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Understanding the Components of Bank Failure Resolution Costs¹

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and not necessarily those of the FDIC.**

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I. Introduction

In the United States 2,427 depository institutions failed from 1986 to 2007. Out of these 1,244 of them with \$222 billion in assets were placed under a Federal Deposit Insurance Corporation (FDIC) receivership for resolution.² As of year-end 2007, the FDIC estimates that the total cost to the deposit insurance funds of resolving the BIF- and DIF-insured failed banks is around \$30 billion. We provide the first in-depth analysis of this extended and costly experience using the population of bank failures that were resolved and terminated by the FDIC during the 1986 to 2007 period.

We decompose the total cost of bank failures into three major categories. These are losses incurred on the disposition of the assets of the failed bank and direct and indirect expenses incurred to resolve these failures. We demonstrate how resolution costs are distributed across the method of resolution, bank size, regulatory periods, and the existence of fraud. In addition, we document the time spent in the resolution by the resolution method and legislative period. Finally, we show how various classes of claimants against the failed banks bear the costs of the failure.

A bank fails when its chartering agency revokes its banking charter. The chartering agency then appoints the FDIC to resolve the failure. The FDIC establishes an independent legal entity called “receivership” that oversees the orderly resolution of the failed bank by collecting the market value of the failed bank’s assets and paying the

² The remainder of the failures is thrift institutions, which were insured by Federal Savings and Loan Insurance Corporation (FSLIC) or Saving Association Insurance Fund (SAIF) or resolved by the Resolution Trust Corporation (RTC). We focus on Bank Insurance Fund (BIF)- and Deposit Insurance Fund (DIF)-insured institutions and our sample draws from this group. Throughout the paper we refer to them as banks.

claimholders after its own expenses. The FDIC pays the insured depositors in full and then stands in their place as a claimant on the receivership.

The standard definition of resolution cost is the difference between the liabilities of the failed bank and the market value of its assets net of expenses incurred by the receivership. In addition to this definition, we interpret resolution costs as the market value of equity of the failed bank at time of resolution. This definition allows us to link the book value of equity of the failed bank at time of failure to its market value at the end of the resolution process. In this framework, the gain or losses on the disposition of assets and liabilities and receivership expenses adjust the book value of equity to its market value.

Our sample consists of 1,213 of the 1,244 banks that failed during the 1986 to 2007 period. Furthermore, we consolidate the individual bank failures under their respective holding company name. This consolidated sample has 1,092 failures. We find that the consolidated sample has an average ratio of the book value of equity to assets of 1.32 percent at time of failure. The mean discounted loss on the disposition of assets as a percent of total assets is 13.89 percent. The mean ratio of discounted receivership expense to assets is 7.62 percent of which 3.49 percent is the average ratio of discounted direct receivership expenses to assets. As a result, mean discounted total resolution cost to asset ratio is 25.02 percent. In other words, an average failed bank during 1986-2007 has a negative market value of equity that is about one-fourth of the book value of its assets.

There is considerable time-variation in these ratios. For example, the mean ratio of discounted total resolution costs to assets is 31.13 percent for the failed institutions

prior to the enactment of the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) in 1989. In contrast, this ratio significantly declines to 18.08 percent during the period that follows FIRREA and the passage of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991.

The FDIC uses a number of methods to resolve failed banks including deposit payoffs, insured-deposit transfers, purchase and assumption (P&A) agreements, whole-bank transactions, and open-bank assistance. The primary difference between the methods is whether the FDIC assumes and liquidates the failed-bank assets (deposit payoffs) or leaves most or all of the failed-bank assets in the private sector (P&A agreements, whole bank transactions, and open-bank assistance). Univariate tests show that the average ratio of discounted resolution costs to assets for deposit payoffs is not statistically different than that for P&A methods, where each ratio is approximately 26 percent.

Our results show that large banks that fail have higher capital ratios, lower loss on assets, and lower receivership expenses than small banks. We find no univariate evidence that fraud-caused failures have higher resolution cost ratios. Finally, average resolution time is about five years, which is roughly twice as long to resolve a non-financial bankruptcy.

The remainder of this paper is organized as follows. Section 2 describes the number and types of failures over the 1986 to 2007 period. Section 3 provides our definition of resolution costs and section 4 describes the components of resolution costs. Section 5 describes the patterns of resolution costs across different resolution methods. Section 6 looks at resolution costs across different size categories. Section 7 describes

the patterns of resolution costs across different legislative periods. Section 8 describes some measures of fraud for failed banks and shows the pattern of resolution costs across these different measures of fraud. Section 9 evaluates how the time in receivership varies over different resolution types and legislative periods. Finally, Section 10 shows the link between the total resolution costs and losses to the FDIC and other claimants.

II. Bank Failures and Resolution Types

Banks can fail for a variety of reasons including undercapitalization, liquidity, safety and soundness, and fraud. The chartering agency has the authority to terminate the bank's charter and appoint FDIC as receiver. The following chartering agencies have the authority to essentially close a bank: the Office of the Comptroller of the Currency (OCC), Office of Thrift Supervision (OTS), and the state banking authorities. For insured federal savings associations and national banks, the FDIC must be appointed receiver. In the case of state-chartered banks that are members of the Federal Reserve System, the state banking authority may appoint the FDIC receiver. In 1991, Congress gave FDIC the power to appoint itself as receiver for state chartered insured depository institutions.³

Panel A of Table 1 shows the number of banks that were insured by the Bank Insurance Fund (BIF) and the Deposit Insurance Fund (DIF) and failed from 1986 to 2007.⁴ There are in total 1,244 bank failures during 1986 to 2007, where each bank

³ The FDIC has elected to do so on one occasion—in the failure of Meriden Trust & Safe Deposit Company in Meriden Connecticut on July 7, 1994.

⁴ The Financial Institution Reform and Recovery Act (FIRREA) of 1989 created the Saving Association Insurance Fund (SAIF) to replace the Federal Savings and Loan Insurance Corporation (FSLIC) as the provider of deposit insurance for thrift institutions. The SAIF was administered by the FDIC separately from its bank insurance fund, called the Bank Insurance Fund (BIF). The Federal Deposit Insurance

within a holding company is treated as a separate observation. These failures do not include the 317 failed institutions that were insured by Federal Savings and Loan Insurance Corporation (FSLIC), 747 failed institutions that were resolved by the Resolution Trust Corporation, and 6 failed institutions that were insured by the Savings Association Insurance Fund (SAIF). We exclude these institutions because our analysis relies on the FDIC internal accounting records, which are readily available for the BIF- and DIF-insured institutions.

During the sample period we observe that the number of bank failures peaks in 1988 and dramatically drops after 1992. Indeed, during 2005 and 2006 there were no bank failures.

Table 1 also shows failures by resolution type. The FDIC can resolve a failed bank primarily in two ways—deposit payoffs and purchase-and-assumption (P&A). The FDIC also has the option of providing open-bank assistance, but this alternative has not been used since 1992.

One important difference between the resolution of a bank and the bankruptcy of a non-financial firm is that in a bank resolution the receivership must market the liabilities of the failed institution in addition to its assets. An acquirer may be willing to pay more for the liabilities than their face value because the failed bank's deposit gathering franchise provides value. Therefore, the receivership has the responsibility to obtain a fair price not only for the assets of the failed institution but also for the franchise value of the failed bank during the resolution process.

Reform Act of 2005 merged the SAIF and BIF into one insurance fund called the Deposit Insurance Fund (DIF). Three failures occurred during the 2005 to 2007 period, which were covered by DIF.

Such dual problem provides the main distinction between the deposit payoff and P&A methods. In the former the FDIC liquidates the assets of the failed bank and pays off the depositors directly. Thus, the franchise value of the failed bank is destroyed. The FDIC uses the Deposit Payoff approach in cases where there are no bidders for a P&A or the bids are not less costly than liquidation. Two methods are employed to pay off depositors. In a deposit payout (PO), the FDIC pays off the insured depositors in cash. The uninsured depositors and general creditors file claims against the receivership and they are paid if funds are available as the assets are liquidated. In an insured-deposit transfer (IDT), insured deposits and secured liabilities are transferred to a healthy institution, along with an equal cash payment from the FDIC. This method allows uninterrupted service to insured depositors. We group these two types of resolution methods together and call them deposit payoffs.

In a P&A transaction, an approved acquiring bank purchases all or part of the failed-bank's assets and simultaneously assumes all or part of the failed bank's liabilities. The acquirer generally bids separately for assets and deposits. Because the deposit gathering function of the failed bank is transferred to the acquirer, the acquirer's bid for the liabilities may reflect the franchise value of the failed institution. In some cases the acquirer receives most or all of a failed bank's assets and deposits in return for a one-time payment from the FDIC. These transactions are termed as Whole Bank P&A transactions. The acquirer's bid reflects the value of the deposit franchise less expected loss in value on the book value of the assets.

The last category of failure resolution methods is open-bank assistance (OBA). Here the FDIC does not establish a receivership but provides financial assistance to an

open institution to prevent it from failing. Generally, the FDIC replaces the existing bank management. A major criticism of OBA is the shareholders of the failing institution benefit from the assistance provided by the FDIC. In fact, the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) prohibits the use of the deposit insurance fund to benefit the shareholders of an institution that has failed or is in danger of failing.

Given these characteristics of the resolution methods, we can argue that deposit payoff transactions are similar to the Chapter 7 bankruptcy process for non-financial corporations where assets of the debtor are turned over to a bankruptcy trustee. This trustee converts assets to cash and distributes to the creditors. However, there is one important difference. The FDIC, in its insurance capacity, pays depositors and then stands in their place to receive proceeds from the asset liquidation. Therefore, in contrast to a Chapter 7 bankruptcy, one class of claimants, receives payment in full immediately from a third party (the FDIC as insurer) and the third party receives over time partial or full payment as the assets are liquidated.

