

```

1  var y c i g ce n rk r q k x a h pi rn lev;
2  varexo ea eg ern en;
3
4  parameters cy iy gy cey nu epsi varphi alpha Omega eta kappa beta delta gamma RRks rho
   zeta rhoa rhog sa sg srn;
5
6  load bbg_param;
7  set_param_value('beta',beta);
8  set_param_value('delta',delta);
9  set_param_value('eta',eta);
10 set_param_value('cy',cy);
11 set_param_value('gy',gy);
12 set_param_value('iy',iy);
13 set_param_value('cey',cey);
14 set_param_value('nu',nu);
15 set_param_value('epsi',epsi);
16 set_param_value('varphi',varphi);
17 set_param_value('alpha',alpha);
18 set_param_value('Omega',Omega);
19 set_param_value('kappa',kappa);
20 set_param_value('gamma',gamma);
21 set_param_value('RRks',RRks);
22 set_param_value('rho',rho);
23 set_param_value('zeta',zeta);
24 set_param_value('rhoa',rhoa);
25 set_param_value('rhog',rhog);
26 set_param_value('sa',sa);
27 set_param_value('sg',sg);
28 set_param_value('srn',srn);
29
30 model(linear);
31
32 % (1) resource constraint
33 y = cy*c + iy*i + gy*g + cey*ce;
34
35 % (2) Household Euler equation
36 c = -r + c(+1);
37
38 % (3) Entrepreneur consumption
39 ce = n;
40
41 % (4) Risk spread
42 rk(+1) - r = -nu*(n - (q + k));
43
44 % (5) Return to capital
45 rk = (1-epsi)*(y - k(-1) - x) + epsi*q - q(-1);
46
47 % (6) Price of capital
48 q = varphi*(i - k(-1));
49
50 % (7) production function
51 y = a + alpha*k(-1) + (1-alpha)*Omega*h;
52
53 % (8) FOC for labor
54 y - h - x - c = eta^(-1)*h;
55
56 % (9) Phillips Curve
57 pi = -kappa*x + beta*pi(+1);
58
59 % (10) Capital accumulation
60 k = delta*i + (1-delta)*k(-1);
61
62 % (11) Evolution of net worth:
63 n = gamma*RRks*(rk - r(-1)) + r(-1) + (n(-1) + en);
64
65 % (12) Taylor rule
66 rn = rho*rn(-1) + zeta*pi(-1) + srn*ern;
67
68 % (13) Fisher relationship

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69  rn = r + pi(+1);
70
71  % (14) Productivity shock
72  a = rhoa*a(-1) + sa*ea;
73
74  % (15) Government spending shock
75  g = rhog*g(-1) + sg*eg;
76
77  % (16) leverage
78  lev = q + k - n;
79
80  end;
81
82  shocks;
83  var ern = 1;
84  var ea = 1;
85  var eg = 1;
86  var en = 0.5^2;
87  end;
88
89  stoch_simul(order=1, irf=200, ar=0, nocorr, nograph);
90
91
```