Reproduction Guide for

Campbell, Evans, Fisher, and Justiniano (2012)

For each table, figure, or quantitative result reported in the text, this document gives step-by-step instructions for its reproduction. After reproducing all of the tables mentioned below, the LaTeX file tables.tex can be processed to display them nicely.

We used the following software:

- Matlab, Release 2011b with the Statistics and Optimization Toolboxes.
- Stata, Version 12.1
- EViews, Version 7.2
- Microsoft Excel 2007

Table 1

1. Run GSS\GSSMain.m using Matlab. This produces GSS\sample1Results.xls, GSS\sample2Results.xls, and GSS\sample3Results.xls.
2. Run GSS\Table1.m using Matlab . This produces GSS\Table1.tex. This contains the table's body ready to be included in a LaTeX tabular environment. The root LaTeX file tables.tex automatically includes this.

Table 2

Run GSSAnalysis\table2.do using Stata. This produces table2.tex, which contains the table's body ready to be included in a LaTeX tabular environment. The root LaTeX file tables.tex automatically includes this.

Table 3

1. Run GSSAnalysis\table3Unemployment.do using Stata. This produces table3Unemployment.tex, which contains the table's unemployment

forecast regression results in a LaTeX tabular environment. The root LaTeX file tables.tex automatically includes this.

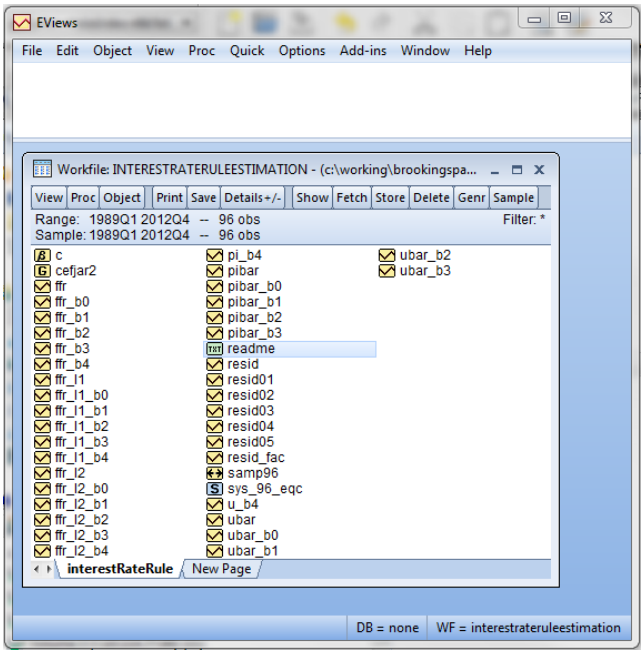
2. Run GSSAnalysis\table3Inflation.do using Stata. This produces table3Inflation.tex, which contains the table's inflation forecast regression results in a LaTeX tabular environment. The root LaTeX file tables.tex automatically includes this.

Table 5

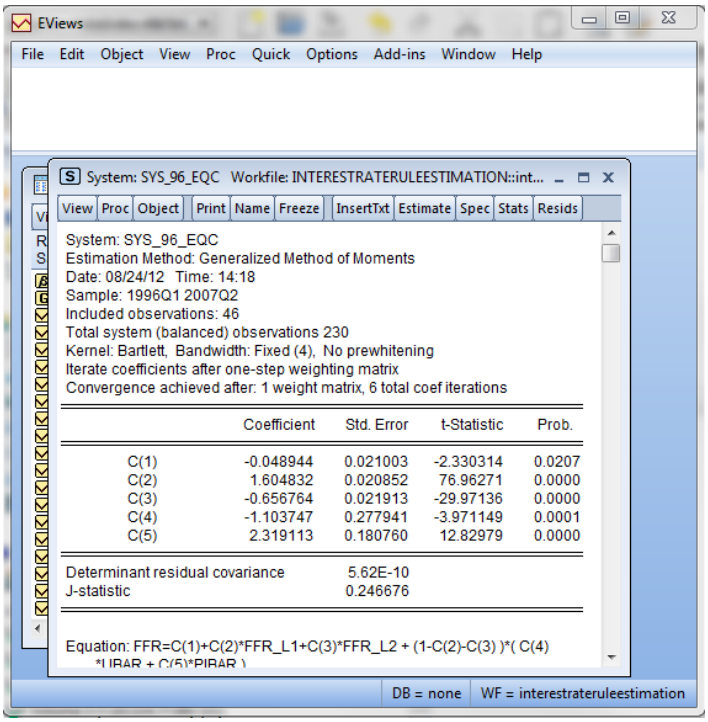
1. Run GSS\GSSMain.m using Matlab . This produces GSS\sample1Results.xls, GSS\sample2Results.xls, and GSS\sample3Results.xls.
2. Run GSS\Table5.m using Matlab . This produces GSS\Table1.tex. This contains the table's body ready to be included in a LaTeX tabular environment. The root LaTeX file tables.tex automatically includes this.

