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Cleaning Up the Depository Institutions Mess

FUTURE FINANCIAL and economic historians will mark 1989 as a watershed year for the American financial system. This is the year policymakers forced themselves to come to terms with their failure to supervise adequately the nation's depository institutions and to adopt sound capital regulation to attempt to offset properly the "moral hazard" due to federal deposit insurance. In early 1989, the new administration proposed a comprehensive plan for ridding the financial system of at least 700 insolvent thrift institutions over the next decade and for reforming the regulatory system that was supposed to have prevented their collapse. Over the next few months Congress debated and changed the administration's proposal.

Although it is likely that some parts of the final legislation will clearly move in the right direction, serious problems should remain. In our view the projections by the administration on which the plan is based understate the cost and budgetary effect of addressing what has come to be called the "thrift crisis." For its part, Congress may weaken the administration's proposed capital standards and thus frustrate efforts to restore proper incentives for thrifts to avoid excessive risk-taking. Meanwhile, the widespread attention given by policymakers and the media to the problems in the thrift industry has unfortunately obscured similar significant problems among commercial banks.

In this paper, we examine the problem of both the banks and the thrifts. We then analyze the key components of the thrift legislation, giving special emphasis to its estimated costs and budget impact and examining the assumptions on which these estimates are based. We conclude with some general thoughts on the fundamental reforms of the deposit insurance and regulatory systems needed to prevent another such crisis either among banks or among thrifts.

The Thrift Crisis: How Bad?

Not two years ago, this audience heard two of the authors of this paper describe the deteriorating conditions of the nation's thrift industry.¹ Between 1980 and 1986, nearly 600 of the nation's roughly 4,000 thrift institutions had failed. At the end of 1986, 468 thrifts holding \$126 billion in assets were insolvent under generally accepted accounting principles (GAAP) but were still operating because the industry's insurer, the Federal Savings and Loan Insurance Corporation (FSLIC) had insufficient funds to close them. Another 515 institutions with \$255 billion in assets were weakly capitalized, with capital-to-asset ratios less than 3 percent.

In sum, fully one-third of the nation's thrifts then still in business, with roughly the same share of the industry's assets, were insolvent or in very weak condition. Allowing these institutions to remain open, it was argued, would only make matters worse. With access to federally insured deposits, these insolvent or weakly capitalized depositories clearly had incentives to "bet the bank" every day. Losses were borne exclusively, or nearly so, by the deposit insurer. But extraordinary gains could bring a dead institution back to life.

The solutions were straightforward. Insolvent institutions should have been expeditiously liquidated or merged with healthier partners. At the resolution cost-to-asset ratio prevailing in 1986, applying such a policy to the insolvent institutions open that year would have cost an estimated \$22 billion. The rest of the industry, meanwhile, should have been subjected to stiff capital regulation, comparable to the 6 percent of assets required for banks. Solvent, but weak, institutions that could not

1. Brumbaugh and Carron (1987).

meet that standard should not have been allowed to grow and thus continue gambling at the insurer's expense.

All this sounds so reasonable now that it is a wonder that it was not done. But for a variety of political reasons it was not. Unsurprisingly, the thrift industry since has deteriorated even further, and the cost of restoring it to health has soared.

Table 1 provides some key measures of the thrift industry's financial condition as of December 1988. Of the nation's 2,949 operating thrifts, 364 were insolvent, reporting an average ratio of GAAP capital to assets of - 11.6 percent. In 1988 alone, this group of thrifts lost \$14.8 billion on an asset base of \$113.5 billion. This loss figure understates the losses by all insolvent thrifts in 1988 since the insolvent category shown in table 1 does not include the 205 thrifts removed from the system by the Federal Home Loan Bank Board in 1988. According to the Bank Board, FSLIC assistance of \$38.6 billion in present value was provided to these thrifts and to 17 additional failed institutions that the FSLIC allowed to remain open.

Table 1 also shows the weak financial condition of over 1,200 GAAP-solvent thrifts, or those with GAAP capital between 0 and 6 percent. In fact, a substantial portion of the capital of these institutions consists of goodwill, primarily the premium over book value paid by these institutions to acquire assets or other institutions. In principle, goodwill may also represent the "going concern" or "franchise value" of an institution. However, to an insurer, goodwill for an otherwise weakly capitalized institution is likely to be illusory since goodwill is intangible and cannot be sold if the institution must one day be liquidated. Moreover, given the recent lifting of restrictions against branching and interstate expansion in many states, coupled with the relatively free entry into the depository business, a bank or thrift charter by itself today has relatively little franchise value. In recognition of these considerations, the recently amended capital standards for banks do not count goodwill in measuring capital.

Applying the same standards to the thrifts would mean that the 390 institutions with GAAP capital-to-asset ratios between 0 and 3 percent at the end of 1988 actually had "tangible" capital averaging only 0.2 percent of their \$314.8 billion in assets. Another 969 institutions with GAAP capital-to-asset ratios between 3 and 6 percent had tangible capital averaging only 2.8 percent of their \$639.4 billion in assets. In

Table 1. Financial Condition of Thrift Institutions Grouped by GAAP Capital Ratios, December 1988

Billions of dollars except as noted

<i>Item</i>	<i>GAAP capital as a percent of assets</i>				<i>Total</i>
	<i>Less than 0</i>	<i>0-3</i>	<i>3-6</i>	<i>More than 6</i>	
Number of institutions	364	390	969	1,226	2,949
Net income, calendar year 1988	-14.8	-1.0	1.7	2.0	-12.1
Percent of institutions profitable	12	56	74	87	70
Total assets	113.5	314.8	639.4	283.8	1,351.5
GAAP capital	-13.2	5.3	28.9	25.2	46.2
Goodwill	2.7	4.8	11.1	4.7	23.2
Tangible capital	-15.9	0.5	17.8	20.5	23.0
GAAP capital-to-asset ratio (percent)	-11.6	1.7	4.5	8.9	3.4
Tangible capital-to-asset ratio (percent)	-14.0	0.2	2.8	7.2	1.7

Source: Federal Home Loan Bank Board.

sum, nearly 80 percent of the assets held by the nation's thrifts at year end 1988 (\$1.07 trillion out of a total \$1.35 trillion) were being managed by institutions with less than 3 percent tangible capital, or a capital level less than half the minimum 6 percent standard for banks.

There is little dispute that the situation has deteriorated rapidly. Most of the disagreement among analysts is over the cost of resolving the worsening problem. In principle, the cost of removing all insolvent institutions from the financial system can be measured by aggregating their negative net worth, measured as the difference between the market value of assets and liabilities. In practice, however, market values for these institutions cannot be estimated precisely without having access to detailed financial information on each. Even then, the analyst must make educated guesses about the market values of many individual loans and properties (often acquired through foreclosure) for which no well-developed secondary market exists.

We use a simpler cost estimation approach here, multiplying assumed "loss ratios" by the volumes of assets held by failed or failing thrifts in different GAAP capital-to-asset categories. The negative GAAP capital ratios themselves do not provide reliable indicators of the negative market values of these institutions since insolvent thrifts have not written

Table 2. Resolution Costs for Failed Thrifts, 1986-88

<i>Item</i>	<i>Cases resolved in 1986</i>	<i>Cases resolved in 1987</i>	<i>Cases resolved in 1988</i>	<i>GAAP-insolvent thrift cases unresolved as of 12/31/88</i>
Number of thrifts	47	47	205	351
Total assets (billions of dollars)	12.5	10.5	100.6	107.0
GAAP capital-to-asset ratio (percent)	-6.4	-19.0	-9.4	-10.8
Tangible capital-to-asset ratio (percent)	-8.8	-21.9	-12.6	-13.6
Resolution cost, present value				
Billions of dollars	3.1	3.7	31.2	n.a.
Percent of assets	24.8	35.2	31.0	n.a.

Source: Congressional Budget Office (1989b).
n.a. Not available.

down many assets to reflect market conditions. Table 2 demonstrates how substantial these market value adjustments can be. Between 1986 and 1988, the estimated present value resolution cost for failed thrifts varied between 25 percent and 35 percent of their assets, well above (in absolute terms) their negative 6 percent to 19 percent average GAAP capital-to-asset ratios.

Table 3 indicates that the FSLIC's loss experience also has been far worse with the relatively few thrifts it has liquidated (where the costs are known with certainty) than with those whose merger it has assisted (where the costs must be estimated). The FSLIC has strongly preferred mergers to liquidations in recent years as a way of conserving the scarce cash in the thrift insurance fund; whereas liquidations require up-front outlays to pay off depositors (and no cash receipts until the thrift assets are sold), mergers can be arranged with various long-term guarantees and tax benefits that require little or no immediate cash payments by the FSLIC.² It is nevertheless significant that the loss ratios for both

2. Although the FSLIC's merger agreements are not disclosed to the public, the rough outlines of recent typical thrift deals are well known. In return for some new capital contributed by the purchaser, the FSLIC agrees to guarantee some portion of the failed thrift's assets against capital loss, as well as to provide a "yield maintenance" guarantee

Table 3. Resolution Costs for Failed Thrifts, Mergers, and Liquidations, 1986–88

<i>Item</i>	<i>Mergers</i>			<i>Liquidations</i>		
	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>
Number of thrifts	26	30	179	21	17	26
Total assets (billions of dollars)	6.4	7.6	97.7	5.9	2.9	3.0
Total resolution cost, present value						
Billions of dollars	0.5	1.4	28.3	2.5	2.3	2.8
Percent of assets	7.8	18.4	29.0	42.4	79.3	93.3

Source: Congressional Budget Office (1989b).

liquidations and mergers rose at a rapid rate between 1986 and 1988. Indeed, the only reason the FSLIC was able to lower its aggregate loss ratio between 1987 and 1988 (table 2) was by increasing the share of its thrift cases resolved by merger rather than by liquidation.

Given the substantial uncertainties about the market value of all assets held by insolvent thrifts, we believe it most useful to present and discuss the current thrift problem in terms of a range rather than as a point estimate. As shown in table 4, we divide the universe of cases into three categories and estimate costs under three sets of assumptions for each.

We include the first category of cases, or the 222 thrifts merged, liquidated, or otherwise assisted in 1988, in the cost estimates for the current problem because most of the costs incurred in that year arise from income and capital guarantees extended by FSLIC to purchasers of failed thrifts for as long as 10 years in the future. As noted earlier, the FSLIC estimates that the present value of these guarantees, combined with promissory notes and cash outlays for mergers and liquidations in 1988, totals \$38.6 billion. We assume this projection for both our low and medium scenarios. However, given uncertainty about future interest rate movements and economic developments in the Southwest, where thrift failures have been concentrated, we believe it prudent to allow for

on those assets (a premium over the thrift's cost of funds that declines over time). These guarantees typically extend as long as 10 years; and the capital loss guarantee requires the thrift to share any gains on asset sales with the FSLIC. The FSLIC also often makes some modest contribution to the failed thrift in the form of a promissory note. Finally, until January 1, 1989, purchasers of failed thrifts were allowed to offset the thrifts' prior accumulated losses against the purchasers' other current income. By typically requiring the purchasers to contribute this tax benefit to the failed thrift, the FSLIC was in effect able to substitute the Treasury's cash resources for its own.

Table 4. Estimated Present Value Cost of Resolving the Thrift Problem

Billions of dollars

<i>Item</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>
FSLIC actions taken in 1988 ^a	38.6	38.6	46.3
Remaining GAAP insolvents as of 12/31/88 ^b	32.1	37.5	42.8
GAAP solvent thrifts with less than 3 percent capital-to-asset ratios ^c	15.8	31.5	47.3
Total	86.5	107.6	136.4

Sources: Authors' calculations.

a. Applies to 222 thrifts. Low and medium estimates are those of FSLIC. High estimate adds 20 percent.

b. Applies to 351 thrifts with \$107 billion in assets. Low estimate of loss ratio is 30 percent; medium estimate is 35 percent; high estimate is 40 percent.

c. Applies to 390 thrifts with \$315 billion in assets. Low estimate of loss ratio is 5 percent; medium estimate is 10 percent; high estimate is 15 percent.

a high case 20 percent above the FSLIC's estimate, or a present value of \$46.3 billion.

