
```
close all;

beta =0.92;
varpi = 1/3;
al = 1;
ah =1.1;
sigma = 2;
delta = 0.03;

save parameterfile beta varpi al ah sigma delta

pi_p0=1.76;
pi_g0=1.47;

pi_pF_obser=1.4;
pi_gF_obser=0.7;

pi_pF_simul=0.8;
pi_gF_simul=0.8;

dynare model_observed
load('model_observed_results.mat')
y_obser = y;
i_obser = i;
k_obser = k;
c_obser = c;

Configuring Dynare ...
[mex] Generalized QZ.
[mex] Sylvester equation solution.
[mex] Kronecker products.
[mex] Sparse kronecker products.
[mex] Local state space iteration (second order).
[mex] Bytecode evaluation.
[mex] k-order perturbation solver.
[mex] k-order solution simulation.
[mex] Quasi Monte-Carlo sequence (Sobol).
[mex] Markov Switching SBVAR.

Using 64-bit preprocessor
Starting Dynare (version 4.5.7).
Starting preprocessing of the model file ...
Found 6 equation(s).
Evaluating expressions...done
Computing static model derivatives:
- order 1
Computing dynamic model derivatives:
- order 1
Processing outputs ...
done
Preprocessing completed.
```

EIGENVALUES:

Modulus	Real	Imaginary
0.9589	0.9589	0
1.134	1.134	0

There are 1 eigenvalue(s) larger than 1 in modulus
for 1 forward-looking variable(s)

The rank condition is verified.

MODEL SIMULATION:

Iter: 1, err. = 7.1408, time = 0.018
Iter: 2, err. = 0.14094, time = 0.003
Iter: 3, err. = 0.00038816, time = 0.003
Iter: 4, err. = 1.2529e-06, time = 0.003

Total time of simulation: 0.031

Perfect foresight solution found.

MODEL SIMULATION:

Iter: 1, err. = 7.1408, time = 0.004
Iter: 2, err. = 0.14094, time = 0.004
Iter: 3, err. = 0.00038816, time = 0.004
Iter: 4, err. = 1.2529e-06, time = 0.004

Total time of simulation: 0.019

Perfect foresight solution found.

Residuals of the static equations:

Equation number 1 : 0 : Aggregate Output
Equation number 2 : 0 : Euler Equation
Equation number 3 : 0 : Budget Constrain
Equation number 4 : 0 : low-tech capital
Equation number 5 : 0 : total capital
Equation number 6 : 0 : investment

Total computing time : 0h00m00s

```
dynare model_simul
load('model_simul_results.mat')
y_simul = y;
i_simul = i;
k_simul = k;
c_simul = c;
```

Configuring Dynare ...
[mex] Generalized QZ.
[mex] Sylvester equation solution.
[mex] Kronecker products.
[mex] Sparse kronecker products.
[mex] Local state space iteration (second order).
[mex] Bytecode evaluation.
[mex] k-order perturbation solver.
[mex] k-order solution simulation.
[mex] Quasi Monte-Carlo sequence (Sobol).
[mex] Markov Switching SBVAR.

Using 64-bit preprocessor
Starting Dynare (version 4.5.7).
Starting preprocessing of the model file ...
Found 6 equation(s).
Evaluating expressions...done
Computing static model derivatives:
- order 1
Computing dynamic model derivatives:
- order 1
Processing outputs ...
done
Preprocessing completed.

EIGENVALUES:

Modulus	Real	Imaginary
0.9589	0.9589	0
1.134	1.134	0

There are 1 eigenvalue(s) larger than 1 in modulus
for 1 forward-looking variable(s)

The rank condition is verified.

MODEL SIMULATION:

```
Iter: 1, err. = 11.1429, time = 0.017
Iter: 2, err. = 0.39697, time = 0.004
Iter: 3, err. = 0.013091, time = 0.004
Iter: 4, err. = 0.00051815, time = 0.004
Iter: 5, err. = 1.831e-07, time = 0.003
```

```
Total time of simulation: 0.034
```

Perfect foresight solution found.

MODEL SIMULATION:

```
Iter: 1, err. = 11.1429, time = 0.004
Iter: 2, err. = 0.39697, time = 0.004
Iter: 3, err. = 0.013091, time = 0.004
Iter: 4, err. = 0.00051815, time = 0.004
Iter: 5, err. = 1.831e-07, time = 0.004
```

```
Total time of simulation: 0.024
```

Perfect foresight solution found.

Residuals of the static equations:

```
Equation number 1 : 0 : Aggregate Output
Equation number 2 : 0 : Euler Equation
Equation number 3 : 0 : Budget Constrain
Equation number 4 : 0 : low-tech capital
Equation number 5 : 0 : total capital
Equation number 6 : 0 : investment
```

```
Total computing time : 0h00m00s
```

