

Remarks on Banking and Deposit Insurance

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IT IS DIFFICULT to determine the optimal scope of government in a capitalist economy. Most economists might agree that government should provide national defense, internal police and a judicial system to enforce contracts and handle tort claims. Beyond this short list (or even before it ends), political views rather than economic analysis tend to take over. Conservative economists are convinced that the market can accomplish more efficiently almost anything the government might attempt and argue that theoretical possibilities for government intervention that might improve things almost never survive

the political process and bureaucratic bungling.² Liberal economists are skeptical about the ability of real-world competition to create good incentives and argue that government intervention can improve on the unbridled marketplace in many ways.

If we can avoid falling into one of these two camps as a knee-jerk reaction, optimal bank regulation becomes an interesting borderline case. To what extent are banking functions part of the essential infrastructure of the economy that must be regulated or assisted by govern-

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²Some conservative economists argue that private institutions will arise to meet any function the government fails to provide, unless the government prevents them from doing so. Others argue that the existing level of government intervention must be efficient, or we would have changed it already.

ment? To what extent is banking just another industry—one that should be governed by the same rules as other industries? More specifically, is government-provided deposit insurance beneficial, unnecessary but harmless, or actually harmful?

I have a general belief in the conservative view, and my initial assumption with respect to most issues is that the political process and the incentives in government agencies are much worse than those in the private economy. Nonetheless, there are interesting reasons to suspect that banks with government insurance might improve on purely competitive markets. The basic arguments in support of this position have been made by Bryant (1980) and Diamond and Dybvig (1983).³ Although this view challenges our intuition that private markets have great flexibility to resolve information problems, and although Diamond and Dybvig (1983) do not prove that it would be impossible to find a private solution to the problems they describe, no subsequent research has come close to identifying a credible private alternative to bank contracts with deposit insurance. There are, however, interesting practical reasons why deposit insurance may not be worthwhile. In addition, ongoing innovation by financial market practitioners is starting to make traditional banking functions appear less important. But before turning to these issues, let us review the basic arguments on behalf of government deposit insurance.

Diamond and Dybvig (1983) made three basic points. First, banks perform a role in creating liquidity. Specifically, banks provide depositors with insurance against the possibility of changes in the timing of their spending needs. In the Diamond-Dybvig model these timing changes are caused by changes in depositors' degree of patience regarding spending. After a bank opens, its depositors learn whether they are impatient or patient spenders, although they cannot demonstrate this directly to the market. The impatient spenders must withdraw their money immediately to make an important purchase. The patient spenders are indifferent about the timing of their withdrawals. In a world of people who face these sorts of liquidity shocks, a simple banking contract can improve welfare over a

simple competitive economy in which individuals hold capital (or claims to capital) themselves.

Second, a simple banking contract that improves risk sharing also makes banks susceptible to runs. One efficient outcome of the depositors' optimal withdrawal game is that each depositor withdraws early only if he becomes impatient—that is, only if he discovers he needs funds for a special purchase. Even if the bank's assets are not risky, however, there is another equilibrium outcome—a bank run—in which every depositor withdraws early, knowing that if he waits to withdraw later, the bank's assets will have been depleted.⁴ The existence of the alternative bank run equilibrium means that banks are fragile and vulnerable to changes in expectations that can be based on any common information (in the spirit of models of sunspots). This situation is consistent with traditional accounts of banking panics driven by mass hysteria.

Third, there are at least three ways to prevent bank runs:

- modify the deposit contract to permit banks to suspend convertibility of deposits into currency
- provide deposit insurance
- provide a lender of last resort

Suspending convertibility prevents runs by ensuring that enough capital will be preserved to pay off depositors who choose to withdraw late. Deposit insurance ensures that both early- and late-withdrawing depositors will be paid off even if the bank's assets have been depleted. A lender of last resort allows the bank to pay off early depositors without having to liquidate the bank's assets. In all three cases, the essential effect is to give patient depositors the incentive to defer withdrawal, regardless of what they believe the withdrawal strategies of other depositors will be. In a simple version of the model, in which the number of people needing to withdraw early is known in advance, all three of these strategies leave the good equilibrium with staggered withdrawals unaffected, but eliminate the bad equilibrium with a bank run.

Suspension of convertibility is probably very costly to depositors because in practice we do not know the exact number of impatient depositors, and as a result some people may be harmed greatly by being denied access to their deposits.

³These arguments have been extended by Diamond and Dybvig (1986) and Dybvig (1992).

⁴These are the only pure (deterministic) strategy equilibria.

There are also mixed (probabilistic) strategy equilibria, but these do not seem to be of much independent interest.

For example, a person who had planned to make a down payment on a house using \$150,000 in a bank account could lose the house or even be sued for breach of contract if the bank suspends convertibility and does not give him the required funds.

A lender of last resort may have a problem with credibility. As long as the institution that provides last-resort loans has some discretion, depositors who are concerned that it may not come through with an emergency loan may run on the bank. For example, the fact that a bank has access to the Federal Reserve System's discount window may not stop a run if depositors believe that the Fed may refuse to advance funds when fraud or other problems are suspected. A credible last-resort lender with an explicit, general commitment to lend does not seem much different from a deposit insurer. Given this observation and the practical problems with suspension of convertibility, it seems sensible to focus our attention on deposit insurance.

