

CRISIS and **RESPONSE**

An FDIC History, 2008–2013

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Foreword

A decade ago the U.S. financial system experienced its worst crisis since the 1930s. Far from being confined to the U.S. banking industry, the crisis would turn out to be a global systemic event. Stemming the crisis required unprecedented actions by the U.S. government, including the FDIC, to restore confidence in financial markets and to address the problems of systemically important financial institutions.

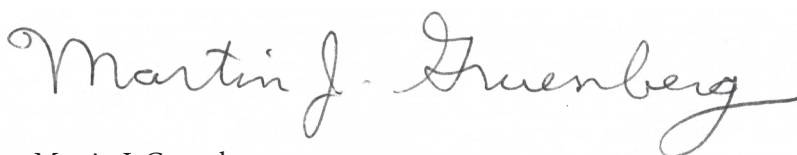
The purpose of this volume is to present a firsthand account of the important role that the FDIC played in responding to the crisis. We hope it will serve as a guidepost for future policymakers who will someday be called upon to respond to the next period of financial instability. It also conveys an important lesson: We must not become complacent when economic and banking conditions appear strong. It is precisely during these times that the seeds can be sown for the next financial crisis.

This study is organized into two parts. The first, Chapters 1 through 3, is an account of the origins of the crisis and the FDIC's unprecedented use of emergency authorities to respond to financial market illiquidity and the problems of systemically important financial institutions. The second, Chapters 4 through 6, documents the challenges that the FDIC faced in carrying out its core missions of bank supervision, deposit insurance, and failed-bank resolution. This seems to us the best framework for understanding the role that the FDIC played during the crisis and the lessons for the future.

Executives and staff from across the FDIC made important contributions to this history. I would like to extend a special thanks to Diane Ellis, Director of the FDIC Division of Insurance and Research, and to Fred Carns, her Principal Advisor, for leading this effort.

I would also like to acknowledge Sheila C. Bair, the FDIC Chairman during the crisis, whose leadership was central to the FDIC's response.

I believe this work will prove to be a valuable account of this extraordinary period in U.S. financial history and of the critical contributions made by the FDIC.

A handwritten signature in cursive script that reads "Martin J. Gruenberg". The signature is written in dark ink and is positioned above the printed name and title.

Martin J. Gruenberg
Chairman, FDIC

Washington, DC, November 30, 2017

Acknowledgments

One of the FDIC's strengths as an institution has been a steadfast belief among its staff in the importance of its mission to maintain the nation's financial stability. That dedication has been especially evident when banking crises have occurred, and the crisis years of 2008–2013 demonstrated that commitment yet again.

This study seeks to examine what took place during the recent crisis, with an aim not only of providing a historical record but also of helping in the development of better strategies and planning for the future. Every effort was made to ensure the accuracy of the information presented in the study. This account of the crisis years relies on the experience and knowledge of staff from across the FDIC, many of whom were personally involved in the difficult environment the agency faced during the period from 2008 to 2013, and whose perspectives greatly assisted the study's authors. The study does not necessarily reflect the views of the FDIC.

The FDIC's Division of Insurance and Research organized and led the writing of this history. The history was produced under the direction of Fred Carns, Principal Advisor to the Director, Division of Insurance and Research. Rosalind Bennett and Lee Davison, both from the Division of Insurance and Research, were responsible for day-to-day management of the study.

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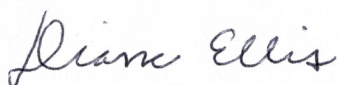
Chapter 6. Resolutions and Receiverships

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Diane Ellis
Director, Division of Insurance and Research

Overview

Introduction

In 2008, the United States was confronted with its most severe financial crisis since the Great Depression. The financial crisis, in turn, resulted in a prolonged economic contraction—the Great Recession—with effects that spread throughout the global economy. Many books and papers have been written on the causes and implications of the financial crisis of 2008 and 2009.

This volume reviews the experience of the FDIC from 2008 to 2013, a period during which it was confronted with not one but two interconnected and overlapping crises. First, the financial crisis in 2008 and 2009 threatened large financial institutions of all kinds, both inside and outside the traditional banking system, and thus endangered the financial system itself. Second, a banking crisis, accompanied by swiftly increasing numbers of both troubled and failed insured depository institutions, began in 2008 and continued until 2013. For a chronology of significant events over this period, see the timeline that appears at the end of this overview.

The two crises put the FDIC in the position of having to face multiple challenges simultaneously. In response to the financial crisis, the basic problem was the need to contain systemic risk and restore financial stability. To achieve this, the FDIC took unprecedented actions using emergency authorities. In response to the banking crisis, the FDIC had to deal with challenges relating to bank supervision, the management of the Deposit Insurance Fund, and the resolution of failed banks—challenges similar to those the FDIC had faced in the banking and thrift crisis of the 1980s and early 1990s.

This study examines the FDIC's response to both crises and seeks to contribute to an understanding of what occurred and also to present some lessons the FDIC has learned from its experience. The study is divided into two parts. Part 1 focuses on the financial crisis of 2008–2009—its causes and the FDIC's response—and Part 2 focuses on the FDIC's response to the banking crisis of 2008–2013.

As delineated in the first chapter of Part 1, the causes of the financial crisis lay partly in the housing boom and bust of the mid-2000s; partly in the degree to which the U.S. and global financial systems had become highly concentrated, interconnected, and opaque; and partly in the innovative products and mechanisms that combined to link homebuyers in the United States with financial firms and investors across the world. As delineated in the remaining two chapters of Part 1, the financial crisis that followed the housing market's collapse was so severe that, for the first time, the U.S. government turned to a statutory provision that had been put in place as part of the Federal Deposit Insurance Corporation Improvement Act of 1991 to help it deal with systemic risks.

This provision prohibited assistance to failing banks if FDIC funds would be used to protect uninsured depositors and other creditors—but the act also contained a provision allowing an exception to the prohibition when the failure of an institution would pose a systemic risk.¹ In 2008, by relying on the provision that allowed a systemic risk exception, the FDIC was able to take two actions that maintained financial institutions' access to funding: the FDIC guaranteed bank debt and, for certain types of transaction accounts, provided an unlimited deposit insurance guarantee. In addition, the FDIC and the other federal regulators used the systemic risk exception to extend extraordinary support to some of the largest financial institutions in the country in order to prevent their disorderly failure.

Accompanying the financial crisis was the banking crisis, which challenged every aspect of the FDIC's operations, not only because of its severity but also because of the speed with which problems unfolded. Focused on specifically in Part 2 of this study are (1) bank supervision (how significant was industry risk, what were the characteristics of troubled and failed banks, what role was played by bank examinations and other supervisory efforts before and during the crisis, and how effective were these efforts); (2) management of the Deposit Insurance Fund and the methodology used for assessing banks for deposit insurance coverage, both before and during the crisis (what changes were made and what extraordinary measures were required); and (3) the resolution of the hundreds of banks that failed during the six-year period (what methods did the FDIC pursue and how effective were they).

In the remainder of this overview, a brief account of the magnitude of the problems the FDIC faced is followed by synopses of the study's six chapters, a brief conclusion, a postscript about the banking industry in 2017, and a timeline of the crisis period.

The Magnitude of the Problems

It is important to recall just how significant both of these crises were. The financial crisis and the recession with which it was associated were the worst economic dislocation since the Great Depression. There were large losses in economic output and large declines in employment, household wealth, and other economic indicators. Not only did the U.S. economy lose 8.8 million jobs, but half of those losses occurred within the six months that immediately followed the height of the financial crisis in the autumn of 2008. In 2009, the year when foreclosures peaked, 2.8 million mortgage loans were in foreclosure, almost four times the number in 2005.² The cumulative net cost to the U.S. economy has been estimated by the U.S. Government Accountability Office and

¹ See pp. xii-xiii for further explanation of the systemic risk exception.

² These are FDIC estimates based on data from the Mortgage Bankers Association and the American Housing Survey.

others to range from more than \$10 trillion to \$14 trillion in today's dollars, or up to roughly 80 percent of an entire year's gross domestic product.³

As for the financial crisis, its severity was reflected in the size of the government's emergency response. The Federal Reserve initiated numerous programs designed to provide short-term liquidity to banks and other financial institutions as well as to borrowers and investors. In the six weeks following the September 15, 2008, bankruptcy of the investment bank Lehman Brothers, the Federal Reserve's balance sheet doubled to about \$2 trillion.⁴ On September 19 the Department of the Treasury announced that it would provide a guarantee for money market mutual funds, standing behind more than \$3.5 trillion in assets.⁵ On October 3, Congress authorized \$700 billion to fund the Troubled Asset Relief Program (TARP), and about \$245 billion of that would be used to shore up the capital of financial institutions.⁶ Ten days later the FDIC announced its Temporary Liquidity Guarantee Program that would eventually guarantee more than \$600 billion in debt issued by financial institutions and their affiliates.⁷ At the level of individual firms, JPMorgan Chase's acquisition of the investment bank Bear Stearns in May 2008 was facilitated by a \$29 billion loan from the Federal Reserve Bank of New York.⁸ The multinational insurance corporation American International Group (AIG) initially was rescued with an \$85 billion credit facility, also from the Federal Reserve Bank of New York.⁹ Fannie Mae and Freddie Mac, two government-sponsored enterprises that support the mortgage market, were taken into government conservatorships that the U.S. Treasury would eventually support with a total investment of \$189.5 billion.¹⁰

The banking crisis, too, was severe. From 2008 through 2013 almost 500 banks failed, at a cost of approximately \$73 billion to the Deposit Insurance Fund (DIF). Among these failures was that of IndyMac, in June 2008, which, with losses of about \$12 billion, remains the most expensive failure in FDIC history; and, in September 2008, that of Washington Mutual, which, with \$307 billion in assets, remains the largest failure in

³ U.S. Government Accountability Office, *Financial Regulatory Reform: Financial Crisis Losses and Potential Impact of the Dodd-Frank Act*, GAO 13-180, February 14, 2013, <https://www.gao.gov/products/GAO-13-180>.

⁴ Changes in the Fed's balance sheet are detailed at <https://www.federalreserve.gov/monetarypolicy/bst-recenttrends.htm>.

⁵ The Treasury's program is described at <https://www.treasury.gov/press-center/press-releases/Pages/hp1161.aspx>; for assets in money market mutual funds in 2008, see <https://fred.stlouisfed.org/series/MMMFFAQ027S>.

⁶ A discussion of TARP investments in banks can be found at <https://www.treasury.gov/initiatives/financial-stability/TARP-Programs/bank-investment-programs/Pages/default.aspx>.

⁷ See chapter 2 of this volume.

⁸ For the Bear Stearns transaction, see <https://www.federalreserve.gov/regreform/reform-bearstearns.htm>.

⁹ For the initial aid to AIG, as well as additional government actions to assist the firm, see <https://www.newyorkfed.org/aboutthefed/aig>.

¹⁰ <https://www.fhfa.gov/Conservatorship/pages/history-of-fannie-mae--freddie-conservatorships.aspx>.

FDIC history. Although these and other large banks failed, most of the failed institutions were community banks, often in parts of the country where the subprime mortgage crisis and the recession made real estate problems more severe than elsewhere. And although the number of failures during this period was considerably lower than it had been in the 1980s and early 1990s, this crisis unfolded much more rapidly. The DIF fell to the lowest point in its history, a negative \$20.9 billion on an accounting basis, by year-end 2009. Less than two years earlier, in March 2008, it had reached what was then an all-time high of \$52.8 billion.¹¹ During the same period (between March 2008 and year-end 2009), the number of problem banks rose from 90 to just over 700. Problem banks would peak in early 2011 at almost 900, constituting nearly 12 percent of all FDIC-insured institutions.¹²

The large numbers of troubled and failed banks and the need to successfully manage the FDIC's funding requirements contributed to a substantial increase in workload across all operational areas of the FDIC.

Part 1: Financial Crisis and Response

The first chapter in Part 1 explores the causes of the financial crisis. The remaining two chapters focus on the ways in which the FDIC confronted the systemic consequences of that crisis in 2008 and 2009.

Chapter 1. Origins of the Crisis

The U.S. financial crisis of 2008 followed a boom and bust cycle in the housing market that originated several years earlier and exposed vulnerabilities in the financial system. The downturn began as a housing crisis that initially seemed concentrated in certain states but eventually led to a nationwide decline in house prices. The financial system had been integral to the housing boom and was highly exposed to the housing market. Thus, when the housing downturn proved to be exceptionally severe, it threatened to drag down the financial system with it in the absence of significant government intervention. The collapse of the U.S. housing market in 2007 and the accompanying financial crisis resulted in a prolonged economic contraction—the Great Recession—the effects of which spread throughout the global economy.

The nationwide housing expansion of the early 2000s was rooted in a combination of factors, including an extended period of low interest rates. By mid-2003, both long-term

¹¹ See chapter 5 of this volume.

¹² See chapter 4 of this volume.

mortgage rates and the federal funds rate (the rate at which depository institutions lend reserve balances to each other overnight and which affects other market interest rates) had declined to levels not seen in at least a generation.¹³ One response to low interest rates was an acceleration in U.S. home price appreciation to double-digit rates for the first time since 1980.¹⁴ Another response was a series of mortgage market developments that dramatically weakened credit standards in mortgage lending; the weakened standards were reflected most prominently in subprime, Alt-A, and hybrid ARM instruments. These market developments were associated with a glut of savings held by investors seeking high-yield assets; a complex and opaque securitization process that bundled mortgages into mortgage-backed securities; the use of poorly understood derivative products; and speculation based on the presumption that housing prices would continue to increase.

Other factors were in play as well in the years leading up to and during the housing market expansion. Financial innovation and deregulation contributed to an environment in which the U.S. and global financial systems became far more concentrated, more interconnected, and, in retrospect, far less stable than they had been in previous decades. The conversion of housing assets to financial assets through the development of various mortgage securities and derivatives created risks that were not well understood and that exposed institutions with higher leverage to greater losses in the event mortgage defaults were to increase. The factors that helped fuel a housing boom therefore made the U.S. financial system more vulnerable to collapse in times of stress.

Initial signs of the housing collapse to come emerged in 2006, as the housing market expansion slowed. The slowdown eliminated the expectation of future investment gains and, along with it, the ability of borrowers to refinance. Without the expectation of rising prices, lenders were unwilling to originate new mortgages. As interest rates rose and house prices began to fall, many homeowners became unable to meet mortgage payments on their existing loans or refinance into a new loan, and mortgage defaults rose rapidly.

Yet, through the end of 2006, most macroeconomic indicators continued to suggest that the U.S. economy would proceed uninterrupted on its path of moderate growth. There was little in the way of financial data to suggest that the U.S. and global economies were on the verge of a financial system meltdown. In hindsight, however, we know that by the mid-2000s the United States was experiencing a housing price bubble of historic proportions, and by 2006 the first signs of trouble were already apparent. In 2007, when the bubble burst, the financial systems of the world's most advanced economies were brought relatively quickly to the brink of collapse.

How did this happen? Ultimately, as house prices declined nationwide and mortgage defaults began rising, the value of all the mortgage-backed securities deteriorated. The rise

¹³ In July 2003, the federal funds rate declined to 1.01 percent, its lowest level in 45 years. In June 2003, the Freddie Mac 30-year conventional mortgage rate fell to 5.21 percent, the lowest level in the 32-year history of the Primary Mortgage Market Survey.

¹⁴ S&P CoreLogic Case-Shiller U.S. Home Price Index.

in defaults, by undermining the value of trillions of dollars of mortgage-backed securities, severely disrupted the securitization funding mechanism itself. That mechanism—the securitization system that generated mortgage-backed securities from mortgages—had become opaque and very complex, and the financial institutions involved were highly leveraged. These securities were further used to create various mortgage assets and derivatives intended to diversify the risk. However, the lack of transparency and the complexity of the securities masked the risk, and the high leverage left investors with little capital to cushion loss. Moreover, the financial institutions had underpriced risk, having been lulled into complacency by the prolonged period of economic stability that preceded the onset of problems. When mortgage defaults began to rise, the system's interconnectedness, complexity, lack of transparency, and high leverage exacerbated the effects of the crisis. Eventually, many of the largest financial institutions suffered catastrophic losses on their portfolios of mortgage-related assets, and these losses resulted in severe liquidity shortages. Even financial institutions without large exposures to mortgage assets or derivatives were affected because they were deeply interconnected with the financial system in which these exposures played so significant a role.

Observing the devastating cascade of falling house prices, subprime mortgage defaults, bankruptcies, and write-downs in the value of mortgage assets, investors and creditors lost confidence in the financial markets. The credit markets froze, and at the same time many overleveraged financial institutions were forced to sell assets at fire-sale prices, further reducing liquidity. Under the accounting rules of the time, these asset sales only precipitated further rounds of asset write-downs. Eventually, the situation became so dire that government interventions on an unprecedented scale were undertaken to break the downward spiral of defaults and to restore confidence in, and functionality to, the financial marketplace.

Chapter 2. The Temporary Liquidity Guarantee Program: A Systemwide Systemic Risk Exception

In the fall of 2008, credit markets—particularly short-term markets—were essentially frozen. Many banks and bank holding companies found it hard to roll over debt at a reasonable cost. In early October, as these problems continued to worsen in many nations, the G7 finance ministers announced a plan that focused on maintaining liquidity, strengthening capital, and preserving market stability. As a result, many advanced economies chose to both guarantee debt issued by financial institutions and expand deposit insurance guarantees.

The U.S. government needed to find not only a mechanism by which bank debt could be guaranteed but also the resources that would be needed to stand behind that guarantee. The mechanism was provided by the systemic risk exception (SRE) established under

the Federal Deposit Insurance Corporation Improvement Act of 1991. The act generally required the FDIC to resolve failed banks in a manner that was least costly to the Deposit Insurance Fund and required the FDIC not to deviate from this least-cost requirement in order to protect uninsured depositors and other creditors. But the act also included the SRE provision that permitted the suspension of this “least cost” requirement if the FDIC Board and the Federal Reserve Board each voted to recommend the exception to the Secretary of the Treasury, who, in consultation with the President, then determined that the exception was warranted. Invoking the SRE required a consensus that closing the bank in question would have “serious adverse effects on economic conditions and financial stability” and that providing assistance under the SRE would “avoid or mitigate such adverse effects.”¹⁵

A broad interpretation of the SRE gave policymakers an avenue through which the FDIC could (1) extend its guarantee to newly issued debt instruments of FDIC-insured institutions, their holding companies, and their affiliates; and (2) provide unlimited deposit insurance coverage of non-interest-bearing transaction accounts. The extension of the FDIC guarantee to the newly issued debt instruments would come under a program to be called the Debt Guarantee Program (DGP). The unlimited deposit insurance coverage would come under a program to be called the Transaction Account Guarantee Program (TAGP). Together, the DGP and TAGP made up the FDIC’s Temporary Liquidity Guarantee Program (TLGP), which was designed to preserve and enhance the liquidity of the banking system during a time of crisis.

It should be noted that the TLGP was integral to a wider U.S. government response to systemic risk in the banking system. At the same time that the FDIC was developing the TLGP, the Department of the Treasury, using an authority and funding provided by Congress, used the TARP to inject capital into the nation’s banks. The Federal Reserve added the Commercial Paper Funding Facility (CPFF) to the series of programs it had been undertaking since 2007 to provide liquidity to borrowers and investors. The programs launched by the FDIC, the Treasury, and the Federal Reserve were designed to work together to restore liquidity to the financial system.

Policymakers had to decide how the specifics of the FDIC’s TLGP would be implemented. This was particularly true for the debt guarantee component, as it was unprecedented and thus created challenges for the agency. How broad should the guarantee be? Should it cover debt already outstanding? Should it cover debt issued by bank holding companies and affiliates as well as by insured depository institutions? Should fees be assessed for participation, and if so, how much should be charged? Policymakers reached a consensus that only newly issued debt would be guaranteed, that bank holding company debt would be eligible but that participation by thrift holding companies would be limited, and that applications for debt guarantees by nonbank affiliates would have to

¹⁵ 12 U.S.C. §1823 (G) (1994).

be approved by the FDIC. It was also agreed that low but meaningful fees for the FDIC guarantee were appropriate. The program was designed to be funded by the banking industry and not by taxpayers or the DIF.

For the two programs to be in place on October 14, 2008—the day the TLGP would be announced—the FDIC had to work swiftly. As noted above, the debt guarantee component created the most complex challenges because the FDIC had never administered a program that guaranteed nondeposit liabilities. But through a consultative process with the banking industry as well as expedited rulemaking that provided for public notice and comment, the FDIC was able to significantly improve the program during its initial months.

Participation in both of these programs was voluntary. After the first month, during which all eligible entities were covered, eligible entities were able to opt out of either one of the programs or both. Initially, more than half of the eligible entities remained in the DGP, but a far greater proportion of insured institutions remained in the TAGP. In the end, just over 100 mostly large entities issued guaranteed debt.

The DGP capped guaranteed debt issuance in a way that would allow participants to roll over existing debt and have some capacity to allow debt issuance to grow modestly. Initially, the DGP was to end on June 30, 2009, and the guarantee was to expire on June 30, 2012, but the FDIC extended the program to facilitate an orderly exit. The end-date was moved to October 31, 2009, and the guarantee period to December 31, 2012. In May 2009, guaranteed debt outstanding peaked at about \$350 billion.

The FDIC at first proposed a flat pricing mechanism but quickly changed to a sliding scale based on debt maturity. Some economists have suggested that the FDIC's pricing method could have been more sophisticated and that the method used led to a larger subsidy than was necessary. But it is important to note that pricing was not the only tool with which the FDIC addressed risk: considerations of safety and soundness led the FDIC to restrict or prohibit the DGP participation of more than 1,600 insured institutions and 1,400 bank holding companies.

The TAGP guaranteed, until year-end 2009, all funds held in non-interest-bearing transaction accounts at participating banks, but the program was extended twice, first through June 30, 2010, and then through year-end 2010. This was the first time the FDIC had offered deposit coverage over the statutory amount, and the increase was designed to avoid runs at healthy banks. The TAGP charged fees for participation, first a flat rate but then, with the first extension, at a rate that depended on risk as reflected by an institution's deposit insurance assessment category.¹⁶

Had fees from the TLGP been insufficient to cover the program's expenses, the FDIC would have had to levy an assessment on all insured depository institutions to make good the loss. However, in the end the TLGP's fees greatly exceeded the program's costs: the

¹⁶ Assessment categories are discussed in chapter 5 of this volume.

FDIC collected \$10.4 billion in DGP fees but lost only \$153 million because of defaults. For the TAGP the FDIC collected \$1.2 billion in fees, and at year-end 2016 the program's costs were \$1.5 billion.

The DGP reopened short- and medium-term debt markets to financial institutions, enabling these institutions to address their financing needs during a period of unprecedented turmoil in the financial system. The DGP lowered the firms' cost of funding because DGP debt received the same ratings that U.S. government securities received. The program allowed debt markets to stabilize, and starting in early 2009, banks were able gradually to increase the amount of non-guaranteed debt they issued, so that by a year after its creation, the DGP was terminated without difficulty.

The TAGP made a difference by stabilizing deposit funding for banks. Many banks, particularly community banks, depend on transaction account deposits as a source of funds, but because of the crisis there was a substantial risk that businesses and municipalities that maintained such accounts would withdraw large amounts of deposits. The TAGP significantly lessened that risk.

Chapter 3. Use of the Systemic Risk Exception for Individual Institutions during the Financial Crisis

In late 2008 and early 2009, the systemic risk exception was invoked in response to serious financial difficulties at three of the nation's largest banking organizations: Wachovia Corporation (Wachovia), Citigroup, Inc. (Citigroup), and Bank of America Corporation (Bank of America, or BofA).¹⁷

Wachovia. As of June 2008, Wachovia had the fourth-largest volume of banking assets in the United States and was the largest holder of payment-option adjustable rate mortgages (ARMs). On September 25, 2008, Washington Mutual (WaMu), the nation's second-largest holder of payment-option ARMs, failed. Wachovia was already having difficulty meeting its liquidity needs, and WaMu's failure added to existing concerns among Wachovia's depositors and creditors, placing additional funding stress on the institution. On Friday September 26, the day after WaMu's failure, Wachovia informed its lead federal supervisor, the Office of the Comptroller of the Currency (OCC), that it would be unable to obtain the funds needed to pay creditor claims. Wachovia also identified Citigroup and Wells Fargo as potential buyers.

This situation highlighted the constraints that were placed on the FDIC's resolution options when responding to the failure of a large, complex institution during a time of severe financial market distress. Although the FDIC had successfully resolved more than

¹⁷ The SRE that was recommended for Bank of America (on January 15, 2009) was never formally implemented.

2,000 failed banks in the past, it determined that letting Wachovia fail could be highly problematic for the nation's economy. Under a standard "least cost" resolution, the FDIC would be responsible for resolving the banking subsidiary, but the holding company and other subsidiaries would be resolved under bankruptcy law. Shareholders would likely be wiped out and creditors would suffer significant losses, in some cases leading directly to losses at other financial institutions. Moreover, imposing losses on Wachovia commercial paper held by money market mutual funds, one of which had recently "broken the buck" (meaning that the fund's net asset value dropped below the desired and normally maintained target of one dollar per share), could have led to a general loss of confidence in financial institutions that might cause short-term funding markets to virtually cease.¹⁸ The purchase offers from both Citigroup and Wells Fargo, however, called for assistance that would not impose losses on Wachovia shareholders or other nondeposit creditors. Recognizing the risk that a least-cost resolution could amplify the systemic financial crisis that was then underway, the FDIC and other policymakers concluded it was necessary to invoke the SRE and provide assistance to debtholders and shareholders in addition to insured depositors.

On September 29, the FDIC and the Federal Reserve Board (FRB) recommended invoking the SRE for the first time since it was created under the Federal Deposit Insurance Corporation Improvement Act of 1991. After consultation with the President, the Secretary of the Treasury concurred with this recommendation, and financial assistance under the SRE was approved. The FDIC Board, estimating that the Citigroup proposal would result in no net loss to the DIF, chose the Citigroup bid over the Wells Fargo bid as the least costly of the available methods for avoiding the serious adverse systemic effects that would have resulted from Wachovia's failure. The Citigroup bid included a government guarantee on a pool of approximately \$312 billion in assets. Citigroup and Wachovia signed a short exclusivity agreement to complete an open-bank acquisition with an assistance package from the FDIC.

Shortly thereafter, however, on October 2, Wells Fargo made a new offer to acquire all of Wachovia's operations. This offer required no assistance from the FDIC, and it provided Wachovia shareholders a higher price than the Citigroup proposal would have provided. This new proposal by Wells Fargo benefited from a Treasury ruling two days earlier that limited the tax consequences of the acquisition. Before the end of the day on October 2, Wachovia's board had approved the merger with Wells Fargo.

¹⁸ FDIC, "Memorandum to the FDIC Board of Directors Regarding Wachovia." September 29, 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-09-29_Memo_to_the_FDIC_Board_of_Directors.pdf.

The successful acquisition of Wachovia negated any need for FDIC assistance, and no assistance was provided under the SRE. Wachovia was able to continue normal operations, and the projected adverse effects of a least-cost resolution were averted. Nevertheless, invoking the SRE set an important precedent by signaling to financial markets that the government was willing to take action to avert systemic problems in the banking industry.

Citigroup. In 2008, Citigroup was one of the largest financial institutions in the world. As of September 30, 2008, Citigroup had total consolidated assets of just over \$2 trillion, with approximately \$1.2 trillion in assets in its lead bank subsidiary, Citibank, N.A. (Citibank). Citigroup's vulnerability lay in its exposure to credit and market losses coupled with its dependence on international operations for funding.¹⁹ Citigroup had significant amounts of commercial paper and other debt outstanding, and it was a major participant in payment, clearing, and central counterparty arrangements.

On October 9, Citigroup announced it would stop pursuing the previously announced acquisition of Wachovia. On October 16, Citigroup reported a net loss of \$2.8 billion for the third quarter of 2008.²⁰ Despite Citigroup's receipt of substantial government support through broad-based Treasury, Federal Reserve, and FDIC programs such as the TARP, Federal Reserve lending, and the DGP, respectively, the company's financial condition continued to deteriorate through early November.

By November 20, the banking agencies and the Treasury had begun discussing additional, institution-specific assistance that would involve an SRE. The next day, the cost of insurance against a Citigroup default on its bonds more than doubled. Regulators projected that if deposit outflows continued, Citibank would be unable to pay its obligations or meet expected deposit outflows by the following week.

The banking agencies and the Treasury agreed that the potential failure of Citigroup presented a serious systemic risk. On November 23, the FDIC and the FRB each recommended that the Secretary of the Treasury invoke the SRE to allow open-bank assistance for Citigroup. There was no viable acquirer for an institution with the size, complexity, and global operations of Citigroup. The Secretary of the Treasury, having consulted earlier with the President, concurred with the recommendation for an SRE. Late on November 23, the Treasury, the FDIC, and the FRB announced an interagency assistance package for Citigroup that included a \$20 billion capital injection by the Treasury as well as loss protection on a \$306 billion pool of Citigroup's assets, backed by the Treasury, the FDIC, and the Federal Reserve Bank of New York. As compensation for

¹⁹ FDIC, "Memorandum to the FDIC Board of Directors Regarding Citigroup." November 23, 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-11-23%20FDIC%20Board%20of%20Directors%20Memo%20re%20Citi.pdf.

²⁰ Citigroup, Inc., Third Quarter 2008 Earnings Review Presentation, October 16, 2008, <http://www.citigroup.com/citi/investor/data/p081016a.pdf?ieNocache=975>.

the guarantee, Citigroup issued \$7 billion in stock and warrants to the Treasury and the FDIC. The agreement also imposed restrictions on Citigroup's dividend payments and executive compensation, and requirements for loan modifications.²¹

The announcement that the SRE would be invoked and government assistance would follow had the intended effect of stabilizing Citigroup and preventing its failure. Citigroup was able to continue operating, and the announcement gave the private sector confidence to continue providing liquidity to the company.

Bank of America. As of September 30, 2008, Bank of America owned eight insured banks and four significant non-insured subsidiaries. With \$1.4 trillion in total assets and as the largest holder of insured deposits, BofA's largest bank subsidiary, Bank of America, N.A., was the second-largest bank in the United States.²² By the end of 2008, two of its prominent acquisitions were having a severely negative effect on the bank's financial performance. In January 2008, BofA had announced its \$2.5 billion acquisition of subprime mortgage lender Countrywide Financial, a deal that would eventually cost the bank much more than \$2.5 billion once the full extent of Countrywide's mortgage losses became evident. On September 15, 2008, BofA had announced that it would acquire Merrill Lynch, the weakest of the remaining major investment banks after the failure of Lehman Brothers (which filed for bankruptcy on that same day). Although BofA seriously considered renegotiating or canceling the acquisition because of larger than anticipated losses at Merrill Lynch, BofA ultimately completed the acquisition, absorbing significant losses as a result.²³

On January 9, 2009, anticipating that BofA would announce fourth-quarter results below market expectations during the earnings call scheduled for January 16, officials at the Federal Reserve and the Treasury approached the FDIC to discuss whether the FDIC would participate in providing government assistance to BofA beyond that already provided through broad-based programs in 2008.

The banking agencies and the Treasury believed that a failure would be systemic because of BofA's size and the volume of its counterparty transactions. If BofA proved unable to meet its obligations, the markets for short-term interbank lending, bank senior and subordinated debt, and derivative products, among others, could be disrupted, increasing the likelihood of deposit runs at banks. Moreover, given BofA's strong reputation, the banking agencies and the Treasury feared that its failure could lead to a belief that wider

²¹ U.S. Department of the Treasury, Federal Reserve Board, and Federal Deposit Insurance Corporation, "Joint Statement by Treasury, Federal Reserve, and the FDIC on Citigroup," November 23, 2008.

²² FDIC, "Memorandum to the FDIC Board of Directors Regarding Bank of America," January 15, 2009, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2009-01-15%20Memo%20to%20the%20FDIC%20board%20of%20directors%20from%20Mitchell%20Glassman,%20Sandra%20Thompson,%20Arthur%20Murton,%20and%20John%20Thomas%20re%20Bank%20of%20America.pdf.

²³ Financial Crisis Inquiry Commission (FCIC), *The Financial Crisis Inquiry Report* (2011), 383.

problems existed in the banking industry and could significantly undermine broader business and consumer confidence, thus weakening the overall economy.²⁴

On January 15, 2009, the FDIC and the FRB each recommended that the Secretary of the Treasury invoke the SRE.²⁵ The next day, the banking agencies announced an interagency assistance package that was very similar to the one provided to Citigroup. The package consisted of a capital injection by the Treasury of \$20 billion through the TARP; \$10 billion in loss protection on a pool of BofA's assets, provided by the Treasury and the FDIC; and the agreement of the Federal Reserve Bank of New York to provide a nonrecourse loan to cover 90 percent of any losses that exceeded \$21.1 billion. As compensation for the guarantee, the Treasury and the FDIC together would receive \$4 billion in preferred stock and warrants. The FDIC's portion of risk would be limited in recognition that most of the exposures lay within the investment banking entities and not within Bank of America's insured depository institutions. BofA would be subject to dividend and executive compensation restrictions and would be required to implement a mortgage loan modification program on the guaranteed assets.

Bank of America, the FDIC, the FRB, and the Treasury began negotiating the specific terms of the asset guarantee portion of the package. However, in May, before the parties could finalize terms and before the Secretary of the Treasury formally approved an SRE, BofA asked to terminate the asset guarantee. In September, BofA paid \$425 million to the government as compensation for the benefits it received from the perception that the government would guarantee its assets.²⁶ Although the Secretary of the Treasury never formally approved an official systemic risk determination for BofA, the January 16 public announcement of planned assistance had nevertheless benefited the bank.

* * *

The announcement of each of the three SREs stabilized funding and liquidity at the individual institution for which it was approved and for the broader financial system. But the severity of the financial crisis and the extraordinary government assistance that followed led Congress to enact a number of financial reforms. The 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act was intended in part to avoid a repeat of the need to provide taxpayer support to open financial institutions—support that has the effect of protecting the shareholders, creditors, and management of those institutions.

The reforms sought to reduce not only the likelihood that systemically significant financial companies would fail in the future but also the adverse effects if such a failure did occur. Specifically, the reforms imposed higher standards for capital, liquidity, and

²⁴ FDIC, "Memorandum to the FDIC Board of Directors Regarding Bank of America."

²⁵ As discussed below, the Secretary of the Treasury never made a formal SRE determination for Bank of America.

²⁶ "Bank of America Termination Agreement," September 21, 2009.

margin requirements on large banking organizations. The act also provided expanded authorities to enable the FDIC to carry out the orderly liquidation of large, complex financial companies. In addition, the act amended the SRE provision of the 1991 law and constrained the use of the exception going forward.

Part 2: Banking Crisis and Response

The three chapters in Part 2 examine the FDIC's key operations—bank supervision, deposit insurance pricing and Deposit Insurance Fund management, and failed-bank resolution—before the banking crisis and in response to it.

Chapter 4. Bank Supervision

From the perspective of bank supervision, a good starting point for tracing the history of the 2008–2013 crisis is the end of the banking and thrift crisis of the 1980s and early 1990s. Important legislative changes that were enacted during and shortly after that earlier crisis established new mandates for FDIC safety-and-soundness supervisors, and resulted in accelerated consolidation within the banking and financial industry. In this new landscape, banks would embark on a significant expansion of lending activity, particularly real estate lending, and would do so in a way that gave rise to significant new risks. The FDIC, in turn, would make important changes to its supervisory programs and its processes for assessing risk.

One of the most important legislative changes triggered by the earlier bank crisis was the Federal Deposit Insurance Corporation Improvement Act of 1991, which established new mandates requiring the banking agencies to take prompt corrective action to resolve the problems of insured depository institutions at the least possible long-term loss to the Deposit Insurance Fund. Prominent among these Prompt Corrective Action (PCA) mandates was a set of restrictions that the banking agencies were either required to impose, or permitted to impose, on undercapitalized banks. Required or discretionary limitations on undercapitalized banks included dividend restrictions, requirements to establish a capital restoration plan, limits on growth, and other limitations. The PCA mandate became an important element of bank supervision before and during the recent crisis, and remains so today.

Another important legislative change was the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, which expanded the interstate branching and affiliation authorities of banking organizations, thereby accelerating the consolidation

trend that had been underway since the mid-1980s. Finally, in 1999, the Gramm-Leach-Bliley Act removed most federal restrictions on affiliations between banks, investment banks, and insurance companies. These changes contributed to an increase in the size and interconnectedness of financial institutions.

During the generally prosperous decade preceding the crisis, banks enjoyed record profits fueled by rapid growth in lending, particularly real estate lending. Large institutions' profitability was driven in part by the origination of subprime and alternative mortgage products, by the creation and sale of securities backed by such mortgages, or both. Many smaller institutions greatly increased their holdings of, and concentrations in, loans to finance the acquisition, development, and construction of real estate (ADC loans). The rapid growth of these two asset classes—nontraditional mortgage products and ADC loans—was at the root of the problems that banks would experience during the crisis.

As the banking industry's risk profile evolved, so did the FDIC's bank supervision program and its processes for analyzing risk. Most of the changes were driven by two broad objectives. First was a desire to learn from the experience of the 1980s and early 1990s by focusing examinations on banks' risk management practices and the timely correction of deficiencies where those existed. The FDIC made organizational changes and other efforts to improve the quality of its risk analysis capabilities and its expertise regarding more-complex banking activities, and in particular its understanding of risks posed by the largest banking organizations. The second broad objective driving changes in bank supervision during the inter-crisis years was the desire to reduce the burden associated with examinations for small banks believed to have a low risk profile. The FDIC's commitment to this objective was reflected in reductions in the number of hours and the staffing that were devoted to examinations, and in the streamlined examination procedures used for many small banks.

The stresses that led to the crisis first appeared in the summer of 2006, when the Case-Shiller national index of home prices began what would be a nearly six-year decline, losing 27 percent of its value over that period. In 2008, concerns about the value of mortgage-related assets were the main cause of the liquidity crisis experienced by many large financial institutions. For smaller banks, the effects of a declining housing market and the accompanying recession were gradual at first, but in 2009 and 2010 the number of failed and problem banks—most of them under \$10 billion in asset size—increased exponentially.

In all, 489 FDIC-insured banks failed during the crisis years 2008 through 2013. Typical characteristics of the banks that failed included heightened concentrations of ADC lending, rapid asset growth, heightened reliance on funding sources other than stable core deposits, and relatively lower capital-to-asset ratios. In addition, banks chartered in 2000 or after failed at substantially higher rates than banks chartered before 2000.

The factors contributing to bank failures in the crisis and to the resulting losses to the DIF were documented by Material Loss Reviews (MLRs) conducted by the FDIC Office of Inspector General (OIG). Mandated by Section 38 of the Federal Deposit Insurance

Act, MLRs are undertaken for failed banks that imposed losses on the DIF of at least \$50 million.²⁷ These audits have two objectives: (1) to determine the causes of the failure and the resulting material loss to the DIF, and (2) to evaluate the FDIC's supervision of the institutions, including the FDIC's implementation of the requirements of PCA. Reviews of crisis-era failures documented the decisive role played by bank governance—including the quality of a bank's loan underwriting and credit administration, its risk limits, and its internal controls—in determining the risk profile of the bank and its susceptibility to fraud or insider abuse. The reviews also highlighted the importance of on-site examination in evaluating a bank's internal risk management practices and requiring corrective action when needed. The OIG has also reported that surviving banks were more likely to have been responsive to such recommendations for corrective action.²⁸

In fact, the FDIC's bank examiners and supervisors made significant efforts during the crisis to work with troubled banks to help them return to health. Given the rapidly deteriorating conditions facing the banking industry, however, deploying sufficient examination resources to ensure the FDIC had accurately identified the institutions most at risk became a challenge. One way the FDIC addressed this challenge was by supplementing the examination force with employees who were hired for a time-limited term. Many of these term employees had substantial experience in bank supervision. By 2010, 494 term employees hired to assist with safety-and-soundness examinations were on board at the FDIC. More than 75 percent of them were loan review specialists; others were specialists in investigations, information technology, and the Bank Secrecy Act/Anti-Money Laundering. Some of the term employees were retired FDIC employees, who were rehired under a special authority granted by the federal Office of Personnel Management. Some of these rehired individuals were able to pass along the benefit of their extensive examination and bank supervision experience by helping with the training of pre-commissioned examiners.

For institutions whose quarterly financial reports suggested potential problems, waiting as long as 24 to 36 months for the next scheduled FDIC examination was not a feasible supervisory strategy. For such institutions where an examination was not already scheduled in the near term, the FDIC often conducted a visitation focused on asset quality. These visitations frequently resulted in downgrades to examination ratings and the establishment of corrective action plans.²⁹ Formal and informal enforcement actions, and in some cases letters provided to a bank's board of directors at the conclusion of the examination, clearly communicated the steps needed to address the problems of troubled institutions.

²⁷ This threshold for requiring an MLR was established as of January 1, 2014.

²⁸ FDIC Office of Inspector General, "Acquisition, Development and Construction Loan Concentration Study," Office of Audits and Evaluations Report no. EVAL-13-001, 2013.

²⁹ The FDIC (and the other federal banking agencies) assigns ratings to banks at the conclusion of a safety-and-soundness examination. The ratings are on a scale of 1 to 5, with "1" being the best and "5" the worst. The rating and the report of examination convey to bank management the FDIC's view of the condition of the bank and the corrective actions, if any, that the bank needs to undertake.

New institutions were disproportionately represented among troubled banks. New institutions typically operate with losses during their first few years of operation as they build up their business, and are more vulnerable to an economic downturn. In addition, during the pre-crisis period some of these institutions significantly departed from the business plans that were the basis for their approved deposit insurance applications, thereby increasing their risk profile and making the likelihood of failure greater. To address the risks at these institutions, the FDIC lengthened the period—going from three years to seven years—during which new institutions would be subject to heightened oversight, including review and approval of their business plans and annual examinations.

Holding-company structures sometimes posed special issues. For some insured-bank subsidiaries of holding companies, heightened supervisory vigilance was needed to insulate the bank from its affiliates. The liability structure of many bank holding companies sometimes made it difficult for them to raise capital when it was most needed. In a number of instances, however, the sale and full recovery of insured banks occurred even as their parent holding company entered bankruptcy. The FDIC's ability to require banks in a holding company to reimburse the FDIC for some or all of the cost of failures of affiliated banks was helpful in reducing failure costs, and in fact the FDIC's ability to require such reimbursement gave financial incentives to troubled institutions to raise capital or find merger partners to avoid failures.

During the course of the crisis, several private equity investors expressed an interest in purchasing or investing in failed banks. In 2009, the FDIC's Board of Directors adopted a Statement of Policy (SOP) to provide guidance about such acquisitions or investments. Supervision staff determined the readiness of proposed ownership groups in relation to the statutory requirements for deposit insurance, and if the purchase or investment went ahead, supervision staff evaluated the activities of the institutions relative to the principles contained in the SOP.

The FDIC's supervisory efforts during the crisis made a beneficial difference to the ultimate outcomes for troubled banks. The FDIC identifies "problem banks" as those with examination ratings of 4 or 5—the two lowest ratings, which refer to institutions that exhibit deficiencies in practices or performance so severe that failure is either a distinct possibility (4 rating) or likely (5 rating) unless the deficiencies are corrected. Historically as well as in this crisis, most problem banks have not failed. Instead, a substantial majority have taken the steps needed to address their problems and have survived or been acquired without FDIC assistance. Between January 1, 2008, and March 31, 2017, 1,783 insured depository institutions were designated as problem institutions at one time or another. By the end of this period, 523 had failed; 112 remained in problem status; 294 had merged with other institutions without FDIC assistance; and 854 were no longer problem banks.

Nonetheless, as the FDIC concluded through self-assessments and the results of MLRs, the supervisory response to the risks building up at banks during the pre-crisis years should have been more forceful. For many banks that failed during the crisis, FDIC

examiners drew attention to the risk management deficiencies or issues that ultimately led to the bank's failure, often well before the failure. Recommendations to address the deficiencies typically were included in the examination report that was transmitted to the bank. However, not until the bank's financial condition deteriorated did those recommendations translate to rating downgrades or enforcement actions. The FDIC has taken a number of steps to ensure that this lesson is incorporated into day-to-day bank supervision, including training examiners in the importance of proactive supervision to address deficiencies in risk management at an early stage, providing for a more comprehensive analysis of a bank's credit and funding concentrations in reports of examination, and improving guidance to FDIC bank supervision staff on matters requiring attention by banks' boards of directors.

A number of lessons for bank supervisors suggest themselves in light of the crisis. First, prosperous times can mask a building up of significant risks in banking. Before the crisis, a nationwide collapse in housing prices was viewed by most observers as highly unlikely, in part because such a thing had not happened in many decades. This suggests a second lesson, that past performance is not a guide to future performance—and therefore that bank supervisors must guard against complacency.

The crisis demonstrated that the choices banks made during the pre-crisis years about how aggressively to pursue earnings growth had significant consequences. The rapid onset of the crisis after years of record-breaking bank earnings was a reminder that higher returns are achieved only by taking higher risks. In this respect, the crisis illustrated that key financial metrics, such as rapid growth or concentrations in riskier loan categories or potentially volatile funding sources, can give indications about which banks are taking more risks, and that these metrics warrant serious consideration by bank supervisors.

There also are lessons to be learned from the crisis about the importance of risk management in banks, of the examination process in reviewing banks' operations, and of bank supervisors' response to identified risks. One such lesson is that the quality of banks' internal controls and management of risks drove outcomes at individual banks. Given the importance of how banks are managed, another key lesson is that only on-site examinations can provide enough information for bank supervisors to evaluate the safety and soundness of an insured depository institution and the adequacy of its practices for managing risk. And, as just suggested, a central lesson of the crisis is that supervisors should require corrective action when a bank's risk management is deficient.

Finally, the crisis served as a reminder of the importance of certain programmatic aspects of bank supervision. First, new banks require extra supervisory attention, because they typically operate with losses during their early years as they build their business, and consequently they are more susceptible to downturns. Second, large banks require extra supervisory attention because of the generally greater complexity of their operations and the outsized risks they can pose to the Deposit Insurance Fund and the U.S. economy. Third, changes to the supervision program itself should be managed carefully and incrementally, to promote the steady focus required for effective supervision. Last, and perhaps above all,

bank supervision and examination require expertise. The FDIC's seasoned examination and supervision staff played an important part in the success of its response to the crisis. This experience therefore highlights the ongoing importance of the hiring and training of new examiners, and of efforts to ensure they can benefit from the knowledge and experience of those who came before them.

Chapter 5. Deposit Insurance: Fund Management and Risk-Based Deposit Insurance Assessments

The FDIC manages the Deposit Insurance Fund (DIF, or the fund) by determining the proper size of the fund and of the DIF reserve ratio (the ratio of the fund balance to estimated insured deposits), and setting the overall range of assessment rates needed to achieve that size. Within this range of assessment rates, the FDIC charges banks different rates for the differing risks they pose to the fund. The banking crisis severely depleted the fund, quickly sending it more than \$20 billion into the red and requiring the FDIC to respond to the difficulties this entailed.

The FDIC's strategies for managing the fund (including ensuring that it has sufficient liquid assets to protect insured depositors at failed banks) and for setting risk-based assessment rates changed greatly between 2006 and 2016. After a decade of statutory restrictions on the FDIC's authority to manage the fund and charge assessments based on risk, in 2006—on the eve of the banking crisis—the agency took advantage of greater statutory latitude to revise the risk-based assessment system, and the advent of the banking crisis led the FDIC to make adaptive changes in its fund management strategy. The deposit insurance reforms authorized by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank) and the lessons learned during the banking crisis have allowed the FDIC to substantially revamp its approach both to fund management and to risk-based assessments.

Leading Up to the Crisis (1996–2007). As late as March 2008, the DIF balance stood at a historic high of \$52.8 billion. Yet for much of the previous decade, statutory constraints on the FDIC's authority to assess most banks had served to limit growth in the DIF reserve ratio, despite few bank failures. The Federal Deposit Insurance Reform Act of 2005 restored the FDIC's authority to assess all insured institutions, giving the FDIC greater discretion to manage the size of the fund. As a result, in 2007 the FDIC began charging premiums to all banks using updated risk-based pricing methods that, for the first time, included separate assessment methods for small banks and large banks. At the end of 2007, however, the fund reserve ratio was relatively unchanged compared with a year earlier because of a statutory requirement that the FDIC provide credits to offset the premiums of many banks that had helped rebuild the insurance funds in the early to middle 1990s.

Responding to the Crisis (2008–2009). In the second quarter of 2008, the DIF reserve ratio dropped below the statutory minimum of 1.15 percent of estimated insured deposits. It continued to decline precipitously as the number of banks that were failing or were in danger of failing climbed to levels unseen since the bank and thrift crisis of the late 1980s and early 1990s. In October 2008, as required by statute, the FDIC adopted a restoration plan that increased assessment rates for all banks at the start of 2009 in an effort to raise the reserve ratio to 1.15 percent within five years. In the ensuing months, the enormous stresses on financial institutions prompted the FDIC to twice extend the time frame of the plan (ultimately, to eight years) and impose a one-time special assessment on all banks. Instead of imposing a special assessment, the FDIC could have borrowed from the Treasury, which it had done in the early 1990s during the bank and thrift crisis, but it chose not to borrow. Borrowing would not have helped maintain a positive fund balance, or net worth, whereas a special assessment would.

Despite higher assessment rates and the special assessment, mounting losses from actual failures as well as reserves set aside for anticipated failures caused the fund balance to fall below zero in the second half of 2009 and hit a low point of negative \$20.9 billion by the end of the year.

With the rise in actual and projected failures, by September 2009 the DIF's liquidity needs threatened to exceed its liquid assets as early as 2010. If this potential squeeze on the liquid assets of the DIF were not addressed, it threatened to compromise the FDIC's ability to pay depositors promptly. To address this issue, the FDIC adopted a novel approach that required the banking industry to prepay its quarterly risk-based assessments for the fourth quarter of 2009 and for the next three years. In contrast to a special assessment, a prepaid assessment did not impair bank earnings and capital under applicable accounting rules. The prepayment was counted on the banks' balance sheets as an asset that was reduced each quarter as each prepaid assessment came due.

Because banks were holding significant amounts of cash at the time, the FDIC believed that most of the prepayments would be drawn from banks' available cash and excess reserves at the Federal Reserve without significantly affecting banks' lending activities. This approach not only generated sufficient liquidity for the DIF to weather the crisis, but it also earned widespread banking industry support. Again, the FDIC had decided not to use its authority to borrow from the Treasury to meet liquidity needs. Prepaid assessments ensured that the DIF remained directly industry funded; and prepayments, unlike Treasury borrowing, accrued no interest.

During the crisis, the FDIC also made several changes in the framework for risk-based assessments. Among these changes were several adjustments to a bank's assessment rate based on the bank's holdings of secured liabilities, brokered deposits, and unsecured debt. These adjustments were intended to account for liabilities that would increase or decrease losses to the fund if a bank failed.

Post-Crisis Reforms (2010–2016). The Dodd-Frank Act, enacted in 2010, raised the minimum reserve ratio to 1.35 percent but extended the time frame to reach the new minimum until September 30, 2020. Dodd-Frank also expanded the FDIC’s authority to manage the fund. This expanded authority enabled the FDIC to adopt, in 2010, a comprehensive, long-term DIF management plan that would make the fund more likely to be able to withstand a future crisis. To implement the plan, the FDIC suspended dividends indefinitely (as allowed by Dodd-Frank) and set the target reserve ratio at 2 percent—consistent with what the agency estimated would have been required to maintain both a positive balance and stable assessment rates from 1950 through 2010. Pursuant to the plan, the FDIC set overall assessment rates at a level that would remain moderate and steady throughout economic and credit cycles, thus reducing pro-cyclical volatility (i.e., reducing the need to charge the most during periods of crisis, when banks can least afford to pay). In lieu of dividends, overall assessment rates will decrease once the reserve ratio reaches its 2 percent target.

Dodd-Frank included provisions designed to reallocate between small and large banks the costs of supporting the DIF. First, it redefined the assessment base from domestic deposits to average consolidated total assets minus average tangible equity. This redefinition decreased the proportion of total assessments paid by small banks and increased the proportion paid by large banks, since smaller banks typically fund more of their assets with domestic deposits than do larger banks. Second, Dodd-Frank required that the FDIC, when setting assessments, offset the effect on small banks of increasing the minimum reserve ratio to 1.35 percent. The FDIC implemented this requirement by imposing quarterly surcharges on banks over \$10 billion in assets once the reserve ratio reached 1.15 percent—to close the remaining gap to the 1.35 percent minimum—and crediting small banks for the portion of their regular assessments that was used to meet the new minimum level.

In another change, this one independent of Dodd-Frank, the FDIC updated its risk-based pricing methods, incorporating data and experiences from the banking crisis to better estimate the risks that banks pose to the DIF. Specifically, the revised pricing methodology for large banks uses supervisory ratings and updated financial measures to predict performance during periods of stress, along with the relative magnitude of losses in the event of a failure. The revised methodology for established small banks uses supervisory ratings and updated financial measures to estimate the probability of failure over three years. Both methodologies rely heavily on data obtained during the crisis, and backtesting shows that they would have performed significantly better than the methodologies they replaced.

In the wake of this crisis (the second banking crisis since 1980), the financial reforms of 2010 provided the FDIC with new authorities allowing the agency to institute a long-term fund management plan designed to (1) reduce the pro-cyclical effect of deposit insurance assessments, and (2) maintain a positive fund balance even when many banks

fail. Implementation of the long-term plan will make assessment costs predictable for banks and will improve public confidence in the banking system.

Chapter 6. Resolutions and Receiverships

After more than a decade of modest failure activity, the financial crisis of 2008 resulted in 489 bank failures from 2008 through 2013. Among the failures was Washington Mutual, a \$307 billion institution that was (and remains) the largest failure in the history of the FDIC. Because failed-bank resolution is an important way that the FDIC fulfills its mission “to maintain stability and public confidence in the nation’s financial system”³⁰ and because the choices and processes associated with bank resolution have profound effects on the DIF’s losses, bank customers, and the local economy, the FDIC focused a great deal of energy on this task. Despite challenges, the FDIC accomplished its primary resolution and receivership responsibilities: to protect all insured depositors at failed banks and to meet statutory mandates.

Before the crisis, the FDIC undertook several initiatives to prepare for a potential increase in bank failures. These initiatives included readiness exercises, large-bank resolution simulations, rulemaking to clarify bank closing processes and provide timely access to critical information about failing banks, and enhancements to the FDIC’s IT systems and business processes. Although many of these initiatives were helpful, they were not fully successful, for two reasons. First, the crisis was greater than anticipated and—importantly—unfolded more quickly than anticipated. Second, the FDIC was shorthanded during the early phase of the crisis, and from 2008 to 2010 some scarce resources were necessarily diverted from resolution activities to infrastructure development.³¹

As the scale of the crisis became clear, however, the FDIC Division of Resolutions and Receiverships (DRR) took a number of steps to quickly ramp up its staffing. Before mid-2008, authorized DRR staff numbered just 227, but by the end of 2010 the number of positions exceeded 2,100. A key element of this staff expansion was a heavy reliance on temporary employees, who constituted more than 80 percent of DRR employees in 2011. A few of these temporary employees were veterans of the bank and thrift crisis of 1980 through 1994 and were therefore highly experienced. Much as the FDIC had relied on consolidated offices (that is, field offices located where there were a lot of failed banks) in the 1980–1994 crisis, in the recent crisis the FDIC established temporary satellite offices (TSOs) in California, Florida, and Illinois. The TSOs placed resources for bank resolution and asset disposition closer to where most of the failures took place, helping to improve communication with the parties involved and to minimize travel costs.

³⁰ See <https://www.fdic.gov/about/strategic/strategic/mission.html> for the FDIC’s mission, vision, and values.

³¹ Infrastructure development included hiring staff, opening new offices, developing and updating contracts, and developing and updating IT systems.

The FDIC had several options for resolving failed banks, including a payout and a variety of purchase and assumption (P&A) agreements.³² The FDIC marketed the failed-bank franchises (that is, the operating units of the failed banks) to healthy, well-run institutions, seeking acquirers that would take over some or all of the failed banks' assets and deposits. If a potential acquirer submitted a bid that met the FDIC's criteria, a P&A agreement was chosen; otherwise, the FDIC executed a payout.

