Estimating Dynamic Models with Aggregate Shocks and an Application to Mortgage Default in Colombia

Seminarios y talleres

We estimate a dynamic model of mortgage default for a cohort of Colombian debtors between 1997 and 2004. We use the estimated model to study the effects on default of a class of policies that affected the evolution of mortgage balances in Colombia during the 1990's. We propose a framework for estimating dynamic behavioral models accounting for the presence of unobserved state variables that are correlated across individuals and across time periods. We extend the standard literature on the structural estimation of dynamic models by incorporating an unobserved common correlated shock that affects all individuals' static payoffs and the dynamic continuation payoffs associated with different decisions. Given a standard parametric specification the dynamic problem, we show that the aggregate shocks are identified from the variation in the observed aggregate behavior. The shocks and their transition are separately identified, provided there is enough cross-sectional variation of the observed states

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