The second category of cases covers the 351 GAAP-insolvent institutions that the Treasury Department reports were operating as of the end of 1988.³ Our low scenario assumes that the loss ratio for this group will average 30 percent, or just barely below the 1988 experience. The 35 percent loss ratio in the middle scenario equals the 1987 experience. It is also about 20 percentage points higher (in absolute terms) than the year end 1988 (negative) tangible capital-to-asset ratio for these institutions; this is roughly the same margin by which the 1988 loss ratio exceeded the tangible capital position for thrifts merged and liquidated in that year (see table 3). The 40 percent loss ratio for the high scenario, somewhat arbitrarily, adds another 5 percentage points to the middle scenario.

Finally, we assume that many, if not most, of the 390 GAAP-solvent thrifts with capital ratios below 3 percent at year end 1988 are actually insolvent on a market value basis. We believe this assumption is reasonable since the average tangible capital ratio for the institutions in this group was only 0.2 percent in December 1988 (table 1). In addition, as we discuss below, the administration's thrift rescue plan

3. The Treasury Department's figures for GAAP-insolvent institutions differ slightly from those reported by the Federal Home Loan Bank Board (shown in table 1). We have been unable to determine the reason for the difference, but suspect that differences in accounting assumptions are responsible.

provides for resolution of 350 thrifts in the 0–3 percent GAAP capital category over the next 10 years. Given the severe nature of the moral hazard problem for market value insolvent institutions, we believe it prudent to include an estimate for the immediate present value cost of closing these institutions as well. Our low, middle, and high loss ratios for all the weakly GAAP-capitalized institutions are 5, 10, and 15 percent, respectively. The 15 percent ratio in the high scenario for institutions in this group is half the loss ratio for the low scenario for current GAAP-insolvent thrifts.

In combination, our scenarios produce present value cost estimates ranging between \$86.5 billion and \$136.4 billion. If the FSLIC's outstanding obligations for pre-1988 case resolutions are counted, as the administration does in its plan, the total cost range for the cleanup rises by \$14 billion, or to a range of \$100–\$150 billion.

Problem Banks: An Untold Story

On the surface, one could easily conclude that the U.S. banking industry is quite healthy. For 1988 the industry reported record profits of \$25.3 billion, representing a return on equity of 13.6 percent, the highest since the 14.1 percent recorded in 1979. Simultaneously, the Federal Deposit Insurance Corporation reported that after reaching a post-Depression high of 201 in 1988, bank closures have peaked and the worst of the insurer's problems are now behind it.

These reports are highly misleading, however, and obscure a major continuing threat of losses to the deposit insurance system and conceivably a large contingent taxpayer liability. Given the large number and asset size of weak banks, the extent to which GAAP accounting techniques hide market value losses, and the potential for rapid asset deterioration, it is possible that losses in the commercial banking industry could eclipse those of the thrift industry, especially if the economy enters a recession before the weak capitalization of many banks is corrected.

Like our discussion of thrifts, our analysis of the commercial banking industry begins with a recognition of the importance of capital in minimizing the exposure of the insurance agency to risk taking. Although the reported level of shareholders' equity as a percentage of assets for the banking industry has improved during this decade—from 5.9 percent

in 1980 to 6.3 percent in 1988—it remains substantially below the 10 percent-plus range that prevailed immediately following the creation of federal deposit insurance.⁴ More important, the reported industrywide level masks a growing number of insolvent and weak banks that are revealed when the coverages are broken down and more realistic computations are made about what should be included in the capital-to-asset ratio.

Table 5 shows the number of banks with assets greater than \$50 million, as well as their cumulative assets held, by categories of risk-adjusted capital-to-asset ratios, from December 1986 through the third quarter of 1988. The risk adjustments generally follow the procedures of the new bank capital standards adopted in the United States, Europe, and Japan pursuant to the agreement reached by the Basle Committee on Banking Regulations and Supervisory Practices. These new standards calculate required bank capital ratios based on risk-adjusted asset levels, with assets of different types of risk assigned different weights.⁵ By 1992 banks must have primary (“Tier I”) capital or shareholder’s equity (common and preferred stock and retained earnings) equal to 4 percent of their risk-adjusted assets; and secondary (“Tier II”) capital, consisting of primary capital plus subordinated debt and loan reserves and other minor items, equal to 8 percent of risk-adjusted assets. We deviate from the risk-adjusted bank standards, however, in two key respects: our capital figures exclude loan and lease loss reserves (which provide no protection to the insurer once bad debts are properly written off) but include subordinated debt (which cannot be withdrawn suddenly and thus is like capital).⁶

Notwithstanding the closure of approximately 400 banks in 1987 and 1988, 28 large banks with \$22.5 billion in assets were still open and insolvent in September 1988. Another 48 institutions holding \$43 billion in assets had capital ratios below 3 percent. Given the tendency of GAAP accounting methods to hide losses, the situation depicted in table 5

4. Spellman (1982).

5. For example, at one extreme, cash and Treasury securities carry no risk weight; at the other extreme, ordinary commercial and consumer loans carry a 100 percent risk; and other types of assets, including sovereign debt of certain countries and mortgages, carry weights between these extremes.

6. Our exclusion of loan loss reserves is consistent with the recent proposal by the Comptroller of the Currency to close national banks when equity capital, excluding loan losses, reaches zero.

Table 5. Risk-Adjusted Capital Ratios for Commercial Banks with Assets of \$50 Million or More, Selected Periods, 1986-88^a
 Billions of dollars except as noted

Ratio of risk-adjusted capital to total assets (percent)	September 1988		June 1988		March 1988		December 1987		December 1986	
	Banks	Assets	Banks	Assets	Banks	Assets	Banks	Assets	Banks	Assets
Less than 0	28	22.5	18	26.7	24	33.1	15	5.1	2	0.2
Between 0 and 3	48	43.4	47	22.5	44	31.4	42	89.4	20	8.8
Between 3 and 6	150	926.0	168	959.2	154	959.4	166	914.0	116	896.9
Greater than 6	5,094	1,894.5	5,139	1,839.0	5,144	1,784.0	5,229	1,771.8	5,239	1,762.3
Total	5,320	2,886.4	5,372	2,847.4	5,376	2,807.8	5,452	2,780.3	5,377	2,668.2

Source: Authors' calculations based on data and assistance from Drexel Burnham Lambert, Inc., MBS Institutional Databank.

a. Risk-adjusted capital = equity capital + perpetual preferred stock + subordinated debt & limited preferred stock - investments in unconsolidated subsidiaries.

probably understates the degree of insolvency and undercapitalization in the banking industry.

Indeed, sobered by the current thrift industry crisis, many economists consider a depository weakly capitalized with market value capital below 6 percent. A risk-adjusted capital measure, excluding loan loss reserves, provides a rough approximation to this capital level. Table 5 indicates that by this standard much of the U.S. banking system is on weak footing: an additional 150 banks holding assets totaling \$926 billion as of September 1988 had risk-adjusted capital between 3 percent and 6 percent. In sum, nearly one-third of all bank assets at the end of the third quarter 1988 were being managed by institutions with capital ratios below 6 percent. Table 6 illustrates that roughly \$700 billion of these assets were concentrated in 13 of the nation's 15 largest banks.

The FDIC's public announcements focus on the trouble spots within the banking industry by citing the list of "problem banks," or those that receive substandard ratings from bank supervisors. As shown in table 7, the number of problem banks declined between 1987 and 1988, from 1,575 to 1,394. Still, after six years of the nation's longest peacetime economic expansion, the 1988 level of problem banks was more than three times larger than the previous postwar high of 385 recorded in 1976 and more than six times higher than the level of 1981.⁷ The large number of problem banks suggests that our data on weakly capitalized banks in table 5 understate the troubles of the banking industry.

How great are the losses to which the FDIC, and ultimately the taxpaying public, are exposed? To answer this question, it is helpful to look to the FDIC's prior loss experience for failed bank resolutions.

During the 1980s the FDIC's ratio of losses to bank assets has fluctuated widely, from a low of 10 percent in 1981 and 1985 to a high of 75 percent in 1982 and 1984. Through 1987, the ratio has averaged 26 percent.

To be conservative, we use here a range of 15–30 percent for the bank failure resolution cost ratio, a range that brackets the 26 percent average and whose low end barely exceeds the lowest loss ratio (10 percent) experienced in this decade. On this basis, as of September 1988, it would have cost \$3.5–\$7.0 billion to close or assist the merger of all insolvent banks shown in table 5. But even this estimated cost range is surely too

7. FDIC (1988a).

Table 6. Ratio of Risk-Adjusted Tier I Capital to Risk-Adjusted Assets, 15 Largest U.S. Commercial Banks^a

<i>Bank</i>	<i>Total assets (billions of dollars)</i>	<i>Capital-to-assets ratio (percent)</i>	<i>Capital-to-assets ratio with LDC reserve equal to 50 percent of LDC exposure (percent)</i>	<i>Capital-to-assets ratio assuming 50 percent of LDC debt is written off^b</i>
Citibank	153.8	3.98	2.82	3.21
Bank of America	82.5	3.71	1.48	2.16
Chase	77.3	5.41	3.08	3.61
Morgan	71.4	6.89	n.a.	n.a.
Manufacturers	61.8	5.31	1.44	2.34
Bankers Trust	56.7	4.64	2.63	3.23
Chemical	54.3	4.06	1.90	2.45
Security Pacific	51.0	3.85	3.85	3.85
Wells Fargo	42.1	6.10	6.10	6.10
Bank of New York ^c	41.7	4.13	3.57	n.a.
First National Bank of Chicago	35.0	3.46	3.46	3.46
Continental Illinois	32.0	4.75	4.06	4.11
First National Bank of Boston	25.3	3.89	3.89	3.89
NCNB of Texas	25.6	1.49	n.a.	n.a.
Mellon	22.2	3.40	3.01	3.10
Total assets	832.7	...	...	...
Average capital ratios	...	4.34	3.17	3.46

Source: Authors' calculations based on data and assistance from Drexel Burnham Lambert, Inc., MBS Institutional Databank and Fixed Income Research; First Boston Corporation, *Bank Handbook*, March 1989.

n.a. Not available.

a. Data shown are most recent available and vary among the banks from year-end 1987 to year-end 1988.

b. Assumes 35 percent corporate tax rate.

c. Reflects acquisition of Irving Bank in 1988.

low. The sample used for the calculations in table 5 does not include approximately 9,000 banks with assets below \$50 million, many of which currently may have negative risk-adjusted GAAP capital ratios. In addition, for the same reasons that GAAP accounting overstates the market value net worth of thrifts, many of the weakly capitalized banks shown in the table also are likely to be insolvent on a market value basis.

Indeed, just as thrift regulators implemented a policy of capital forbearance throughout the 1980s, so too are bank regulators practicing forbearance right now. The banks currently operating with negative risk-adjusted capital ratios are the clearest examples of this forbearance

Table 7. FDIC-Insured Banks Closed Because of Financial Difficulties and Problem Banks, 1980-88

<i>Year</i>	<i>Number of closed banks</i>	<i>Percent increase over previous year</i>	<i>Number of problem banks^a</i>	<i>Percent increase over previous year</i>	<i>Closed and problem banks</i>
1980	10	0	n.a.	n.a.	n.a.
1981	10	0	223 ^b	n.a.	233
1982	42	320	369	65	411
1983	48	14	642	74	690
1984	80	67	848	32	928
1985	120	50	1,140	34	1,260
1986	145	21	1,484	30	1,629
1987	203	40	1,575	6	1,778
1988	221	89	1,394	- 11	1,615

Sources: For 1980-81, FDIC (1982, p. 70); for 1982-87, FDIC (1988a, pp. 3, 61); for 1988, FDIC (1988b, p. 5). n.a. Not available.

a. A bank accorded either a "4" or a "5" under the Uniform Financial Institutions Rating System is considered a problem bank.

b. Before 1981 the problem list peaked at 385 in 1976 and declined every year through 1980. See FDIC (1982, p. 12).