The FDIC made choices about the best P&A transactions to offer potential acquirers in light of multiple constraints and trade-offs. Some of the key constraints were statutory requirements about the prompt closure of failed banks and cost-effective resolution. Some of the key trade-offs involved DIF capital losses, the DIF cash position, potential disruption to bank customers and local markets, FDIC staffing requirements, and the financial and operational risks imposed on the FDIC. During the 1980–1994 crisis the FDIC and the Resolution Trust Corporation (RTC) had retained and managed a large volume of failed-bank assets—an undertaking that proved to be costly and operationally complex. Based on this experience, the FDIC sought to return assets to the private sector quickly. Therefore, the FDIC tried whenever possible to offer P&A transactions that would allow a large volume of assets to be sold to acquirers on the same day that the bank failed. As the crisis evolved, the FDIC refined and adjusted its offerings in light of changes in market conditions and feedback from potential acquirers.

During the 2008–2013 crisis, the FDIC's primary offering to potential acquirers of failed banks was a P&A agreement where the FDIC agreed to share losses on loans and real estate.³³ In most cases, the FDIC's share of the loss was 80 percent, and the acquiring bank would absorb the remaining 20 percent of losses. The FDIC sold 304 (62 percent) of the failed banks using this strategy.

Although the marketing of failed-bank franchises was an important component of the FDIC's resolution activities, it was just the first step in the receivership process that wound up the affairs of the failed banks. The FDIC's receivership responsibilities were broad, and included liquidating *all* the failed banks' assets and addressing *all* the claims against the failed banks. The FDIC managed \$87.5 billion in assets that were retained in receiverships (because they were not acquired under a P&A transaction) and as of year-end 2016, it had liquidated all but \$3.2 billion of the assets. Most of the assets were liquidated using cash sales, securitizations, and joint ventures that were structured as Limited Liability Companies (LLCs). The FDIC also identified valid claims against the receiverships, and used the funds that the receiverships collected to pay receivership claims as required by

³² In a payout, the FDIC pays insured depositors directly and sells the failed bank's assets to recover its costs and satisfy other legitimate claims of the receivership. In a P&A, a healthy bank (called the acquirer) purchases some or all of the failed bank's assets and assumes some or all of the failed bank's liabilities.

³³ Principal losses and certain types of expenses were covered. In a few cases, certain securities were also covered. Coverage was excluded for consumer loans at many banks, and for single-family loans at some banks.

statute. In addition, the FDIC administered the loss-share and LLC contracts to protect its interests and ensure that acquirers and LLC partners met their responsibilities under these risk-sharing arrangements. The FDIC relied heavily on contractors to manage the receiverships, service the loans retained in receivership, and sell the assets.

During the crisis, the FDIC learned several lessons related to its resolution and receivership function. First, because the FDIC's mission requires prompt action during periods of financial crisis and because every financial crisis is unique and can unfold quickly, robust readiness planning—which includes adequate staff levels, contracts for critical services, scalable IT systems, and roadmaps for staff and infrastructure expansion—is important at all times. Because national servicers are especially beneficial during large-scale crises, readiness plans should consider them as well.

Second, loss-share resolutions allowed the FDIC to sell assets promptly during the crisis and also benefit from subsequent price improvements. They allowed for asset management by private-sector institutions, conserved DIF cash, minimized FDIC staff needs, and reduced disruption to bank customers and local communities.

Third, the FDIC's use of structured contracts (securitizations and LLCs) as a means to sell assets held in receivership worked well. By retaining some or all of the risk from these asset sales, the FDIC received better prices than it would have received if the assets had been sold outright using cash sales at the time of failure, and the FDIC benefited from subsequent improvements in asset market values.

Finally, because of the FDIC's exposure to risk from the loss-share program, careful oversight of the loss-share agreements was important.

Good information and a well-informed staff are invaluable when a crisis erupts. There may be opportunities to conduct research, or leverage the research of other parties, to improve the FDIC's ability to make good decisions during crisis periods. One area that merits attention is the trade-offs involved in resolving failed banks (minimizing costs; minimizing disruption from failures; minimizing the FDIC's liquidity needs, operational risk, and financial risk; and encouraging market discipline). Other topics for further research include the costs and benefits associated with prompt asset sales; the use and design of risk-sharing contracts; the potential development of early-warning tools that might be used to trigger readiness plans for resolutions and receiverships; and the effects of market power wielded by asset buyers during distress periods when there are only a few potential buyers, as well as options for mitigating the adverse effects of that market power. Finally, it would be beneficial to examine options for expanding seller financing as a way to improve asset sale prices.

Conclusion

The financial crisis of 2008 through 2009 and the banking crisis of 2008 through 2013 presented the FDIC with unprecedented challenges. The systemic threat posed by the financial crisis demanded creative and innovative responses from the FDIC and other financial regulatory agencies, while the speed and severity of the banking crisis stretched to the limit the FDIC's capacity to supervise problem institutions, manage the Deposit Insurance Fund, and implement orderly resolutions for failed financial institutions.

There are many lessons to be learned from the FDIC's experience. The purpose of this volume is to clearly describe that experience for the public record, and to allow others to evaluate and gain insight from this history.

Postscript: The Banking Industry in 2017

As this history is being written, the U.S. banking industry has put the crisis behind it and is in a position of strength. As of June 30, 2017, there were 105 banks on the FDIC's problem bank list, the lowest quarter-end number since March 31, 2008, when there were 90. Noncurrent loans for insured banks were at the lowest level as a percentage of loans since third quarter 2007. Insured banks earned a record \$48.3 billion in the second quarter 2017. Earnings were at their highest level relative to average assets since second quarter 2007. At the same time, insured banks are supporting the credit needs of the U.S. economy. Annualized loan growth at U.S. banks during the three years 2014–2016 averaged 5.7 percent—outpacing nominal GDP growth in each year.

Particularly noteworthy for the safety and soundness of the banking industry and for financial stability more generally is the fact that large banking organizations have substantially more capital and liquidity than they had entering the crisis. Bank holding companies with assets greater than \$250 billion have about twice the capital and more than twice the liquid assets relative to their asset size than they had entering the crisis. The tier 1 leverage ratio of these institutions increased from 4.46 percent at year-end 2007 to 9.01 percent at mid-2017, while their ratio of liquid assets to total assets increased from about 8.6 percent to 22.6 percent during the same period.³⁴ The improved capital and liquidity of these institutions is largely attributable to capital and liquidity regulations the federal banking agencies issued in response to the crisis.

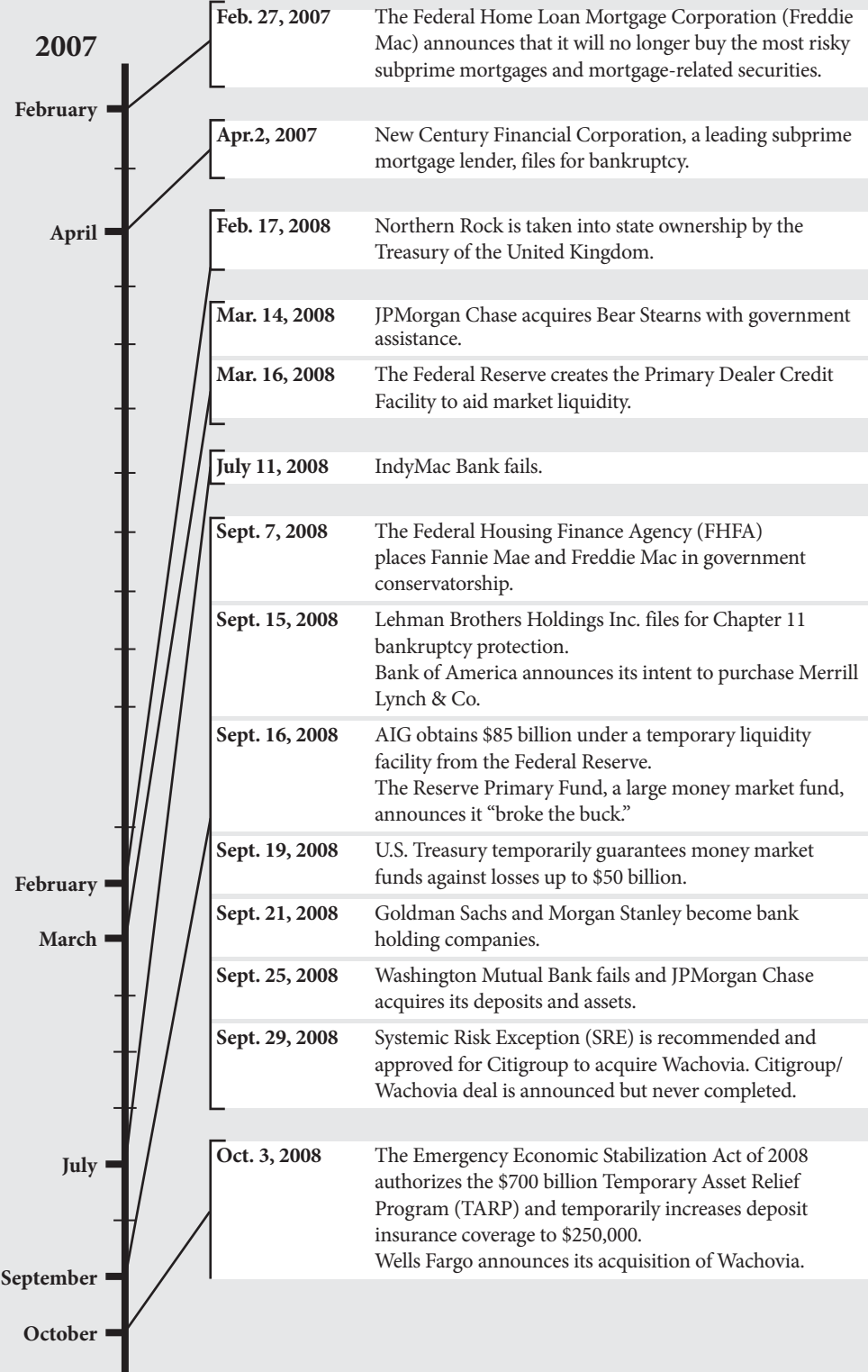
In addition, there is now in place an enhanced FDIC capability to manage the orderly failure of a systemically important financial institution without taxpayer support.

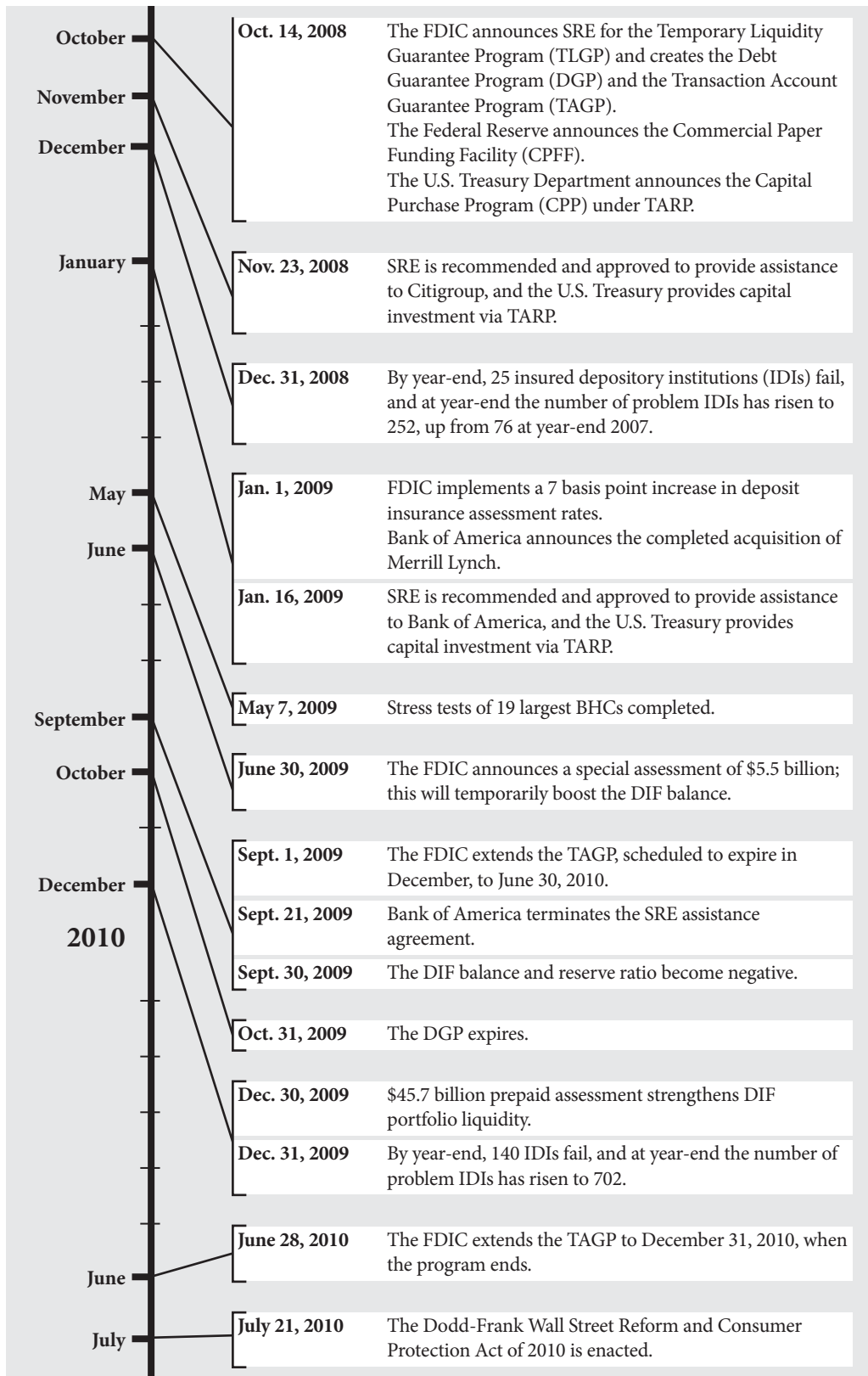
³⁴ "Liquid assets" for purposes of this discussion refers to cash, federal funds sold, and Treasury securities, agency debt securities, and agency mortgage-backed securities.

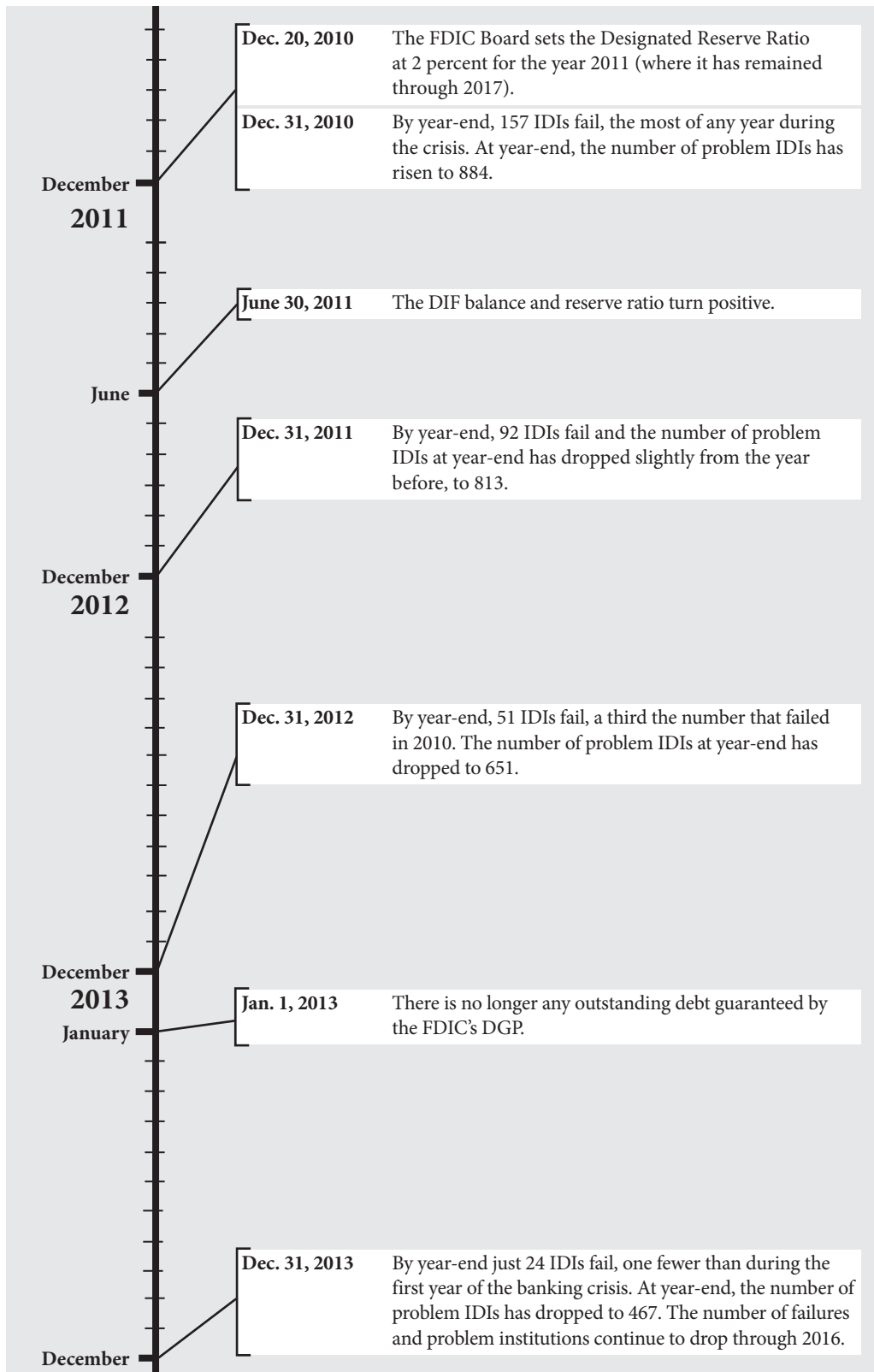
The improved condition of the banking industry should not be a cause for complacency, however. The build-up of risk during the pre-crisis years documented in this history should be a reminder to banks and their regulators of the risks that can develop during a period of banking industry prosperity. As the current business cycle has progressed, more banks have reduced their liquid asset holdings while taking on more credit risk in their loan portfolios, with some banks financing loan growth with a greater proportion of potentially volatile funding sources. In the event of a sustained increase in interest rates, some banks could be faced with declines in the values of their holdings of long-term bonds and mortgages or with increased funding costs, or both. Other risks include those from large derivatives exposures, developments in foreign banking and financial systems, and potential cyber-events.

As we learned during the crisis, a safe and sound banking industry is essential to the successful functioning of a nation's economy, but it cannot be taken for granted. We also learned how quickly and unexpectedly conditions can change. It is striking how much progress has been made since the crisis years of 2008–2013 in fostering a strong U.S. banking industry that supports our economy. Preserving these gains will require continued vigilance on the part of bank regulators.

Crisis and Response Timeline







Sources: FDIC and Federal Reserve Bank of St. Louis, Financial Crisis Timeline, <https://www.stlouisfed.org/Financial-Crisis>.



Part 1:
Financial Crisis and Response

1

Origins of the Crisis

Overview

The U.S. financial crisis of 2008 followed a boom and bust cycle in the housing market that originated several years earlier and exposed vulnerabilities in the financial system. As is typical of boom and bust cycles, this boom was characterized by loose credit, rampant speculation, and general exuberance in the outlook for the market—in this instance, the housing market. The subsequent downturn began as a housing crisis that initially seemed to be concentrated in certain states and in the subprime mortgage market. Eventually, however, the seemingly circumscribed housing collapse spread to the entire U.S. housing market, as house prices declined nationwide. And because the financial system had been integral to the housing boom, it was highly exposed to the housing market, whose downturn would prove to be so severe that it threatened to drag down the financial system with it in the absence of significant government intervention. Inexorably, the collapse of the U.S. housing market in 2007 became the most severe financial crisis since the Great Depression, and the financial crisis, in turn, resulted in a protracted economic contraction—the Great Recession—whose effects spread throughout the global economy.

The nationwide housing expansion of the early 2000s was rooted in a combination of factors, including a prolonged period of low interest rates. By mid-2003, both long-term mortgage rates and the federal funds rate had declined to levels not seen in at least a generation. One response to low interest rates was an acceleration in U.S. home price appreciation to double-digit rates for the first time since 1980. Another response was a series of mortgage market developments that dramatically weakened credit standards in mortgage lending. These market developments were associated with a glut of savings held by global institutional investors seeking high-quality and high-yield assets; loose underwriting standards; a complex and opaque securitization process; the use of poorly understood derivative products; and speculation based on the presumption that housing prices would continue to increase.

Other factors were in play as well in the years leading up to and during the housing market expansion. Financial innovation and deregulation contributed to an environment in which the U.S. and global financial systems became far more concentrated, more interconnected, and, in retrospect, far less stable than in previous decades. These factors

and the ones mentioned in the preceding paragraph helped fuel a housing boom while also making the U.S. financial system more vulnerable to collapse in times of stress.

One set of key players in fueling the boom was real estate investors. Attracted by the expectation of future house price appreciation and the availability of cheap credit, many real estate investors entered the housing market,¹ motivated to buy and re-sell homes to make short-term gains. Investors' speculative behavior contributed to the striking house price appreciation, which in turn spurred potential homebuyers to act before prices increased further. In the end, when house prices collapsed, many of these real estate investors realized losses and many homeowners lost their homes.

Also fueling the boom was the role mortgage companies played in the steady rise of house prices. Mortgage credit was cheap, so when high house prices limited the pool of low-risk borrowers who could qualify for conventional mortgages, mortgage lenders expanded the group of potential borrowers by offering new and innovative mortgage products designed to reach less-creditworthy borrowers. However, many of these borrowers became the targets of predatory lending practices that placed borrowers into mortgage products that would eventually create financial hardship for them, as they ended up building debt rather than wealth, either through repeat refinancings that took equity from homes or through adjustable rate features that challenged their repayment abilities.

The housing boom was fueled, as well, by the financialization of housing assets: illiquid real estate (housing) was turned into a financial asset that could be traded more easily and therefore made it possible for investors to participate in new and innovative ways. One form of financialization was securitization, or packaging of securities backed by mortgages²—a process that allowed investors to invest in the U.S. housing market and that therefore linked individual homeowners to the global financial system of large banks, shadow banks (explained below in the section “Financial Market Disruptions”), and institutional investors. Participants in the securitization process had short-term incentives to profit without accounting for the risk; they largely passed the inherent risk of the underlying mortgage to the next participant in the securitization chain. While the securitization process had been around for decades before the housing boom, its scope expanded as new types of securities were generated.

A number of the new types of securities were liquid and were assigned a high credit rating, despite being backed by pools of risky mortgages. As the housing boom progressed, the financial system continued creating various mortgage securities that were aimed at transforming the risk and meeting investor demand. For example, financial institutions transformed lower-rated tranches of mortgage-backed securities (explained below in the section “Mortgage Securitization”) into collateralized debt obligations that were

¹ Karl E. Case and Robert J. Shiller, “Is There a Bubble in the Housing Market?,” *Brookings Papers on Economic Activity* 2 (2003): 321, https://www.brookings.edu/wp-content/uploads/2003/06/2003b_bpea_caseshiller.pdf.

² A detailed explanation of securitization is given in footnote 8.

often AAA-rated. It was thought that by generating securities with different risk profiles, financial engineering of this kind could diversify and transform the risk associated with the underlying mortgages. Furthermore, derivatives that referenced these mortgage securities were created, spreading and amplifying the risk further into the system. These derivatives did not have cash flows based on actual mortgages but tracked the performance of mortgage securities, enabling investors to speculate on mortgage security performance. Financial institutions also began to issue credit default swaps to insure investors against losses on these securities. The risk of these securities, however, was not well understood. Nevertheless, the securities were held throughout the financial system, and because the financial system was highly interconnected, even institutions that were not directly involved with mortgage securitizations had some exposure to the mortgage market. As risk spread throughout the financial system, therefore, the entire system ultimately became exposed to the housing market.

Another source of risk, besides exposure to risky mortgages, was high leverage. Financial institutions increased leverage by relying more on debt to finance their balance sheets. Although higher leverage enabled institutions to earn a higher return on equity, it also made them more vulnerable to greater losses if mortgage defaults should increase—as they ultimately did.

Initial signs of the housing collapse to come emerged in 2006, as the housing market expansion slowed. In the middle of 2005, mortgage rates began to rise and, by the middle of 2006, had increased more than 100 basis points. Higher mortgage rates reduced housing market activity, causing home price growth to slow. After rising at double-digit annual rates for 27 consecutive months through early 2006, home prices peaked in mid-2006. The housing market slowdown eliminated the expectation of future investment gains and, along with it, the ability of borrowers to refinance (for without the expectation of rising prices, lenders would be unwilling to provide new funds); housing activity slowed even further. As interest rates rose and house prices began to fall, many homeowners became unable to meet mortgage payments on their existing loans or refinance into a new loan, and mortgage defaults rose rapidly.

Yet, through the end of 2006, most macroeconomic indicators continued to suggest that the U.S. economy would proceed uninterrupted on its path of moderate growth. Indeed, aside from some concerns about an overheated housing market,³ there was little in the way of financial data to suggest that the U.S. and global economies were on the verge of a financial system meltdown. In hindsight, however, we know that by the mid-2000s the United States was experiencing a housing price bubble of historic proportions and that already in 2006 the first signs of trouble were apparent. In 2007, when the bubble burst, the financial systems of the world's most advanced economies were brought relatively quickly to the brink of collapse.

³ Throughout 2006 and even into 2007, there was considerable and ongoing debate as to whether a housing price bubble actually existed. A consensus would not be reached until the collapse was well underway.

How did this happen? Ultimately, as house prices declined nationwide and mortgage defaults began rising, the value of all the mortgage-backed securities deteriorated. The rise in defaults, by undermining the value of trillions of dollars of mortgage-backed securities, severely disrupted the securitization funding mechanism itself. That mechanism—the securitization system that generated mortgage-backed securities (MBS) from mortgages—had become opaque and very complex, and the financial institutions involved were highly leveraged. The lack of transparency and the complexity of the securities masked the risk, and the high leverage left investors with little capital to cushion loss. Moreover, the financial institutions had underpriced risk, having been lulled into complacency by the prolonged period of economic stability that preceded the onset of problems. When mortgage defaults began to rise, the system's interconnectedness, complexity, lack of transparency, and leverage exacerbated the effects of the crisis. Eventually, many of the largest financial institutions suffered catastrophic losses on their portfolios of mortgage-related assets, resulting in severe liquidity shortages. As noted above, even financial institutions without large MBS holdings were affected because they were deeply interconnected with the financial system in which MBS played so significant a role.

Observing the devastating cascade of falling house prices, subprime mortgage defaults, bankruptcies, and write-downs (or reductions in the value of mortgage assets), investors and creditors lost confidence in the financial markets. The credit markets froze, and at the same time many overleveraged financial institutions were forced to sell assets at fire-sale prices, further reducing liquidity. Under mark-to-market accounting rules,⁴ these asset sales only precipitated further rounds of asset write-downs. The mounting losses strained financial institutions, causing many of them to fail. Eventually the situation became so dire that government interventions on an unprecedented scale were undertaken to break the downward spiral of defaults and to restore confidence in, and functionality to, the financial marketplace.

⁴ As noted in Financial Crisis Inquiry Commission (FCIC), *The Financial Crisis Inquiry Report: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States* (2011), 226–27, http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf, mark-to-market is the process by which the reported value of an asset is adjusted to reflect the market value. The process had a detrimental effect during the crisis, as mark-to-market accounting rules required firms to write down their holdings to reflect the lower market prices. Firms claimed that the lower market prices did not reflect market values but, rather, reflected fire-sale prices driven by forced sales.

Housing Market Bubble and Mortgage Crisis (2006–2007)

By the end of the 2000–2006 period, the rapid rise in U.S. house prices had transformed from a boom to a nationwide housing market bubble. Like all bubbles, this one could not be sustained forever, and the bursting of the bubble was devastating to many recent homebuyers, who (like many other people) had expected home prices to continue rising. In that expectation, many borrowers had taken out mortgages on which they were unable to continue making payments when the terms of their mortgages changed and housing prices fell (as noted above, falling prices meant lenders would not refinance).

The bubble was fed not only by people taking out mortgages for homes, however. Also feeding the bubble was a system, created by financial institutions, that linked homebuyers' demand for housing with investors' demand for highly rated assets with high yields. Financial institutions purchased mortgages from mortgage originators, packaged the mortgages into securities, and sold the securities—whose credit quality, in retrospect, was inaccurately assessed by the rating agencies—to investors needing a safe place for their funds. These transactions, in turn, then provided the liquidity and short-term funding from the capital markets that mortgage lenders depended on to continue to originate loans.

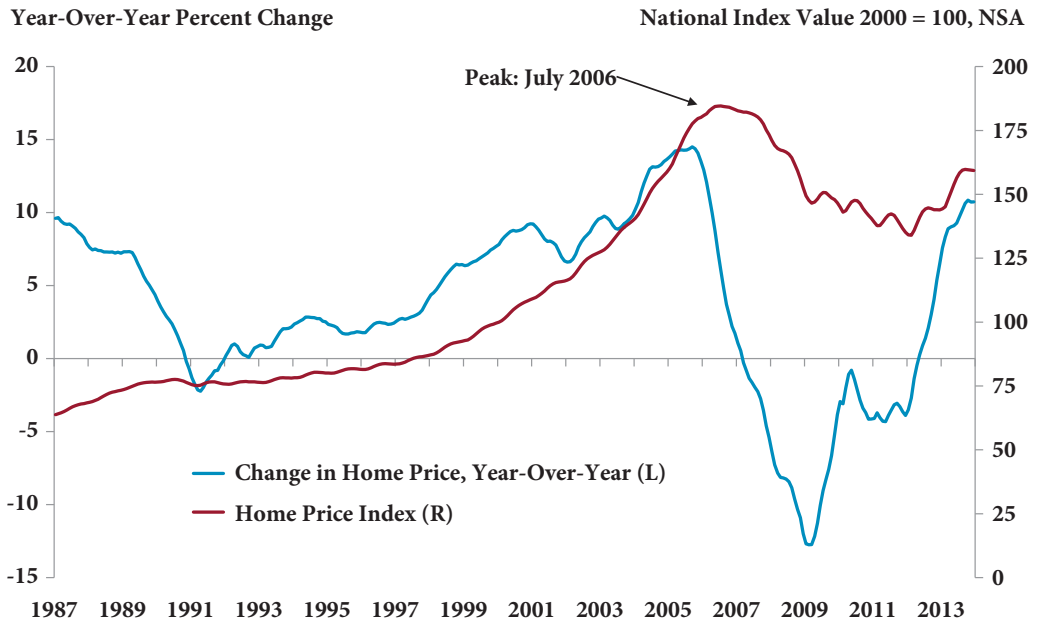
The chain linking homebuyers who were taking out mortgages with investors who were buying securities that were backed by pools of such mortgages was only as strong as its weakest link. When mortgage defaults rose, all the other links in the chain were irreparably weakened.

The Rapid Rise in House Prices

Coming out of the bank and thrift crisis of the late 1980s and early 1990s, the United States experienced an expansion of housing construction, a rise in home prices, and an increase in housing credit, all of which persisted through the 2001 recession and accelerated in the early 2000s. By the time national house prices peaked (in the middle of 2006), they had increased at double-digit annual rates for 27 consecutive months—from early 2004 through the first three months of 2006—culminating in a 14.2 percent annual gain in 2005 (see Figure 1.1). Reinhart and Rogoff observe that “between 1996 and 2006, the cumulative real price increase was about 92 percent—more than three times the 27 percent cumulative increase from 1890 to 1996.”⁵ Their research found no housing price boom during that 106-year period comparable in sheer magnitude and duration to the one that ended in the subprime mortgage crash that began in 2007. Indeed, the extremes of housing value during the housing boom and bust of the mid-2000s stand out starkly, as Figure 1.2 illustrates.

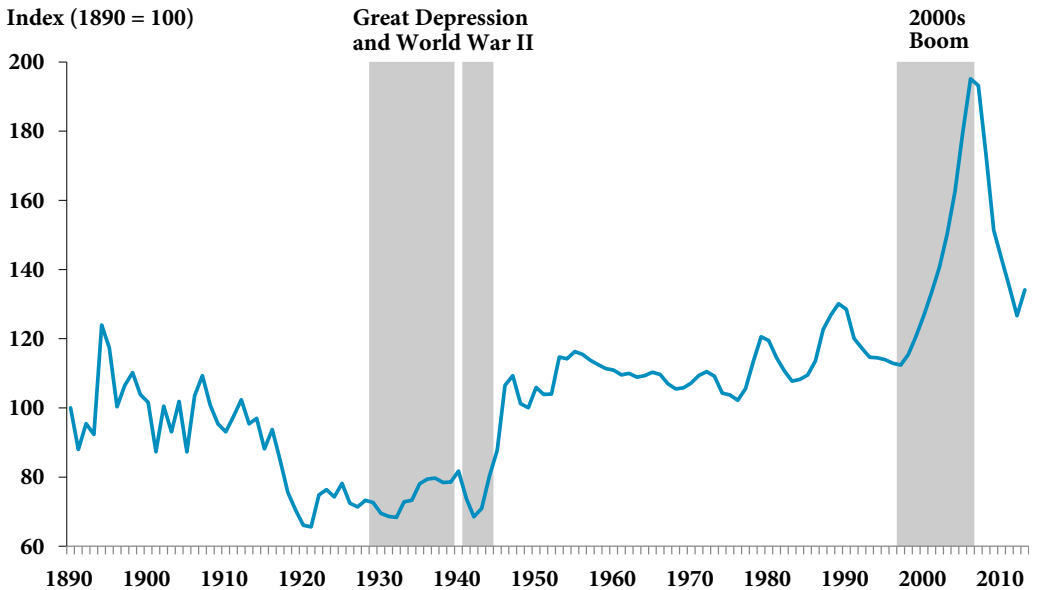
⁵ Carmen Reinhart and Kenneth Rogoff, *This Time Is Different: Eight Centuries of Financial Folly* (2009), 207.

Figure 1.1. S&P/Case-Shiller Home Price Index, 1987–2013



Source: S&P/Case-Shiller (Haver Analytics).

Figure 1.2. Real Home Price Index, 1890–2013



Source: Robert J. Shiller, <http://robertshiller.com>.

Note: Index is based on inflation-adjusted sale prices of standard existing homes, not new construction, to track the value of housing as an investment over time.

Several factors contributed to the run-up in housing prices. One was low interest rates: in July 2003, the federal funds rate declined to 1.01 percent, its lowest level in 45 years, while in June 2003, the Freddie Mac 30-year conventional mortgage rate fell to 5.21 percent, the lowest level in the 32-year history of the Primary Mortgage Market Survey. This prolonged period of low rates after the 1991–1992 recession made mortgages less expensive, thus increasing demand, and, with increased demand, house prices began rising. Another factor in the price run-up was the origination of mortgage products that increased demand by enabling less-creditworthy borrowers to qualify for mortgages (see the box titled “Types of Mortgage Products”). Financial institutions, including a number of large thrifts, investment banks, and commercial banking organizations, acted as originators of subprime and Alt-A mortgages and also as underwriters and issuers of securitizations backed by these loans.⁶ A third factor in driving up prices was the influx of investors into the housing market: drawn by the expectation of future house price appreciation, investors bought homes for investment gain, not residence. All of this was consistent with Case and Shiller’s description of a housing bubble. “The notion of a bubble,” they write, “is really defined in terms of people’s thinking: their expectations about future price increases, their theories about the risk of falling prices, and their worries about being priced out of the housing market in the future if they do not buy.”⁷

As interest costs fell and, in response, the demand for mortgages increased, the funding for mortgages increased significantly, allowing lenders to offer credit to more borrowers. Behind this increase in funding were (1) a heavy demand of investors worldwide for highly rated assets with high yields, and (2) the satisfaction of that demand through the mortgage securitization process, which allowed the financialization of mortgage assets.⁸

The heavy worldwide demand for safe assets was brought about by an increase in global savings. This glut of global savings reflected many factors, including the buildup of foreign exchange reserves in emerging market economies and the aging populations in industrial economies (retirees have higher savings).⁹ The securitization process that served to satisfy the worldwide demand involved the packaging of pools of mortgages into securities that

⁶ Inside Mortgage Finance Publications, *The 2010 Mortgage Market Statistical Annual*, vol. 2, 2010.

⁷ Case and Shiller, “Bubble in the Housing Market?,” 301.

⁸ As explained in the overview section, financialization of housing assets means that “illiquid real estate was turned into a financial asset that could be traded more easily and therefore made it possible for investors to participate in new and innovative ways.” Securitization is the process by which assets with generally predictable cash flows and similar features are packaged into interest-bearing securities with marketable investment characteristics. Investors buy the right to future cash flow, thus providing increased liquidity back to the seller, who then has additional monies to lend. Over time, securitized assets have been created using diverse types of collateral, including home mortgages, commercial mortgages, mobile home loans, leases, and installment contracts on personal property. The most common securitized product is the mortgage-backed security (MBS).

⁹ Ben Bernanke, “The Global Saving Glut and the U.S. Current Account Deficit,” remarks at the Sandridge Lecture, Virginia Association of Economists, Richmond, VA, March 10, 2005, <https://www.federalreserve.gov/boarddocs/speeches/2005/200503102/>.

could be sold to institutional and individual investors as a way to transfer risk among investors; the investors received rights to cash flows of the underlying mortgage pools. The relatively illiquid mortgage asset could be quickly bought or sold in the market without the asset's price being affected, and innovations in finance supplied different types of assets with different risk profiles to suit different investor requirements, not only the need for safety. Securitization, which came to dominate mortgage funding, was the vehicle by which global savings contributed to the decline in longer-term interest rates and, in addition, helped finance the U.S. residential market (investment in MBS increased the liquidity available for financing additional mortgages, as explained in the next section).

The Foundations of the Mortgage Crisis

Just when the increased liquidity provided by securitization allowed lenders to offer credit to more borrowers, the rapid increase in home prices reduced affordability—but also fed buyer interest in purchasing a home (either to own or to turn a profit) before prices rose further. Lenders, competing to attract customers and to meet the financing needs of prospective homebuyers, diversified their mortgage offerings and eased lending standards. Both of these practices—offering nontraditional mortgages and the relaxation of lending standards (see the box titled “Types of Mortgage Products”)—helped homebuyers bridge the affordability gap and facilitated lending to less-creditworthy borrowers.

Accommodating borrowers was made easier by the mortgage securitization system. Banks and other mortgage originators originated loans, then distributed them by selling them in the secondary loan market; the purchasers of the loans were mortgage securitizers, who paid the originators, or lenders, high fees for mortgages; and the high fees created incentives for lenders to fill the securitization pipeline by relaxing lending standards and in some cases by aggressively marketing mortgages. The securitization process is described in more detail below, in the section “Mortgage Securitization.” This “originate to distribute” model led to a rise in predatory lending that targeted a wide spectrum of consumers who might not have understood the embedded risks but used the loans to close the affordability gap. In the end (see the next section, “The Housing Market Collapse”), the originate-to-distribute model, with the misaligned interests of all parties, undermined responsibility and accountability for the long-term viability of mortgages and mortgage-related securities and contributed to the poor quality of mortgage loans and, ultimately, to the riskiness of the securities backed by the loans.

Types of Mortgage Products

Mortgages fall into two broad categories: prime and nonprime. Prime loans are issued to borrowers whose more pristine credit is considered most creditworthy. Such borrowers receive the best rate. Nonprime is the generic term for loans whose mortgage interest rates are substantially higher than the prevailing prime rate. The two types of nonprime loans are subprime and Alternative-A, or Alt-A.

Subprime loans are higher-interest loans that involve elevated credit risk and are generally viewed as higher risk. Alt-A mortgages are made to borrowers with credit ranging from very good to marginal, but they are made under expanded underwriting guidelines that make these loans higher risk and also higher interest.

When strong home price appreciation and declining affordability helped drive up the demand of borrowers for mortgage products that would allow them to stretch their home-buying dollars, lenders—flush with mortgage credit—accommodated by offering nontraditional (alternative) mortgage products. Nontraditional mortgage loans have some features that differ from a plain-vanilla prime loan.

Among the nontraditional mortgages originated during the boom were interest-only mortgages (IOs), adjustable rate mortgages (ARMs) with flexible payment options (option ARMs, or payment-option mortgages), simultaneous second-lien or piggyback mortgages, and no-documentation or low-documentation loans. IO and payment-option loans were specifically designed to minimize initial mortgage payments by eliminating or relaxing the requirement to repay principal during the early years of the loan. Piggyback mortgages were a lending arrangement in which either a closed-end second lien or a home equity line of credit was originated at the same time as the first-lien mortgage loan to take the place of a larger down payment. In no-documentation or low-documentation loans, the documentation standards for verifying a borrower's income sources or financial assets were reduced or minimal.

Any of these loans—prime, subprime, nontraditional—could be structured as an adjustable rate mortgage. ARMs have an interest rate and payment that change periodically over the life of the loan, the changes being based on changes in a specific index. In addition, there are hybrid ARMs and option ARMs. The former, also known as short-term hybrids, have an initial fixed rate for two or three years and then turn into an adjustable rate loan with an annual adjustment in rate or payment or both. The option ARMs allow borrowers to set their own payment terms on a monthly basis. The borrower could, for example, make a minimum payment lower than the amount needed to cover interest; or pay only interest, deferring payment of principal; or make payments calculated to have the loan amortize in 15 or 30 years. Interest typically was reset every month, and interest payments that were deferred were added to principal through negative amortization.

Problems escalated when risk layering occurred—that is, when a loan combined several risky features. An example of such a loan was a subprime hybrid ARM: a variable-rate loan offered to a subprime borrower, with an initial rate that was probably quite low (to tease the borrower in) but that after a short period increased to monthly payments that were often unaffordable. Another example was a non-amortizing interest-only mortgage made to a borrower on the basis of little or no documentation to validate the borrower's income or assets. When risk layering occurred, products grew in complexity, and the total risk was heightened.

Among the new, nontraditional mortgage offerings, many were structured as adjustable rate loans, not fixed rate. More than three-fourths of the subprime mortgages that were originated during the period 2003 through 2007 were short-term hybrids (the interest rate is fixed for the first couple of years and then becomes adjustable and benchmarked to short-term rates).¹⁰ Most Alt-A loans were also adjustable rate loans, as were most option adjustable rate mortgages. Option ARMs, as noted, offered borrowers the choice of making full payments, interest-only payments, or minimum payments that were less than the interest due. About 94 percent of option ARM borrowers made only the minimum monthly payment, creating negative amortization.¹¹ Like the subprime short-term hybrid mortgages, ARM loans had interest rates that were fixed for the first couple of years but then were benchmarked to the LIBOR rate.¹² Under the more relaxed underwriting standards at the time, many borrowers qualified for adjustable rate mortgages based only on their ability to pay the low initial monthly payments as determined under the introductory teaser rate. Hence, their ability to afford the mortgage after the teaser rate expired was predicated on their ability to refinance the mortgage before the higher payments became effective.

The ability to refinance—counted on by many investors, homebuyers, and originators—depended critically on house prices. As long as house prices were rising, lenders were generally willing to supply new funds with new terms. And even after house prices at the national level peaked, in mid-2006, housing market participants generally did not expect house prices to crash. After all, the United States had not experienced large nationwide declines in house prices since the Great Depression. In mid-2006, some observers saw the

¹⁰ Christopher J. Mayer, Karen M. Pence, and Shane M. Sherlund, “The Rise in Mortgage Defaults,” Federal Reserve Board Finance and Economics Discussion Series 59 (2008): 5, <https://www.federalreserve.gov/pubs/feds/2008/200859/200859pap.pdf>.

¹¹ Austin Kilgore, “Subprime Problems Persist, as Alt-A, Option ARM Crisis Brews,” *HousingWire*, January 11, 2010, <https://www.housingwire.com/articles/6208-subprime-problems-persist-alt-option-arm-crisis-brews>.

¹² LIBOR stands for the London interbank offered rate; this rate is set daily and is the interest rate at which banks offer to lend funds to one another in the international interbank market.

turning point (identified as such only in retrospect) as nothing more than a correction, not the presage of a precipitous decline:

With interest rates rising and speculative demand cooling, the housing boom is coming under pressure ... As long as the economy continues to create jobs and builders trim production to match slowing demand, house prices will keep climbing and the housing sector will likely achieve a soft landing. Although house price growth will likely moderate in many areas, sharp drops in house prices are unlikely anytime soon. Major house price declines seldom occur in the absence of severe overbuilding, major job loss, or a combination of heavy overbuilding and modest job loss. Fortunately, these preconditions are nowhere in evidence across the nation's metropolitan areas.¹³

In hindsight, optimism in the housing market outlook in mid-2006 was based on a major misreading of the market. Pressures had already been building against further house price appreciation. In 2004, the Federal Reserve had started to tighten monetary policy by raising the target federal funds rate in response to the increasing pace of economic activity. Nevertheless, through 2005 and into 2006, despite the rise in interest rates, a continuing flow of funds into the mortgage market maintained the easy credit conditions and, even as the housing market expansion began to slow, homeowners remained able to refinance. However, in 2006, with interest rates rising and (as shown in Figure 1.3) house prices beginning to decline, homeowners whose mortgage payments were indexed to interest rates were unable to refinance. Many homeowners and housing investors were stuck with homes they could neither afford nor sell. Thus, the stage was set for increasing numbers of delinquencies, defaults, and foreclosures.

The Housing Market Collapse

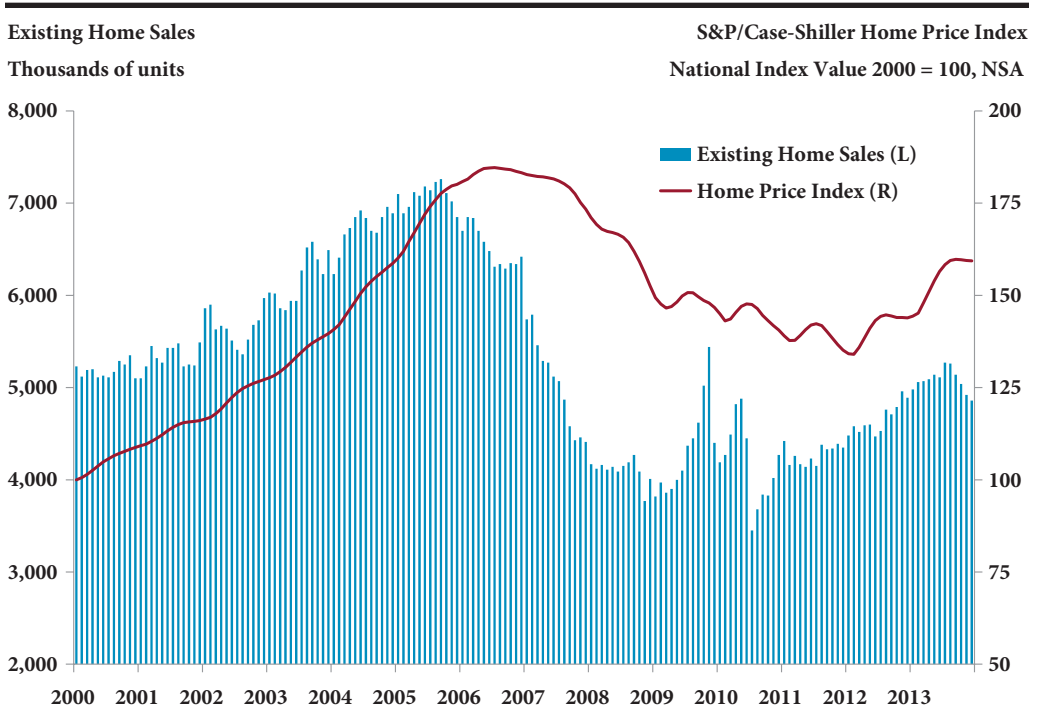
According to the Financial Crisis Inquiry Commission (FCIC), one of the first signs of the impending collapse was an increase in the number of early payment defaults—defined as occurring when a borrower becomes more than 60 days delinquent within the first year of a mortgage. Defaults on subprime and Alt-A mortgages began to rise in late 2005. As house prices declined further, default rates on higher-quality mortgages also rose, as shown in Figure 1.4. By mid-2010, almost one out of every ten mortgage loans was past due, with almost 30 percent of subprime ARM borrowers and almost 14 percent of prime ARM borrowers in delinquency.¹⁴ In addition, the decline in house prices resulted in negative

¹³ Joint Center for Housing Studies, "Affordability Problems Escalating Even as Housing Market Cools. 2006 State of the Nation's Housing Report Is Released," Press Release, Harvard University, John F. Kennedy School of Government, June 13, 2006.

¹⁴ Mortgage Bankers Association, "Delinquencies and Foreclosure Starts Decrease in Latest MBA National

equity for many homeowners who had bought homes with little or no down payment. These homeowners were underwater on their mortgages (i.e., the value of the outstanding mortgage exceeded the value of the home). The share of underwater homeowners out of all homeowners with a mortgage rose drastically as, eventually, house prices at the national level declined more than 30 percent from their peak—and in some areas of the country, they fell more than 50 percent. By 2010, more than 12 million homeowners—about 1 in 4 with a mortgage—owed more than their homes were worth.¹⁵

Figure 1.3. Home Sales and Home Price Index, 2000–2013



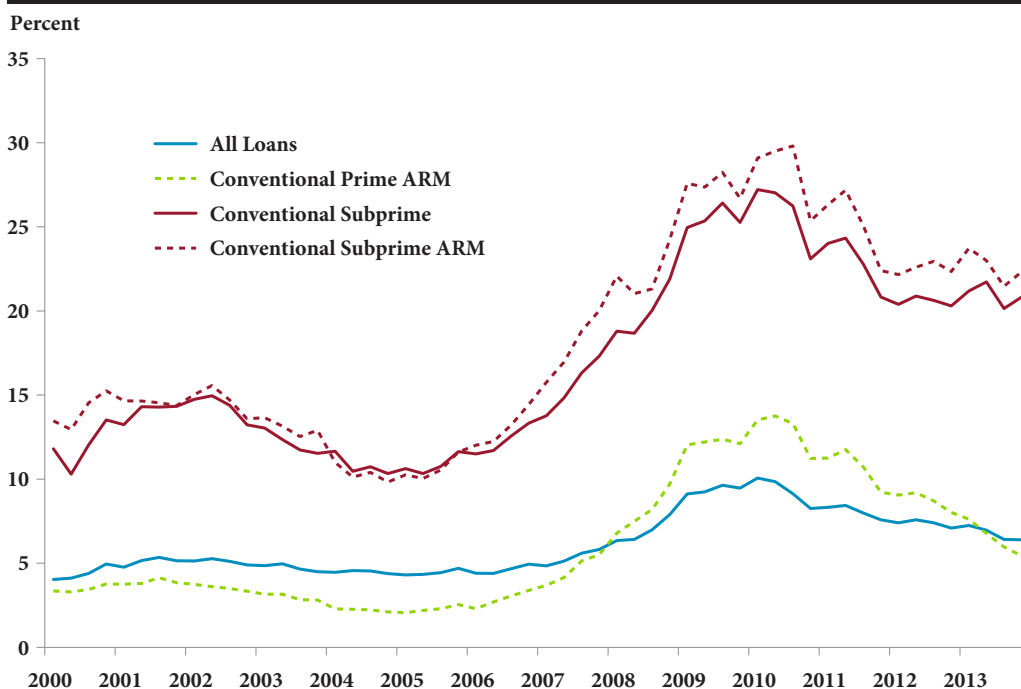
Sources: S&P/Case-Shiller and National Association of Realtors (Haver Analytics).

Of the players linked in the securitization chain, one of the earliest to feel the effects of the downturn in housing prices was mortgage originators, for which subprime loans represented a significant portion of revenue and assets. As subprime loan originations plummeted from 20 percent of total mortgage production in 2006 to 8 percent in 2007,¹⁶ subprime originators faltered. By the spring of 2008, with the failure of many subprime originators (including top lenders Countrywide Financial Corporation and Ameriquest Mortgage Company), the U.S. subprime mortgage industry had essentially collapsed.

Delinquency Survey,” August 26, 2010, <https://www.mba.org/x73818>.

¹⁵ CoreLogic, *CoreLogic® Equity Report*, 4Q 2013 (2014), 8.

¹⁶ Inside Mortgage Finance Publications, *The 2010 Mortgage Market Statistical Annual* (2010), vol. 1, 2010.

Figure 1.4. Mortgage Loans Past Due, by Type of Loan, 2000–2013

Source: Mortgage Bankers Association (Haver Analytics).

From the Mortgage Crisis to a Financial Crisis (2008)

The ramifications of the mortgage crisis went far beyond mortgage originators, as the securitization chain also involved (among others) mortgage servicers, underwriters, guarantors, and securitizers. The chain stretched across many players from depository institutions to investment firms, with interconnections that were extensive and opaque, and risks that were magnified by the increased use of financial leverage in a generally deregulatory climate. Because of the high interconnectedness within the financial system, the collapse of the subprime mortgage industry undermined the securitization system itself and the financial markets.

The central element of the securitization chain, as has been noted, was pools of mortgage-backed securities. But the pivotal role played by these securities depended on the assurance investors received from rating agencies that these securities were priced appropriately for the risk they contained—and as mortgages defaulted, the MBS and securities derived from them had to be downgraded. Firms that were heavily invested in such securities and at the same time highly leveraged were caught in a vise, and even the reputations of the rating agencies themselves were tarnished.

Mortgage Securitization

The securitization process was a way to pool individual mortgages into a bond, that is, a security, to be sold to investors. The resulting mortgage-backed security was often carved into different pieces, or tranches, with a range of risk and return to appeal to investors' differing appetites. Investors bought the tranche(s) that served their needs. The senior tranches were the highest rated and were considered to have the lowest risk and the highest priority for payment. The equity tranches were the lowest tranches; they had the highest return but also the highest risk because they would be the first to lose money if mortgage loan borrowers defaulted.

Historically, securitization for the mortgage market was provided primarily by Fannie Mae and Freddie Mac, which are Government Sponsored Enterprises (GSEs) created by Congress to provide the U.S. housing market with liquidity, stability, and affordability.¹⁷ Fannie and Freddie, private companies at the time of the boom,¹⁸ purchase and securitize mortgages, selling the securitized mortgages to outside investors and holding some mortgages and MBS as investments. With the housing market heating up, however, non-agency (or private label) securitization activity—until then a relatively small share of the market—ramped up to exceed the securitization activity of the GSEs. Figure 1.5, showing MBS issuance from 1990 to 2013, displays the striking rise in the volume of private label MBS issued beginning in 2002. Private label MBS doubled in dollar volume from 2003 to 2005, increasing to over half of total MBS issuance in 2005 and 2006.

The increase in private label securitization activity, which involved many different types of firms within the financial system, created tremendous capacity for new mortgages. To fill the pipeline, as noted above, mortgage originators began to lower credit standards or ease documentation requirements or both. One result was that mortgage pools became more risky. In an attempt to generate securities that were low risk, financial institutions turned to creative re-securitizations by securitizing the tranches of risky mortgage securities into higher-rated securities. (The fundamental assumption was that although all the tranches were backed by risky mortgages, some of the mortgages would pay out, and as long as they did, they would satisfy the payments needed to pass through to the newly securitized higher-rated security.) Ultimately, however, despite the higher ratings, the securities proved very risky—and at the end, defaults were so large and so numerous that the payment stream to these securities dried up.

The basic security—the mortgage-backed security—became the building block of more-complex products, as MBS themselves were re-securitized into securities and sold to investors as well as traded among the financial institutions that created them.¹⁹ For

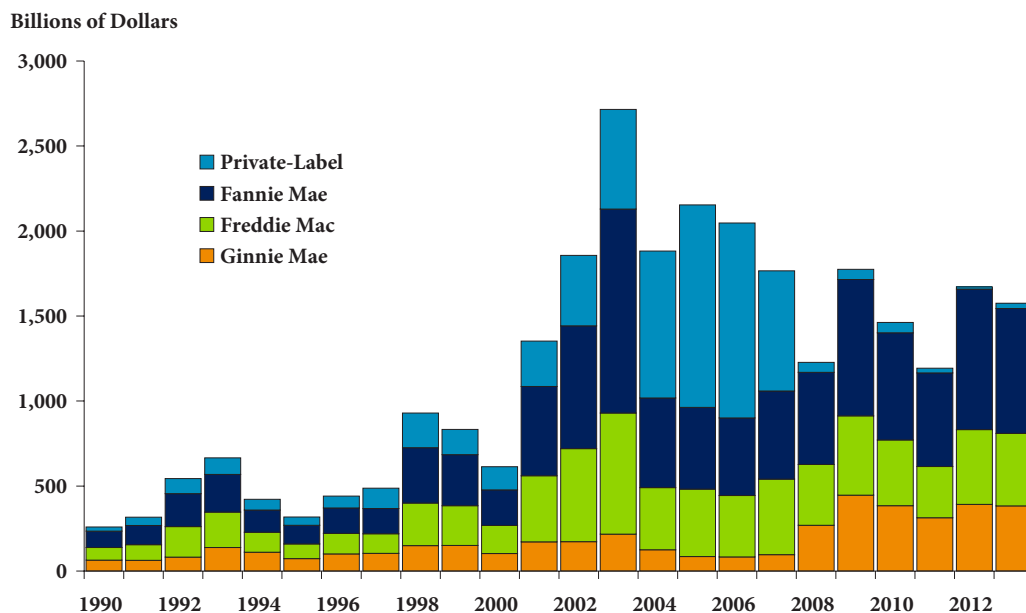
¹⁷ Fannie's formal name is Federal National Mortgage Association (FNMA). Freddie's is Federal Home Loan Mortgage Corporation (FHLMC).

