

The Reconstruction Finance Corporation: Would It Work Today?

By William R. Keeton

With the deposit insurance fund continuing to shrink, some banking experts argue that the government should invest in weak banks to nurse them back to health. According to this view, government investment can avoid the unnecessary closure of viable banks, benefiting both the taxpayer and the economy as a whole. Other experts argue that weak banks should be promptly shut down or that government investment has no advantage over forbearance.

Advocates of government investment in weak banks often point to the success of the Reconstruction Finance Corporation (RFC) in the Great Depression as evidence the approach would also work today. By purchasing preferred stock in thousands of banks, the RFC is claimed to have spurred a strong recovery in banking. But no one has examined the evidence in detail. Was the RFC really that successful in revitalizing the banking industry? And even if government investment did work in the 1930s, does such an approach make sense in the very different circumstances faced by banks today?

This article argues that the RFC did help many viable banks survive in the 1930s but that government investment should be used with caution today. The first section of the article reviews the current debate over government investment, describing recent proposals and summarizing arguments for and against the approach. The second section reexamines the record of the RFC in the 1930s. The section explains how the preferred stock program came into existence and presents evidence that the program worked better than prompt corrective action or forbearance. The last section considers the implications of the RFC experience for the current debate in light of key differences between the 1930s and today.

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The Current Debate

The high rate of bank failures and the sharp decline in the bank insurance fund over the last several years have intensified debate over the best way to deal with poorly capitalized banks. One option is prompt corrective action. Under this approach, regulators would allow the bank to remain open only if it could raise enough capital to satisfy minimum capital requirements within a short period of time. While raising the additional capital, the bank would also be subject to tighter regulation. A second option is forbearance. In this case, regulators would allow the bank to continue operating with low capital and few additional restrictions on its behavior on the condition that it gradually rebuild its capital. The final option is government investment. Under this approach, the government would supply part or all of the capital the bank needed to comply with minimum capital requirements.

Some banking experts and government officials have argued that government investment is the best of the three alternatives because it minimizes the costs of bank failures to the FDIC and society as a whole. This section describes recent proposals for government investment in weak banks, explains the rationale for government investment, and summarizes the major criticisms of the approach.

Recent proposals for government investment

Interest in government investment in weak banks increased in late 1990 in response to two closely related developments. First, bank failures seemed likely to remain high for several years due to the large number of troubled banks and the weak economy. And second, the Bank Insurance Fund (BIF) appeared in much worse shape than previously believed, suggesting the FDIC would soon run out of money to resolve

failures. Some banking experts argued that government investment could alleviate these problems by helping temporarily troubled banks get back on their feet.

One way the government can invest in weak banks is through "open-bank assistance" by the FDIC. Current law permits such assistance if it would cost the FDIC more to close the bank and pay off insured depositors or if the continued operation of the bank is essential to the community.¹ Open-bank assistance usually consists of subordinated debt or preferred stock, both of which count toward bank capital requirements.² In some cases, the securities are convertible to common stock or accompanied by options to buy common stock, allowing the FDIC to share in the bank's profits if it recovers. The securities cannot carry voting rights.

Support for open-bank assistance increased in late 1990. Throughout the 1980s, open-bank assistance was largely confined to cases in which the FDIC considered it impractical to first close the bank and then arrange a merger with a healthy bank.³ But as banking problems intensified, some experts argued that the approach should be used more widely, a view the FDIC appeared to accept (Seidman 1990; Rehm 1991a). According to press reports, the FDIC saw open-bank assistance as especially promising in states like New Hampshire where a downturn in the local economy had contributed to banking problems (Nagle 1991).

As open-bank assistance was gaining support, proposals surfaced for a special investment fund similar to the RFC. During the debate over recapitalizing the BIF, both the FDIC and representatives of the banking industry strongly supported such a fund (Rehm 1991b). The four major bank trade groups agreed to include an RFC fund in their formal plan for recapitalizing the BIF (American Banker 1991). And in Congress, Senator Dixon introduced a bill to implement the idea (BNA Banking Report 1991a;

Congressional Record).⁴ Banking experts advanced their own plans, including a special fund to purchase \$25 billion in preferred stock in troubled but “economically solvent” banks (Bryan, ch. 13).⁵

Enthusiasm for government investment waned in the spring and summer of 1991 but showed signs of reviving by the end of the year. Momentum in Congress shifted toward prompt corrective action as the best way to deal with weak banks. And, coinciding with this shift in attitude, the FDIC quit espousing government investment.⁶ When Congress finally passed a banking bill in November, it endorsed prompt corrective action. But the bill also included a provision encouraging regulators to use open-bank assistance whenever it was cost effective (BNA Banking Report 1991c). And, as the condition of the BIF worsened in late 1991, support for government investment picked up. Chairman Reigle of the Senate Banking Committee wrote to the President backing an RFC fund (Labaton), while Governor Cuomo of New York suggested the Federal Reserve purchase equity in major banks (Murray). Regulators began to speak more favorably of government investment in troubled banks.⁷ And outside of government, a small but vocal minority of banking experts continued to support the general approach (Isaac; Mingo; BNA Banking Report 1991b).

The case for government investment

The argument for government investment begins with the premise that some weak banks should be left open because they are viable. According to this view, some troubled banks have valuable intangible assets, such as long-term relationships with depositors and borrowers, which would enable them to return to profitability over time. If such banks were forced to close, some of these intangible assets

would be lost, even if the banks were later resold to healthier banks. For example, the FDIC claims that the value of a troubled bank’s assets falls 10 to 15 percent as soon as the bank is seized by the government (Seidman 1991a). This destruction of intangible assets would not only be a net loss to the economy but could also force the FDIC to take a loss in disposing of the bank.⁸ The government could avoid these costs by helping the bank restore its capital rather than shutting it down.

Proponents of government investment go on to argue that under prompt corrective action, weak but viable banks would be forced to close because they would not be able to raise enough capital to meet the minimum requirement.⁹ In some cases, private investors may refuse to invest in a weak but viable bank because they lack information about the bank’s true condition. From published financial statements, investors may be unable to determine whether a troubled bank’s losses are temporary or permanent. In other cases, private investors may realize a troubled bank is well managed but refuse to invest out of fear that economic conditions will not improve fast enough to allow the bank to recover.

Proponents of government investment believe these obstacles to private investment need not apply to the government. Because regulators examine banks on a regular basis, the government is usually in a better position than private investors to determine which troubled banks are truly viable. Also, the government may have more reason than private investors to assume economic conditions will improve fast enough for weak banks to recover. For example, the government may believe that by investing in enough banks simultaneously, it can help revive the local or national economy. Or the government may plan other steps to revive the economy, ensuring that the banks in which it invests do indeed recover.

These arguments establish the case for government investment over prompt corrective action. But even if it were true some weak banks should be kept open, government investment would not be the only way to achieve that result. An alternative approach would be to exercise forbearance—that is, to let the banks operate below the minimum capital requirement while they gradually restore their capital through retained earnings or win back the confidence of outside investors.

