

Bank runs in a dynamic general equilibrium framework

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Abstract

Historically, banking panics in the United States have occurred in periods of large price declines. Irving Fisher in “A Debt-Deflation theory of the Great Depression” hypothesized that banking panics were a consequence of mismatched banks’ balance sheets, the mismatch caused by banks having liabilities at book value and assets at market value. This paper develops a dynamic general equilibrium model of banks that can be used to analyze Fisher’s hypothesis. The mechanism at work is a dynamic interaction between depositors and banks: if depositors fear prices will fall, they know banks will be unable to pay back their nominal obligations. Hence, depositors run the bank and a banking panic occurs. The model is a version of Lucas-Stokey’s (1987) cash-credit economy with an explicit characterization of banks as intermediaries between depositors and firms. Preliminary findings show that there is a multiplicity of stationary equilibria: there is an equilibrium with no bank run and an equilibrium with a bank run. The equilibrium with a bank run has lower prices with respect to the no bank run one. The model has very different policy implications for how to eliminate bank runs than does the Diamond and Dybvig (1983) literature, where bank runs occur because depositors are subject to a liquidity shock. A credible monetary policy of keeping prices constant eliminates the runs’ trigger and prevents the economy from possibly switching to the run equilibrium. Deposit insurance would then not be necessary.

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