Interest Rate Rule in Section II.B

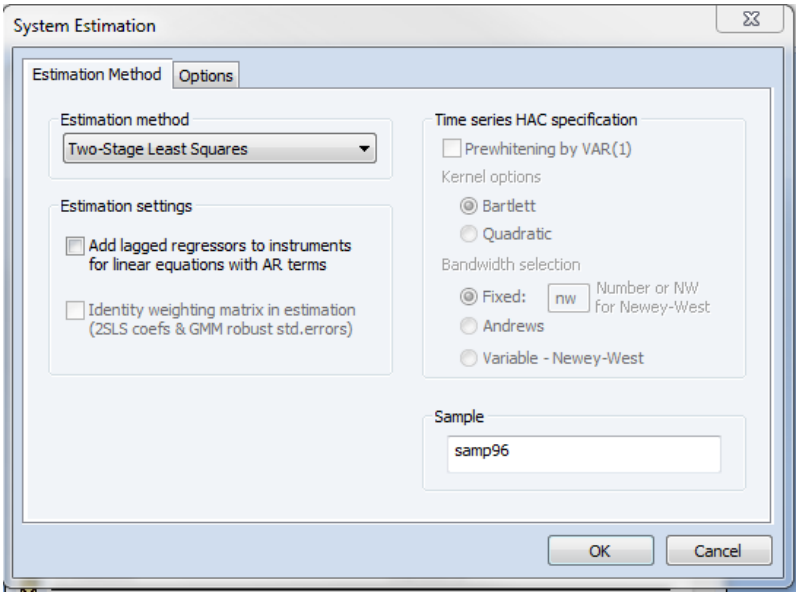
1. Using EViews, open the workfile interestRateRules\interestRateRuleEstimation.wf1. You should see something like this



2. Click on the object sys_96_eqc. You should see this.



3. This object contains the results of the most recent estimation, which are identical to those reported in the text. To estimate the model again, push the **Estimate** button in the upper-right. This pulls up the following dialogue box. Push **OK** to accept its defaults.



4. The results in the window for SYS_96_EQC should be immediately updated. Since the original estimates were correct, only their time stamp should have changed.

Standard Deviations of the Interest Rate Rule's Disturbances

The text reports the standard deviations of the five disturbances to the interest rate rule at the start of Section II.C. To write them to a table, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. This produces nusStandardDeviations.tex, which contains the standard deviations formatted for inclusion in a LaTeX tabular environment. The root LaTeX file tables.tex includes this as an appendix table.

Correlations of the Interest Rate Rule's Disturbances

The text reports the correlation matrix for the interest rate rule's five disturbances at the end of Section II.C. To write them to a table, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. This produces nusCorrelations.tex, which contains the correlation matrix formatted for inclusion in a LaTeX tabular environment. The root LaTeX file tables.tex includes this as an appendix table.

Factor Model's Loadings

The text reports the estimated loadings for the 1-factor model applied to the interest rate rule's five disturbances. To write them to a table, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. This produces factorModel.tex, which contains the estimated factor loadings and idiosyncratic error standard deviations formatted for inclusion in a LaTeX tabular environment. The root LaTeX file tables.tex includes this as an appendix table.

Table 8

Table 8 reports estimates from regressions of the asset price variables considered in Tables 2 and 5 (measured quarterly) on the interest rate

rule's five disturbances. To recreate these, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. This produces table8.tex, which contains the results formatted for inclusion in a LaTeX tabular environment. The root LaTeX file tables.tex includes this automatically.

