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A Comparative Analysis of Mature Hispanic-Owned Banks

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The structure and performance of minority-owned commercial banks have been analyzed in a sizable amount of published research. A bank is classified as minority-owned if over half of the equity is held by individuals in minority groups. This research has shown that minority-owned banks are not as profitable as nonminority-owned banks. Highly volatile deposit bases and scarce profitable lending opportunities are cited as the structural causes of their relatively poor financial performance.[1]

Despite the sizable amount of published research concerning minority-owned banks, none of this research has directly analyzed Hispanic-owned banks. Initial studies were devoted to black-owned banks, and later research examined all minority-owned banks as a single group. The primary purpose of this article is to conduct a comparative analysis of the structure and performance of Hispanic-owned commercial banks of the type previously conducted for black- and minority-owned banks.

In contrast to previous minority-owned bank studies, the analysis of Hispanic-owned banks shows that their profitability is on a par with that of nonminority-owned banks. There is evidence that the structure of Hispanic-owned banks is significantly different from the structure of nonminority-owned banks. Furthermore, these structural differences are similar to those previously established between minority-owned banks and nonminority-owned banks. Hispanic-owned banks have dealt with the structural differences by pricing loans to compensate the bank for exposure to credit risk and by setting service charges higher to offset, at least partially, higher noninterest expenses. As a result, the rates of return on assets and equity are not significantly different from those of their nonminority-owned competitors. To the extent that Hispanic-owned banks have been characterized as poor-performing minority-owned banks, they have been misrepresented.

The views expressed are those of the author and do not necessarily reflect the positions of the Federal Reserve Bank of Dallas or the Federal Reserve System.

1. "Structural" is used here to describe the characteristics of the markets in which the banks operate, and these characteristics are beyond the control of bank management. Structural characteristics would include the income profile of depositors, the variability of borrowers' incomes (an important cause of loan defaults), labor costs, and other operating costs.

Summary of literature on minority-owned banks

The early studies of minority-owned banks dealt with black-owned banks.[2] These studies focused on the long-run viability of these institutions and on their economic and sociological contribution to the minority community. Subsequent research was similar in approach, but better techniques for sample selection were used to control for problems involving bank size, economies of scale, locational differences, and bank age. The research was also expanded to include the study of all minority-owned banks as well as black-owned banks.[3]

The evidence presented in these studies indicated that minority-owned banks were less profitable than their nonminority-owned counterparts. Two structural causes have consistently been put forward as explanations for the poor financial performances. Minority-owned banks generally have a deposit base that is a relatively more expensive source of loanable funds, and they face limited profitable lending opportunities. In addition, some studies have also cited less-experienced management as a cause of poor financial performance at minority-owned banks.[4]

The higher cost of the deposit base has been attributed to three sources. First, minority-owned banks typically serve low-income communities. Consequently, the average balance in deposit accounts is lower at minority-owned banks. To the extent that there are fixed costs per deposit account, a minority-owned bank will incur greater costs to maintain the same dollar amount of deposits as a nonminority-owned bank.

Moreover, some minority-owned bank depositors, most likely those with lower incomes, have used savings accounts as transaction accounts in place of traditional checking accounts. Apparently, the opportunity cost of the time spent by the depositor in conducting transactions with a savings account is less than the fees for checking services. As a result, there is more frequent use of the teller windows for transactions. The frequent withdrawals lead to unusually high teller expenses; hence, the average variable cost of servicing the deposits is higher at minority-owned banks.[5]

The third cause of the expensive deposit base is the volatility of deposits. Private deposits have been shown to be more volatile at minority-owned banks than at nonminority-owned banks, and a large portion of total deposits consists of relatively volatile government deposits.[6] Beginning in 1971, the Federal Government has used the Minority Bank Deposit Program to place deposits at minority-owned banks. Generally, government deposits are quite volatile and account for a significantly larger share of total deposits at minority-owned banks than at nonminority-owned banks.[7]

The above attributes of the deposit bases of minority-owned banks result in three characteristic financial ratios. First, the volatility of deposits implies a greater need for liquidity to meet deposit outflows. Minority-owned banks hold a greater proportion of assets in very liquid forms, such as cash and federal funds sold. Second, the cost of servicing their deposit base is higher per dollar deposited. As a result, the ratio of salaries and employee benefits

2. See Andrew F. Brimmer, "The Black Banks: An Assessment of Performance and Prospects," *Journal of Finance* 26 (May 1971): 379-405; and Edward D. Irons, "Black Banking—Problems and Prospects," *Journal of Finance* 26 (May 1971): 407-25.

3. See Timothy Bates and William Bradford, "An Analysis of the Portfolio Behavior of Black-Owned Commercial Banks," *Journal of Finance* 35 (June 1980): 753-68; Harold Black, "An Analysis of Minority Banks," Research Paper no. 77-6, Division of Economic Research and Analysis, Office of the Comptroller of the Currency (Washington, D.C., 1977); John T. Boorman, "The Prospects for Minority-Owned Commercial Banks: A Comparative Performance Analysis," *Journal of Bank Research* 4 (Winter 1974): 263-79; John T. Boorman and Myron L. Kwast, "The Start-Up Experience of Minority-Owned Commercial Banks: A Comparative Analysis," *Journal of Finance* 29 (September 1974): 1123-41; Myron L. Kwast, "New Minority-Owned Commercial Banks: A Statistical Analysis," *Journal of Bank Research* 12 (Spring 1981): 37-45; and Myron L. Kwast and Harold Black, "An Analysis of the Behavior of Mature Black-Owned Commercial Banks," *Journal of Economics and Business* 35, no. 1 (1983): 41-54.

4. The quality of bank management is not used in this research as an explanatory variable of bank financial performance. Only structural differences will be examined. See Mona J. Gardner, "Minority Owned Banks: A Managerial and Performance Analysis," *Journal of Bank Research* 15 (Spring 1984): 26-34.

5. See Boorman, "The Prospects for Minority-Owned Commercial Banks."

6. See Bates and Bradford, "An Analysis of the Portfolio Behavior of Black-Owned Commercial Banks."

7. For one black-owned bank, government deposits were 66 percent of total deposits at the end of 1983.

to total deposits is significantly higher at minority-owned banks. On the other hand, because their deposit base has a larger share of savings accounts, minority-owned banks have lower interest expenses per dollar deposited than do their nonminority-owned counterparts that raise funds through relatively more expensive time deposits. The lower interest expenses will offset, to some extent, the higher salary and benefit costs.

The second structural cause of poor financial performance at minority-owned banks, as cited in previous studies, is a lack of profitable lending opportunities. Finding creditworthy borrowers appears to be a problem at minority-owned banks. The empirical results show that minority-owned banks consistently have higher loan-loss provisions relative to total loans than do nonminority-owned banks. Furthermore, their loan-to-asset ratio is significantly lower, partly reflecting the greater need for liquidity mentioned earlier. There is also evidence that attempts to enforce tighter credit standards, in an effort to reduce loan losses, have resulted in further declines in the loan–asset ratio.[8]

Analysis of Hispanic-owned banks

The empirical analysis presented here addresses two basic questions. First, do Hispanic-owned banks face structural characterisitics common to other minority-owned banks? Second, do these structural characteristics result in lower financial performance at Hispanic-owned banks relative to nonminority-owned banks, as they have at other minority-owned banks? Before these questions are addressed, the data and statistical technique used are described.

The data. The data were obtained from the Report of Condition and the Report of Income. A statistical sample was constructed to control for bank age, asset size, multibank holding company affiliation, and location. Annual data were collected for 1980 through 1983. The resulting data sample had 82 observations for Hispanic-owned banks and 3,226 observations for nonminority-owned banks.

This data sample was used to calculate average financial ratios for Hispanic- and nonminority-owned banks. A *t* test was employed to determine whether the ratios for Hispanic- and nonminority-owned banks were significantly different. An *F* test was conducted to determine whether the variances could be treated as identical, and the *t* tests were adjusted appropriately if the variances were significantly different.

