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An Analysis of Resolving Too-Big-to-Fail Banks Throughout the United States

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Abstract. The belief that some banks are too big to fail became reality during the financial crisis of 2007–2009 when the biggest banks in the United States were bailed out. Since then, big banks have grown much bigger and have become increasingly complex. This development has led to far greater attention on the need to resolve the too-big-to fail-problem. This paper examines the way in which the Federal Deposit Insurance Corporation has resolved troubled banks over time and throughout the various regions of the nation. The paper also examines post-crisis regulatory reform by focusing on the new orderly liquidation authority the Dodd-Frank Act provides to the FDIC to serve as the receiver for big banks whose failure poses a significant risk to the country's financial stability. We assess whether this process will indeed eliminate the too-big-to-fail problem.

1. Introduction

Banks have failed in all of the regions of the country throughout US history. The worst years for such failures were during the Great Depression: roughly 9,000 of about 25,000 banks failed, with nearly half of the failures occurring in 1933 alone. Depositors everywhere became concerned that their banks were on the verge of insolvency, and they rushed to withdraw their funds. This forced banks to sell off their assets at fire sale prices, thereby turning illiquidity problems into insolvency problems throughout the banking industry. The result was a major disruption in the payments system and a severe tightening of available credit, with a devastating impact on economic activity in all regions of the country.

To prevent future bank runs by depositors, the Federal Deposit Insurance Corporation (FDIC) was established in June 1933. The FDIC guarantees deposits, up to a limit, to lessen depositors' incentive to make panicked withdrawals and thereby to reduce the likelihood of bank runs. The FDIC is also assigned the task of resolving banks that fail. It is to do so in the least costly manner, which historically has involved liquidating a failed bank and paying off insured depositors or else arranging for a healthier bank to acquire a failed bank.

Based upon these two methods of resolving troubled institutions, there was to be no differential treatment between big and small banks.[1] In 1950, however, the FDIC became concerned that a bank might be confronted with a temporary funding problem, so it sought and received authorization to infuse funds into such a bank to keep it open. The stipulation was that it could provide "open bank assistance" only if such a bank was essential to providing adequate banking services to a community (FDIC, 1984), which was likely to be the case only

[1] According to Kaufman (2002, p. 425), "before the introduction of deposit insurance . . . very big banks did not often become insolvent and fail, even in periods of widespread bank failures and macroeconomic difficulties, such as 1893, 1907, and the early 1930s."

for a big bank. In this type of situation, the FDIC could ignore the requirement to choose the least costly resolution method.

The issue of size became important in 1984, when the government bailed out Continental Illinois National Bank & Trust ("Continental"), the seventh largest bank at the time. This bailout occurred because of concerns about systemic risk, due to the bank's size, which could affect other banks in all parts of the country. The FDIC infused $1 billion in new capital into the Continental Illinois Corporation, the bank's holding company, in exchange for preferred stock convertible to 80 percent of the equity. These funds were then down-streamed to Continental as equity capital to recapitalize the bank. When the government bailed out Continental, Stewart B. McKinney, a Connecticut congressman, declared that the government had created a new class of banks, those too big to fail (TBTF).[2] Ever since this bailout, there has been a belief that certain banks or bank holding companies are TBTF, which we call the "TBTF problem."

This belief that some banks are TBTF was behind the regulatory response to the financial crisis of 2007–2009, when the government bailed out the biggest banks headquartered in various regions of the country. Many individuals consider the biggest banks to have largely caused the crisis, and this belief has focused far greater attention on the TBTF problem. Indeed, the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank") of July 2010 created a new federal receivership process pursuant to which the FDIC may serve as the receiver for big banks whose failure poses a significant risk to the financial stability of the United States. The FDIC's new authority is intended to eliminate the TBTF problem once and for all.

This paper looks at the historical treatment of troubled banks throughout the country by the FDIC. It examines how the FDIC resolves troubled banks and the sources of funds available to it in the event resolutions are costly. This examination focuses on the treatment of big versus small troubled banks to assess the importance of the TBTF issue. Given the enormous costs involved in bailing out the biggest banks during the recent financial crisis, we discuss the FDIC's new receivership process to handle troubled big banks. We then assess whether this process will indeed eliminate the problem of large bank failures.

The paper proceeds as follows. Section 2 provides an overview of the FDIC's role in the banking industry from 1933 to 2012, with the perspective that financial institution failures and size as well as lending, borrowing, and other activities can be counted and described both for the nation as a whole and according to the region(s)/state(s) where they undertake their principal operations (Barth, 1991; Amos, 1992; Barth and Bartholoew, 1992; Barth, Brumbaugh, and Litan, 1992; Cebula, 1997; Cebula and Hung, 1992; Henderson and Wallace, 1992; Loucks, 1994; Cebula, 1994; Silverman, 2008). Section 3 then discusses how the FDIC has resolved bank failures over time and in various regions of the country, with emphasis on the differential treatment of small and big banks. The last section contains a summary and conclusions.

2. Overview of the FDIC's Role in the Banking Industry

Banks have played a central role in the US economy for more than 200 years. They provide credit to individuals and businesses and offer other services, such as demand deposits, to facilitate payments. A problem arises, however, if depositors rush to withdraw their funds on the belief that a bank is insolvent. If a bank is solvent but does not have enough liquidity to handle the withdrawals, it may nonetheless be forced to sell off its assets at fire sale prices, thereby pushing the bank into insolvency. A run on one bank could trigger similar runs on other banks in other regions, driving them all into insolvency.

The Federal Reserve ("the Fed") was established in December 1913 to address issues of systemic risk in the banking system. It was to act as a lender of last resort by providing funds to solvent banks experiencing liquidity problems. In June 1933, 20 years later, the FDIC was created to guarantee deposits—up to a limit—to lessen depositors' incentive to make panicked withdrawals and thereby to reduce the likelihood of bank runs. The initial guarantee was limited to $2,500 per depositor account. This limit has since increased seven times, as Figure 1 shows. The most recent increase occurred during the financial crisis of 2007–2009, when the limit was raised to $250,000 in October 2008. As an indicator of the generosity of a deposit insurance system, the coverage limit is frequently compared to GDP per capita, also shown in Figure 1. The coverage limit

[2] "The phrase returned and stuck." (Eric Dash, "If It's Too Big to Fail, Is It Too Big to Exist?," *New York Times*, June 20, 2009, http://www.nytimes.com/2009/06/21/weekinreview/21dash.html.) Our use of the term "TBTF" is based on the wide acceptance of the term, not on any acceptance of the premise that some banks are too big to be allowed to fail.

was nearly 10 times GDP per capita in 1934 and then decreased for three decades, reaching a low of 3.7 times GDP per capita in 1966. The ratio then increased a few times and ended up at 5 times GDP per capita in the second quarter of 2012. In general, the higher the ratio, the more generous is the deposit insurance system, because it protects a larger proportion of higher-income individuals from losses should their banks fail before they withdraw their funds.

