

Model File

Generated by Python Framework

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1 Model Information

name: *Basic Quarterly Projection Model (QPM)*

file: */home/alexei/work/Framework/examples/models/ICD/MPAF/model.yaml*

1.1 Endogenous Variables Initial Values

D4L_CPI = nan, D4L_CPI_TAR = nan, D4L_GDP = nan, D4L_S = nan,
DLA_CPI = nan, DLA_CPI_RW = nan, DLA_GDP = nan, DLA_GDP_BAR
= nan, DLA_S = nan, DLA_Z = nan, DLA_Z_BAR = nan, E_DLA_CPI
= nan, L_CPI = nan, L_CPI_RW = nan, L_GDP = nan, L_GDP_BAR
= nan, L_GDP_GAP = nan, L_GDP_RW_GAP = nan, L_S = nan, L_Z
= nan, L_Z_BAR = nan, L_Z_GAP = nan, MCI = nan, PREM = nan,
RMC = nan, RR = nan, RR_BAR = nan, RR_GAP = nan, RR_RW = nan,
RR_RW_BAR = nan, RR_RW_GAP = nan, RS = nan, RSNEUTRAL =
nan, RS_RW = nan

1.2 Measurement Variables

OBS_D4L_CPI_TAR, OBS_DLA_CPI_RW, OBS_L_CPI, OBS_L_GDP,
OBS_L_GDP_RW_GAP, OBS_L_S, OBS_RS, OBS_RS_RW

1.3 Parameters

a1 = 0.70, a2 = 0.20, a3 = 0.70, b1 = 0.80, b2 = 0.30, b3 = 0.50, b4 =
0.70, e1 = 0.40, g1 = 0.70, g2 = 0.50, g3 = 0.50, rho_D4L_CPI_TAR = 0.50,
rho_DLA_CPI_RW = 0.80, rho_DLA_GDP_BAR = 0.80, rho_DLA_Z_BAR
= 0.80, rho_L_GDP_RW_GAP = 0.80, rho_RR_BAR = 0.80, rho_RR_RW_BAR
= 0.80, rho_RS_RW = 0.80, ss_D4L_CPI_TAR = 2.00, ss_DLA_CPI_RW
= 2.00, ss_DLA_GDP_BAR = 2.50, ss_DLA_Z_BAR = -1.50, ss_RR_BAR
= 0.50, ss_RR_RW_BAR = 0.75

1.4 Shocks

SHK_D4L_CPI_TAR, SHK_DLA_CPI, SHK_DLA_CPI_RW, SHK_DLA_GDP_BAR,
SHK_DLA_Z_BAR, SHK_L_GDP_GAP, SHK_L_GDP_RW_GAP, SHK_L_S,
SHK_RR_BAR, SHK_RR_RW_BAR, SHK_RS, SHK_RS_RW

1.5 Measurement Shocks

SHK_OBS_L_GDP, SHK_OBS_L_CPI, SHK_OBS_RS, SHK_OBS_L_S,
SHK_OBS_D4L_CPI_TAR, SHK_OBS_L_GDP_RW_GAP, SHK_OBS_DLA_CPI_RW,
SHK_OBS_RS_RW

1.6 Equations

1 : $L_GDP_GAP = b1 * L_GDP_GAP(-1) - b2 * MCI + b3 * L_GDP_RW_GAP + SHK_L_GDP_GAP$

2 : $MCI = b4 * RR_GAP + (1 - b4) * (-L_Z_GAP)$

3 : $DLA_CPI = a1 * DLA_CPI(-1) + (1 - a1) * DLA_CPI(+1) + a2 * RMC + SHK_DLA_CPI$

4 : $RMC = a3 * L_GDP_GAP + (1 - a3) * L_Z_GAP$

5 : $E_DLA_CPI = DLA_CPI(+1)$

7 : $RSNEUTRAL = RR_BAR + D4L_CPI(+1)$

8 : $L_S = (1 - e1) * L_S(+1) + e1 * (L_S(-1) + 2/4 * (D4L_CPI_TAR - ss_DLA_CPI_RW + DLA_Z_BAR)) + (-RS + RS_RW + PREM)/4 + SHK_L_S$

