If the deposit-insurance subsidy increases as the institution takes greater risks, the perverse effects of the subsidy are magnified. As insured banks take on more risk, their deposit-insurance subsidy increases and their ability to pay a higher return (offer a lower interest rate) on their liabilities (assets) than uninsured institutions increases. A subsidy that increases with risk encourages an insured institution to adopt an even riskier portfolio than a subsidy that does not increase with risk. Allowing deposit-insurance subsidies to increase with bank risk magnifies the resource misallocations associated with mispriced deposit insurance.

In addition, a risk-related subsidy that automatically increases with the level of risk has the additional effect of giving high-risk insured institutions a competitive advantage over low-risk insured institutions. As with the uninsured institution, the low-risk institution's smaller deposit-insurance subsidy does not allow it to pay as much for its assets or offer as high a return on its deposits as a high-risk insured institution with a larger subsidy. This causes society as a whole to invest too heavily in risky projects and increases the probability of a system-wide failure of the federally insured banking and thrift industries.

Conclusion

The goals of federal deposit insurance are to protect uninsured depositors and to increase the stability of the banking system. Few would argue that the system has failed in its goal of protecting small savers. No small saver has lost a penny of insured money since federal deposit insurance was established. However, it is not clear that the current system of federal deposit insurance has achieved its second goal. The absence of bank runs on federally insured institutions is an indication that federal deposit insurance has helped stabilize the financial system. On the other hand, mispricing the deposit guarantee encourages insured institutions to adopt riskier portfolios. This effect serves ultimately to destabilize the financial system.

Whether the ultimate net effect of federal deposit insurance on the stability of the financial system is positive or negative is beyond the scope of this article. While few economists would dispute the claim that federal deposit insurance has tended to stabilize the banking system, it is clear that removal of the subsidy inherent in the current system would increase the equity, efficiency, and stability of our banking and thrift industries.

Federal deposit insurance is supposed to protect savers and to help stabilize our banking system. However, if the deposit guarantees are mispriced, federal deposit insurance has unintended effects that are undesirable. In this Economic Commentary, we examine the factors that determine the value of deposit insurance and discuss their incentives to do so.

The economic consequences of mispriced deposit insurance includes a misallocation of resources, an inequitable transfer of wealth between society and the insured industry, and an inequitable transfer of wealth between institutions within the insured industry. Since its beginning in 1933, federal deposit insurance has provided safety for the savings and transactions balances of small savers. This role usually is justified on the basis of equity and efficiency. Providing deposit guarantees for small savers is considered equitable because the cost of obtaining information is thought to be greater for small depositors than for large depositors. If small depositors lack information and resources to monitor the health of their banks, then without deposit insurance they are at a disadvantage compared to large depositors. Large depositors, being better informed, usually manage to withdraw their money from a failing bank, typically leaving small savers holding the bag.

If small depositors lack information about their bank, then they will tend to overreact to whatever bad news they may hear, whether it is true or not. The rational response against a perceived threat is for small savers to attempt to protect themselves against loss by participating in a run against the bank.

By guaranteeing the deposits of small savers, federal deposit insurance removes the incentives for them to participate in bank runs. Providing deposit guarantees for small savers thus increases the efficiency of the banking system because it reduces the probability of destabilizing bank runs.

Moreover, a single federal deposit-insurance agency is likely to have lower information costs than the total cost of the combined efforts of a mass of small depositors. For this reason, provision of deposit guarantees for small depositors also increases the efficiency of deposit markets by lowering the costs of gathering information on the condition of banks. By guaranteeing deposits, however, the federal deposit guarantor bears the risk of the deposits it is insuring, and there are costs associated with this.

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1. The discussion here is limited to the deposit guarantees issued by the three federal deposit insurance agencies: the Federal Deposit Insurance Corporation (FDIC), the Federal Savings and Loan Insurance Corporation (FSIC), and the National Credit Union Share Insurance Fund (NCUSIF). However, the analysis may be extended to other types of government guarantees.


3. If the social benefits of government deposit insurance exceed the private benefits, the deposit insurance premium should be higher than that implied by the private benefits that accrue to the insured institutions. If the external benefits of deposit insurance accrue to society in general, the price that society as a whole should pay for the benefits. A risk-neutral subsidy that reallocates wealth from the deposit-insurance system to the insured institutions is one way of accomplishing this. For a more complete discussion of this argument, see: Anthony Saunders and John J. Merrick Jr. "Bank Regulation and Monetary Policy." Journal of Money, Credit, and Banking.
of the deposit-insurance subsidy so long as it increases the total value of the subsidy. With mispriced deposit insurance, decreases the total value of the bank by financial system.