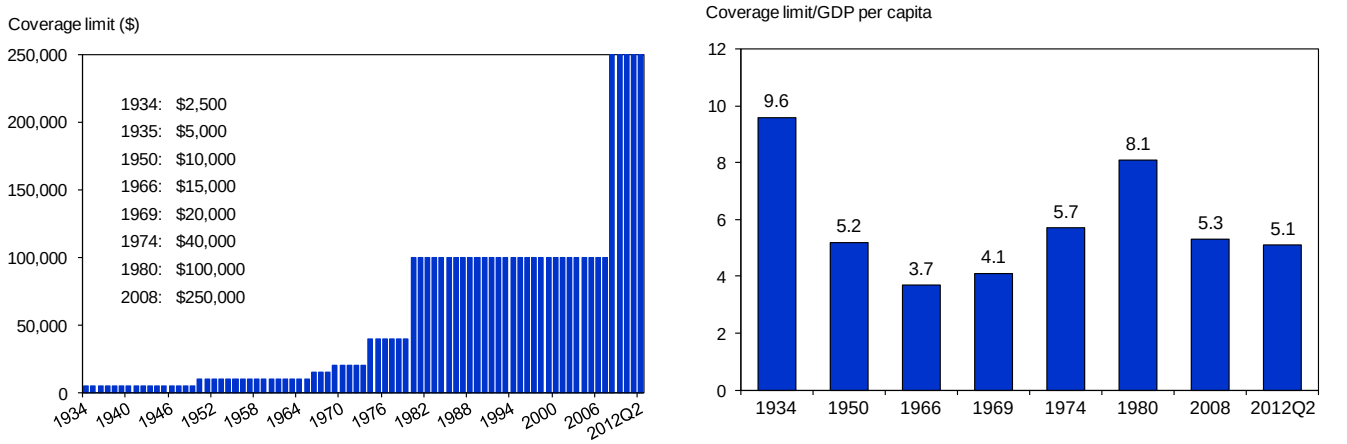

Figure 1. FDIC Deposit Insurance: Coverage Limits and Coverage Limits Per GDP Per Capita.
Notes: Initial coverage was $2,500 from January 1, 1934, to June 30, 1934, and then increased to $5,000. The FDIC also provided unlimited insurance coverage for non-interest-bearing deposit transaction accounts. This coverage was effective from October 2008 and expired at the end of December 2012. This provision temporarily expanded the safety net and the associated subsidy.
Sources: FDIC, US Bureau of Economic Analysis, US Census Bureau and Milken Institute.

Before the Fed and the FDIC were established, banks in different parts of the country suffered through several periods of runs. Although the Fed had already been in existence for nearly two decades, the worst such period was during the Great Depression, demonstrating that the Fed had failed to prevent bank runs, thereby paving the way for the creation of the FDIC.[3] During this period, there were two major types of depository institutions: commercial banks and savings and loan associations (S&Ls). The FDIC was established to provide insured deposits for commercial banks, while at the same time the Federal Savings and Loan Insurance Corporation (FSLIC) was established to provide insured deposits for S&Ls.[4] In 1989, the FSLIC was closed because of its insolvency and replaced with the Savings Association Insurance Fund (SAIF). At the same time, the FDIC was assigned responsibility for administering the SAIF as well as the insurance fund for commercial banks, the Bank Insurance Fund (BIF). Then, in 2006, the BIF and SAIF were merged into a new fund, the Deposit Insurance Fund (DIF).

As Table 1 shows, insured deposits were $18 billion when the FDIC was established, but over the years they have increased to $7 trillion. As a percentage of total deposits, insured deposits started off at 45 percent and steadily increased over the years to reach a high of 82 percent in 1990 before declining to 73 percent in 2000. The percentage then increased again to 79 percent in 2011 following the financial crisis, during which deposit insurance coverage increased and expanded to cover a broader range of deposits. Figure 2 shows the fluctuations in the ratio of insured deposits to total deposits for selected years. It also shows for the same years that the percentage of total assets funded with insured deposits has varied over time, with such deposits funding only half of the total assets of depository institutions in 2011.

[3] As a referee indicated, it might be argued that the Fed either helped to cause the problems that led to the runs or that the Fed could have done a better job with its existing powers to limit the magnitude of the problems.
[4] An insurance fund for credit unions was established in 1970.

Table 1. Total Assets, Deposits, and Insured Deposits.

	Total assets ($ bn)	Total domestic deposits ($ bn)	Estimated insured deposits ($ bn)	Total deposits/ total assets (%)	Insured deposits/ total assets (%)	Insured deposits/ total deposits (%)
1934	46	40	18	72	33	45
1940	71	65	27	85	35	41
1950	167	168	91	91	50	54
1960	256	260	150	79	46	57
1970	570	545	350	73	47	64
1980	1,856	1,324	949	53	38	72
1990	4,649	3,415	2,785	73	60	82
2000	7,463	4,212	3,055	56	41	73
2011	13,883	8,779	6,979	63	50	79

Note: Beginning in the fourth quarter of 2010, estimates of insured deposits include the Dodd-Frank Act temporary unlimited coverage for non-interest-bearing transaction accounts. Prior to 1989, figures are for the Bank Insurance Fund (BIF) only and exclude insured branches of foreign banks. For 1989–2005, figures represent the sum of BIF and SAIF amounts; for 2006–2011, figures are for the DIF. Amounts for 1989–2011 include insured branches of foreign banks. Prior to year-end 1991, insured deposits were estimated using percentages determined from June Call and Thrift Financial Reports.
Sources: 2011 FDIC Annual Report, FDIC, and Milken Institute. Total assets of S&Ls prior to 1984 are from Barth and Regalia (1988).

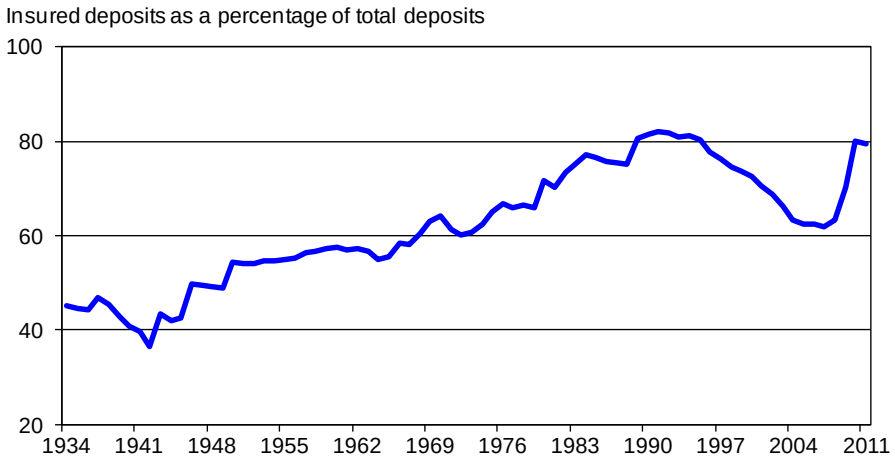

Figure 2. Insured Deposits of Depository Institutions.
Source: 2011 FDIC Annual Report.

Figure 3 shows that banks throughout the United States of different sizes rely to different degrees on insured deposits as a funding source. More specifically, bigger banks have a smaller share of total deposits that are FDIC-insured than do smaller banks. However, the share for bigger banks has risen sharply during and following the recent financial crisis, mainly due to the expansion in the scope and increased limit of deposit insurance coverage. The result has been a narrowing of the differences among banks of different sizes.

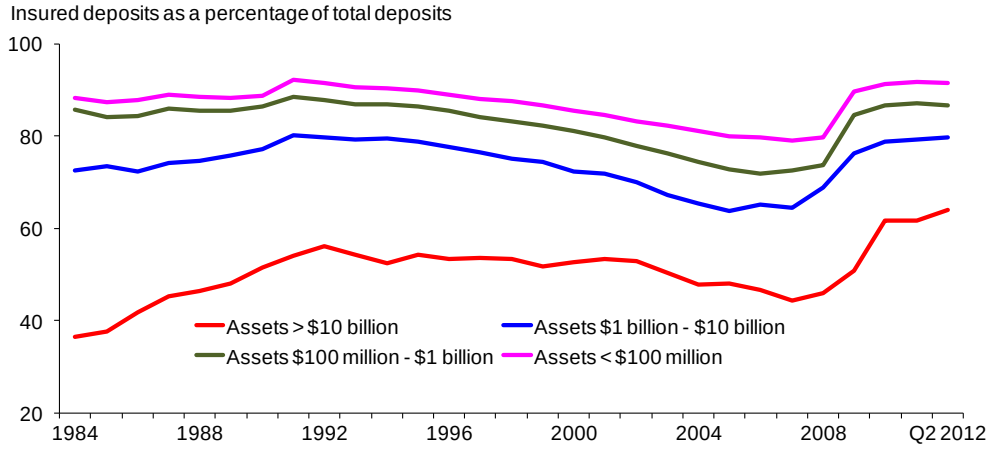

Figure 3. Bigger Banks Rely Less on Insured Deposits Than Do Smaller Banks.
Source: FDIC Quarterly Banking Profile.