Table 9

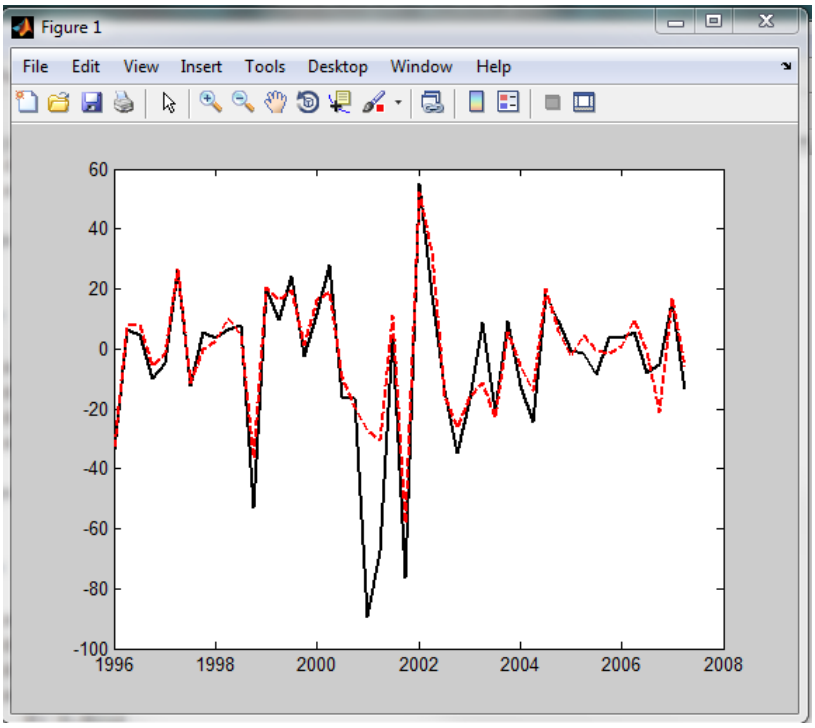
Table 9 reports estimates from regressions of unemployment and inflation forecast revisions (measured at the quarterly frequency) on the interest rate rule's five disturbances. To recreate these, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. This produces table9.tex, which contains the results formatted for inclusion in a LaTeX tabular environment. The root LaTeX file tables.tex includes this automatically.

Figure 1

Figure 1 plots the estimated path factor on the vertical axis against the change in the 10-year note's yield on the horizontal axis. To create it, use Matlab to run GSSAnalysis\figure1.m. The program saves the results to figure1.pdf.

Figure 2

Figure 2 plots the estimated “composite” monetary policy disturbance and its predictable component. To create a plain vanilla version of it, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. The first figure window to appear should look like this:



The composite error is the solid black line, while its predictable component is the dashed red line.

Figure 3

Figure 3 plots two impulse-response functions. To create a version of it, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. The second figure window to appear should look like this:

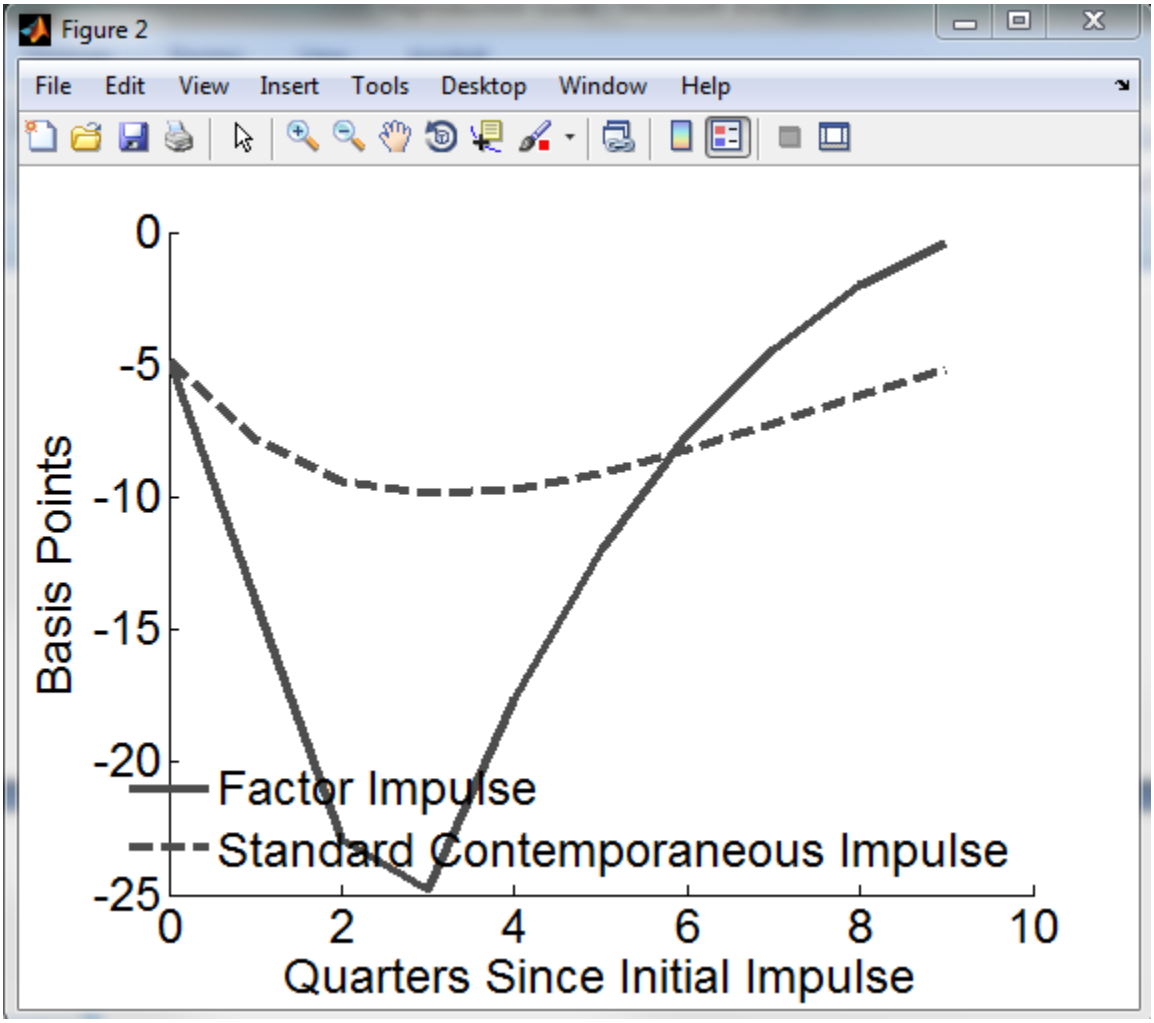
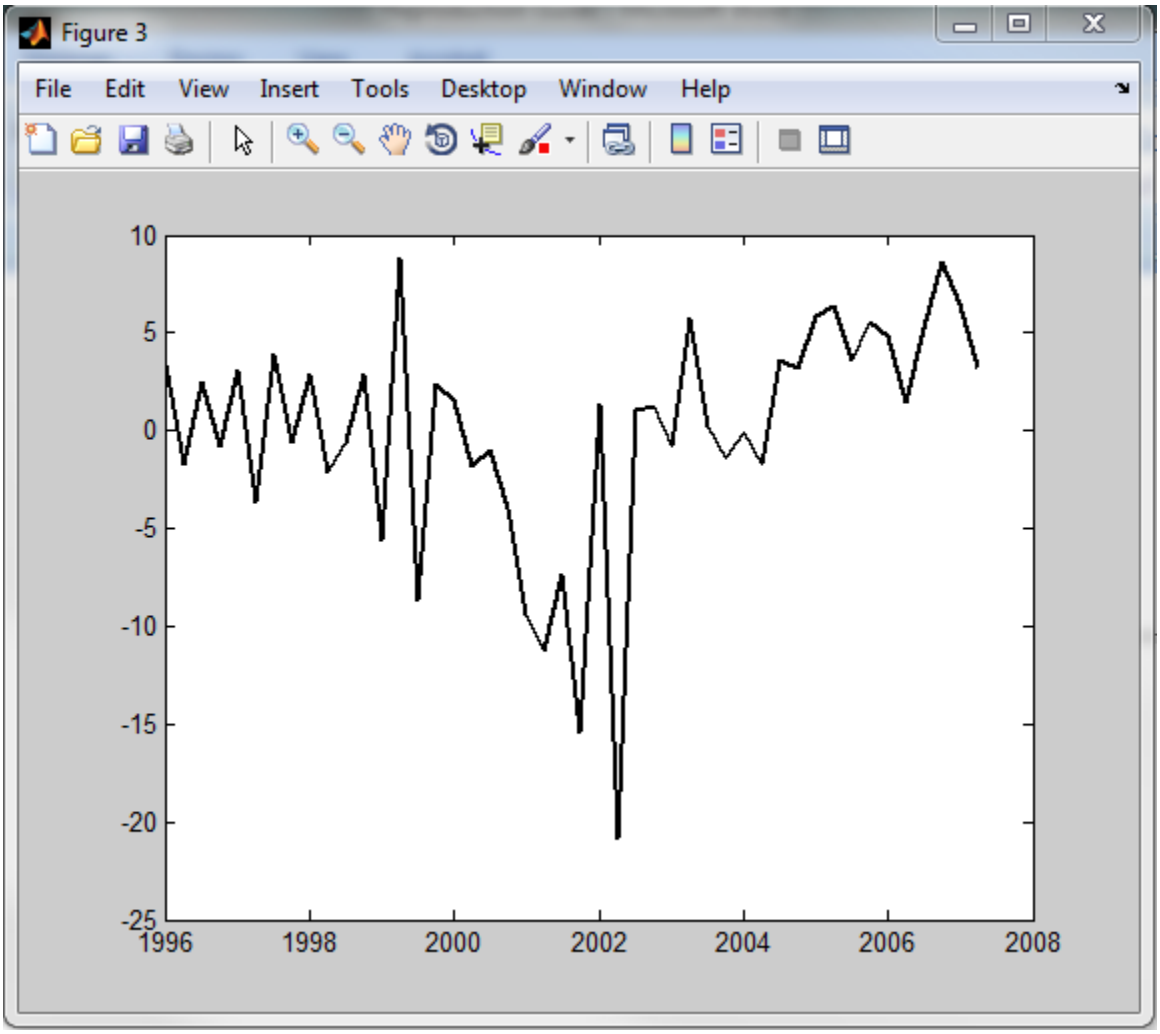


