A Quantitative Model of Banking Industry Dynamics

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Abstract:

We develop a model of banking industry dynamics to study the relation between commercial bank market structure, entry and exit along the business cycle, and the riskiness of commercial bank loans as measured by default frequencies. We analyze a Stackelberg environment where a small number of dominant banks choose their loan supply strategically before a large number of small banks (the competitive fringe) make their loan choices. A nontrivial endogenous bank size distribution arises out of entry and exit in response to aggregate and regional shocks to borrowers' production technologies. The model is estimated using first moments of aggregate and cross-sectional statistics for a panel of the entire U.S. commercial banking industry. The model is qualitatively consistent with many non-targeted moments; for instance, the model generates countercyclical loan interest rates, bank failure rates, default frequencies, and markups as well as procyclical loan supply and entry rates. The model is used to study the effects of increased bank competition and the benefits/costs of a set of policies: (i) branching restrictions; (ii) lower costs of loanable funds; and (iii) big bank bailouts.