P&A agreements are closer to Chapter 11 bankruptcy process where all or part of the going concern value of the firm is preserved by reorganization. The OBA approach also preserves the going concern value of the bank.

We observe in Panel A of Table 1 that out of 1,244 failures between 1986 and 2007, 236 cases (19 percent of the failures) are deposit payoffs and 1,008 cases (81 percent of the failures) are P&A transactions including whole-bank transactions. IDT proves to be the preferred method when the deposit payoff approach is used. Whole-bank transactions lose popularity following 1991.

Panel B of Table 1 compares our sample with the universe of BIF- and DIF-insured bank failures summarized in Panel A. Our sample includes 97.5 percent of the total failures (1,213 failures of the total 1,244) that were placed under a receivership for resolution. We exclude 31 institutions for two reasons. First, the resolution process was not completed by the end of 2007 for 34 of the institutions. We exclude all but five of these institutions—those that failed in or before 1991. These institutions are First Republicbank Delaware, which failed August 2, 1988, Capitol Bank and Trust Company, which failed December 28, 1990, Bank of New England, which failed January 6, 1991, Goldome, which failed May 31, 1991 and Cititrust, which failed August 9, 1991. We also exclude two institutions, Meriden Trust & Safe Deposit Company of Meriden, Connecticut, which failed on July 7, 1994, and Private Bank and Trust Company of Miami, Florida, which failed October 29, 1991, because these institutions were not taking deposits or making loans at the time of failure.

We do one last adjustment. In our sample, 132 banks of the 1,213 failures belong to eleven bank holding companies. These bank holding companies and the respective number of failed banks within the holding company (in parentheses) are First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). In our analysis we consolidate these failures under their respective bank holding companies and our resulting sample size is 1,092.

INSERT TABLE 1 HERE

III. Defining Resolution Cost

In this paper we define the total resolution cost (TRC) as the market value of the equity of the failed bank as of the termination date of the receivership. To illustrate this interpretation consider a bank that fails at time $t=0$ with book value of equity BVE_0 . Inflows to the receivership come from two sources during the resolution process that ends at $t=T$. The first pertains to asset disposition and includes the proceeds from the sale of assets and income and fees earned on the assets in liquidation net of the premium paid to acquirers (PP_0). We term this net inflow as the liquidation value of the failed bank assets (LVA_t). The second source of inflow to the receivership results from the marketing of the liabilities and is called the premium received from the acquirers (PR_0). Receivership outflows also have two sources: receivership expenses (EXP_t) and the liabilities of the failed bank (BVL_0). The deficit between the inflow and outflow, ignoring time value, generates the total resolution cost.

$$TRC_T = \sum_{t=0}^T LVA_t + PR_0 - \sum_{t=0}^T EXP_t - BVL_0 \quad (1)$$

If we add and subtract BVA_0 to equation (1), denote the loss on assets (LOA_t) as the difference between LVA_t and the book value of assets (BVA_0), and denote book value of equity (BVE_0) as the difference BVA_0 and BVL_0 , we obtain the following:

$$TRC_T = BVE_0 \pm \sum_{t=0}^T LOA_t + PR_0 - \sum_{t=0}^T EXP_t \quad (2)$$

In equation (2), we observe that the LOA_t amount together with PR_0 , and EXP_t adjusts the BVE_0 of the failed bank to its market value. Thus, TRC_T is nothing but the market value of equity of the failed bank as of termination date.

One advantage of considering TRC_T as the market value of equity at the failed bank is that it provides an insight into the dynamics of the failure resolution process. When the receivership assumes a failed bank it starts with an initial BVE_0 . During the resolution process assets and liabilities of the failed bank are marketed. Such efforts result in a revenue stream (LOA_t) that is either more or less than the book value of the assets yielding an increase or decrease in the BVE_0 . Hence, LOA_t is nothing but a market value adjustment of the BVE_0 . The market value of the equity is further affected by the existence of PR_0 and decreases as the receivership incurs expenses related to the resolution process.

To express the cash flows in equation (2) on a discounted basis we assume the premium is received at time of failure, and hence, no discounting is needed. Discounting EXP is straightforward. However, to obtain the discounted value of the loss on assets at the time of failure (LOA_0), we must understand the components of LOA_t .

Suppose LVA_t is received in period $t=1$ and the appropriate risk-free rate is r . Hence, LOA_0 on a discounted basis at $t=0$ is as follows:

$$LOA_0 = \frac{LVA_1}{(1+r)} - BVA_0 \quad (3)$$

Equation (3) is equivalent to the following:

$$LOA_0 = \frac{LVA_1 - [BVA_0 + BVA_0 * r]}{(1+r)} \quad (4)$$

or

$$LOA_0 = \frac{LVA_1 - BVA_0}{(1+r)} - \frac{BVA_0 * r}{(1+r)} \quad (5)$$

The first term in equation (5) is the discounted value of the accounting loss (or gain). The second term reflects the discounted value of the interest payment.

An important advantage of expressing LOA_0 in terms of equation (5) is that data are available to estimate both components. We use the FDIC General Ledger (GL) to compile failed bank resolution cost data. The FDIC GL has an income statement and balance sheet for each failed-bank receivership for each month. The numerator of the first term is readily available from the income statements of the receivership. The FDIC GL records the loss (or gain) on the disposition of assets as the difference between cash collected and the book value of asset of the failed bank. A proxy for the numerator of the second term is also readily available from the income statement of the receivership—the interest paid on the loans from the FDIC to the receivership. The FDIC lends the receivership funds to facilitate the timely liquidation of the receivership’s assets and charges the receivership interest on these loans.

We use the following procedure for discounting. We match a yield curve to each failure based on the month that the bank failed and then fit a cubic spline to each yield curve to calculate a yield for each month along the yield curve. We use these smoothed yields to discount each of the monthly cash flows.

IV. Components of Resolution Costs

In addition to the FDIC General Ledger (GL) we also use information from the Failure Transactions Database (FTDB) which is an electronic database that is maintained by the FDIC’s Division of Insurance and Research. Among other data items, this

database houses the estimated cost produced by the Division of Finance which was previously published as the Failed Bank Cost Analysis (FBCA).⁵

Table 2 provides the average resolution cost resulting from bank failures. The table is organized to reflect the components of equation (2) both on a discounted and non-discounted basis. We start by identifying the book value of equity at failure. Here we allow for asset and liability adjustments post failure. Often assets and liabilities are discovered or the book values at failure need to be adjusted after failure. Discovered assets and liabilities are those that exist but are not recorded or recognized in the failed bank's general ledger accounts at the time of closing.

To derive loss on assets we make a number of additions to gain and (loss) on assets data item obtained from the FDIC GL. The first addition is the net income or loss from assistance agreements. The FDIC, not the receivership, made these agreements as part of the resolution. The net income or losses from these agreements are tracked outside of the receivership records in the FDIC GL. The amount for net assistance agreements can be negative, which indicates additional loss, or positive which indicates an offset to the loss. The positive number can arise because in some cases, the FDIC may have taken an equity stake in the acquiring bank, would receive dividends, and eventually sell the stock back to the acquiring bank.⁶

⁵ The estimated cost from the Division of Finance can also be found on the FDIC website in the Historical Statistics on Banking (<http://www4.fdic.gov/HSOB/index.asp>).

⁶ The net income or loss from assistance agreements has two parts. The first part is associated with nine resolutions, which involved 25 separate banks and amounts to \$467.2 million. The second part is associated with seven resolutions and totals to \$6.67 billion. The majority of this amount is associated with the following six resolutions: MCorp (20 institutions), First Republic (41), Texas American Bancshares (24), Bridgeport (2), Bank of New England (3) and Goldome. For these resolutions the Division of Finance made manual adjustments to arrive at the final loss numbers, which were not available in the electronic records. Unfortunately, these loss numbers not only include gain or loss on the disposition of assets but also receivership expenses and other income items. The remainder of the total loss number for the

We also include net loss sharing expenses that arise from agreements between the receivership and acquirer that the receiver will share in losses (and recoveries) that are incurred on some of the assets that the acquirer has purchased. These loss sharing agreements were first used in the early 1990s primarily in large bank failures to facilitate the marketing of assets.

The premium paid to the acquirer can reflect two types of payments. The receiver may pay a financial institution to administer depositor payoff in an insured deposit transfer transaction. This does not frequently occur—in our sample the receivership paid a premium in only seven out of the 155 IDT transactions. In the remainder of the IDTs the receivership received a premium. The bulk of the premium paid comes from the whole bank transactions. In these cases the bidder typically requires a one-time payment to assume the assets and deposits of the failed bank. Hence the premium paid by the receivership in whole bank transactions can reflect the loss on assets net of franchise value.

Next, we account for the value of the income from assets, which reflects the interest and fees that are earned on the assets in liquidation during the resolution process and other miscellaneous income. Finally, we include the value of the interest expense paid to the FDIC before we arrive at the loss on assets.

Consistent with equation (2) we account for two items to arrive at the resolution cost. The first one is the premium received from the acquirer. This item reflects the amount that the acquirer pays to the receivership to assume the deposits of the failed bank. The premium received can be used as an imperfect proxy for the franchise value of

assistance agreements comes from Capitol Bank and Trust Company, which failed in 1990 and is still active, is included in the adjustment for a gain of \$12 million.

the failed bank. The proxy is imperfect because in P&A transactions the cash payment for the liabilities can be confounded by the bid for the assets. An acquirer can adjust upward or downward the premium paid for deposits depending on the estimated market value of assets, which is revealed by the FDIC to the prospective bidders.