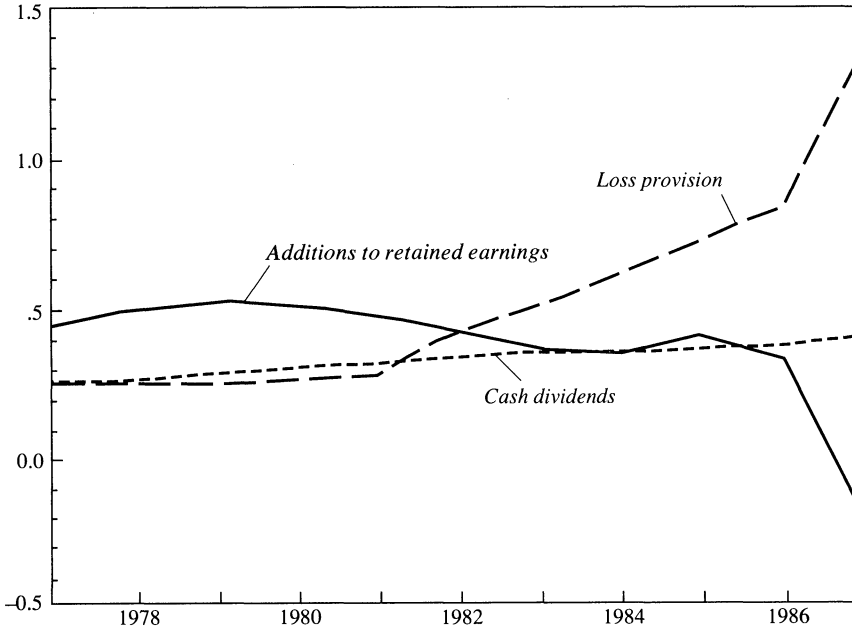
policy. Another manifestation of the same policy, shown in figure 1, is that regulators have permitted banks to maintain dividends even in the face of rising loss provisions, thus allowing annual additions to retained earnings, a part of the capital buffer protecting the FDIC, to shrink. In fact, in 1987 when major banks made major additions to their loan loss reserves for less-developed country debt, regulators did not require dividends to be suspended and thus permitted the level of retained earnings to fall, in effect allowing many banks to dip into shareholders' equity to pay dividends.⁸

Bank regulation has been replete with many other forms of forbearance, as the following five examples illustrate. First, the Competitive Equality Banking Act of 1987 ("CEBA") allows a bank to operate temporarily with a capital ratio as low as 0.5 percent under an authorized capital forbearance program. In 1987 the FDIC broadened its 1986

8. The most visible example of dividend forbearance is that of Bank of America, which in 1985 paid a dividend of \$1.16 a share of common stock despite losses of \$2.68 a share. See Sachs and Huizinga (1987, p. 575). Dividends were suspended in 1986. However, based on reported income gains substantially influenced by GAAP accounting conventions and nonrecurring gains, Bank of America has indicated a desire to resume its dividend payments.

Figure 1. Loss Provision, Additions to Retained Earnings, and Cash Dividends, Percent of Average Net Assets, 1977-87

Percent of average net assets



Source: Board of Governors of the Federal Reserve System (1980, 1983, 1988, table 1).

forbearance eligibility guidelines, formerly applicable only to banks heavily involved in agricultural and energy lending, to include *any* bank with difficulties attributable primarily to “economic problems beyond management control.” The FDIC has extended forbearance to 135 banks under this program.⁹ Second, the FDIC established its first bridge bank in 1987. A bridge bank is an insolvent institution that instead of being closed in a traditional manner may remain open but operate under a board of directors appointed by the FDIC. Third, the FDIC, the Federal Reserve Board, and the Comptroller of the Currency adopted rules in 1987 that permit agricultural banks with assets of \$100 million or less to amortize farm-related losses over a period as long as seven years instead of having to recognize them in the year in which they occurred.¹⁰ The

9. FDIC (1988a, p. 7).

10. Christopher (1987, p. 19).

unamortized portions of losses are counted toward primary capital. Fourth, the valuation of troubled real estate in bank asset portfolios tends to be overstated under current discounting rules. Although banks may not report the value of such real estate in an amount exceeding the present value of expected cash flows (the “net realizable value”), they may discount those flows at a 0 percent discount rate. In contrast, thrifts must use the prevailing cost of funds in their Federal Home Loan Bank district.

Finally, and perhaps most significantly in the wake of the recent initiative by the Treasury Department to encourage banks to write off some of their LDC debt voluntarily, it is widely believed that the largest banks still have underreserved for losses on these loans. Sachs and Huizinga, for example, have shown that the secondary market discounts at year end 1986 for debt owed by the four largest debtors (Argentina, Brazil, Mexico, and Venezuela) ranged between 37 percent and 53 percent of the face value of the debt; in contrast, even after their major additions to reserves in 1987, the nine money center banks had established average reserves of only 16 percent.¹¹ Although secondary market prices for LDC debt must be viewed with some caution, given the thinness of the market, it is nevertheless significant that average secondary market discounts on LDC debt have fallen since the Sachs and Huizinga study, to a level now approaching 60 percent, roughly twice current loan loss reserves established by the money center lenders to LDCs.

The third column of table 6 adjusts the risk-adjusted capital ratios of the nation’s 15 largest banks to reflect LDC debt loan reserves equal to 50 percent of the debt, or the ratios generally established by large regional banks with significant LDC debt exposure. The table illustrates that the average capital ratio for this group of banks falls from 4.3 percent to 3.2 percent. Perhaps more significant, the risk-adjusted capital ratios for three banks, Bank of America, Chemical Bank, and Manufacturers Hanover, fall below 2 percent. With its significant portfolio of troubled domestic loans, Bank of America is realistically at or near market value insolvency. The capital-to-asset ratios improve slightly if, as shown in the last column of table 6, capital is adjusted upward to reflect tax benefits if 50 percent of LDC debt is actually written off.

11. Sachs and Huizinga (1987, p. 571).

The recent shift toward voluntary debt reduction will not, by itself, change the regulatory policy of capital forbearance for the largest banks. Press reports indicate that Treasury is attempting to achieve an average write-off of 20 percent for LDC debt. Even if this comes about, the balance sheets of major banks will continue to provide misleading indications of the value of such debt as long as loan loss reserves do not fully reflect expected losses.

In sum, bank regulators have acted much as thrift regulators have in pursuing capital policies, allowing accounting conventions, and practicing other forms of forbearance that mask the true condition of the depository institutions they supervise. Perhaps most alarming of all, the deterioration of the capital positions of many banks has occurred during the longest peacetime expansion in the nation's history. Many more banks could approach or reach insolvency if the expansion ends.

The Administration's Thrift Plan

George Bush assumed the presidency in the midst of an immediate crisis among the nation's thrift institutions, and thus it is not surprising that his administration and Congress have since concentrated primarily, if not exclusively, on resolving the problems among thrifts and not the banks. In the last two months of 1988 depositors at thrift institutions were "running," or withdrawing from their accounts, at the rate of about \$7 billion a month. The pace of withdrawals increased in January after the administration floated its ill-fated proposal to tax depositors for the full cost of cleaning up all insolvent thrifts, and withdrawals remained high through the first quarter of 1989. Meanwhile, after having denied the FSLIC sufficient monies to close all insolvent thrifts, many in Congress nevertheless were furious with the Federal Home Loan Bank Board for having arranged so many assisted sales of failed thrifts to new owners during 1988 on seemingly generous terms. If nothing else, these transactions put Congress in a receptive mood for authorizing substantially more funds to deal with the hundreds of insolvent thrifts that were still in business.

In early February 1989 the administration announced a plan for liquidating or merging the insolvent institutions and for reforming the regulatory system to prevent another such crisis. The plan proposed a

somewhat complicated mechanism, largely designed to minimize its effect on the federal budget, for funding the cleanup of insolvent thrifts. A new agency, the Resolution Finance Corporation (REFCORP) would be created within the Treasury Department to issue \$50 billion in 30-year bonds during 1989–91.¹² The proceeds from this bond issue would be channeled to a new Resolution Trust Corporation (RTC), which, over the next three years, would liquidate or assist the sale of approximately 500 insolvent thrifts: 351 GAAP-insolvent institutions plus another 150 thrifts with negative tangible net worth (GAAP net worth minus goodwill). Repayment of the principal of the REFCORP bonds would be effectively guaranteed by REFCORP's purchase of 30-year Treasury zero-coupon bonds. Funds for this purchase would be provided by contributions from the Federal Home Loan (FHL) Banks, proceeds from old FSLIC receiverships, and FSLIC insurance premiums. Interest on the REFCORP bonds also would be funded by annual contributions by the FHL Banks (beginning in 1992), proceeds from asset sales resulting from new thrift liquidations, and the Treasury.

The plan tapped depository institutions for funds as well. Thrifts face an increase in their deposit insurance premium rate, from the current 20.8 basis point level to 23 basis points through calendar 1993 (but then a reduction down to 18 basis points thereafter). In addition, because the FHL Banks are owned by thrifts, the required Bank contributions will effectively come out of the thrift industry itself.¹³ According to the plan, the thrift premiums will be used both to fulfill commitments made by the FSLIC through calendar 1988 to purchasers of failed thrifts and to fund the cleanup of future thrift insolvencies not handled by the RTC.

Commercial banks, meanwhile, were hit under the plan with an increase in their deposit insurance premium rate from the current 8.3 basis point level up to 15 basis points by calendar 1991; thereafter, the rate can be lowered to the extent the FDIC's reserve balance equals 1.25 percent of the insured deposit base. To avoid antagonizing the banking industry, the plan makes clear that the additional FDIC premium revenues are not to be used to fund any thrift-related expenditures. Instead, the plan seeks the increase in the bank premium rate to replenish

12. Unless otherwise noted, all yearly references in this section are to fiscal years.

13. In calendar 1988, FHL Bank stock accounted for one-third of the thrift industry's regulatory capital and FHL Bank dividends one-quarter of profitable thrifts' net income.

the FDIC fund itself, whose reserves dropped in 1988, for the first time since the fund was created in 1933.

The administration's original proposal also advanced a series of regulatory reforms. The most important proposal would have required all thrifts by June 1991 to meet the new risk-based capital standards required for banks. In computing capital, thrifts would have been required to amortize their goodwill over 10 years, rather than at the 40-year pace allowed under GAAP. The original plan also would have provided regulators with the discretionary authority to place weakly capitalized, but still solvent, depository institutions into conservatorships, pending recapitalization by their current owners, sale to new owners, or liquidation. As we discuss in our concluding section, the final plan is likely to weaken each of these potentially significant reforms.

Other features of the final plan, however, should mimic the original proposal. Penalties for violating thrift regulations will be toughened. Additional funding to the Justice Department will be made available to permit prosecution of thrift owners and officers who violated certain criminal provisions. The Federal Home Loan Bank Board will be removed as overseer of the FSLIC, and the thrift insurance fund will be placed instead under the wings of the FDIC. At the same time, the three-member Bank Board will be dissolved, and a new Chairman of the Federal Home Loan Bank System, responsible for chartering and regulating thrifts, will be placed in the Treasury Department, as is the current counterpart for national banks, the Comptroller of the Currency.

The likely final plan will take no immediate action on a wide range of other possible reforms, including alterations to the deposit insurance system, to the current financial system itself, or to current methods of accounting. Instead, the Treasury Department will be directed to study these matters and to report its findings to Congress within 18 months.

The Administration's Cost Estimates

Table 8 indicates that the thrift plan contemplates the expenditure of \$136 billion during 1989–99 for “case resolutions”—liquidations or assisted sales of insolvent thrifts. Of this total, an estimated \$112 billion represents projected cash outlays for immediate past and current problems known as of early 1989: \$62 billion that the FSLIC must pay to

Table 8. Estimates of Uses and Sources of Funds under Administration's Thrift Plan^a
 Billions of current dollars

<i>Use and source</i>	<i>1989-94</i>	<i>1995-99</i>	<i>1989-99</i>
<i>Use</i>			
Case resolutions			
Guarantees on 1988 cases	33.5	8.9	42.4
Repay FSLIC notes ^b	1.9	17.3	19.2
New cases			
RTC	50.0	0.0	50.0
Post-RTC	10.0	14.0	24.0
Subtotal	95.4	40.2	135.6
Debt-service			
FICO interest	5.6	5.1	10.7
REFCORP interest	17.2	19.2	36.4
REFCORP defeasance	6.0	0.0	6.0
Interest on Treasury borrowing ^c	4.1	13.3	17.4
Subtotal	32.9	37.6	70.5
Total use of funds	128.2	77.7	206.0
<i>Source</i>			
Income			
Thrift deposit insurance premiums	14.9	15.9	30.9
Liquidation proceeds	17.8	3.9	21.7
Contributions by Federal Home			
Loan Banks	4.3	1.5	5.8
Miscellaneous income	2.5	2.1	4.6
Subtotal	39.5	23.4	63.0
Borrowing			
REFCORP bonds	50.0	0.0	50.0
FICO bonds	7.1	0.0	7.1
Treasury borrowing	31.6	54.3	85.9
Subtotal	88.7	54.3	143.0
Total source of funds	128.2	77.7	206.0

Sources: Office of Management and Budget and Department of the Treasury for all figures except Treasury borrowing and the Treasury interest thereon, which are both calculated under the administration's interest rate assumptions (see table 4). Details may not sum to total because of rounding.