Figure 4

Figure 4 plots the estimated policy acceleration factor. To create a plain-vanilla version of it, use Matlab to run interestRateRules\interestRateRuleAnalysis.m. The third figure window that appears should look like this:

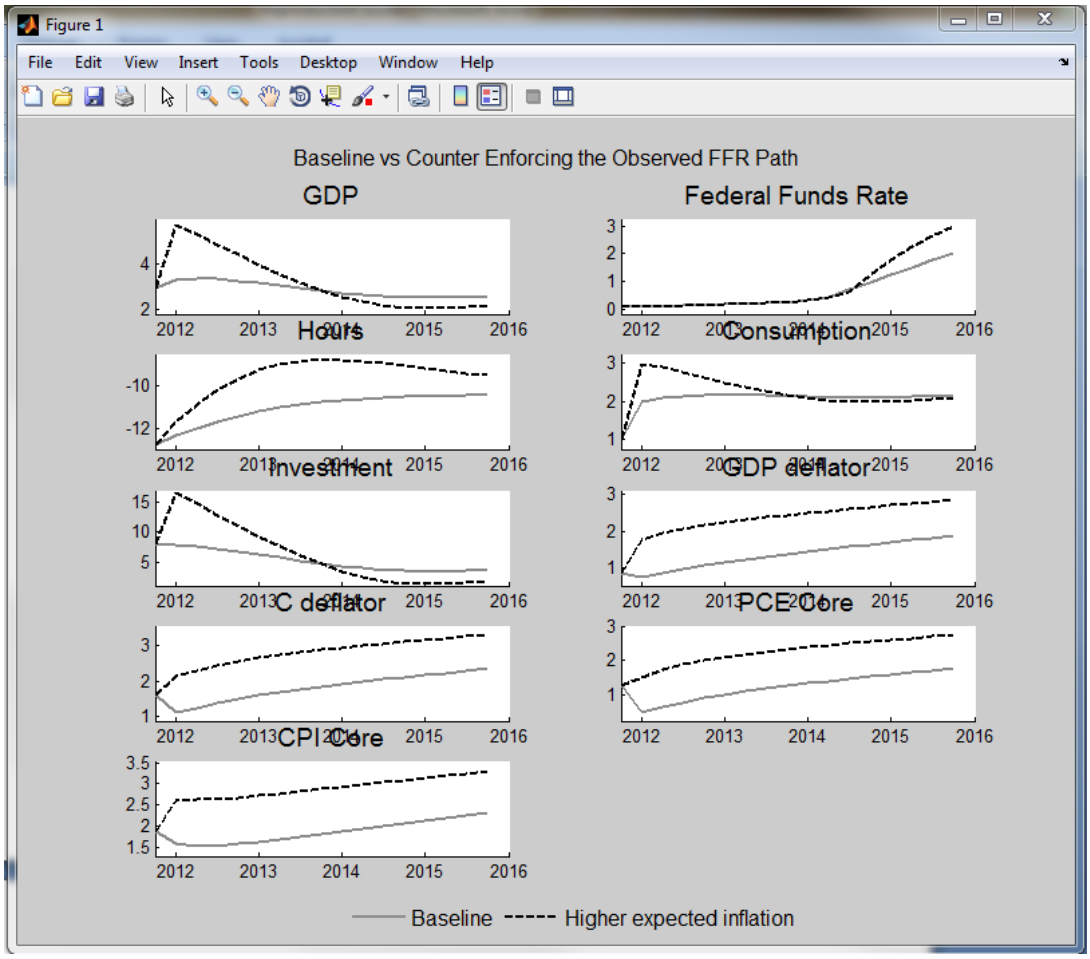


This is the desired plot.