The last item is the receivership expenses. These expense items are akin to the bankruptcy costs of corporate failures. We classify these expenses into direct expenses and indirect liquidation expenses.

Direct liquidation expenses represent salaries travel, legal and other professional fees such as accounting and auditing fees incurred in the resolution process. Liquidation overhead is general liquidation expenses from overhead associated with the FDIC's liquidation activities that cannot be charged to specific assets or receiverships. The allocation of these expenses to individual receivership is challenging. The FDIC has changed the types of expenses included and the allocation method of the indirect expenses to the receiverships over our sample period. Currently, the FDIC uses a service costing approach. Under the service costing approach, the costs are allocated to the receivership by charging the receivership for the services provided by the FDIC using market-based prices for the services. For example, indirect expenses can include a flat rate for each claim that is processed or hourly rates for investigating legal matters pertaining to the receivership.

In sum, total resolutions costs represent the losses that incur to all of the claims on the receivership, including losses to the deposit insurance fund represented by claims held by the FDIC.

Table 2 also reports the total resolution costs on a discounted basis. Here, consistent with equation (5), we discount gain and (loss) on disposition of assets and interest paid on loans made to the receivership by the FDIC. We also account for discounted values of net loss sharing expenses, income from assets, and direct liquidation expenses.

Table 3 presents each component as a fraction of the book value of assets of the failed bank at failure and presents information on the distribution of these variables. The capital ratio, defined as the book value of equity as a percent of book value of assets at failure, varies considerably in the sample. We have institutions that are closed with book value equity ratios as high as 26 percent. However closing banks with high positive book value of equity is a rarity—only nine percent of our sample had book value of equity ratio above 8 percent at time of closure. In contrast, we observe a larger percentage of banks failing with negative book value of equity ratios. Indeed, 34 percent of our sample has zero or negative book value of equity at time of closure. In one case a failed bank had a negative book equity ratio as large as 58 percent.

Loss on assets shows similar variation. In one extreme case losses constituted almost 100 percent of the assets at failure on a discounted basis. In rare cases, there are gains on the disposition of assets. Loss on assets yields a zero or a positive gain in only five institutions in our sample of 1,092.

Total resolution costs as a result show a significant variation. While at one extreme total resolution cost (market value of equity at termination) is a positive number

and as high as 10 percent of the assets at failure, at the other extreme this ratio is negative 121 percent.

V. Resolution Methods and Costs

In Panel A of Table 4 we present a breakdown of costs in terms of resolution methods and in Panel B, the components as a fraction of the book value of assets at failure. The first observation is that average capital ratios at failure do not vary between deposit payoff and P&A methods. The mean (median) capital ratio at failure is 1.47 (1.99) percent for deposit payoffs and 1.82 (2.35) percent for P&As. They are not, however, statistically different from each other.

In contrast, the whole bank method appears to be applied to institutions that have exhausted their book value equity. Such extremely low capitalization explains why the FDIC was willing to pay a significant premium, about \$6 billion to acquirers in whole-bank transactions. This amount, which constitutes 12.41 percent of assets at failure, basically achieves re-capitalization in book value terms, and creates incentives for the acquirer to assume the assets and deposits of the failed bank as a whole.

To illustrate this point, consider the averages for whole-bank transactions shown in Panel A of Table 4. On average the book value of equity is \$459 thousand. Once we adjust for gains and losses we arrive at a negative equity base of \$1.549 million (\$2,008,000 – \$459,000). The premium paid to the acquirer is on average \$5.521 million. Hence, the premium paid to the acquirer results in the final equity of the acquired whole bank to be \$3.972 million or 8.93 percent of assets at failure.

In terms of loss on assets we also do not observe any differences between deposit payoffs and the P&As. On the other hand, the franchise value, which is reflected in the premiums received from the acquirer, offsets the loss on assets for P&A transactions. Expectedly, P&As command significantly higher premiums. Hence, it is plausible that the acquirer factors in the franchise value of the bank as well as the market value of the assets in the bid for the bank.

The deposit payoff method has significantly higher receivership expenses than the P&A method. The mean total receivership expense ratio for deposit payoff is 10.76 percent compared to 8.33 percent for P&A transactions and the difference in mean (median) are highly significant. This result is expected because in a Deposit Payoff the receivership not only incurs expenses related to the liquidation of the assets but also incurs expenses associated with paying off the depositors. In addition, it takes on average longer time to resolve such institutions, which results in higher indirect expenses.

It is instructive to compare receivership expenses resulting from bank failures with estimates of direct bankruptcy costs for non-financial firms. In a recent paper, Bris, Welch, and Zhu (2006) provide estimates for Chapter 7 and Chapter 11 bankruptcies for 300 bankruptcies from 1995 to 2001. They list the components of Chapter 7 expenses as the trustee, accountant, and debtor attorney expenses. The trustee is responsible for the sale of the assets and distribution of the proceeds to the creditors. For Chapter 11 expenses, they present debtor expenses and unsecured creditors' committee expenses. They report mean (median) expenses to be 8.1 (2.5) percent of pre-bankruptcy assets for Chapter 7 and 16.9 (1.9) percent for Chapter 11 bankruptcies. Their statistical tests show that direct expense ratios are similar across Chapter 7 and 11 bankruptcy procedures.

When we compare the mean (median) direct expense ratios of 4.94 (4.65) for Deposit Payoff and 3.82 (3.58) for P&As with those associated with bankruptcies of non-financial firms a number of observations emerge. First, the distribution of the expense ratios in the bankruptcy sample are more skewed than those in our sample. Second, the expense ratios for non-financials pertain to asset sizes, which are much smaller than the average size of bank failures. Therefore, although it becomes quite difficult to compare the direct expense ratios for financial and non-financial bankruptcies, one can argue that costs are comparable.

In addition to direct expenses bank failure resolution requires additional expenses, such as overhead expense. This is an economically significant addition since it doubles the direct expense ratio in the case of deposit payoffs and P&As. Studies that examine the bankruptcy costs of non-financial firms ignore overhead costs of the courts, which are borne by the taxpayers. For failures of financial firms, FDIC recognizes overhead costs and they are reflected in the receivership expenses.

In summary, both deposit payoffs and P&A transactions start with failed banks that have similar mean and median capital ratios. The loss on assets ratio for P&As is also similar. However, the premium received for the franchise value is higher for the P&As. In addition, the Deposit Payoffs suffer from significantly higher total receivership expense ratios relative to P&As. These opposing factors result in total resolution costs that are marginally smaller for P&As.

An important *caveat* applies here. The deposit payoff resolution method is used for failures of smaller size than the P&A method. On average failed banks that were resolved using a P&A resolution are five times larger. Given the negative relationship

between bank size and resolution cost ratio, as we demonstrate in the next section, this cost differential can be caused by the size effect. Thus, we need to conduct a multivariate analysis to sort out the exact source of the cost differential between resolution methods.

The relationship we find between total resolution costs and resolution types is similar to Bovenzi and Murton (1988) and Brown and Epstein (1992) and James (1991), who find that loss rates are higher for deposit payoffs than for P&A transactions and whole bank transactions.

VI. Resolution Cost and Size

The cost of resolving a failed bank can depend on size for a number of reasons. First, there can be economies of scale in asset and liabilities marketing. The receivership can construct, market, and service asset pools more efficiently when asset size is larger. Second, the types of assets that small banks hold could be different than large banks generating differing liquidation costs. Empirically, it is well known that a strong correlation exists between bank asset size and resolution costs as a percent of assets.

Table 5 confirms these observations. We classify total resolution costs by the six size categories used in analysis in FDIC (1998). In Panel B, we further collapse these categories to three: small, medium, and large. The size cutoffs for the three classifications are consistent with those used in the FDIC's Quarterly Banking Profile.

The first observation is that small banks enter the failure state with lower book value of equity ratios. Larger banks have higher capital ratios. Loss on assets exhibits an inverse relationship with size. Direct and total receivership expense ratios are also lower

for larger banks. As a result, we find total resolution costs as a percent of book value of assets at failure decline with asset size confirming the findings of earlier studies.

To illustrate the characteristics of the components of the resolution costs for the largest failures, in Appendix B, we provide the largest 25 failures in our sample. We also note other large failures that are excluded from our sample. The list shows that our sample captures the majority of the largest failures.

In this list Bank of New England, MCorp, and Texas American Bankshares are noteworthy because they have the largest book value of equity at failure. Such high capital ratios exist because in the resolution of these failures FDIC used its cross guarantee assessment authority to assess other financial institutions in the same holding company.

VII. Legislative Periods and Costs

During the 1986 to 2007 period the banking industry has gone from deep crisis into recovery, and eventually prosperity. Two pieces of legislation, FIRREA and FDICIA, passed by the Congress to deal with the banking crisis of the 1980s marked this period. Appendix A provides an outline of how these two major pieces of banking legislation have affected the failure resolution process.

Most notably, FIRREA allowed the FDIC to offset losses via the cross guarantee provision. This clause enables the FDIC to recover some of its resolution costs by assessing these costs against the solvent insured institutions in the same holding company.

Two provisions of FDICIA had profound impact on failed bank resolutions. These were prompt corrective action (PCA) and the least-cost resolutions. The PCA provision required the FDIC to take mandatory actions for critically undercapitalized institutions, which are banks with tangible capital ratio of two percent or below. The intent of this provision was to require distressed banks to be closed before they become severely distressed. Hence, we expect the capital ratios of the failed banks post FDICIA to be significantly higher than the capital ratios of the failures pre-FDICIA.

