbbp(-1) - y_rbbbp(4) - y_rbbbp(5)*zgap10(-1))$$

Defines:

`rbbbp`, used in chunks 150f and 152d.

Uses `y_rbbbp` 150d and `zgap10` 172c.

150d $\langle \text{coefficient } y_rbbbp \text{ 150d} \rangle \equiv$ (253)

$$y_rbbbp \ 5 \quad 1.663544231588651, -0.1493888609930089, 0.8866986585299741, 1.663544231588651$$

Defines:

`y_rbbbp`, used in chunk 150c.

2.9.28 i.28 RBBBE: S&P BBB corporate bond rate (effective ann. yield)

150e $\langle \text{variable } RBBBE \text{ 150e} \rangle \equiv$ (211)

$$RBBBE = \text{S\&P BBB corporate bond rate (effective ann. yield)}$$

Defines:

`RBBBE`, used in chunk 223.

150f $\langle \text{equation } rbbbe \text{ 150f} \rangle \equiv$ (244)

$$rbbbe: rbbbe - rbbbe_aerr = rbbbp + rg10e$$

Defines:

`rbbbe`, used in chunks 31e, 75d, and 151b.

Uses `rbbbp` 150c and `rg10e` 148d.

2.9.29 i.29 RBBB: S&P BBB corporate bond rate

$$151a \quad \langle \text{variable } RBBB \text{ 151a} \rangle \equiv \quad (211)$$

$$RBBB = \text{S\&P BBB corporate bond rate}$$

Defines:

`RBBB`, used in chunk 223.

$$151b \quad \langle \text{equation } rbbb \text{ 151b} \rangle \equiv \quad (244)$$

$$rbbb: rbbb - rbbb_aerr = (((0.01*rbbbe + 1)^{.5} - 1) * 200)$$

Defines:

`rbbb`, never used.

Uses `rbbbe` 150f.

2.9.30 i.30 RCAR: New car loan rate at finance companies

$$151c \quad \langle \text{variable } RCAR \text{ 151c} \rangle \equiv \quad (211)$$

$$RCAR = \text{New car loan rate at finance companies}$$

Defines:

`RCAR`, used in chunk 223.

$$151d \quad \langle \text{equation } rcar \text{ 151d} \rangle \equiv \quad (244)$$

$$\begin{aligned} rcar: rcar - rcar_aerr = & y_rcar(1) _ \\ & + y_rcar(2) * d79a _ \\ & + y_rcar(3) * ((1-d79a)*t47) _ \\ & + y_rcar(4) * rcar(-1) _ \\ & + (y_rcar(5) * rg5 + y_rcar(6) * rg5(-1)) \end{aligned}$$

Defines:

`rcar`, used in chunks 23c and 80d.

Uses `rg5` 147e, `t47` 202e, and `y_rcar` 151e.

$$151e \quad \langle \text{coefficient } y_rcar \text{ 151e} \rangle \equiv \quad (253)$$

$$y_rcar \ 6 \quad 2.100170296931854, -1.167642954704071, -0.008386800063101975, 0.6937687101118568, 0$$

Defines:

`y_rcar`, used in chunk 151d.

2.9.31 i.31 RME: Interest rate on conventional mortgages (effective ann. yield)

$$151f \quad \langle \text{variable } RME \text{ 151f} \rangle \equiv \quad (211)$$

$$RME = \text{Interest rate on conventional mortgages (effective ann. yield)}$$

Defines:

`RME`, used in chunk 223.

152a $\langle \text{equation } rme \text{ 152a} \rangle \equiv$ (244)

$$\begin{aligned} rme: & d(rme, 0, 1) - rme_aerr = y_rme(1) _ \\ & + y_rme(2) * d(rg10e, 0, 1) _ \\ & + y_rme(3) * d87 * d(rg10e, 0, 1) _ \\ & + y_rme(4) * (rg10e(-1) - rme(-1)) _ \\ & + y_rme(5) * d87 * (rg10e(-1) - rme(-1)) \end{aligned}$$

Defines:

rme, used in chunks 18e, 23e, and 157f.

Uses **d87** 196d, **rg10e** 148d, and **y_rme** 152b.

152b $\langle \text{coefficient } y_rme \text{ 152b} \rangle \equiv$ (253)

$$y_rme \quad 5 \quad 0.4927100798849811, 0.6776016328060693, 0.2424386344238626, 0.230503798$$

Defines:

y_rme, used in chunk 152a.

2.9.32 i.32 REQP: Real expected rate of return on equity, premium component

152c $\langle \text{variable } REQP \text{ 152c} \rangle \equiv$ (211)

$$REQP = \text{Real expected rate of return on equity, premium component}$$

Defines:

REQP, used in chunk 223.

152d $\langle \text{equation } reqp \text{ 152d} \rangle \equiv$ (244)

$$\begin{aligned} reqp: & reqp - reqp_aerr = y_reqp(1) + y_reqp(2) * rbbbp _ \\ & + y_reqp(3) * (reqp(-1) - y_reqp(4) - y_reqp(5) * rbbbp(-1)) \end{aligned}$$

Defines:

reqp, used in chunks 47b and 153a.

Uses **rbbbp** 150c and **y_reqp** 152e.

152e $\langle \text{coefficient } y_reqp \text{ 152e} \rangle \equiv$ (253)

$$y_reqp \quad 5 \quad 2.882980324228344, 0.6395674906531285, 0.8185047577678474, 2.8829803242$$

Defines:

y_reqp, used in chunk 152d.

2.9.33 i.33 REQ: Real expected rate of return on equity

152f $\langle \text{variable } REQ \text{ 152f} \rangle \equiv$ (211)

$$REQ = \text{Real expected rate of return on equity}$$

Defines:

REQ, used in chunks 175d and 223.

153a $\langle \text{equation req 153a} \rangle \equiv$ (244)

$$\text{req: req} - \text{req_aerr} = \text{rg30e} - \text{zpic30} + \text{reqp}$$

Defines:

req, used in chunks 31e and 153c.

Uses **reqp** 152d, **rg30e** 149e, and **zpic30** 175e.

2.9.34 i.34 WPSN: Household stock market wealth, current \$

153b $\langle \text{variable WPSN 153b} \rangle \equiv$ (211)

$$\text{WPSN} = \text{Household stock market wealth, current \$}$$

Defines:

WPSN, used in chunks 186c and 223.

153c $\langle \text{equation wpsn 153c} \rangle \equiv$ (244)

$$\begin{aligned} \text{wpsn: log(wpsn)} - \text{wpsn_aerr} &= \text{log}((\text{ynicpn}-\text{tfcin}-\text{tscin})*.5) - \\ &- .25 * (\text{req}-\text{zdivgr}) - \\ &+ \text{log}(25) + 1 \end{aligned}$$

Defines:

wpsn, used in chunk 153e.

Uses **req** 153a, **tfcin** 131a, **tscin** 136f, **ynicpn** 77b, and **zdivgr** 186d.

2.9.35 i.35 WPS: Household stock market wealth, real

153d $\langle \text{variable WPS 153d} \rangle \equiv$ (211)

$$\text{WPS} = \text{Household stock market wealth, real}$$

Defines:

WPS, used in chunk 223.

153e $\langle \text{equation wps 153e} \rangle \equiv$ (244)

$$\text{wps: wps} - \text{wps_aerr} = \text{wpsn}/(.01*\text{pcnia})$$

Defines:

wps, used in chunk 19e.

Uses **pcnia** 89b and **wpsn** 153c.

2.9.36 i.36 RCGAIN: Rate of capital gain on the non-equity portion of household wealth

153f $\langle \text{variable RCGAIN 153f} \rangle \equiv$ (211)

$$\text{RCGAIN} = \text{Rate of capital gain on the non-equity portion of household wealth}$$

Defines:

RCGAIN, used in chunk 223.

154a $\langle \text{equation } rcgain \text{ 154a} \rangle \equiv$ (244)

$$\begin{aligned} rcgain: rcgain - rcgain_aerr = & picx4 + y_rcgain(1) _ \\ & + y_rcgain(2) * xgap2 _ \\ & + y_rcgain(3) * (rcgain(-1) - picx4(-1) - y_rcgain(4) _ \\ & - y_rcgain(5) * xgap2(-1)) \end{aligned}$$

Defines:

`rcgain`, used in chunk 155a.

Uses `picx4` 112d, `xgap2` 59c, and `y_rcgain` 154b.

154b $\langle \text{coefficient } y_rcgain \text{ 154b} \rangle \equiv$ (253)

$$y_rcgain \quad 5 \quad 0.1522590051966577, 0.2987109747902424, 0.2513416212164487, 0.15$$

Defines:

`y_rcgain`, used in chunk 154a.

2.9.37 i.37 PHOUSE: Loan Performance House Price Index

154c $\langle \text{variable } PHOUSE \text{ 154c} \rangle \equiv$ (211)

$$PHOUSE = \text{Loan Performance House Price Index}$$

Defines:

`PHOUSE`, used in chunk 223.

154d $\langle \text{equation } phouse \text{ 154d} \rangle \equiv$ (244)

$$\begin{aligned} phouse: d(\log(phouse), 0, 1) - phouse_aerr = & y_phouse(1) + y_phouse(2) * d(\log(phouse) \\ & + y_phouse(3) * \log(phouse(-1)/(pchr(-1)*pcnia(-1))) \end{aligned}$$

Defines:

`phouse`, used in chunk 155a.

Uses `pchr` 112a, `pcnia` 89b, and `y_phouse` 154e.

154e $\langle \text{coefficient } y_phouse \text{ 154e} \rangle \equiv$ (253)

$$y_phouse \quad 3 \quad 0.004817103239693556, 0.8898461413782496, -0.01120829645070205$$

Defines:

`y_phouse`, used in chunk 154d.

2.9.38 i.38 WPON: Household property wealth ex. stock market, current \$

154f $\langle \text{variable } WPON \text{ 154f} \rangle \equiv$ (211)

$$WPON = \text{Household property wealth ex. stock market, current \$}$$

Defines:

`WPON`, used in chunk 223.

Uses `ex` 39c.

155a $\langle \text{equation } wpon \text{ 155a} \rangle \equiv$ (244)

$$\begin{aligned} wpon: wpon - wpon_aerr = & wpon(-1) * \exp((1 - ((phouse(-1) * kh(-1) / 116) / wpon(-1))) * rcgain / 400 \\ & + ((phouse(-1) * kh(-1) / 116) / wpon(-1)) * d(\log(phouse), 0, 1)) \\ & + .25 * (ydn - ecnian - yhibn) \\ & + .25 * (.01 * pcdr * pcnia * (ecd - jkcd)) \end{aligned}$$

Defines:

`wpon`, used in chunk 156a.

Uses `ecd` 18b, `ecnian` 22a, `jkcd` 24a, `kh` 23a, `pcdr` 112f, `pcnia` 89b, `phouse` 154d, `rcgain` 154a, `ydn` 77f, and `yhibn` 80d.

2.9.39 i.39 MEI: Multiplicative discrepancy for the difference between XGDI and XGDO

155b $\langle \text{variable } MEI \text{ 155b} \rangle \equiv$ (211)

`MEI` = Multiplicative discrepancy for the difference between XGDI and XGDO

Defines:

`MEI`, used in chunk 223.

Uses `XGDI` 55f and `XGDO` 56b.

155c $\langle \text{equation } mei \text{ 155c} \rangle \equiv$ (244)

$$mei: \log(me_i) - mei_aerr = y_mei(1) * \log(me_i(-1))$$

Defines:

`mei`, used in chunk 56a.

Uses `y_mei` 155d.

155d $\langle \text{coefficient } y_mei \text{ 155d} \rangle \equiv$ (253)

$$y_mei \quad 1 \quad 0.86$$

Defines:

`y_mei`, used in chunk 155c.

2.9.40 i.40 WPO: Household property wealth ex. stock market, real

155e $\langle \text{variable } WPO \text{ 155e} \rangle \equiv$ (211)

`WPO` = Household property wealth ex. stock market, real

Defines:

`WPO`, used in chunk 223.

Uses `ex` 39c.

$$156a \quad \langle \text{equation } wpo \text{ 156a} \rangle \equiv \quad (244)$$

$$wpo: wpo - wpo_aerr = wpon / (.01 * pcnia)$$

Defines:

`wpo`, used in chunk 19e.

Uses `pcnia` 89b and `wpon` 155a.

2.9.41 i.41 MEP: Multiplicative discrepancy for the difference between XGDP and XGDO

$$156b \quad \langle \text{variable } MEP \text{ 156b} \rangle \equiv \quad (211)$$

$$MEP = \text{Multiplicative discrepancy for the difference between XGDP and XGDO}$$

Defines:

`MEP`, used in chunk 223.

Uses `XGDO` 56b and `XGDP` 48c.

$$156c \quad \langle \text{equation } mep \text{ 156c} \rangle \equiv \quad (244)$$

$$mep: \log(mep) - mep_aerr = y_mep(1) * \log(mep(-1))$$

Defines:

`mep`, used in chunk 56c.

Uses `y_mep` 156d.

$$156d \quad \langle \text{coefficient } y_mep \text{ 156d} \rangle \equiv \quad (253)$$

$$y_mep \quad 1 \quad 0.86$$

Defines:

`y_mep`, used in chunk 156c.

2.9.42 i.42 RGW: Approximate average rate of interest on new federal debt

$$156e \quad \langle \text{variable } RGW \text{ 156e} \rangle \equiv \quad (211)$$

$$RGW = \text{Approximate average rate of interest on new federal debt}$$

Defines:

`RGW`, used in chunk 223.

$$156f \quad \langle \text{equation } rgw \text{ 156f} \rangle \equiv \quad (244)$$

$$rgw: rgw - rgw_aerr = y_rgw(1) * rtb_ + y_rgw(2) * rg5_ + y_rgw(3) * rg10_ + y_rgw(4) * rg30$$

Defines:

`rgw`, used in chunk 157c.

Uses `rg10` 148f, `rg30` 150a, `rg5` 147e, `rtb` 146d, and `y_rg` 157a.

$$157a \quad \langle \text{coefficient } y_{\text{rgw}} \text{ 157a} \rangle \equiv \quad (253)$$

$$y_{\text{rgw}} \quad 4 \quad .00495, .00271, .00129, .00105$$

Defines:

y_{rgw} , used in chunk 156f.

2.9.43 i.43 RGFINT: Average rate of interest on existing federal debt

$$157b \quad \langle \text{variable } RGFINT \text{ 157b} \rangle \equiv \quad (211)$$

$$RGFINT \quad = \text{Average rate of interest on existing federal debt}$$

Defines:

$RGFINT$, used in chunk 223.

$$157c \quad \langle \text{equation } rgfint \text{ 157c} \rangle \equiv \quad (244)$$

$$\begin{aligned} rgfint: rgfint - rgfint_aerr \quad & \\ & = (y_{\text{rgfint}}(1) * rgfint(-1) + (1 - y_{\text{rgfint}}(1)) * rgw(-1)) * (gfdbtn(-2) / gfdbtn(-1)) \\ & + rgw(-1) * (1 - gfdbtn(-2) / gfdbtn(-1)) + y_{\text{rgfint}}(2) \end{aligned}$$

Defines:

$rgfint$, used in chunks 124c and 128c.

Uses $gfdbtn$ 124a, rgw 156f, and y_{rgfint} 157d.

$$157d \quad \langle \text{coefficient } y_{\text{rgfint}} \text{ 157d} \rangle \equiv \quad (253)$$

$$y_{\text{rgfint}} \quad 2 \quad 0.86, 0.005417428040208504$$

Defines:

y_{rgfint} , used in chunk 157c.

2.9.44 i.44 RRMET: Real mortgage rate, trend

$$157e \quad \langle \text{variable } RRMET \text{ 157e} \rangle \equiv \quad (211)$$

$$RRMET \quad = \text{Real mortgage rate, trend}$$

Defines:

$RRMET$, used in chunks 174d and 223.

$$157f \quad \langle \text{equation } rrmnet \text{ 157f} \rangle \equiv \quad (244)$$

$$\begin{aligned} rrmnet: rrmnet - rrmnet_aerr = y_{\text{rrmet}}(1) * rrmnet(-1) \quad & \\ & + y_{\text{rrmet}}(2) * (rme - zpi10) \end{aligned}$$

Defines:

$rrmet$, used in chunks 19b and 75d.

Uses rme 152a, y_{rrmet} 157g, and $zpi10$ 174e.

$$157g \quad \langle \text{coefficient } y_{\text{rrmet}} \text{ 157g} \rangle \equiv \quad (253)$$

$$y_{\text{rrmet}} \quad 2 \quad .9048, .0952$$

Defines:

y_{rrmet} , used in chunk 157f.

2.10 Foreign Activity

2.10.1 j.1 FXGAP: Foreign output gap (world, bilateral export weights)

158a $\langle \text{variable } FXGAP \text{ 158a} \rangle \equiv$ (211)
 FXGAP = Foreign output gap (world, bilateral export weights)

Defines:
 FXGAP, used in chunk 223.

158b $\langle \text{equation } fxgap \text{ 158b} \rangle \equiv$ (244)
 fxgap: fxgap - fxgap_aerr = _
 + y_fxgap(1) * fxgap(-1) _
 + y_fxgap(2) * fxgap(-2) _
 + y_fxgap(3) * ((frs10(-1) _
 -(fpi10(-1)+fpi10(-2)+fpi10(-3)+fpi10(-4))/4 + frs10(-2) _
 -(fpi10(-2)+fpi10(-3)+fpi10(-4)+fpi10(-5))/4 + frs10(-3) _
 -(fpi10(-3)+fpi10(-4)+fpi10(-5)+fpi10(-6))/4) /3-frstar) _
 + y_fxgap(4) * xgap2(-1)

Defines:
 fxgap, used in chunks 39c, 158e, 159e, 162a, and 163a.
 Uses fpi10 159e, frs10 162a, frstar 162d, xgap2 59c, and y_fxgap 158c.

158c $\langle \text{coefficient } y_fxgap \text{ 158c} \rangle \equiv$ (253)
 y_fxgap 4 1.284002584226955, -0.4544105287732581, -0.05, 0.02742233318740996
 Defines:
 y_fxgap, used in chunk 158b.

2.10.2 j.2 FGDP: Foreign aggregate GDP (world, bilateral export weights)

158d $\langle \text{variable } FGDP \text{ 158d} \rangle \equiv$ (211)
 FGDP = Foreign aggregate GDP (world, bilateral export weights)

Defines:
 FGDP, used in chunk 223.

158e $\langle \text{equation } fgdp \text{ 158e} \rangle \equiv$ (244)
 fgdp: fgdp - fgdp_aerr = fgdpt*exp(fxgap/100)

Defines:
 fgdp, used in chunk 39c.
 Uses fgdp 159b and fxgap 158b.

2.10.5 j.5 FPI10T: Foreign consumer price inflation, trend (G10)

160a $\langle \text{variable } FPI10T \text{ 160a} \rangle \equiv$ (211)
 FPI10T = Foreign consumer price inflation, trend (G10)

Defines:

FPI10T, used in chunk 223.

160b $\langle \text{equation } fpi10t \text{ 160b} \rangle \equiv$ (244)
 fpi10t: fpi10t-fpi10t_aerr = y_fpi10t(1) * fpi10t(-1) _
 + y_fpi10t(2) * fpi10

Defines:

fpi10t, used in chunk 163d.

Uses fpi10 159e and y_fpi10t 160c.

160c $\langle \text{coefficient } y_fpi10t \text{ 160c} \rangle \equiv$ (253)
 y_fpi10t 2 9.5000000000000000e-01,5.0000000000000000e-02

Defines:

y_fpi10t, used in chunk 160b.

2.10.6 j.6 FPIC: Foreign consumer price inflation (G39, bilateral export trade weights)

160d $\langle \text{variable } FPIC \text{ 160d} \rangle \equiv$ (211)
 FPIC = Foreign consumer price inflation (G39, bilateral export trade weights)

Defines:

FPIC, used in chunk 223.

160e $\langle \text{equation } fpic \text{ 160e} \rangle \equiv$ (244)
 fpic: fpic-fpic_aerr = y_fpic(1) _
 + y_fpic(2) * fpi10 _
 + y_fpic(3) * fpic(-1)

Defines:

fpic, used in chunk 161b.

Uses fpi10 159e and y_fpic 160f.

160f $\langle \text{coefficient } y_fpic \text{ 160f} \rangle \equiv$ (253)
 y_fpic 3 2.174669585864584,0.6994194241702426,0.3005805758297574

Defines:

y_fpic, used in chunk 160e.

2.10.7 j.7 FPC: Foreign aggregate consumer price (G39, import/export trade weights)

161a $\langle \text{variable } FPC \text{ 161a} \rangle \equiv$ (211)
 FPC = Foreign aggregate consumer price (G39, import/export trade weights)
 Defines:
 FPC, used in chunk 223.

161b $\langle \text{equation } fpc \text{ 161b} \rangle \equiv$ (244)
 fpc: fpc - fpc_aerr = fpc(-1)*exp(fpic/400)

Defines:
 fpc, used in chunks 39c, 43e, 45c, 161d, and 164.
 Uses fpic 160e.

2.10.8 j.8 FPCM: Foreign aggregate consumer price (G39, bilateral non-oil import trade weights)

161c $\langle \text{variable } FPCM \text{ 161c} \rangle \equiv$ (211)
 FPCM = Foreign aggregate consumer price (G39, bilateral non-oil import trade weights)
 Defines:
 FPCM, used in chunks 205b and 223.

161d $\langle \text{equation } fpcm \text{ 161d} \rangle \equiv$ (244)
 fpcm: fpcm - fpcm_aerr = ufpcm*fpc

Defines:
 fpcm, used in chunks 105e and 164f.
 Uses fpc 161b and ufpcm 205b.

2.10.9 j.9 FRS10: Foreign short-term interest rate (G10)

161e $\langle \text{variable } FRS10 \text{ 161e} \rangle \equiv$ (211)
 FRS10 = Foreign short-term interest rate (G10)
 Defines:
 FRS10, used in chunk 223.

163a $\langle \text{equation } frl10 \text{ 163a} \rangle \equiv$ (244)

$$\begin{aligned} frl10: frl10 - frl10(-1) - frl10_aerr = & y_frl10(1) _ \\ & + y_frl10(2) * (frl10(-1) - frs10(-1)) _ \\ & + y_frl10(3) * (frl10(-1) - frl10(-2)) _ \\ & + y_frl10(4) * (frs10 - frs10(-1)) _ \\ & + y_frl10(5) * (fxgap - fxgap(-1)) \end{aligned}$$

Defines:

`frl10`, used in chunk 163d.

Uses `frs10` 162a, `fxgap` 158b, and `y_fr110` 163b.

163b $\langle \text{coefficient } y_frl10 \text{ 163b} \rangle \equiv$ (253)

$$y_frl10 \quad 5 \quad 0.03993364460261257, -0.07293669623744157, 0.08403561227292196, 0.3637926024013994$$

Defines:

`y_fr110`, used in chunk 163a.

2.10.12 j.12 FPXR: Real exchange rate (G39, import/export trade weights)

163c $\langle \text{variable } FPXR \text{ 163c} \rangle \equiv$ (211)

$$FPXR = \text{Real exchange rate (G39, import/export trade weights)}$$

Defines:

`FPXR`, used in chunks 175b and 223.