Once the FDIC was in operation, it assumed responsibility for handling failed and failing insured depository institutions throughout the country. Figure 4 shows the three major periods in which the FDIC was confronted with large numbers of failures, including those of commercial banks and savings institutions.[5] The first was during the aftermath of the Great Depression, the second was during the S&L crisis of the 1980s and commercial bank (CB) problems of the late 1980s and early 1990s, and the third was during the 2007–2009 housing market bubble and meltdown. In terms of the number of failures, the second period was the most severe, while in terms of assets of failed institutions, the third period was the most severe.[6]

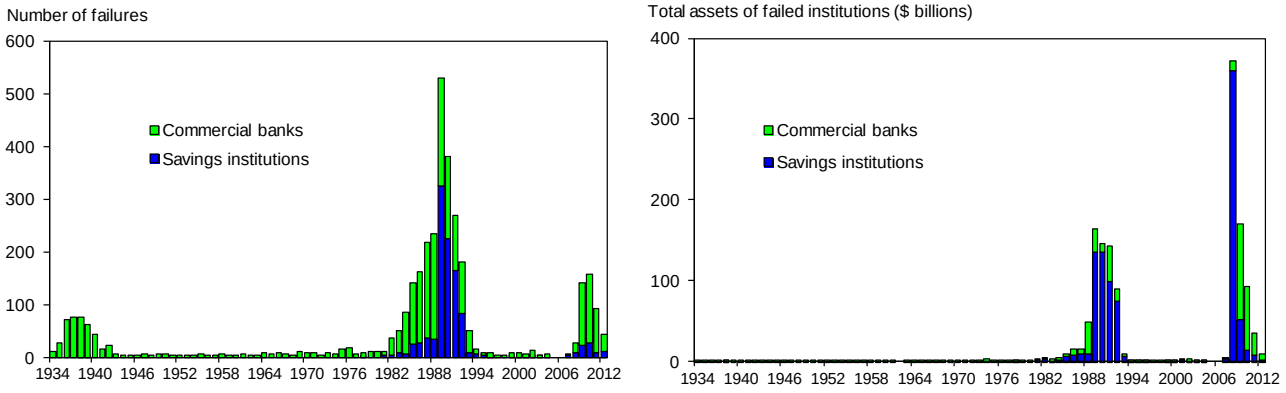

Figure 4. Number and Assets of Failed Insured Depository Institutions for All Regions of the Country.
Notes: Savings institutions include savings banks and S&Ls. Washington Mutual's 2008 failure—the largest US bank failure, with total assets of $307 billion—was a state-chartered savings bank supervised by the FDIC and is included in the list of failed savings institutions. Data are current as of September 2012.
Sources: FDIC Historical Statistics on Banking and Milken Institute.

[5] Savings institutions include savings banks and S&Ls.

[6] The assets of failed institutions are expressed in current, not constant, dollars. The basic point would remain the same if assets were expressed in constant dollars.

It is also useful to compare the number of failed insured depository institutions with the total number of insured depository institutions. As Figure 5 shows, the highest failure rates occurred during the 1980s and early 1990s, when large numbers of S&Ls and commercial banks located in nearly every state failed (Amos, 1992; Barth, 1991; Barth and Bartholoew, 1992; Barth, Brumbaugh, and Litan, 1992; Cebula, 1997; Cebula and Hung, 1992; Loucks, 1994; Cebula, 1994; and Chao and Cebula, 1996).[7] Barth and Bartholoew (1992) and Barth, Brumbaugh, and Litan (1992) in particular, provide detailed information on various performance measures of the failed institutions and indicating that they were located in every region of the country. Prior to this period, for roughly 40 years, there were relatively few failures.

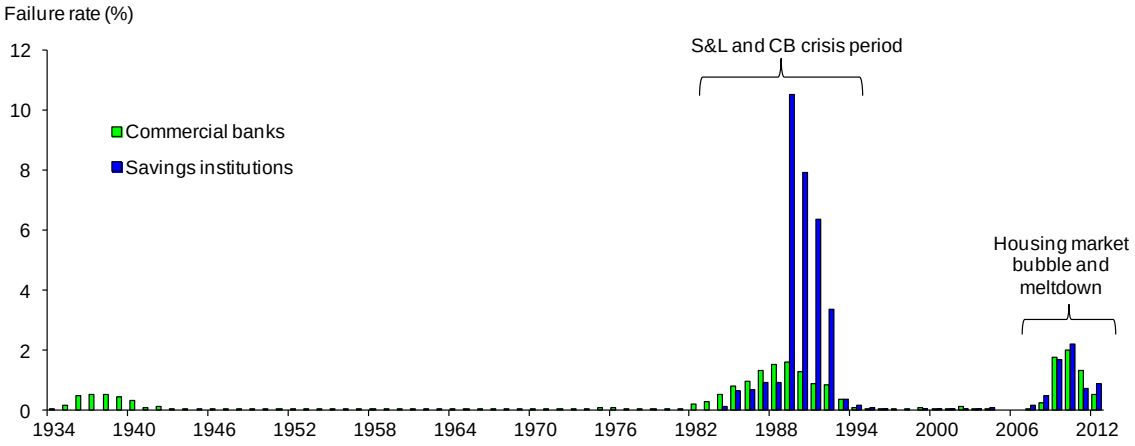

Figure 5. Failure Rate of Insured Depository Institutions for All Regions of the Country.
Notes: The failure rate is the number of failures divided by the total number of depository institutions. Savings institutions include savings banks and S&Ls. Data are current as of September 2012.
Sources: FDIC Historical Statistics on Banking and Milken Institute.

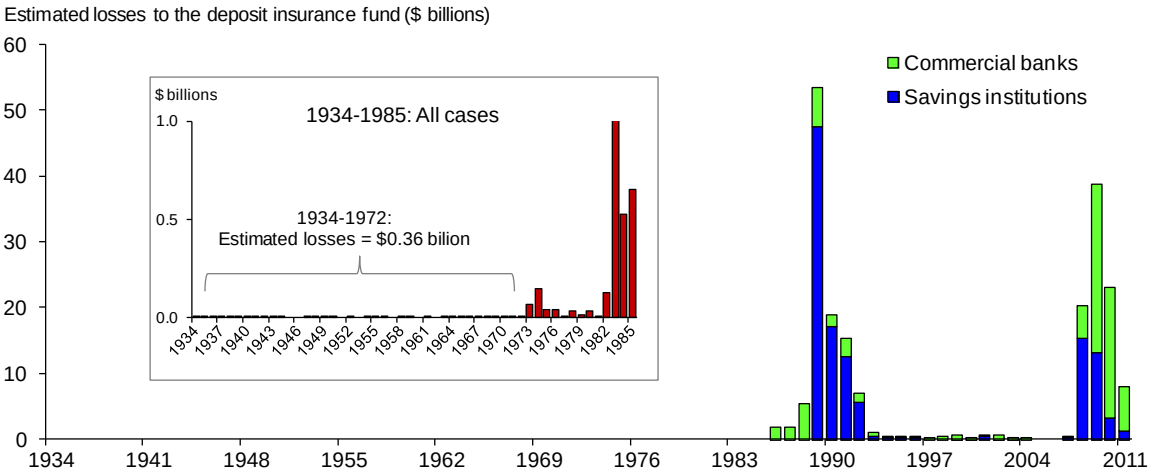

Figure 6. Estimated Losses to Deposit Insurance Funds of Failed Depository Institutions for All Regions of the Country.
Note: For 1971–1980, figures do not include dollar amounts for the five open bank assistance transactions during those periods. For 1990–2005, amounts represent the sum of BIF and SAIF failures (excluding those handled by the Resolution Trust Corporation); prior to1990, figures are only for the BIF. After 1995, all S&L closings became the responsibility of the FDIC and amounts are reflected in the SAIF. For 2006–2011, figures are for the DIF. For 2008–2010, figures include amounts related to transaction account coverage under the Transaction Account Guarantee Program. The estimated losses are as of December 31, 2011.
Sources: FDIC Annual Reports.

[7] Interestingly, the S&L failure rate was highest among the states of the Southwest and in other oil-producing states, though no region of the country was spared failures.