- a. All data are for fiscal years.
- b. FSLIC notes issued before 1989.
- c. To pay REFCORP interest.

fulfill guarantees and to redeem notes already issued to purchasers of failed thrifts and another \$50 billion that the proposed RTC will spend to liquidate or merge approximately 500 currently insolvent thrifts over the next three years. The present value of both categories of projected expenditures, calculated under the administration's interest rate assumptions (discussed below), is \$92.4 billion. In addition, the plan projects \$24 billion of additional spending (\$17.2 billion in present value) through 1999 for future ("post-RTC") thrift insolvencies. In combina-

tion, therefore, the administration's estimates imply that the present value cost of paying for all outstanding obligations and for resolving all thrift insolvencies through 1999 is \$109.6 billion.

The Cash Flows

Most of the popular concern and debate about the cost of cleaning up the thrift mess, however, has focused on the projected current dollar expenditures and budget effects of the plan. This is not surprising. Federal budgets must be set in current dollars, not lump sum present values. Current dollar expenditures are also more transparent to the typical voter.

It is important even for economists and policymakers to know the time profile over which funds for the cleanup are to be raised and spent. The reason is that the present value cost of removing failed thrifts from the system grows the longer action is delayed. For example, measured at book value, the negative net worth of the GAAP-insolvent thrifts operating at the close of 1988 more than doubled in each of the previous two years.¹⁴ As can be calculated from table 1, this group of institutions reported a negative 13.0 percent return on assets. By comparison, the negative GAAP net worth of these institutions at the end of 1988 was 11.6 percent. Even if the FDIC, which has since assumed control over many of these institutions, is able to cut these losses substantially in the future by limiting the abilities of insolvent thrifts to pay premium interest rates to attract depositors and to take additional risks in their loan portfolios, the negative worth of these institutions will almost certainly deteriorate more sharply than the prevailing rate of interest. Clearly, therefore, the more rapidly insolvent thrifts can be put out of their (and our) misery, the lower the ultimate resolution cost will be.

The expenditure projections in table 8 indicate that, in fact, the case resolution costs are front-loaded into the first 6 years of the 11-year time horizon chosen by the administration to present its cost and budget estimates. We prefer even more front-loading given the mounting cost of further delay.

Table 8 shows that the plan also will require an additional \$71 billion, most of it toward the end of the 11-year period, primarily to pay the

14. Statement of James L. Blum (Acting Director) before the Senate Committee on Banking, Housing, and Urban Affairs, March 3, 1989, p. 3.

interest on the various bonds that will finance the case resolution expenditures. These bonds include nearly \$11 billion in 30-year instruments to be issued through 1990 by the Financing Corporation (FICO), a special FSLIC financing affiliate created in 1987; \$50 billion in 30-year bonds to be issued through 1991 by REFCORP, the successor to FICO; and an estimated \$86 billion in Treasury bonds that we project (under the administration's interest rate assumptions) the federal government must issue to finance its partial funding of interest payments on the REFCORP bonds.¹⁵

The administration's official cost projections do not include the interest on borrowings beyond those of REFCORP. However, the plan itself authorizes Treasury to be the residual funding source—that is, to make up any shortfall between funds raised from other sources and monies expended to resolve thrift failures. Accordingly, it is critically important to taxpayers to know how much Treasury borrowing may actually be required. And since this borrowing comes at a price, we believe it should be included in the cost estimates for the plan. In addition, since it is unlikely that taxes will be raised to cover the added interest cost, the government must instead increase its borrowing each year to cover it. The interest on this additional borrowing, too, must be borrowed. It would be irresponsible under these circumstances not to recognize Treasury's added interest obligations as part of the plan.

In sum, the administration projects that \$143 billion of the \$206 billion in projected expenditures through 1999 must be financed. The balance, an estimated \$63 billion, will be raised through thrift deposit insurance premiums, proceeds from the sale of assets inherited through thrift liquidations, mandatory contributions from the Federal Home Loan Bank System, and miscellaneous sources.

Budget Impact

As already noted, the administration's proposal was carefully designed not only to finance the cleanup of currently insolvent thrifts but to minimize its budgetary impact.

First, it follows the tradition set by Congress and the administration

15. Of the \$71 billion in projected debt service, \$6 billion is earmarked for defeasance of the REFCORP bonds: the purchase of 30-year zero coupons at the outset that will mature into \$50 billion in 30 years and thus fund the repayment of the REFCORP bond principal when due.

Table 9. Estimated Budgetary Impact of the Administration's Thrift Plan, 1989-99^a

Billions of current dollars

<i>Item</i>	1989	1990	1991	1992	1993	1994	1989-94	1995-99	1989-99
<i>Expenditures</i>									
Case resolutions									
Payments on pre-1989 cases	17.7	6.2	5.5	5.2	4.6	3.8	43.2	8.9	52.2
New cases									
RTC	10.0	25.2	15.0	0.0	0.0	0.0	50.0	0.0	50.0
Post-RTC	0.0	0.0	2.0	2.4	3.6	2.0	10.0	14.0	24.0
Subtotal	27.7	31.2	22.5	7.6	8.2	5.8	103.2	22.9	126.2
Debt service									
FICO interest	0.6	0.9	1.0	1.0	1.0	1.0	5.6	5.1	10.7
REFCORP interest ^b	0.5	1.4	1.6	0.9	0.8	1.1	6.3	15.7	22.0
REFCORP principal	0.0	1.7	1.7	0.0	0.0	0.0	3.3	0.0	3.3
Subtotal	1.1	4.0	4.3	1.9	1.8	2.1	15.2	20.8	36.0
Total expenditures	28.8	35.2	26.8	9.5	10.0	7.9	118.4	43.7	162.1
<i>Receipts</i>									
FICO proceeds	3.8	3.3	0.0	0.0	0.0	0.0	7.1	0.0	7.1
REFCORP proceeds	10.0	25.0	15.0	0.0	0.0	0.0	50.0	0.0	50.0
FSLIC assessments ^c	2.0	2.2	2.5	2.8	2.8	2.8	14.9	15.9	30.9
FSLIC other	1.9	1.8	1.6	1.3	1.7	1.9	10.3	4.0	14.3
FDIC premium increase	0.0	0.4	1.2	1.7	1.8	1.9	7.1	11.9	19.0
Subtotal	17.7	32.7	20.3	5.8	6.3	6.6	89.4	31.8	121.2
Official net budget outlays (expenditures minus receipts)	11.1	2.5	6.5	3.7	3.7	1.3	29.0	11.9	40.8
Interest on above outlays	...	...	...	...	...	...	4.1	13.3	17.4
True net budget outlays	...	...	...	...	...	...	33.1	25.2	58.2

Sources: Office of Management and Budget and Department of the Treasury. Details may not sum to totals because of rounding.

a. All data are for fiscal years.

b. Treasury payments only. The entries for incremental revenues to the FDIC differ slightly from those reported by OMB and Treasury (which do not take into account differences between fiscal and calendar year FDIC collections in the first year).

c. Gross receipts less security reserve credit.

in creating FICO, an agency expressly structured to issue bonds off budget and to hand over the proceeds to the FSLIC, by using the new REFCORP to fulfill the same function, but with nearly a fivefold increase in borrowing authority. Accordingly, the administration claims that the \$50 billion in REFCORP bonds also will be off-budget.¹⁶

Second, the plan records on-budget only that portion of the interest on the REFCORP bonds that is paid by the Treasury. The rest of the interest is to be funded from contributions from the Federal Home Loan Banks and from asset recoveries on future case resolutions, monies that are channeled directly into REFCORP and thus are off-budget.

Third, although it is not used for thrift-related expenses, the increase in bank deposit insurance premiums nevertheless reduces the budgetary impact of the plan. Under budget accounting conventions in place since 1969, all revenues and expenses of both the FSLIC and the FDIC show up on the federal budget. Accordingly, the incremental FDIC premium collections add to federal revenues.

These three features of the plan combine to reduce the official net budget outlays to just \$41 billion over the 11-year period, as shown in table 9.¹⁷ In addition, the net outlays display an unusual time profile because of the timing of the REFCORP bond proceeds, which are counted as federal revenues, and case resolutions by the FSLIC and the RTC. Thus, after commencing at nearly \$11 billion in 1989, officially reported net outlays actually fall to less than \$3 billion in 1990 and even less by 1994.

However, official net outlays understate the true expense of the thrift plan on the federal budget. In significant part, this is because the official figures do not count the interest obligations on Treasury borrowings,

16. The Congressional Budget Office disputes this accounting procedure, as discussed later in the text. FICO is technically a privately owned corporation whose equity is held by the Federal Home Loan Banks, which in turn are owned by privately held thrift institutions. REFCORP, however, would be a governmental entity within the Treasury Department. Accordingly, CBO has urged that REFCORP bonds be treated as obligations of the U.S. government and placed on budget but that REFCORP expenditures not be counted against the budget deficit targets of the Gramm-Rudman-Hollings Act. In June 1989 the House of Representatives voted to accept this procedure. At this writing, however, it is unclear whether the final bill will follow this approach.

17. The official administration projections show an 11-year revenue increase in FDIC premium revenue of \$19.9 billion. Our figure of \$19 billion is modestly lower because the administration's calculations for the first two years of the plan err in translating calendar year deposit insurance assessment periods to fiscal year budget periods.

Table 10. Cost-Sharing under the Administrations's Thrift Plan, 1989-99^a

<i>Source</i>	<i>1989-94</i>	<i>1995-99</i>	<i>1989-99</i>
	<i>Billions of current dollars</i>		
Treasury borrowing (taxpayers)	31.6	54.3	85.9
Thrifts (increased premiums and FHLB contributions)	13.9	5.8	19.6
Banks (increased premiums)	7.1	11.9	19.0
Total	52.6	72.0	124.6
	<i>Percent</i>		
Treasury borrowing (taxpayers)	60	75	69
Thrifts	26	8	16
Banks	13	17	15
Total	100	100	100

Source: Authors' calculations from tables 8 and 9, and Office of Management and Budget.
a. All data are for fiscal years. Details may not sum to totals because of roundings.

which, as table 9 indicates, bring the estimated 11-year total up to \$58 billion.

An even more revealing way to look at the budget figures is to ask how the cost burden for financing the cleanup is shared among taxpayers, thrifts, and banks. Table 10 provides an answer. Over the 11-year horizon, taxpayers bear nearly 70 percent of the incremental costs.¹⁸ The taxpayer share would be somewhat higher if the above budget estimates took account of forgone tax revenues from the tax-assistance benefits provided to purchasers of failed thrifts and from the reduction in thrifts' taxable income resulting from lower FHL Bank dividends and higher insurance premiums. Moreover, since taxpayers and depositors are largely identical groups, the taxpayer-depositor burden is even higher to the extent that banks and thrifts pass on, in the form of lower deposit interest rates, the increased premium assessments and other cost increases called for under the plan.