The second important provision required the FDIC to use the method that is least costly to the deposit insurance fund(s)—otherwise referred to as the Least Cost Test. This provision requires the FDIC to resolve banks in a manner that is least costly to the deposit insurance fund. Note that this requirement may or may not translate into lower total resolution costs, which include costs borne by claimants other than the FDIC. However, since the FDIC is typically the largest claimant class, we expect total resolution costs to be lower in the post-FDICIA era.

We split the sample into separate legislative periods to capture the time-series characteristics of the resolution cost components. In particular, we look at the period before FIRREA, the FIRREA period and the FDICIA periods. The Pre-FIRREA period ends in August of 1989 and the FDICIA period starts in January 1992. We show the results from this analysis in Table 6.

The first interesting observation pertains to the capital ratio. The average book value of equity at the failed institutions shows an increasing trend. The mean (median) capital ratio of the 582 institutions that failed during the pre-FIRREA period is 0.77 percent (1.30 percent), this ratio increases to 3.83 percent (4.25 percent) for the 173

failures during the FDICIA period. This result is consistent with the objectives of PCA and shows that distressed banks were closed before they became severely distressed.

In contrast, we observe an opposite trend for loss on assets. The mean (median) loss on assets ratio declines from 25.59 percent (24.10 percent) in the pre-FIRREA period to 13.38 percent (13.38 percent) during post FDICIA period. This positive development is also augmented by increase in premiums received from acquirers.

In terms of receivership expenses we do not find any significant changes in direct expenses. However, indirect expenses decline as evidenced by a decrease in total Receivership Expenses. As noted above, the FDIC has modified the allocation of indirect expenses to the receiverships over the sample and this decline is the result of changes in the allocation method.

As a result, we observe that the mean and median the total resolutions cost ratio has decreased over these different legislative periods. In particular, during the post-FDICIA period the mean (median) total resolutions cost ratio is 18.08 percent (16.91 percent) on a discounted basis. In contrast, in the pre-FIRREA period the mean (median) cost ratios are 31.13 percent (29.93 percent). Note that there is a significant decline in resolution costs between the pre-FIRREA and FIRREA periods.

The total resolution cost ratio for the pre-FIRREA period is similar to the cost ratios reported in Bovenzi and Murton (1988), Brown and Epstein (1992), and James (1991), who find that the loss on assets is approximately 30 percent of failed-bank assets during the banking crisis of the late 1980s. These studies use assets at failure as a base to calculate the cost percentage and ignore assets discovered post failure. In addition, they all use discounted values but it is unclear what method they used to discount the flows.

VIII. Fraud and Resolution Costs

In a report prepared for the president and Congress in July 1993, a national commission found fraud and misconduct to be an important cause of failures in the 1980s. The same report also argued that losses due to fraud constituted a significant portion of total losses.

No prior academic research exists identifying the contribution of fraud to failure resolution costs. The primary reason for this lack of research is the difficulty of identifying fraud. A database compiled at the Division of Insurance and Research at the FDIC that captures the causes of failure has the potential to fill this void.

The database identifies fraud in failures between 1989 and the present. The fraud variables are collected from the written reports that are presented to the FDIC board when the FDIC is in the process of planning the resolution of a troubled bank. The failing bank case has a narrative section that discusses the primary reasons the bank failed. From these failing bank cases, the FDIC compiled a database of causes of failure, including fraud.

The database includes three fraud indicators—whether fraud was the primary cause of failure, whether fraud contributed to the failure of the institution, and whether fraud was present. These determinations were made independently by three subject matter experts who reviewed the failing bank cases. If two of the three experts agreed then the fraud category was recorded.

For example, fraud typically involves either fraudulent insider loans or manipulation of bank records. Fraudulent insider loans can include loans that are made

to friends and family as favors or the bank may be receiving bribes and kickbacks as a result of the lending activity. Manipulation of bank records could include booking fictitious loans or changing loans information (such as balances, interest rates, due dates etc.) thereby making loans that will likely result in loss look like high quality assets. Both of these types of fraud can be so widespread that, once the fraudulent assets are accounted for appropriately, the institution falls below the regulatory threshold and becomes critically undercapitalized. Such a case would be categorized as one where fraud is the primary cause of failure. Alternatively, this type of fraud may be less widespread and once other factors have been considered, like poor loan quality resulting simply from poor loan administration, the institution becomes critically undercapitalized. This case would be categorized as one where fraud is a contributing factor in the failure. Lastly, fraudulent insider loans can be present at the bank but the losses are so small that they aren't considered a contributing factor in the failure. This case would be categorized as "fraud is present."

In Table 7 we breakdown the calculation of total resolution costs by different measures of fraud. The database on fraud includes 608 of the 612 institutions in our sample that failed from 1989 to the present. We report averages for this sample, three categories of fraud samples, and the no-fraud sample.

Panel B shows the mean and median for each ratio and presents univariate tests that examine the difference between each type of fraud from the no fraud cases. In terms of book value of equity ratio, loss on assets, direct liquidation expenses, and total resolution costs we find no significant difference between fraud and no-fraud cases.

It is important to note that on average the institutions in the no-fraud sample are much larger than those in the fraud sample. When we look at the weighted average of resolution costs to the book value of assets (total resolution cost to book value of assets at failure) we find that the group where fraud is the primary cause of failure has a weighted average of 24.03 percent compared to 9.19 percent for the no fraud group. The interaction between fraud and size needs to be explored in a multivariate analysis.

IX. Time in Receivership and Duration

In Table 8 we summarize average time in receivership and the duration of some expense and income categories. For our sample of 1,213 institutions a failed bank remains in receivership for five years on average. However, we observe that average time in receivership increased slightly during the FIRREA legislative period and decreased after FDICIA. For example, on average an institution was in receivership three months longer during the pre-FIRREA than in the FDICIA. Another observation is that liquidation expenses are incurred sooner than proceeds from the sale of assets and income from assets are received. Such a difference in timing between cash inflows and outflows creates the need for working capital, which the receivership borrows from the FDIC.

In the second panel of Table 8, we observe that on average banks that were resolved using a deposit payoff remained in receivership for the longest time relative to other resolution types. On average, receiverships associated with whole-bank transactions, which typically have very few assets left in the receivership, were terminated in the least amount of time. When we classify time in receivership by legislative period and resolution type, as shown in the third panel of Table 8, we observe

that the time in receivership generally falls in the post-FDICIA period across all resolution methods.

Bris, Welch, and Zhu (2006) report that their sample Chapter 11 bankruptcies spent on average (median) 2.27 years (2.37 years) and Chapter 7 spent 1.94 years (1.84 years) in bankruptcy. As expected, reorganization takes a longer time than liquidation. In contrast, the failed banks take longer to resolve. When we compare our sample results with those of bankrupt firms, we observe that it takes about twice as long to resolve a bank either using deposit payoff or P&A.

X. Losses to Claimants

As noted above, total resolution costs represent losses to all of the claimants against the receivership, including losses to the FDIC. The Division of Finance at the FDIC publishes the loss to the FDIC in the Failed Bank Cost Analysis. In this section, we make the connection between the total resolution costs shown on Table 2 and the loss to the FDIC and other claimants. In Panel A of Table 9, we show the difference between the undiscounted and accounting measure of total resolution costs. We first take the undiscounted measure of average total resolution costs of \$23.457 million which is shown in Table 2. We then add back the undiscounted amount of interest paid on loans to the receivership from the FDIC. The resulting \$26.989 is the accounting measure of total resolution costs.

In Panel B of Table 9, we show how the \$26.989 million in total resolution costs is borne by different classes of claimants. The largest claimant class is the FDIC claim which represents the subrogated claim of the FDIC. This claim includes any deposit

claim that was covered by the deposit insurance fund.⁷ The FDIC claim also includes any other liability that the receivership has with the FDIC in its corporate capacity such as loans made to the receivership and the accrued interest on those loans. We then show the recoveries on the claim. We include the net loss on assistance agreements because that loss is borne solely by the FDIC. Also, we include accounting adjustments, which we call “Non-Cash Adjustments”. These items include items such as adjustments to prior period income and expenses, which comprise the majority of the average of \$1.7 million.⁸ As shown in Panel A, on average the loss on the FDIC claim was \$26 million or approximately 21 percent of the claim.

Other claims include other deposit claims, such as uninsured deposits where applicable, general trade creditors and other unsecured debt holders. On average these claimants lose \$1.7 million or approximately 27 percent of their claim.

On a few occasions after the FDIC and other claims have been paid in full (and also the interest due to the claimants) then the stockholders of the assuming institution will receive some payment.⁹ As shown in Table 9, on average the dividends to stockholders are \$794,000. The sum of the loss to the FDIC claim, the loss to other claimants offset by the dividends paid to the stockholders is the accounting value of total resolution costs.

We should note that the sum of the FDIC claim and the other claims presented on Table 9 differs from the total liabilities of the failed bank for two reasons. First, the claims presented in Table 9 include claims against the receivership that were not present at the time of failure, for example loans made to the receivership by the FDIC. Second,

⁷ Recall that prior to FDICIA the FDIC may have covered both insured and uninsured depositors. After the passage of FDICIA and the accompanying least cost provision, there is an incentive for the FDIC to cover only the insured depositors.

⁸ These adjustments are all supported by journal entry activity for the receiverships.

⁹ This occurs for 6 of the 1,213 institutions in our sample.

Table 9 does not show the amount of claims that were secured by failed bank assets that were paid in full primarily because these claims did not contribute to total receivership costs.

