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Nota di contenuto

Contents; I. Introduction; II. Model Uncertainty in the Bayesian Context; A. Model Selection and Hypothesis Testing; B. Bayesian Model Averaging; C. Choice of Priors; III. Limited Information Bayesian Model Averaging; A. A Dynamic Panel Data Model with Endogenous Regressors; B. Estimation and Moment Conditions; C. The Limited Information Criterion; IV. Monte Carlo Simulations and Results; A. The Data Generating Process; B. Simulation Results; V. Conclusion; References; Tables; 1. Posterior Probability of the True Model; 2. Posterior Probability Ratio of True Model/Best among the Other Models; 3. Probability of Retrieving the True Model; 4. Model Recovery: Medians and Variances of Posterior Inclusion; 5. Model Recovery: Medians and Variances of Estimated Parameters; 6. Posterior Probability of the True Model (Non-Gaussian Case); 7. Posterior Probability Ratio: True Model/best among the Other Models (Non-Gaussian Case); 8. Probability of Retrieving the True Model (Non-Gaussian Case); 9. Model Recovery: Medians and Variances of Posterior Inclusion Probability for Each Variable (Non-Gaussian Case); 10. Model Recovery: Medians and Variances of Estimated Parameter Values (Non-Gaussian Case) Appendix A Figures 1. Posterior Densities for the Probabilities in Table 1; 2. Posterior Densities for the Probabilities in Table 2; 3. Box Plots for Parameters in Table 5; 4. Posterior Densities for the Probabilities in Table 6; 5. Posterior Densities for the Probabilities in Table 7; 6. Box Plots for Parameters in Table 10

Sommario/riassunto

Bayesian Model Averaging (BMA) provides a coherent mechanism to address the problem of model uncertainty. In this paper we extend the BMA framework to panel data models where the lagged dependent variable as well as endogenous variables appear as regressors. We propose a Limited Information Bayesian Model Averaging (LIBMA) methodology and then test it using simulated data. Simulation results suggest that asymptotically our methodology performs well both in Bayesian model selection and averaging. In particular, LIBMA recovers the data generating process very well, with high posterior inclusion probabilities for all the relevant regressors, and parameter estimates very close to the true values. These findings suggest that our methodology is well suited for inference in dynamic panel data models with short time periods in the presence of endogenous regressors under model uncertainty.