In addition to the number and assets of failed institutions, the losses borne by the deposit insurance funds are important. Figure 6 above shows that the estimated losses were less than $1 billion in any single year prior to the late 1980s. After that period, the losses increased substantially during the S&L and CB crisis period as well as during the housing market meltdown. From 1986 to 1992, the losses were slightly more than $100 billion, while from 2007 to 2011, the losses were $90 billion.[8]

Table 2 provides key financial data for the 10 largest failed insured depository institutions based on total assets (in 2011 dollars) in the United States. These institutions were located in seven different states. Six of these institutions were savings associations, while the other four were commercial banks. Three of the commercial banks were national banks and one was a state chartered bank. All 10 of these failures occurred in 1988 or after. The largest failure was that of Washington Mutual Bank, while the smallest failure was that of the Imperial Federal Savings Association. The government incurred no cost in the resolution of Washington Mutual because it was acquired by JPMorgan Chase.

Table 2. Ten Largest Failed Depository Institutions and Their Location (ranked by total assets).

						Nominal dollars at time of failure ($ billions)			2011 dollars at time of failure ($ billions)		
Institution Name	**Location**	**Closing date**	**Ins. fund[a]**	**Transaction type[b]**	**Charter class[c]**	**Total deposits**	**Total assets**	**Estimated loss to insurance fund[d]**	**Total deposits**	**Total assets**	**Estimated loss to insurance fund**
Washington Mutual Bank	Henderson NV	9/25/2008	DIF	PA	SB	188.3	307.0	0.0[e]	196.7	320.8	0.0
First Republic Bk – Dallas, N.A.	Dallas TX	7/29/1988	FDIC	PA*	N	7.7	17.1	2.0	14.6	32.5	3.8
IndyMac Bank, F.S.B.	Pasadena CA	7/11/2008	DIF	PI*	SB	18.9	30.7	13.1	19.8	32.1	13.7
Colonial Bank	Montgomery AL	8/14/2009	DIF	PA	NM	20.0	25.5	4.6	21.0	26.7	4.9
Gibraltar Savings, FA	Simi Valley CA	3/31/1989	RTC	PA*	SA	7.6	13.4	0.1	13.7	24.3	0.2
Bank of New England, N.A.	Boston MA	1/6/1991	BIF	PA*	N	9.4	13.4	0.6	15.5	22.2	0.9
Home Fed Bank, FA	San Diego CA	7/6/1992	RTC	PI*	SB	8.9	12.2	0.8	14.3	19.5	1.2
Southeast Bank, N.A.	Miami FL	9/19/1991	BIF	PA	N	8.9	11.0	0.0	14.7	18.2	0.0
City Savings, F.S.B.	Somerset NJ	12/8/1989	RTC	IDT*	SB	7.3	9.8	1.6	13.3	17.8	2.8
Imperial Federal Savings Assoc.	San Diego CA	2/23/1990	RTC	PA*	SA	6.6	9.6	0.2	11.4	16.5	0.3

Notes:

(a) DIF = Deposit Insurance Fund; RTC = Resolution Trust Corporation; BIF = Bank Insurance Fund

(b) PA = purchase and assumption; PI = purchase and assumption of the insured deposits only; IDT = insured deposit transfer. * indicates institution operated under government control between date of failure and final resolution date in bridge bank operated by the FDIC, conservatorship operated by the Resolution Trust Corporation or the FDIC, or management consignment program operated by the FSLIC.

(c) N = national chartered commercial bank supervised by the Office of the Comptroller of the Currency; NM = state chartered Fed nonmember commercial bank supervised by the FDIC; SA = state or federal charter savings association supervised by the Office of Thrift Supervision or the Office of the Comptroller of the Currency; SB = state chartered savings bank supervised by the FDIC.

(d) Estimated loss as of December 31, 2011.

(e) On September 25, 2008, the FDIC facilitated the sale of Washington Mutual to JPMorgan Chase & Co. in a closed bank transaction that resulted in no loss to the DIF (Department of the Treasury and FDIC 2010).

Sources: FDIC Historical Statistics on Banking and the Milken Institute.

[8] While these figures are in current dollars, the basic point would not change if they were expressed in constant dollars.

To cover losses when resolving failed institutions, the deposit insurance funds for both commercial banks and S&Ls from their very beginnings were required to establish deposit insurance reserves. When the FSLIC was created in 1934, it was authorized to levy an annual insurance premium of 25 basis points of total deposits. When the FDIC was created in 1933, it was authorized to levy an annual insurance premium of 50 basis points of insured deposits. However, the FDIC could rebate any unused premiums in excess of the legal limit, which would make the effective insurance premium equal to 25 basis points of total insured deposits. The major difference between the two insurance funds was that the FDIC assessed its premium on insured deposits and not on total deposits like the FSLIC. However, as figure 7 shows, in 1935, the FDIC insurance premium was reduced to the rate of 8.3 basis points of total deposits.[9]

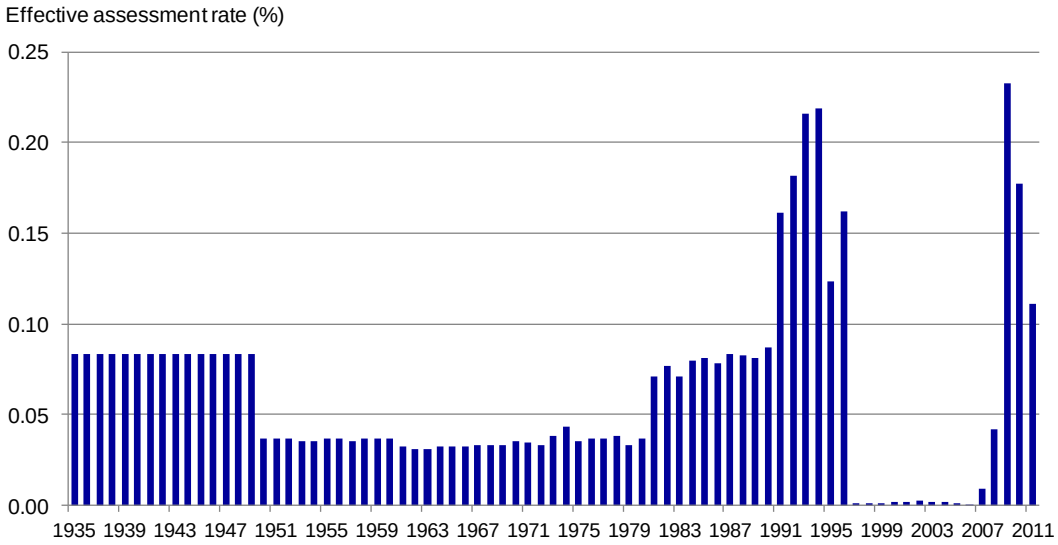

Figure 7. Assessment Rate for Deposit Insurance.
Note: Figures represent only BIF-insured institutions prior to 1990, BIF- and SAIF-insured institutions from 1990 through 2005, and DIF-insured institutions beginning in 2006. After 1995, all S&L closings became the responsibility of the FDIC, and amounts are reflected in the SAIF.
Source: 2011 FDIC Annual Report.

The effective premium rates from 1950 through 1984 varied from the statutory rate of 8.3 basis points due to assessment credits provided in those years. The premium rate increased to 12 basis points in 1990 and to a minimum of 15 basis points in 1991. The effective premium in 1991 and 1992 varied because the FDIC exercised new authority to increase assessments above the statutory minimum premium when needed. Beginning in 1993, the effective premium was based on a risk-related premium system under which institutions paid assessments in the range of 23 to 31 basis points.