¹⁸ Fannie Mae and Freddie Mac were put into government conservatorship in September 2008. This is covered in more detail below, in the section "Institutions in Crisis in 2008."

¹⁹ A financial "product" is an instrument that involves moving money from one party to another. Thus, the

example, lower-rated MBS were repackaged into collateralized debt obligations (CDOs). Like MBS, CDOs were issued in tranches that varied in risk and had ratings that ranged from high to low,²⁰ with investors in the lowest rated of these securities being exposed to the highest risk. In this manner, mortgage risk appeared to be further diversified. Adding to the perceived reduction of risk were credit default swaps (CDS), which provided investors with insurance against losses on MBS, as explained in the next section.

Figure 1.5. Issuance of Mortgage-Backed Securities, 1990–2013



Source: Inside MBS & ABS, Inside Mortgage Finance.

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Another source of risk was a technique, also involving MBS, that banking companies often used to increase their leverage without running afoul of regulatory requirements. They would retain MBS in structured investment vehicles (SIVs), which were highly leveraged entities held by banking companies but which, as separate legal entities, were off the banks' balance sheets and were therefore not subject to regulatory capital requirements, even if a SIV's parent holding company was under federal supervision. SIVs were designed to generate cash flows by issuing short- to medium-term debt—including asset-backed commercial paper²¹—at a low interest rate to raise funds that the

term can refer equally to a simple loan or a complex security. A home equity line of credit is a financial product, and so are collateralized debt obligations, which are securities made up of repackaged MBS.

²⁰ FCIC, *Final Report*, 127–29, http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf.

²¹ Asset-backed commercial paper is a short-term promissory note whose repayment is backed by cash flows

institution could invest in longer-term assets, such as MBS. SIVs were first established in 1988 and remained relatively unscathed during pre-2007 periods of financial distress. By 2007, there were 36 SIVs and, between 2004 and 2007, the total assets held in SIVs had tripled to \$400 billion,²² meaning that SIVs had come to have substantial exposure to the mortgage market. The exposure would lead to their demise.

In sum, by generating a variety of complex financial products based on pools of mortgages, private label securitizers created within the financial system an additional level of complexity, opacity, and interconnectedness. Investment entities and financial institutions were heavily involved in securitizing and underwriting MBS, investing in derivatives, and generally creating and investing in new financial products.²³ But the opacity of these instruments and activities masked the underlying systemic risk, which derived both from the riskiness of the mortgages backing the securities and from the highly leveraged nature of many of the institutions involved. Investment banks (part of the shadow banking system) were not subject to the types of restrictions on the use of financial leverage that banks were subject to, and were therefore able to expand their balance sheets by increasing leverage to a greater extent than federally supervised banks were allowed to.²⁴ Finally, although the deep interconnectedness among investment entities and financial institutions spread risks across the securitization chain, it also created conflicts of interest within the chain: originators and underwriters (at the front of the chain) were not acting in the best interest of the investors and bondholders (at the end of the chain).²⁵

The Role of Rating Agencies and the Devastating Effect of Downgrades

During the years when subprime losses were materializing, one group critical to the entire mortgage-based investment process was credit rating agencies. Credit rating agencies assign credit ratings to a variety of financial institutions and financial assets, and during the period in question, the agencies were rating MBS. The reason these ratings were critical is that both investors and insurers of investment contracts relied on them. Investors relied (and still rely) on credit ratings—particularly on those issued by one of the Nationally

from specific pools of assets such as trade receivables or mortgages. This commercial paper plays a prominent role in the section below titled “Financial Market Disruptions.”

²² FCIC, *Final Report*, 252.

²³ According to the FCIC, derivatives are financial contracts whose prices are derived from the performance of an underlying asset, rate, index, or event. The use of derivatives grew significantly during the 2000s as a way to ensure payment (losses due to price movement could be recouped through gains on the derivatives contract). The resulting growth in leverage made financial institutions “vulnerable to financial distress or ruin if the value of their investments declined even modestly” (ibid., xix, 45–51).

²⁴ For a more detailed discussion of the shadow banking system and financial interconnections, see Zoltan Pozsar et al., “Shadow Banking,” Federal Reserve Bank of New York Staff Report 458 (2010), https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr458.pdf.

²⁵ International Monetary Fund, “Navigating the Financial Challenges Ahead,” *Global Financial Stability Report* (2009), 77–115.

Recognized Statistical Rating Organizations (NRSROs)²⁶—to assess the credit quality of their investments. Many investors (for example, pension funds) are required to adhere to mandates on the quality distribution of assets they hold, and the quality distribution is typically determined by the credit ratings from an NRSRO. In addition, credit rating agency ratings are often used in investment contracts to protect investors against a possible credit downgrade. For example, if investors bought AAA-rated securities (such as mortgage derivatives) because they believed—on the basis of the rating—that the securities were risk free, but the securities were subsequently downgraded, the contract might have entitled the creditor to demand collateral from the debtor. Insurers, too, relied on credit ratings when they started guaranteeing the AAA ratings of MBS, putting their own reputation and financial strength on the line because of confidence in the credit ratings issued by the agencies.

In 2007, subprime defaults were increasing, and the performance of MBS and other structured financial products started deteriorating. According to Benmelech and Dlugosz, deterioration in the credit ratings of such products began likewise in 2007. In that year, there were more than 8,000 downgrades, eight times the number in 2006.²⁷ In the first three quarters of 2008, there were almost 40,000 downgrades, far exceeding the cumulative number of downgrades for the period 2000 through 2007. Moreover, the magnitude of the downgrades—the number of levels, or “notches,” by which each rating was lowered—became much more severe in 2007. In 2005 and 2006, the average downgrade each year was 2.5 notches, but in 2007 the average downgrade was 4.7 notches, and in 2008 it was 5.6 notches.²⁸ The sharp increase in the number and severity of downgrades was devastating for the holders of the securities affected, for the reputation of the rating agencies themselves, and for insurers.

The holders of the securities found that their previously AAA-rated investments—the highest rated, considered the safest of investments—had become unmarketable.²⁹ Under mark-to-market accounting rules, institutions that held these now-unmarketable mortgage-backed bonds had to write them down.³⁰ Investor demand plummeted and securitization activity dropped precipitously. Private label securitization—which, as noted, had provided much of the funding for new mortgages—continued dropping until, in 2008, it virtually disappeared. As a result, many underwriters were stuck holding large portfolios of mortgages and MBS that could not be sold and were quickly losing value. This downturn would have significant implications for the financial markets, as discussed in the next two sections.

²⁶ NRSROs are credit rating agencies registered as such with the Securities and Exchange Commission.

²⁷ Efraim Benmelech and Jennifer Dlugosz, “The Credit Rating Crisis,” *NBER Macroeconomics Annual 2009 24* (2010): 172.

²⁸ *Ibid.*, 170.

²⁹ Carl Levin, *Hearing of the U.S. Senate Permanent Subcommittee on Investigations, “Wall Street and the Financial Crisis: The Role of Credit Rating Agencies,”* Opening Statement, April 23, 2010, 4.

³⁰ FCIC, *Final Report*, 227–30.

Among the many reasons mentioned above for the puncturing of the housing bubble was new pricing information that contributed to the decline in MBS values. Gorton makes an important point about the role that information about the MBS market played in puncturing the housing and mortgage-backed securities bubble. He observes that information about the pricing of residential mortgage-backed securities was not commonly available in real time until the ABX index was introduced, at the start of 2006.³¹ The ABX index measures the value of subprime mortgages. He states, “The introduction of these indices is important for two reasons. First, they provided a transparent price of subprime risk, albeit with liquidity problems. Second, [the transparent price of subprime risk] allowed for [the efficient] shorting of the subprime market,”³² enabling investors to hedge their positions. As seen in Figure 1.6, new vintages in 2007 declined sharply upon issuance. Gorton states that “it is not clear whether the housing price bubble was burst by the ability to short the subprime housing market or whether house prices were going down and the implications of this were aggregated and revealed by the ABX indices.”³³ Regardless, he makes a compelling case that the ABX index provided transparency for the pricing information on subprime MBS, revealing deterioration and playing an important role in the decline of house prices, as investors pulled out of the housing market.

As financial stress continued and investors increasingly questioned the credibility of the credit ratings, the reputation of rating agencies declined. As they kept downgrading MBS and CDOs, it became apparent that the high ratings previously assigned to these securities had been overstated and were overly optimistic. Part of the problem was that the models used by credit rating agencies were based on more traditional mortgage products than the ones in the market at the time and on historic data that did not cover an episode of a nationwide downturn. The data covered the recent period characterized by low delinquency and default rates, and housing downturns that were concentrated in just some states. The models did not account for the risk scenario of a massive, nationwide decline in home prices.³⁴ Another part of the problem was that financial institutions that issue securities paid rating agencies to rate their products, and the institutions typically shopped around for favorable ratings. Many observers have noted that the desire to retain business encouraged credit rating agencies to provide securities ratings that were agreeable to the issuing institutions.³⁵

³¹ The ABX index is a financial benchmark that references 20 equally weighted residential mortgage-backed security tranches. There are also sub-indexes for bonds based on their rating level: AAA, AA, A, BBB, and BBB-. The “vintage” of an ABX index refers to the date it was introduced.

³² Gary Gorton, “The Subprime Panic,” *European Financial Management* 15, no. 1 (January 2009): 32.

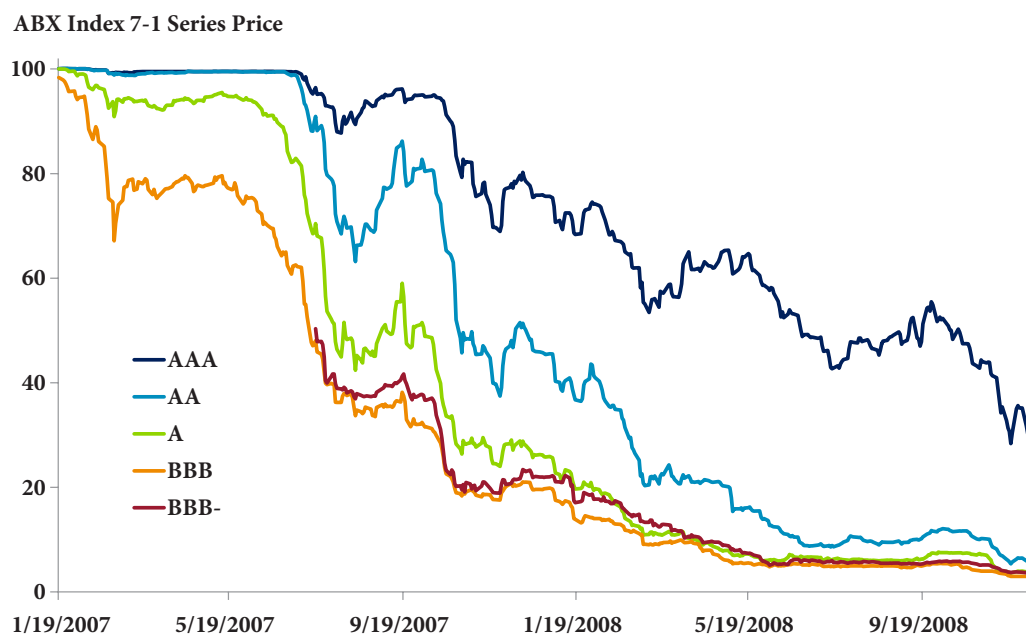
³³ *Ibid.*, 34.

³⁴ Markus K. Brunnermeier, “Deciphering the Liquidity and Credit Crunch 2007–2008,” *Journal of Economic Perspectives* 23, no. 1 (Winter 2009): 81, <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.23.1.77>.

³⁵ See, for example, Simon Johnson and James Kwak, *Thirteen Bankers* (2010), 139.

The rating downgrades also affected monoline insurers, companies whose single line of business was to guarantee financial products and whose role in the mortgage market had increased during the years leading up to the financial crisis. Monoline insurers traditionally insured municipal bonds against default, but during the years preceding the financial crisis, they started to insure mortgage securities, issuing CDS that insured against declines in the price of CDOs and MBS. As noted above, this insurance guaranteed the AAA ratings on these securities. The value of the guarantee was based on the AAA status of the insurer.

Figure 1.6. Mortgage Credit Default Swap ABX Indexes



Source: Bloomberg.

Note: The 7-1 series started January 1, 2007.

As mortgage CDO and CDS issuances grew, investment banks created synthetic CDOs. These synthetic CDOs referenced mortgage securities but were not actually backed by them or by mortgage assets. Instead, they were backed by credit default swaps. In essence they reflected bets on the mortgage market—bets that increased leverage in the system without actually financing mortgages (see the box titled “CDOs and CDS”).

Weakness in the mortgage markets challenged the profitability of monoline insurers, and the challenge to the insurers’ profitability worried holders of CDS guarantees. Because many insurers did not expect to incur losses, they were thinly capitalized. In late 2007, one of the smaller insurers, ACA, reported a net loss of \$1.7 billion due to

losses on CDS contracts.³⁶ In January 2008, Fitch Ratings downgraded monoline insurer Ambac, and rating agencies then began downgrading other monoline insurers; the downgrades continued through the end of the summer. In June of that year, Standard and Poor's downgraded monoline bond insurer MBIA, which at that time was liable for \$2.9 billion to satisfy potential termination payments and for approximately \$4.5 billion in underlying collateral.³⁷ Markets reacted by selling MBS, CDOs, and related securities, and the stock prices of monoline insurers (as well as of other financial institutions that were exposed to mortgage securities) continued to decline.

CDOs and CDS

Collateralized Debt Obligations (CDOs) and Credit Default Swaps (CDS) played integral roles in spreading and amplifying the risk of the mortgage market throughout the financial system.

CDOs were a type of mortgage asset structured from lower-rated tranches of MBS tranches that were individually difficult to sell to investors, who demanded highly rated securities. CDOs were structured to further diversify the risk of a given pool of lower-rated tranches of MBS, on the assumption that payments would flow from some of the MBS tranches, even if other tranches were to bear losses. CDOs were structured like MBS, with a waterfall of payments going first to the AAA-rated tranche. About 80 percent of the tranches of these CDOs were highly rated, despite the fact that their value was based on lower-rated tranches of MBS. Lower-rated tranches of CDOs were further bundled and packaged into new CDOs, called CDO squared. The CDO process exposed risk not only to CDO investors but to the securities firms that issued CDOs, as they held the lower-rated MBS tranches until the CDO was issued. The risk was further spread throughout the financial system as these securities were used as collateral in short-term funding markets.

In addition, key financial institutions issued CDS to insure against losses on MBS, CDOs, and other mortgage securities. CDS were a type of financial contract in which the issuer retained the risk of default and paid the CDS purchaser in the event of default. The CDS served as insurance to the purchaser, who did not need to own the security. CDS issuance ramped up along with the rise of CDOs and other mortgage securities. CDS issuance was profitable as long as the mortgage market remained strong and the insured mortgage securities were considered low risk. By providing insurance against losses on mortgage securities, CDS furthered

³⁶ FCIC, *Final Report*, 276.

³⁷ FCIC, "Credit Ratings and the Financial Crisis," Preliminary Staff Report, (2010) 8, http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/2010-0602-Credit-Ratings.pdf.

the perception of the safety of the system and perpetuated investor demand for what were, in fact, precarious mortgage securities.

Synthetic CDOs consisted of CDS that referenced MBS and CDOs without containing cash flows from these mortgage securities. Since they only referenced mortgage securities, synthetic CDOs did not directly finance mortgage issuance, but enabled investors to speculate on the mortgage market. For example, "short" synthetic CDO investors who bought a CDS agreement on a referenced CDO paid premiums to the CDO and received payment from the CDO if the referenced CDO did not perform. "Unfunded long" synthetic CDO investors who bought a CDS agreement on a referenced CDO received premiums if the referenced CDO performed, but had to pay out if it did not perform.

The financial system aimed to diversify mortgage risk by creating new highly rated mortgage securities to meet investor demand. The demand for highly rated mortgage securities further supported mortgage issuance. Ultimately, the performance of the different tranches of the MBS securities upon which CDOs and CDS were based, were highly correlated. When MBS losses mounted, the losses were amplified throughout the financial system.

Source: FCIC, Final Report, Chapter 8.

Financial Market Disruptions: Illiquidity and Fire Sales

As financial distress spread across the securitization chain, the ripple effects from the troubles in the housing market began to reach deeper into the financial system. Uncertainty over collateral value, asset quality and asset liquidity, and counterparty creditworthiness caused a rapid withdrawal of short-term liquidity, especially in the shadow banking system (see second paragraph below). Illiquidity, on top of high leverage, forced firms to engage in asset fire sales, which depressed asset prices even further.³⁸

With so much of short-term lending based on collateral composed of now-discredited structured products, the market completely shut down. Some nonbank entities were able to obtain liquidity support for their mortgage-related assets from their banking affiliates, which had access to Federal Reserve liquidity facilities.³⁹ For financial institutions with

³⁸ Brunnermeier, "Deciphering Liquidity," 77–100.

³⁹ When market liquidity dried up during the crisis, concerns about financial stability prompted the Federal Reserve to grant exemptions to Sections 23A and 23B of the Federal Reserve Act, which limit transactions between banks and their nonbank affiliates such as broker-dealers and insurance companies. The 23A and 23B restrictions are intended to limit the exposure of a bank to its nonbank affiliates (a bank is regulated, protected by FDIC deposit insurance, and allowed access to Federal Reserve liquidity facilities; a nonbank affiliate is not). The exemptions allowed bank holding companies to obtain liquidity for their nonbank subsidiaries from bank subsidiaries that could access the Federal Reserve's liquidity facilities. See U.S. Government Accountability Office, *Government Support for Bank Holding Companies*, GAO-14-18,

limited access to funding markets, the only way to raise collateral was by selling assets at steep discounts, but these fire-sale prices were then used to mark-to-market similar assets, beginning another round of fire sales. These market disruptions caused distress in the financial system, particularly in the shadow banking system.

The shadow banking system consists of broker-dealers, money market mutual funds (MMFs), hedge funds, insurance companies, and other nondepository financial institutions (including investment banks) that match short-term investor cash with longer-term assets. The complex web of financial linkages among these entities was an important channel for propagating the mortgage crisis. These entities, as well as banks, relied heavily on short-term funding, which they accessed through a variety of instruments that were based in some way on MBS or the underlying mortgages.⁴⁰ Two examples of such short-term funding vehicles are repurchase agreements (repos) and commercial paper.

Repos are contracts under which the repo holder (a hedge fund, for example) sells securities to another financial firm (an MME, for example) with the agreement to buy back the securities at a later date (usually overnight), typically at a higher price. In effect, repos are short-term, collateralized loans. Commercial paper is a short-term, unsecured promissory note. Asset-backed commercial paper (ABCP) is a short-term promissory note for which payment is based on cash flows from securitizations or the underlying assets. Institutions that rely on repos and commercial paper can continue to roll over both of these short-term instruments as long as the demand for them is strong, but cash providers can withdraw funding very quickly by refusing to roll over the agreements.⁴¹

In the period leading up to the financial crisis, broker-dealers and hedge funds relied heavily on repos for funding, and many more financial institutions relied on the issuance of commercial paper.⁴² On the demand side were MMFs, which invest in short-term debt securities with funding from investors seeking a safe, deposit-like asset. MMFs were a large and, before the crisis, steady source of demand for the repos and commercial paper that other types of financial firms were issuing in their need for short-term funding. Since MMFs offer their investors a stable net asset value of one dollar per share regardless of the value of the underlying assets, they seek to invest in safe assets. Short-term debt securities issued by investment banks were considered safe, and MMFs held them.

In the summer of 2007, as mortgage defaults rose and the value of MBS fell, demand for the short-term instruments rapidly declined. Cash providers no longer wanted to enter into repos collateralized by MBS, fearing that if the other party to the contract (the

November 2013, <https://www.gao.gov/assets/660/659004.pdf>.

⁴⁰ Martin Baily, Robert Litan, and Matthew Johnson, “The Origins of the Financial Crisis,” *Initiative on Business and Public Policy at Brookings* (2008), 27–31, https://www.brookings.edu/wp-content/uploads/2016/06/11_origins_crisis_baily_litan.pdf.

⁴¹ Gary Gorton, “Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007,” Federal Reserve Bank of Atlanta 2009 Financial Markets Conference: Financial Innovation and Crisis, 30, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.189.1320&rep=rep1&type=pdf>.

⁴² Pozsar et al., “Shadow Banking,” 35.

counterparty) defaulted, they would be left holding an asset with a declining value. As for ABCP, since it was based on the cash flow from underlying mortgages and MBS, it was suddenly seen as more risky than before. Eventually, many banking companies with off-balance-sheet SIVs—which financed MBS and mortgage purchases by issuing ABCP—were forced to bring these entities onto their own balance sheets to prevent the entities' insolvency and the legal and reputational damage that could result from default.⁴³

In late 2007 the ABCP market collapsed, and in 2008 a number of hedge funds and SIVs were forced to liquidate their portfolios, having become unable to roll over short-term debt. In the course of 2007 and into 2008, SIV balance sheets had continued to weaken, and liquidity had become a major issue. For highly leveraged institutions like SIVs and hedge funds, steep markdowns of assets under mark-to-market rules initiated increased margin and collateral calls. Because of the general opacity of SIVs, the increased calls on some SIVs prompted investor withdrawal from other, potentially safer SIVs.

During the crisis, with illiquidity crippling the financial system, distress was exacerbated by the high level of leverage present in many financial institutions. Higher leverage amplifies gains when the assets bought with the borrowed money increase in value, but it also magnifies losses when the value of the assets declines.⁴⁴

Leveraged investors are required to hold some minimum level of cash or collateral with a broker institution to guard against losses. Financial institutions purchased assets on margin, holding the minimum level of cash or collateral that was required and borrowing most of the funds needed to purchase assets. As noted, the higher the margin, the higher the profits from a rise in the asset price—but the larger the losses from a price decline. For example, a financial institution that purchases \$100 in assets with \$10 of its own capital and \$90 of borrowed funds has a leverage ratio of 10 and has purchased the asset at a 10 percent margin. If the value of the asset falls to \$90, the firm realizes a \$10 loss and has no capital remaining. If the price falls below \$90, the firm needs to sell assets to meet its margin requirement of 10 percent.

As securities fall in value and losses mount, the leveraged investor is required to provide more cash or sell a portion of the securities. Highly leveraged firms may have less access to cash and be more likely to experience collateral calls or funding outflows. If many leveraged firms must meet these calls all at the same time and are forced to raise capital by selling assets whose prices are declining, the supply of assets for sale may increase enough to drive the price down even further. This additional drop may trigger additional margin and collateral calls.

In 2007, the markdowns of assets by highly leveraged institutions caused increased margin and collateral calls, which started a vicious cycle of falling prices and fire sales.

⁴³ Baily, Litan, and Johnson, "Origins," 29. For a table describing the outcomes for the major structured investment vehicles, see Gary Gorton, "The Panic of 2007," NBER Working Paper 14358 (2008), appendix B, <http://www.nber.org/papers/w14358.pdf>.

⁴⁴ FCIC, *Final Report*, xix.

According to the FCIC, in that year the major investment banks—Bear Stearns, Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley—were operating with a leverage ratio as high as 40.⁴⁵ This ratio indicates the magnitude of the effect that asset price declines had on the balance sheets of major financial institutions precisely when short-term funding dried up.

Institutions in Crisis in 2008

As described above, concerns over the exposure of financial institutions to MBS grew during 2007 and into 2008, and large banks reported write-downs on mortgage products. Starting third quarter 2007, major financial institutions—including two commercial banks (Bank of America and Citigroup) and four investment banks (Bear Stearns, Lehman Brothers, Merrill Lynch, and Morgan Stanley)—began to report declines in net earnings. Bear Stearns had substantial exposure to mortgages and mortgage products beyond the two Bear Stearns-managed hedge funds that declared bankruptcy in 2007, and investors grew increasingly concerned about the firm's solvency. On March 12, 2008, these concerns precipitated a run on the investment bank by its hedge fund clients and other counterparties. The next day, the bank lost its ability to borrow in the repo market. To avert panic among investors, the Federal Reserve coordinated the acquisition of Bear Stearns by JPMorgan Chase—granting a \$30 billion loan to JPMorgan to cover potential losses on Bear's asset portfolio.

In the ensuing months, a general lack of transparency in exposures to risky assets greatly increased uncertainty over counterparty credit risk, and fears mounted over the solvency of other major financial institutions.⁴⁶

Throughout the summer of 2008, persistent declines in asset values continued to weigh on financial institution balance sheets. Eventually, several major financial institutions neared insolvency. Among them were the two giant GSEs, Fannie Mae and Freddie Mac, which together held about \$1.5 trillion in bonds outstanding. Finally, on September 7, 2008, growing losses and ongoing deterioration in MBS prices prompted Treasury Secretary Henry Paulson to put these two GSEs into federal conservatorship, while explicitly guaranteeing all outstanding GSE securities.⁴⁷

Within days, Lehman Brothers, another investment bank heavily exposed to MBS, experienced funding problems similar to those Bear Stearns had experienced. Like Bear Stearns, Lehman Brothers was not exceedingly large but was deeply interconnected with other financial institutions. Concerned about Lehman's solvency, investors withdrew their funds, refused repo funding, and demanded more collateral on outstanding

⁴⁵ Ibid. Here the leverage ratio is expressed as a 40 to 1 multiple, meaning that for every \$40 in assets, there was only \$1 in capital to cover losses. In discussions of bank regulation, the leverage ratio is generally calculated as a ratio of equity to assets.

⁴⁶ Brunnermeier, "Deciphering Liquidity," 96–98.

⁴⁷ Ibid., 89.

commitments. On September 15, 2008, unable to meet investor demand—and without government assistance or the presence of an acquiring institution—Lehman Brothers declared bankruptcy. Lehman's failure triggered panic throughout the U.S. and global financial systems. Coming on the heels of the previous stages of financial market turbulence, the panic resulted in one of the most severe financial crises in U.S. history.

The ensuing panic was similar to previous financial panics in the sense that investors lost confidence in the financial system. Unlike the previous ones, however, this one involved a run on financial firms not by individual depositors but by other financial firms.⁴⁸ When exposure to mortgage-backed securities and derivatives was spread throughout the financial system, counterparties did not know where the risk was concentrated and which institution would be next to fail. Widespread uncertainty over the solvency of major financial institutions led investors to quickly withdraw their exposures to the financial sector and to hoard cash. In turn, the withdrawal of exposures and the hoarding of cash led to a general breakdown of intermediation—the “matching” of the funding market to investors by an agent or third party, such as a bank. For creditors, it was much easier and safer to withdraw their positions than to check the safety of their investments. During the weeks after Lehman's bankruptcy, the general perceived riskiness of private lending to banks was reflected in a spike in interbank lending rates.⁴⁹

The day after the Lehman bankruptcy, another highly interconnected institution—the American Insurance Group (AIG)—also encountered an acute liquidity shortage. Like the investment banks, AIG was heavily involved in the credit derivatives business, particularly in selling CDS. AIG had issued tens of billions of dollars of CDS to insure against declines in asset values. It had also written CDS to protect against default on more than \$440 billion of bonds. After Lehman declared bankruptcy, nervous investors demanded additional collateral on AIG's insurance and derivatives contracts. AIG did not have the cash. The Federal Reserve quickly organized a rescue, providing an \$85 billion loan in exchange for an 80 percent equity stake in the company.

After the Lehman bankruptcy, short-term funding markets, already stressed as described above, nearly collapsed. MMFs were one market that experienced panic and a run.⁵⁰ Investor redemption requests on MMFs surged, causing a severe liquidity crisis. The Reserve Primary Fund—an MMF that held debt securities issued by Lehman Brothers—fell to 97 cents per share, becoming the first money market fund in 14 years to “break the buck” by falling below \$1 per share. This event spread panic throughout the MMF

⁴⁸ Gary Gorton, “Questions and Answers about the Financial Crisis,” NBER Working Paper 15787 (February 2010), 2, <http://www.nber.org/papers/w15787.pdf>.

⁴⁹ FCIC, *Final Report*, 355.

⁵⁰ MMFs were historically perceived to be safe, liquid investment vehicles that were slightly higher-yielding substitutes for bank deposits. However, unlike bank deposits, MMFs were not federally insured. MMFs invested in short-term debt that typically included government securities, certificates of deposit, commercial paper, repurchase agreements, or tax-exempt securities issued by state or local governments.

industry, prompting MMF investors to redeem their investments. For example, Putnam Investments closed its \$15 billion Prime Money Market Fund because of “significant redemption pressure.”⁵¹ During the week when Lehman Brothers declared bankruptcy, MMF net outflows totaled \$169 billion. These outflows caused MMF funding for short-term debt to drop, affecting sectors that relied on the funding.

In some cases, the investment banks that sponsored MMFs stepped in to support MMFs facing significant redemptions. The Reserve Primary Fund, however, did not have a parent company that could provide support. Ultimately, the U.S. government provided liquidity and guarantees to the entire MMF industry. The Federal Reserve made liquidity available to money markets through two facilities, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility and the Money Market Investor Funding Facility, to support the commercial paper market, to help MMFs meet redemption requests, and to enhance money market investors’ willingness to invest in money market instruments. In addition, the Treasury provided a temporary guarantee for MMF shareholders. The guarantee lasted for one year and protected the shares of all MMF investors for amounts that they held in participating MMFs. The Treasury did not incur any losses under the program, and its actions helped stabilize the run on MMFs.⁵²

For the several days that followed Lehman’s bankruptcy, investors’ panic continued to permeate the financial markets and led to a more rapid deleveraging process to reduce debt on balance sheets. The process exacerbated the declines in asset values and spread them across all major financial markets. As noted above, the panic conditions were sustained by the lack of liquidity and transparency with regard to the underlying assets on institutions’ balance sheets. The panic led to the downfall of Washington Mutual (WaMu)—a major thrift institution with total assets of \$307 billion, an amount that made it the largest bank failure in U.S. history. In the days after WaMu’s failure, Wachovia experienced a liquidity crisis and the federal government was prepared to provide assistance, but ultimately the bank was acquired by Wells Fargo without the assistance being necessary. The panic persisted until the government implemented a series of emergency measures to address the crisis (see chapter 2). Following WaMu’s failure, other financial institutions became illiquid or neared insolvency but were rescued or provided with support by the government. Among them was one of the largest commercial banks in the country: Citibank. Then in January the government assembled an assistance package for Bank of America, but it was not implemented. (For a discussion of Wachovia, Citibank, and Bank of America, see chapter 3.)

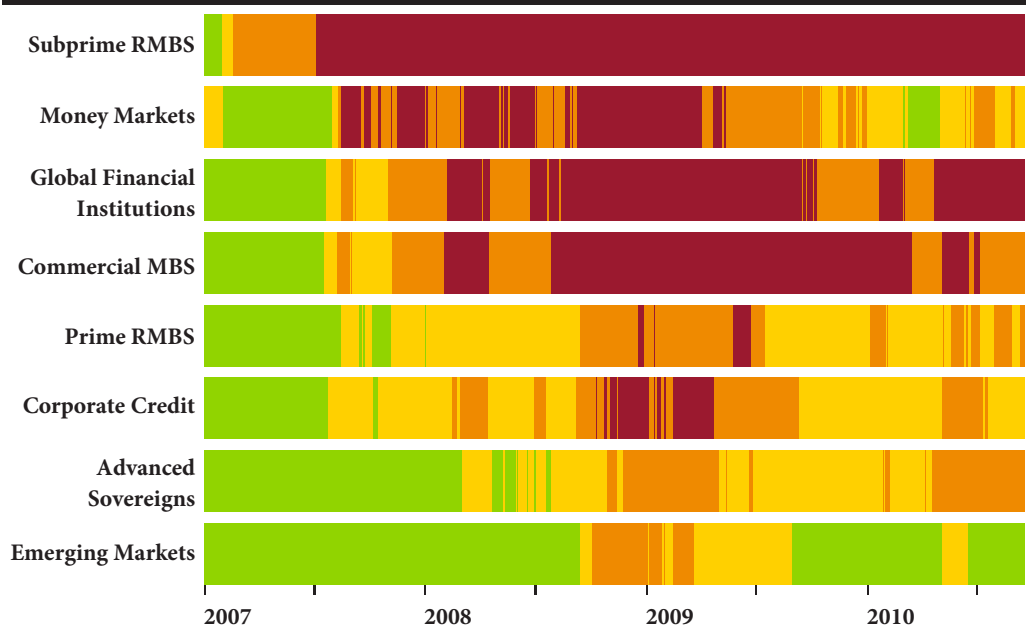
The U.S. financial crisis affected investors and financial institutions around the world. Many foreign financial entities (including foreign banks, governments, and sovereign

⁵¹ Diana Henriques, “Professional Money Fund Is Closed by Putnam,” *New York Times*, September 18, 2008.

⁵² Christian M. McNamara, “Temporary Guarantee Program for Money Market Funds,” Yale Program on Financial Stability, Yale School of Management, January 13, 2016.

wealth funds) had invested directly or indirectly in U.S. mortgage derivatives.⁵³ Even emerging market economies—with financial systems less exposed to the U.S. financial system and relatively little exposure to mortgage derivatives—were affected by the fallout from the crisis, experiencing the economic aftershock as global trade declined drastically and as foreign investors, who had become extremely risk averse, pulled out of their investments in emerging markets. Figure 1.7 shows the severity of the crisis across major global markets from January 2007 through September 2010.

Figure 1.7. Markets Heat Map



Source: International Monetary Fund, October 2010.
 Note: The heat map measures both the level and one-month volatility of the spreads, prices, and total returns of each asset class relative to the average during 2003–2006 (i.e., wider spreads, lower prices and total returns, and higher volatility). The deviation is expressed in terms of standard deviations. Light green signifies a standard deviation under 1, yellow signifies 1 to 4 standard deviations, orange signifies 4 to 9 standard deviations, and red signifies greater than 9 standard deviations. MBS = mortgage-backed security; RMBS = residential mortgage-backed security.

⁵³ International Monetary Fund, “Crisis and Recovery,” *World Economic Outlook*, April 2009, 101.

Conclusion

The housing market expansion of the 2000s masked deeply rooted vulnerabilities in the financial system that were exposed when house prices stopped rising and began falling. Conditions that contributed to a housing bubble of historic proportions were ample liquidity, strong demand for high-yielding financial assets, financial deregulation, loose underwriting standards for mortgages, and financial innovation. Double-digit increases in nationwide house prices and cheap credit attracted homebuyers into the housing market, as well as speculative real estate investors intent on making short-term gains. When house prices fell and mortgage terms changed, borrowers began to default on their mortgages, institutional investors pulled out of buying mortgage-backed securities, and financial institution balance sheets began to deteriorate as asset values weakened. For some institutions, the stress was so great that it threatened their continued viability.

Though the crisis began with the bank and nonbank lenders who originated high-risk, often inappropriate mortgage loans to borrowers, it spread across the securitization chain, involving many different financial institutions. The securitization of nontraditional mortgage products was conducted by large investment banks, thrifts, and commercial banking organizations, with private label securitizations constituting a growing share of the product. A number of these financial institutions relied on short-term funding to finance the purchase of long-term securities, which the institutions later sold to other financial institutions. Some of the financial institutions involved in these activities were highly leveraged, and the subsequent decline in housing prices made clear the extent of credit risk and liquidity risk that these institutions had taken on. Simultaneous deleveraging by many firms amplified the fire sales of assets and further depressed asset prices. One by one, major investment banks were acquired (Bear Stearns and WAMU) or failed (Lehman Brothers) or converted to bank holding companies (Goldman Sachs and Morgan Stanley).⁵⁴

With Lehman Brothers' bankruptcy, the markets realized that government bailouts were not guaranteed, and concerns grew about which major institution would be the next to fail. What had begun as an overheated homebuyers' market ended up reverberating throughout the U.S. financial markets and well beyond, affecting the global financial system and pushing the U.S. economy into the Great Recession.

⁵⁴ Becoming a bank holding company means becoming subject to regulation and supervision by the Federal Reserve.

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2

The Temporary Liquidity Guarantee Program: A Systemwide Systemic Risk Exception

Introduction

During the unprecedented financial-market disruptions in the United States and abroad in the fall of 2008, government officials took extraordinary measures to calm market fears and encourage lending. One of these measures was the Federal Deposit Insurance Corporation's (FDIC) Temporary Liquidity Guarantee Program (TLGP). The TLGP had two components. It provided a limited-term guarantee for certain newly issued debt not only of banks and thrifts but also of bank, thrift, and financial holding companies and eligible bank affiliates (the Debt Guarantee Program, or DGP). Additionally, the TLGP fully guaranteed certain non-interest-bearing transaction deposit accounts (the Transaction Account Guarantee Program, or TAGP).

During the first half of October 2008, U.S. policymakers made the decision to implement these programs and achieved consensus both about the mechanism for creating them and about the policy trade-offs involved in their design. During this same short period, the FDIC worked to ensure that the two voluntary programs would be in place at the time of their announcement on October 14, and during the last months of 2008, the FDIC refined the programs to increase their effectiveness.

Of the approximately 14,000 entities eligible to participate in the DGP, about half opted into the program (though almost all the debt guaranteed was issued by fewer than 50 such entities), and a significant majority of eligible institutions signed on to the TAGP. At their height, the DGP guaranteed almost \$350 billion in outstanding debt and the TAGP covered over \$800 billion in deposits. The programs were designed in such a way that expected fees would cover potential losses, but as it turned out, the fees charged to participating entities far outstripped the losses attributable to the TLGP as a whole.¹ The DGP ended on October 31, 2009, a year after its introduction (though guaranteed debt

¹ If the TLGP's fees had been insufficient to cover losses, a systemic risk assessment would have been levied on all insured institutions; see the section below titled "The TLGP: Effects and Costs."

remained outstanding until 2012). The TAGP, after two extensions, ended on December 31, 2010. The TLGP proved effective in stabilizing financial markets, with the DGP reopening frozen debt markets to participating entities and the TAGP stabilizing deposit funding for insured depository institutions.

The Policy Debate in October 2008

With financial markets in turmoil, governments around the world sought to formulate and coordinate responses designed to return stability to those markets. In the United States and many other countries, the responses involved guaranteeing debt issued by banks and expanding deposit insurance coverage. In the United States, these two courses of action occasioned a policy debate among financial regulators, leading to the decision to use the systemic risk exception under the Federal Deposit Insurance Corporation Improvement Act of 1991 as the mechanism for providing the debt guarantees and the increased deposit insurance coverage. The box titled “The Systemic Risk Exception: Origins, Definition, and Procedure” provides background on the systemic risk exception.

The G7’s Response to the Financial Crisis: Implications for the United States

Faced with badly deteriorating conditions in financial markets, the Group of Seven finance ministers met in Washington, DC, and developed a plan to address these problems, focusing on liquidity, capital, and market stability. The plan was announced on October 8, 2008, and one of its goals was to “take all necessary steps to unfreeze credit and money markets and ensure that banks and other financial institutions have broad access to liquidity and funding.”² To achieve this goal, the governments of many advanced economies decided to guarantee debt issued by banks and other financial institutions, and to expand deposit insurance guarantees.³

Given the frozen credit and money markets and the need to coordinate with the international response to the financial crisis, the United States had to determine what mechanism was appropriate for guaranteeing bank debt. The U.S. Treasury Department

² See G7 Finance Ministers, “G7 Finance Ministers and Central Bank Governors Plan of Action,” October 10, 2008, <http://www.g8.utoronto.ca/finance/fm081010.htm>. The members of the Group of Seven are the United States, Canada, France, Germany, Italy, Japan, and the United Kingdom.

³ In addition to the program in the United States, some form of debt guarantee was put in place in Australia, Austria, Belgium, Canada, Denmark, France, Germany, Greece, Ireland, Italy, the Netherlands, New Zealand, Portugal, Spain, Sweden, and the United Kingdom. See Sebastian Schich, “Expanded Government Guarantees for Bank Liabilities: Selected Issues,” *OECD Journal: Financial Market Trends*, 2009, no. 1, 5, <http://www.oecd.org/finance/financial-markets/42779438.pdf>. For the expansion of deposit insurance coverage internationally, see International Association of Deposit Insurers, “Discussion Paper on Cross Border Deposit Insurance Issues Raised by the Global Financial Crisis,” March 2011, 13–15, [http://www.iadi.org/en/assets/File/Papers/Approved%20Research%20-%20Discussion%20Papers/IADI_CBDI_Paper_29_Mar_2011_\(Final_for_publication\).pdf](http://www.iadi.org/en/assets/File/Papers/Approved%20Research%20-%20Discussion%20Papers/IADI_CBDI_Paper_29_Mar_2011_(Final_for_publication).pdf).

(Treasury) later stated that if the United States were not to take actions similar to those being undertaken in Europe, “global market participants might turn to institutions and markets in countries where the perceived protections were the greatest.”⁴

The Policy Response by U.S. Financial Regulators

For approximately ten days in October, primarily over the weekend of October 11 and 12, senior officials from the FDIC, the Federal Reserve System, and Treasury debated how to respond to the paralysis throughout the credit markets. These officials had to reach agreement on what mechanism would be appropriate for guaranteeing bank debt, if any, and they had to agree on the extent of a transaction account guarantee. Guaranteeing bank debt was seen as the more consequential of the two actions, for two reasons. First, large banks needed access to the debt markets, and needed it right away. Second, guaranteeing bank debt would be an unprecedented foray into a type of guarantee that was totally new for the FDIC, whereas extending the deposit guarantee would be an incremental change.

Underpinning the need to agree on the mechanism for guaranteeing bank debt and on the details for extending deposit coverage was the need to choose the resources that would stand behind these guarantees. The FDIC’s resources would clearly back insured deposits, but the debt guarantee was more problematic. One possible channel of funds was an appropriation by Congress. However, policymakers believed that Congress would not authorize funds over and above those it had—most reluctantly—just provided to the Troubled Asset Relief Program (TARP). Policymakers also considered TARP itself an unlikely source of funding for the debt guarantee. In addition, they believed that the Federal Reserve Board (FRB) had no authority to guarantee bank debt directly.⁵ In their view, the only available method of providing broad guarantees of bank debt (and the only way to expand deposit insurance coverage without congressional action) was to use the systemic risk exception (SRE), which allowed open-bank assistance through the FDIC.⁶

⁴ U.S. GAO, *Federal Deposit Insurance Act: Regulators’ Use of Systemic Risk Exception Raises Moral Hazard Concerns and Opportunities Exist to Clarify the Provision*, GAO-10-100, 2010, 18, <http://www.gao.gov/products/GAO-10-100>. For discussion of the scope and design of foreign debt-guarantee programs, often in comparison with the U.S. program, see Schich, “Expanded Government Guarantees”; Fabio Panetta et al., “An Assessment of Financial Sector Rescue Programmes,” BIS Papers 48, 2009, <http://www.bis.org/publ/bppdf/bispap48.pdf>; Aviram Levy and Sebastian Schich, “The Design of Government Guarantees for Bank Bonds: Lessons from the Recent Financial Crisis,” *OECD Journal: Financial Market Trends*, 2010, no. 1, <https://www.oecd.org/finance/financial-markets/45636972.pdf>; Aviram Levy and Andrea Zaghini, “The Pricing of Government-Guaranteed Bank Bonds,” *Banks and Bank Systems* 6, no. 3 (2011), <https://businessperspectives.org/media/zoo/applications/publishing/templates/article/assets/js/pdfjs/web/4126>; and Giuseppe Grande et al., “Public Guarantees on Bank Bonds: Effectiveness and Distortions,” *OECD Journal: Financial Market Trends*, 2011, no. 2, 47–72, <http://www.oecd.org/finance/financial-markets/49200208.pdf>.

⁵ See Sheila Bair, *Bull by the Horns: Fighting to Save Main Street from Wall Street and Wall Street from Itself* (2012), 113; Timothy Geithner, *Stress Test: Reflections on Financial Crises* (2014), 226; and Ben S. Bernanke, *The Courage to Act: A Memoir of a Crisis and Its Aftermath* (2015), 340.

⁶ The TLGP was not the only use of the systemic risk exception during the financial crisis. For its application in the cases of the individual financial institutions Wachovia, Citigroup, and Bank of America from September

The Systemic Risk Exception: Origins, Definition, and Procedure

The roots of the SRE can be found in concerns that FDIC resolutions during the banking crisis of the 1980s and early 1990s had frequently protected uninsured depositors and creditors in addition to insured depositors. In February 1991, a congressionally mandated study of the deposit insurance system recommended that the FDIC should, in order to minimize the cost of resolving failed banks, seek to limit its protection to insured depositors whenever possible. To accomplish this goal, any failed-bank resolution was to be undertaken at the least cost to the deposit insurance fund. The study noted, however, that “the presence of systemic risk could require a decision to protect uninsured depositors even if it is not the least costly resolution method.” Although the report acknowledged the FDIC’s practice of consulting both the Board of Governors of the Federal Reserve System (FRB) and Treasury when it chose to protect uninsured depositors, the report stated that a systemic risk decision demanded “a broader government consensus that systemic risk exists and requires extraordinary government action” and recommended that the FRB and Treasury jointly make a systemic risk determination if they agreed on the need to protect uninsured depositors.^a

Congress incorporated the systemic risk determination into the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), but amended the regulatory process that Treasury recommended.^b Unless the SRE was invoked, FDICIA prohibited protection for uninsured depositors and other creditors if protecting those depositors and creditors would increase a resolution’s cost to the deposit insurance fund. It also required that the decision to grant an SRE be made by the Secretary of the Treasury in consultation with the President, but only after a written recommendation by a two-thirds majority of both the FDIC Board of Directors and the FRB. After an SRE determination was made, the FDIC would be authorized to act or assist as necessary to avoid the potential adverse effects of a major-bank failure. The SRE was not used until 2008.

^a See U.S. Department of the Treasury, *Modernizing the Financial System: U.S. Treasury Department Recommendations for Safer, More Competitive Banks* (1991), especially 27–28.

^b For policymakers’ views on the SRE as it was being considered, see *Economic Implications of the “Too Big to Fail Policy,” Hearing Before the U.S. House of Representatives, Subcommittee on Economic Stabilization, Committee on Banking, Finance, and Urban Affairs, 102nd Cong.* (1991).

By October 13, after days of intense negotiation, the agencies reached agreement on the basic elements of the emergency program to guarantee bank debt and insure a broad subset of transaction deposits. The agreement immediately set in motion the process of requesting a systemic risk determination, in keeping with the procedure set forth in the

Federal Deposit Insurance Corporation Improvement Act of 1991: the FDIC Board and the FRB voted to recommend a systemic risk exception to the Secretary of the Treasury, and the Secretary—after consulting with the President—quickly determined that a systemic risk existed.

The resulting program—the two-part Temporary Liquidity Guarantee Program (TLGP)—was announced on October 14 in a joint press conference by the FDIC, the U.S. Treasury Department, and the Federal Reserve. In announcing the program, FDIC Chairman Sheila Bair emphasized that it was needed to stabilize the financial system and that it would be funded through fees charged to participating financial institutions, not taxpayers and not the Deposit Insurance Fund (DIF), which was intended to protect the deposits of bank customers.⁷ The TLGP was a crucial element of a three-part U.S. government response to the financial crisis. The other two parts were the Treasury’s capital injections into banks under the TARP, and the Commercial Paper Funding Facility (CPFF) under the aegis of the FRB. The three programs were designed to work together.⁸

Policy Discussions: The Details of the TLGP

To reach agreement about the details of the debt guarantee program, policymakers had to resolve several complex issues.⁹ One was whether to guarantee bank debt that was already outstanding. There was concern that such a broad guarantee might prove too large a liability to cover and might create a windfall for those institutions that had invested in bank debt, but arguments were also made that the guarantee needed to be as wide as possible. Another issue was whether to guarantee debt issued by bank holding companies (BHCs) and their nonbank affiliates. Some worries were expressed that there might have been legal impediments to guaranteeing such debt, and questions were raised about whether such a guarantee was in fact desirable. However, the view was also held that not guaranteeing debt issued by BHCs would leave U.S. banks at a competitive disadvantage, since European debt guarantee programs would cover the debt issued by the large universal banks in those countries. A third area of debate was whether to assess a fee for guarantees, and a fourth was whether creditors should bear any loss on bonds whose issuers defaulted. On the question of fees charged to entities that would issue guaranteed debt, there was agreement that a fee should be assessed but a spectrum of opinion on how much the fee should be. Arguments were made for (1) a minimal fee

⁷ See FDIC, “Statement by FDIC Chairman Sheila Bair,” FDIC Joint Press Conference with U.S. Treasury and Federal Reserve, Press Release, October 14, 2008, <https://www.fdic.gov/news/news/press/2008/pr08100a.html>.

⁸ For an overview of the CPFF, see Tobias Adrian et al., “The Federal Reserve’s Commercial Paper Funding Facility,” Federal Reserve Bank of New York *Economic Policy Review*, May 2011, 25–39.

⁹ This discussion is based on Bair, *Bull by the Horns*, 109–20; Geithner, *Stress Test*, 226–38; and Bernanke, *The Courage to Act*, 339–42.

to encourage participation, (2) a fee calibrated to replicate funding costs during normal market conditions, and (3) a fee that took into account the cost of potential defaults. As for creditors bearing loss if a bond issuer defaulted, an early proposal suggested that creditors bear a 10 percent loss on such bonds, but many policymakers viewed this as undercutting the purpose of the guarantee.

In the end it was agreed that the debt guarantee program would cover only newly issued debt and for a limited range of maturities. BHC debt would be covered, but with a limitation on thrift holding companies' ability to participate in the debt guarantee program and with the proviso that the FDIC would approve applications for guarantees of debt issued by nonbank affiliates of BHCs on a case-by-case basis. These restrictions were necessitated by the large number of thrift holding companies and BHC affiliates and the attendant difficulty in assessing the risk to the FDIC from guaranteeing their debt. The costs to program participants would be low but meaningful, and creditors would not face a loss on bonds whose issuers defaulted.

To reach agreement on the expansion of deposit insurance coverage, policymakers had to decide whether to expand deposit insurance coverage beyond what the FDIC already offered and, if so, to what extent. Bank deposits were an important form of liquidity for many smaller banks, and such banks faced risk from potential runs by entities holding deposits above the insurance limit, such as small businesses and municipalities. To forestall such runs, the FDIC had argued several weeks earlier that the agency should extend an unlimited guarantee to transaction accounts at banks, believing that such a guarantee would promote public confidence in banks, but at that time the proposal for such a guarantee was not adopted. It was later noted that there had been a general opposition to such an expansion of deposit insurance because of moral hazard, but that during the crisis, expansion of the insurance guarantee was thought to be warranted because, without it, there could be rapid deposit outflows from smaller banks into banks that were perceived to be too big to fail.

In the end, the proposal for an unlimited guarantee of transaction accounts at banks was agreed to as part of the TLGP. The policymakers therefore ended up striking a balance among their varying views on providing these two forms of assistance to the financial system.

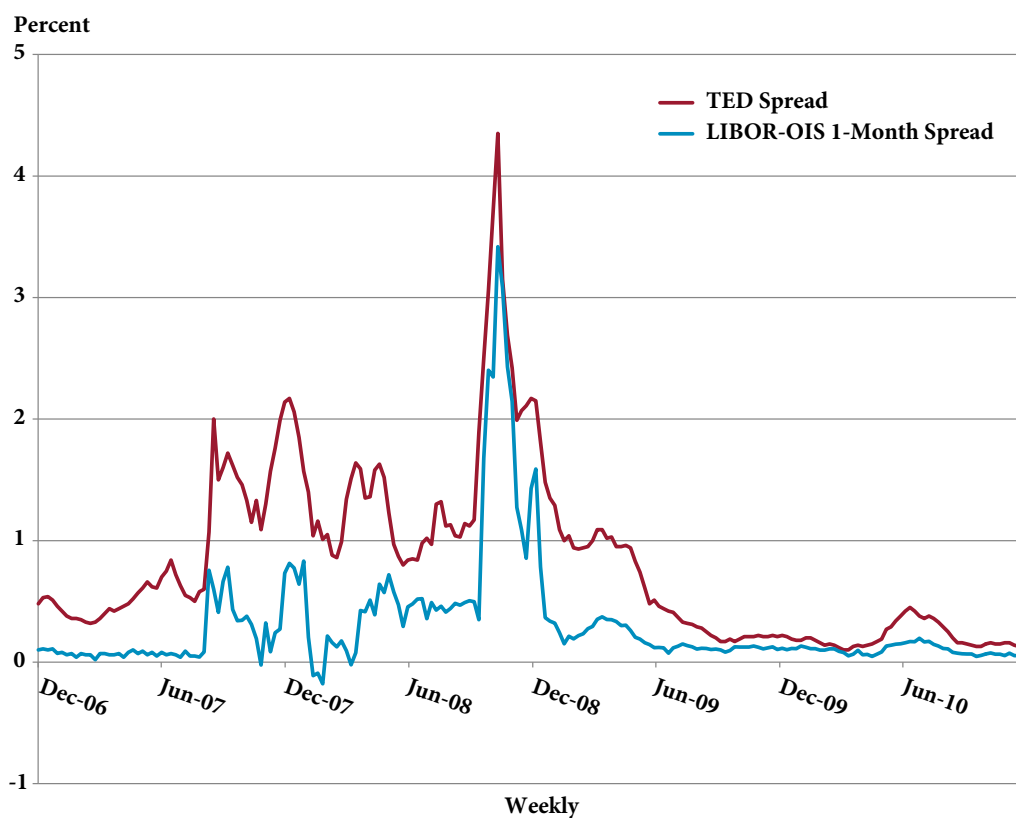
The Case for a Systemic Risk Exception

At the same time that these policy discussions were being held, FDIC staff was gathering data and other information to support the case for a systemic risk exception. The information was assembled in a memorandum that the FDIC Board would consider before voting on the issue.¹⁰ The memorandum documented the growing and

¹⁰ This section is largely based on that memo: FDIC, "Memorandum to the Board of Directors: FDIC Guarantee of Bank Debt," October 13, 2008. For further discussion of the events and trends during the second half of 2008, see chapter 1.

unprecedented disruption in credit markets and the concomitant effects on banks' ability to obtain funding and to extend credit. Banks had responded to the crisis by retaining cash and tightening lending standards. Borrowing by businesses, households, and state and local governments had slowed significantly, and the trend was likely to continue. The interbank market as defined by the TED (Treasury-Eurodollar) spread was normally stable at just below 25 basis points (bps), but the spread had been rising significantly since 2007; by August 2008 the spread had risen to 238 bps, and by October 9, to 415 bps (see Figure 2.1). At this level almost no interbank lending was taking place, and banks had ceased lending in the federal funds market.¹¹

Figure 2.1. Interbank Lending Spreads during the Financial Crisis



Source: Federal Reserve Bank of St. Louis.

In addition, since Lehman Brothers Holdings, Inc., filed for bankruptcy, on September 15, even creditworthy companies had been having difficulty successfully issuing commercial paper, especially at longer maturities, and any debt that was being issued carried extremely high interest rates even for very short-term instruments.

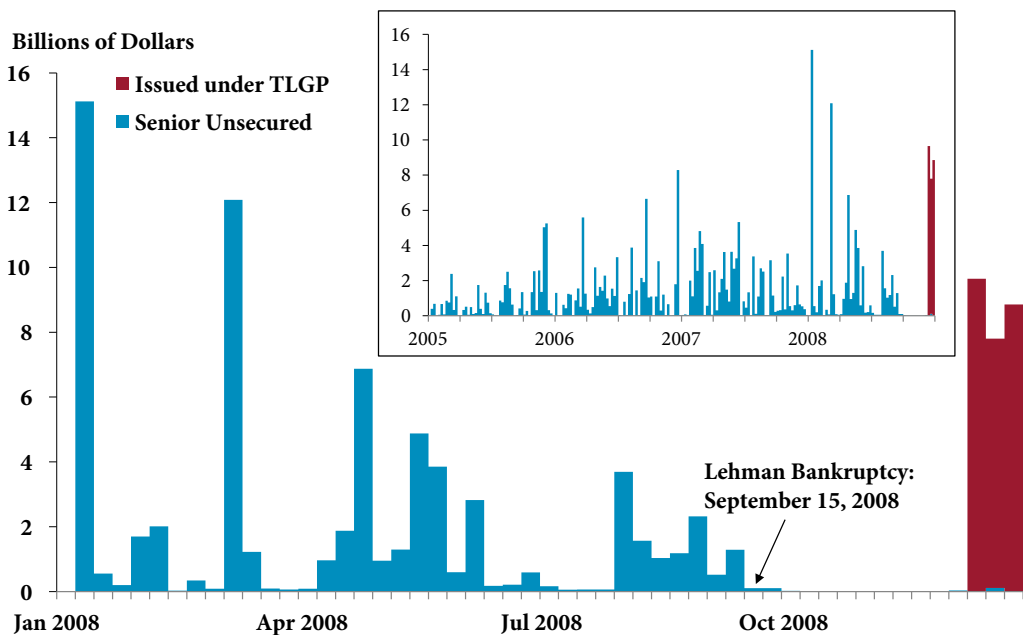
¹¹ The federal funds market allowed commercial banks that had excess reserves on deposit at regional Federal Reserve banks to lend those funds to financial institutions that had liquidity needs.

