James M. Murray

THREE ESSAYS IN ADAPTIVE EXPECTATIONS IN NEW KEYNESIAN MONETARY ECONOMIES

Abstract: This dissertation explores the empirical significance of least squares learning in estimated New Keynesian monetary models with U.S. data. Specifically, the papers set out to determine what impact learning has on dynamics of output, consumption, investment, inflation and monetary policy, and whether learning can explain empirical puzzles in the monetary literature such as the Great Moderation. In the first dissertation paper, a standard New Keynesian model is estimated with constant gain learning with three specifications for how agents' expectations are initialized. The results indicate differences in the model's prediction depending on the type of initial expectations, but the learning models do not significantly explain the data better than rational expectations. The second paper examines an extension of the model that allows for firm-specific capital accumulation. The results show that learning can lead to very different predictions for the impacts of structural shocks, depending on the choice for agents' initial beliefs. Again, constant gain learning is shown to not explain the Great Moderation any better than rational expectations. The final paper examines an extension to the learning process, where the learning gain changes endogenously with agents forecast errors. This learning framework is estimated jointly with a regime-switching volatility mechanism to determine if dynamic gain learning can lead to lower estimates for exogenously changing volatility. The results show, rather, that learning gain dynamics are quite small and are again not capable of explaining time-varying macroeconomic volatility.