163d $\langle \text{equation } fpxr \text{ 163d} \rangle \equiv$ (244)

$$\begin{aligned} fpxr: \log(fpxr) - fpxr_aerr - \log(fpxrr) = & _ \\ & y_fpxr(1)*(rg10e-zpi10f-frl10+fpi10t) _ \\ & + y_fpxr(2)*(fnin/xgdpn) \end{aligned}$$

Defines:

`fpxr`, used in chunks 88c and 164d.

Uses `fnin` 43e, `fpi10t` 160b, `fpxrr` 164a, `frl10` 163a, `rg10e` 148d, `xgdpn` 70c, `y_fpxr` 163e, and `zpi10f` 175c.

163e $\langle \text{coefficient } y_fpxr \text{ 163e} \rangle \equiv$ (253)

$$y_fpxr \quad 2 \quad 0.048, 0.5$$

Defines:

`y_fpxr`, used in chunk 163d.

2.10.13 j.13 FPXRR: Real exchange rate residual

163f $\langle \text{variable } FPXRR \text{ 163f} \rangle \equiv$ (211)

$$FPXRR = \text{Real exchange rate residual}$$

Defines:

`FPXRR`, used in chunk 223.

164a $\langle \text{equation } fpxrr \text{ 164a} \rangle \equiv$ (244)

$$\begin{aligned} fpxrr: d(\log(fpxrr), 0, 1) - fpxrr_aerr _ \\ = y_fpxrr(1) * \log(fpxrrt(-1)/fpxrr(-1)) _ \\ + y_fpxrr(2) * d(\log(fpxrr(-1)), 0, 1) _ \\ + (1-y_fpxrr(2)) * d(\log(fpxrrt), 0, 1) \end{aligned}$$

Defines:

fpxrr, used in chunk 163d.

Uses **fpxrrt** 198g and **y_fpxrr** 164b.

164b $\langle \text{coefficient } y_fpxrr \text{ 164b} \rangle \equiv$ (253)

$$y_fpxrr \ 2 \quad 0.03011994048459088, 0.2026244928161041$$

Defines:

y_fpxrr, used in chunk 164a.

2.10.14 j.14 FPX: Nominal exchange rate (G39, import/export trade weights)

164c $\langle \text{variable } FPX \text{ 164c} \rangle \equiv$ (211)

$$FPX = \text{Nominal exchange rate (G39, import/export trade weights)}$$

Defines:

FPX, used in chunk 223.

164d $\langle \text{equation } fpx \text{ 164d} \rangle \equiv$ (244)

$$fpx: fpx - fpx_aerr = fpxr*fpc/pcpi$$

Defines:

fpx, used in chunks 39c, 43e, 45c, and 164f.

Uses **fpc** 161b, **fpxr** 163d, and **pcpi** 89d.

2.10.15 j.15 FPXM: Nominal exchange rate (G39, bilateral import trade weights)

164e $\langle \text{variable } FPXM \text{ 164e} \rangle \equiv$ (211)

$$FPXM = \text{Nominal exchange rate (G39, bilateral import trade weights)}$$

Defines:

FPXM, used in chunks 205c and 223.

164f $\langle \text{equation } fpxm \text{ 164f} \rangle \equiv$ (244)

$$fpxm: fpxm - fpxm_aerr = ufpxm*fpx*fpcm/fpc$$

Defines:

fpxm, used in chunk 105e.

Uses **fpc** 161b, **fpcm** 161d, **fpx** 164d, and **ufpxm** 205c.

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2.11 Expectations

- 2.11.1 z1.1 PTR: 10-year expected PCE price inflation (Survey of Professional Forecasters)
- 2.11.2 z1.2 RRTR: Expected long-run real federal funds rate
- 2.11.3 z1.3 RTR: Expected federal funds rate in the long run (Blue Chip)
- 2.11.4 z1.4 ZRFF5: Expected federal funds rate, for RG5E eq. (5-yr mat.) (VAR exp.)
- 2.11.5 z1.5 ZRFF10: Expected federal funds rate, for RG10E eq. (10-yr mat.) (VAR exp.)
- 2.11.6 z1.6 ZRFF30: Expected federal funds rate, for RG30E eq. (30-yr mat.) (VAR exp.)
- 2.11.7 z1.7 ZGAP05: Expected output gap, for RG5E eq. (VAR exp.)
- 2.11.8 z1.8 ZGAP10: Expected output gap, for RG10E eq. (VAR exp.)
- 2.11.9 z1.9 ZGAP30: Expected output gap, for RG30E eq. (VAR exp.)
- 2.11.10 z1.10 ZPI5: Expected cons. price infl., for RCCD eq. (5-yr mat.) (VAR exp.)
- 2.11.11 z1.11 ZPIB5: Expected output price infl., for RPD eq. (5-yr mat.) (VAR exp.)
- 2.11.12 z1.12 ZPI10: Expected cons. price infl., for RCCH, RRMET, and YHPNTN eqs. (10-yr mat.) (VAR exp.)
- 2.11.13 z1.13 ZPI10F: Expected cons. price infl., for FPXR eq. (10-yr mat.) (VAR exp.)
- 2.11.14 z1.14 ZPIC30: Expected cons. price infl., for REQ eq. (30-yr mat.) (VAR exp.)
- 2.11.15 z1.15 ZPIC58: Expected 4-qtr consumer price inflation (8 qtrs. in the future) (VAR exp.)
- 2.11.16 z1.16 ZPICXFE: Expected value of picxfe in the next quarter (VAR exp.)
- 2.11.17 z1.17 ZPIECI: Expected value of pieci in the next quarter (VAR exp.)
- 2.11.18 z1.18 ZECO: Expected growth rate of target non-durables and nonhousing services, for ECO eq (VAR exp.)

ZYHST = Expected trend ratio of household income to GDP

Defines:

ZYHST, used in chunk 223.

$$167a \quad \langle \text{equation } zy\text{hst } 167a \rangle \equiv \quad (244)$$

$$zy\text{hst}: zy\text{hst} - zy\text{hst_aerr} = zy\text{hst}(-1) + y_zy\text{hst}(1) * (yh\text{shr} - zy\text{hst}(-1))$$

Defines:

zyhst, used in chunks 80b, 188, and 189b.

Uses y_zyhst 167b and yhshr 84b.

$$167b \quad \langle \text{coefficient } y_zy\text{hst } 167b \rangle \equiv \quad (253)$$

$$y_zy\text{hst } 1 \quad 0.050000000000000000E+00$$

Defines:

y_zyhst, used in chunk 167a.

2.11.35 z1.35 ZYHPST: Expected trend share of property income in household income

$$167c \quad \langle \text{variable } ZYHPST \text{ } 167c \rangle \equiv \quad (211)$$

$$ZYHPST = \text{Expected trend share of property income in household income}$$

Defines:

ZYHPST, used in chunk 223.

$$167d \quad \langle \text{equation } zy\text{hpst } 167d \rangle \equiv \quad (244)$$

$$zy\text{hpst}: zy\text{hpst} - zy\text{hpst_aerr} = zy\text{hpst}(-1) + y_zy\text{hpst}(1) * (yh\text{pshr} - zy\text{hpst}(-1))$$

Defines:

zyhpst, used in chunks 82d and 188d.

Uses y_zyhpst 167e and yhpshr 83c.

$$167e \quad \langle \text{coefficient } y_zy\text{hpst } 167e \rangle \equiv \quad (253)$$

$$y_zy\text{hpst} \quad 1 \quad 0.050000000000000000E+00$$

Defines:

y_zyhpst, used in chunk 167d.

2.11.36 z1.36 ZYHTST: Expected trend share of transfer income in household income

$$167f \quad \langle \text{variable } ZYHTST \text{ } 167f \rangle \equiv \quad (211)$$

$$ZYHTST = \text{Expected trend share of transfer income in household income}$$

Defines:

ZYHTST, used in chunk 223.

168a $\langle \text{equation } zyhtst \text{ 168a} \rangle \equiv$ (244)

$$zyhtst: zyhtst - zyhtst_aerr = zyhtst(-1) + y_zyhtst(1)*(yhtshr-zyhtst(-1))$$

Defines:

zyhtst, used in chunks 85b and 189b.

Uses **y_zyhtst** 168b and **yhtshr** 85f.

168b $\langle \text{coefficient } y_zyhtst \text{ 168b} \rangle \equiv$ (253)

$$y_zyhtst \quad 1 \quad 0.050000000000000000E+00$$

Defines:

y_zyhtst, used in chunk 168a.

2.11.37 z1.37 HGYNID: Growth rate of real after-tax corporate profits

2.12 Model-Consistent Expectations

2.12.1 z2.1 PTR: 10-year expected PCE price inflation (Survey of Professional Forecasters)

168c $\langle \text{variable } PTR \text{ 168c} \rangle \equiv$ (211)

$$PTR = 10\text{-year expected PCE price inflation (Survey of Professional Forecasters)}$$

Defines:

PTR, used in chunk 223.

168d $\langle \text{equation } ptr \text{ 168d} \rangle \equiv$ (244)

$$ptr: ptr - ptr_aerr = y_ptr(1)*ptr(-1) + y_ptr(2)*picxfe(-1) + y_ptr(3)*pitarg(-1)$$

Defines:

ptr, used in chunks 87 and 169–89.

Uses **picxfe** 87b, **pitarg** 201b, and **y_ptr** 168e.

168e $\langle \text{coefficient } y_ptr \text{ 168e} \rangle \equiv$ (253)

$$y_ptr \quad 3 \quad 0.9, 0.05, 0.05$$

Defines:

y_ptr, used in chunk 168d.

2.12.2 z2.2 RRTR: Expected long-run real federal funds rate

168f $\langle \text{variable } RRTR \text{ 168f} \rangle \equiv$ (211)

$$RRTR = \text{Expected long-run real federal funds rate}$$

Defines:

RRTR, used in chunk 223.

169a $\langle \text{equation } rrtr \text{ 169a} \rangle \equiv$ (244)

$$rrtr: rrtr - rrtr_aerr = y_rrtr(1) * rrtr(-1) _ \\ + y_rrtr(2) * rrffe$$

Defines:

rrtr, used in chunk 169d.

Uses **rrffe** 145e and **y_rrtr** 169b.

169b $\langle \text{coefficient } y_rrtr \text{ 169b} \rangle \equiv$ (253)

$$y_rrtr \quad 2 \quad .97, .03$$

Defines:

y_rrtr, used in chunk 169a.

2.12.3 z2.3 RTR: Expected federal funds rate in the long run (Blue Chip)

169c $\langle \text{variable } RTR \text{ 169c} \rangle \equiv$ (211)

$$RTR = \text{Expected federal funds rate in the long run (Blue Chip)}$$

Defines:

RTR, used in chunk 223.

169d $\langle \text{equation } rtr \text{ 169d} \rangle \equiv$ (244)

$$rtr: rtr - rtr_aerr = rrtr + ptr$$

Defines:

rtr, used in chunks 170–89.

Uses **ptr** 168d and **rrtr** 169a.

2.12.4 z2.4 ZRFF5: Expected federal funds rate, for RG5E eq. (5-yr mat.) (MCE exp.)

169e $\langle \text{variable } ZRFF5 \text{ 169e} \rangle \equiv$ (211)

$$ZRFF5 = \text{Expected federal funds rate, for RG5E eq. (5-yr mat.)}$$

Defines:

ZRFF5, used in chunk 223.

Uses **RG5E** 147b.

170a $\langle \text{equation } zrff5 \text{ 170a} \rangle \equiv$ (244)

$$\begin{aligned} zrff5: \quad & zrff5-zrff5_aerr = y_zrff5(1) _ \\ & + (y_zrff5(2) * picnia + y_zrff5(3) * picnia(-1) + y_zrff5(4) \\ & + (y_zrff5(6) * rfte + y_zrff5(7) * rfte(-1) + y_zrff5(8) * \\ & + y_zrff5(10) * rtr _ \\ & + y_zrff5(11) * ptr _ \\ & + (y_zrff5(12) * xgap + y_zrff5(13) * xgap(-1) + y_zrff5(14) \end{aligned}$$

Defines:

zrff5, used in chunk 147c.

Uses **picnia** 88f, **ptr** 168d, **rfte** 144e, **rtr** 169d, **xgap** 59a, and **y_zrff5** 170b.

170b $\langle \text{coefficient } y_zrff5 \text{ 170b} \rangle \equiv$ (253)

$$y_zrff5 \text{ 15} \quad -2.893994419845934e-13, -0.03329615692337154, -0.01651377444295286, -0.0$$

Defines:

y_zrff5, used in chunk 170a.

2.12.5 z2.5 ZRFF10: Expected federal funds rate, for RG10E eq. (10-yr mat.) (MCE exp.)

170c $\langle \text{variable } ZRFF10 \text{ 170c} \rangle \equiv$ (211)

$$ZRFF10 = \text{Expected federal funds rate, for RG10E eq. (10-yr mat.)}$$

Defines:

ZRFF10, used in chunk 223.

Uses **RG10E** 148c.

170d $\langle \text{equation } zrff10 \text{ 170d} \rangle \equiv$ (244)

$$\begin{aligned} zrff10: \quad & zrff10-zrff10_aerr = y_zrff10(1) _ \\ & + (y_zrff10(2) * picnia + y_zrff10(3) * picnia(-1) + y_zrff10(4) \\ & + (y_zrff10(6) * rfte + y_zrff10(7) * rfte(-1) + y_zrff10(8) \\ & + y_zrff10(10) * rtr _ \\ & + y_zrff10(11) * ptr _ \\ & + (y_zrff10(12) * xgap + y_zrff10(13) * xgap(-1) + y_zrff10(14) \end{aligned}$$

Defines:

zrff10, used in chunk 148d.

Uses **picnia** 88f, **ptr** 168d, **rfte** 144e, **rtr** 169d, **xgap** 59a, and **y_zrff10** 170e.

170e $\langle \text{coefficient } y_zrff10 \text{ 170e} \rangle \equiv$ (253)

$$y_zrff10 \text{ 15} \quad -1.225928191740291e-13, -0.02771619956382117, -0.01188080871189$$

Defines:

y_zrff10, used in chunk 170d.

2.12.6 z2.6 ZRFF30: Expected federal funds rate, for RG30E eq. (30-yr mat.) (MCE exp.)

171a $\langle \text{variable } ZRFF30 \text{ 171a} \rangle \equiv$ (211)
 $ZRFF30 = \text{Expected federal funds rate, for RG30E eq. (30-yr mat.)}$

Defines:

$ZRFF30$, used in chunk 223.

Uses RG30E 149d.

171b $\langle \text{equation } zrff30 \text{ 171b} \rangle \equiv$ (244)

$$\begin{aligned} zrff30: \quad zrff30 - zrff30_aerr = & y_zrff30(1) _ \\ & + (y_zrff30(2) * picnia + y_zrff30(3) * picnia(-1) + y_zrff30(4) * p \\ & + (y_zrff30(6) * rfte + y_zrff30(7) * rfte(-1) + y_zrff30(8) * rfte \\ & + y_zrff30(10) * rtr _ \\ & + y_zrff30(11) * ptr _ \\ & + (y_zrff30(12) * xgap + y_zrff30(13) * xgap(-1) + y_zrff30(14) * xg \end{aligned}$$

Defines:

$zrff30$, used in chunk 149e.

Uses $picnia$ 88f, ptr 168d, $rfte$ 144e, rtr 169d, $xgap$ 59a, and y_zrff30 171c.

171c $\langle \text{coefficient } y_zrff30 \text{ 171c} \rangle \equiv$ (253)
 $y_zrff30 \quad 15 \quad -6.431098710768743e-14, -0.01469452480129645, -0.006366611548946281, -0.01$
 Defines:
 y_zrff30 , used in chunk 171b.

2.12.7 z2.7 ZGAP05: Expected output gap, for RG5E eq. (MCE exp.)

171d $\langle \text{variable } ZGAP05 \text{ 171d} \rangle \equiv$ (211)
 $ZGAP05 = \text{Expected output gap, for RG5E eq.}$

Defines:

$ZGAP05$, used in chunk 223.

Uses RG5E 147b.

171e $\langle \text{equation } zgap05 \text{ 171e} \rangle \equiv$ (244)

$$\begin{aligned} zgap05: \quad zgap05 - zgap05_aerr = & y_zgap05(1) _ \\ & + (y_zgap05(2) * picnia + y_zgap05(3) * picnia(-1) + y_zgap05(4) * p \\ & + (y_zgap05(6) * rfte + y_zgap05(7) * rfte(-1) + y_zgap05(8) * rfte \\ & + y_zgap05(10) * rtr _ \\ & + y_zgap05(11) * ptr _ \\ & + (y_zgap05(12) * xgap + y_zgap05(13) * xgap(-1) + y_zgap05(14) * xg \end{aligned}$$

Defines:

$zgap05$, used in chunk 146f.

Uses $picnia$ 88f, ptr 168d, $rfte$ 144e, rtr 169d, $xgap$ 59a, and y_zgap05 172a.

172a $\langle \text{coefficient } y_zgap05 \text{ 172a} \rangle \equiv$ (253)
 $y_zgap05 \quad 15 \quad 2.257007909357927e-15, -0.1597149595303493, -0.0271459642153113$
 Defines:
 y_zgap05 , used in chunk 171e.

2.12.8 z2.8 ZGAP10: Expected output gap, for RG10E eq. (MCE exp.)

172b $\langle \text{variable } ZGAP10 \text{ 172b} \rangle \equiv$ (211)
 $ZGAP10 = \text{Expected output gap, for RG10E eq.}$
 Defines:
 $ZGAP10$, used in chunk 223.
 Uses RG10E 148c.

172c $\langle \text{equation } zgap10 \text{ 172c} \rangle \equiv$ (244)
 $zgap10: \quad zgap10 - zgap10_aerr = y_zgap10(1) _$
 $\quad + (y_zgap10(2) * picnia + y_zgap10(3) * picnia(-1) + y_zgap10(4) * rffe$
 $\quad + (y_zgap10(6) * rffe + y_zgap10(7) * rffe(-1) + y_zgap10(8) * rtr$
 $\quad + y_zgap10(10) * rtr _$
 $\quad + y_zgap10(11) * ptr _$
 $\quad + (y_zgap10(12) * xgap + y_zgap10(13) * xgap(-1) + y_zgap10(14) * xgap$

Defines:
 $zgap10$, used in chunks 148a and 150c.
 Uses $picnia$ 88f, ptr 168d, $rffe$ 144e, rtr 169d, $xgap$ 59a, and y_zgap10 172d.

172d $\langle \text{coefficient } y_zgap10 \text{ 172d} \rangle \equiv$ (253)
 $y_zgap10 \quad 15 \quad 1.913550184020851e-15, -0.08856716084344839, -0.015147933533409$
 Defines:
 y_zgap10 , used in chunk 172c.

2.12.9 z2.9 ZGAP30: Expected output gap, for RG30E eq. (MCE exp.)

172e $\langle \text{variable } ZGAP30 \text{ 172e} \rangle \equiv$ (211)
 $ZGAP30 = \text{Expected output gap, for RG30E eq.}$
 Defines:
 $ZGAP30$, used in chunk 223.
 Uses RG30E 149d.

173a $\langle \text{equation } zgap30 \text{ 173a} \rangle \equiv$ (244)

```

zgap30: zgap30-zgap30_aerr = y_zgap30(1) _
      + ( y_zgap30(2) * picnia + y_zgap30(3) * picnia(-1) + y_zgap30(4) * p
      + ( y_zgap30(6) * rfte + y_zgap30(7) * rfte(-1) + y_zgap30(8) * rfte
      + y_zgap30(10) * rtr _
      + y_zgap30(11) * ptr _
      + ( y_zgap30(12) * xgap + y_zgap30(13) * xgap(-1) + y_zgap30(14) * xg

```

Defines:

zgap30, used in chunk 149b.

Uses **picnia** 88f, **ptr** 168d, **rfte** 144e, **rtr** 169d, **xgap** 59a, and **y_zgap30** 173b.

173b $\langle \text{coefficient } y_zgap30 \text{ 173b} \rangle \equiv$ (253)

```

y_zgap30      15      9.185040883300084e-15,-0.04699887854311754,-0.008064404203305675,-0.016

```

Defines:

y_zgap30, used in chunk 173a.

2.12.10 z2.10 ZPI5: Expected cons. price infl., for RCCD eq. (5-yr mat.) (MCE exp.)

173c $\langle \text{variable } ZPI5 \text{ 173c} \rangle \equiv$ (211)

```

ZPI5      = Expected cons. price infl., for RCCD eq. (5-yr mat.)

```

Defines:

ZPI5, used in chunk 223.

Uses **RCCD** 23b.

173d $\langle \text{equation } zpi5 \text{ 173d} \rangle \equiv$ (244)

```

zpi5: zpi5-zpi5_aerr = ( y_zpi5(1) * picnia(-1) + y_zpi5(2) * picnia(-2) + y_zpi5(3) * p
      + ( y_zpi5(5) * rfte(-1) + y_zpi5(6) * rfte(-2) + y_zpi5(7) * rfte(-3) +
      + y_zpi5(9) * rtr(-1) _
      + y_zpi5(10) * ptr(-1) _
      + ( y_zpi5(11) * xgap(-1) + y_zpi5(12) * xgap(-2) + y_zpi5(13) * xgap(-3)

```

Defines:

zpi5, used in chunk 23c.

Uses **picnia** 88f, **ptr** 168d, **rfte** 144e, **rtr** 169d, **xgap** 59a, and **y_zpi5** 173e.

173e $\langle \text{coefficient } y_zpi5 \text{ 173e} \rangle \equiv$ (253)

```

y_zpi5      14      0.06758353158403318,0.02161485431596137,0.01782456814136856,0.00296452469821149

```

Defines:

y_zpi5, used in chunk 173d.

2.12.11 z2.11 ZPIB5: Expected output price infl., for RPD eq. (5-yr mat.) (MCE exp.)

174a $\langle \text{variable } ZPIB5 \text{ 174a} \rangle \equiv$ (211)

ZPIB5 = Expected output price infl., for RPD eq. (5-yr mat.)

Defines:

ZPIB5, used in chunk 223.

Uses RPD 31d.

174b $\langle \text{equation } zpib5 \text{ 174b} \rangle \equiv$ (244)

zpib5: zpib5-zpib5_aerr = y_zpib5(1) _
+ (y_zpib5(2) * picnia(-1) + y_zpib5(3) * picnia(-2) + y_zpib5(4) *
+ (y_zpib5(6) * rffe(-1) + y_zpib5(7) * rffe(-2) + y_zpib5(8) * rffe(-3)
+ y_zpib5(10) * rtr(-1) _
+ y_zpib5(11) * ptr(-1) _
+ (y_zpib5(12) * xgap(-1) + y_zpib5(13) * xgap(-2) + y_zpib5(14) * xgap(-3)
+ (y_zpib5(16) * (400*d(log(pxb(-1)), 0, 1)) + y_zpib5(17) * (400*d(

Defines:

zpib5, used in chunks 31e, 37a, and 38a.

Uses picnia 88f, ptr 168d, pxb 108d, rffe 144e, rtr 169d, xgap 59a, and y_zpib5 174c.