The decision to compare mature Hispanic-owned banks with mature nonminority-owned banks was made to eliminate any distortions that might be associated with the start-up experiences of Hispanic-owned banks. Examination of mature banks would suggest that any differences between Hispanic- and nonminority-owned banks would be of a long-term nature. Furthermore, this approach would permit a comparison of empirical results with results obtained for mature black-owned banks.[9] Hence, the sample was restricted to banks that had been in operation at least four years. Previous research has shown that the significant fixed cost associated with establishment of a new bank is usually eliminated by the fourth year of operation.[10]

The sample was further restricted to banks with assets of at least $10 million but not more than $150 million. This restriction was imposed to reduce any problems or differences attributable to economies of scale or to large-bank access to different financial markets. As a result, two Hispanic-owned banks had to be dropped from the sample. Notably, the average total assets of these two banks were 10 times average assets of the remaining Hispanic-owned banks.

Banks held by multibank holding companies were also dropped from the sample. Previous research has shown that affiliated banks are significantly different from independent banks in terms of asset structure, loan portfolio composition, pricing policy, and capitalization.[11] Properly identifying the causes of differences between Hispanic- and nonminority-owned banks would be difficult, if not impossible, if the factor of holding company structure were not controlled.

Finally, the nonminority-owned banks were required to be located in the same markets served by

8. See Boorman, "The Prospects for Minority-Owned Commercial Banks."

9. See Kwast and Black, "An Analysis of the Behavior of Mature Black-Owned Commercial Banks."

10. See Kwast, "New Minority-Owned Commercial Banks."

11. See Duane B. Graddy and Reuben Kyle, III, "Affiliated Bank Performance and the Simultaneity of Financial Decision-Making," *Journal of Finance* 35 (September 1980): 951–57.

Table 1
SELECTED CHARACTERISTICS OF DEPOSIT BASES FOR MATURE HISPANIC- AND NONMINORITY-OWNED BANKS

Ratio	Hispanic-owned banks	Nonminority-owned banks
	Percent, 1980-83	
Service charges on deposits/total deposits	.91*	.57
Salaries and employee benefits/total deposits	2.52*	2.12
Interest paid on deposits/total deposits	5.81*	6.24

* Significant at the .05 level.
SOURCE OF PRIMARY DATA: Board of Governors, Federal Reserve System.

Hispanic-owned banks. "Market" is defined here as a standard metropolitan statistical area (SMSA), if possible, or a county, for rural banks. This is the standard definition of a market in the minority-owned bank literature, and the limitations of this definition have been discussed in the literature.[12] These limitations become important in interpreting the empirical results.

Asset and liability structure. The first issue examined was whether Hispanic-owned banks have deposit bases that are significantly different from those of nonminority-owned banks and similar in nature to deposit bases of all minority-owned banks as a group. Three financial ratios are cited in the literature as characteristic of deposit bases of minority-owned banks. The higher level of account activity per deposit suggests that the ratio of service charges on deposits to total deposits at minority-owned banks will be higher. Second, since the average deposit account at minority-owned banks tends to be smaller and more volatile than at nonminority-owned banks, the ratio of employee expenses to total deposits is likely to be higher. Finally, the ratio of interest cost of deposits to total deposits is likely to be lower at institutions with a large proportion of savings accounts—a common characteristic of minority-owned banks.

These ratios are presented in Table 1 for both Hispanic- and nonminority-owned banks. The ratios are statistically different in all three cases and support the hypothesis that Hispanic-owned banks have a deposit structure that is different from the structure for nonminority-owned banks. Furthermore, the differences are similar to those established in previous studies of minority-owned banks.

Hispanic-owned banks also were examined to determine whether the structural characteristics of their asset portfolios are significantly different from those of nonminority-owned banks. Asset characteristics have typically been compared by examining the composition of assets and the loan-loss experience. These two measures, however, are not independent of each other. If a minority-owned bank faces a lack of profitable lending opportunities, one option for the bank is to accept an asset portfolio that is more heavily invested in securities. In this case, the loan-asset ratio is usually significantly less than at comparable nonminority-owned banks. On the other hand, the minority-owned bank could make efforts to increase lending, but the loans are more likely to be made to less creditworthy borrowers. As a result, net loan losses rise relative to total loans.

Evidence indicates that Hispanic-owned banks face asset markets with characteristics different from those of nonminority-owned competitors and that these differences are similar to those established for minority-owned banks as a group. The ratio of net loan losses to total loans at Hispanic-owned banks, reported in Table 2, is nearly double that of nonminority-owned banks, a difference that is statistically significant at the 1-percent level. The loan-asset ratio is essentially the same at Hispanic-

12. See Black, "An Analysis of Minority Banks."

Table 2
SELECTED CHARACTERISTICS OF ASSETS AT MATURE HISPANIC- AND NONMINORITY-OWNED BANKS

Ratio	Hispanic-owned banks	Nonminority-owned banks
	Percent, 1980-83	
Net loan losses/total loans	1.01*	.58
Total loans/total assets	53.15	52.07
Cash plus net federal funds sold/total deposits	26.14*	17.61
Government securities/total deposits	19.07*	27.47

* Significant at the .05 level.
SOURCE OF PRIMARY DATA: Board of Governors, Federal Reserve System.

and nonminority-owned banks. This may suggest that management at Hispanic-owned banks is willing to incur higher loan losses as a cost of maintaining an average proportion of assets in loans.

Table 2 also shows an interesting difference in the composition of investments. Financial assets other than loans have been split into two broad categories—primary and secondary sources of liquidity. Primary sources include cash and near-cash items, such as federal funds sold. Secondary sources are basically investment securities. In past research, it has been reported that a high primary liquidity ratio is evidence of a lack of profitable lending opportunities.[13] When this ratio is examined with the secondary liquidity ratio and the loan-asset ratio, the evidence for Hispanic-owned banks suggests that higher levels of primary sources of liquidity are exactly offset by lower levels of secondary sources. This structure is more likely to result from the volatile deposit base than from any lack of profitable lending opportunities.

Financial performance. The composition of total operating expenses and income demonstrates some effects of the different structural characteristics of Hispanic-owned banks. Several measures of performance are presented in Table 3. The data indicate that total operating expenses relative to total assets are significantly higher at Hispanic-owned banks, primarily because of significantly higher labor costs and loan losses. The higher expenses, however, are offset by higher income. The higher income can be attributed to a higher gross return on loans and higher service charges per deposit.

Because the higher income offsets higher expenses, the financial performance of Hispanic-owned banks is on a par with that of nonminority-owned banks. The after-tax returns on assets and on equity are not significantly different from those of nonminority-owned banks.[14] This result is contrary to nearly all the published research that compares minority- and nonminority-owned banks. (Interpretation and analysis of study results are presented in the next section.)

Mature Hispanic- and black-owned commercial banks are compared with their nonminority-owned competitors in the Appendix. The evidence there indicates a high degree of similarity in the liability structure of these two types of minority-owned banks. Furthermore, it appears that both Hispanic- and black-owned banks have relatively high rates of net loan loss. Compared with their nonminority-owned competitors, Hispanic-owned banks generate significantly more operating income relative to assets while black-owned banks generate significantly less. At Hispanic-owned banks the gross

13. See Brimmer, "The Black Banks."

14. The difference of 3.3 percentage points in the return on equity may appear large, but the variances of such returns for both minority- and nonminority-owned banks are also large. To state definitively that the ratios are unequal would be subject to a probability of error in excess of 30 percent.

Table 3
FINANCIAL PERFORMANCE MEASURES FOR MATURE HISPANIC- AND NONMINORITY-OWNED BANKS

Ratio	Hispanic-owned banks	Nonminority-owned banks
	Percent, 1980–83	
Total operating expenses/total assets	10.39*	9.56
Total operating income/total assets	11.62*	10.87
Net income after taxes/total assets	.78	.97
Net income after taxes/total equity	6.78	10.08

* Significant at the .05 level.
SOURCE OF PRIMARY DATA: Board of Governors, Federal Reserve System.

return on loans is significantly higher than at nonminority-owned banks; at black-owned banks the gross return on loans is less than at nonminority-owned banks. Similarly, the ratio of service charges on deposits to total private deposits is significantly higher at Hispanic-owned banks than at nonminority-owned banks, but there is little difference in this ratio between black- and nonminority-owned banks. As a result, there is no significant difference between the return on assets at Hispanic- and nonminority-owned banks, but the return on assets at black-owned banks is significantly lower than the return at nonminority-owned banks.

Interpretation of the empirical results

The most likely explanation for the comparable performance of Hispanic- and nonminority-owned banks, despite the structural differences, is that Hispanic-owned banks have priced their loans and services higher to compensate, at least partially, for the higher costs incurred while operating in structurally different asset and liability markets. If service charges on deposits are priced to cover the higher handling cost attributable to the difference in deposit bases, then the higher cost of servicing deposits will be offset by higher income from service charges. In this case, the higher costs resulting from the difference in liability structure would not lead to lower performance. Similarly, if interest rates on loans include risk premiums to compensate the bank for exposure to credit risk, the net return on loans to borrowers with various risk profiles should be the same. If this were the case, the structurally different asset market should have no effect on the return on assets or the return on equity.

As has already been established, the loan portfolios of Hispanic-owned banks are more exposed to credit risk. The gross return on loans at Hispanic-owned banks is 83 basis points higher than at nonminority-owned banks, a statistically significant difference. After adjustment for the higher loan losses, however, the net return on loans at Hispanic-owned banks is only 31 basis points above that of nonminority-owned banks, and the difference is no longer significant.[15] The implication is that Hispanic-owned banks have dealt with the problem of serving a loan market that is characterized by higher default rates by raising interest rates to cover loan losses.

Two solutions to the problems of minority-owned banks have been offered by previous researchers. The problem of an expensive deposit base should be addressed by raising service charges to a level that will cover the expenses of handling the deposits. Apparently, the experience of Hispanic-owned banks may be an example of this successful strategy. It has been suggested that the problem of high loan losses be addressed by enforcing higher credit standards. The evidence for Hispanic-owned banks offers no support of this proposed solution; to the

15. The net return on loans was calculated as interest and fees earned on loans less net chargeoffs (chargeoffs less recoveries) divided by total loans.

contrary, it may point out that this solution is unnecessarily restrictive. Interestingly, the previous researchers have focused exclusively on a nonprice solution for loans, but several have recommended a price solution for volatile deposits.

The previously proposed solution of tightening credit standards was tied closely to the assumption that minority- and nonminority-owned banks operate in the same market. An implicit assumption that minority-owned banks had to match the loan interest rates of the nonminority-owned banks was also made. Emphasis was placed on lowering loan losses to raise net income. The ability to increase interest and fee income from loans was not viewed as a viable option.

Empirical evidence suggests that minority- and nonminority-owned banks do not operate in the same market. In studies analyzing these banks, the market is usually defined as the SMSA or county in which the minority-owned bank is located. This geographical definition of a market has not dealt explicitly with the notion that a market is a collection of economic agents transacting with each other. The point has been made that banks operating in the same SMSA may be serving primary market areas that have sharply different economic characteristics.[16] In support of this view, the empirical work presented in these studies tends to suggest important differences in the primary markets. The volatility of deposits, for example, indicates a difference in the characteristics of depositors.

Under the alternative hypothesis that minority-owned banks are serving different markets, they would be expected to have different structural characteristics. These characteristics might include a volatile deposit base or a loan portfolio with a higher loan default rate. A lower return on assets, however, would not necessarily be expected. Competition should exert pressure on bank management to place funds where the bank would receive a competitive return, adjusted for risk. This alternative hypothesis provides a better explanation of the empirical evidence obtained by examining Hispanic-owned banks.

Conclusion

The evidence for mature Hispanic-owned banks shows that these banks face the same structural characteristics as minority-owned banks in general—specifically, volatile deposits and high loan losses. The Hispanic-owned banks, however, perform as well as nonminority-owned banks. This equal financial performance is atypical in the literature on minority-owned banks.

The experience of Hispanic-owned banks shows that relatively high loan losses are not in themselves a cause of poor financial performance. High loan losses should not result in lower profits unless the bank is not being compensated for its exposure to credit risk. The approach of charging higher interest rates in order to cover the expense of higher loan losses diverges sharply from the prescriptions of previous researchers. These researchers have consistently recommended that the problem of relatively high loan losses would best be solved by enforcing higher credit standards. This recommendation is questionable on the basis of its implicit assumption that minority- and nonminority-owned banks operate in the same market. This assumption has been maintained despite evidence that minority-owned banks operate in structurally different asset and liability markets.

It is likely that many minority-owned banks could profitably employ the same methods as Hispanic-owned banks of pricing services and loans to attempt to cover handling expenses and loan losses.[17] In addition, it may be an improvement in the provision of credit to borrowers for minority-owned banks to be willing to extend credit to riskier borrowers, albeit at higher interest rates. These banks might establish multiple credit standards, and interest rates on loans would increase with the riskiness of the borrower. This approach would be an improvement over enforcing a single credit standard and refusing to lend to riskier borrowers regardless of the interest rate that could be charged on the loans. It is possible, however, that the transaction and information costs of determining the

16. See Black, "An Analysis of Minority Banks."

17. Precise measurement of the cost of deposits at Hispanic-owned banks is not possible. Interest expenses are less at these banks but noninterest expenses are higher, and it is not possible to determine accurately what portion of noninterest expenses should be attributed to deposits. There is evidence that deposits at Hispanic-owned banks are expensive to service but the banks' net income is not adversely affected; hence, the implication is that deposit costs are being covered.

creditworthiness of some borrowers might outweigh the potential gains.

Future research in comparative studies of minority-owned banks should attempt to control the data sample, if possible, so that both the minority- and the nonminority-owned banks serve the same primary market area. The present market definitions of county or SMSA are likely to be far too broad to ensure that primary market areas are similar. If such control is not possible, the assumption that the minority- and nonminority-owned banks are operating in the same market should be viewed with at least some skepticism.

Appendix

A Comparison of Mature Black- and Hispanic-Owned Banks

The empirical work in this study was formulated to allow a comparison of the results for mature Hispanic-owned banks with the results obtained by Kwast and Black in their study of mature black-owned banks.[1] A direct statistical comparison of Hispanic- and black-owned banks is not possible because there are too few banks operating in the same markets to obtain a sample of adequate size. A comparison can be made, however, by calculating the differences between the ratios of Hispanic-owned banks and their nonminority-owned competitors and comparing them with the differences in the same ratios for black-owned banks and their nonminority-owned competitors. The data samples were controlled for bank size and age.

Asset and liability composition

The asset composition, reported in Table A, shows some interesting similarities and some striking differences. First, the difference in the loan-asset ratio is negative for black-owned banks compared with nonminority banks; for Hispanic-owned banks there is no significant difference for the same ratio. Furthermore, investment in Federal Government securities is quite different for the two types of minority banks. Black-owned banks held a larger proportion of these securities than their nonminority counterparts, while Hispanic-owned banks held less. In contrast, the difference in the primary liquidity ratio—cash and federal funds sold as a percentage of total assets—is nearly identical for black- and Hispanic-owned banks, but Hispanic-owned banks split their liquid assets more evenly between cash and federal funds sold while black-owned banks invest primarily in federal funds sold.

The composition of the loan portfolios is strikingly different. Black-owned banks are heavily concentrated in real estate lending. The effect of this concentration appears to be reduced consumer lending. Hispanic-owned banks, on the other hand, hold much less of their loan portfolio in real estate loans than do their nonminority competitors. Instead, Hispanic-owned banks lend more to both businesses and consumers.

The composition of liabilities at Hispanic- and black-owned banks shows similar types of differences from their respective nonminority competitors, though the magnitudes differ in some cases. The most notable difference in magnitude is in government deposits, the sum of Federal Government deposits and state and local government deposits. Both black- and Hispanic-owned banks have significantly higher ratios for these deposits, but the difference is far larger at black-owned banks. These deposits are usually required to be collateralized with government securities. This may be an explanation for the large holdings of Federal Government securities at black-owned banks. Correspondingly, demand deposits and time deposits ac-

1. Myron L. Kwast and Harold Black, "An Analysis of the Behavior of Mature Black-Owned Commercial Banks," *Journal of Economics and Business* 35, no. 1 (1983): 41-54.

Table A
DIFFERENCES IN ASSET AND LIABILITY COMPOSITION OF MATURE HISPANIC- AND BLACK-OWNED BANKS RELATIVE TO THEIR NONMINORITY COMPETITORS

Item	Hispanic-owned banks	Black-owned banks
	Difference from nonminority-owned competitors (Percent)	
Total capital as percent of total assets	.1	.5*
Asset components as percent of total assets		
Cash and due	3.7*	.9*
Federal Government securities	-2.9*	9.3*
State and local government securities	-5.5*	-6.3*
Federal funds sold and repurchase agreements	4.8*	7.3*
Gross loans	1.1	-11.3*
Real estate loans	-5.2*	.3
Commercial and industrial loans	2.3	-3.6*
Consumer loans	4.5*	-8.1*
Other assets	-1.2*	.0
Loan components as percent of gross loans		
Real estate loans	-10.9*	7.9*
Commercial and industrial loans	5.1*	1.2
Consumer loans	7.5*	-10.6*
Other loans	-1.7	1.4*
Liability components as percent of total liabilities		
Demand deposits of individuals, partnerships, and corporations	-.3	-8.3*
Time deposits of individuals, partnerships, and corporations	-7.6*	-10.5*
U.S. Government deposits	2.2*	15.9*
State and local government deposits	5.0*	3.9*
Federal funds purchased and repurchase agreements	-.9*	-1.0*
Other deposits and liabilities	1.7*	.1

* Significant at the .05 level.
NOTE: Data for Hispanic-owned banks are for 1980 through 1983.
Data for black-owned banks are for June 1976 through June 1979.
SOURCES OF PRIMARY DATA:
Board of Governors, Federal Reserve System.
Kwast and Black, "An Analysis of the Behavior of Mature Black-Owned Commercial Banks."

count for smaller shares of total liabilities at both Hispanic- and black-owned banks.

Sources and uses of income

The differences in the sources of income, reported in Table B, at Hispanic- and black-owned banks are, for the most part, directly related to their differences in asset composition. Black-owned banks earn significantly less income from loans than their nonminority counterparts, while Hispanic-owned banks show no difference. This is directly related to the comparatively low loan-asset ratio at black-owned banks. Conversely, black-owned banks earn relatively more income from Federal Government securities because their asset portfolios are more heavily invested in those securities.

The final marked difference in sources of income is evident in service charges on deposit accounts. Hispanic-owned banks earn relatively more from this category than their nonminority competitors. In contrast, black-owned banks earn about the same share of income from this category as do their nonminority

Table B
DIFFERENCES IN SOURCES AND USES OF INCOME FOR MATURE HISPANIC- AND BLACK-OWNED BANKS RELATIVE TO THEIR NONMINORITY COMPETITORS

Item	Hispanic-owned banks	Black-owned banks
	Difference from nonminority-owned competitors (Percent)	
Operating income components as percent of total operating income		
Interest and fees on loans	1.1	-12.4*
Interest on Federal Government securities	-2.3*	8.7*
Interest on state and local government securities	3.4*	-3.9*
Interest on federal funds sold and repurchase agreements	3.4*	7.5*
Service charges on deposit accounts	2.3*	.3
Other service charges and fees	.6*	.6
Other income	-1.1	-1.0*
Operating expense components as percent of total operating expenses		
Salaries and employee benefits	2.6*	3.5*
Interest on deposits	-7.9*	-7.7*
Interest on subordinated notes and debentures	-.2*	.8*
Occupancy expenses	-.6*	.0
Provision for loan loss	2.1*	.3
Other operating expenses	4.0*	3.4*

* Significant at the .05 level.
NOTE: Data for Hispanic-owned banks are for 1980 through 1983.
Data for black-owned banks are for June 1976 through June 1979.
SOURCES OF PRIMARY DATA:
Board of Governors, Federal Reserve System.
Kwast and Black, "An Analysis of the Behavior of Mature Black-Owned Commercial Banks."

competitors. This is important evidence that Hispanic-owned banks are using service charges to help cover the handling expenses of their deposits.

Among the uses of income, there is a high degree of similarity, and only two categories warrant comment—interest on subordinated notes and debentures and provision for loan loss. Most Hispanic-owned banks do not use subordinated debt; consequently, a comparison here may be misleading. The relatively high provision for loan loss at Hispanic-owned banks seems appropriate, considering their higher ratio of net loan losses to total loans. It is surprising that black-owned banks, which as a group are known for problems with high loan losses, set aside the same proportion of total expenses for these losses as do their nonminority competitors.

Rates of return

The overall financial performance, reported in Table C, of Hispanic- and black-owned banks relative to their respective nonminority competitors is the basis for the conclusions of this research. At Hispanic-owned banks, higher expenses are offset by higher revenues, and overall return on assets is insignificantly different from the nonminority banks. In contrast, the financial performance of the black-owned banks is significantly less than their nonminority competitors. The basic premise that Hispanic-owned banks price loans and services to cover their higher expenses is supported by an examination of the more narrowly defined returns.

The gross return on loans is significantly higher at Hispanic-owned banks than at nonminority banks, while there is little difference at black-owned banks. This higher return on loans at Hispanic-owned banks helps offset the higher rate of net loan loss that is common to both Hispanic- and black-owned banks.[2] Similarly, the return from service charges on total deposits is also higher at Hispanic-owned banks

2. Net loan losses are loans charged off as uncollectible less recoveries on loans that were previously charged off.

Table C
DIFFERENCES IN RATES OF RETURN AND COST AT MATURE HISPANIC- AND BLACK-OWNED BANKS RELATIVE TO THEIR NONMINORITY COMPETITORS

Item	Hispanic-owned banks	Black-owned banks
	Difference from nonminority-owned competitors (Percent)	
Income and expenses as percent of total assets		
Total operating income	.8*	-.2*
Net operating income before taxes	-.1	-.3*
Net income after taxes	-.2	-.2*
Total operating expenses	.8*	.1*
Average rates of return		
Interest and fees on loans/gross loans	.8*	-.1†
Interest on Federal Government securities/ total Federal Government securities	-1.2*	-.1†
Interest on state and local government securities/ total state and local government securities	-.3	-.7*
Service charges on deposits/total deposits of individuals, partnerships, and corporations	.5*	.1†
Average rates of cost		
Salaries and employee benefits/total assets	.4*	.2*
Interest on deposits/time deposits of individuals, partnerships, and corporations	1.2	.3*
Net loan loss/total loans	.4*	.5*

* Significant at the .05 level.
† *t* test not computed.
NOTE: Data for Hispanic-owned banks are for 1980 through 1983.
Data for black-owned banks are for June 1976 through June 1979.
SOURCES OF PRIMARY DATA:
Board of Governors, Federal Reserve System.
Kwast and Black, "An Analysis of the Behavior of Mature Black-Owned Commercial Banks."

relative to nonminority banks, and this return is about the same for black-owned banks and their nonminority competitors. The higher return from service charges at Hispanic-owned banks helps offset the cost of salaries and employee benefits per dollar of assets. This rate of cost is significantly higher at both black- and Hispanic-owned banks.

FDIC Settlement Practices and the Size of Failed Banks

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Throughout most of the post-World War II period, the annual number and the size of failed banks have been small. In the recent past, both factors have changed. Failed banks in 1984 totaled 79, the largest number of failures since the Great Depression. Moreover, one of the nation's largest banks required a major Federal Deposit Insurance Corporation rescue package to continue operations.

During the past three years the average failure rate for banks increased to 0.37 percent, compared with 0.07 percent for the entire 1946–84 period. As shown in Chart 1, the failure rate for banks is now similar to the rate in the early years following the introduction of FDIC insurance in 1934.[1] Although the bank failure rate is still exceptionally low compared with the failure rate for other industries, the magnitude of the increase in bank failures has heightened concerns about the strength of the U.S. banking system.

A number of different reasons have been given for the recent rise in the number and size of failed banks. The three most notable are the severity of the last recession, the sharp adjustment from a high-inflation environment to a low-inflation environ-

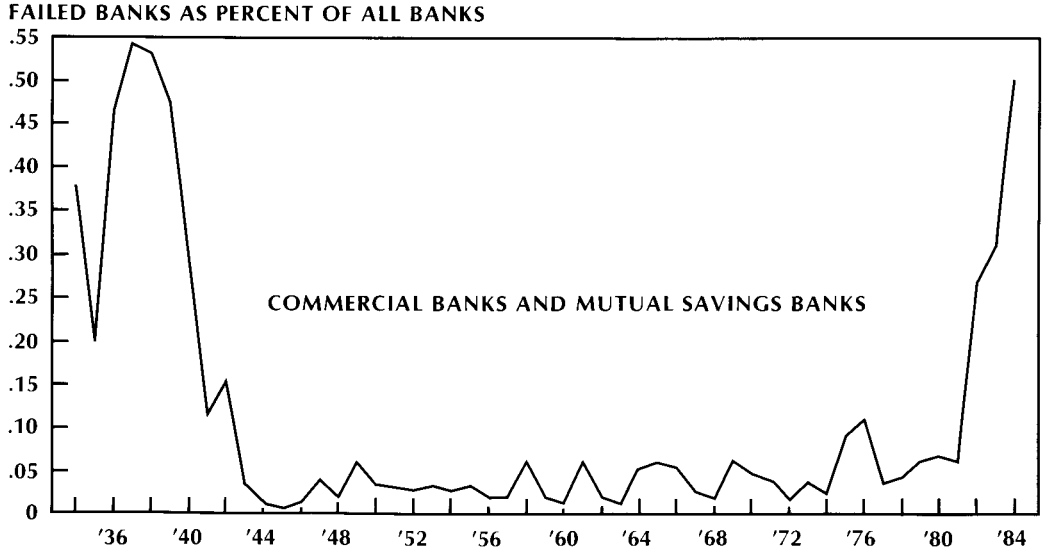
The views expressed are those of the author and do not necessarily reflect the positions of the Federal Reserve Bank of Dallas or the Federal Reserve System. Special recognition is given to W. Michael Cox for helpful comments on this paper and to Franklin D. Berger, Keith R. Phillips, and Phyllis C. Katsigris for research and programming assistance.

1. In this article, banks closed because of financial difficulty and those requiring major rescue packages to continue operations are treated as failures. The failure rate in Chart 1 was calculated by dividing the annual number of failed banks by the total number of banks operating in the same year. Data for 1934 to 1983 on commercial banks and mutual savings banks closed because of financial difficulty were obtained from the 1983 *Annual Report* of the Federal Deposit Insurance Corporation, Table 122, page 53. Data on banks closed in 1984 because of financial difficulty were obtained directly from the FDIC.

   Major rescue packages were arranged by the FDIC for First Pennsylvania Bank, Philadelphia, in 1980 and for Continental Illinois National Bank and Trust Company of Chicago in 1984. Severe financial difficulty at Seattle-First National Bank in 1983 induced the Federal Reserve Bank of San Francisco to facilitate an out-of-state merger arrangement between BankAmerica Corporation and Seafirst Corporation. First Pennsylvania Bank, Continental Illinois Bank and Trust, and Seattle-First National Bank are all treated as failures in this article.

   Difficulties resulting from excessive exposure to interest rate risk have also required special arrangements for some mutual

Chart 1
Bank Failure Rate



SOURCES OF PRIMARY DATA: Board of Governors, Federal Reserve System.
Federal Deposit Insurance Corporation.
U.S. Bureau of the Census.

ment, and financial deregulation.[2] Increased attention is also being given to the impact of federal deposit insurance on bank failures.

The FDIC charges a fixed premium for deposit insurance without regard to the riskiness of bank portfolios—an action that insulates banks from the full cost of incurring risk. By law, the FDIC protects depositors up to $100,000 at insured institutions. Deposits in excess of $100,000 are uninsured funds. But the manner in which the FDIC has settled failed banks has provided *de facto* 100-percent coverage to both insured and uninsured depositors. These full deposit guarantees have encouraged banks to increase their exposure to risk, thereby increasing the probability of failure. Moreover, the perception that the holders of uninsured deposits at large banks receive greater protection than the uninsured depositors of small banks has provided stronger incentives to large banking institutions to increase their exposure to risk.

This article focuses on the effect of FDIC policies on the relative size of failed banks. It is argued that preferential treatment given to depositors of large banks has altered the size distribution of bank failures in this country to a higher proportion of large-bank failures.

FDIC insurance and bank risk decisions

Federal deposit insurance was authorized by the Banking Act of 1933 to restore confidence in the U.S. banking system. But the FDIC was created as one component of financial legislation, most of which imposed restrictions on bank activity in an effort to constrain risk taking. Banks were prohibited, among other things, from underwriting corporate securities, paying interest on demand deposits, and paying interest on savings and time deposits in excess of allowed limits. Asset and liability constraints

savings banks to continue operations. Because of the constraints on obtaining information about these arrangements for individual institutions, mutual savings banks that received special assistance to continue operations were not included as failures.

2. For additional discussion of the causes of recent financial stress, see Eugenie D. Short and Gerald P. O'Driscoll, Jr., "Deposit Insurance and Financial Stability," *Business Forum* 8 (Summer 1983): 10-13.

and limits to geographic expansion were intended to ensure safe banking by reducing competition. As a result, incentives provided by deposit insurance to undertake excessive risk were partially offset.

By the middle to late 1960s, however, financial innovation and technological change initiated a period of gradual or *de facto* deregulation. As regulations constraining risk taking were removed or circumvented, deposit guarantees provided by the FDIC became increasingly important in insulating insured banks from the full cost of incurring additional risk.

Literature on the impact of FDIC policies on bank risk decisions is extensive.[3] Briefly, the fixed-rate premium on FDIC insurance provides incentives for banks to increase their exposure to risk. The higher yields on riskier investments are not offset by higher insurance premiums. Similarly, extensive reliance on purchase and assumption (P&A) transactions to settle failed banks also provides incentives for banks to increase their exposure to risk.

With a P&A transaction, all nonsubordinated liabilities, including uninsured deposits, are transferred to an assuming bank. The main benefit of the P&A settlement is that it avoids interruption in the availability of funds to all depositors. But this benefit has also generated a negative side effect—a sharp reduction in incentives for depositors to monitor the risk exposure of the banks in which they place funds.

The availability of federal deposit insurance reduced the probability of deposit runs at banks, but it also reduced constraints against risk taking that would normally be imposed by the holders of uninsured deposits. Extensive reliance on P&A transactions to settle failed banks plus fixed-rate pricing of deposit insurance established incentives for banks to increase their exposure to risk. In addition, FDIC settlement practices provided the holders of uninsured deposits at larger banks with a greater degree of protection than was provided in the case of smaller banks. The increase in the relative size of failed banks, including some of the nation's largest banks, may reflect this policy bias.

Bank failures since FDIC insurance

The primary objective of federal deposit insurance was to prevent bank runs and consequent failures. If a failure occurred, deposit insurance would quickly restore any circulating medium of exchange destroyed or made unavailable to the public as a result of failure. A related objective was to provide financial protection to the small bank creditor.

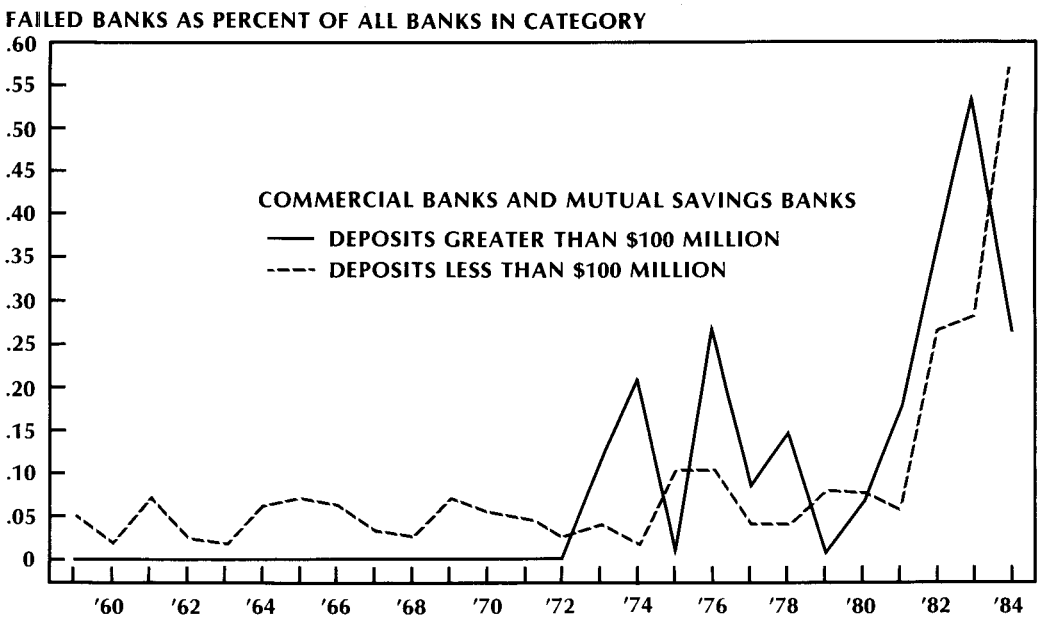
The increased confidence in the banking system because of FDIC insurance reduced deposit runs at U.S. banks and thereby reduced the number of bank failures. During the 1920s, bank failures had averaged 635 per year. Additional failures during the three banking crises between 1930 and 1933 brought the average number of failures in the four-year period to 2,277 banks per year. Since 1934, however, the annual number and rate of bank failures have been relatively low. In the 51-year period, only 890 banks failed (893 if the three large commercial banks that required major loan-assistance packages to continue operations are treated as failures). But nearly 75 percent of these failures occurred in the first nine years—from 1934 to 1942—and in the last three years. The annual number of bank failures in those two periods averaged 54.4 and 57.0, respectively. During the interim period from 1943 to 1981, the average number of failures was only 5.9 banks per year.

The rise in bank failures during the past three years has renewed concerns about the impact of government deposit guarantees on bank decisions to incur risk. Increased exposure to risk has been a significant determinant of bank failures.[4] In addition, the relative size of failed banks is now

3. Some examples are John H. Kareken and Neil Wallace, "Deposit Insurance and Bank Regulation: A Partial-Equilibrium Exposition," *Journal of Business* 51 (July 1978): 413–38; John H. Kareken, "The First Step in Bank Deregulation: What About the FDIC?" *American Economic Review* 73 (May 1983, Papers and Proceedings, 1982): 198–203; Mark J. Flannery, "Deposit Insurance Creates a Need for Bank Regulation," *Business Review*, Federal Reserve Bank of Philadelphia, January/February 1982, 17–27; and Eugenie D. Short and Gerald P. O'Driscoll, Jr., "Deregulation and Deposit Insurance," *Economic Review*, Federal Reserve Bank of Dallas, September 1983, 11–22.

4. We recently completed an empirical examination of the impact on bank failures of bank decisions to incur risk. See Eugenie D. Short, Gerald P. O'Driscoll, Jr., and Franklin D. Berger, "Recent Bank Failures: Determinants and Consequences" (Paper presented at the Annual Meetings of the Allied Social Science Associations, Dallas, Texas, 29 December 1984). The hypothesis tested in that paper is that bank failure is directly related to portfolio decisions made by bank

Chart 2
Failure Rate, by Bank Size



SOURCES OF PRIMARY DATA: Board of Governors, Federal Reserve System. Federal Deposit Insurance Corporation.

significantly larger than in any other period on record. This change in the size distribution of failures may reflect the unintended impact of federal deposit guarantees.

Relative size of bank failures

Most bank failures in this country have been small. This tendency primarily reflects the size distribution of the U.S. banking system. Of the 15,388 banks operating in June 1984, roughly 85 percent had less than $100 million in deposits. Thus, a larger number of failures at small institutions seems likely. During the 42 years from 1931 to 1972, no banks with deposits in excess of $100 million failed.[5] In 8 of the past 12 years, however, the failure rate for banks with deposits in excess of $100 million—a size category often used to differentiate between large and small institutions—has been greater than the failure rate for smaller banks (Chart 2).

Using a $100 million size definition for large banks introduces an inflation bias into this size comparison. Annual growth in the nation's money supply raises the dollar level of deposits at all banks. Hence, the number of banks with deposits in excess of $100 million tends to increase over time. The number of banks with deposits in excess of $100 million increased from an average of 442 banks during 1959-72 to an average of 1,516 banks in the post-1972 period. Similarly, the proportion of banks with deposits in excess of $100 million rose from an average of 3 percent of all banks from 1959

managers to accept risk. To identify those portfolio decisions, financial ratios of failed and nonfailed banks are examined. Probit analysis is used to determine differences in these ratios in 1964, 1975, and 1982-83. The results of the study indicate that there are statistically significant differences between failed and nonfailed banks for several of the financial ratios. The critical ratios appear to be loans to assets, capital to assets, core deposits to liabilities, and purchased funds to liabilities. The results suggest that managerial decisions to accept more risk have played an important role in bank failures.

5. In December 1930 the Bank of the United States, with over $200 million in deposits, failed. At the time, that was the largest commercial bank failure in U.S. history.

to 1972 to 10 percent in the post-1972 period.[6] Thus, a larger number of failures in the size category over $100 million was likely in the latter period.

To eliminate this inflation bias, figures on the relative size of failed banks were calculated by dividing the average size of failed banks each year by the average size of all banks in the same year.[7] This relative size variable, S, is plotted in Chart 3 for 1921 through 1984. Statistical analysis of these data indicates that the size distribution of failed banks changed markedly in the mid-1970s. The procedure used was to separate the 64-year period into two subperiods of size n and $(64-n)$, where $n=2, \ldots, 62$. Within each subperiod the mean and standard deviation of the relative size variable were calculated. An F test was applied to determine whether the standard deviations of the two subperiods could be treated as identical. The appropriate t statistic for each subperiod was calculated to examine differences in the means of the two subperiods. The root mean square error over the entire sample was minimized by breaking the period at $n=52$, which corresponds to 1972. The value of the t statistic for the difference-in-means test at that breaking point was 3.64. A critical t value of 2.91 is required for significance at the 99-percent confidence level; hence, the null hypothesis that there is no difference in the means in these two periods was rejected. In addition, results of F tests for this sample indicated that the standard deviation of S is significantly higher in the 1973-84 period than in the 1921-72 period.

This article offers an explanation for the general increase in the relative size of failed banks over the extended 1921-84 period. It does not provide guidance about when a break in the sample should occur, nor does it attempt to explain the obvious sharp jumps in the relative size of failed banks in 1973, 1974, and 1980 (Chart 3). In those three years the relative size of failed banks increased to 3.24, 7.22, and 5.97, respectively. The increase in each year reflected the failure of one of the nation's largest banks. In 1973 the United States National Bank, San Diego, California, with $932 million in deposits, was closed. In 1974, Franklin National Bank, New York City, with $1.4 billion in deposits, was closed. In 1980 the First Pennsylvania Bank, Philadelphia, with $5.3 billion in deposits, was a problem bank.

Two of those outlier years—1974 and 1980—were during recessions. Banks, like other firms, are more likely to fail during, or in the aftermath of, periods of economic recession. To control for the impact of recessions on the relative size of failed banks, the difference-in-means test was applied to a smaller sample that only included the relative size of failed banks in nonrecession years.[8] The adjusted sample included 46 observations. It was examined to determine whether a statistically significant increase occurred in the relative size of failed banks in the post-1972 period even if failures during recession years were excluded from the sample.

The same procedure was used. The 46-year period was separated into two subperiods of size n and $(46-n)$, where $n=2, \ldots, 44$. The root mean square error was minimized by breaking the period at $n=38$, which corresponds to 1972, the same breaking point as in the larger sample. The value of the t statistic for the difference-in-means test at the 1972

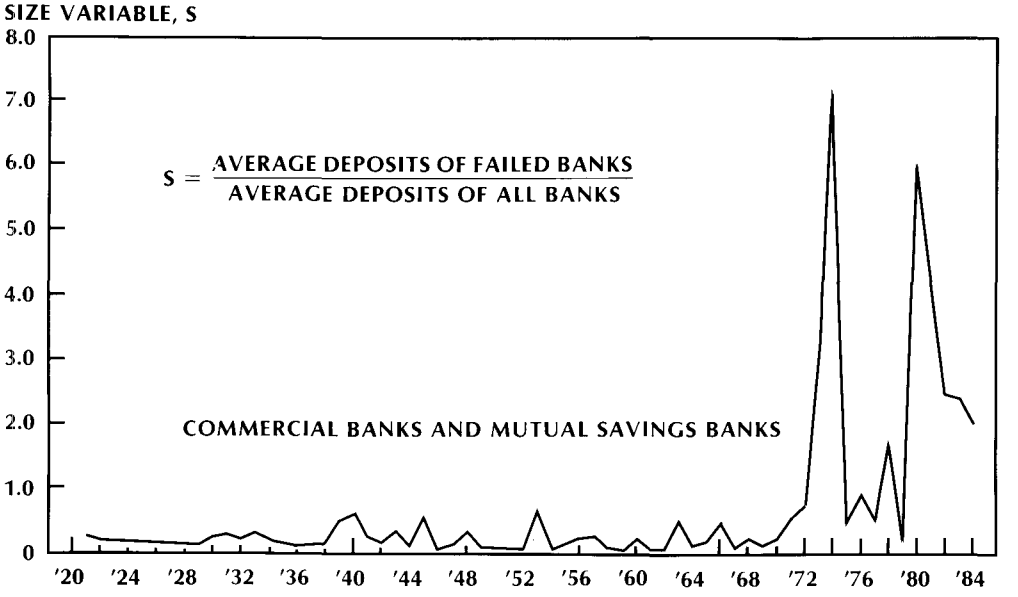
6. Data on deposits of individual U.S. banks are available back to 1959 from the FDIC's Consolidated Report of Condition (bank Call Report data).

7. The average size of failed banks was calculated by dividing annual data on total deposits of failed banks by the total number of failures during the year. The average size of all banks was calculated by dividing annual data on total deposits of all banks by the total number of banks. Annual data on the number of failures and the total deposits of failed banks from 1921 to 1933 were obtained from U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Bicentennial Edition, pt. 2 (Washington, D.C.: Government Printing Office, 1975). Comparable data for 1934 to 1983 were obtained from the 1983 *Annual Report* of the FDIC. Data for 1984 were obtained directly from the FDIC. The three large commercial banks that required rescue packages were included as failed banks.

   Annual data on the number of banks and the total deposits of banks from 1921 to 1970 were obtained from U.S. Bureau of the Census, *Historical Statistics, Colonial Times to 1970*. Comparable data for 1971 to 1984 were obtained from the Reports of Condition for banks.

8. Recession years were determined by using the dates of peaks and troughs of U.S. business cycles for 1854 through 1982 from CITIBASE: Citibank Economic Database, app. A (New York: Citibank). If six months or more in a single year were in a period of economic downturn, the year was considered a recession year. With that definition, the following were excluded from the sample: 1921, 1923, 1924, 1927, 1930, 1931, 1932, 1937, 1938, 1945, 1949, 1953, 1960, 1970, 1974, 1980, 1981, and 1982.

Chart 3
Relative Size of Failed Banks



SOURCES OF PRIMARY DATA: Board of Governors, Federal Reserve System.
Federal Deposit Insurance Corporation.
U.S. Bureau of the Census.

breaking point was 3.51, again significant at the 95-percent confidence level. These results also indicate that the relative size of failed banks was significantly larger in the post-1972 period than in earlier years.

The change in the size distribution of failed banks has, among other things, renewed concerns about the impact of federal deposit guarantees on bank behavior. The FDIC acknowledges that extensive use of purchase and assumption transactions has altered incentives for bank depositors to monitor the risk exposure of the banks in which they hold funds. The agency has also identified the negative consequences resulting from this practice. In its published manuscript about the need for deposit insurance reform, the agency notes that the preferential treatment given to larger banks has encouraged depositors to place funds, at virtually no risk, in these larger institutions.[9] This preferential treatment not only requires smaller institutions to pay proportionally more for uninsured deposits but also has removed incentives for the holders of uninsured deposits at large banks to evaluate the financial condition of these banks.

> As the use of assisted deposit assumptions has become more common and increased numbers of depositors and investors continue to be shielded from losses in large banking organizations, the public's perception of the relative safety of funds appears to have become altered. Many believe that no large American bank will be paid off even if it were allowed to fail, and have acted accordingly. In addition to driving large depositors from smaller to larger banks, this growing perception of almost absolute safety of funds in large institutions is having the effect of removing the consideration of bank risk from business decisions. (FDIC, *Deposit Insurance in a Changing Environment,* chap. 3, p. 1)

9. For a thorough discussion of the views of the FDIC on the impact of extensive reliance on P&A transactions to settle bank failures, see *Deposit Insurance in a Changing Environment: A Study of the Current System of Deposit Insurance Pursuant to Section 712 of the Garn-St Germain Depository Institutions Act of 1982, Submitted to the United States Congress by the Federal Deposit Insurance Corporation* (Washington, D.C.: Federal Deposit Insurance Corporation, 1983).

FDIC settlement practices: the large-bank bias

Since 1934 the FDIC has settled 407 bank failures with P&A transactions and 340 failures with some form of deposit payoff.[10] Virtually all large banks, however, have been settled with P&A transactions.

Four factors are usually cited as important determinants of the FDIC's bias in favor of merger settlements for large banks.[11] First, the premium price paid to acquire the failed bank's charter is ordinarily large enough to reduce the estimated cost of a merger below that of a deposit payoff. This factor is also generally important for small banks as well. Second, larger banks have a greater proportion of their liabilities in uninsured deposits; hence, a deposit payoff tends to be more disruptive at larger institutions. Third, a deposit payoff is more difficult with larger banks because it can involve a substantial immediate cash outlay by the FDIC. Although the FDIC may recoup a significant portion of this outlay after the failed bank's assets have been liquidated, concerns that the public's confidence in the banking system would be shaken if the agency were required to reduce its reserve base by a large initial payoff tend to bias the decision to favor a merger solution. Finally, the agency is concerned about negative spillover effects for sound banks from the closing of unsound banks, especially large ones.

Before 1982, all large banks—those with deposits in excess of $100 million—that were closed because of financial difficulty were settled with P&A transactions. In 1982 the FDIC's settlement of Penn Square Bank of Oklahoma City generated some uncertainty about the agency's policy for settling large failures. At the time of failure, the bank had $470 million in deposits. Despite its relatively large size, a deposit payoff was used to settle Penn Square. The holders of uninsured deposits did incur financial loss.

Penn Square involved litigation problems that precluded assumption by another bank. But the treatment given to depositors of large banks since the Penn Square settlement has strengthened the perception that the holders of uninsured deposits at large banks will be treated like fully insured depositors. In 1983 the FDIC arranged a P&A transaction to settle the First National Bank of Midland, which had $575 million in deposits. More recently, the inability to arrange an independent merger for Continental Illinois led the FDIC to arrange a major rescue package for the nation's seventh largest bank.[12]

The magnitude of potential losses to the holders of uninsured deposits at Continental, coupled with concerns about the impact on other financial institutions, induced the FDIC to offer full protection to all general creditors *before* closure.[13] Subsequently, during congressional testimony on the Continental settlement, C. Todd Conover, Comptroller of the Currency, testified that the Federal Government would not allow the nation's 11 largest banks to fail.[14] That statement provided a verbal guarantee of 100-percent coverage to all depositors and general creditors of the largest banks. But the verbal guarantee merely made explicit a perception that previous policy practices had already led depositors of large banks to have; that is, holders of uninsured deposits at large banks would be treated like fully insured depositors.

The explicit guarantee provided to the nation's

10. Data on the number of banks settled as deposit assumptions and deposit payoffs from 1934 to 1983 were obtained from the 1983 *Annual Report* of the Federal Deposit Insurance Corporation, Table 125, page 56. Unpublished data for 1984 were obtained directly from the FDIC. The 11 banks settled with modified payouts in 1984 were treated as deposit payoffs. (The banks are listed in the table accompanying this article.)

11. For a thorough discussion of the FDIC's preference for using P&A transactions to settle failed banks, see Paul M. Horvitz, "Failures of Large Banks: Implications for Banking Supervision and Deposit Insurance," *Journal of Financial and Quantitative Analysis* 10 (November 1975): 589-601; and Barbara A. Bennett, "Bank Regulation and Deposit Insurance: Controlling the FDIC's Losses," *Economic Review*, Federal Reserve Bank of San Francisco, Spring 1984, 16-30.

12. According to the definition of bank failure used in this article, Continental Illinois is considered a failed bank. Legally, however, the bank was not closed.

13. The FDIC's response to concerns about the problems at Continental Illinois represented a departure from the norm in dealing with severe financial difficulty at large banks. Unable to arrange a merger, the FDIC implemented a rescue plan under which the agency became the major stockholder of the bank holding company. The FDIC accepted the equivalent of 80 percent of Continental Illinois Corporation's equity, and it assumed as much as $4.5 billion in problem loans at the lead bank, Continental Illinois National Bank and Trust Company.

14. For additional discussion of Conover's testimony, see Tim Carrington, "U.S. Won't Let 11 Biggest Banks in Nation Fail," *Wall Street Journal*, 20 September 1984.

FAILED BANKS SETTLED IN 1983 AND 1984 BY "MODIFIED DEPOSIT PAYOFF" APPROACH

1983	Deposits (Millions of dollars)
Union National Bank of Chicago, Chicago, Illinois	$24.5
Atkinson Trust and Savings Bank, Atkinson, Illinois	18.9
1984	
Seminole State National Bank, Seminole, Texas	41.3
Heritage Bank, Anaheim, California	153.3
Security National Bank of Lubbock, Lubbock, Texas	40.6
Gamaliel Bank, Gamaliel, Kentucky	21.6
United of America Bank, Chicago, Illinois	29.0
West Coast Bank, Los Angeles, California	154.8
First National Bank, Snyder, Texas	15.2
The National Bank of Carmel, Carmel-By-The-Sea, California	70.8
First Continental Bank & Trust Company of Del City, Del City, Oklahoma	92.3
Stewardship Bank of Oregon, Portland, Oregon	5.4
The Dayton Bank & Trust Company, Dayton, Tennessee	47.5

SOURCE: Federal Deposit Insurance Corporation.

largest banks was in sharp contrast to the treatment of several smaller banks that were settled with modified payoffs in 1983 and 1984. (See the table.) The uninsured depositors at those banks did incur financial loss, with initial payouts ranging from 35 to 75 percent of the dollar value of their holdings.

The FDIC's purpose in using modified payoffs at those 13 banks was to test procedures that might reestablish incentives for holders of uninsured deposits to monitor the risk exposure of their banks, incentives that had been eliminated by full insurance guarantees. But the FDIC did not apply the practice uniformly at large and small banks. Although two banks with deposits just over $150 million were settled with modified payoffs, depositors at the largest institutions, including First National Bank of Midland and Continental Illinois, received full protection.

Criticisms against the preferential treatment given to larger banks are likely to constrain the FDIC from using modified payouts to settle failed banks. Further attempts to reintroduce pricing constraints on risk taking by providing less than full protection to the holders of uninsured deposits will probably be curtailed, at least in the near future.

FDIC insurance, deposit pricing, and information about bank risk

The incentive mechanism established by full deposit insurance guarantees has inhibited the flow of information that would normally be produced by the frequent adjustments of depositors to changes in the risk exposure of individual banks. With full insurance guarantees, bank depositors have little incentive to adjust to incremental changes in the risk exposure of individual banks. Hence, bank depositors generally do not require large interest rate premiums to keep funds at riskier institutions.

The full (implicit) guarantee provided to banks has altered both the timing and the magnitude of price and quantity adjustments in the bank deposit market. By sharply reducing the probability that bank depositors would incur any financial loss from bank failures, FDIC policies removed incentives for uninsured depositors to make continuous price and quantity adjustments on the basis of new informa-

tion on the risk exposure of individual banks. It is only after problems of significant proportions arise that large and potentially unstable price and quantity adjustments develop in the bank deposit market. The pattern of information flow is quite different from that which is normally produced by continuous price and quantity adjustments.

The 100-percent insurance protection provided to depositors is *de facto*, not *de jure*. To eliminate any chance of incurring financial loss—the magnitude of which can be large—uninsured depositors tend to remove funds from troubled institutions before failure. The structure of interest rates in the market for uninsured bank deposits can then become sharply graduated, or "tiered," with risk premiums reflecting the low but positive probability that uninsured depositors will incur financial loss. As the financial condition of a troubled bank worsens, large outflows of uninsured funds can and do occur. But these large deposit outflows only develop after serious problems have been identified. At this point, the bank may indeed undertake actions to reduce its exposure to risk. If taken earlier, these actions might have prevented the very problems the bank faces. By the time corrective actions are taken, however, the poor quality of the troubled bank's asset portfolio limits the bank's ability to reduce its exposure to risk. In this way, removal of constraints against risk taking that would normally be imposed by the holders of uninsured deposits may have increased the likelihood of failure at large insured banks.

Conclusion

Full insurance coverage of bank deposits has encouraged banks to increase their exposure to risk and thereby has increased the probability of bank failures. Risk premiums on bank deposit rates no longer provide an effective constraint against risk taking. Unless a bank, or group of banks, is in serious danger of failing, the holders of uninsured deposits do not require large interest rate premiums to keep their funds at the riskier institutions. If a bank experiences serious earnings difficulties, outflows of funds from the troubled bank induce it to adjust deposit rates upward in accordance with revised assessments of the bank's risk exposure. But these quantity and pricing adjustments take place after sizable problems have been identified—problems sufficiently large to raise questions about the bank's solvency.

In sharp contrast to the way creditors normally impose constraints on risk takers, bank depositors no longer provide effective restraints against risk taking. When banks fail, stockholders and subordinated creditors incur financial loss, but losses to depositors have been infrequent and small. As a result, depositors—the principal creditors of banks—have little reason to be concerned about the financial condition of their banks.

The *de facto* 100-percent protection furnished bank depositors appears to have reduced differentials on deposit rates offered by banks with different risk profiles to small fractions of those that would normally be required to compensate for risk differences. Thus, banks generally, and large banks in particular, operate in a unique environment. Their principal creditors—depositors—impose little or no constraint on risk decisions.

The elimination of risk premiums on bank deposits commensurate with risk differences among banks increases the probability that sizable errors will be made in the actual risk exposure of banks. Similarly, the bias in favor of large banks increases the probability of large-bank failures. The rise in the bank failure rate and in the relative size of failed banks in the post-1972 period indicates that both predictions have already occurred.

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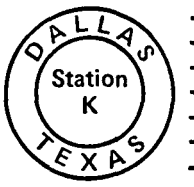

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