Securitization markets for both residential and commercial mortgage-backed securities had essentially shut down, and issuances of other types of asset-backed securities had also fallen drastically. Flight to safety had greatly increased Treasury “fails” (the failure to deliver Treasury securities), demonstrating both increased demand for U.S. government securities and the scarcity of these securities.

Short-term funding markets in particular were essentially frozen, and in this environment many banks and BHCs found it hard to replace funding at a reasonable cost. The short-term funding channels that were normally available to financial institutions had become problematic and expensive, when they were available at all. Figure 2.2 shows the unusual length of time during which almost no bank senior unsecured debt was issued after the Lehman bankruptcy. Had the TLGP not been implemented, that situation could have continued.

In addition, the FDIC had examined the effect that a 5 percent run on uninsured deposits would have on economic activity and found that a stressed environment could reduce GDP growth by nearly 2 percent per year, a reduction that could either create or prolong a recession.¹² Although no evidence suggested that such a large run was happening, uninsured deposits were leaving banks that were perceived to be troubled, and the FDIC had anecdotal evidence that even healthy banks were experiencing deposit outflows.

Figure 2.2. Trends in Senior Unsecured U.S. Bank Debt Issuance before and after September 2008



Source: Bloomberg.

¹² See 73 Fed. Reg. 64180 (Oct. 29, 2008).

The Systemic Risk Exception Reinterpreted

Before the 2008 crisis, policymakers and industry observers generally thought that FDICIA's systemic risk exception was intended to apply to an individual troubled institution. The situation that policymakers were confronting in 2008, however, involved not only the possible failure of a single institution, or even of a single market, but dysfunction throughout much of the financial system. These circumstances led policymakers to reexamine the scope of the systemic risk exception.

Their rationale for viewing the systemic risk exception as appropriate in this set of conditions was, first, that the intent of the proposed two-part TLGP was to mitigate the effects of credit market disruption and lessen the losses to the FDIC that would likely result from inaction. Second, safeguards were built into the two component programs: the guarantees would be limited in duration and scope; the programs would be industry funded, with a fee structure that was expected to protect the DIF; and the participating institutions would be subject to careful oversight. Finally, the total proposed program was integral to the overall three-part U.S. response to systemic risk in the banking system (as noted above, the other two parts were the Treasury's TARP capital infusions and the Federal Reserve's CPFF).

The FDIC's Board of Directors, while unanimously approving the systemic risk exception and strongly supporting the TLGP, was well aware that the agency was heading into new territory: then Vice Chairman Martin Gruenberg remarked that "this action being proposed today ... is perhaps the most extraordinary ever taken by an FDIC Board." Given the innovative nature of the action, House and Senate leaders had been consulted in advance about the steps the regulatory agencies were going to take and their support was obtained. More than one Board member observed that Congress would need to examine the statutory framework of the systemic risk exception to see if the exception as originally conceived was adequate to cover circumstances not foreseen in 1991, when the law was written.¹³ The box titled "Questions about the Statutory Authority for the TLGP" discusses the legal underpinnings for the guarantees provided by the FDIC under the new program.

Questions about the Statutory Authority for the TLGP

In 2010, the U.S. Government Accountability Office (GAO) examined the use of the systemic risk exception in 2008–2009. The report noted that the height of the financial crisis was the first time the government had used the exception and that the TLGP was created at a time of "volatile economic circumstances."

continued

¹³ FDIC, Board of Directors Meeting Minutes (Oct. 13, 2008).

The report went on to explain that the agencies (the FDIC, FRB, and Treasury) believed that FDICIA as drafted was unclear on how the systemic risk determination should be applied. Holding this belief, they thought the law's provisions could be interpreted to allow a systemic risk determination when *either* the banking industry as a whole *or* just a single institution was in danger of causing the entire financial system to collapse. Moreover, the agencies believed that “a systemic risk determination waives all of the normal statutory restrictions on FDIC assistance, as well as creating new authority to provide assistance, both as to types of aid provided and as to the entities that may receive it.” Given these interpretations, the agencies chose to make what they called a “generic systemic risk determination.” They based their choice on two assumptions about bank-by-bank assistance: it would be ineffective, and it would be more costly to the FDIC than would the TLGP.

The GAO acknowledged that it found some support for the agencies' positions that the systemic risk exception could be used both to authorize the TLGP and to provide assistance of the scope that the TLGP provided, but the GAO also found that the agencies' interpretations were open to question and raised significant policy issues. The report recommended that Congress clarify the statutory language about the requirements for, and assistance provided under, a systemic risk exception.^a Congress revised the language as part of the Dodd-Frank Wall Street Reform and Consumer Protection Act in July 2010 (see the conclusion of this chapter).

^a For a detailed analysis, see U.S. GAO, *Federal Deposit Insurance Act: Regulators' Use of Systemic Risk Exception* (2010), 43–57.

The Creation of the TLGP and Initial Participation

The TLGP was a complex program that needed to be created quickly. Normally any FDIC program, let alone one entirely new for the agency, would go through a relatively long rulemaking process before being put in place. But because of the emergent nature of the financial crisis, the TLGP took effect as soon as it was announced, on October 14; the announcement was based on the FDIC's best attempts to assemble an intricate program during the first two weeks in October. Immediately after announcing the two component programs of the TLGP, the FDIC briefed potential participants on how the Corporation expected the programs to work.¹⁴

Just two weeks later, on October 29, the FDIC issued an interim final rule that elaborated on the broad outlines and specific elements previously presented, and at the same time the agency sought comments, though on a much more expedited schedule

¹⁴ The transcripts of the conference calls can be found at <https://www.fdic.gov/regulations/resources/tlgp/archive.html>.

than usual.¹⁵ The interim final rule was amended on November 7 (again with a request for comments), and the final rule was adopted on November 21, only five weeks after the TLGP had been announced.¹⁶ Many of the comments helped improve the effectiveness of the program, particularly the debt guarantee component, as a tool for bringing stability to the financial markets.¹⁷

The TLGP was structured as a voluntary program. When it began, all eligible entities¹⁸ were automatically enrolled for the first 30 days at no cost, after which fees would be assessed to participants, and eligible entities would be allowed to opt out of either the Debt Guarantee Program (DGP) or the Transaction Account Guarantee Program (TAGP) or both.¹⁹ To eliminate an adverse selection problem (only the weakest entities would opt in, while stronger ones would opt out), all entities within a holding company were required to make the same decision about the DGP.

More than half of the over 14,000 eligible entities decided to remain in the DGP during its initial period (the DGP would later be extended beyond its initial period, as discussed below), and more than 7,100 banks and thrifts, or 86 percent of FDIC-insured institutions, decided to remain in the TAGP. Most of the institutions that opted out of the DGP were those that had less than \$1 billion in assets and issued no appreciable amount of senior unsecured debt. In addition, the FDIC placed restrictions on many entities' participation in the DGP (see the next section for more detail).

¹⁵ If an agency has enough reason to issue a final rule without first publishing a proposed rule, such a rule is often called an interim final rule; this kind of rule becomes effective on publication, but an agency may amend it later in response to public comments, as was the case with the TLGP interim final rule.

¹⁶ See 73 Fed. Reg. 64179 (Oct. 29, 2008); 73 Fed. Reg. 66160 (Nov. 7, 2008); and 73 Fed. Reg. 72244 (Nov. 26, 2008).

¹⁷ Some of the most significant changes made in response to comments were the following: the definition of senior unsecured debt was revised; an alternative cap was provided for banks that had either no senior unsecured debt outstanding or only fed funds purchased; the debt guarantee limits of a participating insured depository institution and its parent BHC were combined; the timely payment of principal and interest following payment default was guaranteed; and the transaction accounts guarantee was broadened to cover both Interest on Lawyers Trust Accounts (IOLTAs) and negotiable order of withdrawal (NOW) accounts. Many of these changes are discussed below in the sections on the DGP and the TAGP.

¹⁸ Eligible entities were (1) an insured depository institution; (2) a U.S. bank holding company, provided that it controlled (directly or indirectly) at least one subsidiary that was a chartered and operating insured depository institution; (3) a U.S. savings and loan holding company (with certain limitations), provided that it controlled (directly or indirectly) at least one subsidiary that was a chartered and operating insured depository institution; and (4) any other affiliates of an insured depository institution that the FDIC in its discretion designated an eligible entity. See 73 Fed. Reg. 64181 (Oct. 29, 2008) and 73 Fed. Reg. 72266 (Nov. 26, 2008).

¹⁹ When the nine largest banks were informed on the afternoon of October 13 that they had to accept capital infusions under TARP, they were also told that they had to opt in to the DGP. See Henry Paulson, *On the Brink: Inside the Race to Stop the Collapse of the Global Financial System* (2010), 364. Several months later, one observer would note that while some of the largest banks eagerly sought to exit the TARP, they were not similarly eager to abandon the TLGP. See Andrew Bary, "How Do You Spell Sweet Deal? For Banks, It's TLGP," *Barrons*, April 20, 2009.

The Debt Guarantee Program

The DGP provided liquidity by guaranteeing participating entities' newly issued senior unsecured borrowing, thereby allowing participants to roll over maturing debt or issue additional debt.

Ground Rules and Extensions

The program excluded certain types of debt instruments, as it was specifically designed not to encourage exotic or complex funding structures and not to protect lenders who sought to make risky loans.²⁰ Generally the FDIC capped guaranteed debt issuance at 125 percent of an entity's senior unsecured debt that was outstanding as of September 30, 2008, and was scheduled to mature on or before June 30, 2009. The cap was set at this level to allow participants to roll over existing debt and have some room for their debt issuance to grow. For entities with no senior unsecured debt outstanding as of September 30, 2008, or with only federal funds outstanding, the limit was set at 2 percent of consolidated total liabilities as of September 30, 2008.

As a condition of participation in the program, entities agreed to comply with any FDIC request that they provide relevant information about their debt issuances under the program. Another condition was that entities agreed to be subject to periodic FDIC on-site reviews (after the FDIC consulted with the appropriate federal banking regulator) to determine the entity's compliance with the terms and requirements of the DGP. The FDIC also had discretion to terminate an entity's continued participation in the DGP after consulting with the entity's primary federal regulator.²¹

Initially the DGP allowed participating entities to issue guaranteed debt until June 30, 2009, with the guarantee set to expire on the earlier of the maturity of the debt or June 30, 2012. In May 2009, however, the FDIC extended the program to reduce potential market disruption and to facilitate an orderly phase-out of the program.²² The issuance deadline was extended four months, to October 31, 2009, and the guarantee period was extended six months, expiring December 31, 2012. Participating entities that had issued DGP debt on or before April 1, 2009, could use the extension automatically, but others had to receive FDIC approval to use it. No entities that had opted out of the

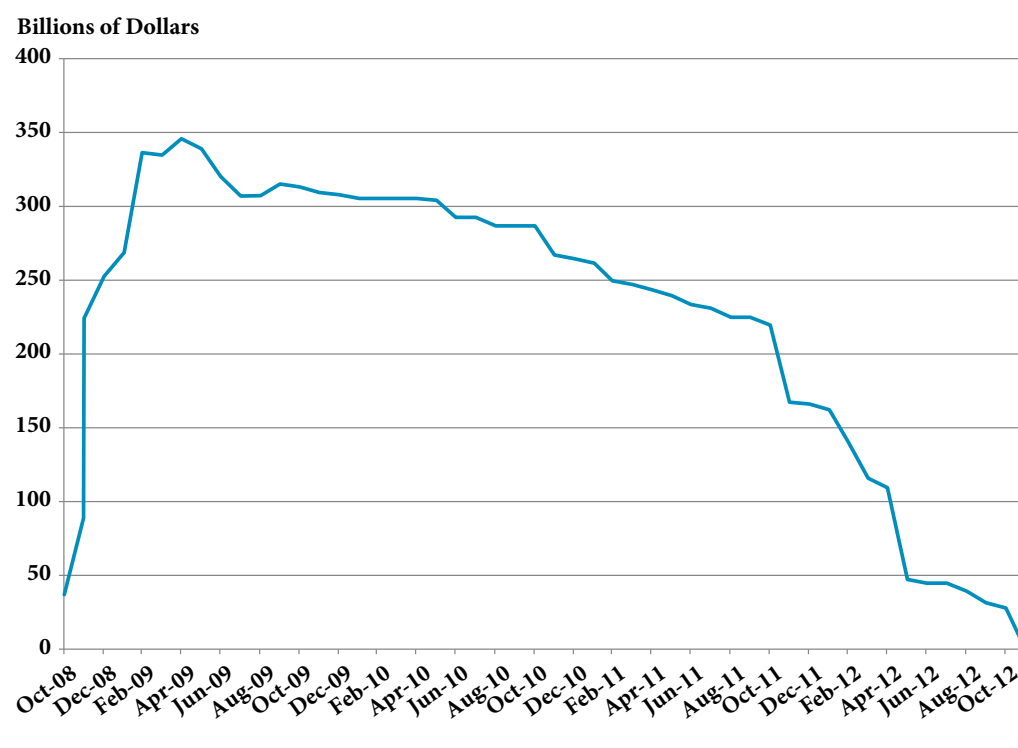
²⁰ Debt eligible for the guarantee included federal funds purchased, promissory notes, commercial paper, unsubordinated unsecured notes (including zero-coupon bonds), and certain U.S. dollar-denominated certificates of deposit. From the program's inception through December 5, 2008, the DGP covered debt with a maturity of 30 days or less, but in response to comments on the interim rule, the FDIC excluded debt with a maturity of 30 days or less and focused on stable, longer-term sources of funding, where liquidity was most lacking. The DGP was extended in 2009 to cover mandatory convertible debt. See 74 Fed. Reg. 9522 (Mar. 4, 2009). The guarantee for such debt was set to expire on the earlier of the maturity of the debt, the conversion date, or June 30, 2012.

²¹ Both the on-site review authority and the termination authority were rarely used.

²² 74 Fed. Reg. 26521 (Jun. 3, 2009).

initial phase were permitted to make use of the extension. Debt outstanding over the course of the program is presented in Figure 2.3.

Figure 2.3. DGP Debt Outstanding, October 2008–December 2012



Pricing and Limits on Participation

To compensate for the FDIC's risk, entities that issued debt were assessed fees. Initially the Corporation proposed an annualized flat-rate 75 basis point fee, after determining (by using credit default swap [CDS] spreads) that that amount would be substantially above the cost of "normal" credit protection but much lower than the very wide CDS spreads in October 2008. This proposed fee structure was the product of consultation with the Federal Reserve and Treasury. In response to industry comments, however, the FDIC altered the flat-rate fee to a sliding fee schedule, with fees ranging from 50 to 100 basis points, increasing for longer-maturity debt.²³ In addition, for holding companies whose affiliated banks' assets constituted less than half of the holding company's consolidated assets, the FDIC increased DGP fees by 10 basis points. Finally, in conjunction with the program's extension in May 2009, the FDIC added a surcharge to the guarantee fee on debt with a maturity of one

²³ An annualized fee of 50 basis points was applied to debt with a maturity of 180 days or less. The fees increased to 75 basis points for debt with a maturity of 181 to 364 days, and to 100 basis points for debt with a maturity of 365 days or more. 73 Fed. Reg. 72244 (Nov. 26, 2008).

year or greater issued after April 1, 2009. The surcharge varied depending on the type of institution issuing the debt, with banks paying the lowest fees.²⁴

Some economists have suggested that the FDIC might have been better served by adopting a more discriminating pricing method, such as the market-based pricing mechanisms used by many similar European programs. For example, pricing for the UK program started with a flat base charge supplemented by an institution's median five-year CDS spread in 2007, the year before the program's implementation. One study, using a sample of banks in both countries (U.S. and UK), calculated a "fair price" for the guarantee by using an average three-year CDS spread in November 2008, and compared the calculated fair price with the average UK guarantee fee and with the flat U.S. fee. The study found that the average UK fee was higher than the average calculated fair price (133.7 bps vs. 109.6 bps) but that the flat U.S. fee was substantially lower than the calculated fair price (75 bps vs. 255.4 bps).²⁵ These results imply that the U.S. DGP provided a large subsidy to U.S. banks. A later study sought to quantify the subsidy, using a sample of almost \$200 billion in guaranteed debt issued by six large U.S. entities. The study found that the six institutions saved almost \$20 billion over the life of the bonds compared with what they would have spent for nonguaranteed debt; in other words, they saved substantially more than they paid the FDIC for the guarantee.²⁶ As mentioned above, when the FDIC extended the DGP for four months beyond the original intended expiration of the program, surcharges were added for certain types of guaranteed debt, not only to encourage banks to exit the program but also to "reduce the subsidy provided by the DGP."²⁷

It is important to understand that pricing was not the only tool the FDIC had available to address DGP-related risks. Not all institutions were permitted to participate in the DGP, and the FDIC limited others' ability to do so. Specifically, the rule implementing the DGP permitted the FDIC, working with an entity's primary federal regulator, to make exceptions to the entity's debt guarantee limit—to increase, reduce, or restrict in some way the entity's

²⁴ The surcharge was intended to compensate members of the Deposit Insurance Fund (DIF) (including those that did not issue FDIC-guaranteed debt) for bearing the risk that TLGP fees would be insufficient and that, as explained in the section below on the TLGP's effects and costs, a systemic risk assessment would be levied on all insured institutions. Unlike the initial DGP guarantee fees, which were reserved for possible DGP losses and segregated from the DIF, the amount of any surcharge collected in connection with the extended DGP was to be deposited into the DIF and used by the FDIC when calculating the fund's reserve ratio. See 74 Fed. Reg. 26521, 26523 (Jun. 3, 2009). For an explanation of the fund's reserve ratio, see chapter 5.

²⁵ See V. Acharya and R. Sundaram, "The Financial Sector Bailout: Sowing the Seeds of the Next Crisis?," in *Restoring Financial Stability: How to Repair a Failed System*, ed. V. Acharya and M. Richardson (2009), 327–39. The authors wrote before the FDIC changed its pricing from 75 bps to the 50–100 bps scale depending on maturity; although this change would have altered their results somewhat, it would not have altered their conclusions.

²⁶ Levy and Zaghini, "The Pricing of Government-Guaranteed Bank Bonds." The authors note that the total issuance was \$184.9 billion, so even if all of the debt had incurred a fee of 100 bps, the total fee would have been less than \$2 billion.

²⁷ 74 Fed. Reg. 26523 (Jun. 3, 2009). The surcharges were also added to compensate DIF members, see note 24.

ability to issue debt.²⁸ The Corporation used this discretion extensively to mitigate its risk of loss from the DGP.

In using this discretion, the FDIC and the other federal banking agencies developed a consultative process to review the debt limits of otherwise eligible entities that had adverse regulatory ratings²⁹ or poor financial metrics, such as very high past-due ratios or poor capitalization, and in the case of several hundred weak institutions, the Corporation reduced to zero the amount of guaranteed debt they could issue. From the very start of the program, no troubled entities (those with supervisory ratings of 4 or 5) had been allowed to issue guaranteed debt, and soon thereafter the restriction was expanded to include many 3-rated entities as well as de novo banks (the latter have a significantly higher likelihood of failure than do established institutions). In all, the FDIC restricted the participation of more than 1,600 banks and thrifts and 1,400 BHCs, or approximately 35 percent of banks and thrifts and 39 percent of bank holding companies and other eligible affiliates that had opted into the program as of year-end 2008.

Challenges: Payment of Claims and Legal Issues

Of the several challenges the FDIC faced in creating the DGP, the most significant one was how to address the payment of claims under the program. Another was how to handle numerous technical details.

Having never undertaken such a guarantee before, the Corporation was confronted with both a novel problem and a natural tendency to think in terms of its longstanding methods for handling insured deposits. As a result, the initial interim rule the FDIC put forward for the payment of claims relied for triggers on the receivership process for banks and on bankruptcy filings for BHCs—but neither of those adequately took into account the expectations of market participants for prompt payment.³⁰ In addition, the issue of timely payment could have had serious implications for how the rating agencies treated TLGP-guaranteed debt.

Indeed, *Euroweek* described the program as having been “on the brink of collapse” in early November and noted that senior bankers were “highly dissatisfied with the scheme as it then stood and predicted disaster for it.”³¹ After the initial interim rule was published,

²⁸ 73 Fed. Reg. 72267 (Nov. 26, 2008).

²⁹ The regulatory agencies rate both insured depository institutions and BHCs on a scale of 1 to 5, with 1 being the highest rating and 5 the lowest.

³⁰ Initially, the FDIC proposed two different methods for the payment of claims, one for insured depository institutions (IDIs), the other for BHCs. For IDIs, the FDIC expected to use its established receivership process, which the agency believed would in most cases lead to payment of claims the next business day after failure so long as the claim was determined to be valid. For BHCs, the FDIC stated it intended to pay principal plus interest to the debtholder when the BHC filed for bankruptcy, but only after the claim was allowed under the bankruptcy code. If the FDIC did not pay within one business day of the filing, the agency would pay interest on the debt at the 90-day Treasury bill rate in effect at the time of the filing. 73 Fed. Reg. 64184-85 (Oct. 29, 2008).

³¹ *Euroweek*, “FDIC Fiddling Rescues Bank Liquidity Plan,” November 28, 2008, 10.

parties that commented on it—including representatives of Bank of America, Bank of New York Mellon, Citigroup, Goldman Sachs, JPMorgan Chase, Morgan Stanley, and Wells Fargo—urged that FDIC regulations provide that payment be made as principal and interest became due and payable, and they noted that if the FDIC failed to make payment as soon as an issuer defaulted, the demand for DGP debt would be severely curtailed because likely purchasers would be very concerned about timely receipt of scheduled payments with minimal risk exposure.³²

Standard & Poor's (S&P) stated that in order for FDIC-guaranteed debt “to qualify for rating substitution treatment [in other words, for FDIC-guaranteed debt to receive the same rating as debt of the U.S. government], the terms of a guarantee had to be unconditional, irrevocable, and timely.” S&P warned, however, that the initial interim rule made it “uncertain whether payment of interest and principal under [the FDIC’s] guarantee would have to be made on a timely basis” and that, indeed, “there appears to be the potential for a significant delay in payment beyond the terms specified in the debt, even though ultimate repayment is expected.” S&P indicated that under the interim rule, guaranteed debt would “result in, at most, limited rating elevation for guaranteed obligations” and that unless the proposal was amended, “we would be unable to rate the debt of financial institutions qualifying for the FDIC guarantees at the ‘AAA’ rating of the U.S. government.”³³ Such an outcome would have greatly reduced the effectiveness of the DGP.

The FDIC recognized the validity of the commenters’ concerns, and the final rule, in November 2008, incorporated changes that assured debtholders they would continue to receive timely payments following payment default without compromising the FDIC’s ability to obtain enough information to pay claims appropriately.³⁴

The trigger for the payment obligation was changed from a bank failure or a bankruptcy filing to a payment default.³⁵ In addition, the FDIC’s satisfaction of the

³² See, for example, the comment letter at <https://www.fdic.gov/regulations/laws/federal/2008/08c39AD37.pdf>. The FDIC sought to acquire knowledge about the debt markets, and during the week of October 27 staff met with representatives of both S&P and Fitch to discuss their methods of rating debt securities.

³³ Tanya Azarchs and Scott Sprinzen, “U.S. Guarantees of Bank Debt under Interim Rules Do Not Promise Timely Payment,” *Standard & Poor’s Ratings Direct* (November 10, 2008), 2. Quotations from this publication are reproduced with permission of Standard & Poor’s Financial Services LLC. Standard & Poor’s Financial Services LLC (S&P) does not guarantee the accuracy, completeness, timeliness or availability of any information, including ratings, and is not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, or for the results obtained from the use of ratings. S&P gives no express or implied warranties, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use. S&P shall not be liable for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including lost income or profits and opportunity costs) in connection with any use of ratings. S&P’s ratings are statements of opinions and are not statements of fact or recommendations to purchase, hold or sell securities. They do not address the market value of securities or the suitability of securities for investment purposes, and should not be relied on as investment advice.

³⁴ 73 Fed. Reg. 72260 (Nov. 26, 2008).

³⁵ For the changes described here, see 73 Fed. Reg. 72263–4 (Nov. 26, 2008).

guarantee would be such that the agency would continue to make scheduled interest and principal payments under the terms of the debt through its maturity.³⁶ These changes addressed the concerns of both the industry and the rating agencies.³⁷ With the program improvements in place, eligible entities quickly responded and, instead of claiming that the DGP was near collapse, *Euroweek* described it as having gotten off to “a scorching start,” with several large U.S. banks issuing \$17 billion in guaranteed debt in late November after having been denied access to the market for months. The publication continued: “Clearly the once-reviled plan [had] ... been given a clean bill of health by the market.”³⁸ (The box titled “Institutions Using the Debt Guarantee Program” provides information about the use of the DGP by the largest financial institutions in the country—the group that issued the bulk of guaranteed debt. The appendix lists all the issuers of \$250 million or more in debt guaranteed under the program.)

Another important challenge was how to address numerous legal issues having to do with participation in the DGP. The final rule dealt with these difficulties by requiring an issuing entity to execute and file with the FDIC a “Master Agreement” that (1) acknowledged the establishment of a debt to the FDIC for any payment made under the program and agreed to honor the FDIC’s demand for payment on the debt immediately; (2) arranged for the DGP debtholder (a) to assign to the FDIC all rights and interests in that debt upon the FDIC’s payment under the guarantee and (b) to release the FDIC from any further liability with respect to that particular debt issuance; and (3) provided that the issuer could elect to designate an authorized representative to make claims on behalf of debtholders (claimants could choose, instead, to file with the FDIC individually, but the existence of an authorized representative for a class of debtholders was expected to permit a much faster response to a claim).

* * *

By mid-2009, financial markets were stabilizing, and DGP issuance was down significantly. In October, the FDIC approved a final rule ending the DGP on the last day of that month (on October 31, 2009), but with an emergency guarantee facility available on a case-by-case basis through April 30, 2010.³⁹ The emergency facility carried very

³⁶ For debt with final maturities beyond the DGP’s expiration, the FDIC could elect at any time after that date to pay all outstanding principal and interest under the debt issuance.

³⁷ For example, on November 24, Moody’s Investors Service announced that it would assign TLGP-guaranteed debt a rating of “Aaa,” the same rating it assigned the U.S. government, noting that the changes made to the program ensured timely payment (Moody’s Investors Service, “Moody’s Will Assign Backed-Aaa Ratings to Debt Securities Covered by the FDIC’s Guarantee,” *Global Credit Research*, November 24, 2008, https://www.moodys.com/research/Moodys-will-assign-backed-Aaa-ratings-to-debt-securities-covered--PR_167951). There remained some operational questions about how parties would proceed in the event of a default on DGP-guaranteed commercial paper. These questions were settled in April 2009 by a Memorandum of Understanding agreed to by the FDIC, the Depository Trust Clearing Corporation, the Federal Reserve Bank of New York, and the U.S. Treasury.

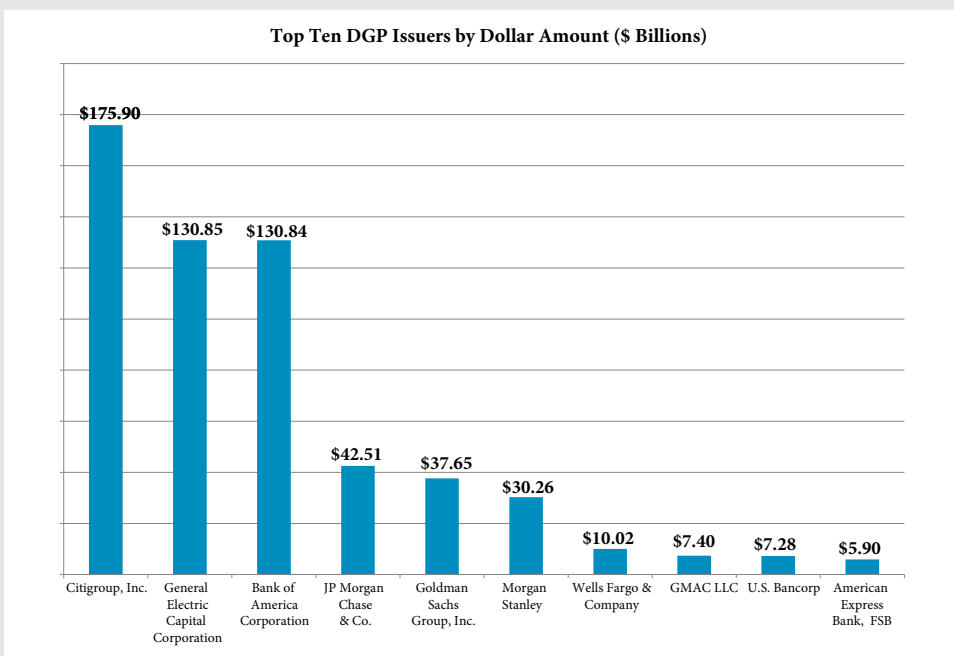
³⁸ *Euroweek*, “Goldman Leads TLGP Off to a Flying Start,” November 28, 2008, 9.

³⁹ 74 Fed. Reg. 54743 (Oct. 23, 2009).

high fees (300 basis points). In announcing the availability of the emergency guarantee facility, Bair stated, “It should be clear that this is not a continuation of the program, but an ending of the program with just a short-term facility that is only available for clearly unforeseen and unexpected events.”⁴⁰ The FDIC had always intended that the program be temporary; the emergency facility was never used and the DGP ended as scheduled on October 31, 2009.

Institutions Using the Debt Guarantee Program

Entities using the DGP ranged from small community banks to the largest financial institutions in the country, with the latter group issuing the bulk of guaranteed debt. The largest issuer was Citigroup, including Citibank and eligible affiliates, which issued almost \$176 billion of guaranteed debt over the course of the program. Among banking organizations, the second-largest issuer was Bank of America Corporation, including its bank and eligible affiliates, which issued almost \$131 billion; and the next-highest issuers among banking organizations were JPMorgan Chase & Company, its bank and affiliates; Goldman Sachs Group Inc.; and Morgan Stanley. Each of the three issued over \$30 billion in guaranteed debt.



⁴⁰ Emily Flitter, “Way Out Gets Clearer as TLGP to End,” *American Banker*, October 21, 2009, 1.

The second largest issuer of DGP debt overall was General Electric Capital Corporation (GECC), which was a savings and loan holding company by virtue of its indirect^a ownership of GE Money Bank, Salt Lake City, Utah. The FDIC's TLGP rule allowed such holding companies to participate in the DGP, but only if they were engaged solely in activities permissible for a financial holding company under section 4(k) of the Bank Holding Company Act.^b GECC was, however, not solely engaged in those permitted activities, and so instead it applied (as was also allowed) to participate based on its status as an affiliate of an insured depository institution that had received the requisite endorsement from the appropriate federal banking regulator (in this case, the Office of Thrift Supervision). After some discussion between GECC's parent, General Electric (GE) and the government, the FDIC approved the firm's participation. The FDIC judged GECC's capital and risk management to be solid, and since GE agreed to guarantee the FDIC against loss, GECC's fees would help bolster the FDIC's reserves and offset potential losses in the DGP.^c

A number of U.S. bank subsidiaries of very large foreign banking organizations also issued guaranteed debt; these included Union Bank (the U.S. subsidiary of Mitsubishi UFJ Financial Group, Inc.); HSBC Bank USA, National Association (the U.S. subsidiary of HSBC Holdings, PLC); and Bank of the West (the U.S. subsidiary of BNP Paribas).

^a GECC's two bank subsidiaries (GE Money Bank and GE Capital Financial, Inc.) were direct, wholly owned subsidiaries of GE Consumer Finance, Inc., which was wholly owned by GECC.

^b 12 U.S.C. §1843(k).

^c On GECC, see Paulson, *On the Brink*, 373, 400; and Bair, *Bull by the Horns*, 118.

The Transaction Account Guarantee Program: Purpose, Fees, and Extensions

Under the TAGP, the FDIC provided a guarantee of all funds held in non-interest-bearing transaction accounts at participating banks until December 31, 2009 (the guarantee was extended twice, first through June 30, 2010, and then through December 31, 2010, as discussed below).⁴¹ The program was intended to encourage customers to keep their

⁴¹ The interim rule defined a qualifying account as "a transaction account with respect to which interest is neither accrued nor paid and on which the insured depository institution does not reserve the right to require advance notice of an intended withdrawal" (see 73 Fed. Reg., 64182 [Oct. 29, 2008]). But after receiving comments on the interim rule, the FDIC extended the TAGP to cover certain other types of deposit accounts important to sole proprietorships and charitable organizations. These included Interest on Lawyers Trust

deposits in their bank and thereby avoid runs at healthy banks. More particularly, the TAGP addressed the concern of bankers and others that, given the uncertain economic conditions, without the guarantee banks could lose many small-business accounts (including payroll accounts), which frequently exceed the insurance limit of \$250,000.⁴²

The TAGP marked the first time the FDIC had offered deposit insurance above the statutory limit. In effect, the program gave institutions the option of purchasing deposit insurance for the otherwise uninsured balances of non-interest-bearing transaction accounts. In this way, assistance could be provided to smaller institutions that did not benefit from the DGP. This is not to say that larger institutions did not also participate in and benefit from the TAGP, for they did, but it is noteworthy that during the program's extension through 2010, the proportional participation of banks with more than \$10 billion in assets dropped far more than did the proportional participation of smaller banks.

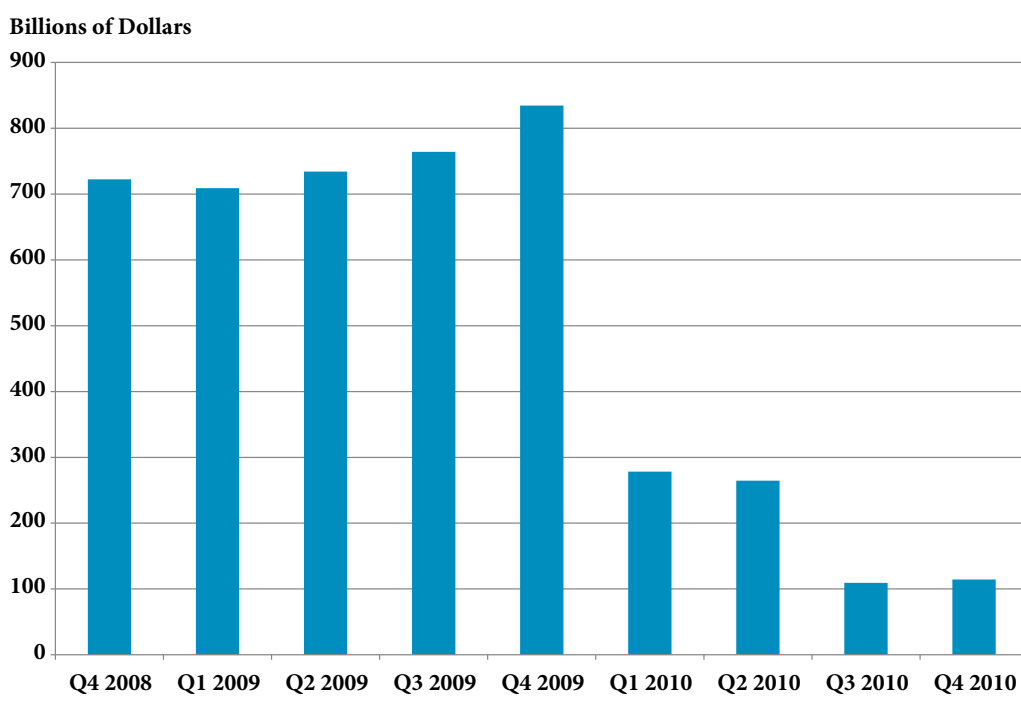
Like the DGP, the TAGP imposed fees for using the program. The TAGP initially applied a 10 basis point annual assessment rate surcharge on non-interest-bearing transaction deposits and other qualifying accounts for amounts over \$250,000; with the first extension, the fee was increased (see next paragraph). The total deposits covered by the TAGP are represented in Figure 2.4.

The TAGP proved effective at preventing potentially disruptive shifts in deposit funding. As noted earlier in this section, the TAGP was intended to expire on December 31, 2009, but because bank failures continued to increase during 2009, the FDIC was concerned that terminating the TAGP too quickly could unnerve uninsured depositors and undo the progress made in restoring credit markets. Therefore, the FDIC Board extended the TAGP for an additional six months, through June 30, 2010.⁴³ As part of this extension, the surcharge was increased from a flat rate of 10 basis points to a risk-based rate. Participating banks paid an assessment rate of 15, 20, or 25 basis points, depending on the institution's deposit insurance assessment category (for deposit insurance assessment categories, see chapter 5). Institutions participating in the TAGP were allowed to opt out of the program effective on January 1, 2010. Over 6,400 institutions (or 93 percent of the institutions that were participating at year-end 2009) elected to continue in the TAGP through June 30, 2010.

Accounts (IOLTAs) and negotiable order of withdrawal (NOW) accounts where the participating institution committed to maintaining a rate no higher than 0.5 percent; this maximum was lowered to 0.25 percent as part of the second extension of the program.

⁴² The Emergency Economic Stabilization Act of 2008 temporarily raised the basic FDIC insurance limit from \$100,000 to \$250,000 effective October 3, 2008; Dodd-Frank, in 2010, made the increase permanent.

⁴³ 74 Fed. Reg. 45093 (Sept. 1, 2009).

Figure 2.4. Amounts Guaranteed by the TAGP, 2008–2010

Even after that first extension, the lingering consequences of the financial crisis and recession continued to put pressure on banks' earnings and asset quality. Those effects were expected to persist and could have had the potential to undermine banks, particularly banks exposed to local markets that had experienced the greatest distress. The FDIC was concerned that allowing the TAGP to expire in June as scheduled could lead to the withdrawals of large transaction accounts at many community banks, possibly resulting in needless liquidity failures of those banks or lower deposit franchise values (for a discussion of franchise value, see chapter 6). The FDIC therefore authorized a second six-month extension, until December 31, 2010, leaving in place the surcharges that had been imposed during the first extension. The Corporation left open the possibility of yet a third extension, but not beyond year-end 2011.⁴⁴ However, passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) in July 2010 eliminated the need for such an extension, as the law mandated that the FDIC provide an unlimited guarantee, funded by the DIF, of *all* non-interest-bearing transaction accounts from December 31, 2010, through December 31, 2012.⁴⁵ Thus, the TAGP ended on December 31, 2010.

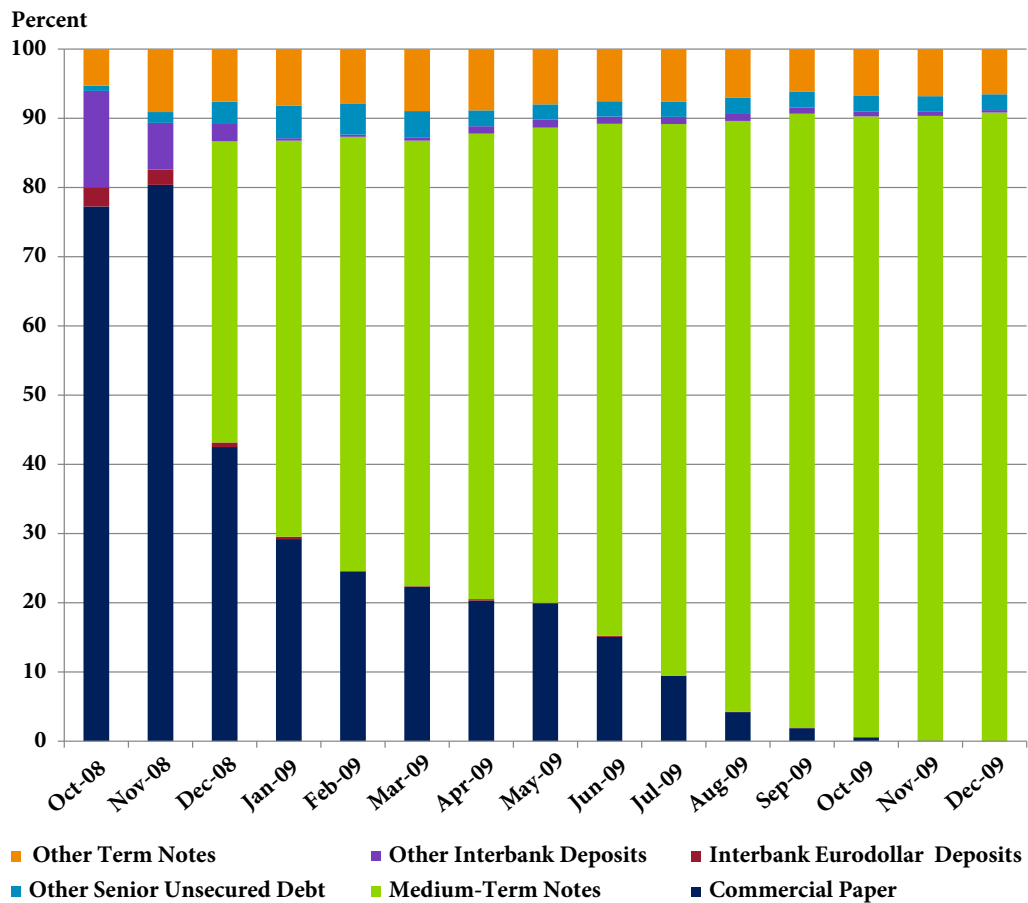
⁴⁴ See 75 Fed. Reg. 20247–65 (Apr. 19, 2010).

⁴⁵ For the implementation of the Dodd-Frank provisions regarding unlimited coverage of non-interest-bearing transaction accounts, see 75 Fed. Reg. 69577 (Nov. 15, 2010). The guarantee provided under Dodd-Frank did not, however, cover IOLTAs or NOW accounts. On December 29, 2010, a subsequent statute amended

The TLGP: Effects and Costs

The DGP enabled financial institutions to meet their financing needs during a period of systemwide turmoil. At a time when banks and other eligible institutions were unable to roll over their debt at reasonable rates and terms, the DGP reopened the short- and medium-term debt markets by allowing participating institutions to issue an array of guaranteed debt instruments. Figures 2.5 and 2.6 show that the eligible entities, after issuing mostly short-term debt (commercial paper) at the very beginning of the program, increasingly moved toward issuing debt at longer maturities.

Figure 2.5. DGP Debt Outstanding by Type, October 2008–December 2009



the definition of non-interest-bearing transaction accounts to include IOLTAs. The FDIC implemented the amended definition effective January 27, 2011. See 76 Fed. Reg. 4813 (Jan. 27, 2011).

Figure 2.6. Maturities of TLGP Debt Outstanding at Month End, October 2008–October 2009

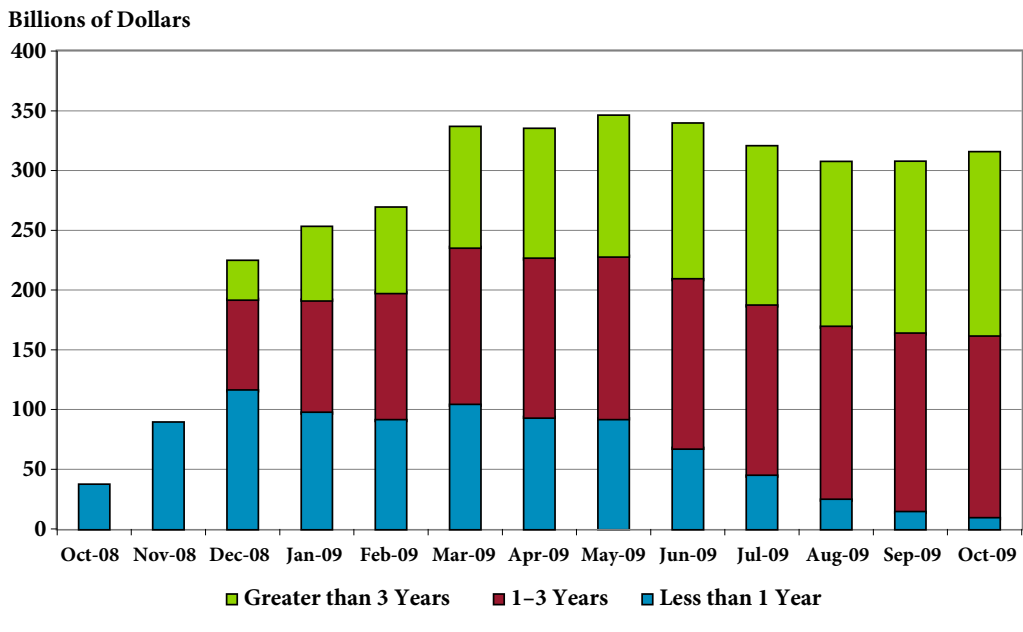
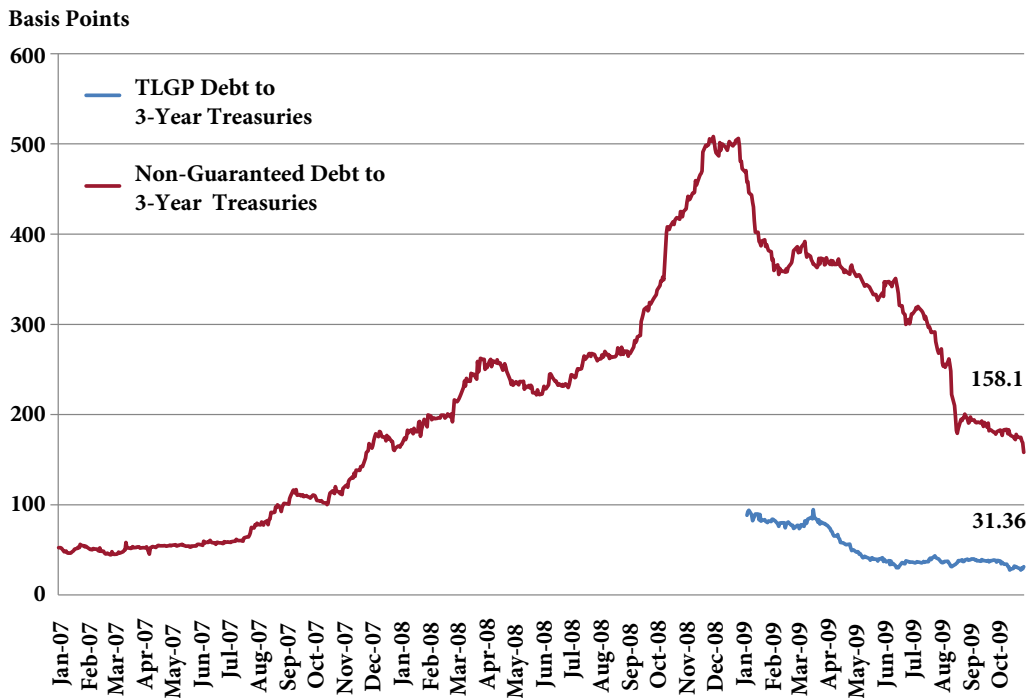


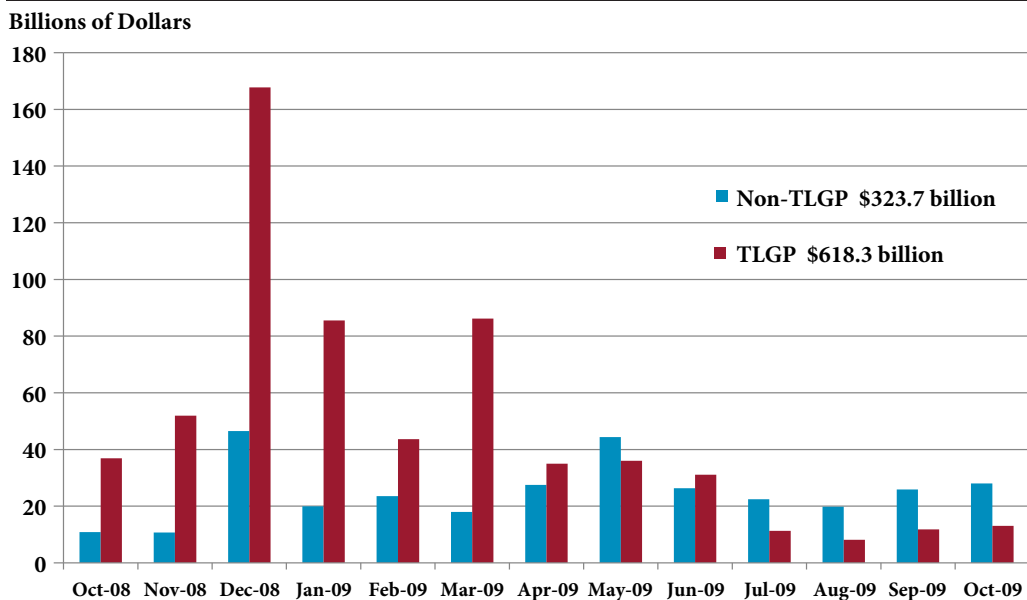
Figure 2.7. Funding Costs: TLGP Debt vs. Non-Guaranteed Debt, January 2007–October 2009



Source: Bloomberg.

Specifically, the DGP lowered the cost of funding. For participating entities, the explicit FDIC guarantee—coming at a time when credit market spreads had reached record high levels—meant that DGP debt was assigned an AAA/Aaa rating. That rating allowed participating entities to raise funds and roll over maturing debt at significantly lower funding costs than the entities could have obtained by issuing debt not guaranteed by the government (see Figure 2.7). A 2017 study found that DGP-guaranteed bonds “vastly improved new and pre-existing debt liquidity” and that the program ultimately lowered the default risk of the institution (as well as of the insured bond) and, in addition, improved the liquidity for non-guaranteed bonds issued by DGP participants.⁴⁶ A 2013 study found that the DGP led to a drop in yield of AAA/Aaa financial debt near the time of the announcements of FDIC-guaranteed debt issuance and to a general pattern of decreasing yield spreads over time.⁴⁷

Figure 2.8. TLGP vs. Non-TLGP Debt Issuance, October 2008–October 2009



Source: FDIC and Bloomberg.

Note: TLGP debt includes medium-term notes, other senior unsecured debt, other term notes, commercial paper, Eurodollar interbank deposits, and other interbank deposits. Non-TLGP includes all types of bonds and structured notes except TLGP debt, commercial paper, Eurodollar or other interbank deposits.

⁴⁶ See Jeffrey Black et al., “Benefits of Debt Guarantees: Evidence from the FDIC Debt-Guarantee Program” (unpublished manuscript), February 2017, https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=SWFA2017&paper_id=151.

⁴⁷ See Brent Ambrose et al., “The Financial Crisis and Temporary Liquidity Guarantee Program: Their Impact on Fixed Income Markets,” *Journal of Fixed Income* 23, no. 2 (2013): 5–26.

In the wake of the DGP, debt markets stabilized. By September 2009, most banks were trading in the CDS market below where they were before the Lehman bankruptcy, and a senior syndicate banker remarked, “Good progress has been made so it makes sense for the TLGP to be withdrawn.”⁴⁸ Indeed, only a few entities had issued DGP debt during the period of the DGP’s extension, a period when banks and their holding companies successfully issued non-guaranteed debt (see Figure 2.8).

Another source of funding for banks, and in particular for community banks, is deposits held in transaction accounts. By removing the risk of loss to the businesses that commonly use these accounts to meet payroll and to serve other purposes, the TAGP stabilized deposit funding for insured banks.⁴⁹ In the first quarter of 2009, banks reported 586,519 non-interest-bearing transaction accounts over \$250,000 in value, representing an increase of 12 percent compared with the fourth quarter of 2008. These first quarter 2009 deposit accounts totaled \$855 billion, of which \$700 billion was guaranteed under the TAGP. At the peak of the program, in December 2009, more than 5,800 FDIC-insured institutions reported having 685,465 non-interest-bearing transaction accounts over \$250,000 in value, with deposits totaling just over \$1 trillion.

* * *

If assessments for the TLGP (counting both components) had proved insufficient to cover the expenses related to the program, statute would have required that the FDIC levy a special assessment on all insured depository institutions (including those that had opted out, but not including BHCs or nonbank institutions that had participated) to cover the loss.⁵⁰ However, overall, TLGP fees exceeded the costs of the program.

Under the DGP, 121 entities issued guaranteed debt, with the FDIC collecting \$10.4 billion in fees and surcharges. Six entities defaulted on their debt, with the FDIC paying \$153 million to cover the guarantee on those debt securities.⁵¹ The majority of the FDIC’s

⁴⁸ *Euroweek*, “FDIC Plans Phase Out of Guarantee Programme,” September 11, 2009, 12.

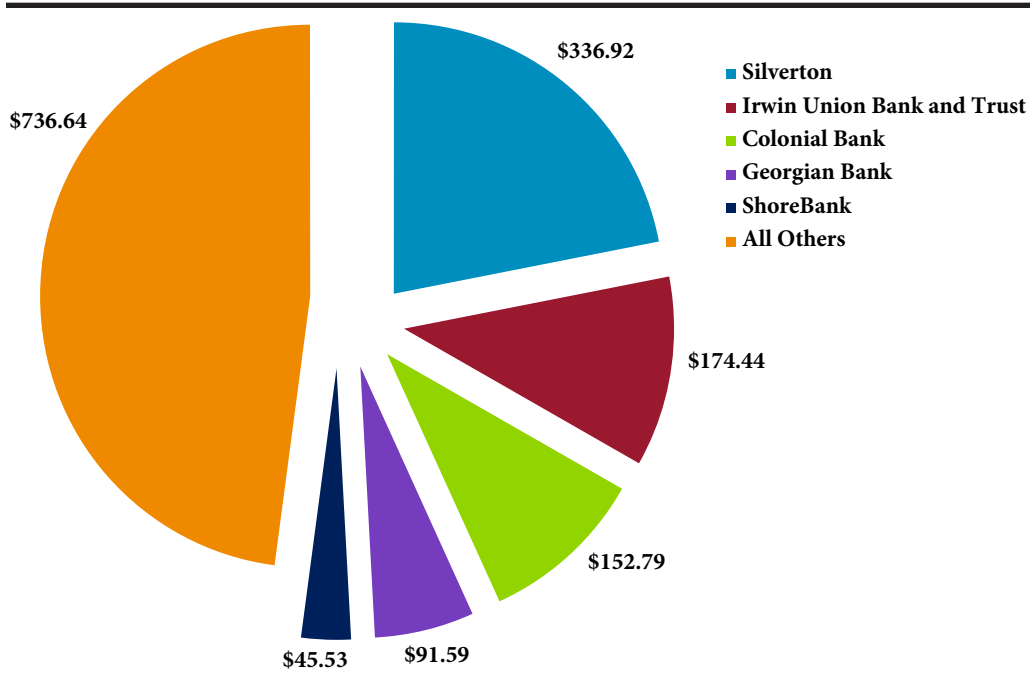
⁴⁹ The TAGP also had an effect on FDIC resolutions during the crisis. In combination with the increased insurance coverage limit to \$250,000, the TAGP greatly reduced the number of uninsured depositors at many failing banks. This reduction meant that there were many more whole bank–all deposit resolutions, as opposed to whole bank–insured deposit resolutions; the relative increase in whole bank–all deposit resolutions could have reduced the FDIC’s administrative costs. For a discussion of the different types of resolutions, see chapter 6.

⁵⁰ 12 U.S.C. §1823(c)(4)(G)(ii).

⁵¹ One of these losses involved fraud. Three employees of Coastal Community Investments (Coastal), a holding company that owned two Florida banks that would fail in 2010, were sentenced in 2014 to prison terms and were required to pay more than \$4.5 million in restitution to the FDIC. Coastal had had a \$3 million secured loan that was in default, and failure to repay the loan could have allowed its lender to take over the two Florida banks. In order to repay the loan and retain control of the banks, the employees misrepresented the loan as unsecured, allowing Coastal to borrow 125% of the \$3 million amount and have it guaranteed under the DGP. Coastal then obtained a DGP-guaranteed \$3.75 million loan from another bank. When Coastal

payments (\$113 million) stemmed from the outstanding DGP debt held by banks that failed in 2011. Under the TAGP, the FDIC collected \$1.2 billion in fees; as of December 31, 2016, estimated TAGP losses from failures were about \$1.5 billion.⁵² The five failures with the highest resolution costs attributable to the TAGP, and the relationship between those costs and all other resolution costs attributable to the TAGP, are presented in Figure 2.9.