The deposit insurance system is meant to be self-sustaining by levying an assessment on insured depository institutions to cover any losses associated with failures. In an attempt to ensure that this is the case, the insurance fund collects assessments to provide for a mandatory capitalization level. The assessment rate has been modified over time whenever necessary because of either an excess of assessments beyond those necessary for the mandatory capitalization level or a drawdown in this level as assessments have been used to cover losses. Thus, in May 1995, when the BIF reached the mandatory recapitalization level of 1.25 percent, BIF assessment rates were reduced to a range of 0.04 percent to 0.31 percent of assessable deposits, effective June 1995. Assessment rates for the BIF were lowered again to a

[9] In 1935, the FSLIC insurance premium was reduced to the rate of 12.5 basis points of total deposits. In 1950, the FSLIC premium was cut to 8.3 basis points.

range of 0.00 to 0.27 percent of assessable deposits, effective January 1996. In 1996, the SAIF collected a one-time special assessment of $4.5 billion. Subsequently, assessment rates for the SAIF were lowered to the same range as that for the BIF, effective October 1996. This range of rates remained unchanged for both funds through 2006. As part of the implementation of the Federal Deposit Insurance Reform Act of 2005, assessment rates were increased to a range of 0.05 percent to 0.43 percent of assessable deposits effective January 2007, but many institutions received a one-time assessment credit ($4.7 billion in total) to offset the new assessments. On December 16, 2008, the FDIC adopted a final rule to temporarily increase assessment rates for the first quarter of 2009 to a range of 0.12 percent to 0.50 percent of assessable deposits. On February 27, 2009, the FDIC adopted a final rule effective April 1, 2009, setting initial base assessment rates to a range of 0.12 percent to 0.45 percent of assessable deposits. On June 30, 2009, a special assessment was imposed on all insured banks and savings institutions, which amounted in aggregate to approximately $5.4 billion. For 8,106 institutions, with $9.3 trillion in assets, the special assessment was 5 basis points of each institution's assets minus tier one capital; 89 other institutions, with assets of $4.0 trillion, had their special assessments capped at 10 basis points of their second-quarter assessment base.[10]

Figure 8 shows the reserves of the FDIC's insurance fund based on the assessments it has received from insured depository institutions throughout the country, as a percentage of insured deposits (reserve ratio). There were three years in which the FDIC was insolvent, or estimated losses exceeded reserves. The first was during the commercial banking crisis of the late 1980s and early 1990s.[11] The second and third were during the recent financial crisis. In both cases, the FDIC returned to solvency through the assessments it levied on insured depository institutions.

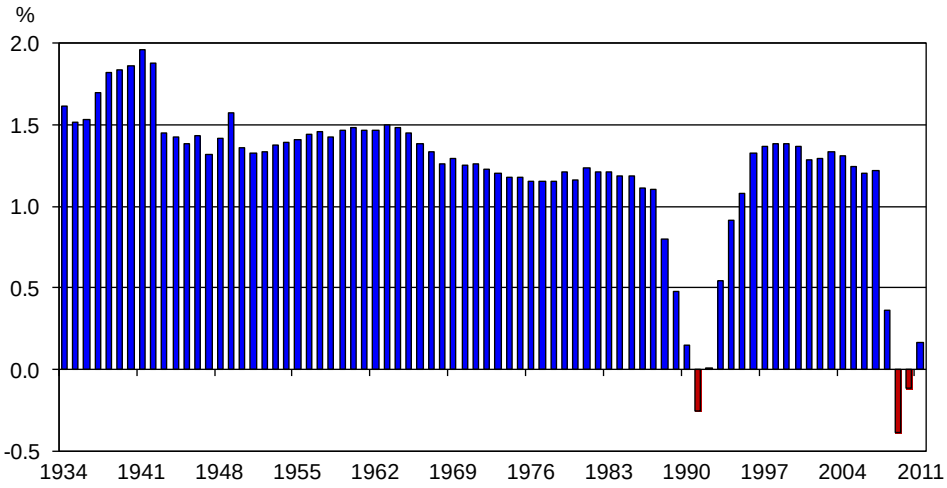

Figure 8. FDIC Insurance Fund as a Percentage of Insured Deposits.
Notes: Beginning in the fourth quarter of 2010, estimates of insured deposits include the Dodd-Frank Act temporary unlimited coverage for non-interest-bearing transaction accounts. Prior to 1989, figures are for the BIF only and exclude insured branches of foreign banks. For 1989–2005, figures represent the sum of the BIF and SAIF amounts; for 2006–2011, figures are for the DIF. Amounts for 1989–2011 include insured branches of foreign banks. Prior to year-end 1991, insured deposits were estimated using percentages determined from June Call and Thrift Financial Reports.
Source: 2011 FDIC Annual Report.

[10] The information as of March 2012 on the assessment rates and assessment base for insured depository institutions is provided in Appendix Tables A1 and A2.
[11] The FSLIC became insolvent in the second half of the 1980s and was closed in 1989.

3. Overview of the FDIC's Role in Resolving Bank Failures[12]

3.1. Resolutions prior to 2010

Until 1950, the FDIC had only two options in resolving bank failures under the Federal Deposit Insurance Act (FDIA): (1) liquidate a bank and pay off insured depositors, or (2) arrange for the bank's acquisition by a healthy bank. The FDIC was required to choose the less costly of the two options. In 1950, however, Congress authorized the FDIC to infuse funds into a bank to keep it open. The FDIC had sought this authority out of "concern that the Federal Reserve would not be a dependable lender to banks faced with temporary funding problems" (FDIC 1984, 94). But such "open bank assistance" was only permitted "when in the opinion of the [FDIC's] Board of Directors the continued operation of such a bank is essential to provide adequate banking service in the community" (ibid.). When this "essentiality" condition was invoked, the FDIC could ignore the requirement to choose the less costly resolution method.[13]

Before Continental's 1984 rescue, essentiality was used just five times, and in only one of these cases was the FDIC's determination of essentiality based mainly on the bank's size. This 1980 case involved First Pennsylvania, the nation's 23rd-largest bank at the time. The FDIC concluded that closing such a large bank would have serious repercussions for both the local regional market and probably the entire nation.[14]

In 1984, the government bailed out Continental, then the nation's seventh largest bank, citing concerns about systemic risk due to the bank's size, risk not merely for the state of Illinois but also for states in other regions as well. The essentiality condition was invoked to enable open bank assistance, under which the FDIC infused the $1 billion in new capital into Continental Illinois Corporation. In addition to the financial assistance, the FDIC provided the assurance that all uninsured depositors and creditors of Continental would be protected.[15] The resolution of that troubled bank focused far greater attention on the question of whether certain banks or bank holding companies were indeed TBTF. The reason for Continental's bailout was provided by Comptroller of the Currency C. T. Conover in the response to a question by Chairman Fernand St. Germain about whether he could "ever foresee one of the 11 multinational money center banks failing." Conover replied, "I admit that we don't have a way right now. And so, since we don't have a way, your premise [that some banks are too big to fail] appears to be correct at the moment" (Conover, 1984, pp. 299-300).

Conover did not identify particular banks that were TBTF, but the *Wall Street Journal* thought it could do so by listing the 11 largest banks at the time. These big banks were then considered TBTF.[16] They accounted for nearly one-third of the total assets in the banking industry at the end of 1983. Notice that the criterion emphasized to identify banks as TBTF was simply asset size.

In the case of Continental, it was the holding company that was bailed out. The vast majority of the assets of the holding companies associated with each of the 11 big banks were those of their subsidiary banks. Thus, in most of these cases, any action taken to rescue the bank holding company would not encompass a relatively large percentage of assets beyond those of the subsidiary bank. The situation has changed quite significantly in recent years with the repeal of the Glass-Steagall Act in 1999 and the expansion of banks into broader activities, such as investment banking, market-making, and full-service asset management.[17] As a result, the total assets of subsidiary banks may not be an extremely large percentage of the total assets of some parent holding companies. In these cases, if the government bails out the holding company, it is bailing out far more than the banks. As a result, it is typically a holding company that becomes TBTF, not the individual subsidiary banks. To eliminate the TBTF problem, therefore, one has to focus on bank holding companies, not individual banks.[18]

The next important development in the TBTF "saga" occurred with the enactment of the FDIC Improvement Act (FDICIA) in December 1991.[19] Changes made in the FDICIA were heavily influenced by the S&L crisis of the 1980s, during which regulators extended substantial forbearance to