Figure 5

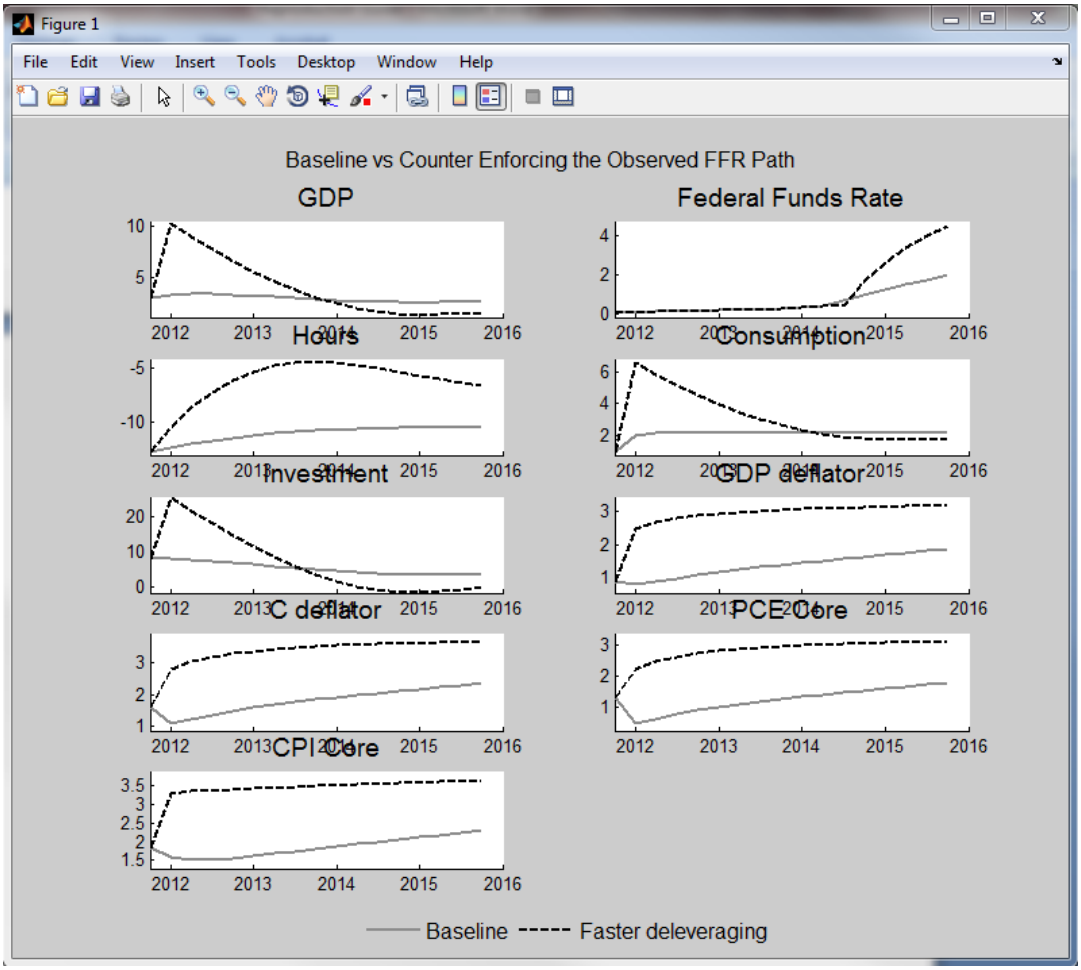
Figure 5 plots the DSGE model's baseline forecast as well as forecasts conditioning on higher expected inflation and shorter deleveraging. To produce these forecasts,

1. Use Matlab to run DSGE\DSGEMain.m. The first figure window that appears should look like this:



The grey solid line gives the baseline forecast, while the black dashed line gives the forecast conditional on higher expected inflation.