Deposit insurance is an attractive solution in principle and seemed to be successful throughout all but the very recent banking history of the United States. In fact, deposit insurance helped make bank runs and bank failures so rare for many years that when Doug Diamond and I presented early versions of our work, we were "accused" of doing economic history. The bulk of deposit insurance probably must be provided by the government because of the immense size of the collateral that would be needed to make a private insurer credible. (Nothing precludes a fringe of private deposit insurance, however.)⁵

Deposit insurance systems face a crucial problem of moral hazard—they give insured banks incentives to invest in high-risk assets like risky loans or junk bonds. If these assets do well, the bank profits; if they do badly, however, the insurance fund takes the hit. This situation is not included in the Diamond-Dybvig model because our purpose was to show that runs can occur even when bank assets are riskless. Nevertheless, it is an important practical problem.

Resolution of the moral-hazard problem is essential for the success of deposit insurance. Monitoring, capital requirements and rights to close insured banks in weak financial positions

are natural ways of reducing the moral-hazard problem and are similar to the bond covenants required by private lenders. Government deposit insurers use these and other strategies to control the moral-hazard problem. Our recent experience is relevant in evaluating the success of these strategies, although opinions on how to interpret the evidence will differ. One interpretation is that the savings and loan fiasco confirms that government regulators are hopelessly incompetent at managing anything as complex as regulating financial institutions—confirming the conservative view. Others may point to the savings and loan situation as a classic example of a conflict between regulators and the regulated that could be resolved if Congress would only oversee regulation properly. The success of commercial bank regulation seems to support the latter view, although cynics would say that the bank insurers have been lucky because the risks that would sink banks have not been realized. I still believe that bank regulation can be competent, especially with nonnegligible capital requirements. However, this seems much less obvious to me than it did 10 years ago!

Before closing, I would like to turn to some policy issues. The first is the recent reduction of the maximum coverage of Federal Deposit Insurance Corporation insurance from \$200,000 to \$100,000 in the interest of improving incentives for monitoring. Changing contracts to a form that improves monitoring incentives has great visceral appeal, to economists.⁶ This particular change is not sensible, however. Returning to our example of the person with \$150,000 intended for a house down payment, the absence of insurance may create a painful economic loss for the person if his bank fails, but this rather remote prospect is unlikely to induce him to make arrangements to take a detailed look at the bank's loan portfolio. In the case of a larger depositor with, say, \$5 million on deposit, the increase in the uninsured amount from \$4.8 million to \$4.9 million is also going to have a negligible effect on monitoring. Therefore the net effect of the regulatory change is a very slight savings to the insurance fund, an enormous increase in economic distress for a few unlucky individuals and a negligible change in monitoring. The change was obviously bad policy. It is worth noting that even large changes in

⁵Private deposit insurance systems may only move the question of ability to pay back one level, as several states with such systems have discovered.

⁶It has been advocated by Calomiris and Kahn (1991), for example.

the coverage of large deposits do not necessarily generate *beneficial* monitoring. In the case of Continental Illinois, for example, having large uninsured deposits did not make it difficult for the bank to raise large amounts of money despite a very risky loan portfolio. Instead, large uninsured depositors used their monitoring efforts to time their withdrawals before the bank was taken over by regulators. This type of monitoring makes regulators worse off. Not only does it have no effect on incentives at the time of loan origination, but it also creates a cash-flow crisis for regulators. The crisis limits their options and forces them to move more quickly than they would like when closing a bank.

Another issue I would like to touch on is 100-percent-reserve banking. Supporters of 100-percent-reserve banking argue that if we separate the lending and depository functions into separate institutions, with the depository institutions holding full liquid reserves, no runs could occur. This idea assumes that liquidity creation by banks is redundant. I think casual evidence suggests that there is already a liquidity premium; if banks no longer created liquidity, this premium could only increase. Although the U.S. economy has enough liquid assets such as Treasury bills to stand behind all the bank deposits, the people who now own those assets are presumably holding them for liquidity. Securitization of bank assets may tend to make liquidity creation by banks less important. Securitization has been important for mortgages (albeit with deposit insurance-like government guarantees), but I have the impression that it has initially been less successful for other types of bank loans and illiquid assets that embody more severe moral-hazard problems and are harder to standardize.

If deposit insurance were priced fairly, it would be possible to conduct an interesting market test of conventional vs. 100-percent-reserve banking. A 100-percent-reserve bank would have to pay a deposit interest rate premium reflecting only the possibility of fraud. If our economy has surplus liquidity, these banks would drive insured banks with risky loan portfolios out of the market. Of course, fairly priced deposit insurance is not realistically available, but some sort of market test would still be interesting. In the absence of a market test, 100-percent-reserve banking would represent a big gamble that the economy can prosper without liquidity creation by the banks. Prospering without liquidity-creating banks is inconsistent with the popular notion (which may or may not be correct) that new capital requirements and higher lending standards have hurt the economy recently.

A final policy note concerns whether the current banking system is needed for the setting of the money supply. If it is, then this could be another reason why we might want to maintain government deposit insurance. In any case, whatever happens in the banking industry will continue to have an important effect on the macroeconomy both directly and through the monetary system—just as the contraction of the banking industry over the last several years must have had a big macroeconomic effect, though one that we cannot measure easily.

To summarize, government deposit insurance is an interesting and economically important issue near the boundary of the optimal scope of government. Our experience in the next few years should help us decide whether financial innovations will render the current system of liquidity-creating banks with governmental deposit insurance obsolete.