174c $\langle \text{coefficient } y_zpib5 \text{ 174c} \rangle \equiv$ (253)

y_zpib5 19 2.014761562942157e-14,0.08381220448829916,0.03966837250165698,0.02966837250165698

Defines:

y_zpib5, used in chunk 174b.

2.12.12 z2.12 ZPI10: Expected cons. price infl., for RCCH, RRMET, and YHPNTN eqs. (10-yr mat.) (MCE exp.)

174d $\langle \text{variable } ZPI10 \text{ 174d} \rangle \equiv$ (211)

ZPI10 = Expected cons. price infl., for RCCH, RRMET, and YHPNTN eqs. (10-yr mat.)

Defines:

ZPI10, used in chunk 223.

Uses RCCH 23d, RRMET 157e, and YHPNTN 82e.

174e $\langle \text{equation } zpi10 \text{ 174e} \rangle \equiv$ (244)

zpi10: zpi10-zpi10_aerr = (y_zpi10(1) * picnia(-1) + y_zpi10(2) * picnia(-2) +
+ (y_zpi10(5) * rffe(-1) + y_zpi10(6) * rffe(-2) + y_zpi10(7) * rffe(-3)
+ y_zpi10(9) * rtr(-1) _
+ y_zpi10(10) * ptr(-1) _
+ (y_zpi10(11) * xgap(-1) + y_zpi10(12) * xgap(-2) + y_zpi10(13) * xgap(-3)

Defines:

zpi10, used in chunks 23e, 83a, 157f, and 175c.

Uses picnia 88f, ptr 168d, rffe 144e, rtr 169d, xgap 59a, and y_zpi10 175a.

175a $\langle \text{coefficient } y_zpi10 \text{ 175a} \rangle \equiv$ (253)
 $y_zpi10 \text{ 14} \quad 0.03879756717884661, 0.01310655690781879, 0.01249073978840772, 0.00201364444700266$
 Defines:
 y_zpi10 , used in chunk 174e.

2.12.13 z2.13 ZPI10F: Expected cons. price infl., for FPXR eq. (10-yr mat.) (MCE exp.)

175b $\langle \text{variable } ZPI10F \text{ 175b} \rangle \equiv$ (211)
 $ZPI10F = \text{Expected cons. price infl., for FPXR eq. (10-yr mat.)}$
 Defines:
 $ZPI10F$, used in chunk 223.
 Uses FPXR 163c.

175c $\langle \text{equation } zpi10f \text{ 175c} \rangle \equiv$ (244)
 $zpi10f: \quad zpi10f - zpi10f_aerr = zpi10$

Defines:
 $zpi10f$, used in chunk 163d.
 Uses $zpi10$ 174e.

2.12.14 z2.14 ZPIC30: Expected cons. price infl., for REQ eq. (30-yr mat.) (MCE exp.)

175d $\langle \text{variable } ZPIC30 \text{ 175d} \rangle \equiv$ (211)
 $ZPIC30 = \text{Expected cons. price infl., for REQ eq. (30-yr mat.)}$
 Defines:
 $ZPIC30$, used in chunk 223.
 Uses REQ 152f.

175e $\langle \text{equation } zpic30 \text{ 175e} \rangle \equiv$ (244)
 $zpic30: \quad zpic30 - zpic30_aerr = y_zpic30(1) _$
 $\quad + (y_zpic30(2) * picnia + y_zpic30(3) * picnia(-1) + y_zpic30(4) * picnia(-2)$
 $\quad + (y_zpic30(6) * rffe + y_zpic30(7) * rffe(-1) + y_zpic30(8) * rffe(-2) + y_z$
 $\quad + y_zpic30(10) * rtr _$
 $\quad + y_zpic30(11) * ptr _$
 $\quad + (y_zpic30(12) * xgap + y_zpic30(13) * xgap(-1) + y_zpic30(14) * xgap(-2) +$

Defines:
 $zpic30$, used in chunk 153a.
 Uses $picnia$ 88f, ptr 168d, $rffe$ 144e, rtr 169d, $xgap$ 59a, and y_zpic30 175f.

175f $\langle \text{coefficient } y_zpic30 \text{ 175f} \rangle \equiv$ (253)
 $y_zpic30 \quad 15 \quad 9.998348776898279e-14, 0.03772442939281018, 0.00691792724638696, 0.0066112$
 Defines:
 y_zpic30 , used in chunk 175e.

2.12.15 z2.15 ZPIC58: Expected 4-qtr consumer price inflation (8 qtrs. in the future) (MCE exp.)

176a $\langle \text{variable } ZPIC58 \text{ 176a} \rangle \equiv$ (211)
 ZPIC58 = Expected 4-qtr consumer price inflation (8 qtrs. in the future)
 Defines:
 ZPIC58, used in chunk 223.

176b $\langle \text{equation } zpic58 \text{ 176b} \rangle \equiv$ (244)
 zpic58: zpic58-zpic58_aerr = (y_zpic58(1) * picnia + y_zpic58(2) * picnia(-1) -
 + (y_zpic58(5) * rffe + y_zpic58(6) * rffe(-1) + y_zpic58(7)
 + y_zpic58(9) * rtr _
 + y_zpic58(10) * ptr _
 + (y_zpic58(11) * xgap + y_zpic58(12) * xgap(-1) + y_zpic58(

Defines:
 zpic58, used in chunk 143e.
 Uses picnia 88f, ptr 168d, rffe 144e, rtr 169d, xgap 59a, and y_zpic58 176c.

176c $\langle \text{coefficient } y_zpic58 \text{ 176c} \rangle \equiv$ (253)
 y_zpic58 14 0.3419924857225884, 0.05029077146057983, 0.04280461383060537, -
 Defines:
 y_zpic58, used in chunk 176b.

2.12.16 z2.16 ZPICXFE: Expected value of picxfe in the next quarter (MCE exp.)

176d $\langle \text{variable } ZPICXFE \text{ 176d} \rangle \equiv$ (211)
 ZPICXFE = Expected value of picxfe in the next quarter
 Defines:
 ZPICXFE, used in chunk 223.
 Uses picxfe 87b.

177a $\langle \text{equation } \text{zpicxfe } 177a \rangle \equiv$ (244)

```

zpicxfe:  zpicxfe-zpicxfe_aerr = ( y_zpicxfe(1) * picxfe(-1) + y_zpicxfe(2) * picxfe(-2) +
+ ( y_zpicxfe(5) * pieci(-1) + y_zpicxfe(6) * pieci(-2) + y_zpicxfe(7) *
+ ( y_zpicxfe(9) * rffe(-1) + y_zpicxfe(10) * rffe(-2) + y_zpicxfe(11) *
+ ( y_zpicxfe(13) * xgap2(-1) + y_zpicxfe(14) * xgap2(-2) + y_zpicxfe(15)
+ y_zpicxfe(17) * rtr(-1) _
+ y_zpicxfe(18) * ptr(-1) _
+ y_zpicxfe(19) * log(qpcnia(-1)/pcnia(-1)) _
+ y_zpicxfe(20) * log(qpl(-1)/pl(-1)) _
+ y_zpicxfe(21) * (hlprdt(-1) - 400*huqpct(-1)) _
+ ( y_zpicxfe(22) * (lur(-1) - lurnat(-1)) + y_zpicxfe(23) * (lur(-2) - lurnat(-2)) )

```

Defines:

zpicxfe, used in chunk 87b.

Uses hlprdt 69c, huqpct 100d, lur 65f, lurnat 69e, pcnia 89b, picxfe 87b, pieci 87e, pl 90d, ptr 168d, qpcnia 92f, qpl 92a, rffe 144e, rtr 169d, xgap2 59c, and y_zpicxfe 177b.

177b $\langle \text{coefficient } \text{y_zpicxfe } 177b \rangle \equiv$ (253)

```

y_zpicxfe      23      0.323685055125,-0.00320254773354,0.000957688783119,0.0104690425827,0.07

```

Defines:

y_zpicxfe, used in chunk 177a.

2.12.17 z2.17 ZPIECI: Expected value of pieci in the next quarter (MCE exp.)

177c $\langle \text{variable } \text{ZPIECI } 177c \rangle \equiv$ (211)

```

ZPIECI      = Expected value of pieci in the next quarter

```

Defines:

ZPIECI, used in chunk 223.

Uses pieci 87e.

178a $\langle \text{equation } zpieci \text{ 178a} \rangle \equiv$ (244)

```

zpieci:  zpieci-zpieci_aerr = ( y_zpieci(1) * picxfe(-1) + y_zpieci(2) * picxfe
      + ( y_zpieci(5) * pieci(-1) + y_zpieci(6) * pieci(-2) + y_zpieci(7) * pieci(-3)
      + ( y_zpieci(9) * rffe(-1) + y_zpieci(10) * rffe(-2) + y_zpieci(11) * rffe(-3)
      + ( y_zpieci(13) * xgap2(-1) + y_zpieci(14) * xgap2(-2) + y_zpieci(15) * xgap2(-3)
      + y_zpieci(17) * rtr(-1) _
      + y_zpieci(18) * ptr(-1) _
      + y_zpieci(19) * log(qpcnia(-1)/pcnia(-1)) _
      + y_zpieci(20) * log(qpl(-1)/pl(-1)) _
      + y_zpieci(21) * (hlprdt(-1) - 400*huqpct(-1)) _
      + ( y_zpieci(22) * (lur(-1) - lurnat(-1)) + y_zpieci(23) * (lur(-1) - lurnat(-1)) )

```

Defines:

zpieci, used in chunk 87e.

Uses hlprdt 69c, huqpct 100d, lur 65f, lurnat 69e, pcnia 89b, picxfe 87b, pieci 87e, pl 90d, ptr 168d, qpcnia 92f, qpl 92a, rffe 144e, rtr 169d, xgap2 59c, and y_zpieci 178b.

178b $\langle \text{coefficient } y_zpieci \text{ 178b} \rangle \equiv$ (253)

```

y_zpieci      23      -0.0173696976108,-0.00564002523431,0.000750046022225,0.01864

```

Defines:

y_zpieci, used in chunk 178a.

2.12.18 z2.18 ZECO: Expected growth rate of target non-durables and nonhousing services, for ECO eq (MCE exp.)

178c $\langle \text{variable } ZECO \text{ 178c} \rangle \equiv$ (211)

```

ZECO      = Expected growth rate of target nondurables and nonhousing services, for ECO eq

```

Defines:

ZECO, used in chunk 223.

Uses ECO 17a.

179a $\langle \text{equation } zeco \text{ 179a} \rangle \equiv$ (244)

$$\begin{aligned}
& \text{zeco: } zeco - zeco_aerr = _ \\
& \quad (y_zeco(1) * picnia(-1) + y_zeco(2) * picnia(-2) + y_zeco(3) * picnia(-3) \\
& \quad + (y_zeco(5) * rffe(-1) + y_zeco(6) * rffe(-2) + y_zeco(7) * rffe(-3) + y_ \\
& \quad + (y_zeco(9) * xgap2(-1) + y_zeco(10) * xgap2(-2) + y_zeco(11) * xgap2(-3) \\
& \quad + y_zeco(13) * ptr(-1) _ \\
& \quad + y_zeco(14) * rtr(-1) _ \\
& \quad + (y_zeco(15) * yhgap(-1) + y_zeco(16) * yhgap(-2) + y_zeco(17) * yhgap(-3) \\
& \quad + (y_zeco(19) * yhtgap(-1) + y_zeco(20) * yhtgap(-2) + y_zeco(21) * yhtgap(-3) \\
& \quad + (y_zeco(23) * yhpgap(-1) + y_zeco(24) * yhpgap(-2) + y_zeco(25) * yhpgap(-3) \\
& \quad + y_zeco(27) * ((hggdpt(-1)/400)) _ \\
& \quad + (y_zeco(28) _ \\
& \quad * (d(\log(qeco(-1)), 0, 1)) + y_zeco(29) _ \\
& \quad * (d(\log(qeco(-2)), 0, 1)) + y_zeco(30) _ \\
& \quad * (d(\log(qeco(-3)), 0, 1)) + y_zeco(31) _ \\
& \quad * (d(\log(qeco(-4)), 0, 1)))
\end{aligned}$$

Defines:

`zeco`, used in chunk 17b.

Uses `hggdpt` 60d, `picnia` 88f, `ptr` 168d, `qeco` 20b, `rffe` 144e, `rtr` 169d, `xgap2` 59c, `y_zeco` 179b, `yhgap` 80b, `yhpgap` 82d, and `yhtgap` 85b.

179b $\langle \text{coefficient } y_zeco \text{ 179b} \rangle \equiv$ (253)

$$y_zeco \quad 31 \quad -8.302302840394758e-05, -8.481341005195437e-05, -1.070919356458063e-05, 9.38149440$$

Defines:

`y_zeco`, used in chunk 179a.

2.12.19 z2.19 ZECD: Expected growth rate of target durable consumption, for ECD eq. (MCE exp.)

179c $\langle \text{variable } ZECD \text{ 179c} \rangle \equiv$ (211)

$$ZECD = \text{Expected growth rate of target durable consumption, for ECD eq.}$$

Defines:

`ZECD`, used in chunk 223.

Uses `ECD` 18a.

```

180a      (equation zecd 180a)≡
          zecd: zecd-zecd_aerr = ( y_zecd(1) * picnia(-1) + y_zecd(2) * picnia(-2) + y_zecd(3) * picnia(-3)
+ ( y_zecd(5) * rffe(-1) + y_zecd(6) * rffe(-2) + y_zecd(7) * rffe(-3)
+ ( y_zecd(9) * xgap2(-1) + y_zecd(10) * xgap2(-2) + y_zecd(11) * xgap2(-3)
+ y_zecd(13) * ptr(-1) _
+ y_zecd(14) * rtr(-1) _
+ ( y_zecd(15) * yhgap(-1) + y_zecd(16) * yhgap(-2) + y_zecd(17) * yhgap(-3)
+ ( y_zecd(19) * yhtgap(-1) + y_zecd(20) * yhtgap(-2) + y_zecd(21) * yhtgap(-3)
+ ( y_zecd(23) * yhpgap(-1) + y_zecd(24) * yhpgap(-2) + y_zecd(25) * yhpgap(-3)
+ y_zecd(27)* (hggdpt(-1)/400) _
+ y_zecd(28)* (hgpcdr(-1)/400) _
+ ( y_zecd(29) * d( log(qecd(-1)), 0, 1 ) + y_zecd(30) * d( log(qgcd(-1)), 0, 1 )

```

Defines:

zecd, used in chunk 18b.

Uses `hggdpt` 60d, `hgpcdr` 199f, `picnia` 88f, `ptr` 168d, `qecd` 20e, `rffe` 144e, `rtr` 169d, `xgap2` 59c, `y_zecd` 180b, `yhgap` 80b, `yhpgap` 82d, and `yhtgap` 85b.

$$180b \quad \langle \text{coefficient } y_{_zecd} \ 180b \rangle \equiv \quad (253)$$

$$y_zecd \quad 32 \quad -0.0005835440697737298, -0.0004890487384829661, -0.0003178601486946526$$

Defines:

y_zecd, used in chunk 180a.

2.12.20 **z2.20 ZGAPC2:** Expected output gap, for ECD eq. (MCE exp.)

$$\begin{aligned} 180c \quad \langle \text{variable } ZGAPC2 \text{ } 180c \rangle &\equiv \\ ZGAPC2 &= \text{Expected output gap, for ECD eq.} \end{aligned} \quad (211)$$

Defines:

ZGAPC2, used in chunk 223.

Uses ECD 18a.

$$180d \quad \langle \text{equation } \text{zgapc2 } 180d \rangle \equiv \quad (244)$$

$$\begin{aligned} \text{zgapc2: } \text{zgapc2-zgapc2_aerr} = & (\text{y_zgapc2}(1) * \text{picnia}(-1) + \text{y_zgapc2}(2) * \text{picnia}(-2) \\ & + (\text{y_zgapc2}(5) * \text{rffe}(-1) + \text{y_zgapc2}(6) * \text{rffe}(-2) + \text{y_zgapc2}(7) * \text{rffe}(-3) \\ & + (\text{y_zgapc2}(9) * \text{xgap2}(-1) + \text{y_zgapc2}(10) * \text{xgap2}(-2) + \text{y_zgapc2}(11) * \text{xgap2}(-3) \\ & + \text{y_zgapc2}(13) * \text{ptr}(-1) - \\ & + \text{y_zgapc2}(14) * \text{rtr}(-1) \end{aligned}$$

Defines:

zgapc2, used in chunk 18b.

Uses `picnia` 88f, `ptr` 168d, `rfte` 144e, `rtr` 169d, `xgap2` 59c, and `y_zgapc2` 180e.

$$\langle \text{coefficient } y_zgapc2 \rangle_{180e} \equiv \frac{1}{14} (-0.01642348362157579, -0.003669559326500591, -0.008031103190068) \quad (253)$$

Defines:

y_zgapc2, used in chunk 180d.

2.12.21 z2.21 ZEH: Expected growth rate of target residential investment, for EH eq. (MCE exp.)

181a $\langle \text{variable } ZEH \text{ 181a} \rangle \equiv$ (211)
 $ZEH = \text{Expected growth rate of target residential investment, for EH eq.}$

Defines:

ZEH , used in chunk 223.

Uses EH 18d.

181b $\langle \text{equation } zeh \text{ 181b} \rangle \equiv$ (244)

$$\begin{aligned} zeh: zeh-zeh_aerr = & _ \\ & (y_zeh(1) * picnia(-1) + y_zeh(2) * picnia(-2) + y_zeh(3) * picnia(-3) + \\ & + (y_zeh(5) * rffe(-1) + y_zeh(6) * rffe(-2) + y_zeh(7) * rffe(-3) + y_zeh(8) * rffe(-4) + \\ & + (y_zeh(9) * xgap2(-1) + y_zeh(10) * xgap2(-2) + y_zeh(11) * xgap2(-3) + \\ & + y_zeh(13) * ptr(-1) _ \\ & + y_zeh(14) * rtr(-1) _ \\ & + (y_zeh(15) * yhgap(-1) + y_zeh(16) * yhgap(-2) + y_zeh(17) * yhgap(-3) + \\ & + (y_zeh(19) * yhtgap(-1) + y_zeh(20) * yhtgap(-2) + y_zeh(21) * yhtgap(-3) + \\ & + (y_zeh(23) * yhpgap(-1) + y_zeh(24) * yhpgap(-2) + y_zeh(25) * yhpgap(-3) + \\ & + y_zeh(27) * (hggdpt(-1)/400) _ \\ & + (y_zeh(28) * d(\log(qeh(-1)), 0, 1) + y_zeh(29) * d(\log(qeh(-2)), 0, 1) \end{aligned}$$

Defines:

zeh , used in chunk 18e.

Uses hggdpt 60d, picnia 88f, ptr 168d, qeh 21a, rffe 144e, rtr 169d, xgap2 59c, y_zeh 181c, yhgap 80b, yhpgap 82d, and yhtgap 85b.

181c $\langle \text{coefficient } y_zeh \text{ 181c} \rangle \equiv$ (253)
 $y_zeh \quad 31 \quad -0.0001475636416872941, -3.032365273125124e-05, -4.473855969321594e-06, 1.84015972e-07$

Defines:

y_zeh , used in chunk 181b.

2.12.22 z2.22 ZLHP: Expected growth rate of target aggregate hours (MCE exp.)

181d $\langle \text{variable } ZLHP \text{ 181d} \rangle \equiv$ (211)
 $ZLHP = \text{Expected growth rate of target aggregate hours}$

Defines:

$ZLHP$, used in chunk 223.

182a $\langle \text{equation } zlhp \text{ 182a} \rangle \equiv$ (244)

$$\begin{aligned} zlhp: \quad zlhp-zlhp_aerr = & (y_zlhp(1) * picnia(-1) + y_zlhp(2) * picnia(-2) + y_zlhp(3) * \\ & + (y_zlhp(5) * rffe(-1) + y_zlhp(6) * rffe(-2) + y_zlhp(7) * rffe(-3) + \\ & + y_zlhp(9) * rtr(-1) + \\ & + y_zlhp(10) * ptr(-1) + \\ & + (y_zlhp(11) * xgap(-1) + y_zlhp(12) * xgap(-2) + y_zlhp(13) * xgap(-3) + \\ & + y_zlhp(15) * (d(\log(xgo(-1))), 0, 1) - (d(\log(lprdt(-1))), 0, 1)) + \\ & + y_zlhp(16) * ((hlept(-1) - hqlww(-1))/400) \end{aligned}$$

Defines:

`zlhp`, used in chunk 56e.

Uses `hlept` 68d, `hqlww` 61e, `lprdt` 69a, `picnia` 88f, `ptr` 168d, `rffe` 144e, `rtr` 169d, `xgap` 59a, `xgo` 50b, and `y_zlhp` 182b.

182b $\langle \text{coefficient } y_zlhp \text{ 182b} \rangle \equiv$ (253)

$$y_zlhp \quad 16 \quad -0.0002522439372141123, -5.098270125007645e-05, -0.0002552621374828649$$

Defines:

`y_zlhp`, used in chunk 182a.

2.12.23 z2.23 ZVPD: Expected growth rate of capital-output ratio, for EPD (MCE exp.)

182c $\langle \text{variable } ZVPD \text{ 182c} \rangle \equiv$ (211)

$$ZVPD = \text{Expected growth rate of capital-output ratio, for EPD}$$

Defines:

`ZVPD`, used in chunk 223.

Uses `EPD` 25b.

182d $\langle \text{equation } zvpd \text{ 182d} \rangle \equiv$ (244)

$$\begin{aligned} zvpd: \quad zvpd-zvpd_aerr = & y_zvpd(1) + \\ & + (y_zvpd(2) * picnia(-1) + y_zvpd(3) * picnia(-2) + y_zvpd(4) * \\ & + (y_zvpd(6) * rffe(-1) + y_zvpd(7) * rffe(-2) + y_zvpd(8) * rffe(-3) + \\ & + y_zvpd(10) * rtr(-1) + \\ & + y_zvpd(11) * ptr(-1) + \\ & + (y_zvpd(12) * xgap(-1) + y_zvpd(13) * xgap(-2) + y_zvpd(14) * xgap(-3) + \\ & + (y_zvpd(16) * d(\log(xbo(-1))), 0, 1) + y_zvpd(17) * d(\log(xbo(-2))), 0, 1) + \\ & + (y_zvpd(20) * d(\log(vpd(-1))), 0, 1) + y_zvpd(21) * d(\log(vpd(-2))), 0, 1) + \\ & + y_zvpd(24) * hgvpd(-1) \end{aligned}$$

Defines:

`zvpd`, used in chunk 25c.

Uses `hgvpd` 34d, `picnia` 88f, `ptr` 168d, `rffe` 144e, `rtr` 169d, `vpd` 33d, `xbo` 50e, `xgap` 59a, and `y_zvpd` 183a.

183a $\langle \text{coefficient } y_{zvpi} \text{ 183a} \rangle \equiv$ (253)
 $y_{zvpi} \quad 24 \quad -3.503545878896081e-16, -0.0002563318120287816, -0.0003053817493858787, 0.00027546$
 Defines:
 y_{zvpi} , used in chunk 182d.

2.12.24 z2.24 ZVPI: Expected growth rate of capital-output ratio, for EPI (MCE exp.)

