

Problem Set 2

Romer and Romer (2004) identification strategy for UK

This week's exercise you will try to obtain Monetary Policy shocks for the UK following the Romer and Romer (2004) identification strategy. For that, you will need to follow Cloyne and Hürtgen (2016) paper.

In particular, you will be running the following regression,

$$\begin{aligned} \Delta i_m = & \alpha + \beta i_{t-d14} + \sum_{i=-1}^2 \gamma_i F_m \Delta y_{m,i} + \sum_{i=-1}^2 \lambda_i (F_m \Delta y_{m,i} - F_{m-1} \Delta y_{m,i}) \\ & + \sum_{i=-1}^2 \varphi_i F_m \pi_{m,i} + \sum_{i=-1}^2 \theta_i (F_m \pi_{m,i} - F_{m-1} \pi_{m,i}) + \sum_{i=1}^3 \mu_i F_m u_{e,m-i} + \varepsilon_m, \end{aligned} \quad (1)$$

1. Load the data file “stage1Data.xlsx” that we provided to you.
2. In the data set the variables of interest are:
 - FDBRD14: change in i .
 - RateD14: policy rate 14 days before the change.
 - NGY: Output growth.
 - NINFLT: Inflation.
 - NDGY: Change in output growth.
 - NDINFLT: Change in inflation.
 - UNEMP: Unemployment.

Additionally, the variable names are followed by the following

- Mt corresponds to the variable, t periods before the change in the interest rate (e.g. NGYM1 is the output growth for the previous period)
- 0 corresponds to the variable for the current period.

- t corresponds to the variable, t periods after the change in interest rate (e.g. NGY1 is the output growth for the next period)
3. Do the appropriate data manipulations and construct the vector of regressors X , and dependent variable Y .
 4. Construct a function that performs OLS estimation.
 5. Use this function to run regression (1) and extract the residuals ε .
 6. Do the OLS estimates resemble those of Table 2 of Cloyne and Hürtgen (2016)? If no, what do you think might cause the difference?
 7. Plot the Monetary Policy shocks obtained in exercise 5. Is your graphic similar to Figure 1 of Cloyne and Hürtgen (2016)? (Remember to add zeros in the months where there was no policy decision by the Bank of England)