A More Realistic Look at the Cost of Resolving the Thrift Crisis

The administration's cost and budget estimates rest on a series of assumptions, shown in table 11, about the nature of the thrift problem itself and about future economic conditions. These assumptions have three different effects: some affect the total cost of the thrift cleanup;

18. These calculations look at only the costs that are incremental to the situation that prevailed prior to 1988.

Table 11. Assumptions Underlying Administration and Alternative Estimates of the Cost and Budget Impact of Addressing the Thrift Crisis

Item	Assumption	
	Administration	Alternative
<i>Assumptions affecting total cost</i>		
Closure candidates		
Immediate	351 GAAP insolvents with \$107 billion in assets; 150 tangible GAAP insolvents with \$158 billion in assets	Same as administration
Future	200 weakly capitalized with \$100 billion in assets	Same as administration
Ratio of losses to total assets		
Case resolutions in 1988	0.26	0.30
Current GAAP insolvents	0.40	0.45
Additional tangible insolvents	0.15	0.25
Future failures	0.075	0.15
Interest rates (percent)		
FICO rates (1989-90)	9.2	9.2
REFCORP rates	9.1 (1989) declining to 6.5 (1991)	CBO: 9.2 (1989) down to 8.6 (1991) Current yield curve: 9.0 (1989) rising to 9.5 (1991)
30-year Treasury rates	8.8 (1989) declining to 5.0 (1992-99)	CBO: 9.2 (1989) down to 7.4 (1994 and beyond) Current yield curve: roughly 9 for whole period
Rate on FSLIC notes	9.5 (1989) declining to 4.0 (1994-99)	CBO: 9.3 (1989) down to 7.4 (1994 and beyond) Current yield curve: roughly 9.0
<i>Assumptions affecting the distribution of cost</i>		
Annual growth rate in insured bank deposits (percent)		
	6.9	6.9
Annual growth rate in insured thrift deposits (percent)		
	7.2	4.0
<i>Assumption affecting budget impact only</i>		
Incremental FDIC collections required for future bank failures		
	None	Half

Source: Treasury Department and Congressional Budget Office.

others affect how the responsibility for the cost is split among taxpayers, thrifts, and banks; and at least one assumption affects only the budgetary impact of the plan (but not its cost). Most of these assumptions have been made public. In cases where they have not, the table presents our inferences from what else is known about the plan.

We argue below that the administration's assumptions paint an unrealistically optimistic cost and budget outlook for its plan. We come to this conclusion in full recognition of the uncertainty surrounding each of the key assumptions and thus of the probabilistic nature of the ultimate cleanup cost. Nevertheless, it is important for economic, if not also for political, reasons for policymakers and the public to know at the outset what the thrift cleanup eventually is most likely to cost.

Although the plan authorizes the Treasury to fund any shortfall in the cleanup effort not funded by other sources, apparently only the REF-CORP interest payments will have a multiyear appropriation. Congress must still appropriate any additional monies that may be required in the future. If the plan is initially underfunded, such appropriations may be required as early as fiscal year 1992, the year before the next presidential election. Such timing does not bode well for taxpayers. During the presidential election year just past, both Congress and the administration faced an underfunded FSLIC but chose to avoid the political consequences of providing it with sufficient resources to deal with the problems it faced. As a result, hundreds of insolvent thrifts have been permitted to remain in operation, adding to the losses that must now be covered largely by taxpayers. We fear a similar outcome three years hence if we are correct that the final plan fails to provide sufficient resources up-front quickly to remove all insolvent depositories from the financial system.

Administration Assumptions

The present value cost of cleaning up the thrift mess will be determined by three factors: the number of institutions that must be liquidated or sold and the assets they hold; the cost of removing these institutions as a percentage of their assets (the loss ratios); and future interest rates.

The administration proposes to deal with 700 thrifts over the next decade: 351 GAAP-insolvent and an additional 150 tangible GAAP-insolvent institutions over the next three years; and 200 more thrifts, currently GAAP-solvent but unprofitable, through 1999. Table 11 indi-

cates that, in the aggregate, these 700 institutions held \$365 billion in assets at the end of 1988.

The administration does not officially report the loss ratios it expects on the assets held by the thrifts in each of these three categories. However, these ratios can be inferred by dividing the projected expenditures for resolving these institutions by the total assets held, and then allocating varying percentages to each category. The administration's assumptions thus inferred are 40 percent for current GAAP-insolvent institutions; 15 percent for the additional tangible GAAP-insolvents; and 7.5 percent for the future insolvent thrifts. Unlike the loss ratios shown in table 4 above, which were stated in present value terms, the ratios in table 11 refer to current dollar costs.

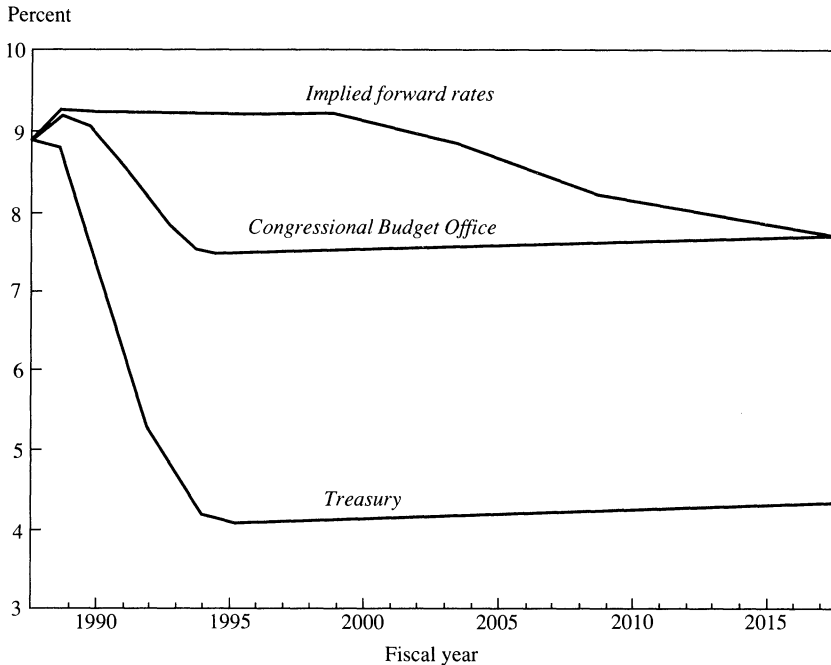
As shown in table 11, the administration projects steadily declining interest rates, both short- and long-term. The level of interest rates will not affect the present value cost of financing most of the plan since as interest rates on the Treasury and REFCORP borrowings change, so will the rate at which future outlays are discounted. However, the interest rate on notes issued by the FSLIC to purchasers of failed thrifts before 1989 do not vary exactly with the long-term rates at which those outlays are discounted.

The administration assumes that deposits at both banks and thrifts over the next decade will grow at roughly the same rate as nominal GNP, or in the range of 7 percent a year. However, somewhat surprisingly, the projection for annual thrift deposit growth (7.2 percent) is slightly higher than that for banks (6.9 percent). These growth rate assumptions do not affect the size of the resolution cost, but they do affect how the responsibility for financing the cleanup is split among taxpayers, thrifts, and banks.

Finally, the administration assumes that the additional revenues earned by the FDIC from higher deposit insurance assessments will not be dissipated in any way by higher bank failure resolution costs. This allows the administration to offset, for budget accounting purposes, the incremental FDIC premiums against the outlays required for the thrift cleanup.

Alternative Assumptions

Table 11 outlines what we believe are reasonable, and indeed more likely, assumptions for estimating the cost and budgetary impact of the

Figure 2. Alternative Interest Rate Projections, 1988–2018^a

Sources: Authors' calculations based on data in Congressional Budget Office (1989a) and testimony of Nicholas Brady (Secretary of the Treasury) before the Senate Committee on Banking, Housing, and Urban Affairs, February 22, 1989.

a. Rates on 10-year Treasury bills.

thrift package or a rescue effort like it. The differences between the administration and the alternative assumptions fall into three categories.

First, the alternative loss ratios range between 4 and 10 percentage points higher than the administration assumptions, depending on the category of thrift. At a minimum, the difference between the alternative and administration loss ratios for current and future thrift insolvencies can be interpreted as a cost of not immediately closing or merging all insolvent thrifts. For example, currently insolvent thrifts reported net operating losses in 1988 of \$4 billion, or roughly 4 percent of assets. At this rate, the loss ratios could easily mount beyond those shown under our alternative assumptions. Our higher loss ratios can also be interpreted as more realistic assessments of the likely losses to the FSLIC, consistent with our cost projections in table 4, even if all thrift insolvencies were immediately addressed.

Second, table 11 and figure 2 show two sets of alternative interest rate

assumptions, those projected by the Congressional Budget Office and those implied by the Treasury yield curve, as of mid-February 1989 when the administration's thrift plan was announced.

Finally, our alternative assumptions allow for slower annual growth in thrift deposits—a continuation of the 4 percent rate recorded in 1988 rather than the administration's 7.2 percent. It is difficult to believe that with the planned removal of at least 700 of the nation's roughly 2,900 thrifts over the next decade, coupled with the stiffer capital standards that should constrain the growth rate of weak thrifts, the thrift industry can not only increase its deposit growth rate well above the 1988 level but grow even *faster* than bank deposits, as the administration's plan projects.

The administration's assumptions that the incremental \$19 billion in bank deposit insurance premiums will offset the budgetary impact of the thrift cleanup effort, meanwhile, can be misleading. The proposed legislation would rebate premiums when the bank insurance fund is replenished to a level equal to 1.25 percent of insured deposits (the final plan should deviate from this slightly). If the rebates occur, then the estimates of FDIC's incremental revenues appear to be overstated. If the rebates are not forthcoming because the FDIC's losses and administrative expenses prevent the fund from attaining the 1.25 percent target, then those losses and expenses will diminish the net revenue gain from the higher premiums.¹⁹

Our alternative simulations of the cost and budgetary impact of the thrift cleanup do not account for the possibility that the administration may be understating the number of insolvent thrifts that both now and in the future may have to be removed from the financial system. Admittedly, this is a significant omission given the fact noted earlier that nearly 80 percent of the industry's assets are now being managed by institutions with tangible capital ratios below 3 percent. Nevertheless, we have chosen to be conservative in constructing our alternative scenarios by sticking with the administration's assumption that over the next decade only 700 institutions will be merged or liquidated.

Table 12 summarizes the results of applying these alternative assump-

19. We estimate that the fund would have to incur cumulative insurance losses and administrative expenses exceeding \$35 billion between 1990 and 1999 to avoid reaching the 1.25 percent target by 1999. This calculation assumes that the FDIC fund, which totaled \$15.5 billion at the end of fiscal 1989, will collect deposits growing at 6.9 percent a year and that insured deposits remain at roughly 75 percent of total domestic deposits.

Table 12. Estimated Cost and Budget Impact of Addressing the Thrift Crisis under Alternative Assumptions
Billions of current dollars except as noted

<i>Alternatives</i>	<i>Current dollar cost, 1989-99</i>	<i>Present value cost, 1989-99^a</i>	<i>Net budget outlays, 1989-99</i>	<i>Cost allocation, 1989-99 (percent)</i>		
				<i>Taxpayers</i>	<i>Banks</i>	
1. Administration assumptions	135.6	109.6	55.1	68	16	16
2. Higher loss ratios on all thrift classes	168.5	133.7	95.3	76	12	12
3. Higher loss ratios just on current GAAP and tangible insolvents	161.0	128.3	86.3	75	12	13
4. CBO interest rates	150.8	111.5	101.7	77	11	12
5. Interest rates implied by current yield curve	154.9	111.2	119.7	79	10	11
6. Lower thrift deposit growth	135.6	109.6	60.4	71	15	14
7. Higher interest rates (scenario 5), higher loss ratios (scenario 2), and lower thrift deposit growth (scenario 6)	187.6	131.0	176.7	85	8	7

Source: Authors' calculations.

a. Cost estimates include cost of resolution of 1988 cases and all new cases through 1999 and repayment of outstanding FSLIC notes.

tions, in isolation and in combination. The first two columns show the cumulative current dollar and present value costs, respectively, for 1989–99.²⁰ These two columns concentrate only on the resolution costs for removing problem thrifts from the system and thus do not include interest on FICO, REFCORP, or Treasury borrowings. The third column, which shows the cumulative budget outlays through 1999, includes these interest items, but allows for offsetting reductions in the form of deposit insurance premium assessments (including assessments by the FDIC that technically are not being devoted to the thrift cleanup). The final columns show how the incremental cleanup cost is shared among taxpayers, banks, and thrifts.

The table illustrates that of all the alternative assumptions, the higher loss ratios make the most difference to the cost estimates, adding roughly \$33 billion and \$24 billion to the 11-year current and present value costs, respectively. The cost difference between scenarios 2 and 3, or about \$5 billion in present value, measures the added cost due solely to the higher loss ratio on the 200 weakly capitalized thrifts that the administration plans to deal with over the full 11-year period. Alternatively, this difference may be viewed as the price of delaying the resolution of these cases, assuming that they could be resolved immediately at a loss ratio of only 7.5 percent (the administration's assumption). Again, we emphasize that our alternative assumptions may understate the cost estimates because we do not account for the possibility of additional failed thrifts beyond those assumed by the administration.