Graphs

```
figure;
set(gcf,'Color',[1,1,1]);

subplot(2,2,1);
plot(c_obser,'r-','LineWidth',1);
hold on
plot(c_simul,'b-','LineWidth',1);
set(gca,'FontSize',8);
%xlim([2003 2017]);
```

```

title(['Consumption'],'FontSize',8,'FontWeight','bold');
legend('observed','alternative','Location','Best')

subplot(2,2,2);
plot(i_obser,'r-','LineWidth',1);
hold on
plot(i_simul,'b-','LineWidth',1);
set(gca,'FontSize',8);
xlim([2003 2017]);
title(['Investment'],'FontSize',8,'FontWeight','bold');
legend('observed','alternative','Location','Best')

subplot(2,2,3);
plot(k_obser,'r-','LineWidth',1);
hold on
plot(k_simul,'b-','LineWidth',1);
set(gca,'FontSize',8);
xlim([2003 2017]);
title(['Capital'],'FontSize',8,'FontWeight','bold');
legend('observed','alternative','Location','Best')

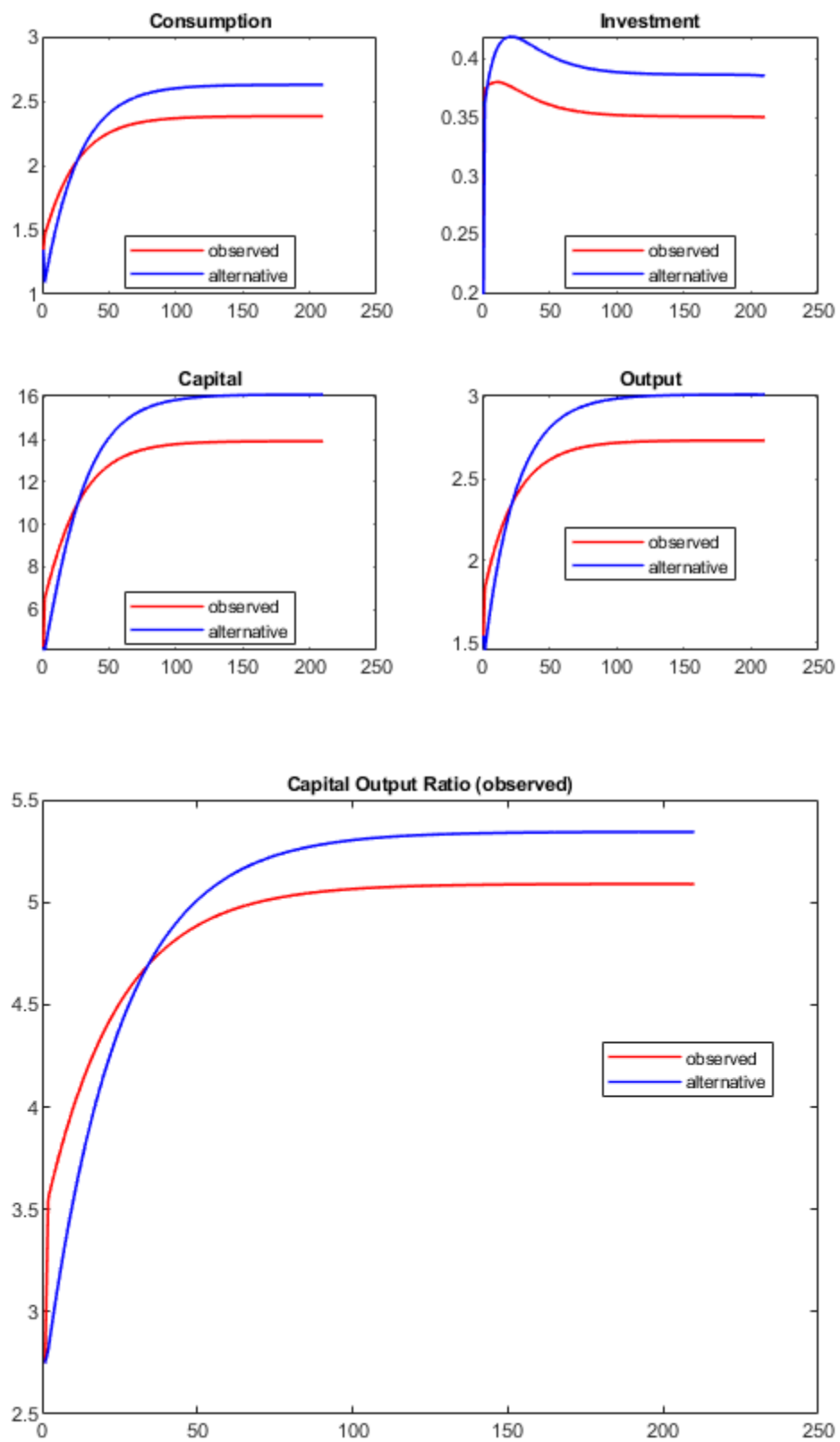
subplot(2,2,4);
plot(y_obser,'r-','LineWidth',1);
hold on
plot(y_simul,'b-','LineWidth',1);
set(gca,'FontSize',8);
xlim([2003 2017]);
title(['Output'],'FontSize',8,'FontWeight','bold');
legend('observed','alternative','Location','Best')

snapnow

% capital-output ratio
figure;
plot(k_obser./y_obser,'r-','LineWidth',1);
hold on
plot(k_simul./y_simul,'b-','LineWidth',1);
set(gca,'FontSize',8);
xlim([2003 2017]);
title(['Capital Output Ratio
(observed)'],'FontSize',8,'FontWeight','bold');
legend('observed','alternative','Location','Best')

snapnow

```



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