In Panel C of Table 9 we show how the cost estimates published by the FDIC's Division of Finance, which reflects the cost to the deposit insurance fund, relates to the loss on the FDIC claim which is one component of total receivership costs as shown in Panel B.¹⁰ These loss figures are an accounting measure and on average for our sample, the loss to the FDIC reported by the Division of Finance is \$25.796 million. To arrive at this figure from the loss to the FDIC claim shown in Panel B, first, we reverse the amount of post-insolvency interest that was accrued but not paid to the FDIC. If the FDIC is paid in full, then the receivership also compensates the FDIC for interest that it would have earned on the claim. This amount of interest that was accrued but not paid is reversed because it was not part of the original FDIC claim. Interest due to the corporate that was not paid is also reversed because it was not part of the original FDIC claim. Recoveries from secondary insurance funds offset the loss to the FDIC.¹¹ The next item reverses the amount of the total FDIC claim that is associated with an assessment for a cross guaranty that was not paid in full. Again, this item lowers the loss to the FDIC. Finally, we also include a line called "Accounting Adjustments". This item includes any adjustments that

¹⁰ This estimate of loss which is calculated by the FDIC's Division of Finance is available publicly on the FDIC website in the Historical Statistics on Banking at <http://www4.fdic.gov/hsob/index.asp>.

¹¹ Secondary insurers provide deposit insurance to member institutions for deposits in excess of applicable Corporation insurance limits. The FDIC may enter into agreements with secondary insurers that allow the FDIC to cover uninsured depositors that are covered by the secondary insurer and be subrogated in the usual manner. The secondary insurer then pays the FDIC an amount equal to the uninsured deposits that were covered.

were made to prior period accounting entries.¹² Once all of the adjustments are made, we arrive at the loss to the FDIC published by the Division of Finance.

In Table 10 we show the mean and median recovery rates for the claimant classes. The mean (median) recovery rate on the FDIC claim for deposit payoff transactions is 70.34 (73.05) percent. The recovery is lower for P&A transactions at 66.65 (69.47) percent. The lowest recovery rates the FDIC experiences is for whole bank transactions. Table 10 shows similar pattern of recovery rates for other claimants.

XI. Conclusion

In this paper we construct the time-series of the cash flow transactions in the resolution process for each failed depository institution that is resolved by the FDIC during the 1986 to 2007 period.

This data structure enables us to express resolution costs on a discounted basis as of the time of failure. Another characteristic of this data series is that it reconciles accounts at two levels. The first is the receivership, which is established when the FDIC assumes a failed bank. This independent legal entity has its own accounting system where resolution income and expenses are recorded. FDIC interacts with the receivership as a claimholder capacity and has its own accounts to record transactions with the receivership. One important feature of the data set presented in this paper is that it represents the first analysis that reconciles accounting from the two entities.

¹² These adjustments are all supported by data from journal entries into the General Ledger.

This data series can also be considered as the dependent variable of a multivariate regression analysis that analyzes the determinants of such costs. However, in this paper we focus on understanding the time profile and the distribution of these costs among different resolutions methods, legislative periods, asset sizes, and failure causes.

The natural next step is to perform a multivariate analysis of the bank failure costs and try to shed some light on the risks faced by the insurance fund.

Bibliography

- Acharya, V., S. Bharath, A. Srinivasan, 2004, "Understanding the Recovery Rates on Defaulted Securities", working paper.
- Altman, E. I., B. Brady, A. Resti, and A. Sironi, 2003, "The Link between Default and Recovery Rates: Theory, Empirical Evidence, and Implications", working paper.
- Altman, E., A. Resti, and A. Sironi, 2004, "Default Recovery Rates in Credit Risk Modeling: A Review of the Literature and Empirical Evidence", Banca dei Paschi di Siena SpA, 33, 183-208.
- Benston, G. J. and G. Kaufman, 1997, "FDICIA After Five Years", Journal of Economic Perspectives, 11, 139-158.
- Birchler, U. W., 2000, "Bankruptcy Priority for Bank Deposits: A Contract Theoretic Explanation", Review of Financial Studies, 13, 813-840.
- Birr, L., 2001, "Before and After the FDICIA: A Look into Commercial Banking Risk Behavior and Profit", Park Place Economist, IX, 83-90.
- Bliss, R., and G. Kaufman, A comparison of U.S. corporate and bank insolvency resolution, Economic Perspectives, Federal Reserve Bank of Chicago, 2Q 2006.
- Bovenzi, J. F., and M. E. Muldoon, 1990, "Failure-Resolution Methods and Policy Considerations", FDIC Banking Review, 3, 1-11.
- Bovenzi, J. F., and A. J. Murton, 1988, "Resolution Costs and Bank Failures", FDIC Banking Review, 1, 1-13.
- Bris, A., I Welch, and N. Zhu, 2006, "The Costs of Bankruptcy: Chapter 7 Liquidation versus Chapter 11 Reorganization," Journal of Finance, June 2006, 1253- 1303

- Brown, R. A., and S. Epstein, 1992, "Resolution Costs of Bank Failures: An Update of the FDIC Historical Loss Model", *FDIC Banking Review*, 5, 1-15.
- Covitz, D., and S. Han, 2004, "An empirical Analysis of Bond Recovery Rates: Exploring a Structural View of Default", working paper.
- Federal Deposit Insurance Corporation, 1998, *Managing the Crisis: The FDIC and RTC Experience 1980–1994*. Washington, DC. August.
- Federal Deposit Insurance Corporation, 2003, "Failed Bank Cost Analysis: 1986-2002", FDIC publication.
- Hirschhorn, E. and D. Zervos, 1990, "Policies to Change the Priority of Claimants: The Case of Depositor Preference Laws", *Journal of Financial Services Research*, 4, 111-125.
- James, C, 1991, "The Losses Realized in Bank Failures", *The Journal of Finance*, 46, 1223-1242.
- Marino, J. A., and R. L. Bennett, 1993, "The Consequences of National Depositor Preference", *FDIC Banking Review*, 19-38.
- McDill, K., 2004, "Resolution Costs and the Business Cycle", FDIC working paper.
- Osterberg, W. P., 1996, "The Impact of Depositor Preference Laws", *Economic Review (Federal Reserve Bank of Cleveland)*, 32, 2-10.
- Osterberg, W. P., and J. B. Thomson, 1999, "Depositor-Preference Laws and the Cost of Debt Capital", *Federal Reserve Bank of Cleveland*, 35, 10-20.

Appendix A

Legislative Background

This appendix summarizes the components of FIRREA and FDICIA that have affected the failure resolution process.

Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) of 1989

Although FIRREA primarily addressed issues associated with savings and loan crisis, some provisions also addressed losses to the FDIC insurance funds. In particular FIRREA:

- Added section 5(e) to the FDI Act, which prevents affiliated banks from shifting assets and liabilities and provides for cross guarantees to be established among affiliated institutions. (This provision was most notably used for the resolutions of Bank of New England in January of 1991, Southeast Banking Corporation in September of 1991 and First City in October of 1992.)
- Established a maximum amount for the claim of any receivership claimant. The maximum amount was set to the amount that claimant would have received if the institution's assets had been liquidated
- Granted the FDIC discretion to minimize loss by using its own resources to make additional payments to any creditor or class of creditors without being obligated to make the same payment to any other creditor or class of creditors.
- Authorized the FDIC to appoint itself receiver of any state depository institution (under certain criteria)
- Repealed tax benefits associated with OBA.
- Included two additional one-year extensions (for a total of 3 possible one-year extensions) on the life of a bridge bank.
- Established a standardized claims process for all federal and state chartered banks and thrifts

The Federal Deposit Insurance Improvement Act (FDICIA) of 1991

- Established prompt corrective action whereby specific regulatory actions, including closure, were legislated based the categories described in the following table.

Prompt Corrective Action Categories

To be considered well capitalized, an institution must not be subject to any formal enforcement action that requires it to meet and maintain a certain capital level. If the bank has a composite CAMELS rating of 1 in the most recent examination and is not experiencing or anticipating significant growth, then the leverage ratio can be as low as 3 percent for both the Adequately Capitalized and Undercapitalized categories.

	Total Risk-Based Capital Ratio	Tier 1 Risk-Based Capital Ratio	Leverage Ratio	Tangible Equity to Total Assets
Well Capitalized	10 percent or higher and	6 percent or higher and	5 percent or higher	
Adequately Capitalized	10 percent or higher and	4 percent or higher and	4 percent or higher	
Undercapitalized	Less than 8 percent or	Less than 4 percent or	Less than 4 percent	
Significantly Undercapitalized	Less than 6 percent or	Less than 3 percent or	Less than 3 percent	
Critically Undercapitalized				Less than 2 percent

- Established the requirement that a receiver must be appointed no later than 90 days after an institution falls to critically undercapitalized. This period can be extended twice, in 90 day increments, to protect the fund from losses.
- Required institutions to be resolved in a manner that is least-costly to the deposit insurance fund (commonly referred to as the Least Cost Test).
- Restricted the FDIC’s ability to provide OBA to the case where capital is not likely to increase without assistance and if the bank’s management is not the cause of the problems at the bank and it meets the least costly requirement.
- Limited the ability of undercapitalized or critically undercapitalized institutions to borrow from the Fed so increased likelihood of liquidity failures.
- Required FDIC asset disposition to meet certain requirements including preservation of affordable housing. The affordable housing program was established by federal appropriation starting in 1992 and ending in 1996.

Table B.1

Largest 25 Consolidated Institutions in Our Sample, 1986 to 2007

Source: FDIC General Ledger and Failure Transactions Database.

The following large institutions were not included in our sample: Continental Illinois (failed 5/17/1984 total assets the quarter before failure \$39.96 billion), Indymac (failed 7/11/2008, total assets the quarter before failure \$30.70 billion), American S&LA (failed 9/7/1988, total assets the quarter before failure \$30.16 billion), Gibraltar Savings (failed 3/31/1989, total assets the quarter before failure \$13.38 billion), City Savings (failed 12/8/1989, total assets the quarter before failure \$9.82 billion).