[12] This section draws heavily on Barth, Prabha, and Swagel (2012).
[13] See FDIC (1997, p. 248).
[14] See FDIC (1997) for a more detailed discussion of this issue.
[15] For a more detailed discussion of Continental, see Kaufman (2002), Shull (2010), FDIC (1997), and FDIC (2003).
[16] T. Carrington, "U.S. Won't Let 11 Biggest Banks in Nation Fail," *Wall Street Journal*, September 20, 1984.
[17] The Glass-Steagall Act separated commercial from investment banking in 1933.
[18] The Dodd-Frank Act addresses this issue, as is discussed below.
[19] In the late 1980s, in some cases the FDIC protected all depositors and creditors of a bank while letting the parent holding company file for bankruptcy (e.g., First National Bank of Oklahoma City versus its holding company, the First Oklahoma Corporation).

struggling banks, resulting in the expansion of taxpayer costs to cover the bad loans made by S&Ls.[20] Indeed, Barth and Bartholomew (1992) provide detailed information on the forbearance that was granted to S&Ls and the region of the country in which the institutions were headquartered. According to Shull (2010), the law limited the FDIC's ability to provide open bank assistance for essential banks by requiring that it receive concurrence from the Federal Reserve and the Treasury secretary and consult with the president. The law also placed new constraints on Federal Reserve loans to undercapitalized banks.[21] Moreover, the FDICIA required federal banking regulators to take prompt corrective action to identify and address capital deficiencies at banks in order to minimize FDIC losses.

At the same time, the FDICIA provided for a "systemic risk exception" to the requirement that the FDIC resolve troubled institutions using the less costly alternative. The exception was to be based on the determination that the failure of an insured depository institution would have serious adverse effects on broader economic conditions or financial stability.[22] Thus, the FDICIA replaced the FDIA's essentiality condition with the systemic risk exception, although with a set of hurdles clearly meant to limit its use.

From late 1991 through the summer of 2008, regulators did not invoke the systemic risk exception. Things changed in the fall of 2008, however. According to Hurley (2010, p. 371), it was then that "out of concern for the effects of a possible failure, on September 29, the FDIC acted for the first time under the systemic risk exception of the 1991 FDICIA and ordered Wachovia to sell itself to Citigroup." Under the agreement initially made between Citigroup, Wachovia, and the FDIC, Wachovia's creditors were to be protected and the FDIC would take on some of the bank's potential losses in exchange for preferred stock and warrants in Citigroup. The transaction was heavily motivated by the experience with Washington Mutual a short time earlier, in which the FDIC had imposed unexpected but legal losses on Washington Mutual's creditor. This action caused an immediate spillover of funding pressures on other banks, including Wachovia, that were seen as risky. Wachovia eventually stepped away from the deal with Citigroup and sold itself to Wells Fargo without FDIC assistance.[23] This first-ever use of the systemic risk exception opened the floodgates.

Historically, the FDIC has relied on a variety of methods to resolve the failure of insured depository institutions. Table 3 lists the different methods along with the number and assets of failed insured depository institutions throughout the country for each type.

At the time of Wachovia's failure, the United States was experiencing its worst financial crisis since the Great Depression.[24] As part of a broad response, the October 2008 Emergency Economic Stabilization Act (EESA) authorized the secretary of the Treasury, under the Troubled Asset Relief Program (TARP), to spend up to $700 billion to purchase and insure distressed assets. These purchases were expected to consist of mortgage-backed securities, but in the end TARP was used mostly to make capital injections into banks and other firms (eventually including insurance companies and automakers; other TARP funds were spent on foreclosure relief).[25] Under TARP's Capital Purchase Program (CPP), 707 banks throughout the country received capital injections from the government, amounting to $245 billion. Table 4 provides selected information on the 20 banks in different parts of the country that received the largest capital injections under TARP's CPP. The fact that 86 percent of TARP's capital purchase program funds went to 20 big banks, while the other 14 percent went to the 687 smaller institutions, again focused substantial attention on the TBTF issue.

The table also presents several capital measures for the banks receiving capital injections. The risk-based capital measures used by the regulatory authorities indicated that all the banks seemed to have adequate capital based upon their riskiness. However, the market-to-book values and the tangible common equity-to-assets ratios for the banks did not provide the same picture in every case. These ratios were always lower than the other three ratios (the tier 1 risk-based capital ratio, total risk-based capital ratio, and common equity to assets ratio) and were typically the ratios that investors relied upon. The very low ratios for Citigroup and Bank of America were of particular concern to investors.

[20] See, for example, Barth (1991) and Barth, Trimbath, and Yago (2004).

[21] Also, see Kaufman (2002, pp. 427–428).

[22] The determination was to be made by the board of directors of the FDIC, the Board of Governors of the Federal Reserve, and the secretary of the Treasury (in consultation with the president).

[23] For more detail, see Hurley (2010).

[24] For discussion, see Barth et al. (2009) and Swagel (2009), among many others.

[25] The capital injections were undertaken in the form of preferred and eventually common nonvoting stock in banks.

Table 3. Number and Total Assets of Failed and Assisted Insured Depository Institutions by Resolution Method, 1934 to September 2012.

	Number			Total assets ($ billions)		
	Commercial banks	Savings institutions	Total	Commercial banks	Savings institutions	Total
Resolved and terminated						
Purchase and Assumption	1,795	616	2,411	397.5	832.3	1,229.9
P&A	427	2	429	34.6	0.0	34.6
PA	1,263	576	1,839	333.9	740.9	1,074.8
PI	105	38	143	29.1	91.4	120.5
Insured Deposit Transfer (IDT)	173	229	402	8.7	57.0	65.7
Payout (PO)	447	131	578	17.2	25.8	43.0
MGR	0	37	37	0.0	13.8	13.8
Total	2,415	1,013	3,428	423.5	928.9	1,352.4
Assisted; institution's charter survives						
Assistance transactions						
Assistance	135	457	592	1,952.3	348.3	2,300.6
Reprivatization (REP)	0	3	3	0.0	4.6	4.6
Total (failed and assisted institutions)	2,550	1,473	4,023	2,375.8	1,281.8	3,657.5

Notes:
P&A = purchase and assumption, where some or all of the deposits, certain other liabilities, and a portion of the assets (sometimes all of the assets) were sold to an acquirer. It was not determined if all of the deposits (PA) or only the insured deposits (PI) were assumed.
PA = P&A where the insured and uninsured deposits, certain other liabilities, and a portion of the assets were sold to an acquirer.
PI = P&A of the insured deposits only, where traditional P&A was modified so the acquiring institution assumed only the insured deposits.
IDT = insured deposit transfer, where the acquiring institution served as a paying agent for the insurer, established accounts on its books for depositors, and often acquired some assets as well. Includes ABT (asset-backed transfer, an FSLIC transaction that is very similar to an IDT).
PO = payout, where the insurer paid the depositors directly and placed the assets in a liquidating receivership.
MGR = An institution where the FSLIC took over management and generally provided financial assistance. The FSLIC closed down before the institution was sold.
Assistance transactions include the following:
1) transactions where assistance was provided to the acquirer, who purchased the entire institution. For a few FSLIC transactions, the acquirer purchased the entire bridge bank-type entity, but certain other assets were moved into a liquidating receivership prior to the sale.
2) open bank assistance transactions, including those where assistance was provided under a systemic risk determination (in such cases, any costs that exceed the amounts estimated under the least cost resolution requirement would be recovered through a special assessment on all FDIC-insured institutions).
REP = reprivatization, management takeover with or without assistance at takeover, followed by a sale with or without additional assistance.
Sources: FDIC Historical Statistics on Banking and Milken Institute.

3.2. Resolutions after the 2007–2009 Financial Crisis

In response to these developments, Benjamin Bernanke (2010), chairman of the Federal Reserve Board, stated that "if the crisis has a single lesson, it is that the TBTF problem must be solved." Since 2010, several regulatory reforms have been implemented to prevent a future banking crisis and to lessen the severity of one should it occur. The reforms, mainly driven by Dodd-Frank and the new Basel capital requirements, specifically attempt to prevent a big bank from failing in three basic ways: (1) restricting the size of banks, (2) restricting the scope of bank activities, and (3) requiring higher capital levels for systemically important institutions. However, should a big bank fail, the reforms specify provisions for an orderly liquidation of a troubled big bank, including (1) the requirement that a bank prepare a "living will" before it encounters financial difficulties, and (2) an expansion of the FDIC's "resolution" authority.