The budget picture painted by the table illustrates that the higher interest rate assumptions have by far the greatest impact on cumulative outlays. For example, outlays under the rates implied by the mid-February yield curve are more than twice as high as under the administration's plan over the 11-year period. Even these projections are conservative, however. Our analysis does not account for the fact that as interest rates increase, most institutions that are already market value insolvent and are taking interest rate bets become even more insolvent, nor for the fact that additional institutions that may currently be solvent on a market value basis will dip into insolvency as their liability costs rise above their asset earnings.

20. The discount rates used in computing the present value costs are the assumed interest rates on Treasury securities for each scenario.

The combination of all alternative assumptions yields higher current dollar costs over the full period of approximately \$50 billion, but an additional present value cost of only about \$20 billion. The latter figure comports with the margin by which our "middle" cost scenario in table 4 exceeds the present value cost under the low scenario.

In all the alternative scenarios the relative taxpayer contribution is higher than the administration projects. In the combination scenario taxpayers end up with 85 percent of the incremental cost, compared with 68 percent under the administration's assumptions.

Finally, the plan's issuance of bonds through an off-budget agency has been attacked as a more expensive, if not misleading, way of financing the rescue effort. Even the administration has admitted that the premium over Treasury interest rates that the REFCORP bonds would require would add at least \$2 billion in present value to the lifetime interest cost of the plan. Yet the administration has defended the off-budget financing mechanism as necessary to avoid crippling efforts to meet the Gramm-Rudman-Hollings (GRH) budget deficit reduction targets. And the Treasury Department has asserted that raising the funds through Treasury borrowing would raise interest rates and unsettle the financial markets.

Both concerns are misplaced. The initial bond issue, whether through the Treasury or REFCORP, should have no macroeconomic impact since the demand for credit it adds to the market would be exactly offset by the added supply when the insurance agencies pay off depositors or assist new owners of failed thrifts.²¹ Moreover, the capital markets are already anticipating the new borrowing, in whatever form it comes. Meanwhile, problems meeting the GRH targets can easily be avoided through an amendment that would temporarily raise the targets solely for this purpose, or by issuing the bonds between the GRH certification date and the end of the fiscal year. In short, there is no reason why taxpayers should have to pay at least \$2 billion in additional interest so the federal government can engage in what amounts to phony accounting.

A related question is the time period over which the bonds should be issued. Given the mounting costs of delay, some members of Congress have proposed authorizing the \$50 billion bond issue in the first year of the plan, rather than to spread out the financing over the proposed three years. This, too, could be accomplished without affecting credit markets

21. For a thorough treatment of this issue, see Woodward (1989).

if the money raised were spent rapidly (on liquidations and mergers) or reinvested in other government securities pending disbursement.

Nonfinancial Aspects of the Thrift Cleanup Effort

Once the cleanup of currently insolvent thrifts is completed, the central policy challenge will be to prevent another crisis, whether among thrifts or banks. That can be accomplished only if the incentives for risk taking due to deposit insurance are properly offset by effective combinations of market and regulatory discipline.

Space is too short here to permit a full treatment of these issues, which we and others have explored elsewhere.²² Nevertheless, our basic outlook can be easily summarized.

In brief, we believe shareholders, backed up by a strong supervisory and regulatory system, should be the primary source of discipline against excessive risk taking by insured depositories. The history of banking clearly demonstrates that when owners of depositories have substantial capital at risk, prudent behavior is the norm rather than the exception. Indeed, it is no accident that in the extensive literature on bank failures, capital levels one or two years in advance of failure consistently turn out to be among the best predictors of future trouble.²³ Significantly, strong capital ratios also provide a cushion against loss to the deposit insurance agency.

In principle, depositor discipline could also be enhanced by lowering the current \$100,000 ceiling on deposit insurance for accounts at banks, thrifts, and credit unions.²⁴ In practice, however, a lower ceiling will not have its intended effect unless federal regulators refrain from merging failed depositories with healthier partners (thus effectively guaranteeing even uninsured depositors and creditors) and from announcing protection of uninsured depositors, as they did for Continental Illinois Bank in 1984 and more recently for American Savings and Loan of California and First Republic Bank of Texas in 1988.

Moreover, there is an unresolved debate about the wisdom of increas-

22. Brumbaugh and Carron (1987); Brumbaugh and Litan (1989); and Benston and others (1989).

23. For a listing of these studies, see Barth and others (1988).

24. This is recommended in the *Economic Report of the President* (1989, pp. 203–04).

ing reliance on depositor discipline, even if it could be achieved. Some argue that runs on individual institutions can be healthy because the possibility that they can occur gives owners and managers reason to exercise greater caution. The systemwide risks, they argue, are minimal because runs on individual banks should have no effects on rational and fully informed depositors at other institutions.

Others are more skeptical and fear greater macroeconomic distress if individual large institutions experience a run. In a world where holders of uninsured accounts can move their money virtually instantaneously, even a scintilla of doubt about the health of an institution generated by a run on another can motivate transfers of billions of dollars on extremely short notice. To be sure, the Federal Reserve can prevent a systemwide run by opening its discount window to other healthy institutions, but the publicity surrounding that effort and the runs that cause it may have unsettling effects on financial and exchange markets that policymakers tend to find worrisome. Indeed, even in previous financial crises when the Federal Reserve has stepped in, investors have demanded increases of at least 100 basis points in the premium over Treasury interest rates to be induced to hold bank certificates of deposit and corporate commercial paper. Although such increases tend to be short-lived, lasting perhaps no more than three months, they can have undesirable short-term macroeconomic effects.²⁵

Wherever one comes down on the merits of depositor discipline, the issue can be largely mooted by effective enforcement of capital standards. In our minds, this can be achieved only if several major reforms to current procedures are adopted.²⁶

First, capital-short depository institutions must face explicit penalties until they comply with prevailing standards. They must not be permitted to pay dividends. And they must limit their asset and liability growth until their capital is sufficient.

Second, regulators must be required to assume control over an institution short of its insolvency, or before market value losses have mounted. To be truly effective, such an early intervention policy must be mandatory to minimize political interference in efforts by bank

25. Carron (1982).

26. These reforms have been urged recently by many commentators. See Benston and Kaufman (1989); Brumbaugh (1988); Benston and others (1989).

regulators to thwart additional risk taking. The conservatorships for weakly capitalized institutions would be in place until the institutions were recapitalized by existing owners, auctioned to new purchasers, or if all else fails, liquidated by the insurer. In the event of sale or liquidation, the old owners would receive any net proceeds to avoid constitutional due process objections.

Third, regulators must move toward market value accounting as a basis for setting and enforcing capital standards. The preceding discussion amply demonstrates that an insolvent institution's assets can be depleted by 20 percent or more compared with GAAP measures of net worth. Under these circumstances, it makes little sense for the insurance agencies to wait until an institution's GAAP net worth falls below zero before forcing its merger or liquidation.

We do not discuss here the many practical objections that have been raised against market value accounting, principally the complaint that many assets held by depository institutions are illiquid and cannot be sold in a well-developed secondary market. Suffice it to say here that these objections are overstated.²⁷ Assets, such as mortgages, for which comparable instruments are traded in secondary markets can be given a market value. And assets that do not meet this test can at least be stated at their discounted present value, using prevailing interest rates. The same can be done for liabilities. In the end, it is far better to use an accounting system that provides a good approximation to the measure insurers and regulators should care about—market value net worth—than to rely on precise, but potentially misleading, GAAP-based measurements.

By the above standards, the final thrift package that is likely to be passed by Congress should fall woefully short in a number of respects.

Capital Standards

The administration plan would have required thrifts to meet by June 1991 the higher of the risk-adjusted capital standards applicable to banks or a 3 percent capital-to-asset ratio. Thrift capital was to be analogous to Tier I, or "core," bank capital, or common and preferred stock and retained earnings. Since no more than 0.25 percent of the capital standard

27. For an excellent treatment of this issue, see White (1988).

could be met by goodwill, which the administration proposed be amortized over 10 years, rather than the 40 years allowed under GAAP, the administration's proposal established a 2.75 percent minimum tangible capital requirement effective in 1991.

The capital proposal was perhaps the most intensively lobbied feature of the administration's plan in Congress. The Senate weakened the proposal considerably by lowering the tangible capital requirement applicable in 1991 and beyond to 1.5 percent and allowing a 25-year amortization period for goodwill. The House took a tougher stance: a 3 percent tangible requirement phased in by 1995 with goodwill amortized only over five years. Both legislative alternatives require thrifts not meeting the standards to be subject to growth restrictions and to other limits, within the regulators' discretion. Given the intense publicity about the capital issue and eleventh-hour lobbying by the president himself, it is likely that when a final compromise bill is agreed upon, the capital standards will end up closer to the House than the Senate version.

In light of the severe moral hazard problems generated by weak capital standards of the past, we believe that any weakening of the administration's proposal would be a dangerous mistake. Although the final bill is likely to give regulators some additional ammunition to rein in abuses by weakly capitalized institutions, the regulators still will be unable to monitor and control all potentially destructive risk taking by managers with incentives to take risks. A far better approach would be to provide mandatory penalties and limitations to weakly capitalized institutions, including early intervention, and to move toward (and not merely study) the use of market value accounting.

Other Reforms

The administration's thrift plan acknowledges that more fundamental changes in thrift and bank regulation may be needed, but it ducks the controversial questions by relegating them to a Treasury Department study to be completed within 18 months after implementing legislation is enacted. Among the topics to be studied are deposit insurance reform, presumably either risk-based deposit insurance premiums or lower insurance ceilings or both; market value accounting; and restructuring of the nation's patchwork of laws governing competition between different types of financial services providers.

Without extensively discussing these issues here, it suffices to say that substantial changes in deposit insurance, however desirable on their own merits, would not be necessary if an effective regime of capital standards enforcement were implemented. Meanwhile, reform of the antiquated “product-line” restrictions in the financial services industry is long overdue. The current system is riddled with loopholes, leads to inefficiency, and may protect different sectors from competition. We prefer a voluntary system, much like that suggested in a recent Brookings publication, that would allow depository organizations to engage in a broad range of financial and even nonfinancial activities, provided they limit the investments of their depositories to marketable assets.²⁸ This would effectively limit risks to the deposit insurance system from losses incurred in nonbank activities because the net worth of such depositories would be easily valued and thus the regulators would have little trouble taking prompt, early action in the event net worth falls to a dangerously low level.

The Threat of Reregulation

To qualify under current law for broader investment authority at the holding company level, for certain special tax benefits (primarily more liberal treatment of loan loss reserves than is allowed for commercial banks), and for borrowing privileges from the FHL Bank System, thrifts must invest at least 60 percent of their assets in residential mortgages or securities backed by residential mortgages and certain other assets.²⁹ The administration’s thrift plan would retain the present “qualified thrift lender” (QTL) test and require any thrift not meeting it to forfeit its thrift charter, and thus its tax benefits and FHL System borrowing privileges, and also to pay fees to exit the FSLIC and enter the FDIC.

Critics of this aspect of this plan, however, have argued that the 60 percent QTL is too permissive, pointing to such evidence as is displayed in table 13. Although all thrifts have moved away from residential

28. See Benston and others (1989).

29. Organizations owning a single thrift, or “unitary thrift holding companies,” are also exempted from any activity restrictions only as long as the thrifts they own meet the 60 percent test. In contrast, multi-thrift holding companies, as well as all bank holding companies, must confine their nondepository subsidiaries to a relatively restricted list of activities.