183b $\langle \text{variable } ZVPI \text{ 183b} \rangle \equiv$ (211)
 $ZVPI \quad = \text{Expected growth rate of capital-output ratio, for EPI}$
 Defines:
 $ZVPI$, used in chunk 223.
 Uses EPI 25e.

183c $\langle \text{equation } zvpi \text{ 183c} \rangle \equiv$ (244)
 $zvpi: \quad zvpi-zvpi_aerr = (y_{zvpi}(1) * picnia(-1) + y_{zvpi}(2) * picnia(-2) + y_{zvpi}(3) * p$
 $\quad + (y_{zvpi}(5) * rffe(-1) + y_{zvpi}(6) * rffe(-2) + y_{zvpi}(7) * rffe(-3) +$
 $\quad + y_{zvpi}(9) * rtr(-1) _$
 $\quad + y_{zvpi}(10) * ptr(-1) _$
 $\quad + (y_{zvpi}(11) * xgap(-1) + y_{zvpi}(12) * xgap(-2) + y_{zvpi}(13) * xgap(-3)$
 $\quad + (y_{zvpi}(15) * d(\log(xbo(-1))), 0, 1) + y_{zvpi}(16) * d(\log(xbo(-2))), 0,$
 $\quad + (y_{zvpi}(19) * d(\log(vpi(-1))), 0, 1) + y_{zvpi}(20) * d(\log(vpi(-2))), 0,$
 $\quad + y_{zvpi}(23) * hgvpi(-1)$

Defines:
 $zvpi$, used in chunk 26a.
 Uses $hgvpi$ 38e, $picnia$ 88f, ptr 168d, $rffe$ 144e, rtr 169d, vpi 33f, xbo 50e, $xgap$ 59a,
 and y_{zvpi} 183d.

183d $\langle \text{coefficient } y_{zvpi} \text{ 183d} \rangle \equiv$ (253)
 $y_{zvpi} \quad 23 \quad 3.869791235963136e-05, 3.80256114092935e-06, 2.612181181174604e-05, 2.057197909940$
 Defines:
 y_{zvpi} , used in chunk 183c.

2.12.25 z2.25 ZVPS: Expected growth rate of des. capital-output ratio, for EPS eq. (MCE exp.)

183e $\langle \text{variable } ZVPS \text{ 183e} \rangle \equiv$ (211)
 $ZVPS \quad = \text{Expected growth rate of des. capital-output ratio, for EPS eq.}$
 Defines:
 $ZVPS$, used in chunk 223.
 Uses EPS 26c.

Defines:
zvps, used in chunk 26d.
 Uses **hgvs** 35a, **picnia** 88f, **ptr** 168d, **rfpe** 144e, **rtr** 169d, **vps** 34b, **xbo** 50e, **xgap** 59a,
 and **y_zvps** 184b.

2.12.26 z2.26 ZXBD: Expected growth rate of business output for EPD (MCE exp.)

Defines:
zxbd, used in chunk 25c.
 Uses **hgx** 59e, **picnia** 88f, **ptr** 168d, **rffe** 144e, **rtr** 169d, **vpd** 33d, **xbo** 50e, **xgap** 59a,
 and **y_zxbd** 185a.

185a $\langle \text{coefficient } y_zxbd \text{ 185a} \rangle \equiv$ (253)
 $y_zxbd \quad 24 \quad -2.515799209424174e-16, -0.0001835522663957102, -9.20694428089123e-05, -0.00016905$

Defines:

y_zxbd , used in chunk 184d.

2.12.27 z2.27 ZXBI: Expected growth rate of business output, for EPI (MCE exp.)

185b $\langle \text{variable } ZXBI \text{ 185b} \rangle \equiv$ (211)
 $ZXBI \quad = \text{Expected growth rate of business output, for EPI}$

Defines:

$ZXBI$, used in chunk 223.

Uses EPI 25e.

185c $\langle \text{equation } zxbi \text{ 185c} \rangle \equiv$ (244)
 $zxbi: \quad zxbi-zxbi_aerr = \quad$
 $\quad (y_zxbi(1) * picnia(-1) + y_zxbi(2) * picnia(-2) + y_zxbi(3) * picnia(-3)$
 $\quad + (y_zxbi(5) * rffe(-1) + y_zxbi(6) * rffe(-2) + y_zxbi(7) * rffe(-3) + y$
 $\quad + y_zxbi(9) * rtr(-1) \quad$
 $\quad + y_zxbi(10) * ptr(-1) \quad$
 $\quad + (y_zxbi(11) * xgap(-1) + y_zxbi(12) * xgap(-2) + y_zxbi(13) * xgap(-3) +$
 $\quad + (y_zxbi(15) * d(\log(xbo(-1))), 0, 1) + y_zxbi(16) * d(\log(xbo(-2))), 0, 1$
 $\quad + (y_zxbi(19) * d(\log(vpi(-1))), 0, 1) + y_zxbi(20) * d(\log(vpi(-2))), 0, 1$
 $\quad + y_zxbi(23) * hgx(-1)/400$

Defines:

$zxbi$, used in chunk 26a.

Uses hgx 59e, $picnia$ 88f, ptr 168d, $rffe$ 144e, rtr 169d, vpi 33f, xbo 50e, $xgap$ 59a,
and y_zxbi 185d.

185d $\langle \text{coefficient } y_zxbi \text{ 185d} \rangle \equiv$ (253)
 $y_zxbi \quad 23 \quad -3.907288119414607e-05, -1.536565753314579e-05, -1.048653204032815e-05, 1.11106479$

Defines:

y_zxbi , used in chunk 185c.

2.12.28 z2.28 ZXBS: Expected growth rate of business output, for EPS (MCE exp.)

185e $\langle \text{variable } ZXBS \text{ 185e} \rangle \equiv$ (211)
 $ZXBS \quad = \text{Expected growth rate of business output, for EPS}$

Defines:

$ZXBS$, used in chunk 223.

Uses EPS 26c.

186a $\langle \text{equation } z\text{xs } 186a \rangle \equiv$ (244)

$$\begin{aligned} z\text{xs}: z\text{xs}-z\text{xs_aerr} = & _ \\ & (y_z\text{xs}(1) * \text{picnia}(-1) + y_z\text{xs}(2) * \text{picnia}(-2) + y_z\text{xs}(3) * \\ & + (y_z\text{xs}(5) * \text{rffe}(-1) + y_z\text{xs}(6) * \text{rffe}(-2) + y_z\text{xs}(7) * \text{rffe}(-3) \\ & + y_z\text{xs}(9) * \text{rtr}(-1) _ \\ & + y_z\text{xs}(10) * \text{ptr}(-1) _ \\ & + (y_z\text{xs}(11) * \text{xgap}(-1) + y_z\text{xs}(12) * \text{xgap}(-2) + y_z\text{xs}(13) * \\ & + (y_z\text{xs}(15) * \text{d}(\log(\text{xbo}(-1)), 0, 1) + y_z\text{xs}(16) * \text{d}(\log(\text{xbo}(-1)), 0, 1) \\ & + (y_z\text{xs}(19) * \text{d}(\log(\text{vps}(-1)), 0, 1) + y_z\text{xs}(20) * \text{d}(\log(\text{vps}(-1)), 0, 1) \\ & + y_z\text{xs}(23) * \text{hgx}(-1)/400 \end{aligned}$$

Defines:

`zxs`, used in chunk 26d.

Uses `hgx` 59e, `picnia` 88f, `ptr` 168d, `rffe` 144e, `rtr` 169d, `vps` 34b, `xbo` 50e, `xgap` 59a, and `y_zxs` 186b.

186b $\langle \text{coefficient } y_z\text{xs } 186b \rangle \equiv$ (253)

$$y_z\text{xs} \quad 23 \quad -0.0001994456999380124, -7.214041996312615\text{e-}05, -7.99329702758048\text{e-}05, 2.0001994456999380124, 7.214041996312615\text{e-}05, 7.99329702758048\text{e-}05, 2.0001994456999380124$$

Defines:

`y_zxs`, used in chunk 186a.

2.12.29 z2.29 ZDIVGR: Expected growth rate of real dividends, for WPSN eq. (MCE exp.)

186c $\langle \text{variable } Z\text{DIVGR } 186c \rangle \equiv$ (211)

$$Z\text{DIVGR} = \text{Expected growth rate of real dividends, for WPSN eq.}$$

Defines:

`ZDIVGR`, used in chunk 223.

Uses `WPSN` 153b.

186d $\langle \text{equation } z\text{divgr } 186d \rangle \equiv$ (244)

$$\begin{aligned} z\text{divgr}: z\text{divgr}-z\text{divgr_aerr} = & y_z\text{divgr}(1) _ \\ & + (y_z\text{divgr}(2) * \text{picnia} + y_z\text{divgr}(3) * \text{picnia}(-1) + y_z\text{divgr}(4) * \text{picnia}(-2) \\ & + (y_z\text{divgr}(6) * \text{rffe} + y_z\text{divgr}(7) * \text{rffe}(-1) + y_z\text{divgr}(8) * \text{rffe}(-2) \\ & + y_z\text{divgr}(10) * \text{rtr} _ \\ & + y_z\text{divgr}(11) * \text{ptr} _ \\ & + (y_z\text{divgr}(12) * \text{xgap} + y_z\text{divgr}(13) * \text{xgap}(-1) + y_z\text{divgr}(14) * \text{xgap}(-2) \\ & + (y_z\text{divgr}(16) * (400 * \text{d}(\log((\text{ynicpn}-\text{tfcin}-\text{tscin}) * .5 / (.01 * \text{pxg})), 0, 1) \\ & + y_z\text{divgr}(20) * \text{hgx} \end{aligned}$$

Defines:

`zdivgr`, used in chunk 153c.

Uses `hgx` 59e, `picnia` 88f, `ptr` 168d, `pxg` 108b, `rffe` 144e, `rtr` 169d, `tfcin` 131a, `tscin` 136f, `xgap` 59a, `y_zdivgr` 187a, and `ynicpn` 77b.

187a $\langle \text{coefficient } y_zdivgr \text{ 187a} \rangle \equiv$ (253)
 $y_zdivgr \quad 20 \quad 1.511071172206618e-15, -0.009111480239164081, 0.03183741780107196, 0.02833$
 Defines:
 y_zdivgr , used in chunk 186d.

2.12.30 z2.30 ZYNID: Expected rate of growth of target real dividends, for YNIDN eq. (MCE exp.)

187b $\langle \text{variable } ZYNID \text{ 187b} \rangle \equiv$ (211)
 $ZYNID = \text{Expected rate of growth of target real dividends, for YNIDN eq.}$
 Defines:
 $ZYNID$, used in chunk 223.
 Uses YNIDN 76d.

187c $\langle \text{equation } zynid \text{ 187c} \rangle \equiv$ (244)
 $zynid: zynid - zynid_aerr = y_zynid(1) _$
 $\quad + (y_zynid(2) * picnia(-1) + y_zynid(3) * picnia(-2) + y_zynid(4) * p$
 $\quad + (y_zynid(6) * rffe(-1) + y_zynid(7) * rffe(-2) + y_zynid(8) * rffe$
 $\quad + y_zynid(10) * rtr(-1) _$
 $\quad + y_zynid(11) * ptr(-1) _$
 $\quad + (y_zynid(12) * xgap(-1) + y_zynid(13) * xgap(-2) + y_zynid(14) * xg$
 $\quad + (y_zynid(16) * d(\log(qynidn(-1)/pxb(-1)), 0, 1) + y_zynid(17) * d($
 $\quad + y_zynid(20) * (hggdpt(-1)/400)$

Defines:
 $zynid$, used in chunk 76e.
 Uses hggdpt 60d, picnia 88f, ptr 168d, pxb 108d, qynidn 76b, rffe 144e, rtr 169d, xgap 59a,
 and y_zynid 187d.

187d $\langle \text{coefficient } y_zynid \text{ 187d} \rangle \equiv$ (253)
 $y_zynid \quad 20 \quad -5.177745029596233e-16, 3.507527558415562e-05, 0.0004354171509883335, 0.0003765833$
 Defines:
 y_zynid , used in chunk 187c.

2.12.31 z2.31 ZYH: Expected level of real after-tax household income, for QEC eq. (MCE exp.)

187e $\langle \text{variable } ZYH \text{ 187e} \rangle \equiv$ (211)
 $ZYH = \text{Expected level of real after-tax household income, for QEC eq.}$
 Defines:
 ZYH , used in chunk 223.
 Uses QEC 19d.

Defines:
 zyh, used in chunk 19e.
 Uses **picnia** 88f, **ptr** 168d, **rffe** 144e, **rtr** 169d, **xgap2** 59c, **xgdpt** 55c, **y_zyh** 188b, **yhgap** 80b,
 and **zvhst** 167a.

2.12.32 z2.32 ZYHP: Expected level of real after-tax property income, for QEC eq. (MCE exp.)

```

(equation zyhp 188d)≡
zyhp: log(zyhp) - zyhp_aerr = ( y_zyhp(1) * picnia + y_zyhp(2) * picnia(-1) + y_
+ ( y_zyhp(5) * rffe + y_zyhp(6) * rffe(-1) + y_zyhp(7) *
+ ( y_zyhp(9) * xgap2 + y_zyhp(10) * xgap2(-1) + y_zyhp(1
+ y_zyhp(13) * ptr _
+ y_zyhp(14) * rtr _
+ ( y_zyhp(15) * yhgap + y_zyhp(16) * yhgap(-1) + y_zyhp(
+ ( y_zyhp(19) * yhpgap + y_zyhp(20) * yhpgap(-1) + y_zyhp
+ log(zyhpst*zyhst*xgdpd)

```

Defines:
`zyhp`, used in chunk 19e.
 Uses `picnia` 88f, `ptr` 168d, `rffe` 144e, `rtr` 169d, `xgap2` 59c, `xgdpt` 55c, `y_zyhp` 188e,
`yhgap` 80b, `yhpgap` 82d, `zypst` 167d, and `zyhst` 167a.

188e $\langle \textit{coefficient } y_zyhp \text{ 188e} \rangle \equiv$ (253)
`y_zyhp` 22 0.000384467702497963, 0.001205361597423436, 0.0009620980096161766, 0.000

Defines:
`y_zyhp`, used in chunk 188d.

2.12.33 z2.33 ZYHT: Expected level of real transfer income, for QEC eq. (MCE exp.)

189a $\langle \text{variable } ZYHT \text{ 189a} \rangle \equiv$ (211)
 ZYHT = Expected level of real transfer income, for QEC eq.

Defines:

 ZYHT, used in chunk 223.

Uses QEC 19d.

189b $\langle \text{equation } zyht \text{ 189b} \rangle \equiv$ (244)
 zyht: $\log(\text{zyht}) - \text{zyht_aerr} = (y_zyht(1) * \text{picnia} + y_zyht(2) * \text{picnia}(-1) + y_zyht(3) * \\ + (y_zyht(5) * \text{rffe} + y_zyht(6) * \text{rffe}(-1) + y_zyht(7) * \text{rffe}(-2) \\ + (y_zyht(9) * \text{xgap2} + y_zyht(10) * \text{xgap2}(-1) + y_zyht(11) * \text{xgap} \\ + y_zyht(13) * \text{ptr} _ \\ + y_zyht(14) * \text{rtr} _ \\ + (y_zyht(15) * \text{yhgap} + y_zyht(16) * \text{yhgap}(-1) + y_zyht(17) * \text{yhg} \\ + (y_zyht(19) * \text{yhtgap} + y_zyht(20) * \text{yhtgap}(-1) + y_zyht(21) * y \\ + \log(\text{zyhtst} * \text{zyhst} * \text{sgdpt}))$

Defines:

 zyht, used in chunk 19e.

Uses picnia 88f, ptr 168d, rffe 144e, rtr 169d, xgap2 59c, xgdpt 55c, y_zyht 189c,

yhgap 80b, yhtgap 85b, zyhst 167a, and zyhtst 168a.

189c $\langle \text{coefficient } y_zyht \text{ 189c} \rangle \equiv$ (253)
 y_zyht 22 -0.0005375756842287296,0.0004256398977551294,0.000429593178783961,0.00034142717

Defines:

 y_zyht, used in chunk 189b.

2.12.34 z2.37 HGYNID: Growth rate of real after-tax corporate profits

189d $\langle \text{variable } HGYNID \text{ 189d} \rangle \equiv$ (211)
 HGYNID = Growth rate of real after-tax corporate profits

Defines:

 HGYNID, used in chunk 223.

189e $\langle \text{equation } hgynid \text{ 189e} \rangle \equiv$ (244)
 hgynid: $\text{hgynid} - \text{hgynid_aerr} = 400 * d(\log((\text{ynicpn} - \text{tfcin} - \text{tscin}) * .5 / \text{pxg}), 0, 1)$

Defines:

 hgynid, never used.

Uses pxg 108b, tfcin 131a, tscin 136f, and ynicpn 77b.

Chapter 3

Speculation on What We Can Do With This

So far the Fed's model is just a set of simultaneous equations that have been estimated from the data supplied. We assume that there is an underlying structure to the model that represents the Federal Open Market Committee (FOMC) concerns in setting monetary policy. They use Eview to analyze consequences for various actions that they could take.

One reason for replicating the FRB/US Model in R would be that anyone could then perform similar analyses. Another reason is that the replication process provides an opportunity to look closely at the details and learn how the economy works.

Noah Smith, on the Noahpinion blog, announced the Fed's release of the model and discusses the significance.

A few days ago, the Fed released its workhorse model of the macroeconomy - the FRB/US model - to the public. The model had been only semi-private before, since the Fed would send it to interested researchers, and revealed some information about it to the general public. But now the model is fully public. How should we interpret that action?

After talking about why they might not want to release the model, he follows that with this:

So if my guess is right, the Fed's publication of FRB/US indicates that whatever embarrassment existed is now essentially gone. That is kind of interesting.

This is suggesting that there is a lot of room to modernize the model. That's where an FRBUS R package for the R-project community might come in. I'm an amateur at all of this, so I'll have to see if I can find people who will want to work with me on it.

Stephen Williamson also commented on the release of the model.

The FRB/US model, used by the Board for forecasting and policy analysis, is the culmination of perhaps 45 years of work. Various generations of management at the Board have directed some smart people to work on this thing, and you can feel the weight of the large quantity of quality-adjusted hours of work that went into putting it together. But is it any good? Could the Board do just as well or better at forecasting with a much simpler tool? Could a well-educated and well-informed economist do a respectable job of central banking without ever looking at the output of the FRB/US model?

What's interesting to me about this statement is that in the early 70's I was a programmer at the San Francisco Federal Reserve bank. One week I spent a few hours helping another programmer find some bugs in code that he had written to do symbolic differentiation. Apparently that code was related to this model. You have to realize that personal computers didn't come until the 1980's and in those days we were running batch jobs on main frames. That started my lifelong interest in econometrics and macro-economics, even though I've never had an opportunity to do anything with it.

Appendices

Appendix A

Exogenous Variables

- 195a $\langle \text{variable } D01Q4 \text{ 195a} \rangle \equiv$ (211)
D01Q4 = Dummy, destruction of World Trade Center
Defines:
D01Q4, used in chunk 223.
d01q4, used in chunk 26d.
- 195b $\langle \text{variable } D2002 \text{ 195b} \rangle \equiv$ (211)
D2002 = Dummy,
Defines:
D2002, used in chunk 223.
d2002, used in chunk 38a.
- 195c $\langle \text{variable } D2003 \text{ 195c} \rangle \equiv$ (211)
D2003 = Dummy,
Defines:
D2003, used in chunk 223.
d2003, used in chunk 38a.
- 195d $\langle \text{variable } D69 \text{ 195d} \rangle \equiv$ (211)
D69 = Dummy, post-1968 indicator
Defines:
D69, used in chunk 223.
d69, used in chunk 37a.
- 195e $\langle \text{variable } D79A \text{ 195e} \rangle \equiv$ (211)
D79A = Dummy, post-1979 indicator
Defines:
d78a, never used.
D79A, used in chunk 223.
- 195f $\langle \text{variable } D8095 \text{ 195f} \rangle \equiv$ (211)
D8095 = Dummy, 1980-1995 indicator
Defines:
D8095, used in chunk 223.
d8095, used in chunks 148a and 149b.

- 196a $\langle \text{variable } D81 \text{ 196a} \rangle \equiv$ (211)
 D81 = Dummy, post-1980 indicator
 Defines:
 D81, used in chunk 223.
 d81, used in chunks 37a and 38a.
- 196b $\langle \text{variable } D83 \text{ 196b} \rangle \equiv$ (211)
 D83 = Dummy, post-1983 indicator
 Defines:
 D83, used in chunk 223.
 d83, used in chunk 18e.
- 196c $\langle \text{variable } D86 \text{ 196c} \rangle \equiv$ (211)
 D86 = Dummy, post-1985 indicator
 Defines:
 D86, used in chunk 223.
 d86, used in chunk 37a.
- 196d $\langle \text{variable } D87 \text{ 196d} \rangle \equiv$ (211)
 D87 = Dummy, post-1986 indicator
 Defines:
 D87, used in chunk 223.
 d87, used in chunks 38a and 152a.
- 196e $\langle \text{variable } DCON \text{ 196e} \rangle \equiv$ (211)
 DCON = Dummy, 0 prior to 1986, 1 after 1988, with a linear trend in between
 Defines:
 DCON, used in chunk 223.
 dcon, used in chunk 19e.
- 196f $\langle \text{variable } DDOCKM \text{ 196f} \rangle \equiv$ (211)
 DDOCKM = Dock strike dummy, import equation
 Defines:
 DDOCKM, used in chunk 223.
 ddockm, used in chunk 40b.
- 196g $\langle \text{variable } DDOCKX \text{ 196g} \rangle \equiv$ (211)
 DDOCKX = Dock strike dummy, export equation
 Defines:
 DDOCKX, used in chunk 223.
 ddockx, used in chunk 39c.
- 196h $\langle \text{variable } DEUC \text{ 196h} \rangle \equiv$ (211)
 DEUC = EUC switch: 1 for including EUC, 0 for not including
 Defines:
 DEUC, used in chunk 223.
 deuc, used in chunk 139e.
- 196i $\langle \text{variable } DFMPRR \text{ 196i} \rangle \equiv$ (211)
 DFMPRR = Dummy, Foreign monetary policy switch: Exogenous real interest rate
 Defines:
 DFMPRR, used in chunk 223.
 dfmpr, used in chunk 162a.

