Econ. 556b   Spring 1999   Chris Sims

Course Outline and Preliminary Reading List

1. **Bayesian Basics**
   (a) *The Likelihood Principle, Post-Sample and Pre-Sample Probability*
      (Berger and Wolpert 1988)
      (Gelman, Carlin, Stern, and Rubin 1995), Chapters 1-4
      (Robert 1994) is another good reference, with more emphasis on proofs
      of optimality
      (Schervish 1995) treats Bayesian and non-Bayesian approaches symmetrically, with an emphasis on careful proofs
   (b) *Limited information Bayesian Inference*
      (Kwan 1998)
      (i) Bayesian Interpretation of GMM and 2SLS
         Chamberlain and/or Imbens.
   (c) *Markov Chain Monte Carlo, Importance Sampling*
      (Gelman, Carlin, Stern, and Rubin 1995), Chapter 11
2. **Linear Stochastic Difference Equations**
   (a) *Roots, Lag Operators, Impulse Responses*
      (Hamilton 1994), Chapters 1-3
   (b) *Inference for Impulse Responses*
      (Sims and Zha 1998a)
      (Sims and Zha 1998b)
      (These two readings treat some more advanced material that we will
      return to in section 8a below.)
3. **The Kalman Filter**
      (Hamilton 1994), Chapter 13
4. **Information in Initial Conditions**
      (Sims 1989)
      (Sims 1998)
5. **VAR's for Panel Data**
      references from convergence literature
      (Sims 1998)
6. **Stochastic Volatility, ARCH**
      (Hamilton 1994), Chapter 21
      reference on stochastic volatility via MCMC
7. **Mixture Models, Regime Switching**
      (Hamilton 1994), Chapter 22
      {reference for MCMC approach}
8. **Inference and Policy Analysis with Structural Models**
   (a) *Identified VAR's*

(b) *DSGE Models*

(Schorfheide 1998)

REFERENCES

BERGER, J. O., AND R. L. WOLPERT (1988): *The Likelihood Principle.* Institute of Mathematical Statistics, Hayward, California, 2nd edn.

GELMAN, A., J. B. CARLIN, H. S. STERN, AND D. B. RUBIN (1995): *Bayesian Data Analysis.* Chapman and Hall, London.

HAMILTON, J. D. (1994): *Time Series Analysis.* Princeton University Press, Princeton, NJ.

KWAN, Y. K. (1998): "Asymptotic Bayesian analysis based on a limited information estimator," *Journal of Econometrics*, 88, 99–121.

ROBERT, C. (1994): *The Bayesian Choice*, Springer Texts in Statistics. Springer-Verlag, New York.

SCHERVISH, M. J. (1995): *Theory of Statistics*, Springer Series in Statistics. Springer, New York.

SCHORFHEIDE, F. (1998): "A Unified Econometric Framework for the Evaluation of DSGE Models," Discussion paper, Department of Economics, University of Pennsylvania.

SIMS, C. A. (1989): "Modeling Trends," in *Proceedings*, American Statistical Association Annual Meetings.

——— (1998): "Using a Likelihood Perspective to Sharpen Econometric Discourse: Three Examples," forthcoming, *Journal of Econometrics*, Department of Economics, Yale University, `www.econ.yale.edu\~sims`

SIMS, C. A., AND T. ZHA (1998a): "Bayesian Methods for Dynamic Multivariate Models," *International Economic Review.*

——— (1998b): "Error Bands for Impulse Responses," (forthcoming, *Econometrica*), Yale University, Department of Economics, `www.econ.yale.edu/~sims`