One argument against forbearance is that it gives weak banks a strong incentive to go for broke by taking big risks. By switching to a riskier investment strategy, a bank increases both the chance of heavy profits and the chance of high losses. But if the riskier strategy is unsuccessful, the loss to the bank's owners will be limited to their investment in the bank. Thus, compared to the owners of a well capitalized bank, the owners of a poorly capitalized bank have less to lose from a riskier investment strategy but just as much to gain.¹⁰

Some forms of government investment can lower this incentive to gamble by reducing the potential gains to the bank's private owners. Suppose, for example, that the government buys common stock in a weak bank on the condition the bank use the funds to replace deposits. If the bank adopts a riskier investment strategy and the strategy fails, the loss to the bank's private owners will still be limited to their investment in the bank. But if the strategy succeeds, the owners will have to share the bank's profits with the government, reducing their expected gain. Alternatively, the government can invest in preferred stock or subordinated debt that is convertible to common stock or accompanied by options on common stock. In this case, the government will be able to share in any extraordinary profits the bank earns by converting its securities to common stock or exercising its options. Thus, as before,

the bank will have less to gain from a risky strategy that increases the chance of high profits.

Another argument for government investment over forbearance is that government investment can do more to promote the recovery of weak but viable banks by helping them attract uninsured deposits. Under forbearance, a poorly capitalized bank must pay a high interest rate to its uninsured depositors to compensate them for the bank's high risk of failure. If the government invests in the bank, uninsured depositors will be at less risk because the new capital will help absorb any losses the bank suffers. Thus, the bank will be able to pay a lower rate on its uninsured deposits, allowing it to return to profitability faster than it could without the capital infusion.¹¹

The case against government investment

A common criticism of government investment in weak banks is that it would lead to excessive government ownership and control of the banking industry (Barth and others). Even if the government were restricted to nonvoting stock, its joint status as regulator and major shareholder could encourage it to interfere with basic management decisions. And if a bank failed to turn around, the government might be tempted to seize and operate the bank itself in an effort to salvage its investment. Critics argue that such government control would be both economically inefficient and politically undesirable.

A second criticism is that the government would prop up many nonviable banks because it would be unable to single out troubled banks that are viable (U.S. House of Representatives 1991a). According to this argument, which has also been used against forbearance, the government does not have any better information than private investors about banks' true condition. Thus, if a troubled bank is unable to raise private capital, the government should assume

the bank is nonviable. Keeping such banks open through an infusion of government capital just delays the inevitable. When the banks ultimately do fail, they are likely to cost the FDIC more money to resolve. And in the meantime, they use up scarce resources that would be better employed at well managed banks.¹²

A third criticism is that government investment may fail to benefit weak banks by reassuring their uninsured depositors because those depositors already believe their funds are safe. About 75 percent of deposits now fall under the statutory insurance limit of \$100,000. And in most recent bank failures, the FDIC has protected deposits above the limit by arranging a merger with a healthy bank.¹³ To the extent the depositors of a weak bank already believe they are fully protected, government investment will have no tendency to speed the bank's recovery by reducing its cost of funds.

A final criticism is that some forms of government investment may have just as much tendency as forbearance to encourage weak banks to gamble. For government investment to reduce a bank's incentive to take risk, it must reduce the potential gains to the bank's private owners from a riskier investment strategy. But if the investment takes the form of nonconvertible preferred stock or subordinated debt and does not involve options to buy common stock, the government will not share in any extraordinary profits the bank earns. Thus, the bank's private owners will still capture all the gains from a riskier investment strategy, leaving the bank's incentive to gamble unchanged.

Who is right, the proponents or critics of government investment? To help answer this question, the rest of this article will focus on the record of the RFC during the Depression. Most proponents of government investment in weak banks take for granted that this approach worked in the 1930s. But did government investment really work better than prompt cor-

rective action or forbearance? And to the extent it did, how confident can we be that the same approach would work today?

The RFC Reexamined

The RFC was a powerful agency that provided many forms of financial assistance to business and government during its 25-year existence. Besides helping banks and other financial institutions, the RFC made direct loans to businesses, financed emergency relief and public works projects, and helped fund mobilization for World War II. From its birth in 1932 to its termination in 1957, the RFC loaned or invested more than \$40 billion (U.S. Treasury, p. 45). A small part of these funds came from an initial capital subscription by the Treasury Department. The rest was borrowed from Treasury and the public.¹⁴

Our concern is with a particular aspect of the RFC's operations—the purchase of preferred stock in poorly capitalized banks. This section reviews the background of the preferred stock program and evaluates empirical evidence on its success.

Background of the preferred stock program

The preferred stock program was established in the midst of the greatest banking crisis in the nation's history. The rate of bank failures had been high throughout the 1920s but increased much further in 1930-33, the first four years of the Great Depression (Table 1). As borrowers defaulted on their loans and the value of banks' securities fell, more and more banks were unable to meet normal deposit withdrawals. And as failures increased, depositors began to lose confidence and withdraw their funds to hold in the form of currency. Throughout most of this period, the Federal Reserve failed to use open-market pur-

Table 1

Average Annual Failure Rates of Commercial Banks

	<u>Percent of banks^a</u>	<u>Percent of deposits^b</u>
1921-29	2.2	.4
1930-33	10.7	4.1
1934-40 ^c	.4	.1

^a Average annual failures divided by average number of banks in operation at beginning of year.

^b Average deposits of failed banks divided by average deposits of banks in operation at middle of year.

^c Insured banks only. Total failures over the period include 225 banks closed and placed in receivership and 128 banks merged with FDIC aid.

Source: *Federal Reserve Bulletin*, Board of Governors, and FDIC Annual Reports.

chases or discount-window loans to offset the decline in bank reserves. Thus, the banking system as a whole had to contract, resulting in the forced sale of securities and further declines in the value of banks' assets.¹⁵

In early 1932, President Hoover tried to reverse the surge in bank failures by establishing the RFC to shore up troubled banks.¹⁶ However, the RFC was not authorized to make capital investments in banks. All it could do was make fully secured, short-term loans at above-market interest rates. At first, these loans seemed to restore confidence in the banking system by providing banks an additional source of funds to meet withdrawals. But the terms of the loans were so strict that many weak banks could not take advantage. Also, the loans did nothing to offset the decline in bank capital caused by loan defaults and falling bond prices. Thus, by the end of 1932, failures reached new highs and runs on banks resumed, forcing some states to declare banking holidays. Among other recommendations for dealing with the crisis,

Hoover's advisers urged that the RFC be authorized to purchase preferred stock in undercapitalized banks. But Hoover resisted and the crisis continued.

When President Roosevelt assumed office in March 1933, one of his first official acts was to declare a nationwide banking holiday while his advisers formulated a plan for restoring order to the financial system. The result of these deliberations was the Emergency Banking Act, which Congress approved later the same month. Incorporating ideas already worked out by Hoover's advisers, this act established procedures for reopening sound banks and resolving hopelessly insolvent banks. To help weak banks rebuild their capital, the act also allowed the RFC to purchase preferred stock in both national and state-chartered banks. These securities were not convertible to common stock but carried voting rights. Some states prohibited their banks from selling the kind of preferred stock authorized by the legislation. To accommodate these banks, Congress amended the law shortly

after passage to allow the RFC to purchase subordinated debt as well as preferred stock.¹⁷

The preferred stock program got off to a slow start. At first, most of the RFC purchases were to reorganize banks that failed to reopen after the national banking holiday (Upham and Lamke, p. 198). Those banks that did reopen after the holiday showed little interest in the program. Some banks may have feared their depositors would interpret participation as a sign of weakness. Others may have worried they would be unable to meet the dividend payments on the preferred stock (Olson 1988, p. 73).