Table 4. Selected Information on the 20 Banks That Received the Largest US Government Capital Injections under TARP's Capital Purchase Program (CPP) and Targeted Investment Program (TIP).

	Investment of CPP and TIP funds		Current status[b]		Selected information prior to first receiving funds (pre-bailout quarter)				
Bank	First received[a]	Funds received ($ bn)	Total assets ($ bn)	Market-to-book value	Total assets ($ bn)	Tier 1 risk-based capital ratio (%)	Total risk-based capital ratio (%)	Common equity to assets ratio (%)	Tangible common equity to assets ratio (%)
Citigroup	10/28/2008	45.0	1,874	0.59	2,050	8.2	11.7	4.8	2.2
Bank of America Corp.	10/26/2008	45.0	2,129	0.46	1,831	7.6	11.5	7.5	2.6
Wells Fargo & Co.	10/29/2008	25.0	1,314	1.26	622	8.6	11.5	7.4	5.5
JPMorgan Chase & Co.	10/28/2008	25.0	2,266	0.83	2,251	8.9	12.6	6.1	3.9
Morgan Stanley	10/26/2008	10.0	750	0.56	987	12.7	19.0	3.5	3.1
Goldman Sachs Group	10/28/2008	10.0	923	0.88	1,082	11.6	15.2	3.9	3.5
PNC Financial Services	12/31/2008	7.6	271	0.88	146	8.2	11.9	9.8	3.7
US Bancorp	11/14/2008	6.6	340	1.84	247	8.5	12.3	8.2	3.9
SunTrust Banks	11/14/2008	4.9	177	0.73	175	8.2	11.2	10.0	6.1
Capital One Financial	11/14/2008	3.6	206	0.90	155	12.0	14.9	16.5	9.0
Regions Financial Corp.	11/14/2008	3.5	127	0.61	144	7.5	11.7	13.7	5.7
Fifth Third Bankcorp	12/31/2008	3.4	117	0.99	116	8.6	12.3	8.3	5.2
Hartford Fin. Svcs. Grp.	6/26/2009	3.4	304	0.45	311	n/a	n/a	4.0	3.5
American Express	1/9/2009	3.4	153	3.28	127	n/a	n/a	9.8	8.2
BB&T Corp.	11/14/2008	3.1	175	1.08	137	9.4	14.4	9.4	5.4
Bk of New York Mellon	10/26/2008	3.0	325	0.82	268	9.3	12.8	10.3	2.0
KeyCorp	11/14/2008	2.5	89	0.80	101	8.6	12.4	7.9	6.3
CIT Group	12/31/2008	2.3	45	0.93	n/a	n/a	n/a	n/a	n/a
Comerica Inc.	11/14/2008	2.3	61	0.79	65	7.4	11.2	7.8	7.6
State Street Corp.	10/26/2008	2.0	217	1.03	286	16.0	17.2	4.6	2.4

Total spent on banking programs (to 707 banks)	$245.0
Total spent under CPP	$205.0
Total spent under TIP	$40.0

Notes: (a) Citigroup and Bank of America each received two allocations. The first allocation was for $25 billion for each institution under the CPP in October 2008 and the second allocation was for $20 billion for each institution under the TIP in January 2009. All other institutions received only one allocation, which was the $25 billion maximum or less than the maximum under the CPP.
(b) Total assets as of Q1 2012 and market-to-book-value data as of October 24, 2012.
Sources: US Treasury Department, Bloomberg, and Milken Institute.

Under Dodd-Frank, in the event that a big bank encounters financial difficulties and early remediation efforts fail, the FDIC and the Federal Reserve, at their own initiative or at the request of the Secretary of the Treasury, must make a written recommendation to the Secretary of the Treasury regarding whether a bank presents systemic risk. The bank would be placed into FDIC receivership if the Secretary of the Treasury, in consultation with the president, determines that (1) the bank is in default or in danger of default; (2) the bank's default would have a serious adverse effect on the financial stability of the United States; (3) no viable private-sector alternative is available to prevent the default; (4) the effect on the claims or interests of its creditors, counterparties, shareholders, and other market participants is appropriate, given the impact that any action would have on the financial stability of the United States or regions thereof; and (5) an orderly liquidation would avoid or mitigate such adverse effects.[26]

Before the 2007–2009 financial crisis, the FDIC's receivership authorities were limited to federally-insured depository institutions. The lack of authority by the FDIC to seize troubled bank holding

[26] In unusual and exigent circumstances, under Section 13(3) of the Federal Reserve Act, the Federal Reserve may authorize during such periods a loan or other financial assistance to a company in distress, which it did in the case of AIG.

companies severely constrained the regulators' ability to address large bank failures. The FDIC could only seize the subsidiary banks, and the holding companies could only be resolved through bankruptcy proceedings handled by the courts. The new orderly liquidation authority is designed to eliminate this constraint by allowing the FDIC to also seize holding companies. This change is important because, as Table 5 shows, bank holding companies have become ever more important both in terms of ownership of and number and assets of banks since the 1980s. In 2011, these companies owned 83 percent of all commercial banks and 98 percent of the total assets of all banks.

Table 5. The Increasing Importance of Bank Holding Companies (BHCs) Over Time.

	1980	1985	1990	1995	2000	2005	2007	2011
Number of commercial banks	14,391	14,216	12,126	9,941	8,315	7,526	7,284	6,352
Number of commercial banks owned by BHCs	4,942	9,182	8,725	7,487	6,562	6,149	5,997	5,255
% of banks owned by BHCs	**34%**	**65%**	**72%**	**75%**	**79%**	**82%**	**82%**	**83%**
Total assets of commercial banks ($ billions)	n/a	n/a	n/a	4,315	6,245	9,041	11,176	12,560
Total assets of commercial banks owned by BHCs ($ billions)	n/a	n/a	n/a	4,056	5,913	8,706	10,741	12,257
% of total assets of banks owned by BHCs	**n/a**	**n/a**	**n/a**	**94%**	**95%**	**96%**	**96%**	**98%**

Note: 2011 data are as of the third quarter.
Sources: Partnership for Progress, Board of Governors of the Federal Reserve System, FDIC, and Milken Institute.

Table 6, moreover, shows the extent to which the assets of bank holding companies headquartered in various states are funded with deposits. The share ranges from a low of 0.8 percent in the case of MetLife to a high of 76 percent in the case of State Street. To the extent that the government bails out holding companies rather than individual banks, as discussed earlier, it is bailing out a wider range of assets.

The new orderly liquidation authority under Dodd-Frank could fundamentally change the way in which problems at large banks or bank holding companies are resolved. Once the orderly liquidation authority is invoked, the FDIC can put taxpayer funds into the bank or bank holding company through the new orderly liquidation fund to keep the bank or company afloat for a limited period (which can be lengthy, just not indefinite). The FDIC also has broad authority to change contracts and to impose losses on creditors. Any resources deployed by the FDIC must be collateralized by the bank's assets in liquidation, and any eventual losses beyond the available assets are to be borne by creditors through an ex-post clawback provision from bondholders, which means that some portion of the losses could be reclaimed from bondholders. If the losses exceed what can be imposed on bondholders, then other banks will be assessed to cover the additional amount of losses. In no case is the government allowed to bear the costs of liquidation without further congressional authorization.

As a result of the FDIC's orderly liquidation authority and orderly liquidation fund, the government at long last is trying to resolve the TBTF problem by stating that losses must be imposed on both debt and equity holders should a big bank encounter sufficiently severe financial difficulties. This procedure is meant to provide greater incentives to both creditors and owners to curtail excessive risk-taking behavior based upon the belief that a big bank is TBTF. To reinforce this point, Dodd-Frank seeks to eliminate open bank assistance by prohibiting the FDIC from taking an equity interest in or becoming a shareholder of any such bank.

Table 6. Total Assets and Equity of the 15 Biggest Bank Holding Companies across the United States, Q2 2012.

