

---

```

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

```

```

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:*

<i>Modulus</i>	<i>Real</i>	<i>Imaginary</i>
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. = 2.0909, time = 0.02  
Iter: 2, err. = 0.045546, time = 0.002  
Iter: 3, err. = 0.009137, time = 0.005  
Iter: 4, err. = 4.4959e-05, time = 0.003  
Iter: 5, err. = 2.2545e-10, time = 0.003

Total time of simulation: 0.035  
-----

Perfect foresight solution found.

-----  
MODEL SIMULATION:

Iter: 1, err. = 2.0909, time = 0.004  
Iter: 2, err. = 0.045546, time = 0.004  
Iter: 3, err. = 0.009137, time = 0.003  
Iter: 4, err. = 4.4959e-05, time = 0.004  
Iter: 5, err. = 2.2545e-10, 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

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:*

<i>Modulus</i>	<i>Real</i>	<i>Imaginary</i>
<i>0.9589</i>	<i>0.9589</i>	<i>0</i>
<i>1.134</i>	<i>1.134</i>	<i>0</i>

*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. = 2.64, time = 0.018*  
*Iter: 2, err. = 0.067598, time = 0.003*  
*Iter: 3, err. = 0.018575, time = 0.003*  
*Iter: 4, err. = 0.00018241, time = 0.003*  
*Iter: 5, err. = 3.6988e-09, time = 0.003*

*Total time of simulation: 0.034*  
-----

*Perfect foresight solution found.*

-----  
*MODEL SIMULATION:*

*Iter: 1, err. = 2.64, time = 0.005*  
*Iter: 2, err. = 0.067598, time = 0.004*  
*Iter: 3, err. = 0.018575, time = 0.004*  
*Iter: 4, err. = 0.00018241, time = 0.003*  
*Iter: 5, err. = 3.6988e-09, time = 0.004*

---

Total time of simulation: 0.025

-----

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');  
  
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');  
  
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');
```

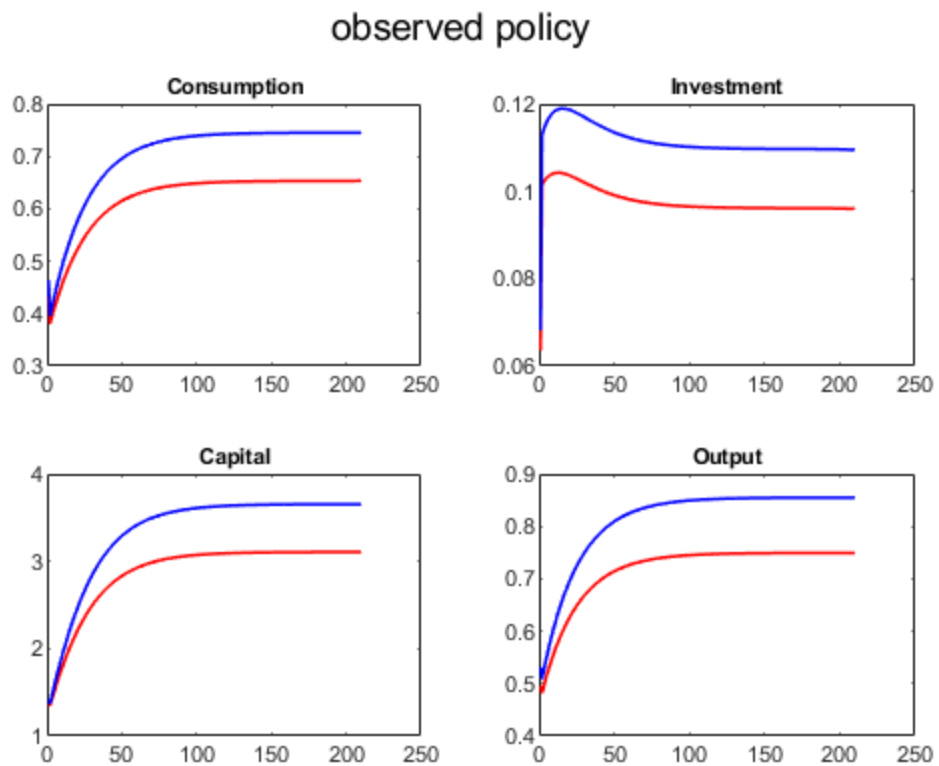
---

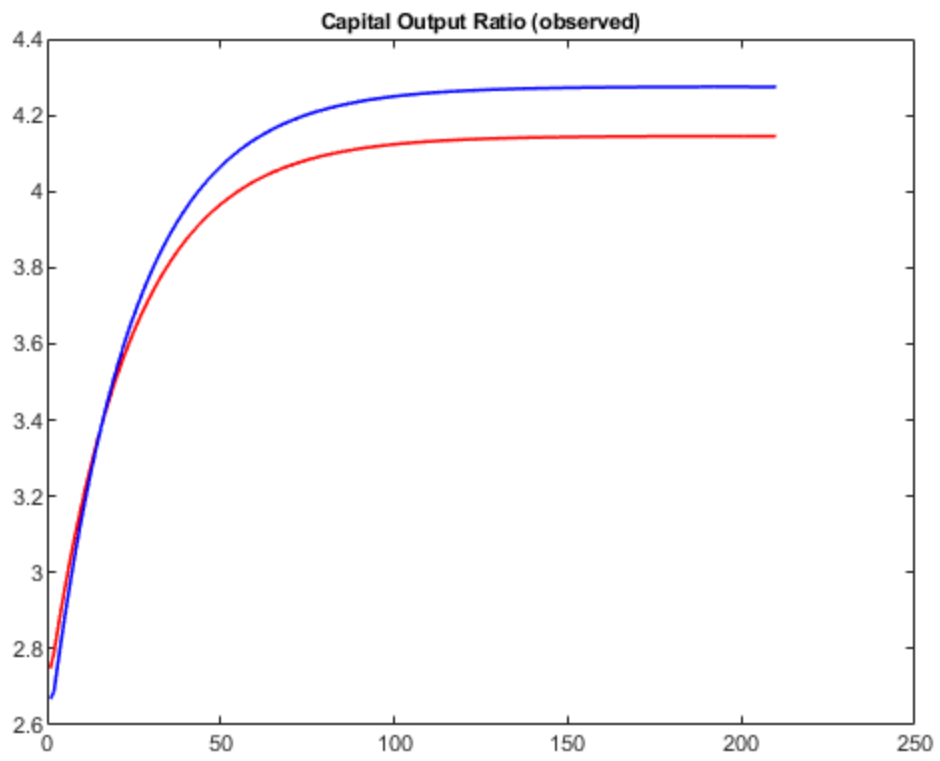
```

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');
suptitle(['observed policy']);
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');
snapnow

```





*Published with MATLAB® R2018a*