2. Use the Matlab Editor to open DSGE\DSGEMain.m . Line 36 should read “caseExperiment=1;” Change this to “caseExperiment=2” and save the file. Run it again. The first figure window that appears should look like this:



The grey solid line gives the same baseline forecast obtained in Step 1. The black dashed line gives the forecast with faster deleveraging.

Figure 6

Figure 6 plots the baseline forecast in inflation-unemployment space. To produce it, use Matlab Release 2001b or later to run DSGE\DGSEMain.m. The desired plot appears in the third figure window. It should look like this:

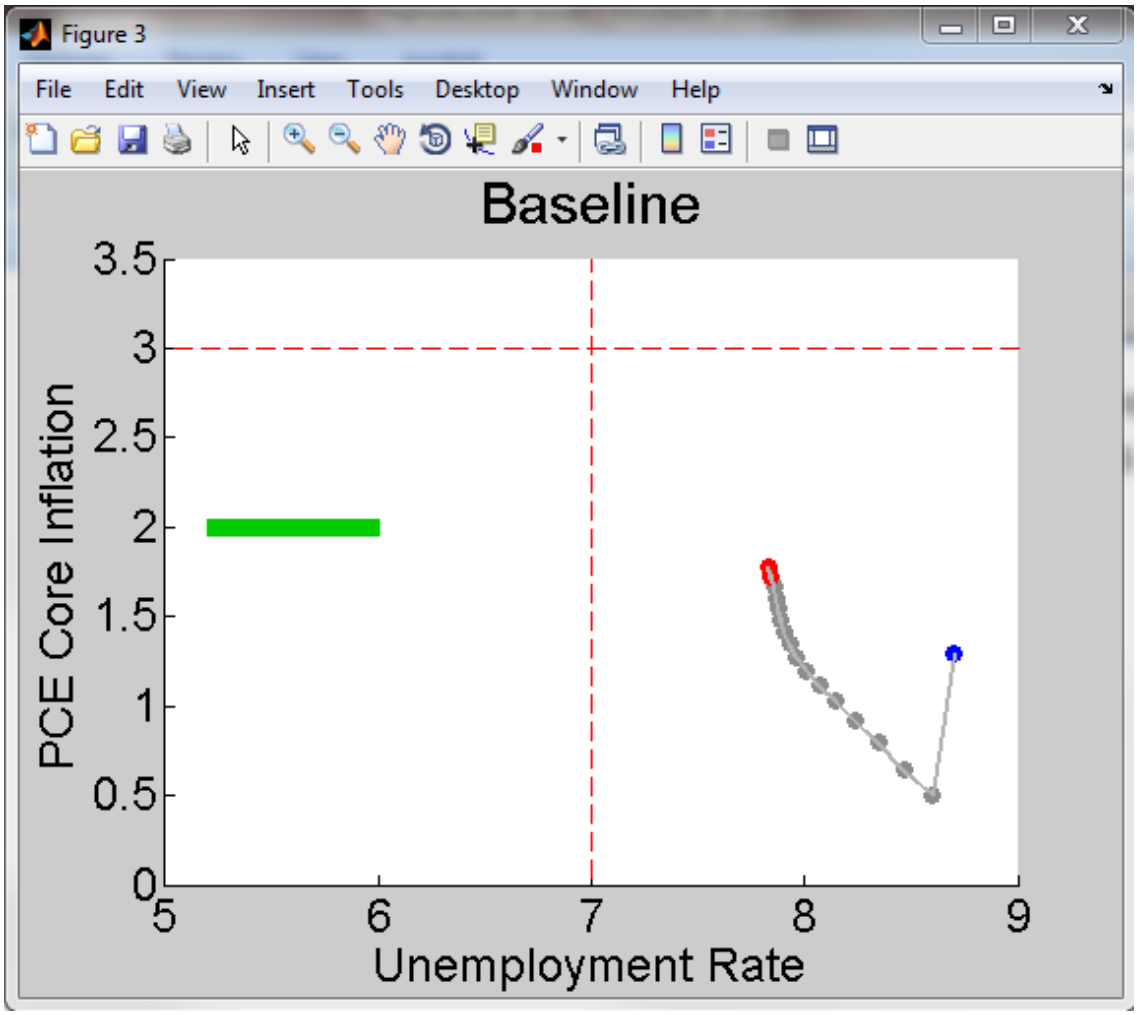


Figure 7

Figure 7 plots the forecast conditional on a shorter deleveraging period in inflation-unemployment space. To produce it, first ensure that line 36 of DSGE\DSGEMain.m reads “caseExperiment=2;”. Then use Matlab to run this file. The desired plot appears in the fourth figure window. It should look like this:

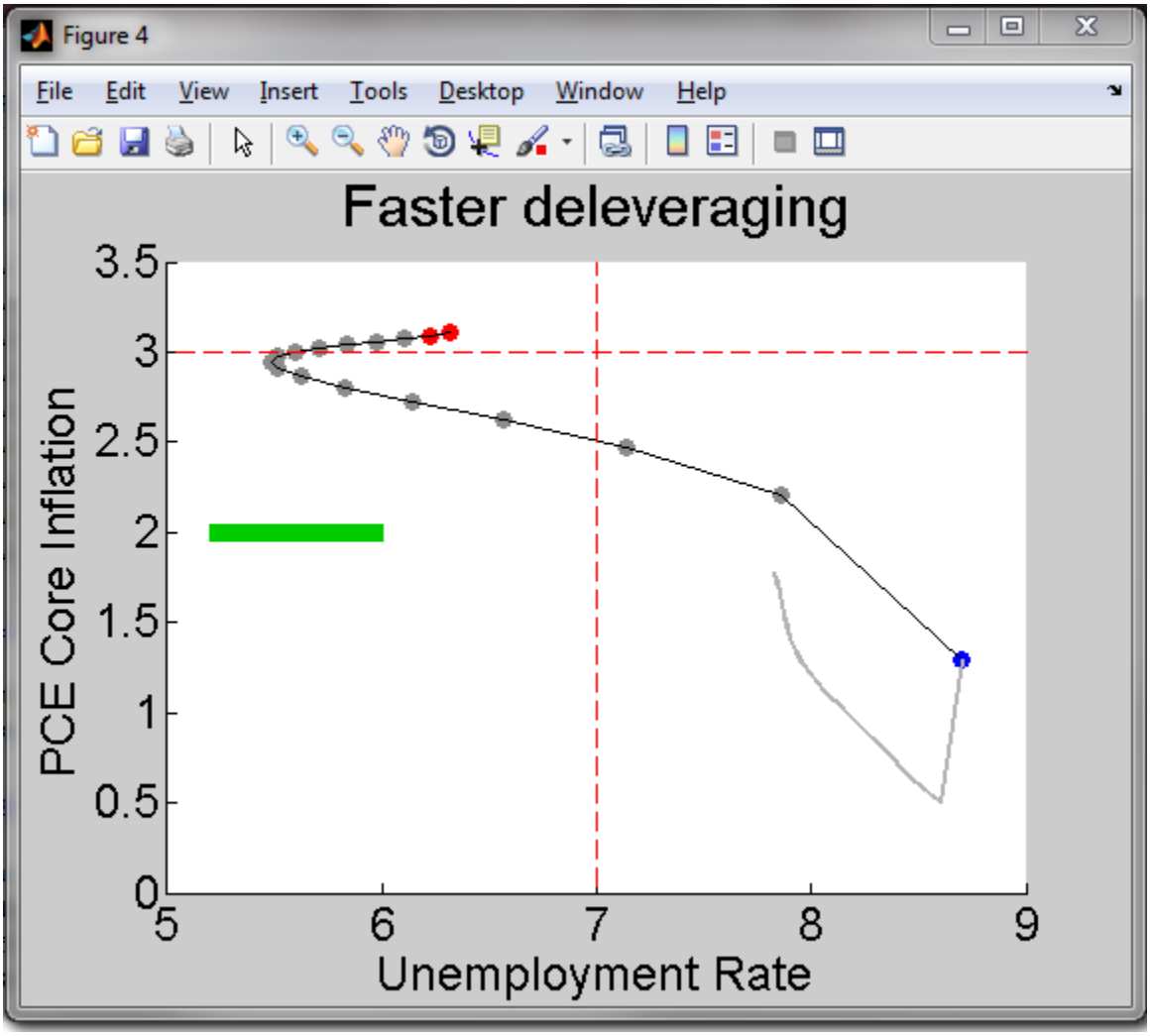


Figure 8

Figure 8 plots the forecast conditional on higher inflation expectations in inflation-unemployment space. To produce it, first ensure that line 36 of DSGE\DSGEMain.m reads “caseExperiment=1;”. Then use Matlab to run that file. The desired plot appears in the third figure window. It should look like this: