Endogeneity and Panel Data in Growth Regressions: A Bayesian Model Averaging Approach

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Abstract

Bayesian model averaging (BMA) has been successfully applied in the empirical growth literature as a way to overcome the sensitivity of results to different model specifications. In this paper, we develop a BMA technique to analyze models that differ in the set of instruments, exogeneity restrictions, or the set of controlling regressors. Our framework allows for both cross-section regressions with instrumental variables and for the commonly used panel data model with fixed effects and endogenous or predetermined regressors. The large model space that typically arises can be effectively analyzed using a Markov Chain Monte Carlo algorithm. We apply our technique to the dataset used by Burnside and Dollar (2000) who investigated the effect of international aid on GDP growth. We show that BMA is an effective tool for the analysis of panel data growth regressions in cases where the number of models is large and results are sensitive to model assumptions.