Table 13. Asset Investments of Solvent and Insolvent Thrifts, 1982, 1987
Percent

<i>Asset</i>	<i>Solvent thrifts</i>		<i>Insolvent thrifts</i>	
	<i>1982</i>	<i>1987</i>	<i>1982</i>	<i>1987</i>
Cash and securities	11.3	13.3	10.5	11.5
Mortgage assets	77.9	72.2	73.3	63.4
Residential	...	46.3	...	31.3
Commercial	...	9.9	...	14.5
Mortgage-backed securities	8.0	15.3	13.2	16.4
Other	0.6	0.7	0.7	1.2
Consumer loans	2.7	4.4	2.9	3.8
Commercial loans (nonmortgage)	0	1.7	0	1.9
Direct investments	1.2	2.2	1.2	4.4
Junk bonds	...	1.1	...	0.2
Reposessed assets	0.4	0.9	0.5	7.8
Other	6.5	4.2	11.6	7.0
Total	100.0	100.0	100.0	100.0

Source: Barth and Bradley (1988). Solvency determined under generally accepted accounting principles. "Other" assets include goodwill and other intangible assets, fixed assets, real estate, deferred net losses, and assets sold.

mortgage investments, the table shows that insolvent thrifts have gone to considerably greater lengths in this direction than have their solvent counterparts. From this evidence, it is argued that the QTL should be raised. At this writing it appears that the final thrift plan will move in this direction.

We believe raising the QTL is a mistake. First, it is incorrect to place the blame for the insolvency of much of the thrift industry on broader asset powers per se. The real culprits are the misguided policy of capital forbearance, which allowed hundreds of insolvent or weakly capitalized thrifts to abuse the moral hazard features of deposit insurance, combined with inadequate supervision. Table 13 illustrates that well-capitalized thrifts did not plunge so deeply into higher risk investments precisely because their owners had something to lose.

Second, raising the QTL would only force thrifts to take more of the kind of interest rate bets that virtually brought down the entire industry in the early 1980s when short-term deposit rates soared above the relatively low rates thrifts were locked into earning on their long-term fixed-rate mortgages. The evolution of adjustable rate mortgages (ARMs) has mitigated, but has not eliminated, this risk because most ARMs have fixed-rate features. In particular, the typical ARM has an annual cap on interest rate increases of 2 percent and a cumulative cap on increases in

the interest rate over the lifetime of the mortgage of 6 percent. Moreover, many thrifts have competed for ARM originations by promising low initial “teaser” rates. In combination, these features of ARMs can leave their holders with significant adverse exposure to increases in funding costs.³⁰

Third, somewhat ironically in view of the objectives of its supporters, a higher QTL will only depress thrift profitability and conceivably threaten the viability of the remaining healthy thrifts. Now that mortgages can be easily originated and then resold into the secondary market through the “securitization” of mortgage finance, the profit margins on traditional mortgage lending have been virtually eliminated. Indeed, the only way thrifts can profit from holding long-term mortgages in their portfolios is to make interest rate bets—or to behave in a way that exposes them and their industry to insolvency when interest rates increase significantly over short periods.

The healthy earnings of the many well-capitalized thrifts that concentrated heavily in mortgage lending in the 1980s, cited frequently as evidence that mortgage lending continues to be profitable, are highly misleading. Thrifts that have made interest rate bets since the early 1980s have, at least until recently, fared quite well. Between 1982 and 1988, short-term interest rates dropped far more substantially (from the 10 percent to the 6 percent range) than did mortgage interest rates (from the 12 percent to the 10 percent range).

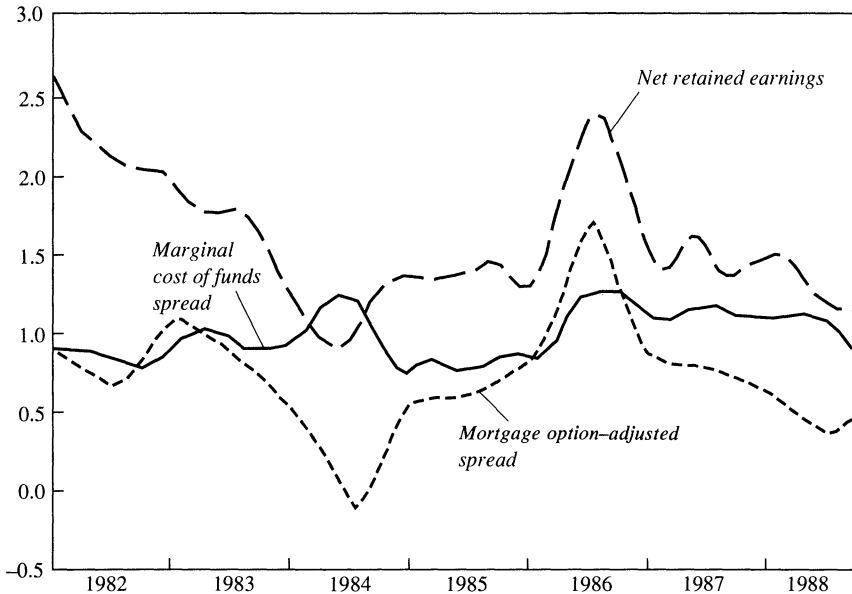
The relevant question for policymakers is whether thrifts can count on being so fortunate in the future. Clearly, the recent substantial rise in short-term interest rates suggests the answer is no. A Monte Carlo simulation of expected profitability of mortgage investment under conditions prevailing from 1982 to 1988, shown in figure 3, provides the same answer.³¹ The figure compares the spread of thrifts’ marginal cost of funds (advances from the FHL Banks) relative to Treasury securities with the corresponding spreads for both the current (or “static yield”) and “option-adjusted” returns on newly issued Federal Home Loan Mortgage Corporation (FHLMC) participation certificates (PCs) for fixed-rate mortgages.³²

30. See Getman (1989).

31. The following analysis draws on Brumbaugh and Carron (1988).

32. Option-adjusted spreads indicate the fair value of a mortgage security relative to Treasury securities—that is, the value of the mortgage net of the embedded options. The spread is the amount by which the return of the mortgage is expected to exceed that of a

Figure 3. Simulation of Expected Profitability of Mortgage Investment, 1982–88
Spread to Treasury (percent)



Source: First Boston Corporation Fixed Income Research.

The results tell a disturbing story. Although the current spreads for PCs throughout the period remained above the spreads for the marginal cost of funds, the option-adjusted spread exceeded the marginal cost spread in only two of the seven years. Put another way, through most of 1982–88, thrifts could not reasonably anticipate profitable investment in fixed-rate mortgages.

Large-scale investment in ARMs has occurred too recently to permit

comparable Treasury, assuming a number of conditions are met: that the assumptions on volatility, prepayments, and investment rates are realized. If the comparison is made over a projected holding period, rather than over the term to maturity, an additional assumption is that the mortgage security is priced at the same option-adjusted spread at the end of the holding period. The option-adjusted methodology aggregates returns from many different possible future scenarios, although only one will actually come to pass. As a consequence, the realized return is likely to differ from the average expected return. Results will deviate further to the extent that the assumptions about volatility, prepayments, and so forth turn out to be inaccurate. Any security analyzed will be affected, which makes option-adjusted spread analysis valuable as a relative value indicator, though not as a yield spread that can be locked in or guaranteed. For a full description, see Carron and Hogan (1988).

a similar calculation for ARMs. However, as this market too is securitized, the spreads for ARMs will fall, just as they have for fixed-rate mortgages. In short, rolling back the clock to the days before 1980 when thrifts were forced by law almost exclusively into mortgage investments is a sure way to consign what remains of the thrift industry to a slow death. That death could come much sooner if short-term interest rates continue to advance sharply.

In short, the clear message from the markets is that policymakers ought to be searching for ways to phase out the asset-based distinctions between thrifts and banks rather than reinforcing them by raising the QTL.

Conclusion

The crisis among the nation's thrifts would cost at least \$100 billion and as much as \$150 billion if it were resolved immediately. The cost is likely to be even higher since the resolution of the problem will surely be delayed. Moreover, the problems among thrifts have obscured from public view a taxpayer obligation for failed banks that in other times would be highly unsettling. The weakness among many banks stems from causes similar to, but not identical with, those that led to the thrift crisis.

Ultimately, the best protection for the insurance agencies and taxpayers against future depository disasters is sound capital regulation, implemented through more realistic accounting methods and mandatory "early intervention" by regulators.

Comments and Discussion

Benjamin M. Friedman: R. Dan Brumbaugh, Jr., Andrew Carron, and Robert Litan have analyzed, carefully and in some detail, several pieces of the U.S. thrift industry problem that has not previously been dissected in anything like this transparent a way. By doing so they have provided an extremely useful service.

First, their paper provides a detailed analysis of the thrift industry's balance sheet, not just at the aggregate level but also in the form of distributions broken down in terms of the number of institutions and the amount of dollars in various categories of institutions according to capital-asset ratio. Particularly interesting features of this part of the paper include the authors' adjustments removing "good will" from institutions' assets, and their careful treatment of the out-of-pocket costs to the government of resolving these problems (although, as they point out, their estimates are understatements in that they exclude the prospective revenue loss to the Treasury due to the tax benefits given away last year in arranging for purchases of defunct thrifts).

A second useful service that the paper provides is its careful assessment of the costs of the current administration proposal for dealing with this mess. These include both the economic costs, which, as the authors show, depend crucially on differing economic assumptions, and the budgetary costs, which depend, in a peculiar Alice-in-Wonderland way, on the specific administrative arrangements to be employed. The paper also usefully summarizes the other principal features of the administration proposal, including higher FDIC premiums, stiffer capital requirements, and so on.

Finally, the paper provides a further useful service by focusing attention on the potential problem that now exists in the nation's commercial banking industry. I agree with the authors that the banking

industry's exposure in this regard is a serious matter, and I shall return to this issue shortly.

I want to begin, however, by saying that, unlike the authors of this paper, as well as many others who have written or spoken on this issue, I am skeptical of the view that the natural thing to do is to put the government borrowing needed to resolve the thrift problem off-budget on the assumption that the actions to be taken will have no real consequences. The argument for putting this borrowing off-budget is that all the government will be doing, in bailing out failed institutions, is making good on promises it had earlier given. Specifically, the government is converting contingent liabilities, liabilities that were already there and that everybody already recognized, into conventional debt obligations. Hence no real economic effects will follow from this set of transactions—so the argument goes—and so these transactions, including the borrowing that they entail, ought to be entirely off-budget.

I find this argument not persuasive, largely because in this case it is so difficult to specify the obvious alternative to going ahead and making good on the government's promises. A number of thrift institutions are now in such a state that they could not pay off their depositors if all of them were to want their money back. The government is therefore proposing to take over those institutions—or to have them taken over by other, more healthy institutions—and in either case to make good on the depositors' claims.

What is the alternative? Is it simply to let the insolvent institutions go on as they are? Is it to close these institutions, but not have the government make good on their depositors' claims against them? Is it to close these institutions and have the government make good on the insured deposits, but to force all holders of uninsured deposits to lose their claims? It is very difficult to specify just what the logical alternative is in a way that provides any confidence that going ahead to convert the government's liabilities into conventional debt instruments will have no real economic effects.

An analogy may help to make the point clear. The government has a contingent liability, through the medicare program, to provide for the medical care of the nation's elderly citizens. Suppose that an unusually severe "flu season" next winter caused the government to incur unexpectedly large costs under medicare. Further suppose that, in parallel to REFCORP (the new Resolution Finance Corporation proposed by the

Bush administration), the government were to set up a new off-balance budget entity called MEDICORP to handle the extra costs of treating elderly flu patients. Few economists would accept the notion that this entity's financing should be off-budget on the grounds that providing this care was simply making good on a contingent liability that the government had already assumed, and that replacing this contingent liability with ordinary debt instruments would have no real economic effects.

Whether the activity to be undertaken by the administration's proposed REFCORP is or is not analogous to that of the hypothetical MEDICORP depends on what alternative to going ahead with the thrift industry bailout is specified. Against what alternative are there no real effects of this proposed set of transactions? But that is just what no one has yet been able to specify in any convincing way.

Next, it is necessary to raise an issue that the paper does not mention—and, indeed, that is awkward and uncomfortable to discuss—but that needs to be put into the public discussion in some systematic way. The standard assumption made in considering the thrift industry's current troubled situation is that what has gone wrong at problem institutions has mostly been a matter of their loan portfolios. Various explanations are then adduced to explain why so many institutions' portfolios have gone bad.

