

OUTLINE AND READING LIST FOR PART 1

1. COURSE STRUCTURE AND GRADING

Chris Sims will teach the first half of the course, up until the mid-term break. Mark Watson will teach the latter half. There will be no mid-term exam, but there will be a single final exam in January covering both parts of the course. Students can substitute for the final exam a paper based on models or methods discussed in the course. There will be regular exercises that count toward the grade. For the first part of the course (and possibly also the second part) you are encouraged to collaborate on the exercises, though each student is required to submit a separate writeup. For your own benefit, you should collaborate only after working on a problem yourself. Collaboration in the form of everyone copying one person's brilliant work will not help you learn the material or survive the final exam. Students will be expected to have the problem set answers on USB sticks at the due date, and randomly selected students will present their solutions for discussion.

2. TEXTBOOK

For this part of the course, much of the material is covered in *Bayesian Data Analysis, 3rd edition* (Gelman, Carlin, Stern, Dunson, Vehtari, and Rubin, 2014), which you should probably purchase. It's available as an electronic edition.

3. OUTLINE

A. **Posterior simulation.**

B. **Hierarchical Models.**

B.1. *In general.*

B.2. *As bottom-up alternative to clustering.*

C. **Multiple time series.**

C.1. *VAR's and VARMA's.*

C.2. *SVAR's. References on VAR identification*

Sims (1980)

Sims (1986)

Sims (1992)

Baumeister and Hamilton (2013)

Rubio-Ramirez, Waggoner, and Zha (2010)

Blanchard and Quah (1989)

Uhlig (2005)

C.3. *Dynamic Factor Models*.

C.4. *DSGE's*.

REFERENCES

- BAUMEISTER, C., AND J. D. HAMILTON (2013): "Sign Restrictions, Structural Vector Autoregressions, and Useful Prior Information," Discussion paper, Bank of Canada and University of California at San Diego.
- BLANCHARD, O., AND D. QUAH (1989): "The Dynamic Effects of Aggregate Demand and Supply Disturbances," *American Economic Review*, 79, 655–73.
- GELMAN, A., J. B. CARLIN, H. S. STERN, D. B. DUNSON, A. VEHTARI, AND D. B. RUBIN (2014): *Bayesian Data Analysis*. CRC Press.
- RUBIO-RAMIREZ, J. F., D. F. WAGGONER, AND T. ZHA (2010): "Structural Vector Autoregressions: Theory of Identification and Algorithms for Inference," *Review of Economic Studies*, 77(2), 665–696.
- SIMS, C. A. (1980): "Comparison of Interwar and Postwar Business Cycles: Monetarism Reconsidered," *American Economic Review*, 70, 250–57.
- (1986): "Are Forecasting Models Usable for Policy Analysis?," *Quarterly Review of the Minneapolis Federal Reserve Bank*, 10, 2–16.
- (1992): "Interpreting the Macroeconomic Time Series Facts: The Effects of Monetary Policy," *European Economic Review*, 36, 975–1011.
- UHLIG, H. (2005): "What are the Effects of Monetary Policy on Output? Results from an Agnostic Identification Procedure," *Journal of Monetary Economics*, 52(2), 381–419.