5. The social value of the properly priced deposit insurance decreases the total value of the bank's portfolio. If the deposit guarantee is either with deposit guarantees as it is without its owners is neutral, it is the same stockholders. If deposit insurance is properly priced, the value of a bank to insurance subsidizes risk-taking behavior by insured institutions and encourage insured institutions to increase the risk of their portfolios.

### Chart 1: Loans and Securities

<table>
<thead>
<tr>
<th>Percent of total assets</th>
<th>Loans</th>
<th>Securities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>1965</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>1970</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>1975</td>
<td>72%</td>
<td>28%</td>
</tr>
<tr>
<td>1980</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>1985</td>
<td>78%</td>
<td>22%</td>
</tr>
</tbody>
</table>

SOURCE: Board of Governors of the Federal Reserve System.

Asset risk can be increased by chang- ing the relative amounts of the portfolio's low-risk and high-risk assets. If the percentage of the bank's portfolio in- vested in high credit-risk assets (such as commercial loans) is increased at the expense of low credit-risk assets (such as treasury bills), the overall risk of the portfolio will increase. In fact, we have seen such a change in the composition of banks' portfolios in recent years. As seen in chart 1 (loans as securities) as a per- centage of assets, we have steadily increased (decreased) since the early 1960's.

The portfolio risk can also be increased by changing the maturity of the institution's assets and/or debt. If the institution lends for a shorter period than the maturity of its debt, the risk of a mismatch increases. For example, by changing the composition of the institution's assets and liabilities (including deposits), risk taking can be increased.

An increase in the interest-sensitivity mismatch between assets and liabilities also increases the value of the deposit insurance subsidy. If the assets are more (less) interest sensitive than the liabilities, an increase in interest rates causes an increase (a reduction) in the value of the portfolio. A decrease in interest rates has the opposite effect. Therefore, an increase in the portfolio's asset-liability interest-sensitivity mismatch, increases uncertainty about earnings and, hence, the total risk of the portfolio.

The risks inherent in interest-sensitivity mismatches between assets and liabilities are illustrated by the current problems in the thrift industry. The inflationary climate of the late 1970's and early 1980's increased the cost of funds for thrifts and decreased the value of their assets (primarily fixed-rate mortgages). The losses in the thrift industry probably caused the FDIC to consider insuring these institutions, leaving one-third of them at or near the brink of insolvency on a market-value basis.

### The Economic Effects of the Deposit-Insurance Subsidy

Deposit-insurance subsidies arise when the insurance premium paid by banks is less than the fair value of the deposit guarantee. It is important to remember that there is a traded-off between risk and expected return. Bearing risk is a service provided by private sector market participants, and the price that must be paid. As the risk of a project increases, the amount of risk-bearing services provided by market partici- pants also increases. Therefore, the amount they are paid should increase as the services they provide increases. If insured institutions are able to increase the expected return to their shareholders without paying for the additional value of the insurance, then the value of the deposit-insurance subsidy increases.

### Strategies for Increasing the Value of the Deposit Guarantee

With deposit insurance premium set to maximize the value of the bank to its stockholders. If deposit insurance is properly priced, the value of a bank to its owners is neutral, it is the same with deposit guarantees as it is without them. If the deposit guarantee is either underpriced or overpriced, however, deposit insurance either increases or decreases the value of the bank by the amount of the deposit-insurance subsidy. With mispriced deposit insurance, the goal of the owners is to maximize the combined value of the bank (without deposit insurance) and the deposit-insurance subsidy. Bank man- agers thus will act to increase the value of the deposit-insurance subsidy so long as it increases the total value of the insured institution. They even will accept a reduction in the value of the bank's portfolio of the deposit-insurance subsidy, as long as the increase in the value of the deposit-insurance subsidy more than offsets the decrease in the value of the bank.

The value of the deposit guarantee is a function of the expected losses to the deposit-insurance agency if the bank becomes insolvent, and to the probability that the bank will become insolvent. In other words, the value of the deposit-insurance subsidy arises because bank owners are able to increase the value of the bank's equity by purchasing huge amounts of deposit insurance at prices below their cost of funds. If a bank is able to underprice its guarantee to all banks in a way that the insured depositors bear the in- crease in the risk of their portfolio, the value of the deposit guarantee is the difference between the expected losses of the deposit-insurance agency if the bank becomes insolvent, and to the probability that the bank will become insolvent.

The third way bank managers can re- duce the cost of funds for thrifts and decreased the value of their assets (primarily fixed-rate mortgages). The losses in the thrift industry probably caused the FDIC to consider insuring these institutions, leaving one-third of them at or near the brink of insolvency on a market-value basis.

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