For example, one standard argument relies on purely external factors. The Texas oil boom turned to an oil bust; as a result, those institutions with portfolios consisting largely of loans collateralized by Texas properties were in trouble. The dollar rose to levels at which U.S. farmers were unable to compete in world agricultural markets; as a result, institutions located in the Farm Belt, with assets consisting mostly of loans collateralized by farm properties, also were in trouble. A second standard explanation for the proliferation of bad loans is perverse incentives to the thrift institutions themselves, and on this subject the Brumbaugh-Carron-Litan paper is as clear as any analysis one can read. The combination of limited liability and the ability to issue federally insured deposits created a set of perverse incentives, which led many institutions to take large bets relative to their capital. Not surprisingly, some of those bets turned out favorably and others unfavorably. Yet another familiar explanation, for at least some bad loans, is the occasional instance of out-and-out fraud.

Without denying that bad loans, due to any or all of these three explanations, constitute the largest single cause of the savings and loan industry's current difficulties, I believe it is necessary also to take into account the opportunities and incentives that exist for owner-operators to milk these institutions in ways that arise outside of their asset portfolios per se. One way of doing so, of course, is simply to set what the rest of the world regards as absurdly high compensation, on a straight-wage basis, for owner-operators. Apparently that happens rarely. A more prevalent activity is to use—indeed, to abuse—a whole range of executive perks, including lavish travel, vacation condos, jet aircraft, and so forth. (One recently closed Texas institution reportedly had a fleet of five jets.) Even more important, incentive-based compensation schemes, in a variety of forms usually tied to such measures as growth of assets, have become increasingly commonplace. These compensation incentives have, in turn, interacted with the more familiar incentives to “bet the bank” by taking on questionable loans financed by federally insured deposits. Under many compensation schemes, therefore, operators not only face the perverse incentive of limited liability through their stock ownership but also are allowed to compensate themselves more highly in circumstances in which they acquire large amounts of what the rest of the world would consider to be questionable assets.

The relevant issue is whether all this bulks large enough in the thrift industry's current difficulties to warrant beginning to include some treatment of this kind of activity—in addition to the usual focus on bad loans, of course—in public discussion of the problem. Once again, an analogy may help. Virtually everyone who deals with the developing world has always known that many forms of bribery and graft are commonplace there. By contrast, most substantive discussions of economic development have typically assumed that the amount of money involved in these activities is small enough to ignore for macroeconomic purposes. But one of the things we have recently learned from the spreading investigation into the affairs of the Philippines is that, at least in the case of this one country, corruption and outright theft seem to have accounted for between 25 percent and 50 percent of the country's foreign indebtedness. At least in this case, therefore, to approach the country's problems in the usual way, thinking only about macroeconomic models and the variables that ordinarily appear in them, while ignoring the corruption, is to miss what may be as much as half of the problem.

Is it not possible that using the usual economic models to look at the savings and loan industry's problem—focusing on loan portfolio performance and incentives to make high-risk or low-risk loans, while assuming that all institutions are managed in good faith—is to miss half of this problem as well?

The next issue I want to address is mentioned in the authors' paper, but I would like to have seen it given much more attention than it received. It arises from the fact that the problems that the thrift industry now faces have developed in the midst of what has now become seven years of uninterrupted expansion in the U.S. economy. To be sure, any business expansion is bound to be uneven. There is always both a right-hand and a left-hand tail in the distribution of outcomes realized by individual businesses or individual financial institutions, even in this kind of positive overall environment. Although the authors never address this issue directly, any informed reader of their paper will appreciate that the situation in this industry today is not simply a left-hand-tail problem.

The fact that the thrift industry's problem has arisen despite seven years of a strong overall economy is especially worrisome in the context of the data that the authors present for the commercial banking system. Table 5 shows that fully \$1 trillion worth of bank assets is held at banks with less than 6 percent capital-asset ratios—in some cases, far less than 6 percent—even with all bank assets counted at book value. Table 6 shows that roughly \$700 billion out of that \$1 trillion is held at 13 of the nation's 15 biggest banks.

This situation is worrisome primarily in light of the argument, made in recent years by a number of economists, to the effect that the U.S. economy's financial structure is now extraordinarily sensitive to a downturn in business activity. Both Henry Kaufman and I, relying on aggregate data, have argued that the typical nonfinancial firm in the United States has become sufficiently indebted—not just in a balance-sheet sense but, more important, in a cash flow sense—that a severe downturn in its earnings would render it unable to service its liabilities. More recently, Ben Bernanke and John Campbell, relying on firm-level data, have argued that the same is true for an increasing share of the distribution of nonfinancial firms. To the extent that Kaufman, Bernanke, Campbell, and I are right, it is necessary to ask what would become of the lenders who have advanced the funds that make up the debts that

these firms would not be able to service, if a downturn in business activity were to occur under these circumstances.

If a significant downturn in real economic activity were to throw many nonfinancial firms into default, thereby making their debts into what the banks would have to classify as nonperforming assets, the problem highlighted in the authors' tables 5 and 6 would be sharply compounded. The macroeconomic policy issues following from this possibility are profound. The most immediate issue is whether, in light of this heightened financial fragility and its potential consequences, the Federal Reserve System would be prepared to tolerate any serious economic downturn that could have such an impact not just on the nonfinancial economy but on the banking system as well. And if not, then what does that unwillingness imply for the Federal Reserve's ability to keep price inflation under control? The authors' paper usefully bears on this important set of issues by showing that the potential weakness today in the U.S. commercial banking sector is, if anything, worse than most people have realized.

I will conclude my comments by turning to what I thought was potentially the most interesting part of the paper but, in the end, was its least satisfying part. It is, of course, what to do to prevent the thrift industry's problem from continuing—not to ensure that such a problem could never arise again, at some time in the future (which would presumably be impossible), but at least to be sure that what is happening now will stop. It is useful to think of the question in just these terms, because part of the burden of the paper is to show that the thrift industry's problem is not just an historical event that is now over. As of April 1989, it is still ongoing. The question of immediate relevance, therefore, is not what to do to prevent this situation from happening again, but what to do to prevent it from simply continuing on.

To be sure, the paper does offer some suggestions. These include stiffer capital requirements, market value accounting, earlier action on problem institutions, risk-based insurance premiums, and so on. The paper's most controversial claim in this regard is the argument that tougher capital standards are capable of solving the problem more or less on their own. This argument rests on two legs. The first is the analytical argument that having more capital in the business will give shareholders—and, therefore, presumably managements acting in their behalf—a changed set of incentives; in particular, limited liability, interacting with the ability to issue federally insured deposits, will no

longer create the perverse incentives now in place. Second, the empirical basis for this claim is the finding by previous researchers that, in the past, banks' capital levels have been a very good predictor of failures either one or two years in the future.

While both the analytical and the empirical aspect of this argument are hardly irrelevant, I remain skeptical that higher capital requirements—at least within the foreseeable range (say, 6 percent)—would actually be as effective in this regard as the authors suggest. After all, there is capital, and then again there is capital. Even what is Tier I capital (basically, equity) to a bank is often debt at the level of the bank holding company. (If a bank is deficient in its Tier I capital, therefore, it can satisfy the requirement by having its parent holding company issue a debt instrument and put the proceeds downstream into the bank as equity.) While I fully support Brumbaugh, Carron, and Litan's call for higher capital requirements, for this and similar reasons I think solving the problem of the nation's financial institutions—even in the limited sense of ensuring that the current situation will not continue further—will require a broader set of correctives.

General Discussion

A number of panelists elaborated on the importance of the adverse incentives (moral hazard) created by deposit insurance and possible ways of dealing with them. Robert Hall noted that the moral hazard problem created by deposit insurance is analogous to the moral hazard present for any debt-financed corporation. Stockholders and management may actually have a preference for risk, as negative returns are disproportionately at the expense of the insurer—the U.S. taxpayers or bond holders—whereas positive returns benefit stockholders. He also noted two reasons why the moral hazard problem may be more severe for thrifts and banks than for other debt-financed corporations. First, for reasons not adequately explained, banks and thrifts are relatively lightly capitalized, so stockholders are very highly levered. As a result, the divergence between the stockholder's and creditor's interests is greater than for most corporations. Second, private lenders, banks or bond holders, insist on carefully written covenants to ensure that capital is maintained, such as prohibiting the payment of dividends if capital

requirements are not met. In the case of banks and thrifts, taxpayers serve the role of the bond holders, but the government has not, on their behalf, insisted on the covenants that would protect their interests.

Many participants reasoned that capital requirements serve the same role as bond covenants, but agreed with the general view that they are currently inadequate. Whenever bankruptcy probabilities rise, as they have for a great many thrifts, the moral hazard problem becomes significant. James Duesenberry noted that not only do legal capital requirements need to be adequate, but there also needs to be a mechanism for catching any deterioration in capital position before it is too late. He suggested creating a debenture component to the banks' capital that would be rolled over each year. This would encourage those debt holders to review the banks' activities more actively. William Poole liked the idea of subordinated notes but suggested that the notes requirement be specified as a percentage of insured deposits rather than of assets since assets are imperfectly measured whereas deposits are not.

Joseph Stiglitz observed that because deposit insurance removes any element of risk from the decision of individuals about where to place their funds, the market for deposits is highly price competitive. Therefore, even without moral hazard considerations, banks concerned with their cash flow must reach for high-yield, but risky, loans when deposit rates are high. Stiglitz thought that abolishing deposit insurance, thus forcing a greater sensitivity of depositories to risk, would naturally lead the institutions to settle on higher capital ratios than they now have.

Michael Wachter observed that a major difficulty in a bankruptcy is determining the portion of the payments to which each asset holder is entitled, and that this difficulty may actually be greater for banks than for thrifts. Commercial banks have a more complicated liability structure than thrifts, so that the ambiguities of priority in claims may lead creditors to demand liquidations at an earlier stage of financial trouble than they would with a typical corporation.

James Tobin did not believe that the proposed increases in required capital could solve the basic problem of moral hazard associated with deposit insurance. He thought deposit insurance was obsolescent. He noted that the original motivation for deposit insurance was to prevent recurrence of the panic of 1932–33. This was a run from bank deposits to currency, destroying bank reserves that the Federal Reserve was inhibited from replenishing. He observed that any run today is more

likely to be a shift of deposits from one financial institution to another, and that anyway any run to currency would be met by an expansion of reserves by the Federal Reserve. Therefore, much of the original motivation for deposit insurance no longer exists. He also noted that the moral hazard inherent in deposit insurance has been accentuated by the decline of surveillance, the deregulation of deposit interest rates, the new ideology of unbridled tough competition, and the loss of the fiduciary ethic that bankers used to have.

Tobin also observed that deposit insurance covers not only the principal of a deposit but also accrued interest, and that de facto insurance had been extended to cover all deposits and not just the \$100,000 that is the law. He advocated a reform to confine insurance to those deposits backed by safe assets of short maturity. These deposits could serve as a convenient interest-bearing substitute for currency. The only role of deposit insurance would be to protect depositors against dishonesty and fraud. Other deposits could be invested in riskier assets and loans, subject to normal supervision. So long as depositors are made aware of the risks of such deposits, Tobin believed they need not be insured by the taxpayers.

Hall went further, suggesting that there was no longer a need for thrifts. In his view, their original purpose, to intermediate between mortgage borrowers and depositors, has been met more satisfactorily through securities markets. In fact, thrifts are being replaced very rapidly by uninsured institutions, such as mutual funds, that do not have to pay deposit insurance rates. Lawrence White disagreed with Hall, arguing that there is still a niche in the market for a provider with specialized knowledge of local mortgage markets and that many thrifts serve effectively and efficiently in that role. Tobin noted that the structural problems with thrifts apply to banks as well; getting rid of the thrift industry would not solve the problems of the financial intermediation industry. Duesenberry agreed with Tobin and went on to caution that the transformation of thrifts into banks should be gradual so that they acquire experience in making commercial loans before becoming heavily dependent on them.

Hall also argued that liquidations of thrifts are better than mergers because with liquidation, but not with mergers, the option cost of deposit insurance to the government is canceled. White responded that liquidations are not likely to reduce the deposit insurance exposure, because

the deposits in the liquidated institutions are likely to end up in another depository institution.

White observed that insurance company practices suggest a variety of mechanisms to deal with the adverse incentives created by deposit insurance. Capital requirements imposed by the FDIC serve effectively as a deductible on ordinary insurance. Regulators can insist on the use of market value accounting. They can charge premiums based on the risk involved, including the levels of capital maintained. They can practice coinsurance by insuring deposits up to a limited amount. Finally, they should have regulations that allow them to intervene early and thereby effectively to cancel the insurance coverage.

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