Gaussian Estimation of a Continuous Time Macroeconomic Model of the United Kingdom with Unobservable Stochastic Trends

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Abstract

This paper describes the formulation, analysis, and estimation of a new continuous time macroeconometric model of the United Kingdom. The model differs from earlier continuous time macroeconometric models in that it incorporates unobservable stochastic trends to represent such variables as technical progress. The estimation of its parameters is the first application of the algorithm of Bergstrom (1997, *Econometric Theory* 13, 467-505) for the Gaussian estimation of continuous time dynamic models with unobservable stochastic trends. The parameters have been estimated from quarterly data for the period 1975-94 and the postsample forecasts tested against quarterly data for the period 1995-96. In addition to obtaining plausible estimates of the parameter values and satisfactory post-sample forecasts, we have carried out the steady state and stability analysis and shown that the model generates plausible long-run behaviour.

This paper is a preliminary results paper and should be also quoted as: CONTINUOUS TIME ECONOMETRIC MODEL OF THE UNITED KINGDOM WITH STOCHASTIC TRENDS, book manuscript.