Date of Failure	Name	Book Value of Assets at Failure	As a Percent of Book Value of Assets at Failure				
			Book Value of Equity	Loss on Assets, Discounted	Direct Expense, Discounted	Receivership Expenses, Discounted	Resolution Costs, Discounted
1	7/29/1988 First Republic (41 Institutions)	\$32,927,545,766	5.48	-7.67	-0.09	-0.13	-2.31
2	1/6/1991 Bank of New England (3 Institutions)	21,754,000,348	10.53	-9.86	-2.64	-3.03	-2.36
3	3/28/1989 MCorp (20 Institutions)	15,414,557,499	13.98	-33.25	-0.21	-0.30	-19.57
4	9/19/1991 Southeast Bank (2 Institutions)	10,894,126,775	6.20	-2.49	-0.34	-0.78	3.67
5	5/31/1991 Goldome	9,094,985,851	-0.91	-4.98	-1.66	-1.94	-7.83
6	10/30/1992 First City (20 institutions)	8,754,982,284	6.60	-0.73	-0.60	-1.30	9.54
7	1/24/1992 Crossland Savings Bank, FSB	7,268,475,886	-3.45	-8.81	-0.16	-0.39	-12.64
8	7/20/1989 Texas American Bancshares (24 Institutions)	4,752,913,487	11.67	-35.05	-0.13	-0.16	-23.54
9	10/10/1991 New Hampshire Banks (7 Institutions)	4,390,649,626	-1.02	-12.20	-3.49	-3.94	-16.63
10	2/21/1992 Dollar Dry Dock Bank	3,806,590,245	2.48	-9.61	-1.07	-1.44	-7.61
11	6/12/1992 American Savings Bank	3,133,293,112	1.71	-13.47	-1.88	-3.07	-14.04
12	8/9/1991 Bridgeport (2 Institutions)	2,925,401,549	2.45	-22.75	-3.63	-4.07	-23.93
13	4/18/1990 The Seamen's Bank of Savings, FSB	2,406,249,564	-7.27	3.64	-1.48	-2.90	-6.32
14	11/20/1992 Merchants Bank (2 institutions)	1,674,603,587	8.73	-14.33	-2.88	-10.00	-14.65
15	8/10/1990 The National Bank of Washington	1,618,118,712	9.48	-12.24	-3.38	-7.95	-8.66
16	6/1/1990 National Bancshares (9 Institutions)	1,532,716,621	-7.02	-4.20	-2.89	-5.94	-13.27
17	10/2/1992 First Constitution Bank	1,529,547,916	4.80	-9.60	-0.83	-2.28	-7.08
18	7/14/1986 The First National Bank & Trust of Oklahoma	1,508,250,284	-9.44	-12.79	-0.48	-0.73	-22.95
19	5/22/1991 The First National Bank of Toms River	1,366,355,855	9.81	-11.03	-1.53	-4.15	-5.37
20	12/4/1992 Heritage Bank for Savings	1,256,016,212	4.39	-4.64	-0.81	-2.00	-1.36
21	6/28/1991 First Mutual Bank for Savings	1,226,963,855	6.03	-16.98	-1.81	-3.89	-13.95
22	2/1/1991 Maine Savings Bank	1,208,060,754	-3.37	-11.23	-0.13	-0.30	-14.90
23	11/14/1991 Connecticut Savings Bank	1,084,524,901	5.46	-17.43	-3.01	-3.68	-15.65
24	12/15/1989 First American Bank and Trust	917,226,025	-6.64	-30.57	-3.25	-7.46	-40.13
25	5/21/1993 New England Savings Bank	916,310,344	4.94	-13.58	-1.70	-3.77	-12.41

Table 1
Resolution Types

Source: Failure Transactions Database and FDIC General Ledger

We exclude assistance transactions from the total number of failures.

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2007. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits.

IDT=Insured Deposit Transfer;

P&A=Purchase and assumption; PA=P&A all deposits

PI=P&A insured deposits; PO=Payout

Panel A: BIF and DIF Insured Failures, 1986-2007

Year of Failure	Total	Deposit Payoff		P&A		
		IDT	PO	PA	PI	Whole Bank
1986	138	19	21	98	0	0
1987	184	40	11	115	0	18
1988	200	30	6	96	0	68
1989	206	23	9	132	0	42
1990	168	12	8	106	0	42
1991	124	17	4	80	0	23
1992	120	13	11	46	42	8
1993	41	0	5	6	30	0
1994	13	2	0	4	7	0
1995	6	1	0	2	3	0
1996	5	0	0	4	1	0
1997-2007	39	0	4	9	22	4
Total	1,244	157	79	698	105	205

Panel B: Sample

Year of Failure	Total	Deposit Payoff		P&A		
		IDT	PO	PA	PI	Whole Bank
1986	138	19	21	98	0	0
1987	184	40	11	115	0	18
1988	200	30	6	96	0	68
1989	206	23	9	132	0	42
1990	168	12	8	106	0	42
1991	123	17	3	80	0	23
1992	116	13	11	46	40	6
1993	39	0	5	6	28	0
1994	12	1	0	4	7	0
1995	6	1	0	2	3	0
1996	4	0	0	3	1	0
1997-2007	17	0	0	7	7	3
Total Sample	1,213	156	74	695	86	202
Sample as a Percent	97.5%	99.4%	93.7%	99.6%	81.9%	98.5%

Table 2
Resolution Costs
BIF-Insured Sample
(Average, \$000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parentheses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline.

	Our Approach	No Discounting
Number (000 included)	1,092	1,092
Book Value of Assets at Failure	183,663	183,663
Discovered Assets and Adjustments	<u>25,909</u>	<u>25,909</u>
Book Value of Assets	209,573	209,573
Book Value of Liabilities at Failure	(181,634)	(181,634)
Discovered Liabilities and Adjustments	<u>(19,159)</u>	<u>(19,159)</u>
Book Value of Liabilities	<u>(200,793)</u>	<u>(200,793)</u>
Book Value of Equity	8,779	8,779
Gain and (Loss) on Assets	(22,105)	(27,603)
Net Income/(Loss) from Assistance Agreements	(6,481)	(6,481)
Net Loss Sharing Expenses	(642)	(700)
Premium Paid to Acquirer	(1,621)	(1,621)
Income from Assets	8,000	9,342
Interest Paid on Loans Made to the Receivership by FDIC	<u>(2,664)</u>	<u>(2,664)</u>
Loss on Assets	(25,512)	(27,062)
Premium Received from Acquirer	1,259	1,259
Direct Liquidation Expenses	(3,123)	(3,652)
Liquidation Overhead	<u>(2,781)</u>	<u>(2,781)</u>
Total Receivership Expenses	<u>(5,904)</u>	<u>(6,433)</u>
Total Resolution Costs	<u>(21,377)</u>	<u>(23,457)</u>

Table 3
Descriptive Statistics for Components of Resolution Costs
BIF-Insured Sample
as a Percent of the Book Value of Assets at Failure

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parentheses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire Banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline.

	Weighted Average	Mean	Standard Deviation	Minimum	First Quartile	Median	Third Quartile	Maximum
Book Value of Equity	4.78	1.32	6.50	-58.31	-1.33	1.83	4.66	25.98
Loss on Assets	-13.89	-19.64	13.13	-99.32	-27.16	-17.19	-10.37	15.78
Premiums Received from Acquirer	0.69	1.42	2.07	0.00	0.21	0.75	1.85	26.70
Direct Liquidation Expenses	-1.70	-3.49	2.09	-14.39	-4.69	-3.36	-2.01	-0.09
Total Receivership Expenses	-3.21	-7.62	4.96	-44.21	-10.05	-7.05	-4.34	-0.13
Total Resolution Costs	-11.64	-25.02	15.60	-120.72	-34.27	-22.59	-13.58	10.16

Table 4
Resolution Costs by Resolution Method
BIF-Insured Sample
(Average, \$000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of the end of 2004. The sample excludes Meriden Trust and Safe Deposit Bank because it did not make loans or take deposits. Individual institutions (number in parentheses) in the following holding companies are consolidated and counted as one institution: First Republic (41), Mcorp (20), Texas American Bankshares (24), National Bankshares (9) Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), and Bridgeport (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline.

***=Significantly different than Payoff at 99 percent confidence level, **=95 percent level, *=90 percent level.

+++=Significantly different than P&A at the 99 confidence percent level, ++=95 percent level, +=90 percent level.