- 197a $\langle \text{variable } DFPDBT \text{ 197a} \rangle \equiv$ (211)
 DFPDBT = Fiscal policy switch: 1 for debt ratio stabilization
 Defines:
 DFPDBT, used in chunk 223.
 dfpdbt, used in chunks 133d and 135e.
- 197b $\langle \text{variable } DFPEX \text{ 197b} \rangle \equiv$ (211)
 DFPEX = Fiscal policy switch: 1 for exogenous personal income trend tax rates
 Defines:
 DFPEX, used in chunk 223.
 dfpex, used in chunks 133d and 135e.
- 197c $\langle \text{variable } DFPSRP \text{ 197c} \rangle \equiv$ (211)
 DFPSRP = Fiscal policy switch: 1 for surplus ratio stabilization
 Defines:
 DFPSRP, used in chunk 223.
 dfpsrp, used in chunks 133d and 135e.
- 197d $\langle \text{variable } DGLPRD \text{ 197d} \rangle \equiv$ (211)
 DGLPRD = Switch to control for long-run productivity growth in the government sector
 Defines:
 DGLPRD, used in chunk 223.
 dglprd, used in chunks 29d, 58e, 63, and 107.
- 197e $\langle \text{variable } DMPALT \text{ 197e} \rangle \equiv$ (211)
 DMPALT = Monetary policy switch: MA rule
 Defines:
 DMPALT, used in chunk 223.
 dmpalt, used in chunk 142d.
- 197f $\langle \text{variable } DMPEX \text{ 197f} \rangle \equiv$ (211)
 DMPEX = Monetary policy switch: exogenous federal funds rate
 Defines:
 DMPEX, used in chunk 223.
 dmpex, used in chunk 142d.
- 197g $\langle \text{variable } DMPGEN \text{ 197g} \rangle \equiv$ (211)
 DMPGEN = Monetary policy switch: Generalized reaction function
 Defines:
 DMPGEN, used in chunk 223.
 dmpgen, used in chunk 142d.
- 197h $\langle \text{variable } DMPINTAY \text{ 197h} \rangle \equiv$ (211)
 DMPINTAY = Monetary policy switch: inertial taylor rule
 Defines:
 DMPINTAY, used in chunk 223.
 dmpintay, used in chunk 142d.
- 197i $\langle \text{variable } DMPRR \text{ 197i} \rangle \equiv$ (211)
 DMPRR = Monetary policy switch: exogenous real federal funds rate
 Defines:
 DMPRR, used in chunk 223.
 dmprr, used in chunk 142d.

- 198a $\langle \text{variable } DMPSTB \text{ 198a} \rangle \equiv$ (211)
 DMPSTB = Stabilization switch: 0 for standard applications, 1 for stochastic simulation
 Defines:
 DMPSTB, used in chunk 223.
 dmpstb, used in chunk 68d.
- 198b $\langle \text{variable } DMPTAY \text{ 198b} \rangle \equiv$ (211)
 DMPTAY = Monetary policy switch: Taylor's reaction function
 Defines:
 DMPTAY, used in chunk 223.
 dmptay, used in chunk 142d.
- 198c $\langle \text{variable } DMPTLR \text{ 198c} \rangle \equiv$ (211)
 DMPTLR = Monetary policy switch: Taylor's reaction function with unemployment gap
 Defines:
 DMPTLR, used in chunk 223.
 dmptlr, used in chunk 142d.
- 198d $\langle \text{variable } DMPTRSH \text{ 198d} \rangle \equiv$ (211)
 DMPTRSH = Monetary policy threshold switch: 0 for no threshold, 1 for threshold
 Defines:
 DMPTRSH, used in chunk 223.
 dmptrsh, used in chunk 144e.
- 198e $\langle \text{variable } DRSTAR \text{ 198e} \rangle \equiv$ (211)
 DRSTAR = RSTAR updating switch: 1 is on, 0 is off
 Defines:
 DRSTAR, used in chunk 223.
 drstar, used in chunk 142a.
 Uses RSTAR 141e.
- 198f $\langle \text{variable } FPITRG \text{ 198f} \rangle \equiv$ (211)
 FPITRG = Foreign target consumer price inflation (G10)
 Defines:
 FPITRG, used in chunk 223.
 fpitrg, used in chunks 159e and 162a.
- 198g $\langle \text{variable } FPXRRT \text{ 198g} \rangle \equiv$ (211)
 FPXRRT = Real exchange rate residual, trend
 Defines:
 FPXRRT, used in chunk 223.
 fpxrrt, used in chunk 164a.
- 198h $\langle \text{variable } GFDRT \text{ 198h} \rangle \equiv$ (211)
 GFDRT = Federal government target debt-to-GDP ratio
 Defines:
 GFDRT, used in chunk 223.
 gfdrt, used in chunk 133d.

- 199a $\langle \text{variable } GFSRT \text{ 199a} \rangle \equiv$ (211)
 $GFSRT$ = Federal government target surplus-to-GDP ratio
 Defines:
 $GFSRT$, used in chunk 223.
 $gfsrt$, used in chunk 133d.
- 199b $\langle \text{variable } GFTRT \text{ 199b} \rangle \equiv$ (211)
 $GFTRT$ = Federal government, trend ratio of transfer payments to GDP
 Defines:
 $GFTRT$, used in chunk 223.
 $gftrt$, used in chunk 126f.
- 199c $\langle \text{variable } GSDRT \text{ 199c} \rangle \equiv$ (211)
 $GSDRT$ = S&L government target debt-to-GDP ratio
 Defines:
 $GSDRT$, used in chunk 223.
 $gsdrt$, used in chunk 135e.
- 199d $\langle \text{variable } GSSRT \text{ 199d} \rangle \equiv$ (211)
 $GSSRT$ = State and local government, target surplus-to-GDP ratio
 Defines:
 $GSSRT$, used in chunk 223.
 $gssrt$, used in chunk 135e.
- 199e $\langle \text{variable } GSTRT \text{ 199e} \rangle \equiv$ (211)
 $GSTRT$ = S&L government, trend ratio of transfer payments to GDP
 Defines:
 $GSTRT$, used in chunk 223.
 $gstrt$, used in chunk 129f.
- 199f $\langle \text{variable } HGPCDR \text{ 199f} \rangle \equiv$ (211)
 $HGPCDR$ = Trend growth rate of price of consumer durable goods (relative to PCNIA)
 Defines:
 $HGPCDR$, used in chunk 223.
 $hgpcdr$, used in chunks 20e and 180a.
 Uses PCNIA 89a.
- 199g $\langle \text{variable } HKSR \text{ 199g} \rangle \equiv$ (211)
 $HKSR$ = Residual growth of capital services
 Defines:
 $HKSR$, used in chunk 223.
 $hksr$, used in chunk 31a.
- 199h $\langle \text{variable } JRCD \text{ 199h} \rangle \equiv$ (211)
 $JRCD$ = Depreciation rate, consumer durables
 Defines:
 $JRCD$, used in chunk 223.
 $jrcd$, used in chunks 20e and 22–24.

- 200a $\langle \text{variable } JRH \text{ 200a} \rangle \equiv$ (211)
 JRH = Depreciation rate, housing
 Defines:
 JRH, used in chunk 223.
 jrh, used in chunks 21a, 23, and 72.
- 200b $\langle \text{variable } JRPD \text{ 200b} \rangle \equiv$ (211)
 JRPD = Depreciation rate, equipment
 Defines:
 JRPD, used in chunk 223.
 jrpD, used in chunks 28a, 29g, 32a, and 72c.
- 200c $\langle \text{variable } JRPI \text{ 200c} \rangle \equiv$ (211)
 JRPI = Depreciation rate, intellectual property
 Defines:
 JRPI, used in chunk 223.
 jrpi, used in chunks 29a, 30b, and 32c.
- 200d $\langle \text{variable } JRPS \text{ 200d} \rangle \equiv$ (211)
 JRPS = Depreciation rate, nonresidential structures
 Defines:
 JRPS, used in chunk 223.
 jrps, used in chunks 28d, 30d, 32e, and 72c.
- 200e $\langle \text{variable } LEUC \text{ 200e} \rangle \equiv$ (211)
 LEUC = Emergency unemployment compensation (EUC)
 Defines:
 LEUC, used in chunk 223.
 leuc, used in chunk 139e.
- 200f $\langle \text{variable } LQUALT \text{ 200f} \rangle \equiv$ (211)
 LQUALT = Labor quality, trend level
 Defines:
 LQUALT, used in chunk 223.
 lqualt, used in chunks 52c and 59e.
- 200g $\langle \text{variable } LURTRSH \text{ 200g} \rangle \equiv$ (211)
 LURTRSH = Unemployment threshold
 Defines:
 LURTRSH, used in chunk 223.
 lurtrsh, used in chunk 143b.
- 200h $\langle \text{variable } N16 \text{ 200h} \rangle \equiv$ (211)
 N16 = Noninstitutional population, aged 16 and over (break adjusted)
 Defines:
 N16, used in chunk 223.
 n16, used in chunks 65–68.
- 200i $\langle \text{variable } PCFRT \text{ 200i} \rangle \equiv$ (211)
 PCFRT = Real PCE price of food, trend
 Defines:
 PCFRT, used in chunk 223.
 pcfrrt, used in chunks 104a and 105b.

- 201a $\langle \text{variable } PCSTAR \text{ 201a} \rangle \equiv$ (211)
 $PCSTAR = \text{Target consumption price level (used in RFFGEN policy rule)}$
 Defines:
 $PCSTAR$, used in chunk 223.
 $pcstar$, used in chunk 141c.
 Uses RFFGEN 141b.
- 201b $\langle \text{variable } PITARG \text{ 201b} \rangle \equiv$ (211)
 $PITARG = \text{Target rate of consumption price inflation (used in policy reaction functions)}$
 Defines:
 $PITARG$, used in chunk 223.
 $pitarg$, used in chunks 139–41 and 168d.
- 201c $\langle \text{variable } PITRSH \text{ 201c} \rangle \equiv$ (211)
 $PITRSH = \text{Inflation threshold}$
 Defines:
 $PITRSH$, used in chunk 223.
 $pitrsh$, used in chunk 143e.
- 201d $\langle \text{variable } PKIR \text{ 201d} \rangle \equiv$ (211)
 $PKIR = \text{Price index for stock of inventories, cw (relative to PXP)}$
 Defines:
 $PKIR$, used in chunks 109e and 223.
 $pkir$, used in chunks 33b, 36d, 49a, and 109f.
 Uses PXP 93a.
- 201e $\langle \text{variable } PLMINR \text{ 201e} \rangle \equiv$ (211)
 $PLMINR = \text{Ratio of hourly minimum wage to compensation per hour (times 100)}$
 Defines:
 $PLMINR$, used in chunk 223.
 $plminr$, used in chunk 99b.
- 201f $\langle \text{variable } POILRT \text{ 201f} \rangle \equiv$ (211)
 $POILRT = \text{Price of imported oil, relative to price index for bus. sector output, trend}$
 Defines:
 $POILRT$, used in chunk 223.
 $poilrt$, used in chunk 101a.
- 201g $\langle \text{variable } QLEOR \text{ 201g} \rangle \equiv$ (211)
 $QLEOR = \text{Desired ratio of employment discrepancy to the labor force}$
 Defines:
 $QLEOR$, used in chunk 223.
 $qleor$, used in chunks 62d and 68.
- 201h $\langle \text{variable } RFFFIX \text{ 201h} \rangle \equiv$ (211)
 $RFFFIX = \text{Federal funds rate given by fixed, pre-determined funds rate path}$
 Defines:
 $RFFFIX$, used in chunk 223.
 $rfffix$, used in chunk 142d.

- 202a $\langle \text{variable } RFFMIN \text{ 202a} \rangle \equiv$ (211)
 $RFFMIN$ = Minimum nominal funds rate (set at 0 to impose zero lower bound)
 Defines:
 $RFFMIN$, used in chunk 223.
 $rffmin$, used in chunks 142d and 144e.
- 202b $\langle \text{variable } RFNICT \text{ 202b} \rangle \equiv$ (211)
 $RFNICT$ = Residual in FNICN equation
 Defines:
 $RFNICT$, used in chunk 223.
 $rfnict$, used in chunk 45c.
 Uses $FNICN$ 45b.
- 202c $\langle \text{variable } RFRS10 \text{ 202c} \rangle \equiv$ (211)
 $RFRS10$ = Real foreign short-term interest rate
 Defines:
 $RFRS10$, used in chunk 223.
 $rfrs10$, used in chunk 162a.
- 202d $\langle \text{variable } RRFIX \text{ 202d} \rangle \equiv$ (211)
 $RRFIX$ = Real federal funds rate given by fixed, pre-determined real funds rate p
 Defines:
 $RRFIX$, used in chunk 223.
 $rrfix$, used in chunk 142d.
- 202e $\langle \text{variable } T47 \text{ 202e} \rangle \equiv$ (211)
 $T47$ = Time trend, begins in 1947q1 (0 before)
 Defines:
 $T47$, used in chunk 223.
 $t47$, used in chunks 104d, 105b, and 151d.
- 202f $\langle \text{variable } TAPDAD \text{ 202f} \rangle \equiv$ (211)
 $TAPDAD$ = Proportion of investment in equipment using accelerated depreciation
 Defines:
 $TAPDAD$, used in chunk 223.
 $tapdad$, used in chunk 38a.
- 202g $\langle \text{variable } TAPDDP \text{ 202g} \rangle \equiv$ (211)
 $TAPDDP$ = Proportion of investment tax credit deducted from depr. base
 Defines:
 $TAPDDP$, used in chunk 223.
 $tapddp$, used in chunk 32a.
- 202h $\langle \text{variable } TAPDS \text{ 202h} \rangle \equiv$ (211)
 $TAPDS$ = Tax service life of equipment
 Defines:
 $TAPDS$, used in chunk 223.
 $tapds$, used in chunk 38a.

203a $\langle \text{variable } TAPDT \text{ 203a} \rangle \equiv$ (211)

`TAPDT` = Investment tax credit rate for equipment

Defines:

`TAPDT`, used in chunk 223.

`tapdt`, used in chunks 32a and 132c.

203b $\langle \text{variable } TAPSAD \text{ 203b} \rangle \equiv$ (211)

`TAPSAD` = Proportion of investment in nonresidential structures using accelerated depreciation

Defines:

`TAPSAD`, used in chunk 223.

`tapsad`, used in chunk 37a.

203c $\langle \text{variable } TAPSSL \text{ 203c} \rangle \equiv$ (211)

`TAPSSL` = Tax service life of nonresidential structures

Defines:

`TAPSSL`, used in chunk 223.

`tapssl`, used in chunk 37a.

203d $\langle \text{variable } TFDIV \text{ 203d} \rangle \equiv$ (211)

`TFDIV` = Federal income receipts on assets, dividends, current \$

Defines:

`TFDIV`, used in chunk 223.

`Tfdiv`, never used.

203e $\langle \text{variable } TRFCIM \text{ 203e} \rangle \equiv$ (211)

`TRFCIM` = Marginal federal corporate income tax rate

Defines:

`TRFCIM`, used in chunk 223.

`trfcim`, used in chunks 31, 32, and 132c.

203f $\langle \text{variable } TRFIB \text{ 203f} \rangle \equiv$ (211)

`TRFIB` = Average federal indirect business tax rate

Defines:

`TRFIB`, used in chunk 223.

`trfib`, used in chunk 131c.

203g $\langle \text{variable } TRFPM \text{ 203g} \rangle \equiv$ (211)

`TRFPM` = Marginal federal personal income tax rate (at twice median family income)

Defines:

`TRFPM`, used in chunk 223.

`trfpm`, used in chunk 23e.

203h $\langle \text{variable } TRFPTX \text{ 203h} \rangle \equiv$ (211)

`TRFPTX` = Average federal tax rate for personal income tax, trend, policy setting

Defines:

`TRFPTX`, used in chunk 223.

`trfptx`, used in chunk 133d.

203i $\langle \text{variable } TRFSI \text{ 203i} \rangle \equiv$ (211)

`TRFSI` = Average federal social insurance tax rate

Defines:

`TRFSI`, used in chunk 223.

`trfsi`, used in chunk 132a.

- 204a $\langle \text{variable } TRSCIT \text{ 204a} \rangle \equiv$ (211)
 $TRSCIT = \text{Average S\&L corporate income tax rate, trend}$
 Defines:
 $TRSCIT$, used in chunk 223.
 $trscit$, used in chunk 134b.
- 204b $\langle \text{variable } TRSIBT \text{ 204b} \rangle \equiv$ (211)
 $TRSIBT = \text{Average S\&L indirect business tax rate, trend}$
 Defines:
 $TRSIBT$, used in chunk 223.
 $trsibt$, used in chunk 134e.
- 204c $\langle \text{variable } TRSPP \text{ 204c} \rangle \equiv$ (211)
 $TRSPP = \text{Marginal S\&L tax rate on personal property}$
 Defines:
 $TRSPP$, used in chunk 223.
 $trsp$, used in chunk 23e.
- 204d $\langle \text{variable } TRSPTX \text{ 204d} \rangle \equiv$ (211)
 $TRSPTX = \text{Average state and local tax rate for personal income, trend}$
 Defines:
 $TRSPTX$, used in chunk 223.
 $trsptx$, used in chunk 135e.
- 204e $\langle \text{variable } TRSSIT \text{ 204e} \rangle \equiv$ (211)
 $TRSSIT = \text{Average S\&L social insurance tax rate, trend}$
 Defines:
 $TRSSIT$, used in chunk 223.
 $trssit$, used in chunk 136c.
- 204f $\langle \text{variable } UEMOT \text{ 204f} \rangle \equiv$ (211)
 $UEMOT = \text{Trend in ratio of EMON to XGDEN}$
 Defines:
 $UEMOT$, used in chunk 223.
 $uemot$, used in chunk 40b.
 Uses $EMON$ 40d and $XGDEN$ 70f.
- 204g $\langle \text{variable } UEMP \text{ 204g} \rangle \equiv$ (211)
 $UEMP = \text{Multiplicative factor in EMP identity}$
 Defines:
 $UEMP$, used in chunk 223.
 $uemp$, used in chunk 41e.
 Uses EMP 41d.
- 204h $\langle \text{variable } UFCBR \text{ 204h} \rangle \equiv$ (211)
 $UFCBR = \text{Multiplicative factor in FCBRN identity}$
 Defines:
 $UFCBR$, used in chunk 223.
 $ufcbr$, used in chunk 43c.
 Uses $FCBRN$ 43b.

205a $\langle \text{variable } UFNIR \text{ 205a} \rangle \equiv$ (211)

$UFNIR$ = Multiplicative factor in FNIRN identity

Defines:

$UFNIR$, used in chunk 223.

$ufnir$, used in chunk 47e.

Uses FNIRN 47d.

205b $\langle \text{variable } UFPCM \text{ 205b} \rangle \equiv$ (211)

$UFPCM$ = Multiplicative factor in FPCM identity

Defines:

$UFPCM$, used in chunk 223.

$ufpcm$, used in chunk 161d.

Uses FPCM 161c.

205c $\langle \text{variable } UFPXM \text{ 205c} \rangle \equiv$ (211)

$UFPXM$ = Multiplicative factor in FPXM identity

Defines:

$UFPXM$, used in chunk 223.

$ufpxm$, used in chunk 164f.

Uses FPXM 164e.

205d $\langle \text{variable } UFTCIN \text{ 205d} \rangle \equiv$ (211)

$UFTCIN$ = Multiplicative factor in FTCIN identity

Defines:

$UFTCIN$, used in chunk 223.

$uftcin$, used in chunk 44b.

Uses FTCIN 44a.

205e $\langle \text{variable } UGFDBT \text{ 205e} \rangle \equiv$ (211)

$UGFDBT$ = Multiplicative factor in GFDBTN identity

Defines:

$UGFDBT$, used in chunk 223.

$ugfdbt$, used in chunk 124a.

Uses GFDBTN 123f.

205f $\langle \text{variable } UGSDBT \text{ 205f} \rangle \equiv$ (211)

$UGSDBT$ = Multiplicative factor in GSDBTN identity

Defines:

$UGSDBT$, used in chunk 223.

$ugsdbt$, used in chunk 128a.

Uses GSDBTN 127f.

205g $\langle \text{variable } UGSINT \text{ 205g} \rangle \equiv$ (211)

$UGSINT$ = Multiplicative factor in GSINTN identity

Defines:

$UGSINT$, used in chunk 223.

$ugsint$, used in chunk 128c.

Uses GSINTN 128b.

- 206a $\langle \text{variable } UGSSUB \text{ 206a} \rangle \equiv$ (211)
 $UGSSUB = \text{Multiplicative factor in GSSUB identity}$
 Defines:
 $UGSSUB$, used in chunk 223.
 $ugssub$, used in chunk 130e.
 Uses $GSSUB$ 130d.
- 206b $\langle \text{variable } UJCCA \text{ 206b} \rangle \equiv$ (211)
 $UJCCA = \text{Multiplicative factor in JCCAN identity}$
 Defines:
 $UJCCA$, used in chunk 223.
 $ujcca$, used in chunk 72c.
 Uses $JCCAN$ 72b.
- 206c $\langle \text{variable } UJCCAC \text{ 206c} \rangle \equiv$ (211)
 $UJCCAC = \text{Multiplicative factor in JCCACN identity}$
 Defines:
 $UJCCAC$, used in chunk 223.
 $ujccac$, used in chunk 72a.
 Uses $JCCACN$ 71f.
- 206d $\langle \text{variable } UJYGFE \text{ 206d} \rangle \equiv$ (211)
 $UJYGFE = \text{Multiplicative factor in JYGFEN identity}$
 Defines:
 $UJYGFE$, used in chunk 223.
 $ujygfe$, used in chunk 72e.
 Uses $JYGFEN$ 72d.
- 206e $\langle \text{variable } UJYGFG \text{ 206e} \rangle \equiv$ (211)
 $UJYGFG = \text{Multiplicative factor in JYGFGN identity}$
 Defines:
 $UJYGFG$, used in chunk 223.
 $ujygfg$, used in chunk 73b.
 Uses $JYGFGN$ 73a.
- 206f $\langle \text{variable } UJYGSE \text{ 206f} \rangle \equiv$ (211)
 $UJYGSE = \text{Multiplicative factor in JYGSEN identity}$
 Defines:
 $UJYGSE$, used in chunk 223.
 $ujygse$, used in chunk 73d.
 Uses $JYGSEN$ 73c.
- 206g $\langle \text{variable } UJYGSG \text{ 206g} \rangle \equiv$ (211)
 $UJYGSG = \text{Multiplicative factor in JYGSGN identity}$
 Defines:
 $UJYGSG$, used in chunk 223.
 $ujygsg$, used in chunk 73f.
 Uses $JYGSGN$ 73e.

- 207a $\langle \text{variable } ULEF \text{ 207a} \rangle \equiv$ (211)
 $ULEF = \text{Multiplicative factor in LEF identity}$
 Defines:
 $ULEF$, used in chunk 223.
 $ulef$, used in chunk 63a.
 Uses LEF 62f.
- 207b $\langle \text{variable } ULES \text{ 207b} \rangle \equiv$ (211)
 $ULES = \text{Multiplicative factor in LES identity}$
 Defines:
 $ULES$, used in chunk 223.
 $ules$, used in chunk 63c.
 Uses LES 63b.
- 207c $\langle \text{variable } UPCPI \text{ 207c} \rangle \equiv$ (211)
 $UPCPI = \text{Multiplicative factor in PCPI identity}$
 Defines:
 $UPCPI$, used in chunk 223.
 $upcpi$, used in chunk 89d.
 Uses PCPI 89c.
- 207d $\langle \text{variable } UPCPIX \text{ 207d} \rangle \equiv$ (211)
 $UPCPIX = \text{Multiplicative factor in PCPIX identity}$
 Defines:
 $UPCPIX$, used in chunk 223.
 $upcpix$, used in chunk 89f.
 Uses PCPIX 89e.
- 207e $\langle \text{variable } UPGFL \text{ 207e} \rangle \equiv$ (211)
 $UPGFL = \text{Multiplicative factor in PGFL identity}$
 Defines:
 $UPGFL$, used in chunk 223.
 $upgfl$, used in chunk 107a.
 Uses PGFL 106g.
- 207f $\langle \text{variable } UPGSL \text{ 207f} \rangle \equiv$ (211)
 $UPGSL = \text{Multiplicative factor in PGSL identity}$
 Defines:
 $UPGSL$, used in chunk 223.
 $upgsl$, used in chunk 107c.
 Uses PGSL 107b.
- 207g $\langle \text{variable } UPKPD \text{ 207g} \rangle \equiv$ (211)
 $UPKPD = \text{Multiplicative factor in PKPDR identity}$
 Defines:
 $UPKPD$, used in chunk 223.
 $upkpd$, used in chunk 107e.
 Uses PKPDR 107d.

