

less, current deregulation and the dire financial condition of savings and loans make bank runs and institutions to prevent them a current policy issue, as shown by recent aborted runs.<sup>1</sup> (Internationally, Eurodollar deposits tend to be uninsured and are therefore subject to runs, and this is true in the United States as well for deposits above the insured amount.) It is good that deregulation will leave banking more competitive, but we must ensure that banks will not be left vulnerable to runs.

Through careful description and analysis, Friedman and Schwartz (1963) have provided substantial insight into the properties of past bank runs in the United States. Existing theoretical analysis has neglected to explain why bank contracts are less stable than other types of financial contracts or to investigate the strategic decisions that depositors face. The model we present has an explicit economic role for banks to perform: the transformation of illiquid assets into liquid liabilities. The analyses of Patinkin (1965, chap. 5), Tobin (1965), and Niehans (1978) provide insights into characterizing the liquidity of assets. This paper gives the first explicit analysis of the demand for liquidity and the "transformation" service provided by banks. Uninsured demand deposit contracts are able to provide liquidity but leave banks vulnerable to runs. This vulnerability occurs because there are multiple equilibria with differing levels of confidence.

Our model demonstrates three important points. First, banks issuing demand deposits can improve on a competitive market by providing better risk sharing among people who need to consume at different random times. Second, the demand deposit contract providing this improvement has an undesirable equilibrium (a bank run) in which all depositors panic and withdraw immediately, including even those who would prefer to leave their deposits in if they were not concerned about the bank failing. Third, bank runs cause real economic problems because even "healthy" banks can fail, causing the recall of loans and the termination of productive investment. In addition, our model provides a suitable framework for analysis of the devices traditionally used to stop or prevent bank runs, namely, suspension of convertibility and demand deposit insurance (which works similarly to a central bank serving as "lender of last resort").

The illiquidity of assets enters our model through the economy's riskless production activity. The technology provides low levels of output per unit of input if operated for a single period but high levels

<sup>1</sup> The aborted runs on Hartford Federal Savings and Loan (Hartford, Conn., February 1982) and on Abilene National Bank (Abilene, Texas, July 1982) are two recent examples. The large amounts of uninsured deposits in the recently failed Penn Square Bank (Oklahoma City, July 1982) and its repercussions are another symptom of banks' current problems.