Figure 2.9. The Costs of the TAGP: The 5 Most Expensive Failures vs. All Others (\$ Millions, as of December 31, 2016)



Conclusion

For the FDIC, the TLGP was extraordinary in several ways. First, during the Corporation's first 75 years, it had never systematically protected bank debt, let alone bank holding company debt or the debt of nonbank holding company affiliates.⁵³ Second, the FDIC

later defaulted on this second loan, that lender filed a claim with the FDIC for the loan amount plus interest, and the FDIC paid the claim of just over \$3.8 million. See U.S. Department of Justice, U.S. Attorney's Office for the Northern District of Florida, "Bankers and Attorney Sentenced to Prison, for Fraud, False Statement, and Making a False Claim against the United States," Press Release (August 22, 2014), <https://www.justice.gov/usao-ndfl/pr/bankers-and-attorney-sentenced-prison-fraud-false-statements-and-making-false-claim>.

⁵² Because these totals were generated using estimated losses on failures as of December 31, 2016, they differ from totals reported by the FDIC at the end of the TAGP (December 31, 2010).

⁵³ During the 1980s the FDIC, in the context of resolving troubled institutions, did protect debtholders several

had never extended unlimited deposit insurance protection to a class of bank deposits (in this case, a broad subset of transaction accounts), although in the past the principle of unlimited deposit insurance coverage had been considered. Third, this was only the second time that the FDIC's Board approved a systemic risk exception and the first time that the assistance was actually put in place (assistance to Wachovia had been approved two weeks earlier, but the need for it was subsequently obviated when Wells Fargo acquired that bank [see chapter 3]). Fourth, creation of the TLGP involved the use by bank regulators of a legal interpretation of the systemic risk exception that was at the least novel, as was acknowledged at the time. All these extraordinary features reflected the precarious state of the financial services industry in the fall of 2008.

The TLGP, in concert with other government programs, brought stability to U.S. financial markets in a time of crisis. Conditions in the credit markets had improved significantly by the start of 2009, and by midyear they began returning to normal, despite still-elevated levels of problem loans; interest-rate spreads had retreated from the highs established during the depth of the crisis, during the fall of 2008; and activity in interbank lending and corporate bond markets had increased. Banks were able to issue debt without a government guarantee. This stabilization of the markets was accomplished with an industry-funded program that not only did not damage the DIF but, instead, substantially benefited it. Overall, during a period when the banking industry and the financial markets were in crisis, the TLGP made an important contribution to the stability of both. Looking back on the program, former chairman Sheila Bair noted that "if we ever again get into a situation where the entire financial system is seizing up, where even healthy and well-managed banks are having trouble accessing liquidity, I do think this is a good model to use."⁵⁴

In several important ways, Dodd-Frank refined the range of actions that would be available for responding to future crises of the financial system, and did so essentially by limiting regulatory discretion should another crisis arise.⁵⁵ In particular, the act repealed the use of a systemic risk exception to assist a troubled open individual

times. In 1984, open-bank assistance to Continental Illinois National Bank and Trust Company included the protection of all general creditors; the open-bank assistance to First Republic Bank Corporation in 1988 also protected all general creditors. Some bondholders were partially protected in the open-bank assistance to First City Bancorporation of Texas in 1988, and a year later, with the failure of MCorp, unsubordinated general creditors of 19 of the holding company's banks were protected. See FDIC, *Managing the Crisis: The FDIC and RTC Experience* (1998), 554, 571, 595, 622.

⁵⁴ Joe Adler, "FDIC Debt Program Proves as Good as TARP, without the Baggage," *American Banker*, April 26, 2012.

⁵⁵ See Martin Neil Baily and Aaron Klein, "The Impact of the Dodd-Frank Act on Financial Stability and Economic Growth," Presentation at University of Michigan Center on Finance, Law, and Policy, October 24, 2014. <https://www.brookings.edu/on-the-record/the-impact-of-the-dodd-frank-act-on-financial-stability-and-economic-growth/>; and James Broughel, "Title XI: Fed Transparency and Bailouts," in Dodd-Frank: What It Does and Why It's Flawed, ed. Hester Peirce and James Broughel (2012), 121–35, <https://www.mercatus.org/system/files/dodd-frank-FINAL.pdf>.

institution; and although Title XI does permit the creation of a program similar to the DGP, it also imposes restrictions on such a program.⁵⁶ Dodd-Frank prohibits the creation of a future TAGP.⁵⁷

Title XI explicitly authorizes a “liquidity event determination.”⁵⁸ The process of determining the existence of a liquidity event is similar to the process set forth in FDICIA for declaring a systemic risk exception: if the FDIC Board and the FRB determine that a liquidity event exists and that failure to act would significantly affect financial stability, and if the Secretary of the Treasury in consultation with the President concurs, the FDIC has the authority to create “a widely available program” to guarantee obligations of solvent insured banks or their holding companies (including holding company affiliates).

But although the FDIC will be responsible for administering such a program, the maximum amount of outstanding debt that can be guaranteed is to be determined not by the FDIC but by the Secretary of the Treasury in consultation with the President. And, in a significant addition, the law also requires the program to have congressional approval in the form of a joint resolution—a requirement that essentially means Congress must pass the equivalent of a law before the program can go forward.⁵⁹ So although Dodd-Frank provides for a program similar to the DGP, the law’s requirement for wider political consent through congressional approval (even though the approval would have to be considered on an expedited basis) could limit regulators’ flexibility during a future financial crisis.

⁵⁶ For the limits on the use of the systemic risk exception, see Dodd-Frank, §1106 [12 U.S.C 1823(c)(4)(G)(i)]; for the provisions allowing for a future DGP, see Dodd-Frank §1104–5 [12 U.S.C. 5611–12].

⁵⁷ The law states that “a guarantee of deposits held by insured depository institutions shall not be treated as a debt guarantee program” under the provisions of the liquidity event determination (defined in note 58). See 12 U.S.C. 5612(f).

⁵⁸ The law defines a liquidity event as “an exceptional and broad reduction in the general ability of financial market participants ... to sell financial assets without an unusual and significant discount or to borrow using financial assets as collateral without an unusual and significant increase in margin, or an unusual and significant reduction in the ability of financial market participants to obtain unsecured credit.”

⁵⁹ Like a bill, a joint resolution requires the approval of both the House and the Senate in identical form, and requires the President’s signature to become law (https://www.senate.gov/legislative/common/briefing/leg_laws_acts.htm).

Appendix

Table 2.A. Issuers of \$250 Million or More in FDIC-Guaranteed Debt

	Entity	Breakdown by Affiliate		
		(if applicable)	Amount	Issuances
1	Citigroup, Inc.	TOTAL	\$175,903,888,595	1,655
		<i>Citigroup, Inc.</i>	<i>\$13,850,000,000</i>	<i>5</i>
		<i>Citigroup Funding Inc.</i>	<i>\$128,997,377,222</i>	<i>1,165</i>
		<i>Citibank, National Association</i>	<i>\$33,056,511,373</i>	<i>485</i>
2	General Electric Capital Corporation	TOTAL	\$130,850,166,935	4,328
3	Bank of America Corporation	TOTAL	\$130,842,662,031	1,454
		<i>Bank of America Corporation</i>	<i>\$64,079,465,128</i>	<i>1,091</i>
		<i>Bank of America, National Association</i>	<i>\$46,976,837,903</i>	<i>281</i>
		<i>Merrill Lynch & Co., Inc.</i>	<i>\$19,786,359,000</i>	<i>82</i>
4	JPMorgan Chase & Co.	TOTAL	\$42,512,382,326	189
		<i>JPMorgan Chase & Co.</i>	<i>\$40,534,011,955</i>	<i>61</i>
		<i>JPMorgan Chase Bank, National Association</i>	<i>\$1,978,370,371</i>	<i>128</i>
5	Goldman Sachs Group, Inc.	TOTAL	\$37,652,426,455	346
6	Morgan Stanley	TOTAL	\$30,256,932,941	57
7	Wells Fargo & Company	TOTAL	\$10,022,320,776	107
		<i>Wells Fargo & Company</i>	<i>\$9,500,000,000</i>	<i>4</i>
		<i>Wells Fargo Bank, National Association</i>	<i>\$250,868,606</i>	<i>14</i>
		<i>Wachovia Bank, National Association</i>	<i>\$271,452,170</i>	<i>89</i>
8	GMAC LLC	TOTAL	\$7,400,000,000	3
9	U.S. Bancorp	TOTAL	\$7,283,744,203	581
		<i>U.S. Bank National Association</i>	<i>\$4,282,285,453</i>	<i>467</i>
		<i>U.S. Bancorp</i>	<i>\$3,001,458,750</i>	<i>114</i>
10	American Express Bank, FSB.	TOTAL	\$5,900,000,000	3
11	State Street Corporation	TOTAL	\$5,289,431,500	53
		<i>State Street Corporation</i>	<i>\$2,839,431,500</i>	<i>51</i>
		<i>State Street Bank and Trust Company</i>	<i>\$2,450,000,000</i>	<i>2</i>
12	John Deere Capital Corporation	TOTAL	\$4,913,503,000	116
13	HSBC USA Inc. (subsidiary of HSBC Holdings, PLC)	TOTAL	\$4,742,598,079	24
		<i>HSBC USA Inc.</i>	<i>\$4,616,910,000</i>	<i>17</i>
		<i>HSBC Bank USA, National Association</i>	<i>\$125,688,079</i>	<i>7</i>
14	Regions Bank	TOTAL	\$4,200,000,000	6

continued

		Breakdown by Affiliate		
Entity	(if applicable)	Amount	Issuances	
15	PNC Funding Corp.	TOTAL	\$3,900,000,000	4
16	SunTrust Banks, Inc.	TOTAL	\$3,576,000,000	3
		<i>SunTrust Bank</i>	\$3,000,000,000	2
		<i>SunTrust Banks, Inc.</i>	\$576,000,000	1
17	Union Bank, National Association	TOTAL	\$2,210,000,000	13
18	KeyCorp	TOTAL	\$1,937,500,000	4
		<i>KeyBank National Association</i>	\$1,000,000,000	1
		<i>KeyCorp</i>	\$937,500,000	3
19	Sovereign Bancorp, Inc.	TOTAL	\$1,600,000,000	2
		<i>Sovereign Bank</i>	\$1,350,000,000	1
		<i>Sovereign Bancorp, Inc.</i>	\$250,000,000	1
20	The Bank of New York Mellon Corporation	TOTAL	\$1,040,412,845	73
		<i>The Bank of New York Mellon Corporation</i>	\$603,448,298	2
		<i>The Bank of New York Mellon</i>	\$436,964,547	71
21	Bank of the West	TOTAL	\$1,002,889,124	2
22	Banco Bilbao Vizcaya Argentaria Puerto Rico	TOTAL	\$686,440,926	31
23	New York Community Bancorp, Inc.	TOTAL	\$602,000,000	2
		<i>New York Community Bank</i>	\$512,000,000	1
		<i>New York Community Bancorp, Inc.</i>	\$90,000,000	1
24	The Huntington National Bank	TOTAL	\$600,000,000	1
25	Wilmington Trust Company	TOTAL	\$460,000,000	11
26	MetLife, Inc.	TOTAL	\$397,436,000	1
27	Associated Bank, National Association	TOTAL	\$395,000,000	6
28	Fifth Third Bancorp	TOTAL	\$285,500,000	4
		<i>Fifth Third Bank</i>	\$285,000,000	3
		<i>Fifth Third Bancorp</i>	\$500,000	1
29	Zions Bancorporation	TOTAL	\$254,892,500	1

Note: The data presented in this table account for 99.7 percent of the debt issued under the DGP. Data on the remaining issuers can be found at https://www.fdic.gov/regulations/resources/TLGP/total_debt.html.

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3

Use of Systemic Risk Exceptions for Individual Institutions during the Financial Crisis

Introduction

As discussed in chapter 1, “Origins of the Crisis,” September 2008 was a critical month in the financial crisis. Lehman Brothers filed for bankruptcy, Washington Mutual Bank (WaMu) failed, the Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac) were placed into government conservatorship, and the government provided assistance to American International Group (AIG). Two months earlier, in July, IndyMac, F.S.B., had failed. It was in this context that a systemic risk exception (SRE) allowing the FDIC to assist a large bank that might otherwise fail became an acute possibility. (For information on the increased size and complexity of the largest banks, see the box. For a timeline of major events during the financial crisis of 2008 and 2009, see the timeline immediately following the Overview.)

In deciding whether to invoke SREs for particular depository institutions (instead of allowing them to fail under the least-cost resolution framework¹), the FDIC, the Board of Governors of the Federal Reserve System (FRB), and the Department of the Treasury (Treasury) had to balance sometimes competing goals. These decisions raised questions about how to strike the balance between, on the one hand, stability and containing systemic risk, and, on the other, containing moral hazard and protecting the Deposit Insurance Fund (DIF), which can entail imposing losses on uninsured depositors,

¹ In the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), Congress required (among other things) that the FDIC resolve failed banks by using the method that would be least costly to the Deposit Insurance Fund (DIF), even if that meant imposing losses on uninsured depositors as well as creditors and shareholders. Congress allowed one exception to the least-cost resolution requirement. “If complying with those [least-cost] requirements would have serious adverse effects on economic conditions or financial stability and if FDIC assistance or other actions would avoid or mitigate those effects,” an SRE could be granted. FDICIA required that the decision to grant an SRE be made by the Secretary of the Treasury in consultation with the President, but only after a written recommendation by a two-thirds majority of both the Board of Directors of the FDIC and the Board of Governors of the Federal Reserve System (FRB). Once an SRE determination was made, the FDIC was authorized to act or assist as necessary to avoid the potential adverse effects of a major bank failure. 12 U.S.C. § 1823(c)(4)(G)(i) (2008).

creditors, and shareholders of failed banks. (Moral hazard arises when someone is willing to take greater risks in the belief that others will bear any negative consequences that may ensue.) As they considered invoking SREs in late 2008 and early 2009, the Treasury, the FDIC, the FRB, and other regulators debated a number of questions: whether to impose losses on bondholders, what supervisory strategies to use for firms that would receive assistance as a result of an SRE, and how the need for any additional SREs (if such a need arose) might affect public confidence in the regulatory system and the financial markets.

This chapter examines the SREs that the Treasury, the FDIC, and the FRB decided on for three individual institutions (Wachovia on September 29, 2008, Citigroup on November 23, 2008, and Bank of America on January 16, 2009²), in each case discussing the problems at the institution, the rationale for recommending an SRE, the structure of government assistance granted under the SRE, and the effects of the SRE.

Banking Industry Consolidation

Before the banking crisis that began in 2008, the largest bank to become insolvent had been Continental Illinois National Bank and Trust Company. In May 1984, when regulators intervened, Continental Illinois was the nation's seventh-largest bank. At the end of 1983, it had \$40.7 billion in assets.

By the end of 2007, the banking industry had consolidated considerably, and the largest banks had become much larger. In the fourth quarter of 1984, the four largest banks held 11.2 percent of total industry assets, whereas in the fourth quarter of 2007, the four largest banks held 39.5 percent of total industry assets; the largest bank in the fourth quarter of 1984 had \$142 billion in assets, while the largest bank in the fourth quarter of 2007 had \$1.7 trillion in assets.^a

The largest banks had also become much more complex. The 1999 Gramm-Leach-Bliley Act allowed banks, securities companies, and insurance companies to affiliate with each other, thereby increasing the interconnections and interdependencies among financial companies. Several of the largest U.S. banks had also increased their global presence (and many large foreign banks had a significant presence in the United States). For example, the four largest banks in 2007 had, in aggregate, more than three times the level of assets held in foreign offices than they had in 1998, and nearly one-third more foreign offices.

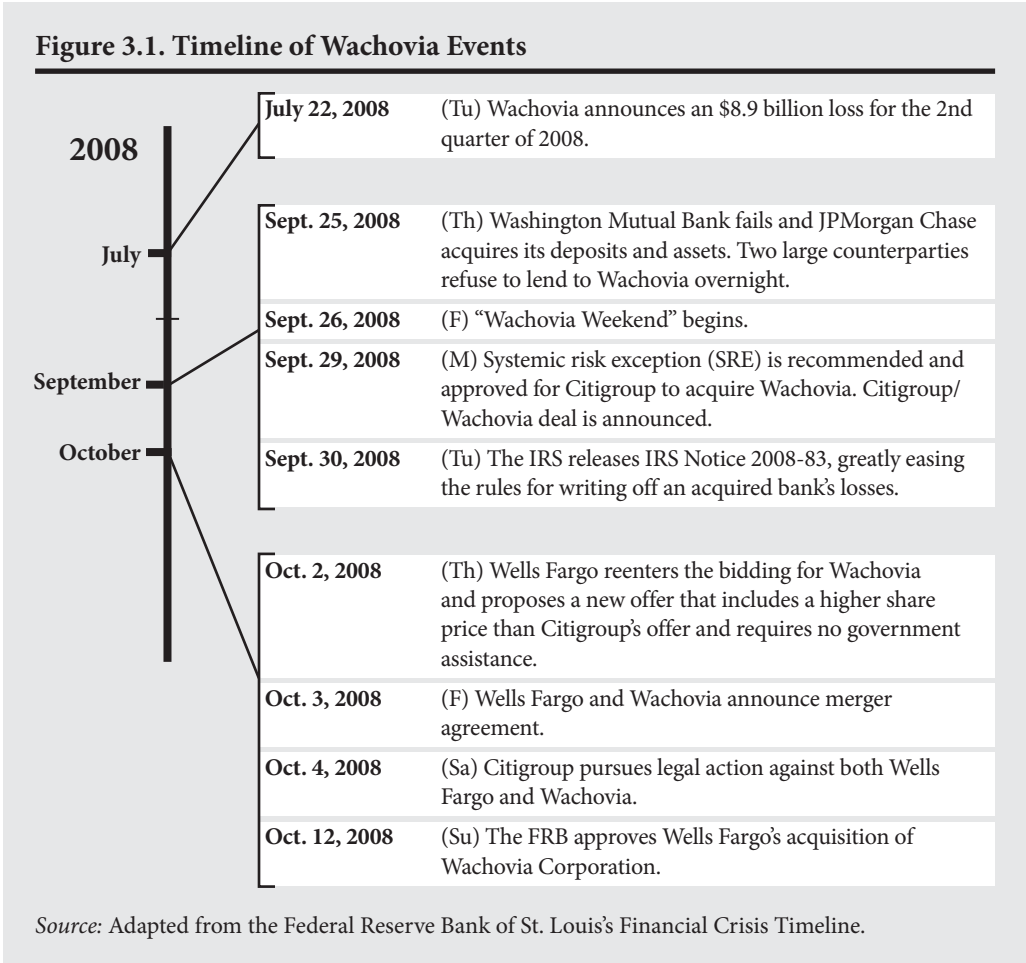
^a Assets of these banks include assets held by other banks under the same holding company.

² For Bank of America, an SRE was recommended on January 15, 2009, and an assistance package was announced on January 16, 2009. A formal systemic risk determination, however, was never made.

The Case of Wachovia

The financial turmoil created by the failures of Lehman Brothers and WaMu and fears for the financial system served as the backdrop for the decision by the FDIC, FRB, and the Secretary of the Treasury to invoke an SRE to allow the acquisition of Wachovia—the first ever use of an SRE. (For a timeline of major events related to the Wachovia SRE, see Figure 3.1.) The decision to invoke an SRE for Wachovia set a precedent for the government’s response to the heightening financial crisis.

Figure 3.1. Timeline of Wachovia Events



Problems at Wachovia

Wachovia Corporation (Wachovia), a financial holding company, owned multiple depository subsidiaries and provided a wide range of investment banking, private banking, and asset management services, in part through two broker-dealers. At the end of June 2008, Wachovia was the fourth-largest banking organization in the United States (after Bank of America Corporation, JPMorgan Chase & Co., and Citigroup, Inc.) with slightly over \$800 billion

in holding company assets, of which over \$780 billion were in the company's depository institutions. (Table 3.1 lists the ten U.S. banking organizations with the largest amount of depository institution assets as of June 30, 2008.)

Table 3.1. Top Ten Banking Organizations by Depository Institution Asset Size, June 30, 2008

Name of Holding Company	Depository Institution Totals		
	Assets (\$ Billion)	Deposits (\$ Billion)	Domestic Deposits (\$ Billion)
Bank of America Corporation	1,670.21	882.90	701.49
JPMorgan Chase & Co.	1,454.17	834.16	497.22
Citigroup, Inc.	1,324.86	820.07	265.83
Wachovia Corporation	782.30	475.17	422.00
Wells Fargo & Company	558.45	361.27	293.41
Washington Mutual, Inc.	307.02	188.26	188.26
U.S. Bancorp	248.51	143.30	127.85
The Bank of New York Mellon Corporation	185.99	131.15	55.03
HSBC Holdings PLC	179.75	119.74	83.05
SunTrust Banks, Inc.	173.35	122.21	115.60

In early 2008, the FDIC downgraded its internal outlook rating (Large Insured Depository Institution, or LIDI, rating) for Wachovia Bank (a depository institution subsidiary of Wachovia),³ citing the bank's "mark-to-market valuation adjustments" (see chapter 1), "considerable volume of inventory that could not be readily sold" in its

³ The FDIC downgraded Wachovia's LIDI rating to "C Negative." A "C Negative" LIDI rating indicates that the FDIC considers an institution to have an elevated risk profile that is likely to deteriorate to a "3" CAMELS composite rating within 12 months. See *Systemically Important Institutions and the Issue of "Too Big to Fail," Before the Financial Crisis Inquiry Commission* (Public Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, September 1, 2010) (statement of John H. Corston, Acting Deputy Director, Complex Financial Institution Branch, Division of Supervision and Consumer Protection, FDIC), 3, <https://fcic-static.law.stanford.edu/cdn-media/fcic-testimony/2010-0901-Corston.pdf>. Bank supervisory ratings—CAMELS composite ratings—are on a scale of 1 to 5, with a 1-rating indicating greatest strength in performance and risk management and the lowest level of supervisory concern. At the other end of the scale, a 5-rating indicates the weakest performance, inadequate risk management, and the highest level of supervisory concern. The CAMELS composite rating is derived from an evaluation of the six CAMELS components: Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk. Although the CAMELS composite rating is generally a close reflection of the assigned component ratings, it is not an arithmetic average of the component ratings.

structured finance business, and “increasing required provisions for loan and lease losses.”⁴ The inventory included subprime mortgages, syndicated credits within collateralized loan obligations, and a large volume of commercial real estate (CRE) loans that were acquired or originated for inclusion in commercial mortgage-backed securitizations. In August 2008, after monitoring the bank closely for several months, the Office of the Comptroller of the Currency (OCC, Wachovia Bank’s primary federal regulator) downgraded the institution’s CAMELS rating to a composite “3.”⁵ On September 11, Wachovia requested an exemption from Federal Reserve rule 23A, which restricts most credit and sale transactions between an insured depository institution and its affiliates, to allow the holding company to meet its liquidity needs.⁶ This request was initially denied because Federal Reserve officials believed that Wachovia had a strong cash position, but after the Lehman bankruptcy (on September 15) and an increase in depositor outflows at Wachovia Bank, the request was granted on September 19.⁷ The exemption allowed Wachovia to use funding obtained by its insured depository institution affiliates to help support its liquidity needs.

Together, Wachovia’s subsidiary banks were the nation’s largest holders of payment-option adjustable rate mortgages (ARMs).⁸ (For a brief description of these mortgages, see the box titled “Types of Mortgage Products” in chapter 1.)⁹ On September 25, 2008, the nation’s second-largest holder of payment-option ARMs, Washington Mutual Bank (WaMu), failed, and the next day its holding company, Washington Mutual Inc., filed for Chapter 11 bankruptcy protection.¹⁰ WaMu’s failure was widely attributed to its holdings

⁴ *Systemically Important Institutions*, statement of Corston, 7.

⁵ Ibid.

⁶ See 12 U.S.C. § 371(c)(1) (2008).

⁷ Financial Crisis Inquiry Commission (FCIC), *The Financial Crisis Inquiry Report (2011)*, 366, http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf.

⁸ Wachovia’s exposure to payment-option ARMs arose primarily from its acquisition of World Savings Bank FSB and World Savings Bank Texas FSB, which together held roughly \$65 billion in payment-option ARMs concentrated in California and Florida (FDIC, “Memorandum to the FDIC Board of Directors Regarding Wachovia Corporation,” September 29, 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-09-29_Memo_to_the_FDIC_Board_of_Directors.pdf).

⁹ In sum, payment-option ARMs allow borrowers to set their own payment terms on a monthly basis. The borrower can, for example, make a minimum payment lower than the amount needed to cover interest; pay only interest, deferring payment of principal; or make payments calculated to have the loan amortize in 15 or 30 years. In addition, payment-option ARMs have an interest rate and payment that change periodically over the life of the loan based on changes in a specific index (with a typically low initial teaser rate that increases after a short period).

¹⁰ With approximately \$307 billion in assets at failure, WaMu was the largest depository institution failure in the FDIC’s history. FDIC, “Failures and Assistance Transactions—Historical Statistics on Banking,” <https://www5.fdic.gov/hsob/SelectRpt.asp?EntryTyp=30>. Assets at failure are based on assets reported in the institution’s last report of income and condition (Call Report) before failure.

of payment-option ARMs, and its failure added to existing concerns among Wachovia's depositors and creditors, since Wachovia also held large amounts of these assets.¹¹

Wachovia's financial condition was deteriorating rapidly, largely because of losses in its portfolio of payment-option ARMs, a troubled CRE loan portfolio, and its weakened liquidity position.¹² On the evening of Thursday, September 25, two regular Wachovia counterparties refused to lend overnight to the firm.¹³ On Friday, September 26 (the day after WaMu failed), Wachovia's stock price fell sharply, and spreads on credit default swaps on its debt widened markedly, suggesting that the market perceived a significant increase in the risk of Wachovia's defaulting on its debt. During the day on Friday, the bank's liquidity very quickly deteriorated. Depositors accelerated withdrawals at Wachovia Bank, and deposit outflows reached about \$5.7 billion (1.4 percent of the bank's domestic deposits as of June 30, 2008). In addition, \$1.1 billion in Wachovia Corporation's asset-backed commercial paper and repurchase agreements could not be rolled over, and other signs of a severe liquidity crisis became obvious.¹⁴ By the end of the day on September 26, Wachovia informed the OCC that, in the absence of a rescue agreement, Wachovia would be unable to obtain the funds needed to pay creditor claims that would come due the morning of Monday, September 29. Wachovia also identified Citigroup and Wells Fargo as potential buyers.¹⁵

In addition to specific concerns about Wachovia itself, the banking agencies and Treasury were concerned about the effects that a Wachovia failure could have on the financial markets and on investors' confidence in the stock market.

The Decision to Invoke a Systemic Risk Exception

Discussions about a potential acquisition of Wachovia began in earnest on the morning of Saturday, September 27. As of that morning, Citigroup was proposing an acquisition that would require government assistance, and Wells Fargo was considering an acquisition without government assistance.¹⁶ An acquisition requiring FDIC assistance would require an SRE. (By statute, an SRE was required because FDIC assistance would benefit Wachovia Bank's shareholders.) On Sunday morning, however, Wells Fargo rescinded its preliminary offer—which required no government assistance—in favor of a new offer that *would* require government assistance. Wells Fargo's change of position meant that both of the options for a Wachovia acquisition would require an SRE.¹⁷

¹¹ FCIC, *Report*, 366.

¹² FDIC, "Memorandum Regarding Wachovia," 3.

¹³ *Systemically Important Institutions*, statement of Corston, 8.

¹⁴ *Ibid.*, 9.

¹⁵ *Systemically Important Institutions*, statement of Corston, 9; and FDIC, "Memorandum Regarding Wachovia," 8.

¹⁶ FCIC, *Report*, 366.

¹⁷ *Ibid.*, 368.

The Wells Fargo bid required the FDIC to share potential losses on a pool of up to \$127.3 billion in assets, with Wells Fargo assuming the first \$2 billion in losses and remaining losses shared 80 percent by the FDIC and 20 percent by Wells Fargo, with the FDIC's losses capped at \$20 billion. The FDIC estimated that Wells Fargo's bid would cost the DIF between \$5.6 and \$7.2 billion. The Citigroup bid requested that the FDIC share losses on a pool of up to \$312 billion, with Citigroup absorbing the first \$30 billion in losses. In addition to the \$30 billion first-loss position, Citigroup would absorb \$4 billion in losses per year for the first three years (for a total of \$42 billion in losses), and the FDIC would absorb any additional losses. The FDIC estimated that even under the most severe scenario, Citigroup's first-loss position would likely result in no cost to the DIF. Wachovia itself submitted a third proposal—which would also require federal assistance and an SRE—that was intended to help Wachovia's insured depository institution subsidiaries remain open and avoid FDIC receivership.¹⁸ Wachovia's proposal required credit protection from the FDIC for a pool of \$200 billion of loans, with Wachovia covering the first \$25 billion in losses. The FDIC determined that the Citigroup bid represented the least costly alternative for resolving Wachovia.¹⁹

Several considerations led the FRB and the FDIC to recommend an SRE, which had never before been used. Wachovia was large, complex, and deeply interconnected with other financial institutions and markets. It held multiple bank charters and operated significant businesses outside its insured banks, including several retail securities brokerages. Many large financial firms had substantial counterparty exposure to Wachovia, and Wachovia provided back-up liquidity support to many traded instruments.²⁰ Wachovia was also a major participant in the full range of domestic and international clearing and settlement systems.²¹

Under a standard “least cost” resolution, the FDIC would be responsible for resolving the banking subsidiary, but the holding company and other subsidiaries would be resolved under bankruptcy law. In that scenario, shareholders would likely be wiped out and creditors, including commercial paper holders, foreign depositors, subordinated debt holders, and possibly senior note holders, would suffer significant losses,²² in some cases leading directly to losses at other financial institutions. Losses on Wachovia commercial paper held by money market mutual funds, many of which had recently experienced runs and one of which had “broken the buck,” could have led “more money market funds

¹⁸ A receivership is the legal procedure for winding down the affairs of an insolvent bank.

¹⁹ FDIC, “Memorandum Regarding Wachovia,” 8.

²⁰ *Systemically Important Institutions*, statement of Corston, 9.

²¹ U.S. Government Accountability Office (GAO), *Federal Deposit Insurance Act: Regulators' Use of Systemic Risk Exception Raises Moral Hazard Concerns and Opportunities Exist to Clarify the Provision*, GAO-10-100 (2010), 14, <http://www.gao.gov/products/GAO-10-100>.

²² FDIC, “Memorandum Regarding Wachovia,” 11.

to ‘break the buck,’ accelerating runs on those and other money funds.”²³ The sudden failure of Wachovia could “lead investors to reassess the risk in U.S. commercial banks more broadly.”²⁴ Losses imposed on general creditors and foreign depositors would, the decisionmakers believed, likely be a major shock to many foreign households and businesses and thus indirectly “could imperil this significant source of funding for other U.S. financial institutions.” Further loss of confidence resulting from imposing losses on creditors “might well lead short-term funding markets to virtually cease.” The offers from Citigroup and Wells Fargo, however, both called for assistance that would not impose losses on Wachovia shareholders or creditors.

In the view of the FRB, the FDIC, and the Treasury, the benefits of an SRE outweighed the possible disadvantages. Given the precarious state of the financial markets, the decisionmakers agreed that the losses and indirect effects from a least-cost resolution would have significant adverse effects on economic conditions and the financial markets, worsening the already unstable overall financial environment and disrupting a large proportion of U.S. households and businesses.²⁵ The FRB, the FDIC, and the Treasury also believed that the supply of credit to households and businesses would shrink substantially and that confidence in the current and future states of the U.S. financial system and economy would deteriorate further.

Finally, an SRE was a prerequisite to arranging a successful acquisition of Wachovia, since both of Wachovia’s potential acquirers, Citigroup and Wells Fargo, told federal regulators that they would need federal assistance to acquire Wachovia.

One disadvantage was a possible weakening of overall market discipline if investors were bailed out. Although decisionmakers wanted to know more about the specific debtholders who would benefit from government assistance and how much effect any assistance might have, they lacked this information and could not get it during the short period before they had to decide whether to invoke an SRE.

²³ *Ibid.*, 10. In the event of the insolvency of the issuer of a security, a money market fund must dispose of the issuer’s security as soon as practicable (17 CFR § 270.2a-7(f)). Prime money market mutual fund assets had declined roughly \$350 billion over the two weeks before the Wachovia discussions (Investment Company Institute via Bloomberg). Further, on September 16, the day after Lehman Brothers filed for bankruptcy, the net asset value of the Reserve Primary Fund fell below \$1, or “broke the buck,” because the fund was forced to sell its holdings of Lehman Brothers’ securities. Three days after the Reserve Primary Fund broke the buck, the Treasury announced the Temporary Guarantee Program for Money Market Funds, which was funded by the Exchange Stabilization Fund. For more information related to money market funds and their reliance on commercial paper during the crisis, see Marcin Kacperczyk and Philipp Schnabl, “When Safe Proved Risky: Commercial Paper during the Financial Crisis of 2007–2009,” *Journal of Economic Perspectives* 24, no. 1 (Winter 2010), http://pages.stern.nyu.edu/~sternfin/mkacperc/public_html/commercial.pdf.

²⁴ This and the remaining two quotations in this paragraph are from FDIC, “Memorandum Regarding Wachovia.”

²⁵ FDIC, Transcript, FDIC Closed Board Meeting, September 29, 2008, http://fcic-static.law.stanford.edu/cdn-media/fcic-docs/2008-09-29_FDIC_Board_of_Directors_Meeting_Closed_Session.pdf.

A second disadvantage was the disparate treatment of different size banks that would result. As the crisis had accelerated in 2008, the FDIC had closed nearly a dozen small banks, but regulators would now be keeping a much bigger bank open. Furthermore, the costs, if any, of an exception to the least-cost resolution requirement would eventually be borne by the entire banking industry, including small banks.

Recognizing the risk that a least-cost resolution could amplify the systemic financial crisis that was then underway, the FDIC and other policymakers concluded it was necessary to invoke the SRE and provide assistance that would benefit debt holders and shareholders in addition to insured depositors. On September 29, the FDIC Board and the FRB recommended invoking the SRE for the first time since it was created under FDICIA. After consultation with the President, the Secretary of the Treasury concurred with this recommendation, and financial assistance under the SRE was approved. The FDIC Board, estimating that the Citigroup proposal would result in no loss to the DIF, chose the bid that represented the least costly of the available methods of avoiding the serious adverse systemic effects that would have resulted from Wachovia's failure.

Actions Taken under the Exception

On Monday, September 29, 2008, the FDIC announced that Citigroup would acquire Wachovia's banking operations in an open-bank transaction assisted by the FDIC. All depositors (insured and uninsured) at Wachovia's subsidiary banks would be fully protected, but the FDIC did not expect to suffer any loss, although this expectation was obviously subject to substantial uncertainty. Citigroup would acquire the bulk of Wachovia's assets and liabilities, including its depository institutions, and would assume the senior and subordinated debt of the holding company. Wachovia's holding company would continue to own three investment banking subsidiaries.

The FDIC would agree to share future losses on a pre-identified pool of \$312 billion in loans: Citigroup would agree to absorb up to \$42 billion of future losses on the pool (a \$30 billion first-loss position, and an additional \$4 billion in losses per year for the first three years) and, if losses exceeded this amount, the FDIC would absorb the additional losses. To compensate the FDIC for its risk of loss, Citigroup would give the FDIC \$12 billion in preferred stock and warrants. Although the FDIC projected that the transaction would not result in losses to the FDIC, any losses that did occur would be paid by the FDIC but financed through a line of credit from the Treasury, to be repaid later by the banking industry.

Severe time constraints combined with the difficulty of the negotiations prevented Wachovia and Citigroup from signing a final purchase agreement, but they did sign a short exclusivity agreement. The lack of a formal purchase agreement, in combination with other events, helped open the door for Wells Fargo to reenter the bidding for Wachovia. One of

these other events was a ruling by the Treasury (IRS Notice 2008-83, repealed in 2009) on Tuesday, September 30, that limited the tax consequences of the acquisition.²⁶

Wells Fargo reentered the bidding on the evening of Thursday, October 2, with an offer to acquire all of Wachovia's operations; the new bid did not require any FDIC assistance and offered shareholders a higher price than the Citigroup proposal. Wells Fargo offered to pay an estimated \$7 per share, seven times Citigroup's bid of \$1 per share.²⁷ Before the end of that day, Wachovia's board had approved a merger with Wells Fargo.²⁸ Early the next day, on Friday, October 3, the two banks publicly announced their merger.

The Wells Fargo offer reduced direct risk to the FDIC and probably also helped to reduce market uncertainty that could have been created by the Citigroup agreement, which would have left key "nonbank" parts of Wachovia (the investment banking subsidiaries) in a separate organization (under the Wachovia holding company). The Wells Fargo offer was also a better deal for Wachovia's stockholders.²⁹

On October 12 the FRB announced its approval of the acquisition of the whole of Wachovia by Wells Fargo. On January 1, 2009, Wells Fargo announced that the merger had become effective the previous day, December 31, 2008.

Effects of Invoking the Exception

The successful acquisition of Wachovia negated any need for FDIC assistance, and no assistance was provided under the SRE. As a result of the Wells Fargo acquisition, Wachovia was able both to fund itself and to continue normal operations, and the projected adverse effects of a least-cost resolution of Wachovia were averted. Nevertheless, invoking the SRE set an important precedent by signaling to financial markets that the government was willing to take action to avert systemic problems in the banking industry.

²⁶ "The Treasury's inspector general, who later conducted an investigation into the circumstances of the notice's issuance, reported that the purpose of the notice was to encourage strong banks to acquire weak banks by removing limitations on the use of tax losses." Rich Delmar (Treasury Office of the Inspector General), interview by FCIC, August 25, 2010, <https://fcic.law.stanford.edu/interviews/view/51>; and Rich Delmar, "Memorandum for Inspector General Eric M. Thorson, Inquiry Regarding IRS Notice 2008-83," September 3, 2009, 3, 5, 11–12, <https://www.treasury.gov/about/organizational-structure/ig/Documents/Inquiry%20Regarding%20IRS%20Notice%202008-83.pdf>. Further, the inquiry found "no basis to charge that the timing of the Notice's development, review, and promulgation was driven by a request or plan to affect or assist any particular corporate transaction," 8.

²⁷ FCIC, *Report*, 370.

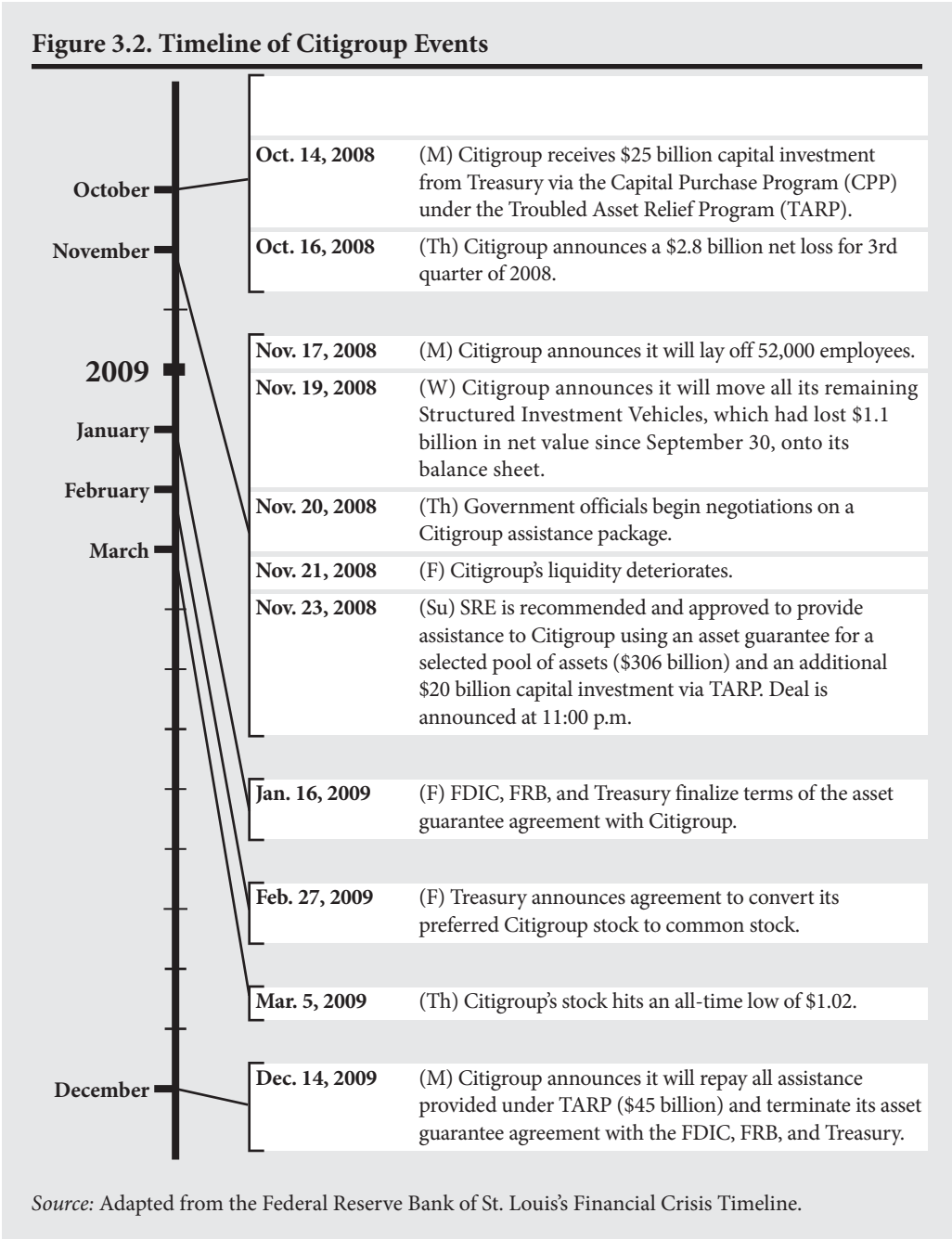
²⁸ *Ibid.*

²⁹ Citigroup initiated legal action against both Wells Fargo and Wachovia on October 4, the day after the announcement. The legal action sought, in part, a restraining order against the merger and punitive damages. See *The Acquisition of Wachovia Corporation by Wells Fargo & Company, Before the Financial Crisis Inquiry Commission* (Public Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, September 1, 2010) (statement of Scott G. Alvarez, General Counsel, Board of Governors of the Federal Reserve System), 8, <https://www.federalreserve.gov/newsevents/testimony/alvarez20100901a.pdf>. On October 9, Citigroup agreed to let the Wachovia/Wells Fargo merger proceed without hindrance and announced that its continuing claims would be limited to seeking compensatory damages.

The Case of Citigroup

The decision to invoke an SRE for Citigroup, whose insured banks were substantially larger than Wachovia’s banks, was, in the end, unavoidable. Citigroup’s failure would have had serious systemic consequences. (For a timeline of major events related to the Citigroup SRE, see Figure 3.2.)

Figure 3.2. Timeline of Citigroup Events



Problems at Citigroup

Citigroup, Inc. (Citigroup) was one of the largest financial institutions in the world. As of September 30, 2008, Citigroup had total consolidated assets of just over \$2 trillion, with approximately \$1.2 trillion in assets in its lead bank subsidiary, Citibank, N.A. (Citibank). Citigroup owned a total of five insured legal entities and three principal nonbank subsidiaries, and, with operations in over 100 countries, had an extensive international presence.³⁰ The company had “significant amounts of commercial paper and long-term senior and subordinated debt outstanding and was a major participant in numerous domestic and international payment, clearing, and central counterparty arrangements,” as well as a major player in derivatives markets.³¹ Citigroup’s vulnerability lay in its exposure to credit and market losses coupled with its dependence on international operations for funding (including \$554 billion in foreign deposits).³²

In February 2008, in light of the substantial losses Citigroup realized in the third and fourth quarters of 2007, the OCC (Citibank’s primary federal regulator) conducted examinations to review risk management and governance at Citibank. The OCC found that management had incurred “what proved to be untenable risks for the sake of profitability.”³³ The supervisory letter sent to Citibank included specific “Matters Requiring Attention” pertaining to deficiencies in the company’s risk management, governance, and control processes.³⁴ In April 2008, the Federal Reserve Bank of New York (FRBNY) downgraded its RFI/C rating of the parent bank holding company, Citigroup, from a 2 to a 3, reflecting its assessment that the firm’s weaknesses in risk management and financial condition ranged from fair to moderately severe.³⁵

³⁰ FDIC, “Memorandum to the FDIC Board of Directors Regarding Citigroup,” November 23, 2008, 5, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-11-23%20FDIC%20Board%20of%20Directors%20Memo%20re%20Citi.pdf.

³¹ Special Inspector General for the Troubled Asset Relief Program (SIGTARP), “Extraordinary Financial Assistance Provided to Citigroup, Inc.,” Management Comments from FDIC, SIGTARP-11-002, January 13, 2011, 2, <https://www.sig tarp.gov/Audit%20Reports/Extraordinary%20Financial%20Assistance%20Provided%20to%20Citigroup,%20Inc.pdf>. Derivatives are financial contracts whose prices are derived from performance of an underlying asset, rate, index, or event.

³² FDIC, “Memorandum Regarding Citigroup.”

³³ Office of the Comptroller of the Currency, Supervisory Letter 2008-05 to Vikram Pandit, Chief Executive Officer of Citigroup, Inc., February 14, 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-02-14_OCC_Letter_from_John_C_Lyons_to_Vikram_Pandit_Serious_Problems_at_Citibank.pdf.

³⁴ *Ibid.* Matters Requiring Attention (MRAs) are supervisory tools used by the OCC to formally communicate supervisory concerns. MRAs “must receive timely and effective corrective action by bank management and follow-up by examiners.” For updated guidance on the MRA process, see *OCC Bulletin* 2014-52, “Matters Requiring Attention: Updated Guidance,” October 30, 2014, <http://www.occ.gov/news-issuances/bulletins/2014/bulletin-2014-52.html>.

³⁵ Federal Reserve Bank of New York, “Report of Inspection to Board of Directors, Citigroup, Inc.,” April 15, 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-04-15_FRBNY_Letter_from_John_J

The events of September 2008 roiled financial markets and the entire banking sector, including Citigroup. The Chicago Board Options Exchange's Market Volatility Index, or VIX, reached a historic high on September 29, indicating a sharp rise in market uncertainty.³⁶ Similarly, another common measure of market instability, the "TED Spread" (which measures credit risk as the spread between three-month LIBOR and three-month Treasury bill rates) reached 315 basis points on September 30, the highest level ever reached until then. (Eleven days later, on October 10, it reached its all-time high of 458 basis points.)³⁷

In October 2008, in the midst of this turmoil, Citigroup's troubles intensified. On October 9 the company announced it would stop pursuing the previously announced acquisition of Wachovia.³⁸ Five days later, on October 14, the Treasury announced the establishment of the Capital Purchase Program (CPP) through the Troubled Asset Relief Program (TARP).³⁹ Treasury stated in the announcement that Citigroup would receive a \$25 billion capital investment from the Treasury under the new program. (Eight other large institutions would also receive capital investments.) On October 16, Citigroup reported a net loss of \$2.8 billion for the third quarter of 2008.⁴⁰ The loss was largely attributed to subprime and Alt-A mortgages (see box titled "Types of Mortgage Products" in chapter 1),⁴¹ commercial real estate (CRE) investments, and write-downs of Structured Investment Vehicle (SIV) assets⁴² (see the section titled "Mortgage Securitization" in

[Ruocco to Board of Directors of Citigroup Re Annual report of inspection.pdf](#). The Federal Reserve System assigns supervisory ratings, called "RFI/C ratings," to the bank holding companies it supervises. The ratings acronym stands for Risk management, Financial condition, potential negative Impact of the parent company and nondepository subsidiaries on bank and thrift subsidiaries, and Composite, or the overall rating. Ratings range from 1 (the best) to 5 (the worst). See Federal Reserve Bank of St. Louis, "Federal Reserve Introduces New BHC Rating System," *Central Banker* (Spring 2005), <https://www.stlouisfed.org/Publications/Central-Banker/Spring-2005/Federal-Reserve-Introduces-New-BHC-Rating-System>.

³⁶ The Chicago Board Options Exchange defines the VIX Index as "a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices." VIX is a commonly referenced measure of market volatility and reached its all-time high of 80.86 on November 20, 2008.

³⁷ LIBOR stands for the London interbank offered rate; this rate is set daily and is the interest rate at which banks offer to lend funds to one another in the international interbank market.

³⁸ Citigroup, Inc., "Citi Ends Negotiation with Wells Fargo on Wachovia Transaction," Press Release, October 9, 2008, <http://www.citigroup.com/citi/news/2008/081009g.htm>.

³⁹ U.S. Department of the Treasury, "Treasury Announces TARP Capital Purchase Program Description," Press Release, October 14, 2008, <https://www.treasury.gov/press-center/press-releases/Pages/hp1207.aspx>.

⁴⁰ Citigroup, Inc., Third Quarter 2008 Earnings Review Presentation, October 16, 2008, <http://www.citigroup.com/citi/investor/data/p081016a.pdf?ieNocache=975>.

⁴¹ Alt-A mortgages are made to borrowers with credit ranging from very good to marginal, but they are made under expanded underwriting guidelines that make these loans higher risk and also higher interest.

⁴² SIVs were highly leveraged entities held by banking companies but which, as separate legal entities, were off the banks' balance sheets and were therefore not subject to regulatory capital requirements, even if a SIV's parent holding company was under federal supervision. SIVs were designed to generate cash flows by

chapter 1). Despite Citigroup's receipt of substantial government support through broad-based Treasury, Federal Reserve, and FDIC programs available to financial institutions in September and October,⁴³ the company's stock price continued to decline through mid-November, hitting single digits for the first time since 1996. On November 17, the company announced it would lay off 52,000 employees (in addition to a previously announced layoff of 23,000 employees).⁴⁴ Two days later, Citigroup announced that it would move all its remaining SIVs, which had lost \$1.1 billion in net value from September 30 to November 19, onto its balance sheet, reducing the value of Citigroup's assets.⁴⁵ By the next day, Citigroup's stock had fallen 73 percent just since the beginning of the month. In addition, the VIX index reached a new all-time high, signaling that financial markets were extremely uncertain.

Major lenders were questioning management about the firm's viability, and some even began to cap or reduce lines of credit and ask for additional collateral from Citibank. Regulators saw increasing signs pointing to a run on Citibank, as corporations were beginning to withdraw significant sums, especially in the United States and Europe. Citigroup's liquidity portfolio had decreased from \$33.1 billion on Thursday, November 20, to \$31.4 billion on Friday, November 21.⁴⁶ Citigroup requested expanded lines of credit at existing government liquidity facilities, but regulators did not think any additional liquidity they could provide would be sufficient to enable Citibank to withstand extensive deposit runoff. They also did not think the company had enough high-quality collateral to be able to borrow more under the Federal Reserve's mostly collateral-based liquidity programs.⁴⁷

issuing short- to medium-term debt—including asset-backed commercial paper—at a low interest rate to raise funds that the institution could invest in longer-term assets, such as mortgage-backed securities.

⁴³ Citigroup had received \$25 billion in capital under TARP and was relying on a number of other liquidity programs: as of November 21, Citigroup had \$24.3 billion outstanding under the Federal Reserve's collateralized liquidity programs and \$200 million under its Commercial Paper Funding Facility. Citigroup had also borrowed \$84 billion from the Federal Home Loan Banks (FHLBs), which are government-sponsored enterprises that lend to banks and thrifts on a secured basis. When the securitization market froze, FHLBs increased their lending substantially, becoming “the lender of next to last resort for commercial banks and thrifts—the Fed being the last resort.” See FCIC, Report, 274, 381. Citigroup and its subsidiaries also issued \$38 billion in senior debt that was guaranteed by the FDIC under the Temporary Liquidity Guarantee Program. See FDIC, “TLGP Debt Guarantee Program: Issuer Reported Debt Details,” https://www.fdic.gov/regulations/resources/tlgp/total_debt.html.

⁴⁴ Eric Dash, “Citigroup Plans to Sell Assets and Cut More Jobs,” *New York Times*, November 17, 2008.

⁴⁵ Citigroup, Inc., “Citi Finalizes SIV Wind-Down by Agreeing to Purchase All Remaining Assets,” Press Release, November 19, 2008, <http://www.citigroup.com/citi/news/2008/081119a.htm>.

⁴⁶ Mark D. Richardson, e-mail message to Doreen R. Eberley, Daniel E. Frye, et al., subject: “11-21-08 Citi Liquidity call notes,” November 21, 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-11-21%20FDIC%20Richardson%20Email%20re%2011-21-08%20Citi%20Liquidity%20Call%20Notes.pdf.

⁴⁷ FDIC, “Memorandum Regarding Citigroup,” 6.

On Friday, November 21, the spreads on credit default swaps written on the company more than doubled. Management at Citibank told regulators that a 7.2 percent deposit runoff would exhaust its cash surplus, and they had prepared stress scenario estimates that showed deposit runoff of approximately 2 percent of total deposits per day.⁴⁸ Regulators projected that if deposit outflows continued, Citibank would be unable to pay its obligations or meet expected deposit outflows by the middle or the latter part of the following week (the week beginning November 24).

The Decision to Invoke the Systemic Risk Exception

By Thursday, November 20, the banking agencies and the Treasury had begun discussing additional assistance in light of both Citigroup's deteriorating condition and the market's negative response to Citigroup's SIV announcement the previous day. Staff from the agencies shared the information they had and worked closely to review available options, but the agencies—and even the bank itself—had trouble producing detailed counterparty information on such short notice.⁴⁹

During the discussions, the Treasury and the banking agencies agreed that the potential failure of Citigroup presented a serious systemic risk, particularly in the wake of the failures of Lehman Brothers and WaMu, the acquisition of Merrill Lynch by Bank of America (discussed below), and Wells Fargo's acquisition of Wachovia. There was no viable acquirer for an institution with the size, complexity and global operations of Citigroup. The other largest banks, Bank of America, JPMorgan Chase, and Wells Fargo, were not considered as potential acquirers because of their previous acquisitions of (and absorption of losses from) Merrill Lynch, Bear Stearns (in March 2008), and Wachovia, respectively. Further, given Citigroup's size, a merger with any of these three banks would result in an even larger, more systemically important bank. The FDIC Board of Directors held an emergency meeting on Sunday, November 23, to discuss and vote on an SRE recommendation.

As they considered whether to recommend an SRE for Citigroup, members of the FDIC Board weighed several issues, including asset quality, liquidity problems, and management weaknesses at Citigroup, the lack of potential buyers, and the potential effects on the financial system if Citibank were allowed to fail. Board members discussed whether any changes in Citigroup's supervisory ratings or its management should be required under a government assistance agreement and noted the potential need for future assistance for Citigroup or other systemically risky banks. In the end, the FDIC Board of Directors determined that any action taken by the FDIC under a least-cost resolution framework (that is, allowing Citigroup's insured institution subsidiaries to fail and imposing losses on general creditors) would have significant adverse effects on economic conditions and the financial markets because of Citigroup's size and its interconnectedness with other

⁴⁸ Ibid.

⁴⁹ SIGTARP, "Assistance to Citigroup," 14.

financial institutions. FDIC Board members noted that the case was “amply made that the systemic risk determination standard ha[d] been met” and that the potential failure of Citigroup was “obviously a systemic risk situation.”⁵⁰

On November 23, the FDIC Board and the FRB recommended that the Secretary of the Treasury invoke the SRE to allow the FDIC to provide the planned open-bank assistance for Citigroup. The Secretary of the Treasury, having consulted earlier with the President, concurred.

Actions Taken under the Exception

On Sunday, November 23, 2008, at 11 p.m., the Treasury, the FDIC, and the FRB announced an interagency assistance package for Citigroup.⁵¹ The package included a capital injection by the Treasury and loss protection on a pool of Citigroup’s assets by the Treasury, the FDIC, and the Federal Reserve Bank of New York (FRBNY).

To inject needed capital, the Treasury invested an additional \$20 billion in Citigroup in exchange for preferred stock under a new TARP program called the Targeted Investment Program (TIP).

An asset guarantee was provided to Citigroup by the Treasury (under another new TARP program called the Asset Guarantee Program [AGP]) and the FDIC (using the authority granted by the SRE).⁵² The guarantee provided Citigroup with protection against the possibility of unusually large losses on a pool of approximately \$306 billion of loans and securities backed by residential and CRE loans and other assets. Under the initial terms of the guarantee, Citigroup was to be solely responsible for the first \$37 billion in losses, which the government projected to be the expected loss for the assets under guarantee (See Table 3.2.)⁵³ Any additional losses beyond Citigroup’s \$37 billion first-loss position, up to another \$16.66 billion, would be shared between Citigroup and the government, with Citigroup responsible for 10 percent of the losses and the government covering 90 percent (thus increasing Citigroup’s responsibility for potential losses by an additional \$1.66 billion). The Treasury would be responsible for the first \$5 billion in the government’s share of losses, and the FDIC for the next \$10 billion in the government’s share of losses. Ninety percent of any further losses beyond \$53.66 billion (\$37 billion plus \$16.66 billion) would be financed through a nonrecourse loan from the FRBNY, with Citigroup covering the remaining 10 percent.

⁵⁰ FDIC, Transcript, FDIC Closed Board Meeting, November 23, 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-11-23%20Transcript%20of%20FDIC%20Board%20of%20Directors%20meeting.%20closed%20session.pdf.

⁵¹ U.S. Department of the Treasury, Federal Reserve Board, and Federal Deposit Insurance Corporation, “Joint Statement by Treasury, Federal Reserve, and the FDIC on Citigroup,” Press Release, November 23, 2008, <http://www.federalreserve.gov/newsevents/press/bcreg/20081123a.htm>.

⁵² TARP had more than one component, including the Capital Purchase Program (CPP) discussed above in the section titled “Problems at Citigroup.”

⁵³ SIGTARP, “Assistance to Citigroup,” 19.

Table 3.2. Citigroup Asset Guarantee Loss Positions

	First Loss Position	Second Loss Position	Additional Losses
Citigroup	\$37 billion	10%, up to \$0.55 billion	10%, up to \$1.11 billion
Treasury		90%, up to \$5 billion	
FDIC			90%, up to \$10 billion
FRBNY			90% (nonrecourse loan)
Subtotal	\$37 billion	\$5.55 billion	\$11.11 billion
Total			\$53.66 billion

As compensation for these guarantees, Citigroup issued approximately \$7.0 billion more in perpetual preferred stock paying an 8 percent annual dividend. Based on the relative loss positions and sizes of the guarantees of the two government entities, approximately \$4 billion in stock went to the Treasury and approximately \$3 billion to the FDIC.⁵⁴ In addition to the preferred stock, the Treasury received common stock warrants that represented an aggregate exercise value of 10 percent of the total preferred stock issued to the U.S. government in both the loss share and asset guarantee components of the assistance package (that is, 10 percent of the approximately \$27 billion in preferred stock issued, or \$2.7 billion).⁵⁵ If payments on the government guarantees exceeded the government's compensation, the FDIC would be statutorily mandated to impose a special assessment on the entire banking industry to recoup the cost.⁵⁶

In addition to the direct capital support given to Citigroup, the agreement explicitly stated that the assets in the guaranteed pool would be risk-weighted at 20 percent for the purpose of calculating regulatory capital requirements. This treatment effectively lowered Citigroup's capital requirement by \$16 billion. In addition, issuing preferred shares to the government in compensation for the guarantee meant that Citigroup's capital would increase by \$3.5 billion.⁵⁷

⁵⁴ U.S. Department of the Treasury, Federal Reserve Board, and Federal Deposit Insurance Corporation, "Summary of Terms: Eligible Asset Guarantee (Citigroup)," November 23, 2008, <https://www.fdic.gov/news/news/press/2008/pr08125a.pdf>.

⁵⁵ The warrants gave the Treasury the right to purchase 66,531,728 shares of common stock with a strike price of \$10.61 (the 20-day trailing average price of Citigroup common stock ending on November 21, 2008) and a ten-year maturity. The Treasury had the right to exercise the warrants immediately in whole or in part.

⁵⁶ 12 U.S.C. § 1823(c)(4)(G)(ii) (2008).

⁵⁷ FCIC, *Report*, 626, n.172.

The assistance agreement prohibited Citigroup from paying dividends on common stock in excess of a penny per share per quarter for three years without government consent. In addition, the agreement required Citigroup to submit to an executive compensation plan (including bonuses) that rewarded long-term performance and profitability.⁵⁸ Finally, Citigroup agreed to implement loan modification procedures for the residential mortgages in the asset pool.⁵⁹

Although the assistance agreement was announced on November 23, implementation took several weeks. As provided in the agreement, Citigroup did not actually receive the Treasury's \$20 billion investment until December 31, 2008. Even then, the parties still needed to negotiate and finalize a master agreement and agree on the exact assets to be included in the guaranteed pool. By the time the finalized master agreement was announced on January 16, 2009, the value of the guaranteed pool had been reduced to \$300.8 billion through asset exclusions and substitutions, and Citigroup's first-loss position was increased to \$39.5 billion, reflecting, among other things, additional reserves associated with the assets substituted into the pool. Ten more months passed before the asset pool was made final (on November 17, 2009).⁶⁰

Effects of Invoking the Exception

In the short run, the announcement on November 23, 2008, that the SRE would be invoked and government assistance would follow had the intended effect of stabilizing Citigroup and preventing its failure. Citigroup was able to continue operating, and the announcement encouraged the private sector to continue providing liquidity to the company.⁶¹ Regulators continued to monitor Citigroup's funding and liquidity, including deposit outflows and borrowings.

⁵⁸ Subsequently, similar executive compensation restrictions for all participants in the Capital Purchase Program (CPP) were passed as part of the American Recovery and Reinvestment Act of 2009 (in an amendment to the Emergency Economic Stabilization Act of 2008). See the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 7001, 123 Stat. 115, 516-520.

⁵⁹ The loan modification procedures were "comparable to those that were being employed at IndyMac Federal Bank" (FDIC, Transcript, November 23, 2008). The loan modification program at IndyMac Federal Bank, launched in August 2008, was "designed to achieve affordable and sustainable mortgage payments for borrowers and increase the value of distressed mortgages by rehabilitating them into performing loans." The modifications would "maximize value" "as well as improve returns to the creditors ... and to investors in those mortgages," and would improve the "mortgage portfolio and servicing by modifying troubled mortgages, where appropriate, into performing mortgages" (FDIC, "FDIC Implements Loan Modification Program for Distressed IndyMac Mortgage Loans," Press Release 67-2008, August 20, 2008, <https://www.fdic.gov/news/news/press/2008/pr08067.html>).

⁶⁰ FDIC, 2008 Annual Report, 100 (2009), <https://www.fdic.gov/about/strategic/report/2008annualreport/arfinal.pdf>.

⁶¹ GAO, *Regulators' Use of Systemic Risk Exception*, 27.

On Monday, November 24, the day after the announcement, Citigroup's stock price rose by nearly 58 percent to close at \$5.95 (up from \$3.77 the previous Friday).⁶² Also on that Monday, in a reversal of the previous trend, the cost of insuring Citigroup's debt fell: its credit default swap spread narrowed by 100 basis points, declining from 460 basis points to 360 basis points. (In early 2009, however, market confidence in Citigroup again dropped,⁶³ and the company's stock price did not recover and stabilize until the spring of 2009, after the company had restructured the capital provided through government assistance.)⁶⁴

On September 11, 2009, Citigroup asked to terminate the asset guarantee agreement and repay the Treasury's \$20 billion TIP investment.⁶⁵ In assessing the request, the banking agencies and Treasury considered Citigroup's soundness (including the result of government mandated stress testing), capital adequacy, and ability to lend. After terms were negotiated, a termination agreement was reached on December 14.⁶⁶

⁶² For reference, in October 2008, Citi's closing stock price ranged from \$11.73 to \$23. The company's stock price would dip to its lowest of the crisis on March 5, 2009, when it closed at \$1.02.

⁶³ Market confidence dipped as the Bank of America assistance package was announced (January 16, 2009), resulting in general uncertainty in the market and uncertainty about Citigroup in particular, which was arguably weaker than Bank of America because Citi had required assistance first. Additionally, on January 16, 2009, Citigroup announced an \$8.29 billion net loss in its fourth quarter 2008 financial results. See Citigroup, Inc., "Citi Reports Fourth Quarter Net Loss of \$8.29 Billion, Loss per Share of \$1.72," Press Release, January 16, 2009, <http://www.citigroup.com/citi/news/2009/090116a.htm>.

⁶⁴ In February 2009, the Treasury agreed to exchange its \$25 billion in preferred stock obtained under the CPP for common stock at an exchange price of \$3.25 per share. This exchange was designed to strengthen Citigroup's tangible common equity ratio—a key capital ratio that gained increasing attention from both regulators and investors during and after the crisis as an indication of bank health. In July 2009, the Treasury and the FDIC exchanged preferred stock obtained under TIP and AGP for trust preferred securities (TruPS) to strengthen some of Citigroup's key capital ratios. See GAO, *Regulators' Use of Systemic Risk Exception*, 26; and SIGTARP, "Assistance to Citigroup," 31.

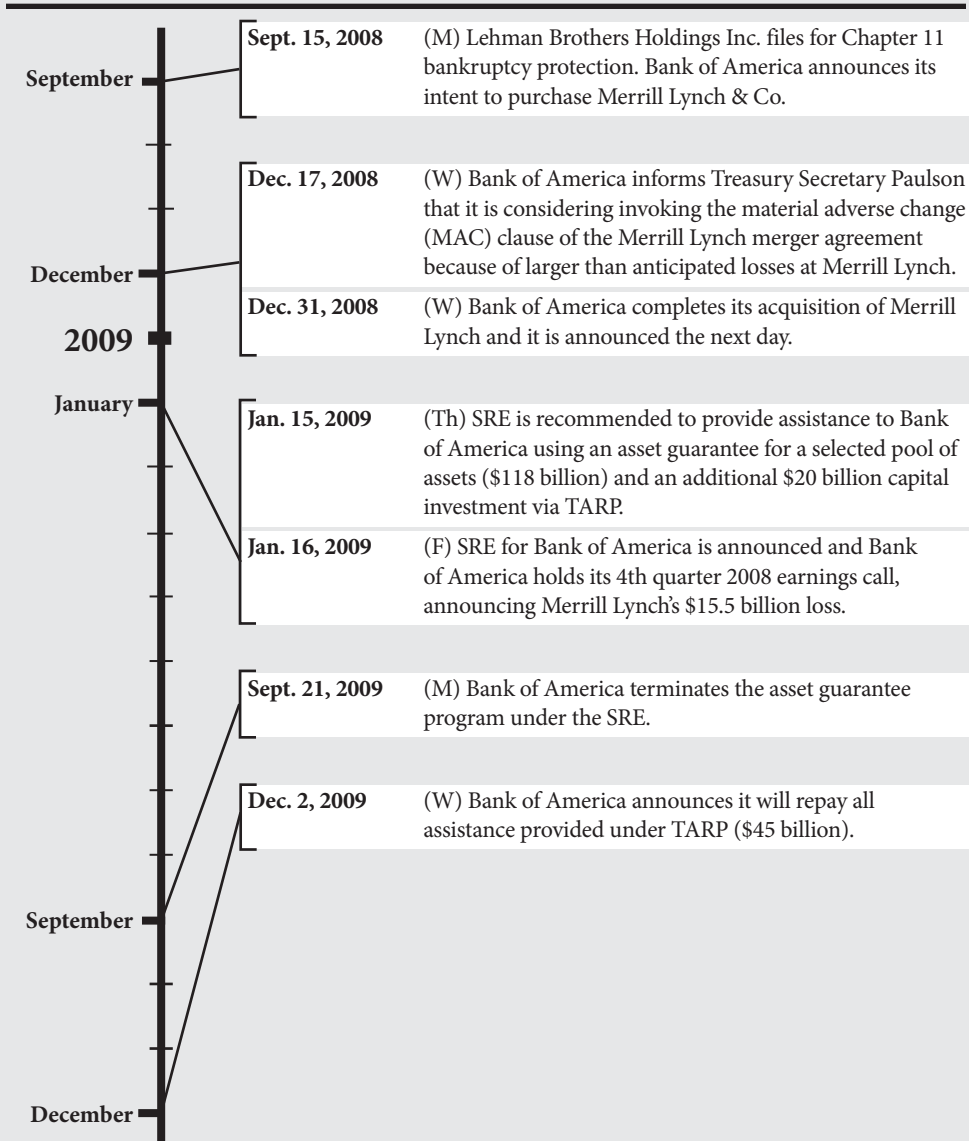
⁶⁵ A number of factors influenced the timing of Citigroup's decision to repay its TIP funds, including other large banks' repayment of TARP funds, Bank of America's repayment of its TIP funds, and restrictions on executive compensation. Five of the nine initial banks participating in the Capital Purchase Program under TARP had been allowed by their regulators to repay CPP investments in full on June 17, 2009. See SIGTARP, "Assistance to Citigroup," 33–35; SIGTARP, "Exiting TARP: Repayments by the Largest Financial Institutions," SIGTARP-11-005, September 29, 2011, 39, https://www.sig tarp.gov/Audit%20Reports/Exiting_TARP_Repayments_by_the_Largest_Financial_Institutions.pdf; and U.S. Treasury Department, Office of Financial Stability, "Troubled Asset Relief Program Transactions Report for Period Ending September 16, 2009," https://www.treasury.gov/initiatives/financial-stability/reports/Documents/transactions-report_09162009.pdf.

⁶⁶ Termination of the agreement left the FDIC with \$2.225 billion (at a liquidation value of \$1,000 per share) of TruPS. In 2013, the FDIC exchanged the TruPS for \$2.42 billion (principal amount) of Citigroup subordinated notes. The exchange resulted in an increase of \$156 million in the DIF's 2013 comprehensive income (after netting out unrealized gains of \$302 million). Subsequently, the FDIC sold the subordinated notes on the institutional fixed-income market for the principal amount of \$2.42 billion. For more detail, see FDIC, *2013 Annual Report*, <https://www.fdic.gov/about/strategic/report/2013annualreport/ar13final.pdf>.

The Case of Bank of America

As the result of Bank of America’s announced acquisition of Merrill Lynch, regulators, as well as Bank of America, expected the company to announce larger than anticipated losses for the fourth quarter of 2008. A desire to forestall the potential systemic consequences led to a third SRE recommendation. (For a timeline of major events related to the Bank of America SRE, see Figure 3.3.)

Figure 3.3. Timeline of Bank of America Events



Source: Adapted from the Federal Reserve Bank of St. Louis's Financial Crisis Timeline.

Bank of America's Acquisition of Merrill Lynch

As of September 30, 2008, Bank of America Corporation (Bank of America, or BofA) owned eight insured banks and four significant non-insured subsidiaries. With \$1.4 trillion in total assets, Bank of America's largest bank subsidiary, Bank of America, N.A., was the second-largest bank in the United States. Bank of America, N.A., also held more than 10 percent of the country's total domestic deposits and was the largest holder of insured deposits.⁶⁷

But by the end of 2008, two prominent acquisitions were weighing heavily on the bank's financial performance: the acquisitions of Countrywide Financial and Merrill Lynch. In January 2008, BofA had announced its \$2.5 billion acquisition of subprime mortgage lender Countrywide Financial, a deal that would eventually cost the bank much more once the full extent of Countrywide's mortgage losses became evident.

On September 15, 2008, Bank of America had announced that it would acquire Merrill Lynch. After Lehman Brothers' failure (occurring the same day as the BofA announcement), Merrill Lynch was the weakest of the remaining major investment banks, posting net losses of \$11.8 billion in the first three quarters of 2008. The losses were due partly to losses on mortgage-related securities.⁶⁸ Just three months after the announcement (on December 17, 2008), however, BofA informed the Treasury that it was considering invoking the material adverse change (MAC) clause of the merger agreement because of larger than anticipated losses at Merrill Lynch.⁶⁹ The MAC clause would have allowed Bank of America to renegotiate the terms of the acquisition or cancel it altogether in light of Merrill Lynch's deteriorating condition. The Treasury and the FRB, Bank of America's regulator, were concerned that Bank of America would not be successful in attempting to invoke the MAC clause and that the financial markets would react poorly. They cautioned BofA against invoking the clause. Shortly thereafter, the FDIC was notified that some form of government assistance for BofA might be necessary, and the FDIC worked with the other banking agencies and the Treasury to determine what type of assistance might be required.

Ultimately, Bank of America concluded that there was a serious risk in invoking the MAC clause, and on December 31, 2008, the company completed the purchase of Merrill Lynch, absorbing significant losses as a result (\$15.5 billion in the fourth quarter of

⁶⁷ FDIC, "Memorandum to the FDIC Board of Directors Regarding Bank of America," January 15, 2009, 6, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2009-01-15%20Memo%20to%20the%20FDIC%20board%20of%20directors%20from%20Mitchell%20Glassman,%20Sandra%20Thompson,%20Arthur%20Murton,%20and%20John%20Thomas%20re%20Bank%20of%20America.pdf.

⁶⁸ Federal Reserve Board, "Report Pursuant to Section 129 of the Emergency Economic Stabilization Act of 2008: Authorization to Provide Residual Financing to Bank of America Corporation Relating to a Designated Asset Pool," 2, January 15, 2009, <https://www.federalreserve.gov/monetarypolicy/files/129bofa.pdf>.

⁶⁹ FCIC, *Report*, 383.

2008).⁷⁰ On January 9, 2009, officials at the FRB and the Treasury approached the FDIC to discuss whether the FDIC would participate in providing government assistance beyond that provided in 2008 through broad-based Treasury, Federal Reserve, and FDIC programs.⁷¹ Bank of America's stock price had declined approximately 70 percent from year-end 2007 to year-end 2008, and the bank was preparing to announce fourth quarter results below market expectations.

To determine whether assistance was necessary, the FDIC gathered information on Bank of America's losses and current exposures. These losses and exposures included subprime exposures at Merrill Lynch and poorly performing nontraditional mortgages and home equity loans in high-risk regions of the country at Countrywide Financial Corporation (which Bank of America had previously acquired).

The FDIC requested additional information on Bank of America's exposures to loss: were the exposures in the insured depository institutions and funded with insured deposits, or were they exposures stemming primarily from the nondepository investment bank?⁷² The source of the exposures would influence the structure of the assistance to be provided, with FDIC assistance dependent on the degree of exposure in Bank of America's insured depository institutions. As with the Citigroup transaction, staff from all the involved agencies worked quickly to determine the best available options for assistance.

The Decision to Recommend the Systemic Risk Exception

Following Bank of America's acquisition of Merrill Lynch, regulators were concerned about the holding company's potential short-term liquidity problems, particularly if its short-term wholesale funding was not rolled over upon maturity. Additionally, if the company's credit rating were to be downgraded, it would need to post additional collateral that it did not have. If Bank of America proved unable to meet its obligations, the markets for short-term interbank lending, bank senior and subordinated debt, and

⁷⁰ Bank of America Corporation, Earnings Conference Call Transcript on Q4 2008, January 16, 2009, <http://online.wsj.com/public/resources/documents/BACTranscript20090116.pdf>.

⁷¹ *Bank of America and Merrill Lynch: How Did a Private Deal Turn into a Federal Bailout? Part V, Before the U.S. House of Representatives Committee on Oversight and Government Reform and the Subcommittee on Domestic Policy*, 111th Cong. (December 11, 2009) (statement of Sheila Bair, Chairman, Federal Deposit Insurance Corporation), 2, <https://oversight.house.gov/wp-content/uploads/2012/01/20091211Bair.pdf>. Acquiring Merrill Lynch added \$10 billion in capital from TARP to the \$15 billion Bank of America had received in October 2008. Bank of America (including Merrill Lynch and Bank of America's other subsidiaries) relied heavily on a variety of available government assistance programs in 2008. Bank of America and Merrill Lynch borrowed \$88 billion under the Federal Reserve's collateralized programs and \$15 billion under the same agency's Commercial Paper Funding Facility. Bank of America borrowed \$92 billion from the Federal Home Loan Banks (which are discussed in footnote 44). See FCIC, Report, 385. Bank of America and its subsidiaries also issued \$71 billion in senior debt that was guaranteed by the FDIC under the Temporary Liquidity Guarantee Program (including guaranteed debt issued by Merrill Lynch before it was acquired by Bank of America). See FDIC, "TLGP Debt Guarantee Program: Issuer Reported Debt Details," https://www.fdic.gov/regulations/resources/tlgp/total_debt.html.

⁷² *Bank of America and Merrill Lynch*, statement of Bair, 3.

derivative products, among others, could be disrupted, increasing the likelihood of deposit runs at banks, larger repo haircuts (larger discounts on asset values when banks sold assets subject to repurchase agreements), increased margin requests (which would require banks to post additional collateral when they borrowed), and draws on unfunded loan commitments (which would be prompted by borrowers' fears that the lender would be unable to fulfill its lending obligations).⁷³ The banking agencies and Treasury believed that these consequences would be systemic because of Bank of America's size and the volume of its counterparty transactions. Moreover, given Bank of America's strong reputation, the banking agencies and Treasury feared that its failure could lead to a belief that wider problems existed in the banking industry⁷⁴ and could significantly undermine broader business and consumer confidence, thus weakening the overall economy.

In contrast to the timing in the case of the two previous SREs, the Treasury and banking agencies began discussing a potential assistance package in advance of market turmoil. With Wachovia and Citigroup, decisionmakers had had very little time to react to the companies' liquidity problems, but because Bank of America was scheduled to hold its earnings call on January 16, 2009, decisionmakers had a sense of when potential adverse market reactions might occur and had time to prepare a preemptive assistance package.

After discussing concerns related to Bank of America's liquidity position, supervisory ratings, and potential future losses,⁷⁵ and in light of the deepening economic recession and the risk of negative market reaction to Bank of America's imminent earnings report (as well as the risk of market concerns about the company's ultimate viability), on January 15, 2009, the Board of Governors of the Federal Reserve System and the FDIC Board of Directors recommended that the Secretary of the Treasury invoke the SRE and allow the FDIC to provide open-bank assistance. (As discussed below, the Secretary of the Treasury never made a formal SRE determination for Bank of America.)

Actions Taken under the Exception

On January 16, 2009, the Treasury and the banking agencies announced an interagency assistance package for Bank of America consisting of a capital injection by the Treasury and loss protection on a pool of BofA assets by the Treasury, the FDIC, and the FRBNY. The structure of the package was similar to the structure of the package offered to Citigroup. The Treasury injected \$20 billion in capital from TARP (under TIP) in exchange for preferred stock. In addition, the Treasury (under AGP), and the

⁷³ FDIC, "Memorandum Regarding Bank of America," 2, 8.

⁷⁴ Federal Reserve Board and Office of the Comptroller of the Currency, "Memorandum to FDIC on Bank of America Corporation Funding Vulnerabilities and Implications for Other Financial Market Participants," January 10, 2009, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2009-01-11%20FDIC%20Cox%20Email%20to%20Corston,%20Hoyer%20-%20FW%20Funding%20Vulnerabilities%20Memo.pdf.

⁷⁵ FDIC, Transcript, FDIC Closed Board Meeting, January 15, 2009, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2009-01-15%20FDIC%20Board%20Meeting%20Transcript.pdf.

FDIC (under the authority granted by the SRE) agreed to provide protection against the possibility of unusually large losses on a \$118 billion asset pool consisting of loans, securities backed by residential and CRE loans, and other assets. The asset pool had maximum potential future losses of up to \$81 billion.

For the pool of assets under the government guarantee, Bank of America would bear the first \$10 billion in losses (see Table 3.3). Losses beyond Bank of America's \$10 billion first loss position, up to approximately \$11.1 billion more, would be shared between Bank of America and the government, with Bank of America taking 10 percent of losses and the government covering 90 percent (Bank of America's responsibility for potential losses therefore increased by \$1.1 billion). The Treasury would cover the first \$7.5 billion of the government's share of losses, while the FDIC would cover the next \$2.5 billion.⁷⁶ Ninety percent of any further losses (beyond \$21.1 billion—\$10 billion plus \$11.1 billion) would be financed through a nonrecourse loan from the FRBNY, with Bank of America taking the remaining 10 percent. Under the terms of the agreement, the FDIC's portion of risk would be limited in recognition that most of the exposures lay within the investment banking entities (that is, the Merrill Lynch acquisition) and not Bank of America's insured depository institutions. The term of the loss share guarantee would be ten years for residential assets (loans secured solely by 1- to 4-family residential real estate, securities predominantly collateralized by such loans, and derivatives that predominantly referenced such securities) and five years for nonresidential assets.⁷⁷

Table 3.3. Bank of America Asset Guarantee Loss Positions

	First Loss Position	Second Loss Position		Additional Losses
Bank of America	\$10 billion	10%, up to \$0.83 billion	10%, up to \$0.27 billion	10%
Treasury		90%, up to \$7.5 billion		
FDIC			90%, up to \$2.5 billion	
FRBNY				90% (nonrecourse loan)
Subtotal	\$10 billion	\$8.33 billion	\$2.77 billion	
Total			\$21.1 billion	

⁷⁶ The Treasury's share of the asset guarantee was covered under the Asset Guarantee Program, and the FDIC's share was authorized under the SRE. See FCIC, *Report*, 385.

⁷⁷ U.S. Department of the Treasury, Federal Reserve Board, and Federal Deposit Insurance Corporation, "Summary of Terms: Eligible Asset Guarantee (Bank of America)," January 16, 2009, <https://www.federalreserve.gov/newsevents/press/bcreg/bcreg20090115a1.pdf>.

As compensation for these guarantees, the Treasury and the FDIC together would receive \$4 billion in preferred stock and warrants (\$3 billion to the Treasury and \$1 billion to the FDIC, consistent with their respective loss sharing percentages). In addition, Bank of America would be prohibited from paying dividends on common stock in excess of a penny per share per quarter for three years without government consent. As under the assistance agreement for Citigroup, Bank of America would also comply with enhanced restrictions on corporate governance and executive compensation (including bonuses) that rewarded long-term performance and profitability, and would implement a mortgage loan modification program on the assets under guarantee.

After the announcement of the assistance package on January 16, Bank of America, the FDIC, the FRB, and the Treasury began negotiating the specific terms of the asset guarantee portion of the package. However, in May, before the parties could finalize terms and before the Secretary of the Treasury formally approved an SRE, Bank of America asked to terminate the asset guarantee as part of its efforts to reduce its reliance on government support and return to normal market funding.⁷⁸ In September, Bank of America paid \$425 million to the government as compensation for the benefits it had received from the market's perception that the government would guarantee its assets.⁷⁹ Also in September, Bank of America asked to repay its TARP funding (including the capital provided under TIP), and in December, after negotiations with regulators, Bank of America repaid its TARP funding in full.

Effects of Recommending the Systemic Risk Exception

The government support package was announced in tandem with the announcement of Bank of America's fourth-quarter losses. Although the Secretary of the Treasury never formally approved an official systemic risk determination for Bank of America, the public announcement of planned assistance served as a de facto determination, signaling "regulators' willingness to provide such assistance and may have achieved to some degree the intended effect of increasing market confidence in Bank of America."⁸⁰

⁷⁸ Bank of America, "Bank of America Terminates Asset Guarantee Term Sheet," Press Release, September 21, 2009, http://investor.bankofamerica.com/phoenix.zhtml?c=71595&p=irol-newsArticle&ID=1333936#fbid=KdIAO_1PIBQ.

⁷⁹ The payments consisted of \$276 million to the Treasury, \$57 million to the Federal Reserve, and \$92 million to the FDIC. See "Bank of America Termination Agreement," September 21, 2009, <https://www.treasury.gov/initiatives/financial-stability/programs/investment-programs/agp/Documents/BofA%20-%20Termination%20Agreement%20-%20executed.pdf>.

⁸⁰ GAO, *Regulators' Use of Systemic Risk Exception*, 10.

Conclusion

After the announcements of the SREs, funding and liquidity stabilized (not only at the individual institutions supported by SREs, but also at other major financial institutions), and interbank lending continued (bolstered by the Temporary Liquidity Guarantee Program, which required its own SRE [see chapter 2]).

The severity of the financial crisis and resulting banking crisis, and the extraordinary government assistance that followed—which raised concerns about an increase in moral hazard and a reduction in market discipline—led to a number of financial reforms, including those contained in the Dodd-Frank Act.

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 seeks to reduce the likelihood that large bank holding companies and other systemically significant financial companies will fail in the future. For example, the act mandates enhanced risk-based capital and leverage standards for large banking organizations. To implement that mandate, banking regulators have adopted new, stronger standards for capital at the largest, most systemically important banking organizations. In light of the rapid liquidity problems observed at several banking organizations, banking regulators have also begun monitoring liquidity at these institutions more frequently and have adopted stricter liquidity standards for them.

But if a systemically important company were nevertheless to fail, Dodd-Frank seeks to reduce the adverse effects on financial stability that could result. The act requires the largest bank holding companies and systemically significant nonbank financial companies to prepare resolution plans, commonly referred to as “living wills.” These living wills must demonstrate that the company could be resolved under the Bankruptcy Code without severe adverse consequences for financial stability or the economy. The living wills also serve to reduce moral hazard by making clear to creditors their potential exposure to losses in the event of failure. In addition, the living wills help alleviate the persistent dearth of information about firms’ interconnections and interdependencies that vexed the Treasury and banking agencies as they were deciding whether to invoke SREs during the recent crisis.

Moreover, for financial companies whose resolution under bankruptcy procedures would pose serious risks to financial stability, Dodd-Frank created a back-up resolution mechanism, called the Orderly Liquidation Authority (or OLA). The OLA is intended to enable the FDIC to wind down and liquidate such a company, while ensuring that shareholders, creditors, and culpable management are held accountable and taxpayers do not bear losses.

Dodd-Frank significantly narrowed the scope of the SRE provision that had been created in FDICIA (see footnote 1 in this chapter, and the discussion of the SRE provision in chapter 2). The law now requires that, for the FDIC to use an SRE, an institution must first be placed into receivership, thus eliminating the possibility that an SRE can be used

to provide open-bank assistance.⁸¹ Furthermore, while the FDIC can still establish a debt guarantee program applicable to multiple banks (as it did with the Temporary Liquidity Guarantee Program), the FDIC's authority to establish such a program is now separate from the SRE authority, and using the authority requires the approval of Congress.⁸²

⁸¹ Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111-203, 124 Stat. 1376, § 1106(b), amending 12 U.S.C. § 1823(c)(4)(G) (2016).

⁸² *Ibid.*, § 1105(a), codified at 12 U.S.C. § 5612 (2016), and § 1106(a), codified at 12 U.S.C. § 5613(a) (2016).

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Part 2:
Banking Crisis and Response

4

Bank Supervision

Between mid-2007 and September 30, 2008, the U.S. banking industry transitioned from a period of record earnings to a severe crisis. The crisis, and the deep recession that accompanied it, would make clear the extent to which risks had been building during the pre-crisis years at many insured banks and large financial institutions. The crisis would result in some 500 bank failures,¹ spur a massive program of governmental assistance to the financial sector, and engage every bank supervision resource available to the FDIC.

Throughout this chapter, the terms “regulation,” “supervision,” and “examination” appear frequently, and an explanation of these terms is in order. “Regulation” refers to the written rules the federal banking agencies apply to the financial institutions subject to their jurisdiction.² “Supervision” refers to a range of activities that include evaluating banks’ financial condition and risk profiles, taking enforcement actions when needed, acting on applications received from banks or other parties,³ and acting in other matters—in short, “supervision” refers to the processes by which a banking agency carries out its statutory responsibilities to ensure a safe and sound banking industry. “Examination” is a subset of supervision, and the word refers to the periodic review, by trained specialists, of information obtained from individual banks for the purpose of ascertaining each bank’s financial condition, risk profile, and compliance with laws and regulations.

This chapter describes the history of the crisis from the perspective of bank supervision. It starts with the congressional response to the preceding period of crisis in the banking industry (the bank and thrift crisis of the 1980s and early 1990s) and with important changes, during the interval between the two crises, in the banking industry’s risk profile.

¹ During the six years from 2008 through 2013, the period designated as the crisis years for this study, 489 banks failed. Of the 37 banks that failed from January 1, 2014, through June 30, 2017, a significant portion failed because they never recovered from the effects of the crisis.

² The FDIC is the primary federal regulatory agency for state-chartered banks that are not members of the Federal Reserve System and for state-chartered thrifts; the Office of the Comptroller of the Currency is the primary federal regulator for national banks and federally chartered thrifts; and the Federal Reserve System is the primary federal regulator for state-chartered banks that are members of the Federal Reserve System and for bank holding companies.

³ Applications to the FDIC are required in connection with the formation of new insured banks and may be required in connection with bank mergers, changes in control, and other matters.

It then describes the evolution of the FDIC's supervision and risk analysis processes in the years following the earlier crisis.⁴ Next, looking at the 2008–2013 crisis itself, the chapter describes the characteristics of a sample of banks that failed or became problem banks during the crisis, provides a detailed account of the supervisory strategies the FDIC mobilized in its response to the challenge of so many weak and failing banks, and discusses the effectiveness and appropriateness of supervisory efforts in dealing with troubled banks. The chapter concludes with a discussion of lessons learned. The crisis was a test not only of the efficacy of bank supervision in addressing a full-blown crisis but also of the supervisory processes that had been put in place during the inter-crisis years. In that sense, it provides lessons not only for how supervisors can respond to a crisis, but also for the conduct of supervision in times of economic prosperity.

Prelude to the Crisis: Statutory Framework and Banking Conditions

The end of the protracted banking and thrift crisis of the 1980s and early 1990s is a good starting point for tracing the history of the most recent crisis. As in the recent crisis, the failure or federal rescue of a large number of banks (more than 2,900 banks and thrifts from 1980 through 1994) was a transformative experience. Important legislative changes that were enacted during and shortly after that earlier crisis established new mandates for FDIC safety-and-soundness supervisors, and resulted in accelerated consolidation in the banking industry. In this new landscape, banks would embark on a significant expansion of lending activity, particularly real estate lending, and would do so in a way that gave rise to significant new risks.

Statutory Framework

As the banking and thrift crisis of the 1980s progressed, a widespread perception developed among academics and members of Congress that bank and thrift regulators had not taken necessary or timely steps to address problems at troubled institutions, or were allowing nonviable institutions to remain open indefinitely while the institutions were relying on the federal deposit insurance guarantee to attract deposits.

Congress addressed these concerns in the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) and the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA). Together, these statutes established a comprehensive set of expectations for more effective regulation and supervision of banks in the aftermath of the 1980s banking and thrift crisis.

⁴ The risk analysis processes discussed in this chapter do not include the FDIC's system of risk-based deposit insurance assessments. That system is discussed at length in chapter 5.

Among other things, FIRREA increased and clarified the FDIC's authorities as insurer and receiver for failed institutions, most notably by abolishing the Federal Savings and Loan Insurance Corporation (FSLIC) and transferring its deposit insurance and resolution responsibilities for thrifts to the FDIC. FIRREA also restricted the acceptance of brokered deposits by troubled banks. "Brokered deposits" are, roughly speaking, deposits solicited and placed at a bank by an outside party, for a fee.⁵ The 1980s thrift crisis highlighted concerns about such deposits as it became evident that, because of the federal deposit insurance guarantee, economically nonviable institutions could use such deposits to stay open almost indefinitely. FIRREA also allowed the FDIC to recover part of its cost of liquidating a failed institution by seeking reimbursement from other commonly controlled insured institutions.⁶ Banks' obligation to reimburse the FDIC under such circumstances became known as "cross-guarantee liability."

Among the many provisions of FDICIA, Congress (1) required the federal banking agencies to conduct a full-scope on-site safety-and-soundness examination at least once per year for every bank (or once every 18 months for smaller banks meeting certain conditions) and to maintain enough well-trained examination staff to adhere to that schedule;⁷ (2) established requirements for prompt corrective action on the part of the federal regulators and required each bank with assets greater than \$150 million to obtain an annual audit of its financial statements by an independent public accountant; and (3) directed the agencies to develop standards for safety and soundness and for real estate lending as well as regulations requiring appraisals for real estate transactions. With the prompt corrective action requirements, Congress directed the agencies—giving particular responsibility to the FDIC—to address and "resolve the problems at insured depository institutions at the least possible long-term loss to the deposit insurance fund."⁸ Accordingly, taking prompt corrective action to address problems at troubled banks was an important goal for the FDIC (and the federal banking agencies more generally) in addressing the recent crisis.

⁵ The large body of legal opinions and precedents regarding brokered deposits is beyond the scope of this chapter.

⁶ Depository institutions are "commonly controlled" if such institutions are controlled by the same company or if one depository institution is controlled by another. A person is not a company, but certain trusts can be considered companies under the Bank Holding Company Act.

⁷ Section 111(a) of FDICIA requires annual (or every 18 months for certain smaller banks) full-scope on-site safety-and-soundness examinations; and Section 111(d) of FDICIA requires agencies to ensure that the training and number of staff are sufficient for examinations to be objective and thorough.

⁸ Section 131 of FDICIA. The quoted language is from the beginning of Section 131 describing the purpose of the section. Thus, it refers broadly to the prompt corrective action requirements and not narrowly to the term "least cost resolution" referenced in chapter 6. In addition, although the quoted language refers to the deposit insurance fund, after the FSLIC was abolished by FIRREA and until 2006 there were two FDIC deposit insurance funds, one for banks and one for savings associations. They were combined into one—the Deposit Insurance Fund (DIF)—in 2006. In this chapter, references to the DIF before 2006 are intended as generic references to either fund.

By 1994, when the banking and thrift crisis had subsided, Congress turned its attention toward issues of banking industry structure. The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 significantly eased federal restrictions on banks' ability to open branches across state lines. The Gramm-Leach-Bliley Act, enacted in 1999, removed most federal restrictions on affiliations between banks, investment banks, and insurance companies. An argument advanced for both Riegle-Neal and Gramm-Leach-Bliley was that they would lead to more-diversified financial institutions and that greater diversification would make the institutions less subject to the problems that had afflicted smaller, less diversified, and geographically concentrated institutions during the crises of the 1980s and early 1990s. These changes contributed to an increase in the size and interconnectedness of financial institutions.

Banking Conditions

As just suggested, Riegle-Neal and Gramm-Leach-Bliley contributed to significant structural changes in the U.S. banking industry, including a wave of consolidation that resulted in a substantial reduction in the number of insured institutions and a concomitant increase in the size of the largest ones. The consolidation of charters within banking companies, which occurs when legally separate but commonly owned banks are converted into multiple branches of a single bank, had begun in the 1980s with the relaxation of state branching laws, and Riegle-Neal facilitated the trend. Between 1994 (the passage of Riegle-Neal) and 2006 (the last of a succession of record-breaking earnings years for the banking industry before the crisis), the number of FDIC-insured institutions decreased from 12,604 to 8,681; as a result of strong loan growth, the industry's assets increased from \$5 trillion to \$11.9 trillion; the asset size of the largest insured bank increased from \$210 billion to \$1.2 trillion; and the percentage of insured banks' assets held by the ten largest insured banks increased from 20 percent to 45 percent. The effect of Gramm-Leach-Bliley was to facilitate the growth of large bank holding companies (BHCs) through affiliations. At year-end 1994 the largest BHC had assets of \$250 billion. By year-end 2006, the largest had assets of \$1.9 trillion (as noted in chapter 2, during the crisis the FDIC would guarantee certain liabilities of bank holding companies).

Banking industry consolidation in the inter-crisis years occurred against a backdrop of economic prosperity. The ten-year period from year-end 1996 to year-end 2006 was one of rapid increases in home prices. Nominal GDP grew at a brisk annualized rate of 5.4 percent during that decade, while loans outstanding at FDIC-insured institutions grew at an annualized rate of 7.5 percent. (Given the problems that banks would soon experience, it is noteworthy that acquisition, development, and construction [ADC] lending grew especially fast, at an annualized rate of nearly 19 percent for the ten-year

period.)⁹ During the same decade, insured institutions' earnings grew at an annualized rate of 11 percent and set new records in every full year from 2001 through 2006.¹⁰

At larger institutions, earnings records were driven in part by the securitization (and, for some institutions, the origination) of Alternative-A (Alt-A) and subprime mortgages (see chapter 1). Reciprocally, the mortgage securitization pipeline, which contributed to seemingly unlimited liquidity for mortgage-related assets, was fueled by the activities of a number of the largest financial institutions in the United States, including thrifts, U.S. and foreign banking organizations,¹¹ and investment banks, and, it could be argued, by the activities of rating agencies and providers of financial guarantees of the performance of these assets.

Subprime lending became an important risk for some banks well before the full onset of the crisis in 2008. In February 2000, the FDIC estimated that approximately 140 banks had significant exposures in the subprime lending business. Although those institutions represented just over 1 percent of all insured institutions, they accounted for nearly 20 percent of all problem institutions—those with CAMELS ratings of 4 or 5.¹² Of the 22 banks that failed between 1997 and September 2001, 8 had significant subprime lending portfolios, foreshadowing, to an extent, the broader systemic risks that subprime and nontraditional mortgages would present in 2007 and 2008. Among these 8 banks were BestBank in Boulder, Colorado, which held subprime credit card receivables; First National Bank of Keystone in Keystone, West Virginia, which held retained interests in subprime mortgage loans; Pacific Thrift and Loan Company in Woodland Hills, California, which held retained interests in subprime mortgage loans; and Superior Bank FSB, in Hinsdale, Illinois, which held retained interests related to the securitization of subprime mortgages.

⁹ ADC loans are loans to finance the acquisition of raw land, land development, or real estate construction projects. Historically the repayment performance of ADC loans has tended to be more sensitive to adverse changes in economic or market conditions than has the repayment performance of other loan categories.

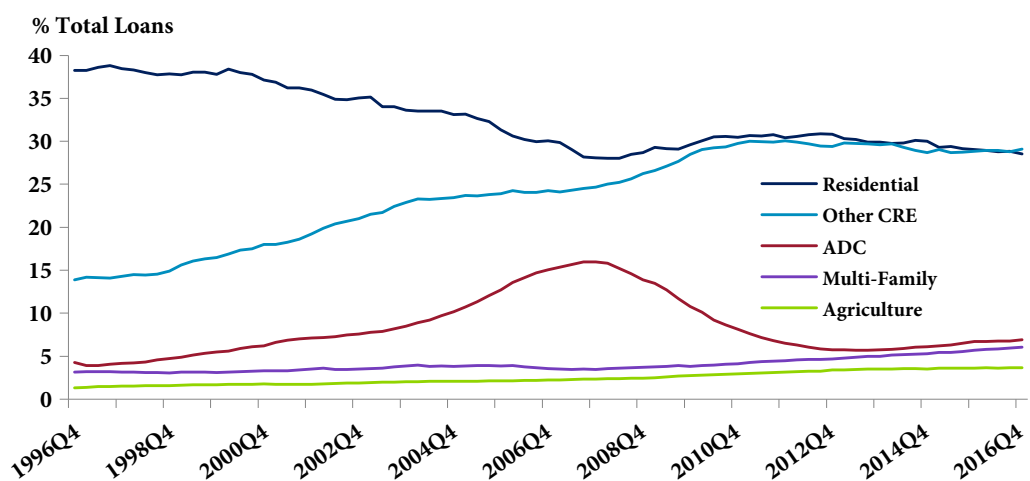
¹⁰ For the new records set by earnings, see FDIC, *Quarterly Banking Profile*, Q4 2006.

¹¹ In this chapter, the term “banking organization” will be used to encompass both banks and bank holding companies, and the terms “bank” and “insured bank” will be used interchangeably to refer to all FDIC-insured depository institutions—including both banks and thrifts—unless the context makes clear that a distinction is being drawn among different insured-bank charter types.

¹² *Hearings on Recent Bank Failures and Regulatory Initiatives Before the House Committee on Banking and Financial Services*, 106th Cong. (February 8, 2000) (statement of FDIC Chairman Donna Tanoue), <http://archives.financialservices.house.gov/banking/2800tan.shtml>. CAMELS stands for Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk. (The “S” component was added in 1996.) Bank supervisory ratings, or CAMELS composite ratings, are on a scale of 1 to 5, with a 1-rating being the highest and indicating the greatest strength in performance and risk management and the lowest level of supervisory concern. At the other end of the scale, a 5-rating is the lowest rating and indicates the weakest performance, inadequate risk management, and the highest level of supervisory concern. The CAMELS composite rating is derived from an evaluation of the six CAMELS components; although the composite rating is generally a close reflection of the assigned component ratings, it is not an arithmetic average of the component ratings.

Small banks (those having total assets of under \$10 billion) generally were not involved in subprime and nontraditional mortgages. Earnings at small banks were driven largely by growth in traditional lending categories, particularly real estate lending. The proportion of small banks' loan portfolios that was secured by real estate increased from about 61 percent to about 75 percent from year-end 1996 through year-end 2006. Growth in commercial real estate (CRE) and in ADC lending was particularly noteworthy: during that decade, CRE loans outstanding (excluding ADC) at small banks grew at an annualized rate of 6.3 percent, while ADC loans grew at an annualized rate of 15 percent. As a result, ADC loans outstanding at small banks increased from 4 percent of loans outstanding at these banks to 15 percent (see Figure 4.1).

Figure 4.1. Real Estate Loans as a Percent of Total Loans, 1996–2016 (Banks with Total Assets < \$10 Billion)



Note: "Other CRE" refers to real estate loans secured by nonfarm nonresidential properties.

By 2004, the tide of rising housing prices and favorable economic conditions was buoying up the financial performance of almost all banks. Between midyear 2004 and early February 2007, no FDIC-insured bank failed. And as of year-end 2006, the FDIC's *Quarterly Banking Profile* reported that of a total of 8,681 banks with assets of \$11.9 trillion, only 50 were on the FDIC's problem-bank list, with total assets of \$8.3 billion.¹³ Throughout 2006, only about one-half of 1 percent of banks were on the problem list, the lowest percentage for any year for which these data are available (1980–2017), suggesting, incorrectly as it turned out, that the risk profile of the banking industry was at a historic low.

¹³ "Problem banks" are FDIC-insured depository institutions assigned a CAMELS rating of 4 or 5; see note 12 for an explanation of these ratings.

Prelude to the Crisis: The Safety-and-Soundness Examination Program

As the risk profile of the banking industry evolved in the years between the previous banking crisis and the more recent one, the FDIC's safety-and-soundness examination program evolved as well. During the years between the two banking crises, two broad themes shaped the program. One theme was an effort to benefit from the lessons learned during the crisis of the 1980s and early 1990s. The other was an effort to avoid placing undue burden on banks.

Benefiting from lessons learned meant, among other things, a focus on ensuring prompt supervisory action to address deficient risk management practices at banks before those deficiencies resulted in a bank's condition deteriorating beyond repair. In addition, organizational and policy changes were made to strengthen the FDIC's risk analysis capabilities. Avoiding undue burden on banks meant streamlining the examination process at institutions that the FDIC believed had a low risk-profile.

Timely Corrective Action

One of the most important lessons flowing from the crisis of the 1980s—a lesson that directly affected bank supervision during the 2008–2013 crisis and that affects bank supervision today—is the need for supervisors to take timely corrective action to address problems at troubled banks and, more broadly, the need to correct banks' risk management deficiencies before these deficiencies do substantial harm.

In 1993 the federal bank and thrift regulators published a revised uniform common core report of examination that highlighted the importance of timely steps by banks to address weaknesses in risk management practices.¹⁴ Though each agency had its own set of instructions, the interagency group developed common definitions for parts of the core report in order to ensure accurate and consistent presentation of that information—and, importantly, the new uniform report introduced the “Matters Requiring Board Attention” page to focus the attention of the bank's board and management on material issues requiring immediate consideration.¹⁵

In 1995 the FDIC took another step emphasizing the importance of a proactive assessment of banks' exposure to and management of credit risks, when FDIC examiners began completing an “underwriting standards” survey at each examination. The survey, still in use today, reflects an examiner's view of bank management's ability to identify, measure, monitor, and control credit risks in various types of lending. This focus on loan underwriting standards is designed to serve as an early-warning mechanism for identifying future problems.

¹⁴ FDIC, “Regulators Adopt Common Format for Examination Reports,” *Financial Institution Letter*, FIL-72-93, October 19, 1993.

¹⁵ Further discussion of MRBAs is available in “Supervisory Trends: ‘Matters Requiring Board Attention’ Highlight Evolving Risks in Banking,” FDIC, *Supervisory Insights*, Summer 2014.

In 1996, the Federal Financial Institutions Examination Council issued an important clarification of examination and supervision policy when it revised its Uniform Financial Institutions Rating System, which had been introduced in 1979.¹⁶ The changes added a new component rating, the “S” rating for sensitivity to market risk, to the five previous components, expanding the acronym CAMEL to CAMELS.¹⁷ More broadly, the 1996 changes were designed to make sure that both bankers and examiners understood that CAMELS ratings were based not only on a bank’s current financial indicators (e.g., earnings, capital, and nonperforming assets) but also on its risk profile, which is influenced by the bank’s loan underwriting, internal controls, degree of exposure to market risk, and other factors. Thus, for example, a well-capitalized and profitable institution could still be assigned a composite rating of 3 if the examiner found risk controls to be weak or the bank to be inadequately managed.

In 1997, the FDIC, in conjunction with the Federal Reserve Board and the Conference of State Bank Supervisors, began implementing a new risk-focused examination process designed to direct bank examinations and examination resources at whichever bank functions posed the greatest risk exposure at the particular institution. Identifying the functions that pose the greatest risk exposure is part of what an examination is about, and depends on the business model and risk mitigation strategies, or the weaknesses thereof, at each individual institution.

As already noted, the risk-focused examination process attempts to assess an institution’s ability to identify, measure, evaluate, and control risk. This process recognizes that in a rapidly changing environment, a bank’s financial condition at any given time may not indicate the bank’s future performance, and so the risk-focused examination process seeks to strike an appropriate balance between evaluating the financial condition of an institution at a certain time and evaluating the soundness of the bank’s processes for managing risk. For if management’s risk controls are properly designed and effectively applied, they should help ensure that the bank’s future performance will be satisfactory. (Moreover, for well-run banks the risk-focused approach may involve less regulatory burden because examiners will be testing, rather than duplicating, the work of the bank’s own audit and management review functions.)

In 2000, the FDIC implemented new on-site supervision processes for large FDIC-supervised banks (banks with assets greater than \$10 billion; the role of the FDIC with respect to large banks not supervised by the FDIC is discussed below, in the section titled “Large-Bank Risk Assessment”).¹⁸ In light of the banking industry’s ongoing consolidation and evolution toward larger and more complex institutions, the FDIC

¹⁶ “Uniform Financial Institutions Rating System,” 61 Fed. Reg. 67021–67029 (Dec. 19, 1996), <https://www.gpo.gov/fdsys/pkg/FR-1996-07-18/pdf/96-18187.pdf>.

¹⁷ Again, see footnote 12 for a brief explanation of the ratings system.

¹⁸ See that same section for an explanation of which federal agency supervises which category of banks.

determined that an on-site presence beyond traditional “snapshot” examinations is generally necessary to effectively monitor certain larger state institutions that are not members of the Federal Reserve System. The new program emphasized the importance of supervisory plans that were dynamically updated to address the evolving risks of larger and more complex institutions: generally, the examination process for large banks consisted of a series of targeted reviews of key business lines and risk areas, based on an annual supervisory plan, with the findings of these activities incorporated into the annual report of examination. Examiners were instructed to focus their most intense efforts on, among other things, the presence of rapid asset growth, asset concentrations, and internal control weaknesses—in other words, indicators that may reflect increasing risks at a bank.

The changes in the supervisory process discussed in this section were designed to sharpen FDIC supervisors’ sensitivity to the importance of banks’ risk management practices. Addressing weaknesses in banks’ risk management practices in a timely manner is important, because if supervisors do not address weaknesses in risk management until after a bank’s condition deteriorates, it is often too late to prevent that bank from failing. The result may be an increase in costs to the Deposit Insurance Fund (DIF) for reimbursing insured depositors of the failing bank and for resolving the failed bank. (On the Deposit Insurance Fund, see chapter 5. On resolutions, see chapter 6.) And if the institutions whose problems are allowed to go unaddressed are very large, a financial crisis may ensue with deep and widespread economic repercussions.

In short, at the beginning of the decade that preceded the 2008–2013 banking crisis, a fundamental supervisory goal of the FDIC (and the other federal banking agencies) was to be proactive, attempting to address deficiencies in risk management at an early stage. As discussed below, in the aftermath of the crisis the FDIC has reemphasized this fundamental goal.

Reduction of Regulatory Burden

The second broad theme driving changes to the safety-and-soundness examination program was the desire to reduce the regulatory burden associated with the examination process, especially for smaller, lower-risk institutions. Efforts to reduce burden included economizing on the overall level of resources devoted to bank examination and supervision, and streamlining examination procedures for smaller well-rated banks.

The FDIC’s burden reduction efforts included a 2002 Corporate Performance Objective (CPO) to reduce by 20 percent the average time spent conducting safety-and-soundness examinations of 1- and 2-rated banks with assets less than \$250 million.¹⁹ A subsequent CPO called for an additional 10 percent to 20 percent reduction in

¹⁹ The FDIC’s expectation of this 20 percent reduction in examination hours was communicated in FDIC, “Reducing Burden on Banks and the Public,” *Financial Institution Letter*, FIL-36-2002, April 24, 2002.

examination hours compared with then-current benchmarks for banks with a CAMELS rating of 1 or 2. To create incentives to meet these goals, regional and territory offices were ranked on the basis of their success in reducing the time spent examining banks; processing examination reports, applications, and enforcement actions; and meeting other efficiency measures. To help achieve the CPO, a new Maximum Efficiency Risk-Focused Institution Targeted (MERIT) examination program was introduced in 2002; it encouraged streamlined loan review and the limited use of a number of examination procedures. Examiners were encouraged to use the streamlined MERIT procedures for a narrowly defined set of eligible banks, and for other institutions as appropriate. The MERIT examination program was discontinued in 2008, in part because of concerns it was being implemented in a way that reduced the rigor of some examinations to an extent that had not been intended.

Efforts to Enhance Risk Analysis Capabilities

The FDIC's effort to learn from the experience of the earlier crisis was reflected not only in changes to its examination programs but in organizational changes and other efforts to improve the quality of its risk analysis capabilities, its expertise regarding more complex banking activities, and its off-site monitoring systems.

A first step in this evolution was the FDIC's establishment in 1995 of a new Division of Insurance (which subsequently merged with the already existing Division of Research and Statistics to become the Division of Insurance and Research). In addition to administering the FDIC's risk-based deposit insurance pricing system (see chapter 5), the new Division stationed a small interdisciplinary staff of seasoned bank examiners, regional economists, and analysts in each of the (at the time) eight FDIC regional offices and Washington, DC.²⁰ Their charge was to bridge the gap between the analysis of broad economic and market trends and the micro perspective of individual bank examinations. Staff in these offices published a *Regional Outlook* designed to heighten banker and examiner awareness of emerging regional risks and trends. These staff members also served as a resource for management, both in the regions and in Washington, on economic conditions affecting insured banks.

In 1997, to align the FDIC's organizational structure with an industry that was consolidating across state lines, the FDIC established a new Case Manager position in the regional offices. Each Case Manager is assigned a caseload of banking organizations and is responsible for keeping abreast of developments at these organizations by regularly reviewing financial reports, the results of off-site monitoring systems, and examination reports, and by maintaining contact with counterparts at other bank regulatory agencies or the bank. This review by the Case Manager supplements the on-site FDIC examination,

²⁰ As of June 30, 2017, the FDIC had six regional offices, located in New York City, Atlanta, Chicago, Dallas, Kansas City, and San Francisco. These, along with offices in Boston and Memphis, constituted the eight regional offices referenced in the text.

which may occur as infrequently as once every three years if the FDIC alternates examinations with its state counterparts. The FDIC also created a number of subject-matter specialist positions in the regional offices to help ensure that if complex issues arose at individual institutions during an examination, an adequate level of expertise existed to address them. Such specialist positions were created in the areas of capital markets, accounting, trust, and information technology.

In 2003, the FDIC created a National Risk Committee (NRC), a cross-divisional body of senior managers established to identify and evaluate major business risks facing the banking industry and the insurance funds (as noted in footnote 8, until 2006 there were two deposit insurance funds). Risk committees in the regions delivered regular regional risk reports to the NRC. A successor structure of regional and national risk committees exists at the FDIC today.

Increased emphasis was placed on the review of banks that were outliers according to the FDIC's off-site monitoring tools. The term "off-site monitoring" is used here to refer to a specialized subset of the more general concept of risk analysis, namely, the periodic and systematic analysis of data from the quarterly Consolidated Report of Condition and Income (Call Report). Off-site monitoring tools used then and still used include (1) a Statistical CAMELS Offsite Review (SCOR) model designed to make it easier to identify signs of potential financial deterioration at a bank,²¹ (2) a Growth Monitoring System to flag for further off-site review the banks that were growing most rapidly, and (3) a Real Estate Stress Testing (REST) model to help identify institutions that were more susceptible to the types of real estate-related problems that had played a major role in the 1980s banking crisis.²²

The development and use of such tools allows for a quarterly analysis of the financial data reported by all insured banks to identify signs of deteriorating performance or undue risk-taking; this review is an important supplement to the relatively infrequent on-site examinations. Such off-site systems help ensure that potential issues are systematically brought to the attention of safety-and-soundness staff: regional staff is asked to review institutions that are flagged as outliers relative to the off-site indicators and to recommend additional supervisory attention where warranted.

Retrospectively, one can see that these enhanced risk-analysis processes brought important issues to the attention of bankers, examiners, and policymakers. Examples include two FDIC publications in 1997, one on subprime lending and the other on Trust

²¹ The SCOR model is described in Charles Collier, Sean Forbush, Daniel A. Nuxoll, and John O. Keefe, "The SCOR System of Offsite Monitoring: Its Objectives, Functioning, and Performance," *FDIC Banking Review* 15, no. 3 (2003): 17–32, https://www.fdic.gov/bank/analytical/banking/2003sep/2_15n3.pdf.

²² The REST model is described in Charles Collier, Sean Forbush, and Daniel A. Nuxoll. "Evaluating the Vulnerability of Banks and Thrifts to a Real Estate Crisis," *FDIC Banking Review* 15, no. 4 (2003): 19–36, https://www.fdic.gov/bank/analytical/banking/2003dec/2_15n4.pdf.

Preferred Securities²³ and associated risks.²⁴ A number of other FDIC publications, including one published in the first quarter of 1999 and one in the third quarter of 2000, highlighted the risk of overbuilding in several major metropolitan markets (some of which subsequently experienced severe real estate downturns) and identified concerns about new, higher-risk mortgage lending practices.²⁵ A publication in the first quarter of 2002 discussed concerns about mortgage underwriting, concentrated lending exposures to finance the development of vacant lots, and potential credit risks facing ADC lenders in particular metro markets, including Atlanta and San Francisco (markets that would experience high rates of bank failure during the crisis).²⁶ On the other hand, a publication in the spring of 2004 discussed the risk of a bubble in national housing prices but concluded, on the basis of information through 2003, that such a bubble was not underway and was unlikely to develop.²⁷

Internal risk metrics such as the REST model mentioned above flagged increasing industry vulnerability to economic downturns associated with growing concentrations in ADC lending. In 2003, as concerns about ADC concentrations grew, staff undertook a horizontal review of risk exposures associated with ADC lending in the Atlanta metropolitan area. The review identified concerns with risk management practices but concluded that risks were mitigated because the ADC lending exposures were primarily to finance the development of residential subdivisions to meet the housing demands of an increasing population. What was not so readily apparent was the significant reliance on subprime and nontraditional mortgages in supporting market activity. The pipeline for this problematic mortgage credit was fed by nonbank mortgage originators and by the activities of large investment banks, large thrifts, and large BHCs. It was hard for small

²³ Trust Preferred Securities are discussed in the section below titled “Strategies to Insulate Banks from Problems at BHCs.”

²⁴ Kathy R. Kalsner and Debra L. Novak, “Subprime Lending: A Time for Caution,” *Regional Outlook, San Francisco*, Q3 1997, <https://www.fdic.gov/bank/analytical/regional/ro19973q/sf/infocus1.html>; and Kathy R. Kalsner, “Financial Markets,” *Regional Outlook, San Francisco*, Q4 1997, <https://www.fdic.gov/bank/analytical/regional/ro19973q/sf/finmkt.html>.

²⁵ Steven Burton, “Commercial Development Still Hot in Many Major Markets, but Slower Growth May Be Ahead,” *FDIC Regional Outlook National Edition*, Q1 1999, <https://www.fdic.gov/bank/analytical/regional/ro19991q/na/infocus2.html>. Robert Burns and Sarah Zachary, “Ranking Metropolitan Areas at Risk for Overbuilding,” *FDIC Regional Outlook National Edition*, Q3 2000, <https://www.fdic.gov/bank/analytical/regional/ro20003q/na/infocus1.html>. Allen Deaton, “Rising Home Values and New Lending Programs Are Reshaping the Outlook for Residential Real Estate,” *FDIC Regional Outlook National Edition*, Q3 2000, <https://www.fdic.gov/bank/analytical/regional/ro20003q/na/infocus2.html>.

²⁶ Scott Hughes, Judy Plock, Joan Schneider, and Norman Williams, “In Focus this Quarter: Housing Market Has Held Up Well in this Recession, but Some Issues Raise Concern,” *FDIC Regional Outlook National Edition*, Q1 2002, <https://www.fdic.gov/bank/analytical/regional/ro20021q/na/infocus.html>.

²⁷ Scott Hughes, Jack Phelps, Allen Puwalski, and Norman Williams, “Housing Bubble Concerns and the Outlook for Mortgage Credit Quality,” *FDIC Regional Outlook National Edition*, Spring 2004, <https://www.fdic.gov/bank/analytical/regional/ro20041q/na/infocus.html>.

banks, for builders, and indeed for bank supervisors to appreciate just how dependent on the continued operation of this pipeline the ADC exposures really were.²⁸

In March 2005, as part of the FDIC's formal risk analysis process, staff raised significant concerns about trends in mortgage credit and the unsustainable appreciation of housing prices. Specifically, staff expressed concerns to the FDIC's National Risk Committee about the rapidity with which house price appreciation was outstripping income growth by a widening margin in high-cost metro areas, and about the rising fraction of credit attributable to subprime mortgages, alternative mortgage products designed to minimize initial payments, home-equity loans, and houses purchased by investors. The memorandum to the Committee stated, "The situation is beginning to look like a credit-induced boom in housing that could very well result in a systemic bust if credit conditions or economic conditions should deteriorate."²⁹ The response recommended by staff was further research on trends in home prices and mortgage credit, the development of guidance to banks and examiners, and public communication.

In May 2005, the FDIC published a discussion of these issues that drew connections between the rapid escalation of home prices and the pricing and terms of mortgage credit.³⁰ The FDIC also joined with the other federal banking agencies in issuing supervisory guidance addressing the significant and rising risks associated with banks' real estate exposures: in January 2006, the agencies published for comment proposed interagency guidance relating to sound risk management practices for concentrations in commercial real estate lending; in September 2006 they published the "Interagency Guidance on Nontraditional Mortgage Product Risks;" and in December they finalized and published the guidance that had been proposed in January (the published document was called "Concentrations in Commercial Real Estate Lending, Sound Risk Management Practices.")³¹ As it turned out, however, in the summer of 2006 the S&P/Case-Shiller U.S. National Home Price Index had already peaked and begun its multiyear decline.

²⁸ As it turned out, demand for vacant lots in Atlanta collapsed in 2007 shortly after subprime and nontraditional mortgage originations were sharply curtailed. For further information, see "Commercial Real Estate," *Hearing Before the Congressional Oversight Panel*, 111th Cong. (January 27, 2010, held in Atlanta, Georgia) (statement of Doreen Eberley, Acting Atlanta Regional Director, Federal Deposit Insurance Corporation), <https://www.gpo.gov/fdsys/pkg/CHRG-111shrg55522/pdf/CHRG-111shrg55522.pdf>.

²⁹ FDIC, "Memorandum to the FDIC National Risk Committee: Rising Risks in Housing Markets," 2005, from Richard A. Brown, Chief Economist, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2005-03-21%20FDIC%20Memo%20from%20Richard%20Brown%20to%20the%20National%20Risk%20Committee-%20Rising%20Risks%20in%20Housing%20Markets.pdf

³⁰ Cynthia Angell and Norman Williams, "FYI Revisited: U.S. Home Prices: Does Bust Always Follow Boom?" FDIC, *FYI*, May 2, 2005, <https://www.fdic.gov/bank/analytical/fyi/2005/050205fyi.html>.

³¹ Interagency final joint guidance, "Concentrations in Commercial Real Estate Lending, Sound Risk Management Practices," 71 Fed. Reg. 74580–74588 (Dec. 12, 2006), <https://www.gpo.gov/fdsys/pkg/FR-2006-12-12/pdf/06-9630.pdf>. "Interagency Guidance on Nontraditional Mortgage Product Risks," 71 Fed. Reg. 58609–58618 (Oct. 4, 2006), <https://www.gpo.gov/fdsys/pkg/FR-2006-10-04/pdf/06-8480.pdf>.

To put this section's discussion of risk analysis processes into context, the FDIC, like most other observers, did not manage to connect the dots among the trends that were developing with regard to home prices, alternative mortgage credit products, off-balance-sheet securitization vehicles, interconnected credit derivatives exposures, and increased financial leverage and reliance on short-term funding (for a detailed discussion of these subjects, see chapter 1). So although it is important to supplement the examiners' bank-level view of risk with risk assessment of broad external trends, consensus on the most important risks in the financial system and on the urgency of those risks at any given time is likely to be elusive.

As noted above, some pre-crisis analyses pointed directly to the way nontraditional mortgages were contributing to a potential housing bubble. Yet such examples illustrate the significant difference between identifying a risk and developing an agency-wide or interagency consensus for policy action to address that risk. Agency action to change or curtail risky but currently profitable banking industry practices tends to encounter significant external resistance. Decisions on whether and how to take such action are within the purview of the senior management of an agency. That such decisionmaking can be informed and enhanced by sound risk analysis was a guiding principle for the FDIC's risk assessment efforts during the pre-crisis years and continues to be so today.

Large-Bank Risk Assessment: Before and into the Crisis

Although a majority of FDIC-insured institutions are supervised by the FDIC, most of the assets of insured institutions are held by banks and thrifts that the FDIC does not supervise. The reason has to do with the distribution in U.S. law of bank regulatory responsibilities across agencies. Specifically, FDIC-insured depository institutions that are federally chartered—i.e., national banks and federal thrifts—are supervised by the Office of the Comptroller of the Currency (OCC), and these institutions include most of the largest FDIC-insured institutions. State-chartered banks that are members of the Federal Reserve System—state member banks—and bank holding companies are supervised by the Federal Reserve. State-chartered banks that are not members of the Federal Reserve System—state nonmember banks—and state thrifts are supervised by the FDIC. (Before the enactment, in 2010, of the Dodd-Frank Act, another federal regulator—the Office of Thrift Supervision [OTS]—supervised federal and state thrifts, except for state-chartered mutual savings banks, which were supervised by the FDIC. The Dodd-Frank Act abolished the OTS.) As of June 30, 2017, there were 5,787 FDIC-insured banks, and the FDIC was the primary federal regulatory agency for about 64 percent of them. Most of the banks the FDIC supervises are small, a category defined as having assets of less than \$10 billion. (Bank asset sizes range from more than a trillion dollars for the largest banks to under \$100 million for the smallest banks.)

Larger institutions can pose outsized risks to the DIF: of the 489 banks that failed during the crisis years 2008–2013, only 9 had assets of more than \$10 billion, but these

9 institutions accounted for 35 percent of all losses the DIF experienced during that time.³² Thus, one function of the FDIC's supervision program is to maintain a level of awareness of significant risks and developments at large non-FDIC-supervised banks. This function has mostly been carried out through off-site analysis and the exercise of special examination authority as granted by Congress in 1950 under Section 10(b)(3) of the Federal Deposit Insurance Act. "Special examination authority" refers to the FDIC's statutory authority to conduct an examination of an FDIC-insured institution for which it is not the primary federal regulator (e.g., a national bank or state member bank). In practice, this authority is exercised on a limited basis and typically in cooperation with the federal agency that regulates the bank being examined. A typical scenario for a special examination, often referred to as a "backup examination," involves a problem bank or other bank posing unusual risks where the FDIC requests, and is granted, some level of participation in an examination conducted by the Office of Comptroller of the Currency or by the Federal Reserve (or, before July 2010, by the OTS). Although the practices of off-site analysis did not substantially change before or at the beginning of the crisis, the FDIC's exercise of special examination authority became a more important part of the risk assessment process as the proportion of insured assets held by institutions not directly supervised by the FDIC continued to grow.

In determining when to exercise its special examination authority, the Corporation was helped by reviews it carried out under a program it had maintained since the late 1980s and still maintains—its Large Insured Depository Institution (LIDI) program, devoted to the monitoring and risk assessment of insured institutions with assets exceeding \$10 billion.³³ On the basis of reviews of financial data and examination reports as well as contacts with the primary federal regulator (PFR), the LIDI program generates a brief quarterly report on each of these large institutions, highlighting risks, trends, and areas of supervisory focus. These reviews are shared with the PFRs for consideration in their examination planning.

Since 1950, when Congress granted the FDIC authority to perform special examinations, the FDIC Board of Directors has adopted various policies governing the use of these examinations. For example, in 1983 the Board authorized a Cooperative Examination Program under which FDIC personnel would automatically be invited to participate in examinations of national banks rated CAMEL 4 or 5 and of selected other banks (as mentioned in footnote 12, the "S" component of CAMELS was added in 1996). That policy was rescinded in 1993 when the FDIC Board adopted a policy requiring all recommendations for a special examination to go to the Board for approval.

In 1995, the FDIC Board delegated authority to the then Division of Supervision to participate in special examination activities when the PFR invited FDIC participation, or

³² This information can be found at www.fdic.gov under the "industry analysis/historical statistics on banking/failures and assistance transactions" tabs.

³³ As of June, 30, 2017, there were 121 FDIC-insured depository institutions that had assets of \$10 billion or more.

when an institution had a CAMEL composite rating of 4 or 5, or when there were material deteriorating conditions not reflected in the current CAMEL rating and the PFR did not object to the FDIC's participation.³⁴

In the last few years of the 1990s, three institutions failed that imposed extraordinarily high loss rates on the DIF as a percentage of their asset size: BestBank in Boulder, Colorado (in which the FDIC's loss amounted to 69 percent of the institution's assets at failure); First National Bank of Keystone in Keystone, West Virginia (51 percent loss rate); and Pacific Thrift and Loan Company in Woodland Hills, California (61 percent loss rate). In the case of Keystone in particular, then FDIC Chairman Donna Tanoue observed that, although the outcome might not have been affected, coordination between the Office of the Comptroller of the Currency and the FDIC was not optimal.³⁵ In commenting on the 2001 failure of Superior Bank, FSB in Hinsdale, Illinois, John Reich, an FDIC Director at the time, stated, "The FDIC needs full access to all banks and thrifts. ... The FDIC Board's own complicated procedures inhibit our access when another regulator denies our participation. We ought to fix this."³⁶

In 2002, the federal banking agencies entered into an interagency agreement, "Coordination of Expanded Supervisory Information Sharing and Special Examinations." This agreement identified the types of institutions for which the FDIC could conduct special examinations: (1) institutions that represented a heightened risk to the deposit insurance funds, as agreed on a case-by-case basis; (2) institutions with a composite CAMELS rating of 3, 4, or 5; or (3) institutions that were undercapitalized under the Prompt Corrective Action guidelines.³⁷ The agreement also addressed coordination between the other agencies' examiners and a cadre of FDIC "dedicated examiners." The FDIC's dedicated examiner program was an effort to improve the FDIC's understanding and awareness of risks at the largest insured banks. For each of the eight largest financial institutions in the nation, the program provided for a single FDIC examiner to work on-site with the primary federal regulator's examination team under parameters described in the 2002 agreement. Pursuant

³⁴ In 2005, recognizing the growing size and complexity of institutions and the implication for the DIF, the FDIC Board further delegated authority to the FDIC Chairman to determine when a special examination was warranted.

³⁵ *Hearings on Recent Bank Failures and Regulatory Initiatives Before the House Committee on Banking and Financial Services*, 106th Cong. (Feb. 8, 2000) (statement of Donna Tanoue, Chairman, Federal Deposit Insurance Corporation), <http://archives.financialservices.house.gov/banking/2800tan.shtml>.

³⁶ John Reich, "The Lessons of Superior," August 21, 2001, <https://www.fdic.gov/news/news/speeches/archives/2001/sp28aug01.html>. FDIC staff may request participation on an examination of a bank regulated by another banking agency, but if that agency denies the request, staff would need to obtain explicit approval from the FDIC Board of Directors in order to conduct such examination activities.

³⁷ The Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) amended the Federal Deposit Insurance Act to require the appropriate federal banking agency to take prompt corrective action to resolve the problems of insured depository institutions, and provides a framework of supervisory actions for insured institutions that are less than well capitalized.

to the parameters of the dedicated examiner program, FDIC dedicated examiners worked on-site with the primary federal regulators of Citigroup, Wachovia, Bank of America, Bank One, FleetBoston Financial, JP Morgan Chase, Wells Fargo, and Washington Mutual.

The dedicated examiners served as the FDIC's primary point of contact with PFR supervisory personnel. Under the 2002 agreement, if the dedicated examiner determined it appropriate to participate in an examination to evaluate the risk to the DIF of a particular banking activity but the PFR's staff disagreed, the dispute was to be settled by the heads of supervision of the two agencies, and if the dispute remained unresolved, then by the principals of the two agencies.

In addition to its strengths, the dedicated examiner program presented opportunities for improvement. Its importance was that it provided the FDIC with a better window into the risks posed by these large institutions, thereby enhancing the Corporation's efforts to identify, monitor, and assess the risks to the DIF posed by large, complex banks that are not supervised by the FDIC. However, the FDIC was not always able to secure prompt permission to participate in examinations of these banks. To gain access to an institution, the FDIC was required to show that the institution posed a high level of risk to the DIF—but it needed this access to assess the level of risk.³⁸ A few examples drawn from the FDIC's experience with large troubled institutions will help clarify these points.

On July 11, 2008, the Office of Thrift Supervision appointed the FDIC as conservator of IndyMac Bank FSB, a West Coast thrift institution with \$32 billion in assets. Measured by its estimated cost to the DIF, IndyMac was and remains the most expensive bank failure in the FDIC's history. Before mid-2007, however, the FDIC's regular risk monitoring of IndyMac had not identified more than a normal, or at worst a somewhat elevated, level of risk to the DIF, consistent with the favorable examination ratings assigned by the institution's PFR, the Office of Thrift Supervision. Only starting in August 2007, when Countrywide Bank—a large thrift that, like IndyMac, had specialized in alternative mortgage lending—began experiencing liquidity problems, did the FDIC's supervisory concerns with IndyMac and other thrifts that had concentrations in subprime and other nontraditional mortgage lending increase significantly. The FDIC requested and gained a presence in the on-site examination of IndyMac and began evaluating that bank's viability. As a result of these efforts, the FDIC was better prepared for the resolution of IndyMac when the institution failed.

Another large thrift that failed in the second half of 2008 was Washington Mutual Bank (WaMu). With assets of \$307 billion, WaMu—which failed on September 25, 2008—was the largest bank failure by asset size in the FDIC's history.³⁹ In 2005, WaMu management

³⁸ For further discussion, see U.S. Department of the Treasury and Federal Deposit Insurance Corporation, Offices of Inspector General, "Evaluation of Federal Regulatory Oversight of Washington Mutual Bank," Report EVAL-10-002 (April 2010), 52–53, <https://www.fdicig.gov/sites/default/files/publications/10-002EV.pdf>.

³⁹ WaMu's failure did not cost the DIF anything because the thrift was acquired by JPMorgan Chase.

had made a decision to shift its business strategy away from originating traditional fixed-rate and single-family residential loans that conformed to the criteria for purchase by the government-sponsored enterprises Fannie Mae and Freddie Mac, and toward riskier nontraditional loan products and subprime loans. The FDIC had a dedicated examiner at WaMu and in 2006, 2007, and 2008 made a number of staff-level requests to the institution's PFR, the Office of Thrift Supervision, to be allowed to increase its on-site presence. The OTS denied these requests because it believed that the FDIC did not have the requisite need for access according to the terms of the interagency agreement, and it also believed that the FDIC could rely on the work performed by the OTS. The OTS assigned favorable examination ratings to WaMu through 2007 and into 2008, and the FDIC did not contest these ratings. Starting in the spring of 2008, with the agreement of the OTS, the FDIC increased its on-site presence at WaMu and argued that the institution should be downgraded to problem-bank status.⁴⁰

After WaMu's failure, the Office of Inspector General (OIG) at the Department of the Treasury (Treasury) and the OIG at the FDIC recommended that the FDIC Chairman, in consultation with the FDIC Board of Directors, revisit the interagency agreement governing access to information and backup examinations for large depository institutions, to ensure not only that the agreement provided the FDIC with sufficient access to the information necessary for assessing an institution's risk to the DIF but also that it covered all large depository institutions. The interagency agreement was modified in July 2010.

In the days following the WaMu failure, Wachovia Corporation experienced a liquidity crisis and was subsequently acquired by Wells Fargo. The FDIC had had a dedicated examiner at Wachovia. As described more fully in chapter 3, in early 2008 the FDIC downgraded its internal outlook rating (LIDI rating) for Wachovia Bank, the flagship depository institution subsidiary of Wachovia, indicating that the FDIC considered the institution to have an elevated risk profile and was likely to deteriorate to a "3" CAMELS composite rating within 12 months. In August 2008, Wachovia's PFR, the OCC, downgraded the institution's CAMELS rating to a composite "3." However, as late as the week before Wachovia Corporation's liquidity crisis, the OCC had not viewed Wachovia Bank as a problem bank, and the FDIC had not raised objections to the OCC's risk assessment. The discrepancy between Wachovia's precarious condition and regulators' views of the institution provides a good example of both the difficulty, and the importance, of evaluating the risks at large banks. At any rate, the need to address the liquidity crisis quickly came to a head, and FDIC supervision staff provided analytical support to the FDIC's Board of Directors about alternative courses of action potentially available to address the problems at this institution. Staff's ability to provide the needed support was enhanced by the information gained from the dedicated examiner program and the LIDI program.

⁴⁰ The material in this paragraph is drawn from the Offices of Inspector General, U.S. Department of the Treasury and FDIC, "Evaluation."

Similar comments apply to the staff assistance provided to the FDIC Board of Directors in the cases of two other very large and troubled banks, Citigroup and Bank of America Corporation, about which the Board would likewise have to make a decision. (For details on the cases of all three banks—Wachovia, Citigroup, and Bank of America Corporation—see chapter 3.) At each of these institutions, the FDIC had a dedicated examiner, and the members of the Board relied on supervisory staff to help assess potential loss exposure to the FDIC under various options that the Board needed to consider for dealing with these institutions. Staff’s ability to provide analytical support to the decisionmaking process depended on a baseline of knowledge about these institutions gained from the dedicated examiner program and the LIDI program.

The Crisis: Characteristics of Failed and Problem Banks

The Case-Shiller index of home prices peaked in July 2006 and then declined steadily for almost six years, losing 27 percent of its value before bottoming out in February 2012. For banks and their borrowers, the effects of this steady decline in housing prices and of the recession that began in December 2007 were gradual at first, but quickly grew more severe. As depicted in Table 4.1, the number of problem banks (which stood at only 50 at year-end 2006) reached 252 by year-end 2008, 702 by year-end 2009, and 884 by year-end 2010. The number of bank failures increased rapidly as well, going from 25 in 2008 to 140 in 2009 to 157 in 2010, before declining to 92 in 2011 and dropping every year through 2016.

Table 4.1. Number of Problem Banks and Failures, 2007–Q1 2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Q1 2017
Total IDIs	8,534	8,305	8,012	7,658	7,357	7,083	6,812	6,509	6,182	5,913	5,856
Problem Banks	76	252	702	884	813	651	467	291	183	123	112
Failures	3	25	140	157	92	51	24	18	8	5	3
<i>Cumulative Failures</i>	3	28	168	325	417	468	492	510	518	523	526

Note: “IDI” stands for “Insured Depository Institution.”

Most banks that failed or became problem banks did so because of large concentrations, relative to their capital, of poorly underwritten and administered commercial real estate loans and (especially) ADC loans. During the pre-crisis years, many of these banks had exhibited financial metrics that often indicate a higher appetite for risk. These metrics include high concentrations of ADC loans, rapid asset growth, and relatively greater use of

wholesale funding sources as compared with other banks.⁴¹ In addition, banks’ choice of capital structure mattered: banks that operated with lower levels of capital during the run-up to the crisis failed more often.⁴²

Figure 4.2 addresses the experience of banks during the crisis by percentile ADC loan concentration range. For this figure, the ratio of ADC loans to capital for each bank as of December 31, 2006, was calculated, and the banks were grouped into percentiles based on this ratio. This set of banks was then restricted to those with a CAMELS rating of 1 or 2 as of December 31, 2006. For each percentile group, the proportions of banks that, over the subsequent five years, either failed (red) or were downgraded to a CAMELS composite rating of 3, 4, or 5 (various shadings) are depicted by the vertical bars. The figure indicates that the more concentrated a bank was in ADC lending, the more likely it was to fail or be downgraded. Although ADC loan concentrations alone do not necessarily present a problem if the loans are well underwritten, all other things being equal, a bank with a higher ADC loan concentration will be more affected by a real estate downturn.

Figure 4.2. Downgrades of 1- and 2-Rated Banks: Ratio of ADC Loans to Capital

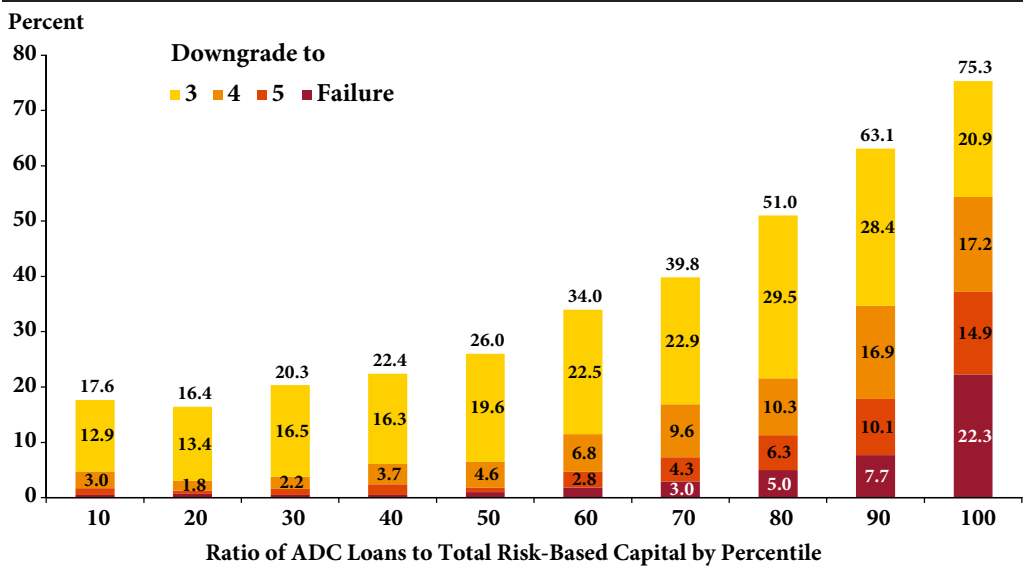


Figure 4.3 presents the failure and downgrade experience of banks by percentile asset growth range. The percentile rank of each bank’s one-year merger-adjusted asset growth

⁴¹ The term "wholesale funding" is a generic and imprecise term intended to refer to those liabilities of a bank that are not stable core deposits. In this chapter, specific funding categories that are deemed "wholesale" are noted in the descriptive text associated with individual figures.

⁴² The discussion in this chapter is consistent with the results of the FDIC’s statistical analysis of factors associated with bank failures, described in FDIC, "Assessments—Notice of Proposed Rulemaking and Request for Comment," 81 Fed. Reg. 74580–74588 (Feb. 4, 2016), <https://www.gpo.gov/fdsys/pkg/FR-2016-02-04/pdf/2016-01448.pdf>.

as of year-end 2006 was computed and compared with the subsequent five-year failure and downgrade experience, as was done for Figure 4.2. Figure 4.3 indicates that failures and downgrades were concentrated among institutions that were growing relatively faster. This is consistent with the observation that fast growth may sometimes be the result of lowered underwriting standards and more-aggressive competition for new business. Banks that make more lending concessions to attract borrowers during a real estate expansion are more likely to run into trouble during the downturn.

Figure 4.3. Downgrades of 1- and 2-Rated Banks: Asset Growth

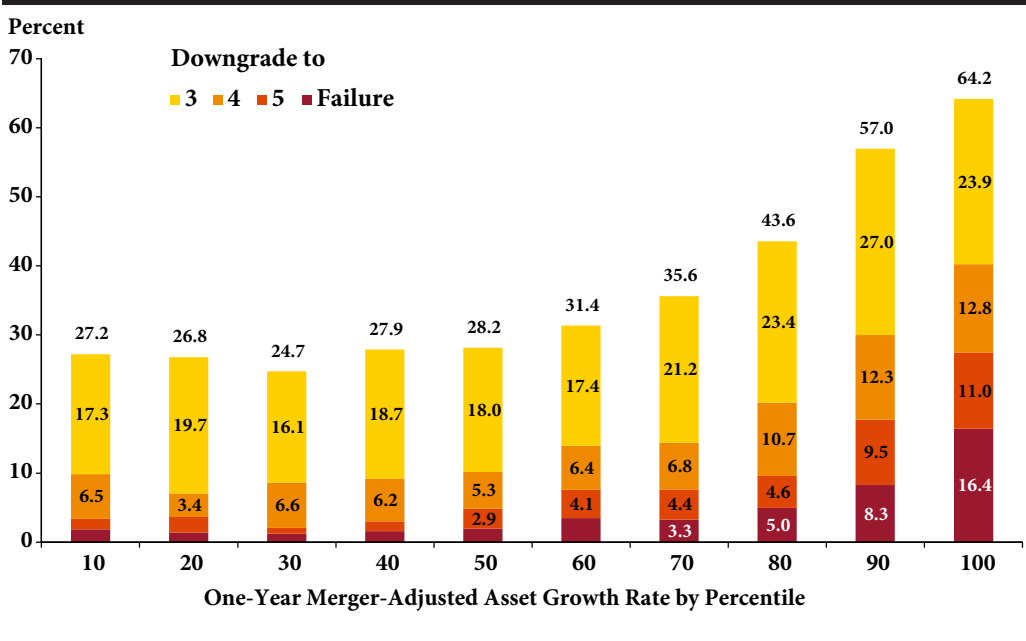
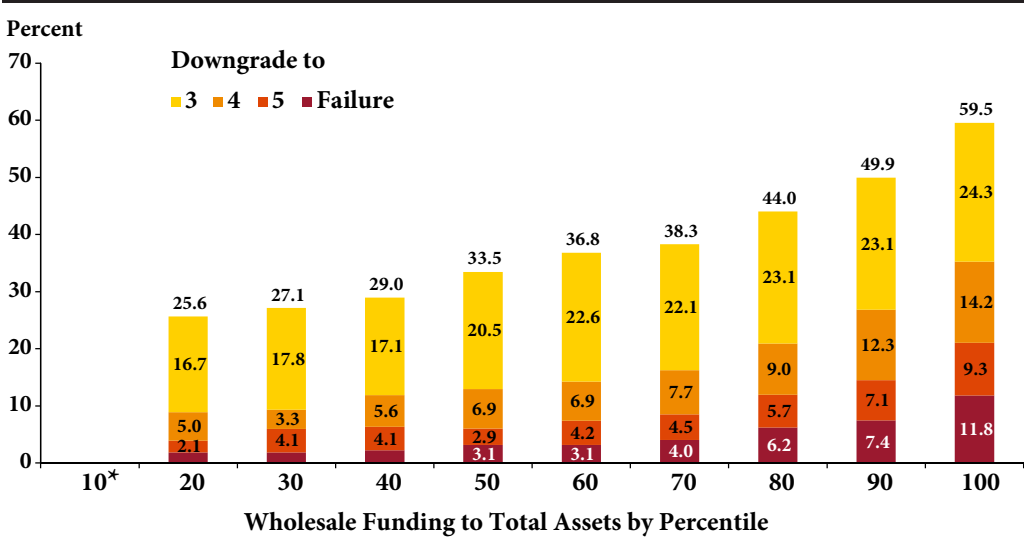


Figure 4.4 presents the failure and downgrade experience of banks by reliance on wholesale funding, defined for this figure as the sum of brokered deposits, federal funds purchased, securities sold under repurchase agreements, and other borrowed money. The figure takes the approach that was taken for the two preceding figures: year-end 2006 ratios are calculated and compared with the failure and downgrade experience for the subsequent five years. Generally speaking, failures and downgrades were more concentrated among banks that made relatively greater use of wholesale funding sources. Although use of wholesale funding sources within a sound liquidity management program is not in itself a risky practice, significant reliance on wholesale funds may reflect the decisions an institution has made to grow its business more aggressively. At such institutions, the loan mix may tend to be generally more risky. On the liability side, if the institution comes under stress, wholesale counterparties may be more apt to withdraw funding or demand additional collateral. Additionally, if the institution becomes less than well capitalized, it cannot accept brokered deposits without a waiver

from the FDIC and is subject to restrictions on the interest rates it can pay on all its deposits. If the institution becomes less than adequately capitalized, it cannot accept brokered deposits at all.⁴³

Figure 4.4. Downgrades of 1- and 2-Rated Banks: Ratio of Wholesale Funding to Total Assets



* The 10th percentile bar does not exist because 2,090 banks had zero Wholesale Funding. Since there is no differentiation among these banks in their use of Wholesale Funding, they are all aggregated under the 20th pctl.

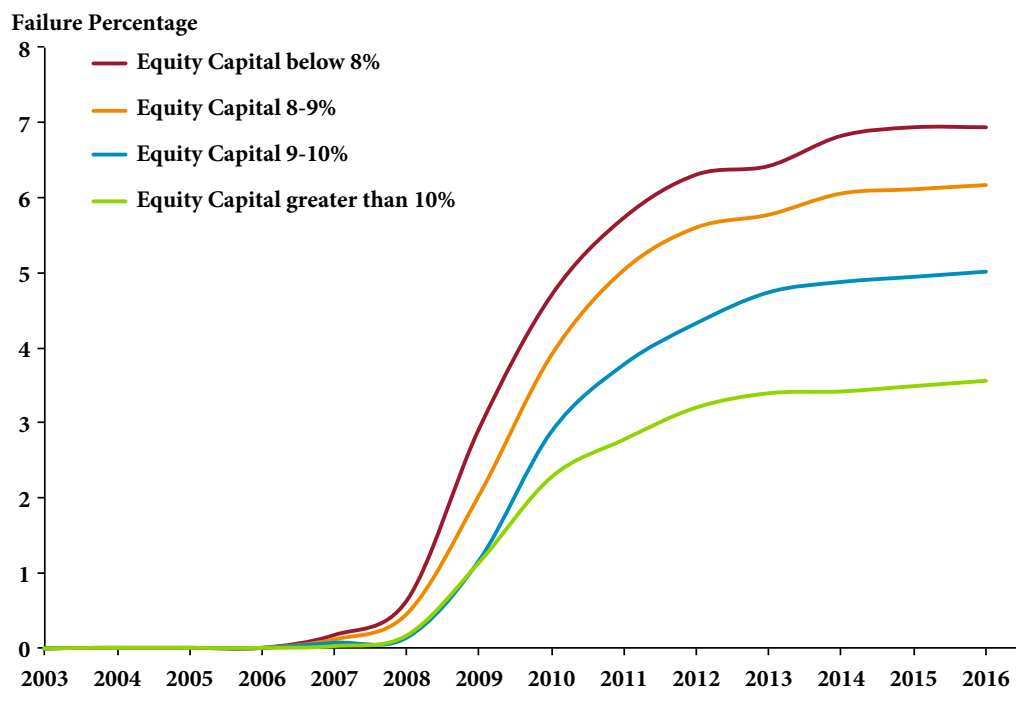
Note: “Wholesale Funding” includes federal funds purchased and securities sold under agreements to repurchase, other borrowed money, and brokered deposits.

Figure 4.5 depicts the failure experience of FDIC-insured banks during the crisis using their equity-to-asset ratios as of year-end 2003; for example, “equity capital below 8%” in the figure refers to banks with an equity-to-asset ratio of less than 8 percent. This calculation date is well before the onset of the crisis and is in the midst of the housing price boom. Capital ratios as of a date well before the start of this crisis are more likely to reflect institutions’ strategic priorities regarding safety, return on equity, and growth and are less likely to reflect factors such as loan write-downs or other operating losses. As indicated in the figure, banks that chose to operate during the midst of the housing boom with lower equity-to-asset ratios were more likely to fail during the crisis. These results probably reflect two factors. First, operating with lower capital reduces an institution’s ability to absorb losses and therefore (all else being equal) makes the institution’s failure during a downturn more likely. Second, operating with lower capital may reflect more

⁴³ Section 29 of the Federal Deposit Insurance Act describes the restrictions—applicable to banks that are less than “well capitalized” for purposes of prompt corrective action—on the use of brokered deposits and interest paid on deposits. Part 337.6 of the FDIC’s regulations implements the statutory provisions.

emphasis by bank management on achieving aggressive return-on-equity goals, and this emphasis may reflect management's higher appetite for risk more generally.

Figure 4.5. Cumulative Failure Percentage by Equity-to-Asset Ratio, 2003–2016



Finally, the failure rate of newer institutions during the crisis was substantially higher than that of more-established institutions. Among institutions chartered between January 1, 2000, and December 31, 2006, 15 percent have since failed. In contrast, among institutions chartered before 2000, 5 percent have since failed. The tendency of more recently chartered institutions to fail more often than established institutions was observed during the 1980s crisis as well.⁴⁴ Under any circumstances, newly chartered institutions tend to operate with losses during their early years while they build up their business. In addition, a number of the failures of newer institutions during the recent crisis involved institutions entering into activities that were significantly riskier than those contemplated in the business plans that were the basis of their approved application for deposit insurance.⁴⁵

It is important to note that though the indicators described above—ADC concentrations, rapid growth, dependence on high levels of wholesale funding, lower capital, and the age

⁴⁴ FDIC, “Banking Problems in the Southwest,” in *History of the Eighties: Lessons for the Future* (1997), 1:313–14, https://www.fdic.gov/bank/historical/history/291_336.pdf.

⁴⁵ Analysis of de novo bank performance and a survey of relevant literature is contained in Yan Lee and Chiwon Yom, “The Entry, Performance, and Risk Profile of De Novo Banks,” FDIC Center for Financial Research Working Paper 2016-03, April 2016. <https://www.fdic.gov/bank/analytical/cfr/2016/wp2016/2016-03.pdf>.

of the bank—are highly correlated with bank failures and problem-bank status, they do not paint a complete picture. Many banks that had heightened values of the first four indicators or were more recently chartered did not fail, and some banks that failed were established banks and did not have heightened values of the four indicators.

The reason for the only partial correlation between the indicators and failure or problem-bank status is that the viability of a bank and its resilience during a period of economic stress depend on important bank-specific factors that cannot be evaluated adequately using published financial reports. Among these factors are the quality of loan underwriting and credit administration, risk limits, and internal controls, all of which are specific aspects of bank governance. Failures of governance can result in excessive risk in the lending or investment functions and can also increase a bank's susceptibility to fraud and insider abuse. Material Loss Reviews (MLRs) prepared by the FDIC OIG for the six FDIC-supervised institutions with assets exceeding \$5 billion that failed during and just after the crisis all reported significant deficiencies in their risk management practices, and five of the six MLRs referenced identified or suspected irregularities (possibly indicative of fraud or insider abuse) that contributed to the problems these institutions had faced.⁴⁶ Governance issues are equally important for smaller banks. MLRs for smaller banks consistently described how the managements of failing banks did not implement adequate controls over their institutions' risk profiles. A recent conference paper on fraud detection in banking finds that bank supervisors detected material insider abuse or internal fraud among a significant minority of banks that failed between 1989 and 2015.⁴⁷

Viewing the importance of governance in a more positive light, the FDIC's experience has been that strong governance is the most important determinant of a bank's long-term viability. A study by the FDIC OIG of banks that remained in satisfactory condition in 2011 despite high ADC concentrations reinforces that experience.⁴⁸ As discussed in the

⁴⁶ The six MLRs, prepared by the FDIC Office of Inspector General and available at www.fdicig.gov, are (1) "Material Loss Review of Franklin Bank, S.S.B, Houston, Texas," Report AUD-09-014 July 2009, https://www.ncl.org/images/pdf/foreclosure_mortgage/lender_failed_banks/franklin-bank-oig.pdf. (2) "Material Loss Review of Colonial Bank, Montgomery, Alabama," Report MLR-10-031, April 2010, <https://www.fdicig.gov/sites/default/files/publications/10-031.pdf>. (3) "Material Loss Review of United Commercial Bank, San Francisco, California," Report MLR-10-043, July 2010, <https://www.fdicig.gov/sites/default/files/publications/10-043.pdf>. (4) "Material Loss Review of Westernbank Puerto Rico, Mayaguez, Puerto Rico," Report MLR-11-007, December 2010, <https://www.fdicig.gov/sites/default/files/publications/11-007.pdf>. (5) "Material Loss Review of R-G Premier Bank of Puerto Rico, Hato Rey, Puerto Rico," Report MLR-11-009, December 2010, <https://www.fdicig.gov/sites/default/files/publications/11-009.pdf>. (6) "Material Loss Review of Doral Bank, San Juan, Puerto Rico," Report AUD-15-007, September 2015, <https://www.fdicig.gov/sites/default/files/publications/15-007AUD.pdf>.

⁴⁷ John O'Keefe and Chiwon Yom, "Offsite Detection of Insider Abuse and Bank Fraud among U.S. Failed Banks 1989–2015," FDIC Center for Financial Research Working Paper 2017-06, October 2017. <https://www.fdic.gov/bank/analytical/cfr/2017/wp2017/cfr-wp2017-06.pdf>.

⁴⁸ FDIC Office of the Inspector General, "Acquisition, Development, and Construction Loan Concentration Study," Report EVAL-13-001, October 2012, <https://www.fdicig.gov/sites/default/files/publications/13-001EV.pdf>.

section titled “The Aftermath of the Crisis: Lessons Learned for Supervision,” the OIG study affirms that banks with effective governance were more likely to achieve a positive outcome during the crisis.

The Crisis: Supervisory Strategies

The supervisory strategies the FDIC used in the crisis were intended to identify and respond appropriately to the risks at individual banks and groups of banks. An immediate and important challenge was to evaluate banks’ risk profiles and ensure appropriate examination ratings. Given the rapid deterioration of a large number of institutions, this was a significant task.

Once risks were identified, supervisory responses varied depending on the condition of each bank. Ideally, before adverse financial conditions occur, supervisors can identify and obtain corrections of the weaknesses in banks’ policies and procedures that have a realistic potential to cause financial problems. The goal of this forward-looking model is to recognize problems early enough for corrective measures to be taken and for banks to be returned to health. In fact (to anticipate some of the discussion in this section), a number of banks received only an informal enforcement action during the crisis, corrected their problems, and returned to health. At other banks, however, the crisis resulted in severe financial deterioration and imminent danger of failure. In those situations, supervisory strategies focused on close monitoring of troubled institutions to promote conservation of capital, to limit the incentives to take excessive risks, and ultimately to limit losses to the DIF. As described in this section, the FDIC used a range of supervisory strategies to meet these various objectives.

The Examination Program

The effects of the banking crisis on the FDIC’s bank examination and supervision activities escalated quickly. From the beginning of 2008 through March 31, 2017, nearly 1,800 insured banks were in problem-bank status at some point; the period 2009–2010, in particular, was a period of exponential growth in the number of problem banks. Given the examination and supervision resources available at that time, handling the dramatic increase in the number of troubled banks required changes to the normal supervisory routine. With the quickly deteriorating conditions facing the U.S. banking industry, waiting what could be as long as 24 to 36 months for the next scheduled FDIC examination was not a feasible supervisory strategy.

The FDIC, however, was not staffed for a crisis of this speed and magnitude and had to take several contingency actions to address the sudden deterioration in the industry. Examples included applying to the federal Office of Personnel Management (OPM) for authority to repurchase employees’ annual leave; sending examiners from regions

experiencing less stress to help regions experiencing more stress; spending less time on specialty examinations⁴⁹ to free more examiner resources for other safety-and-soundness examination work; and reducing the portion of examiners' time spent in training and temporary assignments so that they could spend more time examining banks.

Another way the FDIC addressed the resource challenge was by supplementing the examination force with employees who were hired for a time-limited term. Many of these term employees had substantial experience in bank supervision. By 2010, 494 term employees hired to assist with safety-and-soundness examinations were on board at the FDIC. More than 75 percent of them were loan review specialists; others were specialists in investigations, information technology, and the Bank Secrecy Act/Anti-Money Laundering. Some of the term employees were retired FDIC employees, who were rehired under a special authority granted by the federal Office of Personnel Management. Some of these rehired individuals were able to pass along the benefit of their extensive examination and bank supervision experience by helping with the training of pre-commissioned examiners.

One of the effects of the banking industry's rapid deterioration, especially in conjunction with relatively reduced examiner staffing entering the crisis, was that there was a lag in the adjustment of examination ratings to reflect new industry conditions. In addition to the staffing measures just described, the FDIC used a variety of examination techniques to address the lag in rating changes. For example, the volumes of noncurrent loans self-reported by some banks on their quarterly Call Reports were at levels historically characteristic of problem banks. Other banks self-reported strong asset quality metrics despite balance-sheet characteristics similar to those of banks on the problem-bank list (characteristics such as significant concentrations of ADC loans). Such banks were often handled by a visitation focused on asset quality, unless a safety-and-soundness examination was already scheduled in the near term. These visitations frequently resulted in rating downgrades and the establishment of corrective action plans. As a result of such contingency measures, by the third quarter of 2009, ratings overall more closely reflected the condition of the industry.

For the FDIC as insurer, accurate CAMELS ratings are important, for they are key inputs to the FDIC's statutorily mandated risk-based deposit insurance system (see chapter 5). The ratings affect the distribution of assessments across insured banks, and the FDIC historically has attempted to ensure that this distribution, to the extent practicable, reflects the risk of loss to the DIF. From a bank supervision perspective, accurate CAMELS ratings are important to the timely identification, mitigation, and remediation of problems at troubled banks. The CAMELS rating, and the associated formal or informal enforcement actions in the case of troubled or poorly rated banks, are extremely important in that they clearly communicate to a troubled bank's board of directors the actions needed to restore or maintain the bank's health.

⁴⁹ "Specialty examinations" include examinations of bank trust departments, examinations of banks' information technology systems, and examinations to ensure compliance with the Bank Secrecy Act.

Enforcement Actions

As a rule, formal FDIC enforcement actions are closely associated with a CAMELS composite rating of 4 or 5, while an informal FDIC action is most often associated with a CAMELS rating of 3. Formal actions are publicly disclosed and can be enforced in federal court. Additionally, civil money penalties (CMPs) can be assessed for noncompliance with a formal action. Informal actions are non-public agreements between the bank and the FDIC (or other banking agency) to address specific risk management issues or other issues, and are not enforceable.

The types of formal actions available to the FDIC include termination of insurance; cease-and-desist orders and consent orders; prohibition, removal, or suspension actions; CMPs; and prompt corrective action directives. During the crisis the specific subject matter addressed by formal enforcement actions varied, depending on the facts and circumstances at each bank, but often included orders to cease unsound banking practices, to increase capital or reduce the volume of problem loans or both, to cease dividend payments or inter-affiliate transactions, to replace management, or to curtail asset growth.

For problem banks where problems were particularly severe, some orders directed the banks' boards to either raise capital or prepare to sell, merge, or liquidate the bank. These directives were effective in making banks' boards understand the severity of their problems. They forced reluctant boards to take actions the result of which would often be that those board members lost control of the banks. In these cases, however, raising capital or proceeding to sell, merge, or liquidate was in the best interest of the bank, its shareholders, and the DIF.

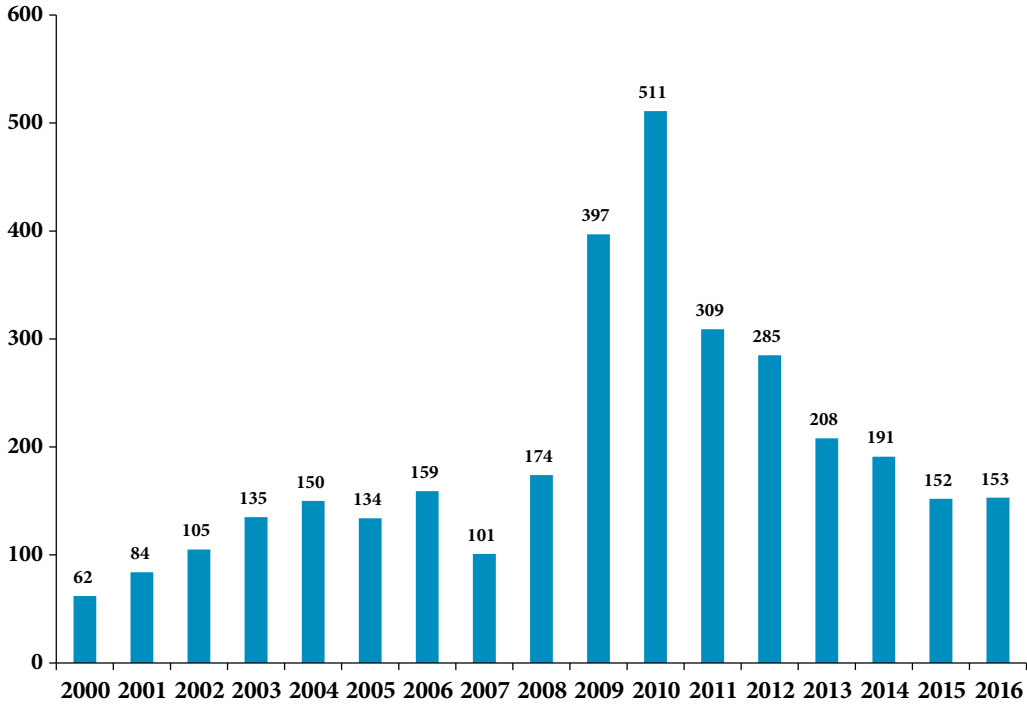
Informal actions available to the FDIC include bank board resolutions and memoranda of understanding (MOU). They also include safety-and-soundness plans pursuant to Section 39(e) of the FDI Act when an institution does not operate in conformance with the safety-and-soundness operating standards identified in Section 39. A typical example of an informal action would be an MOU signed by a bank's board of directors committing to address shortcomings in loan underwriting or in other aspects of credit administration, to raise capital, to reduce levels of nonperforming loans, or to address some other shortcoming depending on the specific facts.

Figure 4.6 depicts the number of formal safety-and-soundness enforcement actions issued by the FDIC from 2000 through 2016.⁵⁰ As the crisis intensified, the number increased sharply, going from 101 in 2007 to 174 in 2008, to 397 in 2009, and to 511 in 2010. Since the crisis, the number has dropped substantially: the numbers of such actions

⁵⁰ Actions include those taken pursuant to Section 8(b) of the Federal Deposit Insurance Act, which addresses the federal banking agencies' authority to order banks or affiliated parties to cease and desist from certain activities; those taken pursuant to Section 8(e) of that act, which addresses the banking agencies' authority to remove bank-affiliated individuals from office or prohibit them from further participation in the business of banking; and civil money penalties. Actions reported in Figure 4.6 are only those with a safety-and-soundness basis issued from January 1, 2000, through December 31, 2016. Not included are actions with a Community Reinvestment Act or compliance basis or actions with a status of "withdrawn" or "proposed."

issued in 2015 and 2016 were close to the levels that generally prevailed before the crisis.

Figure 4.6. Number of Formal Safety-and-Soundness Enforcement Actions Issued by FDIC, 2000–2016



For enforcement actions in general during the crisis, the formality of actions and the specific provisions depended on the unique circumstances of individual banks and were adjusted over time as the condition of an institution changed. Outcomes included actions being withdrawn after successful resolution of the problems, transition from a formal action to an informal action in response to observed progress in addressing issues, transition from an informal action to a formal action if problems were not resolved successfully, voluntary cessations of bank operations with no loss to the DIF,⁵¹ and bank failures. As noted in a subsequent section (“Strategies to Insulate Banks from Problems at BHCs”), outcomes also sometimes included the bankruptcy of a bank’s parent bank holding company while the bank itself survived.

⁵¹ Some troubled banks voluntarily wound down their activities by selling assets, paying off depositors and creditors, and ultimately ceasing their operations with no loss to the FDIC; this process is sometimes referred to as self-liquidation.

Examination Letters

In late 2008, supervision staff observed that some institutions were increasing their risk profile between the close of an examination and the issuance of a related enforcement action. In response, in early 2009, FDIC began issuing letters to boards of directors of troubled institutions at the close of an examination to communicate the FDIC's expectations for the period of time until the issuance of an enforcement action. These documents were referred to as examination letters. Examination letters notified a bank's board of directors that the institution's composite rating was tentatively downgraded, and conveyed the expectation that management stabilize the institution's risk profile and strengthen its financial condition. The examination letters also notified the board that actions taken to materially expand the institution's balance sheet or risk profile would be inconsistent with supervisory expectations, and that a non-objection from the regional director had to be obtained before the bank engaged in any transactions that would materially change the institution's balance sheet composition, such as significantly increasing total assets or volatile funding sources. Boards were informed that failure to ensure compliance with the requirements of the examination letter would be unfavorably viewed by the FDIC and might constitute an unsafe and unsound practice or condition. These letters served to limit any incentive a troubled institution might have to take excessive risks.

Supervision of New Institutions

As noted above, new institutions failed at a substantially higher rate during the crisis than did more-established institutions. Many of those failures occurred during the fourth through seventh years of operation. Moreover, a number of the newly chartered institutions that failed deviated significantly from the business plans on which the approval of their application for deposit insurance had been based, and the deviation led to increased risk and financial problems when the accompanying controls and risk management practices were inadequate. In August 2009 the FDIC responded by extending from three years to seven years the period during which newly insured state nonmember banks were subject to heightened oversight, including review and approval of their business plans and annual examinations.⁵² Given the ongoing improvement in post-crisis industry performance, in April 2016 the FDIC rescinded the extension to seven years as the period of heightened oversight, returning the period to three years.

Strategies to Insulate Banks from Problems at BHCs

For most of the FDIC's history, the Corporation's statutory responsibilities centered on insured banks: insuring their deposits, acting as receiver in the event of failure, and serving as the primary federal regulator for a subset of insured banks, with backup examination

⁵² FDIC, "Enhanced Supervisory Procedures for Newly Insured FDIC-Supervised Depository Institutions," *Financial Institution Letter*, FIL-50-2009, August 28, 2009.

authority for all insured banks. As a result of the crisis, however, the FDIC's formal, programmatic focus expanded beyond the boundaries of the insured bank. In 2008, the FDIC temporarily guaranteed certain liabilities issued by bank holding companies (see chapter 2). And in 2010, Congress conferred certain resolution responsibilities on the FDIC with respect to bank holding companies and other financial firms whose failure could pose systemic concerns.⁵³

Yet even within the scope of the FDIC's supervisory responsibilities for insured banks, the relationship between a bank and its holding company was (and remains) an important consideration. A concern is that nonbank entities that own or control a bank could enter into abusive arrangements with the bank that benefit themselves at the bank's expense. Examples could include excessive dividends or other fund transfers from the bank to its parent, sales of assets from the bank to an affiliate or vice versa on terms disadvantageous to the bank, loans by the bank to fund purchases of products sold by affiliates, and so forth. An important aspect of bank supervision is guarding against the misuse of the bank by its affiliates. Areas of focus include, for example, examining banks for compliance with statutory inter-affiliate transaction limits and with insider lending rules.

Bank holding companies are supervised by the Federal Reserve and are subject to the principle that bank holding companies should serve as a source of strength for their subsidiary banks. However, when the subsidiary (the underlying financial institution) is not a bank for the purposes of the Bank Holding Company Act of 1956,⁵⁴ the parent company is not a bank holding company subject to consolidated supervision by the Federal Reserve. In these cases, the FDIC generally requires the parent company to enter into a Capital and Liquidity Maintenance Agreement (CALMA), which is a written agreement, authorized under Section 8 of the Federal Deposit Insurance Act, requiring the holding company to inject capital into the insured bank as necessary to ensure that the bank maintains adequate capital. These agreements essentially impose the source-of-strength principle.

The 2008–2013 crisis showed that in times of economic stress, banks' access to insured deposits often makes them the financially strongest entities within a holding company structure. At such times, statutory limits on inter-affiliate transactions are particularly important in preventing transactions that may benefit holding company affiliates at the expense of the bank. Specifically, Sections 23A and 23B of the Federal Reserve Act are designed to protect insured depository institutions from sustaining losses on transactions with, or having excessive credit exposures to, their nondepository affiliates. Sections 23A and 23B also constrain the ability of nondepository affiliates to benefit from the subsidies arising from insured institutions' access to the federal safety net, namely, federal deposit

⁵³ See Title I and Title II of the Dodd-Frank Act.