- 208a $\langle \text{variable } UPMP \text{ 208a} \rangle \equiv$ (211)
 $UPMP$ = Multiplicative factor in PMP identity
 Defines:
 $UPMP$, used in chunk 223.
 $upmp$, used in chunk 102b.
 Uses PMP 102a.
- 208b $\langle \text{variable } UPXB \text{ 208b} \rangle \equiv$ (211)
 $UPXB$ = Multiplicative factor in PXB identity
 Defines:
 $UPXB$, used in chunk 223.
 $upxb$, used in chunk 108d.
 Uses PXB 108c.
- 208c $\langle \text{variable } UVEOA \text{ 208c} \rangle \equiv$ (211)
 $UVEOA$ = Multiplicative factor in VEOA identity
 Defines:
 $UVEOA$, used in chunk 223.
 $uveoa$, used in chunk 54a.
 Uses $VEOA$ 53g.
- 208d $\langle \text{variable } UVPD \text{ 208d} \rangle \equiv$ (211)
 $UVPD$ = Multiplicative factor in VPD identity
 Defines:
 $UVPD$, used in chunk 223.
 $uvpd$, used in chunk 33d.
 Uses VPD 33c.
- 208e $\langle \text{variable } UVPI \text{ 208e} \rangle \equiv$ (211)
 $UVPI$ = Multiplicative factor in VPI identity
 Defines:
 $UVPI$, used in chunk 223.
 $uvpi$, used in chunk 33f.
 Uses VPI 33e.
- 208f $\langle \text{variable } UVPS \text{ 208f} \rangle \equiv$ (211)
 $UVPS$ = Multiplicative factor in VPS identity
 Defines:
 $UVPS$, used in chunk 223.
 $uvps$, used in chunk 34b.
 Uses VPS 34a.
- 208g $\langle \text{variable } UXENG \text{ 208g} \rangle \equiv$ (211)
 $UXENG$ = Multiplicative factor in XENG identity
 Defines:
 $UXENG$, used in chunk 223.
 $uxeng$, used in chunk 55e.
 Uses $XENG$ 55d.

209a $\langle \text{variable } UYD \text{ 209a} \rangle \equiv$ (211)
 $UYD = \text{Multiplicative factor in YDN identity}$

Defines:

UYD , used in chunk 223.

uyd , used in chunk 77f.

Uses YDN 77e.

209b $\langle \text{variable } UYHI \text{ 209b} \rangle \equiv$ (211)
 $UYHI = \text{Multiplicative factor in YHIN identity}$

Defines:

$UYHI$, used in chunk 223.

$uyhi$, used in chunk 81b.

Uses YHIN 81a.

209c $\langle \text{variable } UYHLN \text{ 209c} \rangle \equiv$ (211)
 $UYHLN = \text{Multiplicative factor in YHLN identity}$

Defines:

$UYHLN$, used in chunk 223.

$uyhln$, used in chunk 81f.

Uses YHLN 81e.

209d $\langle \text{variable } UYHPTN \text{ 209d} \rangle \equiv$ (211)
 $UYHPTN = \text{Multiplicative factor in YHPTN identity}$

Defines:

$UYHPTN$, used in chunk 223.

$uyhptn$, used in chunk 83e.

Uses YHPTN 83d.

209e $\langle \text{variable } UYHSN \text{ 209e} \rangle \equiv$ (211)
 $UYHSN = \text{Multiplicative factor in personal saving identity (accounts for transfers to foreign)}$

Defines:

$UYHSN$, used in chunk 223.

$uyhsn$, used in chunk 84d.

209f $\langle \text{variable } UYHTN \text{ 209f} \rangle \equiv$ (211)
 $UYHTN = \text{Multiplicative factor in YHTN identity}$

Defines:

$UYHTN$, used in chunk 223.

$uyhtn$, used in chunk 85d.

Uses YHTN 85c.

209g $\langle \text{variable } UYL \text{ 209g} \rangle \equiv$ (211)
 $UYL = \text{Multiplicative factor in YLN identity}$

Defines:

UYL , used in chunk 223.

uyl , used in chunk 74f.

209h $\langle \text{variable } UYNI \text{ 209h} \rangle \equiv$ (211)
 $UYNI = \text{Multiplicative factor in YNIN identity}$

Defines:

$UYNI$, used in chunk 223.

yni , used in chunk 74d.

Uses YNIN 74c.

210a $\langle \textit{variable UYNICP 210a} \rangle \equiv$ (211)
 UYNICP = Multiplicative factor in YNICPN identity

Defines:

UYNICP, used in chunk 223.

uynicp, used in chunk 77b.

Uses **YNICPN 77a**.

210b $\langle \textit{variable UYP 210b} \rangle \equiv$ (211)
 UYP = Multiplicative factor in YPN identity

Defines:

UYP, used in chunk 223.

uyp, used in chunk 77d.

Uses **YPN 77c**.

210c $\langle \textit{variable UYSEN 210c} \rangle \equiv$ (211)
 UYSEN = Multiplicative factor in YSEN identity

Defines:

UYSEN, used in chunk 223.

uysen, used in chunk 75b.

210d $\langle \textit{variable YMSDN 210d} \rangle \equiv$ (211)
 YMSDN = Microsoft one-time dividend payout in 2004Q4

Defines:

YMSDN, used in chunk 223.

ymsdn, used in chunk 76e.

Appendix B

Original Files

The variables are listed in FRB/US dataset and variable listing (ZIP) (Updated database: March 17, 2016) as the *variables.txt* file and the model description in FRB/US model package (ZIP).

I'll produce the files so that they can be compared byte for byte to the originals; "variables.txt", "stdver_varinfo", "stdver_eqs.txt", and "stdver_coeffs.txt". Because of file name limitations with noweb, I've had to modify the file names that I create.

B.1 List of Variables with the Data

211 $\langle \text{srcEview/data.only.package/variables.txt } 211 \rangle \equiv$
 $\langle \text{variable } CENG \text{ 41a} \rangle$
 $\langle \text{variable } D01Q4 \text{ 195a} \rangle$
 $\langle \text{variable } D2002 \text{ 195b} \rangle$
 $\langle \text{variable } D2003 \text{ 195c} \rangle$
 $\langle \text{variable } D69 \text{ 195d} \rangle$
 $\langle \text{variable } D79A \text{ 195e} \rangle$
 $\langle \text{variable } D8095 \text{ 195f} \rangle$
 $\langle \text{variable } D81 \text{ 196a} \rangle$
 $\langle \text{variable } D83 \text{ 196b} \rangle$
 $\langle \text{variable } D86 \text{ 196c} \rangle$
 $\langle \text{variable } D87 \text{ 196d} \rangle$
 $\langle \text{variable } DCON \text{ 196e} \rangle$
 $\langle \text{variable } DDOCKM \text{ 196f} \rangle$
 $\langle \text{variable } DDOCKX \text{ 196g} \rangle$
 $\langle \text{variable } DELRFF \text{ 145b} \rangle$
 $\langle \text{variable } DEUC \text{ 196h} \rangle$
 $\langle \text{variable } DFMPRR \text{ 196i} \rangle$
 $\langle \text{variable } DFPDBT \text{ 197a} \rangle$
 $\langle \text{variable } DFPEX \text{ 197b} \rangle$

⟨variable *DFPSRP* 197c⟩
 ⟨variable *DGLPRD* 197d⟩
 ⟨variable *DMPALT* 197e⟩
 ⟨variable *DMPEX* 197f⟩
 ⟨variable *DMPGEN* 197g⟩
 ⟨variable *DMPINTAY* 197h⟩
 ⟨variable *DMPRR* 197i⟩
 ⟨variable *DMPSTB* 198a⟩
 ⟨variable *DMPTAY* 198b⟩
 ⟨variable *DMPTLR* 198c⟩
 ⟨variable *DMPTLUR* 143a⟩
 ⟨variable *DMPTMAX* 143g⟩
 ⟨variable *DMPTPI* 143d⟩
 ⟨variable *DMPTR* 144b⟩
 ⟨variable *DMPTRSH* 198d⟩
 ⟨variable *DPADJ* 98b⟩
 ⟨variable *DPGAP* 97d⟩
 ⟨variable *DRSTAR* 198e⟩
 ⟨variable *EC* 24b⟩
 ⟨variable *ECD* 18a⟩
 ⟨variable *ECH* 19a⟩
 ⟨variable *ECNIA* 21c⟩
 ⟨variable *ECNIAN* 21e⟩
 ⟨variable *ECO* 17a⟩
 ⟨variable *EGF* 113d⟩
 ⟨variable *EGFI* 114c⟩
 ⟨variable *EGFIN* 114f⟩
 ⟨variable *EGFIT* 115b⟩
 ⟨variable *EGFL* 115e⟩
 ⟨variable *EGFLN* 116c⟩
 ⟨variable *EGFLT* 116e⟩
 ⟨variable *EGFN* 114a⟩
 ⟨variable *EGFO* 117c⟩
 ⟨variable *EGFON* 118a⟩
 ⟨variable *EGFOT* 118c⟩
 ⟨variable *EGPDIN* 38b⟩
 ⟨variable *EGS* 118f⟩
 ⟨variable *EGSI* 119d⟩
 ⟨variable *EGSIN* 120b⟩
 ⟨variable *EGSIT* 120d⟩
 ⟨variable *EGSL* 121a⟩
 ⟨variable *EGSLN* 121d⟩
 ⟨variable *EGSLT* 121f⟩
 ⟨variable *EGSN* 119b⟩
 ⟨variable *EGSO* 122c⟩
 ⟨variable *EGSON* 123a⟩

⟨variable EGSOT 123c⟩
 ⟨variable EH 18d⟩
 ⟨variable EHN 22b⟩
 ⟨variable EI 27d⟩
 ⟨variable EIN 36c⟩
 ⟨variable EM 42d⟩
 ⟨variable EMN 42b⟩
 ⟨variable EMO 40a⟩
 ⟨variable EMON 40d⟩
 ⟨variable EMP 41d⟩
 ⟨variable EMPN 41f⟩
 ⟨variable EMPT 54c⟩
 ⟨variable EPD 25b⟩
 ⟨variable EPDN 35c⟩
 ⟨variable EPI 25e⟩
 ⟨variable EPIN 35e⟩
 ⟨variable EPS 26c⟩
 ⟨variable EPSN 36a⟩
 ⟨variable EX 39b⟩
 ⟨variable EXN 39e⟩
 ⟨variable FCBN 42f⟩
 ⟨variable FCBRN 43b⟩
 ⟨variable FGDP 158d⟩
 ⟨variable FGDPT 159a⟩
 ⟨variable FNICN 45b⟩
 ⟨variable FNILN 45d⟩
 ⟨variable FNIN 43d⟩
 ⟨variable FNIRN 47d⟩
 ⟨variable FPC 161a⟩
 ⟨variable FPCM 161c⟩
 ⟨variable FPI10 159d⟩
 ⟨variable FPI10T 160a⟩
 ⟨variable FPIC 160d⟩
 ⟨variable FPITRG 198f⟩
 ⟨variable FPX 164c⟩
 ⟨variable FPXM 164e⟩
 ⟨variable FPXR 163c⟩
 ⟨variable FPXRR 163f⟩
 ⟨variable FPXRRT 198g⟩
 ⟨variable FRL10 162f⟩
 ⟨variable FRS10 161e⟩
 ⟨variable FRSTAR 162c⟩
 ⟨variable FTCIN 44a⟩
 ⟨variable FXGAP 158a⟩
 ⟨variable FYNICN 45f⟩
 ⟨variable FYNILN 46b⟩

⟨variable FYNIN 44c⟩
 ⟨variable GFDBTN 123f⟩
 ⟨variable GFDRT 198h⟩
 ⟨variable GFINTN 124b⟩
 ⟨variable GFS 124d⟩
 ⟨variable GFSN 125a⟩
 ⟨variable GFSRPN 125c⟩
 ⟨variable GFSRT 199a⟩
 ⟨variable GFSUB 125e⟩
 ⟨variable GFSUBN 126c⟩
 ⟨variable GFT 126e⟩
 ⟨variable GFTN 127a⟩
 ⟨variable GFTRD 127c⟩
 ⟨variable GFTRT 199b⟩
 ⟨variable GSDBTN 127f⟩
 ⟨variable GSDRT 199c⟩
 ⟨variable GSINTN 128b⟩
 ⟨variable GSSRPN 128d⟩
 ⟨variable GSSRT 199d⟩
 ⟨variable GSSUB 130d⟩
 ⟨variable GSSUBN 129a⟩
 ⟨variable GST 129e⟩
 ⟨variable GSTN 129c⟩
 ⟨variable GSTRD 130a⟩
 ⟨variable GSTRT 199e⟩
 ⟨variable HGEMP 44e⟩
 ⟨variable HGGDP 49b⟩
 ⟨variable HGGDPT 60c⟩
 ⟨variable HGPCDR 199f⟩
 ⟨variable HGPDR 108e⟩
 ⟨variable HGPIR 109b⟩
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 ⟨variable HGVPI 38d⟩
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 ⟨variable HGX 59d⟩
 ⟨variable HGYNID 189d⟩
 ⟨variable HKS 30e⟩
 ⟨variable HKSR 199g⟩
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 ⟨variable HMFPT 52e⟩
 ⟨variable HQLFPR 64f⟩
 ⟨variable HQLWW 61d⟩
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 ⟨variable HXBT 60a⟩
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 ⟨variable JCCAN 72b⟩
 ⟨variable JKCD 23f⟩
 ⟨variable JRCD 199h⟩
 ⟨variable JRH 200a⟩
 ⟨variable JRPD 200b⟩
 ⟨variable JRPI 200c⟩
 ⟨variable JRPS 200d⟩
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 ⟨variable JYGFGN 73a⟩
 ⟨variable JYGSEN 73c⟩
 ⟨variable JYGSGN 73e⟩
 ⟨variable JYNCN 74a⟩
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 ⟨variable KH 22f⟩
 ⟨variable KI 27a⟩
 ⟨variable KPD 29f⟩
 ⟨variable KPI 30a⟩
 ⟨variable KPS 30c⟩
 ⟨variable KS 31b⟩
 ⟨variable LEF 62f⟩
 ⟨variable LEFT 67a⟩
 ⟨variable LEH 63d⟩
 ⟨variable LEO 62c⟩
 ⟨variable LEP 62a⟩
 ⟨variable LEPPOT 68a⟩
 ⟨variable LES 63b⟩
 ⟨variable LEST 67d⟩
 ⟨variable LEUC 200e⟩
 ⟨variable LF 65c⟩
 ⟨variable LFPR 64a⟩
 ⟨variable LHP 56d⟩
 ⟨variable LPRDT 68e⟩
 ⟨variable LQUALT 200f⟩
 ⟨variable LUR 65e⟩
 ⟨variable LURBLS 66a⟩
 ⟨variable LURNAT 69d⟩
 ⟨variable LURTRSH 200g⟩
 ⟨variable LWW 57d⟩
 ⟨variable MEI 155b⟩
 ⟨variable MEP 156b⟩
 ⟨variable MFPT 53b⟩
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 ⟨variable PCDR 112e⟩

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 ⟨variable *PCOR* 111b⟩
 ⟨variable *PCPI* 89c⟩
 ⟨variable *PCPIX* 89e⟩
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 ⟨variable *PGFL* 106g⟩
 ⟨variable *PGFOR* 93f⟩
 ⟨variable *PGSIR* 94c⟩
 ⟨variable *PGSL* 107b⟩
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 ⟨variable *PITRSH* 201c⟩
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 ⟨variable *PKPDR* 107d⟩
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 ⟨variable *POIL* 101e⟩
 ⟨variable *POILR* 100f⟩
 ⟨variable *POILRT* 201f⟩
 ⟨variable *PPDR* 95f⟩
 ⟨variable *PPIR* 96b⟩
 ⟨variable *PPSR* 96d⟩
 ⟨variable *PTR* 168c⟩

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 $\langle \text{variable } PXB \ 108c \rangle$
 $\langle \text{variable } PXG \ 108a \rangle$
 $\langle \text{variable } PXNC \ 90e \rangle$
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 $\langle \text{variable } PXR \ 97a \rangle$
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 $\langle \text{variable } QECO \ 20a \rangle$
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 $\langle \text{variable } QEPS \ 28c \rangle$
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 $\langle \text{variable } QLF \ 66e \rangle$
 $\langle \text{variable } QLFPR \ 64d \rangle$
 $\langle \text{variable } QLHP \ 57b \rangle$
 $\langle \text{variable } QLWW \ 61b \rangle$
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 $\langle \text{variable } QPL \ 91g \rangle$
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 $\langle \text{variable } RBBBP \ 150b \rangle$
 $\langle \text{variable } RCAR \ 151c \rangle$
 $\langle \text{variable } RCCD \ 23b \rangle$
 $\langle \text{variable } RCCH \ 23d \rangle$
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 $\langle \text{variable } REQ \ 152f \rangle$
 $\langle \text{variable } REQP \ 152c \rangle$
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 $\langle \text{variable } RFFMIN \ 202a \rangle$
 $\langle \text{variable } RFFRULE \ 142c \rangle$
 $\langle \text{variable } RFFTAY \ 139a \rangle$
 $\langle \text{variable } RFFTLLR \ 139d \rangle$

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 ⟨variable *RG10E* 148c⟩
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 ⟨variable *RG30E* 149d⟩
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 ⟨variable *RGW* 156e⟩
 ⟨variable *RME* 151f⟩
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 ⟨variable TRFPTX 203h⟩
 ⟨variable TRFSI 203i⟩
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 ⟨variable TRSCIT 204a⟩
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 ⟨variable TRSP 135a⟩
 ⟨variable TRSP 204c⟩
 ⟨variable TRSPT 135d⟩
 ⟨variable TRSPTX 204d⟩
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 ⟨variable TRSSIT 204e⟩
 ⟨variable TRYH 138e⟩
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 ⟨variable TSSIN 137e⟩
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 ⟨variable UCFS 105a⟩
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 ⟨variable UFCBR 204h⟩
 ⟨variable UFNIR 205a⟩
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 ⟨variable UFPXM 205c⟩
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 ⟨variable UPGSL 207f⟩

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 ⟨variable UVPS 208f⟩
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 ⟨variable UXENG 208g⟩
 ⟨variable UYD 209a⟩
 ⟨variable UYHI 209b⟩
 ⟨variable UYHLN 209c⟩
 ⟨variable UYHPTN 209d⟩
 ⟨variable UYHSN 209e⟩
 ⟨variable UYHTN 209f⟩
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 ⟨variable UYNI 209h⟩
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 ⟨variable UYP 210b⟩
 ⟨variable UYSEN 210c⟩
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 ⟨variable VEOA 53g⟩
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 ⟨variable VPS 34a⟩
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 ⟨variable YGSSN 138c⟩
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 ⟨variable YHIBN 80c⟩
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 ⟨variable YHLN 81e⟩
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 ⟨variable YHPNTN 82e⟩
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 ⟨variable YHPTN 83d⟩
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 ⟨variable YHSN 84c⟩
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 ⟨variable YHTGAP 85a⟩
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 ⟨variable YKPSN 79c⟩
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 ⟨variable YNIDN 76d⟩
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 ⟨variable YNIN 74c⟩
 ⟨variable YNISEN 75a⟩
 ⟨variable YPN 77c⟩
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 ⟨variable ZECD 179c⟩
 ⟨variable ZECO 178c⟩
 ⟨variable ZEH 181a⟩

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 <variable ZXBI 185b>
 <variable ZXBS 185e>
 <variable ZYH 187e>
 <variable ZYHP 188c>
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 <variable ZYHST 166>
 <variable ZYHT 189a>
 <variable ZYHTST 167f>
 <variable ZYNID 187b>

This code is written to file `srcEview/data.only.package/variables.txt`.