Given this lack of interest in RFC investment, the Administration became concerned that many banks would not have enough capital to qualify for deposit insurance. When Congress enacted federal deposit insurance in June, it stipulated that only solvent banks would be admitted on the starting date of January 1, 1934. But by fall of 1933, thousands of open banks were still insolvent in the sense that the market value of their assets was less than their liability to depositors.¹⁸ Administration officials feared that if large numbers of banks failed to qualify for deposit insurance, the public's confidence in the banking system would collapse and another banking panic would ensue. Accordingly, officials put increased pressure on banks to restore their capital through RFC investment.

RFC investment increased sharply in late 1933 in response to Administration pressure and then remained high through the first half of 1934 (Chart 1). Over the next year, new RFC investment tapered off and healthier banks began retiring their obligations, causing the amount of RFC capital outstanding to turn downward. The RFC ended up spending a total of \$1.2 billion on the program. At the peak in June 1935, the RFC held \$892 million in bank capital—\$869 million in commercial banks and the rest in mutual savings banks. The investment in commercial banks accounted for 14 percent of

the industry's total book capital and involved 5,685 banks—40 percent of all insured banks.¹⁹

Did government investment work?

The Roosevelt Administration had two goals in adopting the preferred stock program. The first goal was to keep poorly capitalized banks open and help them recover. The second goal was to revive the economy by making banks willing to lend to businesses instead of investing all their funds in safer assets like cash and U.S. government securities. Most observers agree the RFC failed in its second objective (Olson 1988; Chandler pp. 150-51).²⁰ But while stimulating bank lending was an important goal of the RFC, it is not the main argument given for government investment today. Accordingly, this article will focus on the first goal of the RFC, rescuing weak banks.²¹

It is now widely accepted that the RFC's efforts to rescue weak banks helped restore the health of the banking system. Not surprisingly, the strongest statement of this view comes from Jesse Jones, who headed the agency for 13 years:

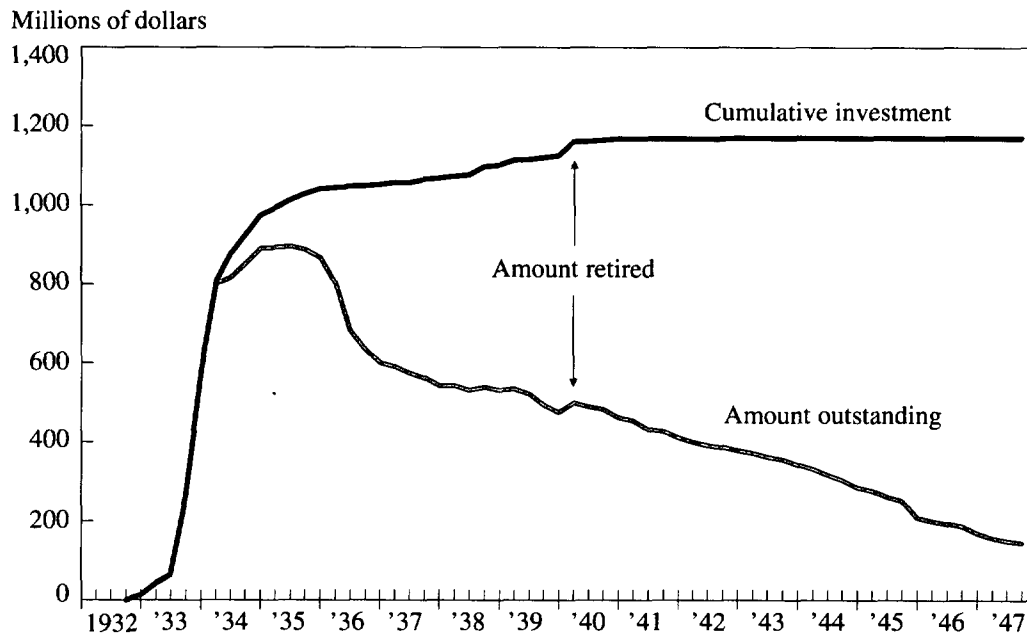
The program of putting capital into banks prevented the failure of our whole credit system ...If the system as a whole had not been assisted by the injection of a large amount of new capital ...the collapse would have become so widespread that few, if any, banks could have continued operating (Jones, pp. 26, 34).

More dispassionate observers also speak approvingly of the rescue effort. For example, Friedman and Schwartz say the RFC "played a major role in the restoration of the banking system" (p. 427). And Chandler notes that RFC aid, while failing to stimulate bank lending, "did increase the liquidity and solvency of banks" (p. 150).

Was the preferred stock program as effective as generally believed? Our earlier discussion of the pros and cons of government

Chart 1

Capital Investment by RFC in U.S. Banks



Note: Totals include mutual savings banks.

Source: U.S. Treasury Department.

investment suggests four criteria for evaluating the program.

First, did the program lead to significant government ownership and control of the banking industry? If so, either prompt corrective action or forbearance might have been better ways to deal with weak banks.

Second, did the program help viable banks remain open, or did it merely prolong the life of nonviable banks? If the latter, prompt corrective action would have been preferable to government investment.

Third, did the program help viable banks recover any faster than they would have without new capital? If not, forbearance would have worked just as well as government investment with less interference in private affairs.

Fourth, by allowing banks to operate with

low private capital, did the program encourage excessive risk-taking? If so, the government would have been better off using prompt corrective action or structuring its investments so it shared more fully in banks' profits.

The rest of this section will examine three forms of evidence on the success of the RFC—the retirement of government capital, the rate of bank failures, and the rebuilding of private capital. Each of these forms of evidence will help answer one or more of the above questions.

Retirement of government capital

Observers who believe the RFC was successful frequently cite the favorable record of repayment by banks receiving RFC investment. Chart 1 shows that after 1935, banks steadily

reduced their outstanding RFC capital. By the end of 1947, only \$146 million remained on banks' books out of a total investment of \$1.2 billion. Furthermore, very little of the reduction in outstanding capital was due to writeoffs, as the RFC charged off only \$11 million from 1933 to 1947. Repayments continued over the next ten years. Thus, when the agency was finally abolished in 1957, only \$5 million in two banks remained unpaid (U.S. Treasury, pp. 55-56, 176).

What can we conclude from this evidence? The fact that the RFC suffered such few losses suggests that most of the banks in which it invested were viable and refrained from taking excessive risks. And banks' success in retiring their RFC capital means that the government did not end up owning and controlling a substantial portion of the banking industry.

Critics of the program could argue that the government still exercised too much control over the operations of the banks in which it invested, especially in the first years of the program. In contrast to current FDIC investments, the RFC's preferred stock carried voting rights. And apparently the RFC did not hesitate to exercise those rights by replacing executive officers or directors (Upham and Lamke, pp. 234-42). However, RFC involvement in bank management was at least temporary.

Bank failures

The favorable view most observers have of the RFC is also based on the steep decline in bank failures after 1933. During the 1930s a bank could fail in two ways. Regulators could close the bank and place it in receivership. Or regulators could leave the bank open and the FDIC could pay a healthy bank to take over its deposits and some or all of its assets. Table 1 shows that when both types of failure are included, an average of 0.4 percent of banks

failed each year during the period 1934-40, down sharply from 1920-29 and especially from 1930-33. Similarly, the deposits of failed banks averaged only 0.1 percent of total deposits in 1934-40, significantly less than in either 1920-29 or 1930-33.

The above data support the view that most banks receiving RFC funds were viable and refrained from taking excessive risks. At the peak, banks with RFC capital accounted for 40 percent of the total. If these banks had failed in large numbers, the total failure rate could not have declined as much as it did. But the aggregate data cannot tell us how low the failure rates were for banks with RFC capital—either in absolute terms or relative to other banks. While disaggregated data are limited, Tables 2 and 3 help answer this question.

Table 2 compares the ratio of RFC capital to assets at open banks with the ratio at failed banks, including both closures and assisted mergers. For every year except 1935, failed banks had significantly more RFC capital relative to assets than open banks.²² These data imply that banks with high RFC capital were more likely to fail than banks with low RFC capital. However, the data do not reveal how high the RFC failure rate was in absolute terms.

Table 3 compares the percent of banks with and without RFC capital that failed through closure. These closure rates are reported both for all banks and for banks not belonging to the Federal Reserve System—the group accounting for most of the closures. Throughout the period, a higher percent of banks with RFC capital were closed than of banks without RFC capital. Even among nonmember banks, however, the closure rate for banks with RFC capital never rose above 1.2 percent, the level reached in 1938.

Data do not exist on the percent of banks with and without RFC capital that failed through merger, but some inferences can be

Table 2

Ratio of RFC Capital to Assets at Insured Commercial Banks
(percent)

	<u>1934</u>	<u>1935</u>	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>
Failed banks (closed or merged with FDIC aid)	3.4	1.3	3.4	3.4	6.5	4.6	4.7
Open banks ^a	1.8	1.8	1.5	1.1	1.0	.9	.7

^a Ratio for all banks in operation at middle of year.

Source: FDIC Annual Reports and Call Reports for Insured Banks.

made from the aggregate data. Given total mergers, the merger rate for RFC banks could not have been low enough relative to that for non-RFC banks to offset the difference in closure rates in Table 3. Even under the most extreme assumptions, however, the merger rate for RFC banks remained well below 1 percent each year of the period.²³ Thus, taking into account both closures and mergers, banks with RFC capital failed at a higher rate than banks without RFC capital but at a lower rate than banks in either the 1920s or early 1930s.

What conclusions can be drawn from this evidence? The fact that banks with high RFC capital failed at a higher rate than other banks suggests that a greater fraction of RFC banks were nonviable or took excessive risk than in the industry as a whole.²⁴ However, the fact that the failure rate of RFC banks was not very high in absolute terms suggests that the fraction of nonviable banks or risk-prone banks was also not very high. Thus, while the RFC may have propped up some nonviable banks that later failed, it may have rescued an even greater number of viable banks that later recovered. If

so, the preferred stock program was a better way to deal with weak banks than prompt corrective action, though not necessarily superior to forbearance.

Rebuilding of private capital

A final source of evidence is the ability of banks to rebuild their private capital from the low levels reached in 1933. Two pieces of evidence will be considered: the change in private capital in the industry as a whole, and the change in private capital in states or cities with different amounts of RFC capital.

Improvement in industry as a whole. If the RFC helped restore the health of the banking industry, as supporters claim, the industry's private capital position should have improved. Determining whether such an improvement occurred is complicated by the sharp divergence between the book value and market value of banks' assets. The first column in Table 4 reports the ratio of private book capital to book assets for all insured banks, where private book capital is defined as total book capital minus

Table 3

Percent of Insured Commercial Banks Closed

	<u>1935</u>	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>
1. All banks						
with RFC capital ^a	.3	.5	.7	.7	.5	.2
without RFC capital ^b	.1	.1	.2	.2	.1	.1
2. Nonmember banks						
with RFC capital ^a	.4	.9	1.1	1.2	.6	.3
without RFC capital ^b	.2	.3	.2	.3	.2	.2

^a Number of closed banks with RFC capital as a percent of number of banks in operation at beginning of year with RFC capital.

^b Number of closed banks without RFC capital as a percent of number of banks in operation at beginning of year without RFC capital.

Source: FDIC Annual Reports and Call Reports for Insured Banks.

RFC capital. This ratio actually fell four percentage points from the end of 1933 to the end of 1936. However, the table shows that banks also charged off 1 percent or more of their assets each year from 1934 to 1936. Comparing the second and third columns, it can be seen that these chargeoffs more than explain the decline in the capital-asset ratio over the same period. Furthermore, it is widely agreed that most of the assets that banks wrote off in 1934-36 were already worthless in 1933 (FDIC 1934, pp. 47-53; Hart, pp. 53-55).²⁵ Thus, if the assets on banks' books had been properly valued, the private capital-asset ratio would probably show a substantial increase after 1933 rather than a decrease.

Chart 2 provides more direct evidence that banks' true capital position improved after 1933, using data on nonmember banks.²⁶ For this set of banks, the chart compares the ratio of private book capital to book assets with the ratio

of private sound capital to sound assets. Private sound capital and sound assets are computed by subtracting examiners' estimate of worthless and doubtful assets from private book capital and book assets, respectively. The chart shows that while the ratio of private book capital fell sharply from 1933 to 1936, the ratio of sound private capital rose sharply. After 1936, the two capital measures moved more or less in tandem and much more gradually. Unfortunately, examiners' estimates of unsound assets are unavailable by year for the other two major categories of banks—national banks and state member banks. Like nonmember banks, however, these banks took very high chargeoffs in 1934-36. Thus, there is every reason to believe their sound capital also increased much more than their book capital during these years.²⁷

Does this improvement in the capital position of the banking industry imply that government investment worked in the 1930s?

Table 4

Capital Position of Insured Commercial Banks, 1933-39

	Private capital-asset ratio (end of year) ^a	Change from previous year	Chargeoff rate ^b
1933	14.2		
1934	11.5	-2.7	2.6
1935	10.5	-1.0	1.4
1936	10.1	-.4	1.0
1937	10.8	.7	.7
1938	10.4	-.4	.8
1939	9.6	-1.2	.8

^a Total book capital minus RFC capital as percent of total book assets.

^b Gross chargeoffs as percent of total book assets at beginning of year.

Source: FDIC Annual Reports.

Supporters of government investment could argue that such an improvement could not have occurred unless most of the 6,000 banks in which the RFC invested were viable and refrained from taking big risks. However, proponents of prompt corrective action could argue that most of the banks were really nonviable and that the industry's private capital rose only because the other 8,000 banks benefited from the rebound in the economy.²⁸ Alternatively, proponents of forbearance could argue that banks receiving RFC aid were viable but that these banks and the industry as a whole would have improved just as much without the aid. Thus, while suggestive, the aggregate data do not completely answer the basic questions posed earlier.

Differences across cities and states. These ambiguities in the aggregate data can be resolved by seeing if banks in areas with high RFC investment showed more improvement in

private capital than banks in areas with low RFC investment. Such a comparison can be made for two samples—nonmember banks in different states and national banks in different states and cities. For each sample, regressions were used to estimate the relationship between RFC investment and improvement in private capital.

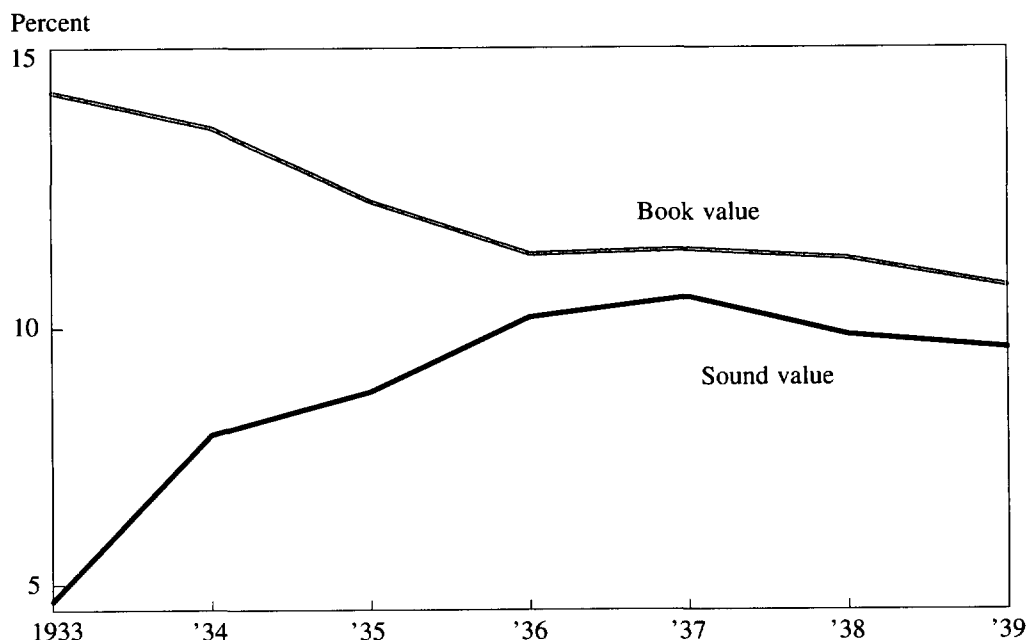
Table 5 reports regression results for nonmember banks in 44 states for the period from December 1934 to December 1938. This period includes the severe recession in 1937-38. Thus, the results reflect banks' ability to weather a downturn as well as their ability to rebuild capital during the early years of recovery.

The first regression in Table 5 appears to confirm that RFC investment helped weak banks rebuild their private capital. Equation 1 shows that the ratio of sound private capital to sound assets increased more in states with high initial RFC capital than in states with low initial

Chart 2

Private Capital-Asset Ratios

Nonmember Banks



Source: FDIC Annual Reports.

RFC capital. In particular, an extra percentage point of initial RFC capital was associated with an extra increase of 0.64 points in the private capital-asset ratio.

One problem with the first regression is that it fails to control for other factors affecting the improvement in private capital. Because the RFC invested in poorly capitalized banks, the states with the most RFC capital in 1934 were also the ones with the least sound private capital. States with high RFC capital may have improved more than other states only because a) their banks started out with less private capital, and b) banks with low private capital tended to catch up with banks with high private capital, regardless of how much RFC capital they had. On the other hand, banks receiving RFC aid also started out with high levels of slow loans—

loans classified as sound but believed to have an unduly high chance of loss.²⁹ This factor would have worked in the opposite direction, causing states with high RFC capital to show less improvement in private capital than other states.

The second regression in Table 5 provides a better test of the effectiveness of RFC investment by controlling for both the initial level of sound private capital and the initial level of slow loans. The negative coefficient on initial private capital confirms that states with low private capital tended to catch up with other states, regardless of how much RFC capital they had. On the other hand, the negative coefficient on slow loans suggests that states with high levels of slow loans had more difficulty attracting outside capital or rebuilding capital through retained earnings. For our purposes, the impor-

Table 5

Change in Private Capital of Nonmember Banks, 1934-38

Cross-Section Regression Results

	Ratio of RFC capital, Dec. 1934 ^a	Ratio of sound private capital, Dec. 1934 ^a	Ratio of slow loans, Dec. 1934 ^a	Adj. R ²
1) Total change in capital-asset ratio ^b	.64* (4.38)			.30
2) Total change in capital-asset ratio ^b	.64* (3.68)	-.29* (3.63)	-.20* (3.40)	.59
3) Change in capital- asset ratio due to asset growth ^c	-.07 (.80)	-.28* (6.81)	-.01 (.23)	.58
4) Change in capital- asset ratio due to capital growth ^d	.71* (4.32)	-.01 (.17)	-.19* (3.47)	.39

* Significant at 1 percent level (absolute value of t-statistic in parentheses).

^a Percent of sound assets in December 1934.^b Change from December 1934 to December 1938 in ratio of sound private capital to sound assets.^c Initial capital-asset ratio times $-g/(1+g)$, where g is growth in sound assets per bank. Represents amount ratio would have declined if capital per bank had not changed.^d Change in sound private capital per bank from December 1934 to December 1938 divided by end-of-period assets per bank.

Note: Data are from FDIC Annual Reports and Call Reports for Insured Banks.

tant result is that the coefficient on the RFC variable remains unchanged and statistically significant. Thus, states with higher RFC capital still show greater improvement in private capital when we control for their initial position.

A final possibility that must be considered is that states with high RFC capital had bigger increases in capital-asset ratios only because their banks expanded their assets more slowly or even shrank. If the bigger increase in capital-asset ratios was due to slower asset growth rather than faster capital growth, it would be hard to argue that RFC investment helped viable banks

return to profitability or attract new investors.

To investigate this possibility, the total change in the capital-asset ratio was decomposed into two parts—the change due to asset growth and the change due to capital growth. In equations 3 and 4, these two components were then regressed against the same variables as in equation 2. The results show that the bigger increase in capital-asset ratios in states with high RFC capital was not due to slower asset growth. In equation 3, the coefficient on RFC capital is close to zero, implying that asset growth had the same tendency to reduce capital-asset ratios in

states with high RFC capital as in states with low RFC capital. And in equation 4, the RFC coefficient is positive and significant, showing that states with high RFC capital were more successful than other states at boosting their capital-asset ratios by adding capital.³⁰

Table 6 reports the regression results for the second sample, which consists of national banks in 90 cities and states for the period from June 1934 to June 1938.³¹ The amount of unsound assets in 1934 was proxied by total chargeoffs over the next two years, on the assumption that the assets written off during this period were already worthless in 1934. The change in capital position was then measured by the book private capital-asset ratio at the end of the period minus the estimated sound private capital-asset ratio at the beginning of the period.

The results for national banks are similar to those for nonmember banks, except that the relationship between RFC capital and the improvement in private capital is smaller. Equation 1 indicates that an extra percentage point of RFC capital was associated with an extra increase of 0.32 points in the private capital-asset ratio. Equation 2 shows that this relationship continues to hold when we control for the initial capital-asset ratio, though the RFC coefficient becomes smaller and less significant. Finally, equations 3 and 4 show that the tendency for capital-asset ratios to increase more in areas with high RFC capital was not due to slower asset growth in those areas. From equation 3, these areas suffered just as great a decrease in capital-asset ratios due to asset growth. And from equation 4, they enjoyed a noticeably bigger increase in capital-asset ratios due to capital growth.

What do the two sets of regression results tell us about the impact of RFC investment? In both cases, banks in areas with high RFC capital tended to increase their private capital-asset ratios more than banks in areas with low RFC

capital—a relationship that was not due to a general tendency for weak banks to catch up with strong banks or for banks with high RFC capital to shrink. If banks with high RFC capital were nonviable or prone to gamble, they should have been less successful in rebuilding their private capital than other banks. And if banks with high RFC capital were viable but no better off as a result of RFC aid, they should have experienced the same improvement in private capital as other banks. Thus, the fact that banks in areas with high RFC capital were more successful in restoring their private capital suggests that government investment was a more effective way of dealing with weak banks than either prompt corrective action or forbearance.

Implications for the Current Debate

On balance, the evidence in the previous section suggests that government investment worked in the 1930s. But that success may have been partly due to special circumstances not present today. To determine what lessons, if any, the RFC experience has to offer, it is useful to return to the four basic questions posed earlier.

1) Would government investment lead to excessive government ownership and control of the banking industry? The successful repayment record by banks receiving RFC aid would suggest that government investment need not lead to permanent control of the banking industry. Critics could argue that even the temporary control the RFC exercised over banks in the mid-1930s would be undesirable. But the RFC acquired voting rights in banks—something the FDIC cannot do today and something a new RFC fund could be prohibited from doing. Critics could also argue that government investment would be more likely to lead to permanent government control today because many weak banks are not viable and would be unable to repay the investment. This argument

Table 6

Change in Private Capital of National Banks, 1934-38*Cross-Section Regression Results*

	Ratio of RFC capital, June 1934 ^a	Ratio of sound private capital, June 1934 ^a	Adj. R ²
1) Total change in capital-asset ratio ^b	.32* (3.23)		.10
2) Total change in capital-asset ratio ^b	.21† (2.06)	-.15* (3.43)	.19
3) Change in capital- asset ratio due to asset growth ^c	-.08 (.89)	-.11* (2.81)	.06
4) Change in capital- asset ratio due to capital growth ^d	.28* (3.96)	-.04 (1.25)	.19

* Significant at 1 percent level (absolute value of t-statistic in parentheses).

† Significant at 5 percent level.

^a Percent of estimated sound assets in June 1934.^b Ratio of private book capital to book assets in June 1938 minus estimated ratio of sound private capital to sound assets in June 1934.^c Initial capital-asset ratio times $-g/(1+g)$, where g is growth in sound assets per bank. Represents amount ratio would have declined if capital per bank had not changed.^d Change in private capital per bank from June 1934 to June 1938 divided by end-of-period assets per bank.

Note: Data are from Annual Reports of the Comptroller of the Currency.

is more telling and leads to the second question.

2) Would government investment help viable banks remain open, or would it merely prolong the life of nonviable banks? On balance, the evidence suggests that most banks in which the RFC invested were viable. But because the decline in economic activity from 1929 to 1933 was so severe, regulators could be relatively confident that most troubled banks were victims of circumstances beyond their control.³² The economic decline made it hard for all banks to collect on their loans, regardless of

how prudent they had been. And some banks suffered losses only because they had to sell illiquid assets to meet withdrawals by panicky depositors. Finally, by increasing uncertainty, the Depression made investors more reluctant to take risk. This shift in preferences not only depressed the prices of banks' marketable assets but also prevented banks from raising new capital to offset their losses.³³

Today, regulators cannot be as confident that troubled banks are victims of external circumstances. Because economic declines tend to

be smaller, banks suffering sharp declines in capital are more likely to be victims of their own mismanagement or propensity to gamble. To be sure, some regions have suffered economic downturns even as the national economy has continued to grow. But in contrast to a national downturn, banks suffering from a regional downturn can be faulted for overspecializing in loans to local industry, increasing their risk of failure. As interstate banking spreads, regional slumps will become still less of a justification for aiding troubled banks, because such banks will have less excuse than now for failing to diversify their loan portfolios.

Given the risk of propping up nonviable banks, a good case can be made for restricting government investment to national recessions, when even well-managed banks may find their capital depleted. In such situations, the government could still have difficulty distinguishing viable banks from nonviable banks. But because a relatively high percentage of weak banks would be viable, the government would not have to worry as much about rescuing more nonviable banks than viable banks.³⁴

3) Would government investment help viable banks recover any faster than they would without a capital infusion? In the 1930s, government investment appears to have helped weak banks rebuild their private capital. One way the investment could have helped weak banks is by reassuring uninsured depositors about the safety of their funds. Because the insurance limit was initially \$2,500, only a third of deposits were insured when deposit insurance went into effect.³⁵ Without new capital, the uninsured depositors of weak banks might have demanded higher rates or withdrawn their funds, making it harder for the banks to return to profitability or attract new capital.

Because deposit insurance coverage is much higher today, this beneficial effect of government investment would be smaller. A

much higher proportion of deposits are formally covered—75 percent. And uninsured depositors can be more confident than in 1934 that they will receive de facto protection from the FDIC if their bank fails. Thus, government investment would have less tendency to benefit weak banks by reducing the cost or increasing the availability of uninsured funds.

4) Finally, by allowing banks to operate with low private capital, would government investment encourage excessive risk-taking? In the 1930s, government investment was not the type that could be expected to reduce a bank's incentive to gamble. In particular, the investments were neither convertible to common stock nor accompanied by options to buy common stock, giving the RFC no share in banks' future profits. Despite this fact, banks with RFC capital showed no signs of taking excessive risks.

There is good reason to believe that the form of government investment would matter more today. In 1933, regulators could be confident that most weak banks were in trouble due to the economic decline rather than a propensity to gamble. Also, with unemployment so high, bank managers who still had jobs would have been especially reluctant to risk those jobs by "betting the bank." Finally, throughout most of the 1930s, opportunities for banks to earn big profits at high risk were probably few and far between.

Today, regulators have more reason to worry about weak banks' incentive to gamble. Banks with low capital are more likely to be aggressive banks that gambled and lost—the last banks that should be allowed to operate with low capital. And because insurance coverage is higher, weak banks do not have to worry as much about losing their deposits if they gamble. Thus, if weak banks are kept open, it is more important than in the 1930s for the government to avoid forbearance and forms of investment that preserve banks' incentive to

gamble. Instead, the government should invest in securities, like convertible preferred stock, that give it a share of the banks' future profits.

To summarize, the favorable record of the RFC suggests that government investment can sometimes work better than either prompt corrective action or forbearance. In particular, government investment can help viable banks recover without nationalizing the banking industry, propping up large numbers of nonviable banks, or encouraging excessive risk-taking. However, the many differences between the

1930s and today also suggest that government investment should be used with caution. Above all, two conditions should be met. First, given the difficulty of identifying viable banks, the state of the national economy should be sufficiently poor to leave little doubt that most weak banks are victims of external circumstances. And second, government investment should always be provided in a form that reduces banks' incentive to gamble by forcing them to give up a share of their future profits.

Endnotes

¹ The FDIC's official policy has been to apply a stricter cost test than required by law. If not justified on grounds of essentiality to the community, open-bank assistance must be cheaper, not only than paying off insured depositors, but also than closing the bank and merging it with another bank (*Federal Register*).

² Subordinated debt is debt that can be repaid only after uninsured depositors have been paid in full. Preferred stock is stock with a predetermined dividend that must be paid before any dividends on common stock can be paid. Under the new risk-based capital requirements, subordinated debt and preferred stock with cumulative dividends count as Tier 2 capital and preferred stock with noncumulative dividends counts as Tier 1 capital (Keeton).

³ For example, the FDIC chose open-bank assistance for Continental Illinois because it believed the bank would have to remain closed a long time as a merger partner was sought. In the meantime, the FDIC feared, the bank's value would erode. Changes in banking law in the late 1980s have made it easier for the FDIC to arrange closed-bank mergers—for example, by operating a failing bank as a "bridge bank" while a permanent solution is sought. Thus, before the recent resurgence of interest in open-bank assistance, some experts predicted the approach would fall into disuse (Secura Group).

⁴ In both the industry plan and the Dixon bill, the money was to come from the idle reserves banks hold at the Federal Reserve. Because the Fed hands over its surplus earnings to the Treasury, any losses it suffered on investments in weak banks would be borne by the Treasury. Thus, the government would be the ultimate source of financing. Under both plans, banks had to raise some

private capital to qualify. In the industry plan, the fund was to be used solely to finance mergers of troubled banks. In the Dixon bill, the fund was to give priority to mergers but could also invest in troubled banks that remained independent. The investment was to take the form of preferred stock in the industry plan but could be either subordinated debt or preferred stock (plus options on common stock) in the Dixon bill.

⁵ Under the Bryan plan, the government would invest one dollar for every dollar of private capital the bank raised. Also, the bank would be required to place its problem assets in a separate bank and avoid certain risky investments such as commercial real estate loans. For other proposals by private banking experts, see Rohatyn and Cutler; Jacobo.

⁶ Testifying before the House Banking Committee in April, Chairman Seidman said, "We find very few cases today where [open-bank assistance] appears to be the lowest-cost solution" (U.S. House of Representatives 1991b). Shortly thereafter, Seidman stated that mandatory closure of undercapitalized banks would be desirable over the long term even though it could cause "short-term disruption and increased short-term costs" (Seidman 1991b).

⁷ The new FDIC Chairman, William Taylor, suggested that new techniques, including government investment, might be needed to hold down the FDIC's costs. And in early December, the Office of Thrift Supervision announced a formal program of open-bank assistance for troubled S&Ls (BNA Banking Report 1991d).

⁸ Suppose, for example, that a bank had \$1,000 of insured deposits, \$800 of marketable assets, and \$400 of intangible assets. Then if the bank were closed and the \$400 of

intangible assets were completely lost, the FDIC would incur a net cost of \$200. If instead the bank were able to recover on its own, the FDIC would incur no cost whatsoever. Of course, by closing weak banks sufficiently early—when their marketable assets still exceeded their liabilities—the FDIC might be able to avoid any loss. But in that case, there would still be a net loss to society from the destruction of viable banks' intangible assets.

⁹ One way a bank could meet the minimum capital-asset ratio would be to shrink—that is, to sell assets and use the proceeds to retire deposits. But few banks could rely solely on this method because too many of their assets are tied up in illiquid loans. Thus, under prompt corrective action, the only way most weak but viable banks could remain open would be to raise capital from private investors. Some proponents of government investment argue that even if it were possible, it would be undesirable for banks to meet the minimum requirement by shrinking because such liquidation could lead to a damaging credit crunch (Bryan, pp. 141-42; Rohatyn and Cutler).

¹⁰ Fixed-rate deposit insurance contributes to the problem in a crucial way by allowing poorly capitalized banks to retain or even expand their deposits despite their incentive to gamble. Without deposit insurance, depositors would be aware of weak banks' incentive to gamble and would either demand high rates as compensation or refuse to invest in the banks at all.

¹¹ In principle, the same effect could be achieved by issuing "net worth certificates" to weak banks, a procedure used to keep many undercapitalized thrifts afloat in the 1980s. Under this program, thrifts exchanged their own IOUs for net worth certificates bearing an identical rate of interest. If the thrift failed, the net worth certificate became an obligation of the government to the bank's uninsured depositors and general creditors, reducing their potential loss. It is important to note, however, that net worth certificates do not reduce the potential gains to a bank's owners from riskier loans and investments. Thus, in contrast to government investment, net worth certificates cannot reduce a weak bank's incentive to gamble.

¹² Some critics concede the government has superior information about troubled banks. However, they argue that the government would not use the information optimally because, unlike private investors, government officials would not suffer adverse consequences from wrong decisions. Thus, a better way to ensure that viable banks remained open would be to release the information to the public and let private investors supply the needed capital.

¹³ The new banking bill limits the FDIC's ability to protect uninsured deposits at failed banks. However, such protec-

tion can still be provided if it is cost effective or if the President, Secretary of the Treasury, and FDIC agree that losses by uninsured depositors "would have serious adverse effects on economic conditions or financial stability."

¹⁴ The RFC started out with \$500 million in capital from Treasury and authority to borrow an additional \$1.5 billion from Treasury or the public. The latter limit was gradually increased to \$16 billion through subsequent legislation. The RFC ended up borrowing a total of \$51.3 billion from Treasury and \$3.1 billion from the public (U.S. Treasury Department, pp. 21, 33).

¹⁵ Economists disagree on the timing and relative importance of the various factors contributing to higher bank failures. Friedman and Schwartz argue that the Fed's failure to offset the decline in bank reserves following an initial wave of failures in late 1930 was responsible for the high rate of failures in 1931 and 1932. According to this view, corporate bond prices began falling only after the contraction in deposits forced widespread liquidation of assets by banks (pp. 356-57). In contrast, Temin argues that the decline in economic activity was the main cause of high failures in 1931 and 1932. He agrees that the collapse in bond prices contributed to the failures but argues that the price decline started long before deposits began to contract (pp. 84, 105-10).

¹⁶ The following account draws on two interesting and highly readable histories of the RFC by Olson (1977, 1988). The most thorough explanation of RFC programs to assist troubled banks is a contemporary study by Upham and Lamke.

¹⁷ The RFC could also invest in the banks indirectly by making loans to private shareholders for the purchase of preferred stock. Prior to the Emergency Banking Act, the only kind of stock that national banks and most state-chartered banks could issue was common stock subject to "double liability." Under double liability, the shareholders of a failed bank could be assessed an amount up to their initial investment to cover losses by depositors. The Emergency Banking Act authorized national banks to sell preferred stock without double liability. Half the states immediately passed laws allowing their banks to do the same. However, the other states continued to prohibit any form of bank stock not subject to double liability, preventing their banks from selling preferred stock to the RFC (Upham and Lamke, pp. 108, 189-91).

¹⁸ The FDIC reported that 10 percent of the nonmember banks it approved for deposit insurance were insolvent when they applied, while another 10 percent had ratios of sound capital to deposits below 5 percent (FDIC 1934, p. 51). Jesse Jones, the head of the RFC, later claimed that 2,000 banks with \$8 billion in deposits were still insolvent

in December 1933 and required a capital infusion to qualify for deposit insurance. According to Jones, the assets of these banks were worth only 75 percent of their deposits and other liabilities. Jones said that he and Secretary of the Treasury Morgenthau resolved the crisis by agreeing the RFC would make up the capital shortfall within six months if the Secretary would certify all 2,000 banks as solvent on January 1 (Jesse Jones, pp. 27-30).

¹⁹ Some sources overstate the share of RFC capital in the industry's total book capital. For example, both Friedman and Schwartz (p. 427) and Olson (1988, p. 82) say RFC investment was a third of total capital. This figure could be correct only if capital were measured at par value—that is, only if surplus and retained earnings were excluded.

²⁰ Despite the large infusion of RFC capital, total bank lending continued to stagnate. And the author's own research suggests that lending was just as weak at banks with high RFC capital as at banks with low RFC capital.

²¹ As noted earlier, some experts do argue that government investment can alleviate a credit crunch by making it unnecessary for banks to contract to meet the minimum capital requirement (n. 9). However, most of the current interest in government investment stems from the decline in the BIF and the desire to reduce FDIC costs.

²² For the period as a whole, the ratio of RFC capital to assets was almost identical for the two types of failed banks—4.7 percent for closed banks and 4.6 percent for merged banks. Note that a bank could be insolvent even with substantial RFC capital if its true private capital were sufficiently negative.

²³ For example, 40 percent of nonmember banks had RFC capital at the beginning of 1938 and 0.25 percent of nonmember banks were merged during the year. Thus, even if all the banks merged in 1938 had RFC capital, the merger rate for banks with RFC capital was only 0.63 percent ($0.25/0.40$). Under the more likely assumption that the percent of merged banks with RFC capital was the same as the percent of closed banks with RFC capital—74 percent—the merger rate for banks with RFC capital was only 0.47 percent in 1938 (0.74×0.63).

²⁴ Note, however, that the fact that RFC banks failed at higher rates than other banks in later years does not necessarily mean that the RFC initially invested in a disproportionate number of nonviable banks. Suppose, for example, that banks starting out the period with high RFC capital were no more likely to be nonviable than other banks. Then banks that still had high RFC capital in later years would be more likely to be nonviable than other banks—and thus more likely to fail—simply because nonviable banks would have been less able to retire their RFC capital. This argument cannot explain why RFC

banks also had higher failure rates than other banks in early years.

²⁵ According to the FDIC, banks had written off most of the assets made worthless by the Depression by the end of 1936 (FDIC 1936, p. 43).

²⁶ At the end of 1933, nonmember banks accounted for 54 percent of all insured banks. Because of their small average size, however, they accounted for only 15 percent of total bank assets.

²⁷ The 1937 *Annual Report* of the Comptroller of the Currency does report that the unsound loans of examined national banks fell from \$547 million in 1934 to \$151 million in 1937. When these figures are subtracted from the numerator and denominator of the ratio of private book capital to book assets, the new ratio shows an increase of 1.3 percentage points from 1934 to 1937 instead of a decrease of 0.2 percentage points. Taking into account the change in other unsound assets would presumably cause the ratio to show even more of an improvement between the two years.

²⁸ Other factors that may have helped promote banking recovery after 1933, besides economic growth, were the enactment of deposit insurance, the weeding out of inefficient banks during 1930-33, and the prohibition of interest on demand deposits (Hart, pp. 65-66; Upham and Lamke, p. 206).

²⁹ Some critics of bank regulation during the 1930s claimed that examiners also included loans that were slow in the literal sense of having a long maturity (FDIC 1938, pp. 62-64).

³⁰ The regression results are influenced by the two states with the highest RFC investment, North Dakota and Vermont. When these states are dropped from the sample, RFC investment becomes less important in explaining the change in capital positions. In equation 2, the RFC coefficient drops to 0.38 and the t-statistic to 2.18. And in equation 4, the RFC coefficient falls to 0.47 and the t-statistic to 2.82. It should also be noted that the results are unchanged when growth in personal income is included as a right-hand variable. These regressions are not reported because unobservable factors boosting bank capital could also stimulate economic growth, biasing the coefficients.

³¹ Some of the observations are for city banks in a particular city, some are for country banks in a particular state, and some are for both country and city banks in a particular state. RFC capital was measured by the amount of class A preferred stock.

³² For a clear statement of the view that weak banks were victims of external circumstances, see Homer Jones (pp. 184-86). Not everyone shared this view. Some experts believed weak banks had been badly managed. Others

thought weak banks should be closed because liberal chartering and restricted branching had led to overcapacity in the banking industry—in particular, too many small, undiversified banks (Burns; Bremer; Willis and Chapman).

³³ The spread between Baa corporate bonds and long-term U.S. government bonds rose over three percentage points from 1929 to 1932. Since bonds classified as Baa are supposed to have constant default risk, the increase in the spread suggests that investors were demanding greater compensation per unit of risk. Temin argues that this shift in investors' risk preferences caused much of the depreciation in bank assets (Temin, pp. 108-10).

³⁴ To see how the optimal scale of government investment depends on the fraction of weak banks that are viable, suppose the government can distinguish only imperfectly between viable weak banks and nonviable weak banks. Then, as the government lowers the standard for admission to the program, it will not only approve a higher fraction of the viable banks but also approve a higher fraction of the nonviable banks. The higher the fraction of

weak banks that are viable, the greater will be the total benefit to society from the first effect and the smaller will be the total cost to society from the second effect. Thus, the higher the fraction of weak banks that are viable, the lower the government should set the admission standard. If the proportion of viable banks were very high, it could even be optimal for the government to admit all weak banks to the program.

³⁵ When the insurance limit was increased to \$5,000 in the second half of 1934, the percent of insured deposits rose to 44 percent (FDIC 1934, pp. 60-61). De facto coverage turned out to be much greater. For example, from 1934 to 1938, the FDIC protected 96 percent of all deposits at failed banks by making liberal use of open-bank mergers (FDIC 1938, p. 10). But in 1934, uninsured depositors had no way of knowing their funds would be safe. The FDIC could have relied exclusively on payoffs to resolve bank failures, forcing uninsured depositors to suffer losses. Or the insurance fund could have run out of money, preventing the FDIC from protecting any depositors of failed banks.

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