Panel A: Calculation of Resolution Costs							
	Deposit Payoff		P&A		Whole Bank Transaction		
Number (000 included)	228		662		202		
Book Value of Assets at Failure	60,220		268,641		44,504		
Discovered and Adjusted Assets	928		42,348		233		
Book Value of Assets	61,148		310,989		44,738		
Book Value of Liabilities at Failure	(59,341)		(265,683)		(44,219)		
Discovered and Adjusted Liabilities	205		(31,657)		(59)		
Book Value of Liabilities	(59,136)		(297,340)		(44,279)		
Book Value of Equity	2,012		13,649		459		
Gain and (Loss) on Assets	(18,005)		(29,650)		(2,008)		
Net Income/(Loss) from Assistance Agreements	53		(10,711)		7		
Net Loss Sharing Expense	0		(993)		(214)		
Premium Paid to Acquirer	(413)		(846)		(5,521)		
Income from Assets	6,321		10,673		1,138		
Interest Paid on Loans Made to the Receivership by the FDIC	(389)		(3,921)		(1,109)		
Loss on Assets	(12,434)		(35,448)		(7,708)		
Premium Received from the Acquirer	344		1,958		0		
Direct Liquidation Expense	(2,377)		(4,219)		(372)		
Indirect Liquidation Expense	(2,890)		(3,451)		(460)		
Total Receivership Expenses	(5,266)		(7,670)		(833)		
Total Resolution Costs	(15,344)		(27,512)		(8,082)		

Panel B: Mean and (Median), as a Percent of Book Value of Assets at Failure							
	Deposit Payoff		P&A		Whole Bank Transaction		
Book Value of Equity	1.47	(1.99)	1.82	(2.35)	0.00 ***	+++	(0.55) *** +++
Loss on Assets	-17.98	(-16.99)	-20.55 *	(-17.62)	-20.19		(-16.96)
Premiums Received from Acquirer	0.66	(0.03)	1.31 ***	(0.61) ***	0.00 ***	+++	(0.00) *** +++
Direct Liquidation Expenses	-4.94	(-4.65)	-3.82 ***	(-3.58) ***	-1.02 ***	+++	(-0.79) *** +++
Total Receivership Expenses	-10.76	(-10.12)	-8.33 ***	(-7.67) ***	-2.25 ***	+++	(-1.67) *** +++
Total Resolution Costs	-26.61	(-25.86)	-25.75 *	(-22.90)	-22.44 ***	++	(-19.58) *** +

Table 5
Resolution Costs by Size
BIF-Insured Sample
Average, \$000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank because it did not make loans or take deposits. Individual institutions (number in parentheses) in the following holding companies are consolidated and counted as one institution: First Republic (41), MCorp (2), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), and Bridgeport (2). We discount the monthly cash flows using the Treasury yield curve prevailing at the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline. Size groups are based on the book value of assets

***-Significantly different from Small at the 99 percent confidence level; **-at the 95 percent confidence level; *-at the 90 percent confidence level

+++Significantly different from Medium at the 99 percent level; ++at the 95 percent confidence level; +at the 90 percent confidence level

Panel A: Calculation of Resolution Costs									
	Less than \$50 Million	\$50 to \$100 Million	\$100 to \$500 Million	\$500 Million to \$1 Billion	\$1 to \$5 Billion	Above \$5 Billion			
Number (000 included)	818	125	110	16	16	7			
Book Value of Assets at Failure	20,399	70,411	213,366	629,573	2,213,766	15,158,382			
Discovered Assets and Adjustments	216	896	3,743	72,505	154,590	3,422,728			
Book Value of Assets	20,615	71,308	217,109	702,079	2,368,356	18,581,110			
Book Value of Liabilities at Failure	(20,422)	(70,277)	(210,879)	(619,614)	(2,224,883)	(14,877,985)			
Discovered Liabilities and Adjustments	42	317	217	(58,279)	(83,490)	(2,678,828)			
Book Value of Liabilities	(20,380)	(69,960)	(210,662)	(677,893)	(2,308,372)	(17,556,814)			
Book Value of Equity	235	1,348	6,446	24,186	59,984	1,024,296			
Gain and (Loss) on Assets	(4,117)	(15,990)	(50,384)	(122,665)	(311,228)	(898,260)			
Net Income/(Loss) from Assistance Agreements	(0)	0	110	(41)	(81,577)	(826,172)			
Net Loss Sharing Expenses	(3)	0	(0)	(1,667)	(11,947)	(68,680)			
Premium Paid to the Acquirer	(735)	(1,777)	(3,479)	(10,216)	(12,607)	(28,337)			
Income from Assets	1,480	5,778	19,256	43,882	112,749	311,356			
Interest Paid on Loans Made to the Receivership by FDIC	(879)	(2,767)	(6,005)	(15,923)	(17,334)	(93,075)			
Loss on Assets	(4,254)	(14,756)	(40,502)	(106,630)	(321,944)	(1,603,168)			
Premium Received from Acquirer	181	781	2,162	8,841	14,553	73,764			
Direct Liquidation Expenses	(717)	(2,296)	(6,473)	(17,650)	(40,948)	(126,688)			
Indirect Liquidation Expenses	(826)	(2,822)	(8,439)	(21,517)	(29,473)	(37,700)			
Total Receivership Expenses	(1,543)	(5,119)	(14,912)	(39,167)	(70,421)	(164,388)			
Total Resolution Costs	(5,380)	(17,745)	(46,806)	(112,771)	(317,827)	(669,495)			

Panel B: Mean and (Median) of the Components of Total Resolution Cost, Discounted, as a Percent of Book Value of Assets									
	Small		Medium		Large				
	Less than \$100 Million		\$100 Million to \$1 Billion		Above \$1 Billion				
Book Value of Equity	1.13	(1.66)	3.13 ***	(3.77) **	3.36 *		(4.80) *		
Loss on Assets	-20.28	(-17.80)	-18.90	(-16.94)	-11.81 ***	***	(-11.03) ***	***	
Premiums Received from Acquirer	0.92	(0.12)	1.06 *	(0.29)	0.75		(0.21)		
Direct Liquidation Expenses	-3.64	(-3.53)	-3.14 **	(-3.04) ***	-1.53 ***	***	(-1.48) ***	***	
Total Receivership Expenses	-7.90	(-7.37)	-7.20	(-6.78)	-2.80 ***	***	(-2.28) ***	***	
Total Resolution Costs	-26.13	(-23.42)	-21.91 ***	(-20.63)	-10.50 ***	***	(-12.64) ***	***	

Table 6
Resolution Costs by Legislative Period
BIF-Insured Sample
(Average, \$000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also include three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parentheses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). We discount the monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve was smoothed to generate a rate for the monthly maturity points using a cubic spline.

***=Significantly different than Pre-FIRREA at the 99 percent level, **=95 percent level, *=90 percent level.

+++=Significantly different than FIRREA at the 99 percent level, ++=95 percent level, +=90 percent level.

Panel A: Calculation of Resolution Costs								
	Pre-FIRREA 1986-1988		FIRREA 1989-1991		FDICIA 1992-2005			
Number (000 included)	582		337		173			
Book Value of Assets at Failure	132,781		240,328		244,456			
Discovered and Adjusted Assets	5,078		69,647		10,790			
Book Value of Assets	137,859		309,975		255,246			
Book Value of Liabilities at Failure	(133,266)		(235,437)		(239,544)			
Discovered and Adjusted Liabilities	3,404		(64,251)		(7,230)			
Book Value of Liabilities	(129,862)		(299,688)		(246,774)			
Book Value of Equity	7,997		10,287		8,473			
Gain and (Loss) on Assets	(12,660)		(34,111)		(30,494)			
Net Income/(Loss) from Assistance Agreements	(11,500)		(567)		(1,115)			
Net Loss Sharing Expense	0		(1,385)		(1,352)			
Premium Paid to Acquirer	(1,383)		(2,526)		(655)			
Income from Assets	3,074		14,220		12,458			
Interest Paid on Loans Made to the Receivership by the FDIC	(4,437)		(423)		(1,062)			
Loss on Assets	(26,906)		(24,792)		(22,222)			
Premium Received from the Acquirer	423		1,217		4,151			
Direct Liquidation Expense	(1,390)		(5,649)		(4,033)			
Indirect Liquidation Expense	(1,261)		(3,719)		(6,066)			
Total Receivership Expenses	(2,651)		(9,367)		(10,099)			
Total Resolution Costs	(21,136)		(22,656)		(19,697)			

Panel B: Mean and (Median), Components of Total Resolution Cost, Discounted, as a Percent of Book Value of Assets at Failure

	Pre-FIRREA 1986-1988		FIRREA 1989-1991		FDICIA 1992-2005			
Book Value of Equity	0.77	(1.30)	1.27	(1.54)	3.83 ***	+++	(4.25) ***	+++
Loss on Assets	-25.59	(-24.10)	-13.55 ***	(-12.80) ***	-13.38 ***		(-12.46) ***	
Premiums Received from Acquirer	0.94	(0.19)	0.69 ***	(0.04) ***	1.38 ***	+++	(0.47) **	+++
Direct Liquidation Expenses	-3.62	(-3.59)	-3.39	(-3.25) *	-3.53		(-3.24) *	
Total Receivership Expenses	-7.24	(-7.01)	-7.39	(-7.04)	-9.92 ***	+++	(-8.83) ***	+++
Total Resolution Costs	-31.13	(-29.93)	-18.99 ***	(-17.42) ***	-18.08 ***		(-16.91) ***	

Table 7
Resolution Costs by Fraud
BIF-Insured Sample
(Discounted, Average, \$000 omitted unless otherwise noted)

Source: FDIC General Ledger, Receivership Financial Statement

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of year-end 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. Individual institutions (number in parentheses) in the following groups are consolidated and counted as one institution: First Republic (4), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchants Bank (2), Bridgeport (2) and Eastland (2). We discount monthly cash flows using the Treasury yield curve that was prevailing on the date of failure. The yield curve is smoothed to generate a rate for the monthly maturity points using a cubic spline

Fraud variables are available only from 1989 to 2007. The fraud variables are collected from internal data on failing bank case

***=Mean for the category is significantly different than for No Fraud at the 99 percent level. **=95 percent level. *=90 percent level