B.2 Standard Version Variable Information File

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<srcEview/frbus.package/mods/stdver.varinfo 223>≡

1	CENG	= Consumption of crude energy (oil, coal, natural gas), 2009 \$
2	D01Q4	= Dummy, destruction of World Trade Center
3	D2002	= Dummy,
4	D2003	= Dummy,
5	D69	= Dummy, post-1968 indicator
6	D79A	= Dummy, post-1979 indicator
7	D8095	= Dummy, 1980-1995 indicator
8	D81	= Dummy, post-1980 indicator
9	D83	= Dummy, post-1983 indicator
10	D86	= Dummy, post-1985 indicator
11	D87	= Dummy, post-1986 indicator
12	DCON	= Dummy, 0 prior to 1986, 1 after 1988, with a linear trend in between
13	DDOCKM	= Dock strike dummy, import equation
14	DDOCKX	= Dock strike dummy, export equation
15	DELRFF	= Federal funds rate, first diff
16	DEUC	= EUC switch: 1 for including EUC, 0 for not including
17	DFMPRR	= Dummy, Foreign monetary policy switch: Exogenous real interest rate
18	DFPDBT	= Fiscal policy switch: 1 for debt ratio stabilization
19	DFPEX	= Fiscal policy switch: 1 for exogenous personal income trend tax rates
20	DFPSRP	= Fiscal policy switch: 1 for surplus ratio stabilization
21	DGLPRD	= Switch to control for long-run productivity growth in the government sector
22	DMPALT	= Monetary policy switch: MA rule
23	DMPEX	= Monetary policy switch: exogenous federal funds rate
24	DMPGEN	= Monetary policy switch: Generalized reaction function
25	DMPINTAY	= Monetary policy switch: inertial taylor rule
26	DMPRR	= Monetary policy switch: exogenous real federal funds rate
27	DMPSTB	= Stabilization switch: 0 for standard applications, 1 for stochastic simulation
28	DMPTAY	= Monetary policy switch: Taylor's reaction function
29	DMPTLR	= Monetary policy switch: Taylor's reaction function with unemployment gap
30	DMPTLUR	= Monetary policy indicator for unemployment threshold
31	DMPTMAX	= Monetary policy indicator for both thresholds
32	DMPTPI	= Monetary policy indicator for inflation threshold
33	DMPTR	= Monetary policy indicator for policy rule thresholds
34	DMPTRSH	= Monetary policy threshold switch: 0 for no threshold, 1 for threshold
35	DPADJ	= Price inflation aggregation adjustment
36	DPGAP	= Price inflation aggregation discrepancy
37	DRSTAR	= RSTAR updating switch: 1 is on, 0 is off
38	EC	= Consumption, cw 2009\$ (FRB/US definition)
39	ECD	= Consumer expenditures on durable goods, cw 2009\$
40	ECH	= Consumer expenditures on housing services, cw 2009\$
41	ECNIA	= Personal consumption expenditures, cw 2009\$ (NIPA definition)
42	ECNIAN	= Personal consumption expenditures, current \$ (NIPA definition)
43	ECO	= Consumer expenditures on non-durable goods and non-housing services, cw 2009\$

44	EGF	= Federal government consumption and gross investment, cw 2009\$
45	EGFI	= Federal government gross investment, cw 2009\$
46	EGFIN	= Federal government gross investment, current \$
47	EGFIT	= Federal government gross investment, cw 2009\$, trend
48	EGFL	= Federal government employee compensation, cw 2009\$
49	EGFLN	= Federal government employee compensation, current \$
50	EGFLT	= Federal government employee compensation, cw 2009\$, trend
51	EGFN	= Federal government consumption and gross investment, current \$
52	EGFO	= Federal government consumption ex. employee comp., cw 2009\$
53	EGFON	= Federal government consumption ex. employee comp., current \$
54	EGFOT	= Federal government consumption ex. employee comp., cw 2009\$, trend
55	EGPDIN	= Gross private domestic investment
56	EGS	= S&L government consumption and gross investment, cw 2009\$
57	EGSI	= S&L government gross investment, cw 2009\$
58	EGSIN	= S&L government gross investment, current \$
59	EGSIT	= S&L government gross investment, cw 2009\$, trend
60	EGSL	= S&L government employee compensation, cw 2009\$
61	EGSLN	= S&L government employee compensation, current \$
62	EGSLT	= S&L government employee compensation, cw 2009\$, trend
63	EGSN	= S&L government consumption and gross investment, current \$
64	EGSO	= S&L government consumption ex. employee comp., cw 2009\$
65	EGSON	= S&L government consumption ex. employee comp., current \$
66	EGSOT	= S&L government consumption ex. employee comp., cw 2009\$, trend
67	EH	= Residential investment expenditures, cw 2009\$
68	EHN	= Residential investment expenditures
69	EI	= Change in private inventories, cw 2009\$
70	EIN	= Change in business inventories, current \$
71	EM	= Imports of goods and services, cw 2009\$
72	EMN	= Imports of goods and services, current \$
73	EMO	= Imports of goods and services ex. petroleum, cw 2009\$
74	EMON	= Imports of goods and services ex. petroleum
75	EMP	= Petroleum imports, cw 2009\$
76	EMPN	= Petroleum imports, current \$
77	EMPT	= Petroleum imports trend, cw 2009\$
78	EPD	= Investment in equipment, cw 2009\$
79	EPDN	= Investment in equipment, current \$
80	EPI	= Investment in intellectual property, cw 2009\$
81	EPIN	= Investment in intellectual property, current \$
82	EPS	= Investment in nonresidential structures, cw 2009\$
83	EPSN	= Investment in nonresidential structures, current \$
84	EX	= Exports of goods and services, cw 2009 \$
85	EXN	= Exports of goods and services, current \$
86	FCBN	= US current account balance, current \$
87	FCBRN	= US current account balance residual, current \$
88	FGDP	= Foreign aggregate GDP (world, bilateral export weights)
89	FGDPT	= Foreign aggregate GDP (world, bilateral export weights), trend

90	FNICN	= Gross stock of claims of US residents on the rest of the world, current \$
91	FNILN	= Gross stock of liabilities of US residents to the rest of the world, current \$
92	FNIN	= Net stock of claims of US residents on the rest of the world, current \$
93	FNIRN	= Net stock of claims of US residents on the rest of the world, residual
94	FPC	= Foreign aggregate consumer price (G39, import/export trade weights)
95	FPCM	= Foreign aggregate consumer price (G39, bilateral non-oil import trade weights)
96	FPI10	= Foreign consumer price inflation (G10)
97	FPI10T	= Foreign consumer price inflation, trend (G10)
98	FPIC	= Foreign consumer price inflation (G39, bilateral export trade weights)
99	FPITRG	= Foreign target consumer price inflation (G10)
100	FPX	= Nominal exchange rate (G39, import/export trade weights)
101	FPXM	= Nominal exchange rate (G39, bilateral import trade weights)
102	FPXR	= Real exchange rate (G39, import/export trade weights)
103	FPXRR	= Real exchange rate residual
104	FPXRRT	= Real exchange rate residual, trend
105	FRL10	= Foreign long-term interest rate (G10)
106	FRS10	= Foreign short-term interest rate (G10)
107	FRSTAR	= Equilibrium real short-term interest rate used in foreign Taylor rule
108	FTCIN	= Corporate taxes paid to rest of world, current \$
109	FXGAP	= Foreign output gap (world, bilateral export trade weights)
110	FYNICN	= Gross investment income received from the rest of the world, current \$
111	FYNILN	= Gross investment income paid to the rest of the world, current \$
112	FYNIN	= Net investment income received from the rest of the world, current \$
113	GFDBTN	= Federal government debt stock, current \$
114	GFDRT	= Federal government target debt-to-GDP ratio
115	GFINTN	= Federal government net interest payments, current \$
116	GFS	= Federal government grants-in-aid to S&L government, deflated by PGDP
117	GFSN	= Federal government grants-in-aid to S&L government, current \$
118	GFSRPN	= Federal government budget surplus, current \$
119	GFSRT	= Federal government target surplus-to-GDP ratio
120	GFSUB	= Federal government subsidies less surplus, deflated by PGDP
121	GFSUBN	= Federal government subsidies less surplus, current \$
122	GFT	= Federal government net transfer payments, deflated by PGDP
123	GFTN	= Federal government net transfer payments, current \$
124	GFTRD	= Deviation of ratio of federal transfers to GDP from trend ratio
125	GFTRT	= Federal government, trend ratio of transfer payments to GDP
126	GSDBTN	= S&L government debt stock, current \$
127	GSDRT	= S&L government target debt-to-GDP ratio
128	GSINTN	= S&L government net interest payments, current \$
129	GSSRPN	= S&L government budget surplus, current \$
130	GSSRT	= State and local government, target surplus-to-GDP ratio
131	GSSUB	= S&L government subsidies less surplus, deflated by PGDP
132	GSSUBN	= S&L government subsidies less surplus, current \$
133	GST	= S&L government net transfer payments, deflated by PGDP
134	GSTN	= S&L government net transfer payments, current \$
135	GSTRD	= Deviation of ratio of S&L transfers to GDP from trend ratio

136	GSTRT	= S&L government, trend ratio of transfer payments to GDP
137	HGEMP	= Petroleum imports, cw 2009\$, trend growth rate
138	HGGDP	= Growth rate of GDP, cw 2009\$ (annual rate)
139	HGGDPT	= Trend growth rate of XGDP, cw 2009\$ (annual rate)
140	HGPCDR	= Trend growth rate of price of consumer durable goods (relative to PCN)
141	HGPDR	= Trend Price Growth of PPDR
142	HGPIR	= Trend Price Growth of PPIR
143	HGPKIR	= Trend growth rate of PKIR
144	HGPPSR	= Trend growth rate of PPSR
145	HGVDP	= Trend Growth of VPD
146	HGVPI	= Trend growth rate of VPI
147	HGVPS	= Trend growth rate of VPS
148	HGX	= Trend growth rate of XG, cw 2009\$ (annual rate)
149	HGYNID	= Growth rate of real after-tax corporate profits
150	HKS	= Growth rate of KS, cw 2009\$ (compound annual rate)
151	HKSR	= Residual growth of capital services
152	HLEPT	= Trend growth rate of LEP (annual rate)
153	HLPRDT	= Trend growth rate of output per hour
154	HMFPT	= Trend growth rate of multifactor productivity
155	HQLFPR	= Drift component of change in QLFPR
156	HQLWW	= Trend growth rate of workweek
157	HUQPCT	= Drift term in stochastic component of trend ratio of PCNIA to PXP
158	HUXB	= Drift term in UXBT
159	HXBT	= Trend rate of growth of XB , cw 2009\$ (annual rate)
160	JCCACN	= Consumption of fixed capital, corporate, current \$
161	JCCAN	= Consumption of fixed capital, current \$
162	JKCD	= Consumption of fixed capital, consumer durables
163	JRCD	= Depreciation rate, consumer durables
164	JRH	= Depreciation rate, housing
165	JRPD	= Depreciation rate, equipment
166	JRPI	= Depreciation rate, intellectual property
167	JRPS	= Depreciation rate, nonresidential structures
168	JYGFEN	= CFC, federal government enterprises, current \$
169	JYGFGN	= CFC, federal government, general, current \$
170	JYGSEN	= CFC, state and local government enterprises, current \$
171	JYSGSN	= CFC, state and local government, general, current \$
172	JYNCN	= Noncorporate business CFC, current \$
173	KCD	= Stock of consumer durables, cw 2009\$
174	KH	= Stock of residential structures, cw 2009\$
175	KI	= Stock of private inventories, cw 2009\$
176	KPD	= Capital stock - Equipment, 2009\$
177	KPI	= Capital Stock - Intellectual Property, 2009\$
178	KPS	= Capital stock - nonresidential structures, 2009\$
179	KS	= Capital services, 2009 \$
180	LEF	= Federal civilian employment ex. gov. enterprise
181	LEFT	= Federal civilian employment ex. gov. enterprise, trend

182 LEH	= Civilian employment (break adjusted)
183 LEO	= Difference between household and business sector payroll employment, less gov't
184 LEP	= Employment in business sector (employee and self-employed)
185 LEPPOT	= Potential employment in business sector
186 LES	= S&L government employment ex. gov. enterprise
187 LEST	= S&L government employment ex. gov. enterprise, trend
188 LEUC	= Emergency unemployment compensation (EUC)
189 LF	= Civilian labor force (break adjusted)
190 LFPR	= Labor force participation rate
191 LHP	= Aggregate labor hours, business sector (employee and self-employed)
192 LPRDT	= Trend labor productivity
193 LQUALT	= Labor quality, trend level
194 LUR	= Civilian unemployment rate (break adjusted)
195 LURBLS	= Civilian unemployment rate (published)
196 LURNAT	= Natural rate of unemployment
197 LURTRSH	= Unemployment threshold
198 LW	= Workweek, business sector (employee and self-employed)
199 MEI	= Multiplicative discrepancy for the difference between XGDI and XGDO
200 MEP	= Multiplicative discrepancy for the difference between XGDP and XGDO
201 MFPT	= Multifactor productivity, trend level
202 N16	= Noninstitutional population, aged 16 and over (break adjusted)
203 PCDR	= Price index for consumer durables, cw (relative to to PCNIA)
204 PCENG	= Price index for aggregate energy consumption
205 PCENGR	= Price index for aggregate energy consumption (relative to PXB)
206 PCER	= Price index for personal consumption expenditures on energy (relative to PCXFE)
207 PCFR	= Price index for personal consumption expenditures on food (relative to PCXFE)
208 PCFRT	= Real PCE price of food, trend
209 PCHR	= Price index for housing services, cw (relative to to PCNIA)
210 PCNIA	= Price index for personal consumption expenditures, cw (NIPA definition)
211 PCOR	= Price index for non-durable goods and non-housing services, cw (relative to to P
212 PCPI	= Consumer price index, total
213 PCPIX	= Consumer price index, excluding food and energy
214 PCSTAR	= Target consumption price level (used in RFFGEN policy rule)
215 PCXFE	= Price index for personal consumption expendits ex. food and energy, cw (NIPA def
216 PGDP	= Price index for GDP, cw
217 PGFIR	= Price index for federal gov. investment, cw (relative to PXP)
218 PGFL	= Price index for federal government employee compensation, cw
219 PGFOR	= Price index for federal governemnt consumption ex. emp. comp., cw (relative to P
220 PGSIR	= Price index for S&L government investment (relative to PXP)
221 PGSL	= Price index for S&L government employee compensation, cw
222 PGSOR	= Price index for S&L government consumption ex. emp. comp., cw (relative to PXP)
223 PHOUSE	= Loan Performance House Price Index
224 PHR	= Price index for residential investment, cw (relative to PXP)
225 PIC4	= Four-quarter percent change in PCE prices
226 PICNGR	= Weighted growth rate of relative energy price
227 PICNIA	= Inflation rate, personal consumption expenditures, cw

228	PICX4	= Four-quarter percent change core in PCE prices
229	PICXFE	= Inflation rate, personal consumption expenditures, ex. food and energy
230	PIECI	= Annualized rate of growth of EI hourly compensation
231	PIGDP	= Inflation rate, GDP, cw
232	PIPL	= Rate of growth of PL
233	PIPXNC	= Inflation rate, price of adjusted final sales excluding consumption (a
234	PITARG	= Target rate of consumption price inflation (used in policy reaction fu
235	PITRSH	= Inflation threshold
236	PKIR	= Price index for stock of inventories, cw (relative to PXP)
237	PKPDR	= Ratio of price of equipment stock (KPD) to PXP
238	PL	= Compensation per hour, business
239	PLMIN	= Minimum wage
240	PLMINR	= Ratio of hourly minimum wage to compensation per hour (times 100)
241	PMO	= Price index for imports ex. petroleum, cw
242	PMP	= Price index for petroleum imports
243	POIL	= Price of imported oil (\$ per barrel)
244	POILR	= Price of imported oil, relative to price index for bus. sector output
245	POILRT	= Price of imported oil, relative to price index for bus. sector output
246	PPDR	= Price level of EPD compared to PXP
247	PPIR	= Price level of EPI compared to PXP
248	PPSR	= Price index for nonresidential structures, cw (relative to PXP)
249	PTR	= 10-year expected PCE price inflation (Survey of Professional Forecasts)
250	PWSTAR	= Equilibrium NFB price markup
251	PXB	= Price index for NFB output
252	PXG	= Price index for business output plus oil imports
253	PXNC	= Price of adjusted final sales excluding consumption
254	PXP	= Price index for final sales plus imports less gov. labor
255	PXR	= Price index for exports, cw (relative to PXP)
256	QEC	= Desired level of consumption (FRBUS definition)
257	QECD	= Target level of consumption of durable goods, trending component
258	QECO	= Desired level of consumption of nondurable goods and nonhousing services
259	QEH	= Target level of residential investment
260	QEPD	= Desired level of investment in equipment
261	QEPI	= Desired level of investment in intellectual property
262	QEPS	= Desired level of investment in structures
263	QKIR	= Desired Inventory Sales Ratio
264	QLEOR	= Desired ratio of employment discrepancy to the labor force
265	QLEP	= Desired level of business employment
266	QLF	= Desired level of civilian labor force
267	QLFPR	= Trend labor force participation rate
268	QLHP	= Desired level of business labor hours
269	QLWW	= Trend workweek, business sector (employee and self-employed)
270	QPCNIA	= Desired level of consumption price
271	QPL	= Desired level of compensation per hour, trending component
272	QPMO	= Random walk component of non-oil import prices
273	QPXG	= Desired price level of private output ex. energy, housing, and farm

274 QPXNC	= Desired level of nonconsumption price
275 QPXP	= Desired price level of adjusted final sales
276 QYNIDN	= Desired level of dividends
277 RBBB	= S&P BBB corporate bond rate
278 RBBBE	= S&P BBB corporate bond rate (effective ann. yield)
279 RBBBP	= S&P BBB corporate bond rate, risk/term premium
280 RCAR	= New car loan rate at finance companies
281 RCCD	= Cost of capital for consumer durables
282 RCCH	= Cost of capital for residential investment
283 RCGAIN	= Rate of capital gain on the non-equity portion of household wealth
284 REQ	= Real expected rate of return on equity
285 REQP	= Real expected rate of return on equity, premium component
286 RFF	= Federal funds rate
287 RFFALT	= Value of eff. federal funds rate given by estimated policy rule
288 RFFE	= Federal funds rate (effective ann. yield)
289 RFFFIX	= Federal funds rate given by fixed, pre-determined funds rate path
290 RFFGEN	= Value of eff. federal funds rate given by the generalized reaction function
291 RFFINTAY	= Value of eff. federal funds rate given by the inertial Taylor rule
292 RFFMIN	= Minimum nominal funds rate (set at 0 to impose zero lower bound)
293 RFFRULE	= Federal funds rate (effective ann. yield)
294 RFFTAY	= Value of eff. federal funds rate given by the Taylor rule with output gap
295 RFFTLR	= Value of eff. federal funds rate given by the Taylor rule with unemployment gap
296 RFNICT	= Residual in FNICN equation
297 RFRS10	= Real foreign short-term interest rate
298 RFYNIC	= Average yield earned on gross claims of US residents on the rest of the world
299 RFYNIL	= Average yield earned on liabilities of US residents on the rest of the world
300 RG10	= 10-year Treasury bond rate
301 RG10E	= 10-year Treasury bond rate (effective ann. yield)
302 RG10P	= 10-year Treasury bond rate, term premium
303 RG30	= 30-year Treasury bond rate
304 RG30E	= 30-year Treasury bond rate (effective ann. yield)
305 RG30P	= 30-year Treasury bond rate, term premium
306 RG5	= 5-year Treasury note rate
307 RG5E	= 5-year Treasury note rate (effective ann. yield)
308 RG5P	= 5-year Treasury note rate. term premium
309 RGFINT	= Average rate of interest on existing federal debt
310 RGW	= Approximate average rate of interest on new federal debt
311 RME	= Interest rate on conventional mortgages (effective ann. yield)
312 RPD	= After-tax real financial cost of capital for business investment
313 RRFEE	= Real federal funds rate (effective ann. yield)
314 RRFIX	= Real federal funds rate given by fixed, pre-determined real funds rate path
315 RRMET	= Real mortgage rate, trend
316 RRTR	= Expected long-run real federal funds rate
317 RSPNIA	= Personal saving rate
318 RSTAR	= Equilibrium real federal funds rate (for monetary policy reaction functions)
319 RTB	= 3-month Treasury bill rate

320	RTBE	= 3-month Treasury bill rate (effective ann. yield)
321	RTINV	= User cost of capital for inventories
322	RTPD	= User cost of capital for equipment
323	RTPI	= User cost of capital for intellectual property
324	RTPS	= User cost of capital for nonresidential structures
325	RTR	= Expected federal funds rate in the long run (Blue Chip)
326	T47	= Time trend, begins in 1947q1 (0 before)
327	TAPDAD	= Proportion of investment in equipment using accelerated depreciation
328	TAPDD	= Present value of depreciation allowances for equipment
329	TAPDDP	= Proportion of investment tax credit deducted from depr. base
330	TAPDS	= Tax service life of equipment
331	TAPDT	= Investment tax credit rate for equipment
332	TAPSAD	= Proportion of investment in nonresidential structures using accelerated depreciation
333	TAPSDA	= Present value of depreciation allowances for nonresidential structures
334	TAPSSL	= Tax service life of nonresidential structures
335	TFCIN	= Federal corporate income tax accruals, current \$
336	TFDIV	= Federal income receipts on assets, dividends, current \$
337	TFIBN	= Federal indirect business tax receipts, current \$
338	TFPN	= Federal personal income tax and nontax receipts, current \$
339	TFSIN	= Federal social insurance tax receipts
340	TRFCI	= Average federal corporate income tax rate
341	TRFCIM	= Marginal federal corporate income tax rate
342	TRFIB	= Average federal indirect business tax rate
343	TRFP	= Average federal tax rate for personal income tax and nontax receipts
344	TRFPM	= Marginal federal personal income tax rate (at twice median family income)
345	TRFPT	= Average federal tax rate for personal income tax, trend
346	TRFPTX	= Average federal tax rate for personal income tax, trend, policy setting
347	TRFSI	= Average federal social insurance tax rate
348	TRSCI	= Average S&L corporate income tax rate
349	TRSCIT	= Average S&L corporate income tax rate, trend
350	TRSI	= Average S&L indirect business tax rate
351	TRSIBT	= Average S&L indirect business tax rate, trend
352	TRSP	= Average S&L tax rate for personal income tax and nontax receipts
353	TRSPP	= Marginal S&L tax rate on personal property
354	TRSPT	= Trend S&L personal income tax rate
355	TRSPTX	= Average state and local tax rate for personal income, trend
356	TRSSI	= Average S&L social insurance tax rate
357	TRSSIT	= Average S&L social insurance tax rate, trend
358	TRYH	= Average tax rate on household income
359	TSCIN	= S&L corporate income tax accruals, current \$
360	TSIBN	= S&L indirect business tax receipts, current \$
361	TSPN	= S&L personal income tax and nontax receipts, current \$
362	TSSIN	= S&L social insurance tax receipts, current \$
363	UCES	= Energy share of nominal consumption expenditures
364	UCFS	= Food share of nominal consumption expenditures
365	UEMOT	= Trend in ratio of EMON to XGDEN

366	UEMP	= Multiplicative factor in EMP identity
367	UFCBR	= Multiplicative factor in FCBRN identity
368	UFNIR	= Multiplicative factor in FNIRN identity
369	UFPCM	= Multiplicative factor in FPCM identity
370	UFPMX	= Multiplicative factor in FPMX identity
371	UFTCIN	= Multiplicative factor in FTCIN identity
372	UGFDBT	= Multiplicative factor in GFDBTN identity
373	UGSDBT	= Multiplicative factor in GSDBTN identity
374	UGSINT	= Multiplicative factor in GSINTN identity
375	UGSSUB	= Multiplicative factor in GSSUB identity
376	UJCCA	= Multiplicative factor in JCCAN identity
377	UJCCAC	= Multiplicative factor in JCCACN identity
378	UJYGFE	= Multiplicative factor in JYGFEN identity
379	UJYGFG	= Multiplicative factor in JYGFEN identity
380	UJYGSE	= Multiplicative factor in JYGSEN identity
381	UJYGSG	= Multiplicative factor in JYGSGN identity
382	ULEF	= Multiplicative factor in LEF identity
383	ULES	= Multiplicative factor in LES identity
384	UPCPI	= Multiplicative factor in PCPI identity
385	UPCPIX	= Multiplicative factor in PCPIX identity
386	UPGFL	= Multiplicative factor in PGFL identity
387	UPGSL	= Multiplicative factor in PGSI identity
388	UPKPD	= Multiplicative factor in PKPDR identity
389	UPMP	= Multiplicative factor in PMP identity
390	UPXB	= Multiplicative factor in PXB identity
391	UQPCT	= Stochastic component of trend ratio of PCNIA to PXP
392	UVEOA	= Multiplicative factor in VEOA identity
393	UVPD	= Multiplicative factor in VPD identity
394	UVPI	= Multiplicative factor in VPI identity
395	UVPS	= Multiplicative factor in VPS identity
396	UXBT	= Stochastic component of trend ratio of XGDPT to XBT
397	UXENG	= Multiplicative factor in XENG identity
398	UYD	= Multiplicative factor in YDN identity
399	UYHI	= Multiplicative factor in YHIN identity
400	UYHLN	= Multiplicative factor in YHLN identity
401	UYHPTN	= Multiplicative factor in YHPTN identity
402	UYHSN	= Multiplicative factor in personal saving identity (accounts for transfers to for
403	UYHTN	= Multiplicative factor in YHTN identity
404	UYL	= Multiplicative factor in YLN identity
405	UYNI	= Multiplicative factor in YNIN identity
406	UYNICP	= Multiplicative factor in YNICPN identity
407	UYYP	= Multiplicative factor in YPN identity
408	UYSEN	= Multiplicative factor in YSEN identity
409	VEO	= Desired energy-output ratio
410	VEOA	= Average energy-output ratio of existing capital stock
411	VPD	= Desired equipment-output ratio

