

```

1 clear all
2 close all
3
4 % set parameters
5 beta = 0.9825;
6 theta = 0.36;
7 delta = 0.025;
8 tau = 0.35;
9 xis = 0.1634;
10 alpha = 1.8834;
11 kappa = 0.1460;
12 %kappa = 0;
13 rhox = 0.95;
14 rhoz = 0.95;
15 sx = 1;
16 sz = 1;
17
18 % solve for steady state
19 rs = 1/beta - 1;
20 Rs = 1 + rs*(1-tau);
21 mus = (1 - beta*Rs)*(1+rs)/(xis*Rs);
22 kns = (theta*(1-mus)/((1-mus*xis)/beta - (1-delta)))^(1/(1-theta));
23 ws = (1-mus)*(1-theta)*kns^(theta);
24 cns = kns^(theta) - delta*kns;
25 ns = (1 + alpha*cns/ws)^(-1);
26 ks = kns*ns;
27 cs = cns*ns;
28 ys = ks^(theta)*ns^(1-theta);
29 is = delta*ks;
30 bs = (1+rs)*(ks - ys/xis);
31 ds = ys - ws*ns - is -bs + bs/Rs;
32 Ts = bs*(1/Rs - 1/(1+rs));
33 us = (1/(1-beta))*(log(cs) + alpha*log(1-ns));
34
35 save param_jq alpha beta theta delta tau xis kappa sz sx rhox rhoz rs Rs mus ws ns ks
36   cs ys is bs ds Ts
37
38 dynare jermann_quadrini_rbc noclearall nolog
39
40 X0 = [logy_ez logc_ez logi_ez logn_ez mu_ez];
41 X00 = [logy_ex logc_ex logi_ex logn_ex mu_ex];
42 nn = size(logy_ez,1);
43
44 t = 1:nn;
45
46 figure
47 plot(t,p_ez,'-k',t,p_ex,':b','Linewidth',1.5)
48 title('Share Price')
49 legend('Productivity Shock','Financial Shock')
50
51 figure
52 plot(t,eterm_ez,'-k',t,eterm_ex,':b','Linewidth',1.5)
53 title('V/(K-B)')
54 legend('Productivity Shock','Financial Shock')
55
56 % now do frictionless version
57 rs = 1/beta - 1;
58 Rs = 1 + rs;
59 mus = 0;
60 kns = (theta*(1-mus)/((1-mus*xis)/beta - (1-delta)))^(1/(1-theta));
61 ws2 = (1-mus)*(1-theta)*kns^(theta);
62 cns = kns^(theta) - delta*kns;
63 ns2 = (1 + alpha*cns/ws)^(-1);
64 ks2 = kns*ns2;
65 cs2 = cns*ns2;
66 ys2 = ks2^(theta)*ns2^(1-theta);
67 is2 = delta*ks2;
68 us2 = (1/(1-beta))*(log(cs2) + alpha*log(1-ns2));

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69 save param_jq_nofric alpha beta theta delta tau xis kappa sz sx rhox rhoz rs Rs mus ws2
ns2 ks2 cs2 ys2 is2 bs ds Ts
70
71 dynare jermann_quadrini_rbc_nofric noclearall nolog
72
73 X1 = [logy_ez logc_ez logi_ez logn_ez zeros(nn,1)];
74 X11 = zeros(nn,5);
75
76 t = 1:nn;
77
78 figure
79 subplot(2,3,1)
80 plot(t,X0(:,1),'-k',t,X1(:,1),'--k','Linewidth',1.5)
81 title('y')
82
83 subplot(2,3,2)
84 plot(t,X0(:,2),'-k',t,X1(:,2),'--k','Linewidth',1.5)
85 title('c')
86
87 subplot(2,3,3)
88 plot(t,X0(:,3),'-k',t,X1(:,3),'--k','Linewidth',1.5)
89 title('i')
90
91 subplot(2,3,4)
92 plot(t,X0(:,4),'-k',t,X1(:,4),'--k','Linewidth',1.5)
93 title('n')
94
95 subplot(2,3,5)
96 plot(t,X0(:,5),'-k',t,X1(:,5),'--k','Linewidth',1.5)
97 title('\mu')
98 legend('Constrained Model','Unconstrained')
99
100 figure
101 subplot(2,3,1)
102 plot(t,X00(:,1),'-k',t,X11(:,1),'--k','Linewidth',1.5)
103 title('y')
104
105 subplot(2,3,2)
106 plot(t,X00(:,2),'-k',t,X11(:,2),'--k','Linewidth',1.5)
107 title('c')
108
109 subplot(2,3,3)
110 plot(t,X00(:,3),'-k',t,X11(:,3),'--k','Linewidth',1.5)
111 title('i')
112
113 subplot(2,3,4)
114 plot(t,X00(:,4),'-k',t,X11(:,4),'--k','Linewidth',1.5)
115 title('n')
116
117 subplot(2,3,5)
118 plot(t,X00(:,5),'-k',t,X11(:,5),'--k','Linewidth',1.5)
119 title('\mu')
120 legend('Constrained Model','Unconstrained')

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