	Total assets ($ billions)	Liability and equity as a percent of total assets				
		Equity capital	Deposits	Short-term borrowing	Long-term borrowing	Other
JPMorgan Chase & Co.	2,290	8.0	60.2	3.2	10.5	18.1
Bank of America Corp.	2,161	10.1	61.1	1.8	14.0	13
Citigroup	1,916	9.7	58.9	3.1	15.0	13.3
Wells Fargo & Co.	1,336	10.3	69.5	4.2	9.4	6.6
Goldman Sachs	949	7.2	16.9	14.9	17.6	43.4
MetLife	825	7.4	0.8	3.7	3.1	85
Morgan Stanley	749	9.4	25.9	6.7	22.4	35.6
US Bancorp	353	9.7	68.3	8.7	8.2	5.1
Bk of New York Mellon Corp.	330	10.6	69.7	4.9	5.9	8.9
PNC Financial Services Group	300	12.4	70.5	3.2	10.0	3.9
Capital One Financial Corp.	297	12.5	72.5	1.5	10.2	3.3
State Street Corp.	201	9.7	76.0	2.3	3.5	8.5
BB&T Corp.	179	4.2	63.7	11.4	1.4	19.3
SunTrust Bank	178	11.4	72.9	4.5	7.3	3.9
American Express	148	13.0	24.3	2.4	37.8	22.5

Notes: Financial data for bank holding companies represent the summation of FFIEC Call Reports or OTS Thrift Financial Reports filed by all FDIC-insured bank and thrift subsidiaries held by a bank holding company and do not reflect nondeposit subsidiaries or parent companies. Data values have not been adjusted for intracompany transactions, which means that some percentages for some holding companies may exceed 100 percent.

Sources: National Information Center, Federal Reserve, FDIC, Bloomberg, and Milken Institute.

While it is difficult to predict how the new resolution authority will be used, the FDIC will likely initially deploy public funds in an effort to prevent a repeat of the crisis that followed the collapse of Lehman Brothers.[27] The FDIC might then use its new authority to arrange a debt-for-equity swap that recapitalizes the failing bank, turning the former bondholders into the new owners. Such a debt-for-equity recapitalization would be similar to a prepackaged Chapter 11 reorganization under the bankruptcy code, but the new authority would allow the reorganization to be done faster and with government providing the equivalent of debtor-in-possession financing. Bondholders would help bear the government's losses; the resolution authority provides government officials with an open checkbook to act through the troubled bank, with bondholders picking up the tab. It seeks to narrow the FDIC's scope of action by guaranteeing bondholders that they will receive as much through the resolution as they would have through a bankruptcy.[28]

The possibility of having such a debt-for-equity swap imposed on them should affect the terms under which potential creditors, such as bond buyers, are willing to provide funding to banks that might be put through a resolution. One risk is that the new resolution authority could give funding providers an incentive to flee at the first hint of trouble. The threat of such bank runs is an important disciplining device, but it could also lead to more hair-trigger responses and inadvertently prove destabilizing.

In response, some commentators have argued that the most definitive solution to the problem is to break up the big banks.[29] However, there does not appear to be any agreement on how big is too big or on the means by which big banks should be broken up. Big banks do possess considerable power that may be used to influence the regulatory authorities to pursue policies that increase the risk of a systemic crisis. The regulatory authorities, moreover, may also pursue such policies based upon a bias in favor of banks. Yet, despite these legitimate concerns, there is far too little evidence on the costs and benefits of breaking up big banks to seriously recommend this solution.

While outside the scope of this paper, a final point regarding the new resolution authority is that

[27] FDIC (2011) discusses the way in which the new orderly liquidation authority could have been used in the case of Lehman Brothers.

[28] For additional discussion of the new resolution authority, see Gruenberg (2012). Also, see Baird and Morrison (2011) for a discussion of whether creditors will receive as much under the new resolution authority as they would in a bankruptcy proceeding.

[29] See Barth and Prabha (2013) for further discussion of this issue.

it will be incomplete and perhaps unworkable until there is more international coordination of bankruptcy regimes. In the case of Lehman's failure, for example, the UK bankruptcy regime disrupted the operations of many US-based firms when it froze its overseas assets. International coordination of regulatory regimes for both normal times and during resolution or bankruptcy procedures will be crucial for the continued evolution of the global financial system.[30] As Brummer (2012, p. 250) points out, "In the absence of detailed, prescriptive global standards, national regulators enjoy considerable discretion with regard to their local approaches. In practice, such flexibility means any one country's efforts to deal with the problem can potentially be undercut by another country's inaction."

4. Summary and Conclusions

The idea that some banks are too big to fail is not new. Neither is the challenge for policy makers to implement reforms that eliminate the practice of bailing out big banks. The regulatory regime for big banks throughout the various regions/states of the United States is changing from the regime that prevailed before the 2007–2009 financial crisis. Banks everywhere will now be required to hold more capital, to have more robust access to liquidity, to undergo increased regulatory scrutiny, and to face restrictions on certain activities. In particular, one can hope that the new resolution authority granted to bank regulators to address the TBTF problem will work as intended. But recent regulatory changes may nevertheless fall short. Throughout US history, major reforms in bank regulation have taken place after every major banking crisis. The result over time has simply been more bank regulatory authorities and ever more bank regulations. Sadly, these changes have not led to fewer and less costly banking crises. Barth, Caprio, and Levine (2012) document this history and point out that given the poor past performance of the regulatory authorities, it is time to hold them more accountable for ensuring that banks in every region of the country behave more prudently in the future. As they point out, the recent financial crisis was not due to too few regulators or an insufficient number of regulations. Instead, the main problem was that the regulatory authorities failed to enforce existing regulations.

Despite these more stringent changes in regulations, a big bank in any region/state of the country may nonetheless fail. Should a failure occur, the FDIC's new orderly liquidation authority is meant to prevent any future government bailouts of big banks. This goal is to be accomplished by imposing costs on both the creditors and owners of big banks that encounter severe financial difficulties. Many of the changes taking place are still evolving and are as yet untested. Thus, policy makers may simply have to monitor the incremental reforms that have been made and make adjustments as their impact becomes clear.

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[30] See, for example, Prabha and Wihlborg (2012) for a discussion of this issue as it relates to global bank organizational structure.

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Appendix.

Table A1. Current Initial and Total Base Assessment Rates for FDIC Insured Institutions (Basis Points)[a] (as of March 31, 2012).

	Risk category I	Risk category II	Risk category III	Risk category IV	Large and highly complex institutions
Initial base assessment rate	5–9	14	23	35	5–35
Unsecured debt adjustment[b]	(4.5)–0	(5)–0	(5)–0	(5)–0	(5)–0
Brokered deposit adjustment	—	0–10	0–10	0–10	0–10
Total base assessment rate	**2.5–9**	**9–24**	**18–33**	**30–45**	**2.5–45**

Notes: (a) Total base assessment rates do not include the depository institution debt adjustment. (b) The unsecured debt adjustment cannot exceed the lesser of 5.0 basis points or 50 percent of an insured depository institution's initial base assessment rate; thus, for example, an insured depository institution with an initial base assessment rate of 5.0 basis points would have a maximum unsecured debt adjustment of 2.5 basis points and could not have a total base assessment rate lower than 2.5 basis points.

Source: 2011 FDIC Annual Report.

Table A2. Distribution of the Assessment Base for FDIC Insured Institutions by Asset Size[a] (as of March 31, 2012).

Asset size	Number of institutions	Percent of total institutions	Assessment base ($ billions)[b]	Percent of base
Less than $1 billion	6,643	90.9	1,258	10.4
$1–$10 billion	557	7.6	1,255	10.4
$10–$50 billion	71	1.0	1,229	10.2
$50–$100 billion	17	0.2	1,092	9.0
Over $100 billion	19	0.3	7,232	59.9
Total	**7,307**	**100.0**	**12,066**	**100.0**

Notes: (a) The chart excludes insured US branches of foreign banks. (b) This is average consolidated total assets minus average tangible equity, with adjustments for banker's banks and custodial banks.

Source: *FDIC Quarterly* 6, no. 2 (2012).