412 VPI = Desired intellectual property-output ratio
 413 VPS = Desired structures-output ratio
 414 WDNFCN = Net financial liabilities, nonfinancial nonfarm corporations
 415 WPO = Household property wealth ex. stock market, real
 416 WPON = Household property wealth ex. stock market, current \$
 417 WPS = Household stock market wealth, real
 418 WPSN = Household stock market wealth, current \$
 419 XB = Business output (BEA definition), cw 2009\$
 420 XBN = Business output (BEA definition), current \$
 421 XBO = Business output, adjusted for measurement error, cw 2009\$
 422 XBT = Potential business output, cw 2009\$
 423 XENG = Crude energy production, cw 2009\$
 424 XFS = Final sales of gross domestic product, cw 2009\$
 425 XFSN = Final sales of gross domestic product, current \$
 426 XG = Output of business sector plus oil imports, cw 2009\$
 427 XGAP = Output gap for business plus oil imports ($100 \cdot \log(\text{actual}/\text{potential})$)
 428 XGAP2 = Output gap for GDP ($100 \cdot \log(\text{actual}/\text{potential})$)
 429 XGDE = Domestic absorption, cw 2009\$
 430 XGDEN = Nominal Absorption, current \$
 431 XGDI = Gross domestic income, cw 2009\$
 432 XGDIN = Gross domestic income, current \$
 433 XGDO = Gross domestic product, adjusted for measurement error, cw 2009\$
 434 XGDP = GDP, cw 2009\$
 435 XGDPN = GDP, current \$
 436 XGDPT = Potential GDP, cw 2009\$
 437 XGDPTN = Potential GDP, current \$
 438 XGN = Output of business sector plus oil imports, current \$
 439 XGO = Output of business sector plus oil imports, adjusted for measurement error
 440 XGPOT = Potential output of business sector plus oil imports, cw 2009\$
 441 XP = Final sales plus imports less government labor, cw 2009\$
 442 XPN = Final sales plus imports less government labor, current \$
 443 YCSN = Net corporate cash flow with IVA and CCA
 444 YDN = Disposable income
 445 YGFSN = Federal government saving
 446 YGSSN = State and Local government saving
 447 YH = Income, household, total (real after-tax)
 448 YHGAP = Income, household, total, ratio to XGDP, cyclical component (real after-tax)
 449 YHIBN = Consumer interest payments to business
 450 YHIN = Income, household, net interest and rent
 451 YHL = Income, household, labor compensation (real after-tax)
 452 YHLN = Income, household, labor compensation
 453 YHP = Income, household, property (real after-tax)
 454 YHPCD = Imputed income of the stock of consumer durables, 2009\$
 455 YHPGAP = Income, household, property, ratio to YH, cyclical component (real after-tax)
 456 YHPNTN = Income, household, property, non-taxable component
 457 YHPSHR = Income, household, property, ratio to YH (real after-tax)

458 YHPTN = Income, household, property, taxable component
 459 YHSHR = Income, household, total, ratio to XGDP (real after-tax)
 460 YHSN = Personal saving
 461 YHT = Income, household, transfer (real after-tax), net basis
 462 YHTGAP = Income, household, transfer, ratio to YH, cyclical component (real after-tax)
 463 YHTN = Income, household, transfer payments. net basis
 464 YHTSHR = Income, household, transfer, ratio to YH (real after-tax)
 465 YKIN = Income from stock of inventories
 466 YKPDN = Income from stock of equipment
 467 YKPSN = Income from stock of nonresidential structures
 468 YMSDN = Microsoft one-time dividend payout in 2004Q4
 469 YNICPN = Corporate profits (national income component)
 470 YNIDN = Dividends (national income component)
 471 YNIIN = Net interest and rental income (national income component)
 472 YNILN = Labor income (national income component)
 473 YNIN = National income
 474 YNISEN = Proprietors' income (national income component)
 475 YPN = Personal income
 476 ZDIVGR = Expected growth rate of real dividends, for WPSN eq. (VAR exp.)
 477 ZECD = Expected growth rate of target durable consumption, for ECD eq. (VAR exp.)
 478 ZECO = Expected growth rate of target nondurables and nonhousing services, for ECO eq. (VAR exp.)
 479 ZEH = Expected growth rate of target residential investment, for EH eq. (VAR exp.)
 480 ZGAP05 = Expected output gap, for RG5E eq. (VAR exp.)
 481 ZGAP10 = Expected output gap, for RG10E eq. (VAR exp.)
 482 ZGAP30 = Expected output gap, for RG30E eq. (VAR exp.)
 483 ZGAPC2 = Expected output gap, for ECD eq. (VAR exp.)
 484 ZLHP = Expected growth rate of target aggregate hours (VAR exp.)
 485 ZPI10 = Expected cons. price infl., for RCCH, RRMET, and YHPNTN eqs. (10-yr mat.) (VAR exp.)
 486 ZPI10F = Expected cons. price infl., for FPXR eq. (10-yr mat.) (VAR exp.)
 487 ZPI5 = Expected cons. price infl., for RCCD eq. (5-yr mat.) (VAR exp.)
 488 ZPIB5 = Expected output price infl., for RPD eq. (5-yr mat.) (VAR exp.)
 489 ZPIC30 = Expected cons. price infl., for REQ eq. (30-yr mat.) (VAR exp.)
 490 ZPIC58 = Expected 4-qtr consumer price inflation (8 qtrs. in the future) (VAR exp.)
 491 ZPICXFE = Expected value of picxfe in the next quarter (VAR exp.)
 492 ZPIECI = Expected value of pieci in the next quarter (VAR exp.)
 493 ZRFF10 = Expected federal funds rate, for RG10E eq. (10-yr mat.) (VAR exp.)
 494 ZRFF30 = Expected federal funds rate, for RG30E eq. (30-yr mat.) (VAR exp.)
 495 ZRFF5 = Expected federal funds rate, for RG5E eq. (5-yr mat.) (VAR exp.)
 496 ZVPD = Expected growth rate of capital-output ratio, for EPD (VAR exp.)
 497 ZVPI = Expected growth rate of capital-output ratio, for EPI (VAR exp.)
 498 ZVPS = Expected growth rate of des. capital-output ratio, for EPS eq. (VAR exp.)
 499 ZXBD = Expected growth rate of business output for EPD (VAR exp.)
 500 ZXBI = Expected growth rate of business output, for EPI (VAR exp.)
 501 ZXBS = Expected growth rate of business output, for EPS (VAR exp.)
 502 ZYH = Expected level of real after-tax household income, for QEC eq. (VAR exp.)
 503 ZYHP = Expected level of real after-tax property income, for QEC eq. (VAR exp.)

504 ZYHPST = Expected trend share of property income in household income
505 ZYHST = Expected trend ratio of household income to GDP
506 ZYHT = Expected level of real transfer income, for QEC eq. (VAR exp.)
507 ZYHTST = Expected trend share of transfer income in household income
508 ZYNID = Expected rate of growth of target real dividends, for YNIDN eq. (VAR exp.)
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This code is written to file `srcEview/frbus.package/mods/stdver.varinfo`.

Uses CENG 41a, D01Q4 195a, D2002 195b, D2003 195c, D69 195d, D79A 195e, D8095 195f, D81 196a, D83 196b, D86 196c, D87 196d, DCON 196e, DDOCKM 196f, DDOCKX 196g, DELRFF 145b, DEUC 196h, DFMPRR 196i, DFPDBT 197a, DFPEX 197b, DFPSRP 197c, DGLPRD 197d, DMPALT 197e, DMPEX 197f, DMPGEN 197g, DMPINTAY 197h, DMPRR 197i, DMPSTB 198a, DMPTAY 198b, DMPTLR 198c, DMPTLUR 143a, DMPTMAX 143g, DMPTPI 143d, DMPTR 144b, DMPTRSH 198d, DPADJ 98b, DPGAP 97d, DRSTAR 198e, EC 24b, ECD 18a, ECH 19a, ECNIA 21c, ECNIAN 21e, ECO 17a, EGF 113d, EGFI 114c, EGFIN 114f, EGFIT 115b, EGFL 115e, EGFLN 116c, EGFLT 116e, EGFN 114a, EGFO 117c, EGFOF 118a, EGFOT 118c, EGPDIN 38b, EGS 118f, EGSI 119d, EGSIN 120b, EGSIT 120d, EGSL 121a, EGSLN 121d, EGSLT 121f, EGSN 119b, EGSO 122c, EGSON 123a, EGSOT 123c, EH 18d, EHN 22b, EI 27d, EIN 36c, EM 42d, EMN 42b, EMO 40a, EMON 40d, EMP 41d, emp 41e, EMPN 41f, EMPT 54c, EPD 25b, EPDN 35c, EPI 25e, EPIN 35e, EPS 26c, EPSN 36a, EX 39b, ex 39c, EXN 39e, FCBN 42f, FCBRN 43b, FGDP 158d, FGDPT 159a, FNICN 45b, FNILN 45d, FNIN 43d, FNIRN 47d, FPC 161a, FPCM 161c, FPI10 159d, FPI10T 160a, FPIC 160d, FPITRG 198f, FPX 164c, FPXM 164e, FPXR 163c, FPXRR 163f, FPXRT 198g, FRL10 162f, FRS10 161e, FRSTAR 162c, FTCIN 44a, FXGAP 158a, FYNICN 45f, FYNILN 46b, FYNIN 44c, GFDBTN 123f, GFDRT 198h, GFINTN 124b, GFS 124d, GFSN 125a, GFSRPN 125c, GFSRT 199a, GFSUB 125e, GFSUBN 126c, GFT 126e, GFTN 127a, GFTRD 127c, GFTRT 199b, GSDBTN 127f, GSDRT 199c, GSINTN 128b, GSSRPN 128d, GSSRT 199d, GSSUB 130d, GSSUBN 129a, GST 129e, GSTN 129c, GSTRD 130a, GSTRT 199e, HGEMP 44e, HGGDP 49b, HGGDPT 60c, HGPCDR 199f, HGPDR 108e, HGPIR 109b, HGPKIR 109e, HGPPSR 110a, HGVDP 34c,

HGVPI 38d, HGVPS 34f, HGX 59d, HGYNID 189d, HKS 30e, HKSR 199g, HLEPT 68c, HLPRDT 69b,
 HMFPT 52e, HQLFPR 64f, HQLWW 61d, HUQPCT 100c, HUXB 58d, HXBT 60a, JCCACN 71f, JCCAN 72b,
 JKCD 23f, JRCD 199h, JRH 200a, JRPD 200b, JRPI 200c, JRPS 200d, JYGFE 72d, JYGFGN 73a,
 JYGSN 73c, JYGSN 73e, JYNCN 74a, KCD 22d, KH 22f, KI 27a, KPD 29f, KPI 30a, KPS 30c,
 KS 31b, LEF 62f, LEFT 67a, LEH 63d, LEO 62c, LEP 62a, LEPPOT 68a, LES 63b, LEST 67d,
 LEUC 200e, LF 65c, LFPR 64a, LHP 56d, LPRDT 68e, LQUALT 200f, LUR 65e, LURBLS 66a,
 LURNAT 69d, LURTRSH 200g, LW 57d, MEI 155b, MEP 156b, MFPT 53b, N16 200h, PCDR 112e,
 PCENG 102f, PCENGR 102c, PCER 103b, PCFR 103e, PCFRT 200i, PCHR 111d, PCNIA 89a,
 PCOR 111b, PCPI 89c, PCPIX 89e, PCSTAR 201a, PCXFE 101c, PGDP 106e, PGFIR 93c, PGFL 106g,
 PGFOR 93f, PGSIR 94c, PGSI 107b, PGSOR 94f, PHOUSE 154c, PHR 95c, PIC4 113b, PICNCR 110d,
 PICNIA 88e, PICX4 112c, PICXFE 87a, picxfe 87b, PIECI 87d, pieci 87e, PIGDP 110f,
 PIPL 90a, PIPXNC 88b, PITARG 201b, PITRSH 201c, PKIR 201d, PKPDR 107d, PL 90c,
 PLMIN 99a, PLMINR 201e, PMO 105d, PMP 102a, POIL 101e, POILR 100f, POILRT 201f, PPDR 95f,
 PPIR 96b, PPSR 96d, PTR 168c, PWSTAR 91a, PXB 108c, PXG 108a, PXNC 90e, PXP 93a, PXR 97a,
 QEC 19d, QECD 20d, QECO 20a, QEH 20g, QEPD 27f, QEPI 28f, QEPS 28c, QKIR 29c, QLEOR 201g,
 QLEP 66c, QLF 66e, QLFPR 64d, QLHP 57b, QLWW 61b, QPCNIA 92e, QPL 91g, QPMO 106b,
 QPXP 91d, QPXNC 99c, QPXP 92c, QYNIDN 76a, RBBB 151a, RBBBE 150e, RBBBP 150b, RCAR 151c,
 RCCD 23b, RCCH 23d, RCGAIN 153f, REQ 152f, REQ 152c, RFF 144f, RFFALT 140d, RFFE 144d,
 RFFFIX 201h, RFFGEN 141b, RFFINTAY 140a, RFFMIN 202a, RFFRULE 142c, RFFTAY 139a,
 RFFTLR 139d, RFNICT 202b, RFRS10 202c, RFINIC 46d, RFINIL 47a, RG10 148e, RG10E 148c,
 RG10P 147f, RG30 149f, RG30E 149d, RG30P 149a, RG5 147d, RG5E 147b, RG5P 146e,
 RGFINT 157b, RGW 156e, RME 151f, RPD 31d, RRF 145d, RRFIX 202d, RRMET 157e, RRTR 168f,
 RSPNIA 78a, RSTAR 141e, RTB 146c, RTBE 145f, RTINV 33a, RTPD 31f, RTPI 32b, RTPS 32d,
 RTR 169c, T47 202e, TAPDAD 202f, TAPDD 37b, TAPDDP 202g, TAPDS 202h, TAPDT 203a,
 TAPSAD 203b, TAPSDA 36e, TAPSSL 203c, TFCIN 130f, TFDIV 203d, TFIBN 131b, TFPN 131d,
 TFSIN 131f, TRFCI 132b, TRFCIM 203e, TRFIB 203f, TRFP 132e, TRFPM 203g, TRFPT 133c,
 TRFPTX 203h, TRFSI 203i, TRSCI 134a, TRSCIT 204a, TRSIB 134d, TRSIBT 204b, TRSP 135a,
 TRSPP 204c, TRSPT 135d, TRSPTX 204d, TRSSI 136b, TRSSIT 204e, TRYH 138e, TSCIN 136e,
 TSIBN 137a, TSPN 137c, TSSIN 137e, UCES 104c, UCFS 105a, UEMOT 204f, UEMP 204g,
 UFCBR 204h, UFNIR 205a, UFGCM 205b, UFPXM 205c, UFTCIN 205d, UGFDBT 205e, UGSDBT 205f,
 UGSINT 205g, UGSSUB 206a, UJCCA 206b, UJCCAC 206c, UJYGFE 206d, UJYGFG 206e,
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 UPGSL 207f, UPKPD 207g, UPMP 208a, UPXB 208b, UQPCT 99f, UVEOA 208c, UVPD 208d,
 UVPI 208e, UVPS 208f, UXBT 58a, UXENG 208g, UYD 209a, UYHI 209b, UYHLN 209c, UYHPTN 209d,
 UYHSN 209e, UYHTN 209f, UYL 209g, UYNI 209h, UYNICP 210a, UYP 210b, UYSEN 210c, VEO 53e,
 VEOA 53g, VPD 33c, VPI 33e, VPS 34a, WDNFCN 86a, WPO 155e, WPON 154f, WPS 153d, WPSN 153b,
 XB 51b, XBN 71b, XBO 50d, XBT 54f, XENG 55d, XFS 48a, XFSN 70d, XG 51d, XGAP 58g,
 XGAP2 59b, XGDE 49d, XGDN 70f, XGDI 55f, XGDIN 86d, XGDO 56b, XGDP 48c, XGDPN 70b,
 XGDPT 55b, XGDPTN 60e, XGN 71d, XGO 50a, XGPOT 52b, XP 50g, XPN 69f, YCSN 78c, YDN 77e,
 YGFSN 138a, YGSSN 138c, YH 79e, YHGAP 80a, YHIBN 80c, YHIN 81a, YHL 81c, YHLN 81e,
 YHP 82a, YHPCD 24d, YHPGAP 82c, YHPNTN 82e, YHPSHR 83b, YHPTN 83d, YHSHR 84a, YHSN 84c,
 YHT 84e, YHTGAP 85a, YHTN 85c, YHTSHR 85e, YKIN 78e, YKPDN 79a, YKPSN 79c, YMSDN 210d,
 YNICPN 77a, YNIDN 76d, YNIIN 75c, YNINL 74e, YNIN 74c, YNISEN 75a, YPN 77c, ZDIVGR 186c,
 ZEC 179c, ZECO 178c, ZEH 181a, ZGAP05 171d, ZGAP10 172b, ZGAP30 172e, ZGAPC2 180c,
 ZLHP 181d, ZPI10 174d, ZPI10F 175b, ZPI5 173c, ZPIB5 174a, ZPIC30 175d, ZPIC58 176a,
 ZPICXFE 176d, ZPIECI 177c, ZRFF10 170c, ZRFF30 171a, ZRFF5 169e, ZVPD 182c, ZVPI 183b,
 ZVPS 183e, ZXBD 184c, ZXBI 185b, ZXBS 185e, ZYH 187e, ZYHP 188c, ZYHPST 167c, ZYHST 166,
 ZYHT 189a, ZYHTST 167f, and ZYNID 187b.

B.3 Standard Version Equations File

244 $\langle \text{srcEview/frbus.package/mods/stdver.eqs.txt } 244 \rangle \equiv$

- $\langle \text{equation } ceng \text{ } 41b \rangle$
- $\langle \text{equation } delrff \text{ } 145c \rangle$
- $\langle \text{equation } dmptlur \text{ } 143b \rangle$
- $\langle \text{equation } dmptmax \text{ } 144a \rangle$
- $\langle \text{equation } dmptpi \text{ } 143e \rangle$
- $\langle \text{equation } dmptr \text{ } 144c \rangle$
- $\langle \text{equation } dpadj \text{ } 98c \rangle$
- $\langle \text{equation } dpgap \text{ } 98a \rangle$
- $\langle \text{equation } ec \text{ } 24c \rangle$
- $\langle \text{equation } ecd \text{ } 18b \rangle$
- $\langle \text{equation } ech \text{ } 19b \rangle$
- $\langle \text{equation } ecnia \text{ } 21d \rangle$
- $\langle \text{equation } ecnian \text{ } 22a \rangle$
- $\langle \text{equation } eco \text{ } 17b \rangle$
- $\langle \text{equation } egf \text{ } 113e \rangle$
- $\langle \text{equation } egfi \text{ } 114d \rangle$
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- $\langle \text{equation } egfl \text{ } 116a \rangle$
- $\langle \text{equation } egfln \text{ } 116d \rangle$
- $\langle \text{equation } egflt \text{ } 117a \rangle$
- $\langle \text{equation } egfn \text{ } 114b \rangle$
- $\langle \text{equation } egfo \text{ } 117d \rangle$
- $\langle \text{equation } egfon \text{ } 118b \rangle$
- $\langle \text{equation } egfot \text{ } 118d \rangle$
- $\langle \text{equation } egpdin \text{ } 38c \rangle$
- $\langle \text{equation } egs \text{ } 119a \rangle$
- $\langle \text{equation } egsi \text{ } 119e \rangle$
- $\langle \text{equation } egsin \text{ } 120c \rangle$
- $\langle \text{equation } egstit \text{ } 120e \rangle$
- $\langle \text{equation } egsl \text{ } 121b \rangle$
- $\langle \text{equation } egsln \text{ } 121e \rangle$
- $\langle \text{equation } egslt \text{ } 122a \rangle$
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- $\langle \text{equation } egso \text{ } 122d \rangle$
- $\langle \text{equation } egson \text{ } 123b \rangle$
- $\langle \text{equation } egst \text{ } 123d \rangle$
- $\langle \text{equation } eh \text{ } 18e \rangle$
- $\langle \text{equation } ehn \text{ } 22c \rangle$
- $\langle \text{equation } ei \text{ } 27e \rangle$
- $\langle \text{equation } ein \text{ } 36d \rangle$
- $\langle \text{equation } em \text{ } 42e \rangle$
- $\langle \text{equation } emn \text{ } 42c \rangle$

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 $\langle \text{equation } epin \ 35f \rangle$
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 $\langle \text{equation } gfsbun \ 126d \rangle$
 $\langle \text{equation } gft \ 126f \rangle$

$\langle \text{equation } gftn \text{ 127b} \rangle$
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 $\langle \text{equation } hggdp \text{ 49c} \rangle$
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 $\langle \text{equation } hgpps \text{ 110b} \rangle$
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 $\langle \text{equation } hgvp \text{ 38e} \rangle$
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 $\langle \text{equation } hgx \text{ 59e} \rangle$
 $\langle \text{equation } hgynid \text{ 189e} \rangle$
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 $\langle \text{equation } hqlww \text{ 61e} \rangle$
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 $\langle \text{equation } hxbt \text{ 60b} \rangle$
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 $\langle \text{equation } ygfgn \text{ 73b} \rangle$
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 $\langle \text{equation } ygsgn \text{ 73f} \rangle$
 $\langle \text{equation } jyncn \text{ 74b} \rangle$
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 $\langle \text{equation } ks \text{ 31c} \rangle$

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 ⟨equation rbbbe 150f⟩
 ⟨equation rbbbp 150c⟩
 ⟨equation rcar 151d⟩
 ⟨equation rccd 23c⟩
 ⟨equation rcch 23e⟩
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 $\langle \text{equation tfpn 131e} \rangle$
 $\langle \text{equation tfsin 132a} \rangle$
 $\langle \text{equation trfci 132c} \rangle$
 $\langle \text{equation trfp 133a} \rangle$
 $\langle \text{equation trfpt 133d} \rangle$

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 $\langle \text{equation } wpsn \text{ 153c} \rangle$
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 $\langle \text{equation } ygssn \ 138d \rangle$
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 $\langle \text{equation } zgap30 \ 173a \rangle$
 $\langle \text{equation } zgapc2 \ 180d \rangle$
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 $\langle \text{equation } zpi10f \ 175c \rangle$
 $\langle \text{equation } zpi5 \ 173d \rangle$

$\langle \text{equation } zpib5 \text{ 174b} \rangle$
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 $\langle \text{equation } zynid \text{ 187c} \rangle$

theend

This code is written to file `srcEview/frbus.package/mods/stdver.eqs.txt`.

B.4 Standard Version Coefficients File

253 `<srcEview/frbus.package/mods/stdver.coeffs.txt 253>≡`

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 ⟨coefficient y_hgvps 35b⟩
 ⟨coefficient y_hmfpt 53a⟩
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theend

This code is written to file `srcEview/frbus.package/mods/stdver.coeffs.txt`.

Appendix C

Notes, Bibliography and Indexes

C.1 Chunks

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