Bayesian Estimation of Structural Models

Examples of exam questions and a problem set

Gianni Amisano

University of Brescia

European Central Bank

amisano@eco.unibs.it

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1 Examples of exam questions

These examples are illustrations of the scope and range of possible questions in the final exaple.

1. Describe why a VAR is a reduced form model. Describe also how can be estimated via Bayesian methods. Describe possible identification strategies

2. What is the meaning of sign restrictions in a SVAR model? Is it a way to achieve exact identification? How can be implemented in practice? Provide examples.

3. With reference to the RBC model seen in class, illustrate the problem of finding a reduced form capable of delivering the likelihood of the model. In which special cases do we obtain simplifications and why?

4. Describe in details how posterior simulation of a DSGE model can be carried out.

2 Problem set

1. With reference to the first example seen in class, identify a monetary policy shock as corresponding to incapacity of the monetary authorities to react to contemporaneous inflation and output. Show how results differ from those obtained via the identification restrictions seen in class.

2. With reference to the long run identification restrictions example seen in class, identify structural shocks by using impact effect constraints. How do results differ with respect to those obtained with the long-run identification?

3. With reference to the simple RBC model seen in class, try to work out the solution of the model in the case in which $\delta = 1$ and $\gamma = 1$.

4. Estimate the simple RBC model seen in class and compute posterior mean, median and 5% and 95% posterior quantiles for the expected number of quarters for price adjustment.