

```

1 clear all
2 close all
3
4 % set parameters
5 beta = 0.99;
6 kappa = 1 - 40^(-1);
7 TPs = 1.0025;
8 Ls = 6;
9 epsi = 11;
10 epsw = 11;
11 delta = 0.025;
12 alpha = 1/3;
13 h = 0.8;
14 by = 0.1; % steady state government bond-gdp ratio
15 eta = 1;
16
17
18 % solve for steady state
19 Rds = beta^(-1);
20 QEHs = (1/beta - kappa)^(-1);
21 RyEHs = beta^(-1);
22 Rys = beta^(-1)*TPs;
23 Rls = Rys;
24 Qs = (beta^(-1)*TPs - kappa)^(-1);
25 zeta = ((TPs - 1)*Ls + 1)^(-1);
26 Ms = (beta/(1-beta*kappa))*Qs^(-1);
27 mcs = (epsi-1)/epsi;
28 Rs = Ms*(1/beta - (1-delta));
29 Ks = (alpha*mcs/Rs)^(1/(1-alpha));
30 ws = mcs*(1-alpha)*Ks^(alpha);
31 Ys = Ks^(alpha);
32 Is = delta*Ks;
33 Cs = Ks^(alpha) - delta*Ks;
34 Lams = (1-h*beta)/(Cs*(1-h));
35 wss = ws;
36 B = ((epsw - 1)/epsw)*Lams*wss;
37 fs = Is/(Qs*(1-kappa));
38 bs = by*Ys;
39 Ns = (Qs*fs + Qs*bs)/Ls;
40 PHIs = 1 - ((Ls-1)/Ls)*(1/TPs);
41
42 % policy rule parameters
43 taupi = 1.5;
44 tauy = 0.25;
45 rhoR = 0.8;
46 sR = 0.0025;
47
48 % non-steady state parameters
49 psin = 0;
50 psik = 2;
51 thetap = 0.75;
52 thetaw = 0.75;
53
54 % shock processes
55 rhoA = 0.95; % productivity shock
56 sA = 0.007;
57 rhom = 0.8; % MEI shock
58 sm = 0.025;
59 rhob1 = 1.8; % bond shock
60 rhob2 = -0.81;
61 sb = 0.01;
62 rhop = 0.9; % credit shock
63 sp = 0.01;
64
65 % save parameters
66
67 save param_cfp17 beta kappa TPs Ls epsi epsw thetap thetaw delta alpha h by taupi tauy
rhoR sR psin psik rhoA sA rhom sm rhob1 sb rhop sp Rds QEHs RyEHs Rys Rls Qs zeta Ms
mcs Rs Ks ws Ys Is Cs Lams B fs bs Ns PHIs eta rhob2

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68
69  dynare cfp2017 noclearall nolog
70
71
72  figure
73  subplot(3,3,1)
74  plot(b_eb, '-k', 'Linewidth',1.5)
75  title('b')
76
77  subplot(3,3,2)
78  plot(400*logRd_eb, '-k', 'Linewidth',1.5)
79  title('r^{d}')
80
81  subplot(3,3,3)
82  plot(400*logPi_eb, '-k', 'Linewidth',1.5)
83  title('\pi')
84
85  subplot(3,3,4)
86  plot(logY_eb, '-k', 'Linewidth',1.5)
87  title('Y')
88
89  subplot(3,3,5)
90  plot(logC_eb, '-k', 'Linewidth',1.5)
91  title('C')
92
93  subplot(3,3,6)
94  plot(logI_eb, '-k', 'Linewidth',1.5)
95  title('I')
96
97  subplot(3,3,7)
98  plot(logQ_eb, '-k', 'Linewidth',1.5)
99  title('Q')
100
101  subplot(3,3,8)
102  plot(400*logRy_eb, '-k', 'Linewidth',1.5)
103  title('r_{y}')
104
105  subplot(3,3,9)
106  plot(400*logTP_eb, '-k', 'Linewidth',1.5)
107  title('tp')
108
109
110  figure
111  subplot(3,3,1)
112  plot(Phi_ep, '-k', 'Linewidth',1.5)
113  title('Phi')
114
115  subplot(3,3,2)
116  plot(400*logRd_ep, '-k', 'Linewidth',1.5)
117  title('r^{d}')
118
119  subplot(3,3,3)
120  plot(400*logPi_ep, '-k', 'Linewidth',1.5)
121  title('\pi')
122
123  subplot(3,3,4)
124  plot(logY_ep, '-k', 'Linewidth',1.5)
125  title('Y')
126
127  subplot(3,3,5)
128  plot(logC_ep, '-k', 'Linewidth',1.5)
129  title('C')
130
131  subplot(3,3,6)
132  plot(logI_ep, '-k', 'Linewidth',1.5)
133  title('I')
134
135  subplot(3,3,7)
136  plot(logQ_ep, '-k', 'Linewidth',1.5)

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137 title('Q')
138
139 subplot(3,3,8)
140 plot(400*logRy_ep, '-k', 'Linewidth',1.5)
141 title('r_{y}')
142
143 subplot(3,3,9)
144 plot(400*logTP_ep, '-k', 'Linewidth',1.5)
145 title('tp')
146
147
148 figure
149 subplot(3,3,1)
150 plot(A_eA, '-k', 'Linewidth',1.5)
151 title('A')
152
153 subplot(3,3,2)
154 plot(400*logRd_eA, '-k', 'Linewidth',1.5)
155 title('r^{d}')
156
157 subplot(3,3,3)
158 plot(400*logPi_eA, '-k', 'Linewidth',1.5)
159 title('\pi')
160
161 subplot(3,3,4)
162 plot(logY_eA, '-k', 'Linewidth',1.5)
163 title('Y')
164
165 subplot(3,3,5)
166 plot(logC_eA, '-k', 'Linewidth',1.5)
167 title('C')
168
169 subplot(3,3,6)
170 plot(logI_eA, '-k', 'Linewidth',1.5)
171 title('I')
172
173 subplot(3,3,7)
174 plot(logQ_eA, '-k', 'Linewidth',1.5)
175 title('Q')
176
177 subplot(3,3,8)
178 plot(400*logRy_eA, '-k', 'Linewidth',1.5)
179 title('r_{y}')
180
181 subplot(3,3,9)
182 plot(400*logTP_eA, '-k', 'Linewidth',1.5)
183 title('tp')
184
185 figure
186 subplot(3,3,1)
187 plot(mu_em, '-k', 'Linewidth',1.5)
188 title('\mu')
189
190 subplot(3,3,2)
191 plot(400*logRd_em, '-k', 'Linewidth',1.5)
192 title('r^{d}')
193
194 subplot(3,3,3)
195 plot(400*logPi_em, '-k', 'Linewidth',1.5)
196 title('\pi')
197
198 subplot(3,3,4)
199 plot(logY_em, '-k', 'Linewidth',1.5)
200 title('Y')
201
202 subplot(3,3,5)
203 plot(logC_em, '-k', 'Linewidth',1.5)
204 title('C')
205

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```
206 subplot(3,3,6)
207 plot(logI_em, '-k', 'Linewidth', 1.5)
208 title('I')
209
210 subplot(3,3,7)
211 plot(logQ_em, '-k', 'Linewidth', 1.5)
212 title('Q')
213
214 subplot(3,3,8)
215 plot(400*logRy_em, '-k', 'Linewidth', 1.5)
216 title('r_{y}')
217
218 subplot(3,3,9)
219 plot(400*logTP_em, '-k', 'Linewidth', 1.5)
220 title('tp')
221
222 figure
223 subplot(3,3,2)
224 plot(400*logRd_eR, '-k', 'Linewidth', 1.5)
225 title('r^{d}')
226
227 subplot(3,3,3)
228 plot(400*logPi_eR, '-k', 'Linewidth', 1.5)
229 title('\pi')
230
231 subplot(3,3,4)
232 plot(logY_eR, '-k', 'Linewidth', 1.5)
233 title('Y')
234
235 subplot(3,3,5)
236 plot(logC_eR, '-k', 'Linewidth', 1.5)
237 title('C')
238
239 subplot(3,3,6)
240 plot(logI_eR, '-k', 'Linewidth', 1.5)
241 title('I')
242
243 subplot(3,3,7)
244 plot(logQ_eR, '-k', 'Linewidth', 1.5)
245 title('Q')
246
247 subplot(3,3,8)
248 plot(400*logRy_eR, '-k', 'Linewidth', 1.5)
249 title('r_{y}')
250
251 subplot(3,3,9)
252 plot(400*logTP_eR, '-k', 'Linewidth', 1.5)
253 title('tp')
```