9 : $RR = RS - D4L_CPI(+1)$

10 : $L_Z = L_S + L_CPI_RW - L_CPI$

11 : $DLA_Z_BAR(+1) = RR_BAR - RR_RW_BAR - PREM$

12 : $DLA_GDP_BAR = 4 * (L_GDP_BAR - L_GDP_BAR(-1))$

13 : $DLA_Z_BAR = 4 * (L_Z_BAR - L_Z_BAR(-1))$

14 : $DLA_Z = 4 * (L_Z - L_Z(-1))$

15 : $DLA_GDP = 4 * (L_GDP - L_GDP(-1))$

16 : $DLA_CPI = 4 * (L_CPI - L_CPI(-1))$

17 : $DLA_S = 4 * (L_S - L_S(-1))$

21 : $RR_GAP = RR - RR_BAR$
 22 : $L_Z_GAP = L_Z - L_Z_BAR$
 23 : $L_GDP_GAP = L_GDP - L_GDP_BAR$
 24 : $D4L_CPI_TAR = \rho_D4L_CPI_TAR * D4L_CPI_TAR(-1) + (1 - \rho_D4L_CPI_TAR) * ss_D4L_CPI_TAR$
 25 : $DLA_Z_BAR = \rho_DLA_Z_BAR * DLA_Z_BAR(-1) + (1 - \rho_DLA_Z_BAR) * ss_DLA_Z_BAR + SHK_DLA_Z_BAR$
 26 : $RR_BAR = \rho_RR_BAR * RR_BAR(-1) + (1 - \rho_RR_BAR) * ss_RR_BAR + SHK_RR_BAR$
 27 : $DLA_GDP_BAR = \rho_DLA_GDP_BAR * DLA_GDP_BAR(-1) + (1 - \rho_DLA_GDP_BAR) * ss_DLA_GDP_BAR$
 28 : $L_GDP_RW_GAP = \rho_L_GDP_RW_GAP * L_GDP_RW_GAP(-1) + SHK_L_GDP_RW_GAP$
 29 : $DLA_CPI_RW = \rho_DLA_CPI_RW * DLA_CPI_RW(-1) + (1 - \rho_DLA_CPI_RW) * ss_DLA_CPI_RW$
 30 : $RS_RW = \rho_RS_RW * RS_RW(-1) + (1 - \rho_RS_RW) * (RR_RW_BAR + DLA_CPI_RW) + SHK_RS_RW$
 31 : $RR_RW_BAR = \rho_RR_RW_BAR * RR_RW_BAR(-1) + (1 - \rho_RR_RW_BAR) * ss_RR_RW_BAR$
 32 : $RR_RW = RS_RW - DLA_CPI_RW$
 33 : $RR_RW_GAP = RR_RW - RR_RW_BAR$
 34 : $DLA_CPI_RW = 4 * (L_CPI_RW - L_CPI_RW(-1))$

1.7 Measurement Equations

1 : $OBS_L_GDP = L_GDP + SHK_OBS_L_GDP$
 2 : $OBS_L_CPI = L_CPI + SHK_OBS_L_CPI$
 3 : $OBS_RS = RS + SHK_OBS_RS$
 4 : $OBS_L_S = L_S + SHK_OBS_L_S$
 5 : $OBS_D4L_CPI_TAR = D4L_CPI_TAR + SHK_OBS_D4L_CPI_TAR$
 6 : $OBS_L_GDP_RW_GAP = L_GDP_RW_GAP + SHK_OBS_L_GDP_RW_GAP$
 7 : $OBS_DLA_CPI_RW = DLA_CPI_RW + SHK_OBS_DLA_CPI_RW$

$$8 : \text{OBS_RS_RW} = \text{RS_RW} + \text{SHK_OBS_RS_RW}$$