Panel A: Resolution Costs										
	In Fraud Database		No Fraud		Fraud Primary Cause		Fraud Contributing Cause		Fraud Present	
Number (000 included)	608		476		38		109		132	
Book Value of Assets at Failure	297,699		359,799		67,418		64,803		73,760	
Discovered and Adjusted Assets	46,255		55,825		2,603		1,222		11,744	
Book Value of Assets	343,953		415,624		70,021		66,025		85,504	
Book Value of Liabilities at Failure	(293,864)		(355,173)		(68,034)		(63,855)		(72,781)	
Discovered and Adjusted Liabilities	(34,281)		(41,126)		(150)		(31)		(9,597)	
Book Value of Liabilities	(328,145)		(396,299)		(68,184)		(63,886)		(82,378)	
Book Value of Equity	15,808		19,325		1,837		2,138		3,126	
Gain and (Loss) on Assets	(33,198)		(37,899)		(19,338)		(14,383)		(16,243)	
Net Income/(Loss) from Assistance Agreements	(11,547)		(14,749)		0		0		0	
Net Loss Sharing Expense	(1,152)		(1,297)		0		(316)		(632)	
Premium Paid to Acquirer	(1,845)		(2,208)		(447)		(426)		(538)	
Income from Assets	12,292		13,893		6,866		5,605		6,518	
Interest Paid on Loans Made to the Receivership by the FDIC	(2,303)		(2,776)		(532)		(461)		(594)	
Loss on Assets	(37,753)		(45,036)		(13,451)		(9,980)		(11,489)	
Premium Received from Acquirer	1,887		2,197		960		701		768	
Direct Liquidation Expense	(4,664)		(5,312)		(2,245)		(2,003)		(2,330)	
Indirect Liquidation Expense	(4,143)		(4,244)		(3,301)		(2,980)		(3,779)	
Total Receivership Expense	(8,807)		(9,556)		(5,545)		(4,983)		(6,108)	
Total Resolution Costs	(28,865)		(33,070)		(16,199)		(12,124)		(13,703)	
Panel B: Mean and (Median) of the Components of Total Resolution Cost, Discounted, as a Percent of Book Value of Assets										
	In Fraud Database		No Fraud		Fraud Primary Cause		Fraud Contributing Cause		Fraud Present	
Book Value of Equity	1.66	(2.18)	1.78	(2.15)	1.23	(2.72)	1.33	(2.42)	1.23	(2.33)
Loss on Assets	-15.50	(-13.82)	-15.44	(-13.63)	-16.98	(-14.03)	-15.51	(-13.79)	-15.74	(-14.14)
Premiums Received from Acquirer	0.85	(0.06)	0.75	(0.02)	1.20	(0.44)	1.33 ***	(0.48) ***	1.23 ***	(0.43) ***
Direct Liquidation Expenses	-3.43	(-3.22)	-3.32	(-3.09)	-3.73	(-3.60)	-3.75 *	(-3.52)	-3.82 **	(-3.57) **
Total Receivership Expenses	-8.05	(-7.25)	-7.71	(-7.05)	-9.10	(-8.59)	-9.24 **	(-8.36)	-9.27 ***	(-8.53) **
Total Resolution Costs	-21.04	(-19.13)	-20.61	(-19.06)	-23.65	(-18.72)	-22.08	(-18.73)	-22.55	(-19.71)

Table 8
Time in Receivership and Duration
in Years
BIF-Sample

Source: FDIC General Ledger, Receivership Financial Statements

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2005. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank and Private Bank and Trust because they did not make loans or take deposits. The average time in receivership is the number of years from the date of failure to the termination of the receivership. This calculation excludes the institutions in the sample that have not been terminated.

Duration is the sum of the ratio of the current cash flow to all cash flows times the time t that the cash flow occurred.

By Legislative Period						
	Number	Average Time in Receivership	Median Time in Receivership	Gain/Loss on Disposition of Assets	Income from Assets	Direct Liquidation Expenses
All: 1986-2005	1,213	4.96	4.55	2.91	2.11	2.12
Pre-FIRREA: 1986-1988	663	4.90	4.41	3.00	2.51	2.12
FIRREA: 1989-1991	355	5.27	5.13	3.12	2.07	2.28
FDICIA: 1992-2005	194	4.61	3.92	2.30	1.86	1.66
By Resolution Type						
	Number	Average Time in Receivership	Median Time in Receivership	Gain/Loss on Disposition of Assets	Income from Assets	Direct Liquidation Expenses
Deposit Payoff	230	5.82	5.45	3.34	2.28	2.05
Purchase and Assumption	781	5.27	5.07	2.82	2.10	2.14
Whole Bank Transactions	202	2.83	2.34	2.51	1.38	1.63
By Legislative Period and Resolution Type						
	Number	Average Time in Receivership	Median Time in Receivership	Gain/Loss on Disposition of Assets	Income from Assets	Direct Liquidation Expenses
Deposit Payoff						
Pre-FIRREA: 1986-1988	152	5.94	5.66	3.64	2.39	2.11
FIRREA: 1989-1991	47	5.99	5.63	3.31	2.31	2.29
FDICIA: 1992-2005	31	4.97	4.41	2.41	1.89	1.61
Purchase and Assumption						
Pre-FIRREA: 1986-1988	398	5.21	4.92	2.73	2.62	2.14
FIRREA: 1989-1991	229	5.81	5.60	3.11	2.08	2.30
FDICIA: 1992-2005	154	4.61	3.91	2.27	1.87	1.67
Whole Bank Transactions						
Pre-FIRREA: 1986-1988	114	2.45	1.78	3.01	2.28	1.77
FIRREA: 1989-1991	79	3.30	3.56	2.11	1.05	1.43
FDICIA: 1992-2005	9	3.42	2.81	2.51	1.40	1.83

Table 9
Losses to Claimants
BIF-Insured Sample
(Average, \$000 omitted)

Source: FDIC General Ledger and FDIC Failed Bank Cost Analysis (also reflected in the FDIC Historical Statistics on Banking)

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit Bank because it did not make loans or take deposits. Individual institutions (number in parentheses) in the following holding companies are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast Bank (2), New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2), and Eastland (2).

* Indicates that the calculation is an implied number. The assistance amount for some large transactions was calculated as a residual to balance to the loss number from the Failed Bank Cost Analysis.

Panel A: Receivership Accounting

Number (000 included)	1,092	
Total Resolution Costs, No Discounting (from Table 2)	(23,457)	
Interest on Loans, No Discounting	(3,532)	
Total Resolution Costs, Accounting Value		(26,989)

Panel B: Claims and Recoveries

FDIC Claim	(126,743)	
Recoveries on FDIC Claim	105,432	
Net (Income)/Loss, Assistance Agreements*	(6,481)	
Other Non-Cash Adjustments	1,667	
Loss on FDIC Claim		(26,124)
Other Claims	(6,150)	
Recoveries on Other Claims	4,492	
Loss to Other Claimants		(1,659)
Dividends to Stockholders		794
Total Resolution Costs		(26,989)

**Panel C: Reconciliation of Loss on FDIC Claim to
FDIC Loss per the Failed Bank Cost Analysis**

Loss on FDIC Claim		26,124
Reverse the Post Insolvency Interest Paid to the FDIC	336	
Reverse Accrued Interest Due to the Corporation	(2,242)	
Recovery from Secondary Insurance Funds	(21)	
Reverse Remaining Cross Guaranty Claim	(57)	
Accounting Adjustments	1,656	
Total Adjustments		(328)
FDIC Loss per the Failed Bank Cost Analysis		25,796

Table 10
Losses to Claimants
BIF-Insured Sample
(Average, \$000 omitted)

Source: FDIC General Ledger and FDIC Failed Bank Cost Analysis (also reflected in the FDIC Historical Statistics on Banking)

The sample includes all BIF-Insured banks that failed between 1986 and 2007 and were inactivated before December 2004. The sample also includes three institutions that failed in or before 1991 that were still active as of 2004. The sample excludes Meriden Trust and Safe Deposit bank and they did not make loans or take deposits. Individual institutions (number in parentheses) in the following groups are consolidated and counted as one institution: First Republic (41), MCorp (20), Texas American Bankshares (24), National Bankshares (9), Bank of New England (3), Southeast New Hampshire banks (7), First City (20), Merchant Bank (2), Bridgeport (2) and Eastland (2). P&A includes purchase and assumption transactions where all deposits or insured deposits were passed to the acquirer. Payout/Transfers include payouts and insured deposit transfers were most or were retained in the receivership. Whole Bank transactions are transactions where most or all of the assets and liabilities are transferred to the acquirer. * Indicates that the calculation is an implied number. The assistance amount for some large transactions was calculated as a residual to balar loss number from the Failed Bank Cost Analysis.

***=Significantly different than Deposit Payoff at the 99 percent level, **=95 percent level, *=90 percent level.

+++=Significantly different than P&A at the 99 percent level, +=95 percent level, +=90 percent level.

Panel A: Claims and Recoveries, Not Discounted									
	Deposit Payoff		P&A		Whole Bank Transaction				
Number (000 included)	228		662		202				
FDIC Claim	(64,704)		(177,471)		(30,518)				
Recoveries on FDIC Claim	46,384		151,249		21,929				
Net (Income)/Loss, Assistance Agreements	53		(10,711)		7				
Other Non-Cash Adjustments	(1,439)		3,270		(81)				
Loss on FDIC Claim	(19,707)		(33,663)		(8,663)				
Other Claims	(1,324)		(9,671)		(59)				
Recoveries on Other Claims	836		7,111		35				
Loss to Other Claimants	(488)		(2,561)		(24)				
Dividends to Stockholders	0		1,309		0				
Total Resolution Costs, accounting value	(20,194)		(34,914)		(8,687)				
Panel B: Mean (Median) Recoveries to Claimants as a Percent of the Book Value of Assets at Failure									
	Deposit Payoff		P&A		Whole Bank Transaction				
FDIC	70.34	(73.05)	66.65 **	(69.47) **	48.44 ***	+++	(44.34) ***	+++	
Other Claimants	66.32	(68.78)	29.05 ***	(0.00) ***	22.30 ***	++	(0.00) ***	+++	
Stockholders	0.00	(0.00)	0.41	(0.00)	0.00		(0.00)		