⁵⁴ The Competitive Equality Banking Act of 1987 (CEBA), Pub. L. No. 100-86, § 101(a)(1), 101 Stat. 554, 562, redefined "bank" for purposes of the Bank Holding Company Act (BHCA) to include any bank insured by the FDIC but specifically excepted certain classes of banks from the BHCA, including CEBA credit card banks and certain industrial loan companies.

insurance and the Federal Reserve System's discount window and payment systems. To these ends, Sections 23A and 23B impose both quantitative and qualitative restrictions on transactions between an insured institution and its affiliates. Included in the restrictions is a prohibition in Section 23A against the transfer of "low quality assets" to an insured institution from an affiliate.

Although designed primarily as a safeguard, Section 23A also provides for a process wherein the federal banking agencies are empowered to exempt transactions from the section's qualitative and quantitative restrictions, if such exemption is "in the public interest" and is consistent with the purpose of the statutory provisions limiting inter-affiliate transactions. During the crisis, a number of banking organizations sought exemptions from Section 23A transaction limits, given the extreme financial distress they were experiencing and the potential for insured depository institution subsidiaries of holding companies to provide support to their nonbank affiliates.

These exemption requests were under the primary purview of the Federal Reserve, with the FDIC having a consultative role. A number of these Section 23A exemption requests were granted, and some were not. Approvals were granted when the requested exemptions were viewed as consistent with the safety and soundness of the insured institution that would be entering into the otherwise prohibited transaction, and in some cases were for the purpose of increasing liquidity to constricted credit markets.

As became increasingly evident during the crisis, another source of potential risk to banks from their holding companies can come from a holding company's capital and funding structure. For example, holding companies may issue debt and downstream the proceeds into an insured bank subsidiary in the form of an equity investment in the bank. Since the holding company must service the debt it has issued, there is then the possibility the bank could be under pressure to pay dividends to the holding company to service that debt. The regulator of the insured bank may, of course, cut off the bank's dividend payments to the parent if they pose undue risk to the bank, with concomitant financial stress on the holding company.

In this respect, a noteworthy regulatory development in the inter-crisis years was the approval in the 1990s of Trust Preferred Securities (TruPS) as a limited portion of the regulatory capital of bank holding companies.⁵⁵ TruPS were subordinated debt issued by a special-purpose entity set up by a bank holding company, with the proceeds of the debt typically downstreamed into a subsidiary bank as an equity investment. TruPS generally had very long maturities and allowed for the issuing entity to defer the payment of dividends to the investors for up to five years, and it was this financial flexibility that was viewed as meriting their inclusion, within limits, as regulatory capital for bank holding companies. Given TruPS's status as regulatory capital, issuing them was attractive for

⁵⁵ The term "regulatory capital" refers to the totality of financial components identified by an institution's primary federal regulatory agency—in the case of bank holding companies, the Federal Reserve—that are eligible to count toward the satisfaction of the agency's capital requirements.

bank holding companies, partly because for tax purposes they were viewed as debt with the dividends treated as tax-deductible interest payments.⁵⁶

The widespread use of TruPS created unanticipated difficulties during the crisis in recapitalizing troubled banks whose parent bank holding companies had issued them. The prospect of staving off a potential bank failure by injecting new capital can require the bank's financial stakeholders to make difficult decisions. If the bank's financial condition is sufficiently dire, investing in the organization may be unattractive unless some of the organization's creditors can agree to accept less than full value for their claims. Those creditors may be willing to do this if the alternative is perceived to be a bankruptcy where they will experience even greater losses. For the troubled banking organization to issue equity, moreover, existing shareholders must typically agree, even though their ownership interest will be diluted by the issuance of new equity. Again, they may agree to this if the alternative is a failure that wipes out their equity investment entirely.

With this as background, we can touch on some of the complex issues involved in recapitalizing banking organizations that had issued TruPS. Many TruPS were pooled into collateralized debt obligations (CDOs), the terms of which could not be modified without the consent of a high percentage, or even 100 percent, of the TruPS interests outstanding. As a practical matter, it was difficult or impossible for a bank holding company (BHC) to communicate directly with the holders of the CDO in order to offer to purchase CDO interests, or to obtain consent for any collective action by the CDO holders to accept less than the full amount of the TruPS indebtedness. In addition, in some states, corporation law required that equity investments directly in the bank be approved by BHC shareholders, because of the significant dilution of the BHC's equity interest in the bank that would have resulted.

Sometimes, failure of the subsidiary bank could be averted by its sale to investors while the holding company declared bankruptcy. Such situations sometimes involved the use by BHCs of Section 363(b) of the bankruptcy code to sell their ownership in subsidiary insured institutions to a stronger purchaser willing to recapitalize those institutions.

The impending bankruptcy of a BHC, however, can be a disruptive event that threatens the liquidity of its subsidiary banks. This is the case not only because of counterparty concerns but also because the risks of inappropriate transfers that disadvantage the bank can tend to be more acute during the time leading up to a BHC's bankruptcy. The FDIC found that it needed to be particularly vigilant during such times; FDIC examiners closely monitored liquidity in these instances, in some cases conducting visits to the subsidiary banks as often as daily. In many situations involving troubled banks and bank holding companies, the FDIC took steps to isolate and protect the insured institution, sometimes while its BHC parent filed for bankruptcy, including by preventing the dissipation of capital

⁵⁶ For an extensive discussion of the contractual features of TruPS, see George E. French et al., "Trust Preferred Securities and the Capital Strength of Banking Organizations," *FDIC Supervisory Insights* 7, no. 2 (2010): 3–16. https://www.fdic.gov/regulations/examinations/supervisory/insights/siwin10/si_wtr10.pdf.

and impermissible transfers from the insured institution to the BHC.

In other situations, one or more subsidiary banks were troubled in a multi-bank holding company ownership structure. When failures occurred in a multi-bank holding company, the cross-guarantee provisions of FIRREA, implemented as Section 5(e) of the FDI Act, allowed the FDIC to recover part of its costs of handling the failures by obtaining reimbursement from other commonly controlled insured institutions.⁵⁷ Those provisions allow the FDIC to assess cross-guarantee liability within two years of the failure of a commonly controlled institution, provides the FDIC with broad discretion in applying the law, and focuses on minimizing costs and taking actions that are in the best interests of the DIF.

During the crisis, the FDIC used its authority to assess cross-guarantee liability proactively to minimize losses to the DIF. When a commonly controlled insured bank failed, the FDIC carefully analyzed the cost to the DIF in order to determine whether to assess cross-guarantee liability immediately or to defer assessment. In the case of two companies, the FDIC assessed cross-guarantee liability immediately because deferring assessment would have increased the cost of resolution. In other cases, the FDIC deferred the assessment, allowing the BHC to determine how to meet the liability to the FDIC. Some BHCs sold their remaining banks, giving the FDIC the sales proceeds net of selling costs. In other situations, the FDIC accepted payment of a portion of the liability as a better alternative than bearing the cost of another bank failure.

Sometimes the FDIC deferred the assessment of cross-guarantee liability in order to increase the incentive for troubled, commonly controlled banks to find a merger partner or raise capital to avoid failures. In the case of Capitol Bancorp, Ltd., a multi-BHC listed in Table 4.2, the FDIC allowed the sale of subsidiary banks and granted cross-guarantee waivers to those institutions to settle the liability. However, the FDIC controlled the BHC's use of the sale proceeds and required the funds to be injected into affiliated troubled banks, thereby reducing potential losses to the DIF.

Granting prospective waivers of cross-guarantee liability was another tool that was used to avoid needless bank failures. For example, the FDIC granted a prospective waiver to a bank in Texas when its BHC acquired control of another bank, which was troubled, and recapitalized it. The prospective waiver eliminated the risk that if the acquired troubled bank failed, the BHC's existing bank would become liable under the cross-guarantee regulations.

⁵⁷ "Commonly controlled" is defined in note 6.

Table 4.2. Supervisory Focus and Outcomes for Selected Banking Organizations

Holding Company Bankruptcy	Subsidiary Insured Bank(s)	Supervisory Focus	Outcome
Lehman Brothers September 2008	Woodlands Commercial Bank, Aurora Bank FSB	insulate bank from parent, capital restoration, CALMA ^a	Chapter 11 bankruptcy; banks were wound down, ^b no DIF loss
Capmark Financial Group, Inc October 2008	Capmark Bank	insulate bank from parent, liquidity monitoring	Chapter 11 bankruptcy; bank was wound down, no DIF loss
CIT Group, Inc. ^c November 2009	CIT Bank	insulate bank from parent	Chapter 11 bankruptcy; bank survived
AmericanWest Bancorporation October 2010	AmericanWest Bank	PCA capital directive ^d	Chapter 11, Section 363 bankruptcy with sale of bank, no DIF loss
Outsource Holdings, Inc. April 2011	Jefferson Bank	capital restoration, problem asset and concentration reduction	Chapter 11, Section 363 bankruptcy with sale of bank, no DIF loss
Premier Bank Holding Company, Inc. August 2012	Premier Bank	capital restoration, problem asset and concentration reduction	Chapter 11, Section 363 bankruptcy with sale of bank, no DIF loss
Big Sandy Holding Company September 2012	Mile High Banks	PCA capital directive, “sell or merge”	Chapter 11, Section 363 bankruptcy with sale of bank, no DIF loss
Capitol Bancorp, Ltd. August 2012	65 insured banks	capital, concentrations, noncore funds, liquidity monitoring; “sell, merge, or recapitalize”	6 bank failures, multiple banks merged or sold with proceeds invested in troubled banks to waive cross-guarantee liabilities
First Place Bank Corporation October 2012	First Place Bank	capital restoration, problem asset reduction	Chapter 11, Section 363 bankruptcy with sale of bank, no DIF loss

^a CALMA refers to Capital and Liquidity Maintenance Agreement.

^b Banks that were “wound down” went through an orderly process of voluntarily selling assets, paying off depositors and other creditors, and ultimately ceasing operations without loss to the DIF.

^c CIT Group is not to be confused with Citigroup, an unrelated institution.

^d PCA refers to prompt corrective action (see note 37).

The FDIC imposed a variety of conditions when granting cross-guarantee waivers. These conditions included requiring that proceeds from the sale of a bank holding company's subsidiaries be used to make equity investments in one or more of its troubled banks, requiring that directors and executive officers who materially contributed to the problems of the failing bank resign or be subject to ongoing management restrictions, or accepting partial payment of the cross-guarantee liability in lieu of the full amount.

Such strategies were effective in insulating banks from problems at their parent or affiliated companies and in averting losses to the Deposit Insurance Fund. Table 4.2 lists examples where significant problems at banking organizations with a holding company structure were resolved mostly or entirely without loss to the Deposit Insurance Fund.⁵⁸ For reasons of space, the list of supervisory strategies in the table is not complete. These strategies included a focus on preventing inappropriate transactions with the parent company and affiliates, limiting dividend payments, recapitalizing troubled banks, entering into a CALMA, incentivizing corrective action through the type of “sell or merge” language in enforcement actions alluded to earlier in this chapter, and monitoring liquidity. The phrase “Section 363 sale of bank” in the “outcomes” column refers to the sale of an insured bank by a BHC as part of its reorganization, with such sale governed by Bankruptcy Code Section 363. From the specific standpoint of protecting the DIF in severe circumstances where the probability of loss was elevated, the examples in Table 4.2 can be viewed as success stories. The section below titled “Effectiveness and Appropriateness of Supervisory Efforts Related to Troubled Banks,” discusses the success of supervisory actions from a broader perspective.

Private Equity Recapitalizations

As discussed in chapter 6, during the course of the crisis several private equity investors expressed an interest in purchasing failed banks. The FDIC's Board of Directors adopted a Statement of Policy (SOP) to provide guidance to private capital investors interested in acquiring or investing in failed insured depository institutions regarding the terms and conditions for such investments or acquisitions.⁵⁹ Some groups sought shelf charters from the OCC and others sought to acquire a small existing charter that could then be used to make failed-bank acquisitions.⁶⁰ Supervision staff determined the readiness of both types of proposed ownership groups relative to the statutory requirements for

⁵⁸ Table 4.2 is not necessarily a complete list of instances in which a holding company entered bankruptcy but some or all of its bank subsidiaries did not fail.

⁵⁹ FDIC, “Final Statement of Policy of Qualifications for Failed Bank Acquisitions,” 74 Fed. Reg., 45440–45499 (Sept. 2, 2009), <https://www.fdic.gov/regulations/laws/federal/2009/09FinalSOP92.pdf>><https://www.fdic.gov/regulations/laws/federal/2009/09FinalSOP92.pdf>.

⁶⁰ A shelf charter is a conditional banking charter granted to an organizing group for the specific purpose of acquiring one or more failing banks. It is conditional on the organizing group's being selected as the winning bidder for the failing bank or banks. (On the bidding process for failing banks, see chapter 6.)

deposit insurance and the principles in the SOP; in addition, supervision staff adopted new procedures to evaluate the activities of the institutions relative to the principles contained in the SOP.

Effectiveness and Appropriateness of Supervisory Efforts Related to Troubled Banks

The strategies and approaches used by the FDIC to supervise a troubled bank can be labor-intensive and time-sensitive. Examining a bank that is in seriously weakened condition or that seems to have potential issues of fraud or insider abuse requires significantly more examiner time than does examining a healthy bank of comparable size.⁶¹ Developing, negotiating, and finalizing informal or formal enforcement actions, as well as monitoring an institution's compliance with them, are also significantly resource-intensive. And the day-to-day liquidity monitoring and eleventh-hour efforts to handle a troubled bank in a way that will avoid or minimize losses to the Deposit Insurance Fund can similarly tap a significant amount of supervisory resources.

However, these intensive supervisory efforts are worthwhile as they make a beneficial difference to the ultimate outcomes for troubled banks. For example, between January 2007 and September 2013, for 1,441 FDIC-supervised 3-rated banks that entered into informal actions, nearly two-thirds of the informal actions were effective at preventing a further rating deterioration at subsequent examinations.

Moreover, a study by the FDIC OIG found that enforcement actions did not hinder an institution's ability to raise capital. The OIG report noted that between 2008 and 2011, more than 50 percent of the FDIC-supervised financial institutions that were subject to informal or formal enforcement actions received material capital injections ("material" was defined for the study as an amount raised during a year that was at least \$100,000 and 0.5 percent of total assets at the end of the year). The report stated, "The extent of capital injections for these institutions compares favorably to all active financial institutions over that same period."⁶²

The same report stated the OIG's view that banking agency enforcement actions (including the FDIC's) were applied in a manner consistent with policies and were supported by the findings in examination reports.⁶³ Specifically, "We also determined there was a correlation between examination ratings, key financial ratios, and enforcement actions, which, in our view, illustrates that regulators applied actions fairly across the

⁶¹ For example, the FDIC OIG's report "The FDIC's Examination Process for Small Community Banks," EVAL-13-001, August 2012, page 11, <https://www.fdicig.gov/sites/default/files/publications/12-011AUD.pdf>, indicated that typical timelines for the FDIC to issue an examination report following on-site work were two to four weeks for banks rated 1 or 2, and four to six weeks for banks rated 3, 4, or 5.

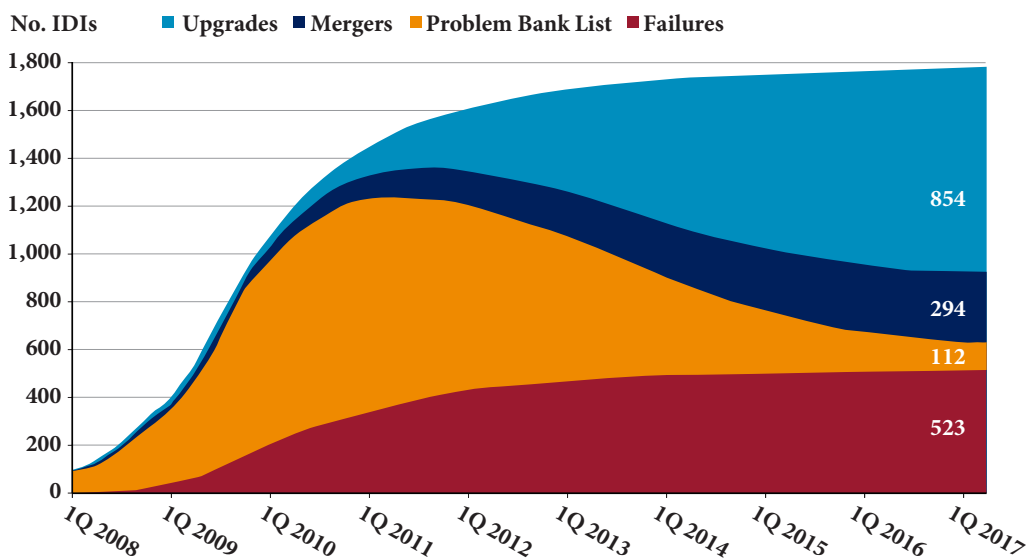
⁶² FDIC OIG, "Comprehensive Study on the Impact of the Failure of Insured Depository Institutions," Report EVAL-13-002, January 2013, p. 114, <https://www.fdicig.gov/sites/default/files/publications/13-002EV.pdf>.

⁶³ *Ibid.*, 15–16.

institutions they regulated.”⁶⁴ The report found, in addition, that enforcement actions were terminated uniformly and appropriately and in a manner consistent with policies and procedures. In other words, enforcement actions were terminated when institutions were in material compliance with the conditions laid down in the enforcement actions and had improved sufficiently, and the actions were not terminated when institutions continued to present safety-and-soundness risks.

In all, of the 1,783 insured depository institutions that were designated as problem banks between January 1, 2008 and March 31, 2017, 523 had failed as of March 31, 2017; 112 remained in problem status; 294 had merged with other institutions in private-sector transactions without FDIC assistance; and 854, the largest portion, were no longer problem banks (see Figure 4.7).

Figure 4.7. Status of Institutions on Problem-Bank List, 2008–Q1 2017



In short, the experience strongly suggests that the corrective actions, formal and informal, undertaken by the FDIC and the other banking regulators during the crisis were effective in reducing the number of banks that ultimately failed, effective in reducing the cost of the crisis to the Deposit Insurance Fund, and effective in returning the banking industry to health.

⁶⁴ Ibid., 16.

The Aftermath of the Crisis: Lessons Learned for Supervision

The building up of risk in the banking industry during the inter-crisis years, and the sometimes belated supervisory policy response, demonstrates that the choices banks and bank supervisors make during times of prosperity can have important consequences for the long-term safety and soundness of individual banks and the banking industry as a whole. The choices for banks in the pre-crisis years related to risk-taking, including the degree of involvement in subprime and other nontraditional mortgage products and the growth of ADC lending. For bank supervisors the choices related to how forcefully to respond to the risks that were emerging. The crisis itself is a reminder of how quickly problems in the banking industry can ramp up and how important the supervisory response is to containing and mitigating damage. This concluding section reflects on what FDIC staff views as the most important lessons of the crisis for bank supervisors.

Lesson 1: Prosperous Times Can Mask the Building Up of Risks

Perhaps the most striking feature of pre-crisis banking conditions when viewed in hindsight is the unbroken string of earnings records and the steadily declining caseload of problem banks. In retrospect, however, it is clear that this earnings growth masked a significant buildup of risks in the banking industry. Although the risks were identified by examiners and pointed out in reports of examination, the apparently strong financial condition of institutions was weighed more heavily in the rating determinations. At a policy level, the agencies' response to the accumulating risks was limited to issuing supervisory guidance that was, in retrospect, belated. Taking actions to constrain risk-taking practices during a period of industry prosperity can be unpopular and meet with significant resistance. The issues involved in such situations call to mind the saying about taking away the punch bowl just when the party is warming up.

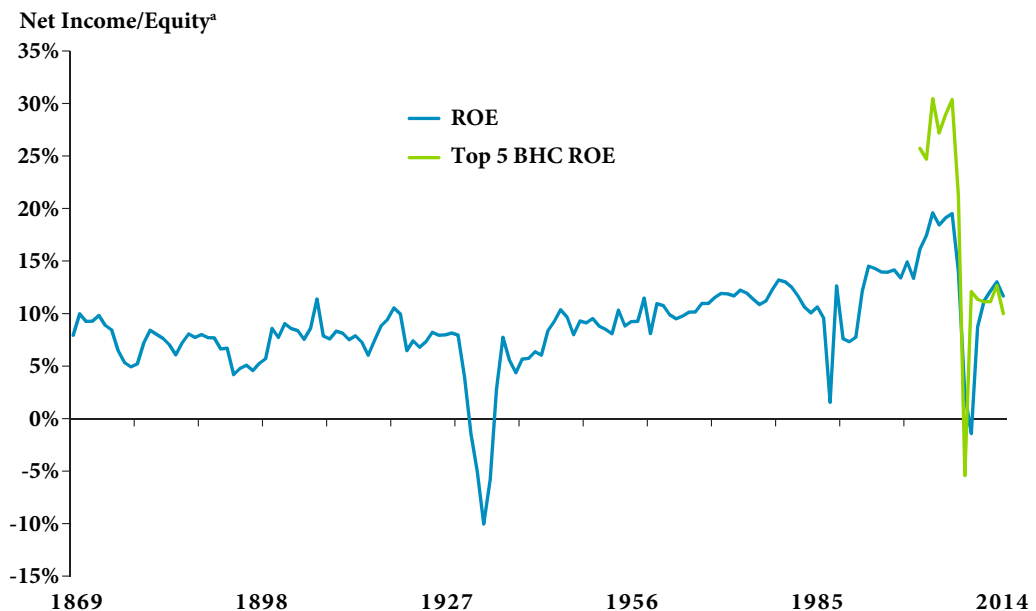
Lesson 2: Past Performance Is Not a Guide to Future Performance

Mining data to review characteristics of past failed and problem banks can have considerable value, for underlying issues involving banks' appetite for risk tend to be repeated. Nonetheless, it is important to remember that past performance is not always a guide to future performance. For example, many observers in the pre-crisis period believed that a *national* real estate market downturn was highly unlikely, since past real estate downturns had been regional. In the current context, that example is a reminder to supervisors to remain highly attentive to new issues, such as cybersecurity or the effects of a prolonged low-interest-rate environment, and more generally not to assume that issues that have not caused problems in the past will not cause problems in the future. Supervisors should never allow themselves to become complacent.

Lesson 3: Choices about Risk and Return Do Matter

Bank managers always have choices to make about how aggressively to pursue earnings growth and whether to do so through new lending programs, trading activities, higher-yielding investments, or other avenues. Generally, greater returns are achieved only by taking greater risks. The purpose of risk management in banking is to ensure that risk-taking is prudent and does not threaten the viability of the bank. Figure 4.8 provides a reminder of the trade-off between risk and return in banking. Before the crisis, large bank holding companies' activities boosted their returns on tangible equity to extraordinarily high levels—but this was followed in 2008 by the financial collapse of a number of these institutions. The lesson to examiners, supervisors, the banking industry, and its investors is that notwithstanding the apparent profitability of an institution, there may be significant underlying risks that should be addressed.

Figure 4.8. Return on Equity, 1869–2014



Source: FDIC; Historical Statistics of the United States, Millenium Edition Online, 2016.

Note: Data from 1869 to 1933 are only for national banks, data from 1934 through 2014 are for all commercial banks, and top 5 BHC data from 2001 through 2014 are for the five largest BHCs by total assets in any given year.

^a From 2001 forward, return on equity for both the BHC and bank series is net income divided by tangible equity; before 2001 return on equity is net income divided by total equity.

Lesson 4: Call Report Data Can Help Identify Risk

Call Report data can provide important indicators of which banks may be accepting relatively higher levels of risk. For example, concentrations in ADC lending, rapid asset growth, higher levels of potentially volatile funding, and lower levels of capital during the pre-crisis period were important indicators of banks that failed during the crisis. Although the Call Report data alone do not shed light on important bank-specific risk practices, governance, and other matters, data over multiple business cycles and the two most recent banking crises make it clear that the red flags presented by extreme values of such indicators are real and warrant supervisory attention.

Lesson 5: Risk Management Drives Outcomes

Studies conducted by the FDIC OIG based on Material Loss Reviews indicate that during the crisis, the level of ADC concentrations, the risk management of those concentrations, and the responsiveness to supervisory concerns (where applicable) all mattered greatly in separating the surviving banks from those that failed. In describing the characteristics of banks with high ADC concentrations that nonetheless remained in satisfactory condition, a recent OIG report stated, “Ultimately, the strategic decisions and disciplined, values-based practices and actions taken by the Boards and management helped to mitigate and control the institutions’ overall ADC loan risk exposure and allowed them to react to a changing economic environment.”⁶⁵ In particular, the report stated that banks specializing in ADC lending while remaining in satisfactory condition throughout the period were more likely to have implemented more-conservative growth strategies; relied on core deposits and limited net noncore funding dependence; implemented prudent risk management practices; limited speculative lending, loan participations, and out-of-area lending; and maintained stable capital levels and access to additional capital if needed.

Lesson 6: The Most Important Bank Risk Factors Can Be Evaluated Only On-Site

The safety and soundness of an insured depository institution depends on many factors that supervisors cannot evaluate satisfactorily by reviewing Call Reports or other external information. These factors include the quality of loan underwriting and credit administration; the presence or absence of effective risk limits and internal controls; the extent of compliance with applicable laws; and the presence or absence of issues involving fraud or insider abuse. The FDIC’s experience is that when it comes to determining a bank’s long-term viability, the quality of management and the effectiveness of governance are of paramount importance. Such factors can be evaluated only with an on-site examination that includes an appropriate level of transaction testing—that is, examination procedures designed to check the reliability of key risk metrics and internal controls. Thus, although supervisors explore the use of enhanced information technology to potentially allow off-

⁶⁵ FDIC OIG, “Acquisition, Development and Construction Loan Concentration Study,” page iii.

site examination hours to constitute a greater proportion of total hours, an in-depth on-site component of the examination remains indispensable.

Lesson 7: Supervisors Should Require Corrective Action When Risk Management Is Deficient

Material Loss Reviews conducted by the FDIC Office of Inspector General often concluded that FDIC examiners drew attention to the risk management deficiencies or issues that ultimately led to the bank's failure, generally well before the failure. Recommendations to address the deficiencies were typically included in the examination report that was transmitted to the bank. However, not until the bank's financial condition deteriorated did those recommendations translate to rating downgrades or enforcement actions. A frequently recurring OIG finding in such MLRs was that the FDIC could have been, or should have been, more assertive in downgrading bank ratings and requiring corrective action before the bank's problems became unmanageable.

The FDIC agreed with the findings of the MLRs,⁶⁶ and in fact it had come to a similar conclusion through an internal review of the examination program completed at the end of 2007. The FDIC's conclusion in that internal review was that problematic practices should have been addressed more forcefully before they led to problematic conditions, particularly with respect to credit administration deficiencies and asset quality ratings. In response to the findings of the internal review and the MLRs, the FDIC's efforts to address risks in banks more promptly have included training examiners on the importance of proactive and forward-looking supervision to address deficiencies in risk management at an early stage, before problems become so severe that it is too late to address them; revising the "concentrations page" in the report of examination, designed to focus examiner attention on the quality of risk management of lending and funding concentrations; and revising the manual of examination policies, the case manager procedures, and other supervisory documents so as to incorporate enhanced guidance on matters requiring attention by the bank's board of directors.

Lesson 8: New Banks Require Extra Attention

As noted above, new banks have historically been disproportionately represented among failing institutions, and the recent crisis was no exception. The FDIC has long devoted extra supervisory efforts to new banks, which are often referred to as de novo banks. In the past, these efforts included an annual examination during the three-year de novo period (even if other factors would have made the bank eligible for an 18-month examination cycle); a requirement that new banks maintain leverage capital ratios of at least 8 percent during the de novo period; and a requirement that the new

⁶⁶ Written responses to the MLRs are prepared by FDIC staff, and specifically by the director of the FDIC division responsible for safety-and-soundness supervision.

bank adhere during the de novo period to the business plan that was the basis for its approved application for deposit insurance.⁶⁷ During the crisis, given the severity of problems de novo banks were experiencing, the FDIC increased the de novo period from three to seven years. Recently, recognizing that the crisis had receded and that the FDIC had improved other aspects of its supervisory processes, the FDIC restored the three-year de novo period. Going forward, as the economic environment becomes more propitious for the establishment of new banks, maintaining supervisory focus on the safe and sound operation of these institutions will be important.

Lesson 9: Large Banks Require Extra Attention

In all, nine insured banks with assets of \$10 billion or more failed during the years 2008 through 2013. In addition, Citigroup and Bank of America Corporation did not fail but benefited from individually targeted federal assistance programs;⁶⁸ Wachovia nearly failed but was acquired by Wells Fargo without federal assistance; and each of the five largest investment banks failed or was acquired in stressed circumstances or became a bank holding company.⁶⁹ But as severe as the liquidity problems of large financial institutions were during the crisis, they could have been much worse. To gain a sense of what could have happened, one need only review the list of financial institutions that received special Federal Reserve liquidity assistance from programs created during the crisis, and the amounts borrowed under the programs.⁷⁰ Had these programs, along with programs of the Treasury and the FDIC, not been created, many more large financial institutions would likely have failed.

The gravity of the liquidity issues that surfaced during the crisis is a reminder of how sensitive to counterparty runs large banking organizations can be. This reminder highlights the importance for these institutions of maintaining strong capital and liquidity positions and the importance for the FDIC (and the other federal banking agencies) of having robust programs in place to understand and address the risks undertaken by large institutions. Risk

⁶⁷ Under the federal banking agencies' prompt corrective action regulations, insured banks must satisfy a minimum leverage ratio requirement of 4 percent to be designated "adequately capitalized," and a leverage ratio of 5 percent to be designated "well capitalized." These are the regulatory minimum values of the leverage ratio needed to achieve these designations, but the agencies have the authority to require individual banks to hold more capital depending on their circumstances. Maintaining an 8 percent leverage ratio (or possibly more, if warranted by the specific facts) during the de novo period is a standard condition the FDIC imposes before approving an application for deposit insurance, as documented in the FDIC Statement of Policy on Applications for Deposit Insurance, *Federal Register*, Vol. 63, No. 161, August 20, 1998.

⁶⁸ As described in more detail in Chapter 3, Citigroup actually received assistance while Bank of America benefited from the announcement that assistance was available to it.

⁶⁹ See chapter 1 for a discussion of how the five largest investment banks (Goldman Sachs, Morgan Stanley, Merrill Lynch, Bear Stearns, and Lehman Brothers) fared during 2008.

⁷⁰ These were liquidity programs of broad availability as opposed to the targeted assistance announced for Citigroup and Bank of America. This information is available at <https://www.federalreserve.gov/regreform/reform-transaction.htm>.

assessment for these institutions needs to be more effective than it was in the years leading up to the crisis. On the basis of the experience of the crisis, the FDIC has implemented a number of improvements to its risk assessment of large, complex financial institutions. These include an expanded on-site presence at selected large banking organizations, intensive off-site horizontal analysis of risks posed by all large banking organizations,⁷¹ and the review of stress-testing results.⁷² Supervision staff also supports the preparedness of the FDIC's resolutions staff (see chapter 6) by reviewing the resolution plans filed by large banking organizations.⁷³

Lesson 10: Bank Supervision Benefits from Steady Focus

The pre-crisis period was notable for a number of significant changes in the bank supervision process. These included a move first to risk-focused supervision and then to streamlined supervision under the MERIT examination program and directives to significantly reduce overall examination hours. These changes led to a significantly smaller supervision workforce at a time when the banking industry was growing in asset size and was taking on significant new risks. And after the crisis finally erupted, the smaller size of the workforce created challenges in responding to it. Changes in examination processes are sometimes necessary or advisable, but the best results are likely to follow from an incremental approach to change and a steady and consistent focus on the importance of examining and supervising banks.

Lesson 11: Bank Examination and Supervision Require Expertise

One of the greatest strengths of the FDIC's bank supervision program during the crisis was its corps of seasoned examiners and supervisors, many of whom had been examining banks since the 1980s or even the 1970s, and a number of whom returned to the examination force from retirement. This depth of experience was critical to the FDIC's ability to respond to the crisis with examinations and the tailoring of appropriate informal and formal enforcement actions that helped make it possible for many banks to return to health.

⁷¹ For further information, see FDIC OIG, "The FDIC's Risk Monitoring of Systemically Important Financial Institutions' Proximity and Speed to Default or Danger of Default," Report EVAL-17-003, January 2017, <https://www.fdicig.gov/sites/default/files/publications/17-003EV.pdf>.

⁷² Stress testing in this context refers to an analysis of how a bank's financial condition may change over time under various assumed adverse economic scenarios. Formal requirements for stress testing are part of Section 165 of the Dodd-Frank Act.

⁷³ There are two types of resolution plan documents. The first type, required by the Dodd-Frank Act and often referred to as living wills, is prepared by large financial institutions and submitted to the FDIC and the Federal Reserve with information and analysis to show that the company could be resolved under bankruptcy. The second type, required by Part 360 of the FDIC regulations, requires large insured depository institutions to submit plans to the FDIC that should enable the FDIC to resolve the bank under the Federal Deposit Insurance Act.

This experience highlights the importance of the hiring process for maintaining a steady flow of new examiners as a foundation for bank supervision in the future; the importance of a continued rigorous examiner commissioning process; and the importance of efforts to ensure that new generations of examiners are able to benefit from the knowledge and experience of those who came before them.

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5

Deposit Insurance: Fund Management and Risk-Based Deposit Insurance Assessments

Introduction

The 2008 financial crisis and economic downturn precipitated a banking crisis, causing a sharp increase in the number of failures of FDIC-insured institutions. After several years in which there had been few or no failures, between 2008 and 2013 a total of 489 banks and thrifts failed, 157 during 2010 alone (the most since 1992).¹ In 2008 and 2009, as the number of bank failures increased, losses incurred by the Deposit Insurance Fund (DIF, or the fund) to close failing banks and protect insured depositors significantly exceeded fund revenue. The FDIC took several steps intended to keep the fund in the black. When these efforts failed, the FDIC turned to ensuring that the fund had sufficient liquid assets to continue to protect insured depositors at failed banks. In this effort, the FDIC was successful. From 2011 through 2016, the FDIC used the expanded authority granted in the Dodd-Frank Wall Street Reform and Consumer Protection Act in 2010 (Dodd-Frank) to substantially revise both its fund management strategy and its methodology for risk-based deposit insurance assessments. (For definitions of key terms, see the box.)

The FDIC's approach to deposit insurance fund management and risk-based pricing is governed by statute. This chapter traces the evolution of the statutory framework and—within that framework—the evolution of the FDIC's fund management strategy and risk-based pricing methods, beginning as the banking crisis was about to erupt, passing through a period of adaptive responses, and culminating with implementation of the deposit insurance reforms authorized by Dodd-Frank.

¹ Bank and thrift failures, here and elsewhere in this chapter, exclude instances where open-bank assistance was provided in conjunction with a systemic risk exception. See chapter 3 for more details. In 1992, 179 banks and thrifts failed, including thrift failures handled by the Resolution Trust Corporation (which was created by Congress in 1989 to resolve insolvent thrifts).

Definitions of Key Terms

The **Deposit Insurance Fund (DIF)** is used to protect insured depositors and to close failing banks. It was formed in 2006 from the merger of two predecessor funds, the Bank Insurance Fund and the Savings Association Insurance Fund. In this chapter, references to the DIF before 2006 refer to a hypothetical combination of the two funds.

Fund management consists, first, of determining the proper size of the DIF and, second, setting overall assessment rates that are sufficient to maintain or achieve the proper fund size. (The appendix of this chapter traces the evolution of the assessment rate schedules from Q1 2009 to the present.)

The critical measure of the adequacy of the DIF is the **reserve ratio**, which is the ratio of the fund balance (or net worth) to estimated insured deposits. The **designated reserve ratio (DRR)** has generally been defined as the minimum target for the reserve ratio, but for a period of about ten years it also effectively served to restrain growth above the target. Under the current statute, the FDIC views the DRR—which the FDIC must set each year—as a long-term minimum target ratio.

Risk-based pricing refers to the way the FDIC charges banks different assessment rates for the differing risks they pose to the DIF, given the overall level of assessment rates the FDIC has set to attain its fund management goals. To calculate a bank's deposit insurance assessment, the bank's **assessment rate** is multiplied by its **assessment base**.

Background: Fund Management and Risk-Based Pricing at the Beginning of the Banking Crisis

When the banking crisis erupted in 2008, the framework for fund management and risk-based deposit insurance pricing was one that had been put in place by the Federal Deposit Insurance Reform Act of 2005 (FDIRA), enacted in February 2006 on the recommendation of the FDIC.² FDIRA ended a ten-year-old statutory restriction (1996–2006) on the FDIC's authority to assess most banks—specifically, those well capitalized and highly rated by their supervisors—as long as the reserve ratio was at or above 1.25 percent. As a result of this restriction, growth in the fund balance failed to keep pace with insured deposit growth, leaving the reserve ratio at year-end 2006 (1.21 percent) 12 basis points lower than it had been at the end of 1996 (1.33 percent). (A basis point is one one-hundredth of a percent.)

² Federal Deposit Insurance Reform Act of 2005, Pub. L. No. 109-171, 120 Stat. 9 (2006). The reason for the discrepancy in dates is that the act was included as Title 2 in the Deficit Reduction Act of 2005, which was signed into law in February 2006.

Managing the Size of the DIF

FDIRA, in contrast to the law it replaced, permitted the FDIC to set the target reserve ratio (the DRR) each year between 1.15 and 1.50 percent. If the actual reserve ratio exceeded 1.50 percent, however, the FDIC was required to return amounts in the fund above 1.50 percent to the industry through “dividends.” Thus the fund had a hard cap of 1.50 percent. In addition, if the reserve ratio was between 1.35 and 1.50 percent, the FDIC was required to pay dividends to the industry equal to half of all amounts above 1.35 percent. FDIRA did allow the FDIC to suspend dividends temporarily if the DIF faced a significant risk of high losses. (During the period when this provision of FDIRA was in effect, the reserve ratio never reached 1.35 percent, so no dividends were paid.) FDIRA also directed the FDIC’s Board of Directors, when setting the DRR for any year, to consider various factors with the general objective of increasing the fund under more favorable economic conditions so that the fund could withstand declines under adverse conditions without the need for sharp, procyclical increases in assessments.³ (“Procyclical” assessments increase when banking conditions are bad and decrease when they are good.)

Under the authority granted by FDIRA, the FDIC set the DRR at 1.25 percent for 2007 and 2008 (the same target that had been in effect since 1989) and began charging every bank, including the least risky, an insurance premium, which the FDIC had not been able to do for about 10 years, as explained above. The Corporation’s intent was to have the reserve ratio increase gradually, consistent with FDIRA’s objective that the fund be allowed to increase when conditions were favorable so that it could decline under adverse conditions without the need for sharp increases in assessments.⁴ In 2007, the outlook for economic conditions affecting banks was favorable, and no bank had failed in two years. But FDIRA included one requirement that had a fundamentally limiting effect on reserve ratio growth: it required the Corporation to provide credits to offset the premiums of banks that had helped rebuild the insurance funds in the early to middle 1990s. These credits, combined with insured deposit growth, resulted in a reserve ratio at the end of 2007—just before the crisis—that was virtually unchanged from its level a year earlier: 1.21 percent at year-end 2006, 1.22 percent at year-end 2007.

³ Under FDIRA, the factors that the Board is required to consider are (1) the risk of losses to the DIF in the current and future years, historic experience, and potential and estimated losses from insured depository institutions; (2) economic conditions generally affecting insured depository institutions; (3) the importance of preventing sharp swings in assessment rates for insured depository institutions; and (4) other factors deemed by the Board to be appropriate, consistent with FDIRA’s requirements. See Section 2105 of FDIRA, codified at 12 U.S.C. § 1817(b)(3)(C).

⁴ 71 Fed. Reg. 69282, 69305 (Nov. 30, 2006).

Implementing Risk-Based Pricing

The ten-year restriction on the FDIC's ability to charge assessments to healthy banks as long as the reserve ratio was at or above the statutory 1.25 percent reserve ratio target⁵ effectively eliminated assessments for at least 90 percent of insured institutions at any given time during the ten years—even though during that period the banking industry was generally prosperous and healthy. FDIRA restored the FDIC's discretion to price deposit insurance according to risk for *all* insured institutions regardless of the level of the reserve ratio.

With its discretion to price for risk restored, the FDIC updated its risk-based pricing methods. The original risk-based method, which was required by statute, used a bank's capital level and supervisory rating⁶ to place the bank into one of nine risk categories that determined the bank's assessment rate. This method took effect in 1993. Effective at the beginning of 2007, the FDIC collapsed the nine risk-based pricing categories into four (Risk Categories I through IV, with I being the lowest risk). A 2 basis point range of assessment rates applied to Risk Category I, which contained the greatest number of banks. Banks in this risk category that did not pay the minimum or maximum rates paid rates that varied between the minimum and maximum. Banks in one of the other risk categories paid a single rate applicable to that category.

At the same time, the FDIC adopted separate pricing methods for small banks and large banks to differentiate risk within Risk Category I. (Generally, a small bank is defined as having less than \$10 billion in assets, and a large bank as having at least \$10 billion in assets.)⁷

For small banks within Risk Category I, the FDIC used a combination of CAMELS component ratings and financial ratios⁸ to estimate the probability that a bank's CAMELS composite rating would be downgraded to 3, 4, or 5 at the bank's next examination (such a downgrade would signal deterioration in the bank's condition), and thereby determine the bank's assessment rate.

⁵ Deposit Insurance Funds Act, Pub. L. No. 104-208, 60 Stat. 446 (1996).

⁶ These bank supervisory ratings are known as CAMELS ratings. CAMELS stands for Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk. CAMELS ratings are on a scale of 1 to 5, with a 1-rating indicating greatest strength in performance and risk management and the lowest level of supervisory concern. At the other end of the scale, a 5-rating indicates the weakest performance, inadequate risk management, and the highest level of supervisory concern. The CAMELS composite rating is derived from an evaluation of the six CAMELS components; although the composite rating is generally a close reflection of the assigned component ratings, it is not an arithmetic average of the component ratings. The original risk-based method actually used a bank's CAMEL composite rating, since the "S" rating was not created until 1995.

⁷ 12 CFR § 327.8(e) and (f).

⁸ The financial ratios included the Tier 1 leverage ratio, a ratio of net income to assets, and several asset performance ratios.

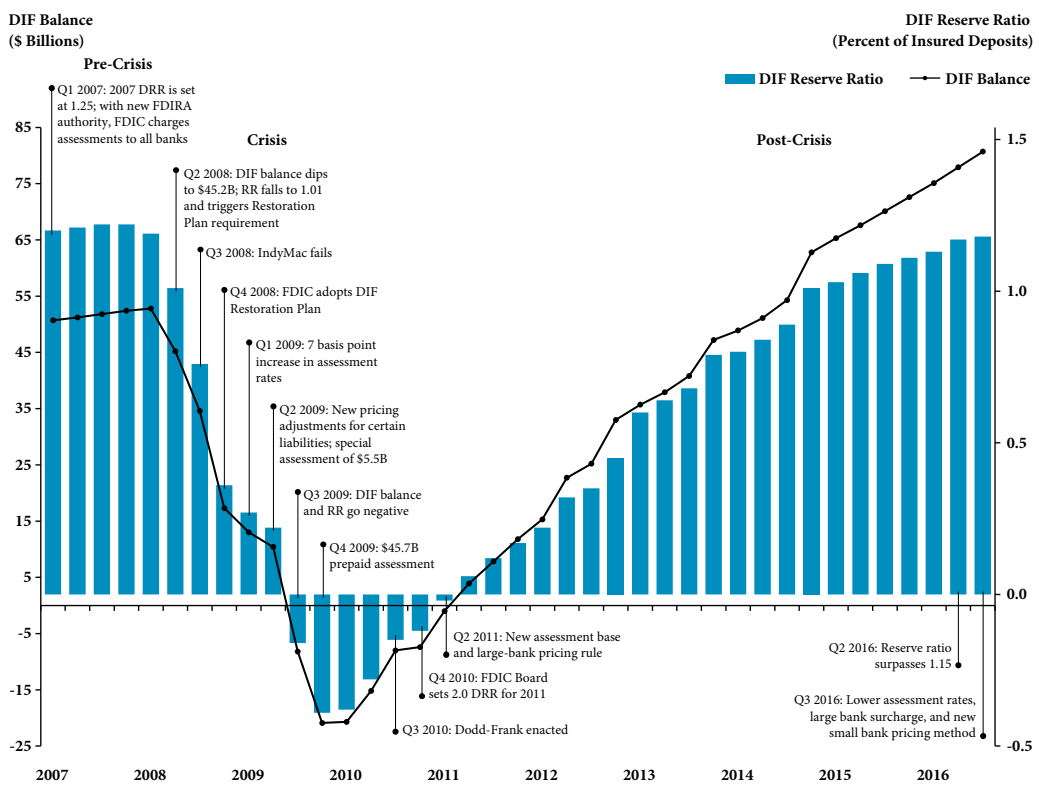
For large banks within Risk Category I, the FDIC used a combination of CAMELS component ratings and long-term-debt-issuer ratings to determine assessment rates. For large banks in Risk Category I that did not have long-term-debt-issuer ratings, financial ratios were used instead.

Fund Management and Risk-Based Pricing during the Banking Crisis, 2008–2009

After no banks failed in 2005 and 2006 and only three failed in 2007, failures began to climb in 2008, marking the onset of the banking crisis. The DIF balance shrank from \$52.8 billion on March 31, 2008, to \$45.2 billion on June 30 as a result of losses from actual bank failures as well as an increase in loss reserves for expected bank failures. (Just as banks reserve for losses on troubled loans, the FDIC reserves for anticipated losses to the DIF from insured institution failures. An increase in these reserves, which are known as the contingent loss reserve, reduces the fund balance, or net worth.) The fund's contingent loss reserve increased from \$583 million on March 31 to \$10.59 billion at June 30. The largest contributor to the increase in the contingent loss reserve during the second quarter was the reserve for estimated losses associated with the failure of IndyMac (which was closed in July).⁹ Primarily as a result of the increase in the contingent loss reserve, the reserve ratio fell from 1.19 percent at March 31 to 1.01 percent at June 30.¹⁰ (See Figure 5.1.) The DIF balance and reserve ratio fell throughout the rest of 2008 and 2009 as losses from actual and expected failures mounted. A total of 25 banks failed in 2008, and 140 in 2009, leaving the fund balance negative. Mounting failures also began draining the fund's liquid assets, which the FDIC needed to close failing banks in a timely manner and to protect insured depositors.

⁹ For more detail about the IndyMac resolution, see chapter 6.

¹⁰ This was the lowest reserve ratio since March 31, 1995, when the combined reserve ratio of the Bank Insurance Fund and the Savings Association Insurance Fund (see box above) was 0.98 percent.

Figure 5.1. Timeline of Events and Reserve Ratio Trends Q1 2007 – Q3 2016

Fund Management: Attempting to Maintain a Positive Fund Balance

The reserve ratio's decline below 1.15 percent in the second quarter of 2008 triggered a requirement under FDIRA that the FDIC adopt a restoration plan to restore the reserve ratio to 1.15 percent within five years. (Under "extraordinary circumstances," the FDIC Board was allowed to extend the restoration period beyond five years.)¹¹ During the second half of 2008, estimated losses from actual failures and reserves set aside for anticipated failures increased, and the fund balance and reserve ratio continued to decline.

In October 2008, the FDIC finalized a restoration plan under which assessment rates would be increased to raise the fund balance and the reserve ratio.¹² In the same month, pursuant to the plan, the FDIC proposed a rate increase of 7 basis points for all banks, and the increased rates became effective in the first quarter of 2009.¹³ (See Table 5.A.1.) In February 2009, given the enormous stresses on financial institutions and the likelihood of a prolonged and severe economic recession, the FDIC extended

¹¹ 12 U.S.C. § 1817(b)(3)(E).

¹² 73 Fed. Reg. 61598 (Oct. 16, 2008).

¹³ 73 Fed. Reg. 78155 (Dec. 22, 2008).

the time frame of the restoration plan from five years to seven, as FDIRA permitted under extraordinary circumstances.

In 2009, with bank failures accelerating, the FDIC took a series of additional actions designed to keep the DIF balance positive and increase the DIF's liquidity. (Attempts to keep the DIF balance positive are discussed in this section; increasing the fund's liquidity, in the next section.) In an attempt to maintain a positive fund balance, the agency imposed a one-time special assessment. The agency was concerned that a fund balance and reserve ratio near or below zero might create public confusion about the FDIC's ability to move quickly to resolve problem institutions and protect insured depositors. The FDIC's statutory authority permitted it to borrow from the Treasury,¹⁴ which it had done in the early 1990s during the bank and thrift crisis, but in 2009 it elected not to. Its borrowing in the early 1990s had been from the Treasury's Federal Financing Bank (FFB), and the purpose had been to obtain working capital.¹⁵ Borrowing from the Treasury, however, while ensuring that sufficient liquid funds are available to resolve failing banks quickly, does not shore up the fund balance (the net worth of the DIF) and the reserve ratio. In addition, the FDIC viewed its line of credit at the Treasury not as a source of financing for projected losses but as a means of covering unforeseen losses.¹⁶ In contrast to borrowing from the Treasury, a special assessment would increase the fund balance by raising revenue.

¹⁴ The FDIC may borrow from the Treasury under two statutory provisions. First, the FDIC has statutory authority to borrow on an interest-bearing basis from the Treasury, with the Secretary's approval. In 2009, Congress permanently increased the maximum amount of borrowing under this authority from \$30 billion to \$100 billion, and temporarily increased it to \$500 billion through 2010. (Amounts borrowed under this authority in excess of the \$100 billion permanent maximum required the concurrence of the FDIC Board, the Federal Reserve Board, and the Secretary of the Treasury in consultation with the President.) The enabling legislation was the Helping Families Save Their Homes Act of 2009, Pub. L. 111-22, §204(b), 123 Stat. 1632 (2009). The industry is required to repay any borrowings under this authority through assessments (which can include special assessments) pursuant to a repayment schedule agreed to by the Secretary of the Treasury and the FDIC Board after consultation with the Financial Services Committee of the House of Representatives and the Committee on Banking, Housing, and Urban Affairs of the Senate. 12 U.S.C. § 1824(a). In addition to this borrowing line from the Treasury, the FDIC may also borrow from the Treasury Department's Federal Financing Bank (FFB), subject to a "maximum obligation limitation" that depends in part on the value of DIF assets. 12 U.S.C. §§1824(b) and 1825(c).

¹⁵ 12 U.S.C. § 1824(b). On January 8, 1991, the FDIC and the FFB entered into a Note Purchase Agreement, renewable annually, permitting the FDIC to borrow. The FDIC first borrowed under the agreement on June 30, 1991. The date of the peak amount outstanding on the debt (\$15 billion) was June 15, 1992. FDIC, *1993 Annual Report*, p. 1. The debt was repaid in full on August 6, 1993. In addition, the Resolution Trust Corporation (created by Congress in 1989 to resolve insolvent thrifts) borrowed from the FFB for working capital; the maximum amount borrowed was \$63 billion, and the amount was repaid in full in 1998. Resolution Trust Corporation (U.S.), Office of Planning, Research, and Statistics, *Statistical Abstract: August 1989/September 1995* (Washington, DC, 1995), 64, https://fraser.stlouisfed.org/scribd/?title_id=851&filepath=/files/docs/publications/statabsrct/statabs_rtc_1989-1995.pdf, 71.

¹⁶ For a more detailed discussion of resolutions, losses, and cash management, see chapter 6.

In June 2009, therefore, the FDIC imposed a \$5.5 billion special assessment that was collected on September 30, 2009.¹⁷ (The final rule had been adopted in May.) In addition, the FDIC reserved the authority to impose a second special assessment if the DIF was later projected to fall to a level that the Corporation believed would adversely affect public confidence or if the fund was close to or below zero. (The second special assessment could equal up to 5 basis points on each bank's assets minus Tier 1 capital.)

In the meantime, in May 2009 Congress had amended the statute governing the establishment and implementation of the restoration plan and now allowed the FDIC up to eight years to return the DIF reserve ratio to 1.15 percent (although, as before the amendment, the period could be extended because of extraordinary circumstances).¹⁸ Following up on Congress's action, in September 2009 the FDIC amended the restoration plan, extending the period to return the reserve ratio to 1.15 percent to eight years.¹⁹ In the amended plan, the FDIC stated that it would not impose the additional special assessments that had been allowed under the May 2009 final rule imposing the special assessment. The FDIC planned to maintain assessment rates at their existing levels through the end of 2010 and, to ensure that the fund would return to 1.15 percent within eight years from when it fell below that threshold (i.e., by 2016), the Corporation adopted a uniform 3 basis point increase in assessment rates effective January 1, 2011.

The special assessment did not achieve its objective of maintaining a positive fund balance. In fact, the DIF balance fell below zero at the end of the next quarter (the third quarter of 2009). The fund ended the year with a negative \$20.9 billion balance and remained negative for a total of seven quarters. (Since then, however, the DIF has grown every quarter [see Figure 5.1] and became positive in the second quarter of 2011.)

¹⁷ The special assessment equaled 5 basis points of each bank's assets minus Tier 1 capital as of June 30, 2009, but was capped at 10 basis points of a bank's second quarter 2009 regular assessment base. At that time, banks' regular assessment bases were approximately equal to their domestic deposits. The FDIC initially adopted an interim rule imposing a special assessment of 20 basis points of each bank's regular assessment base, but in the final rule, in response to comments on the interim rule, the Corporation revised the assessment base for the special assessment so as to "better balance... the burden of the special assessment." 74 Fed. Reg. 25639, 25641 (May 29, 2009). The revised assessment base meant that large banks, which tend to rely proportionally less on domestic deposits than do small banks, paid a larger share of the special assessment than they would have under the special assessment as originally proposed.

Two developments enabled the FDIC to reduce the size of the special assessment. First, funds collected and expected to be collected from a surcharge on senior unsecured debt guaranteed under the Temporary Liquidity Guarantee Program (see chapter 2) provided additional resources to the FDIC. Second, between the adoption of the interim rule and the adoption of the final rule, Congress acted on the FDIC's request to increase the FDIC's authority to borrow from the Treasury (see footnote 14). The increase in the FDIC's borrowing authority gave the Corporation a larger cushion against unforeseen bank failures.

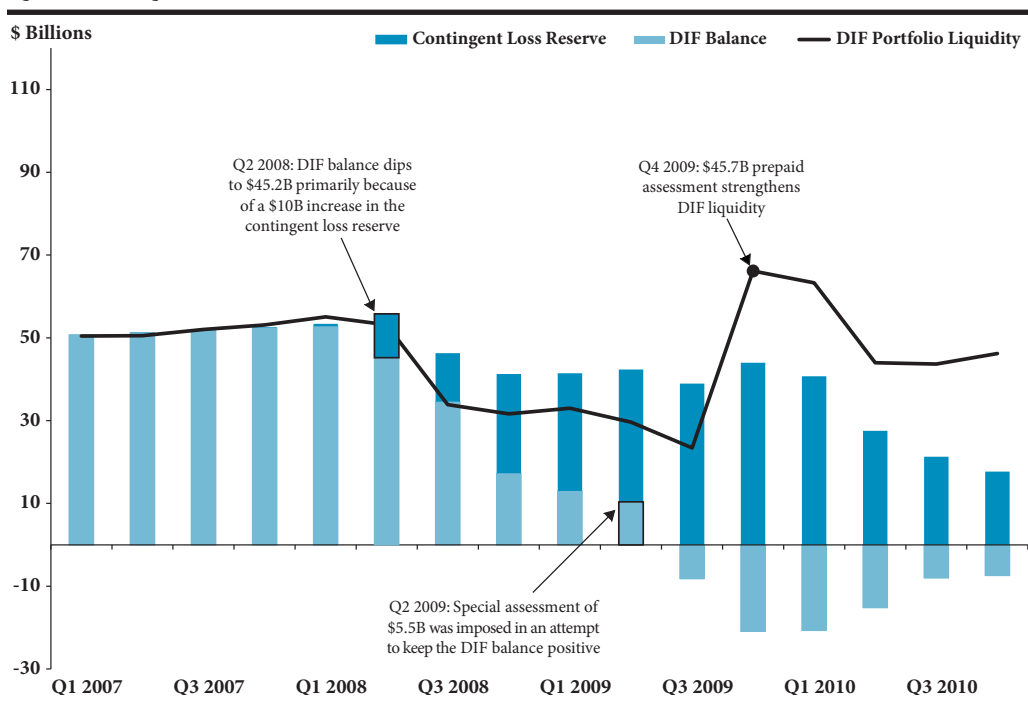
¹⁸ 12 U.S.C. §1817(b)(3)(E), as amended by the Helping Families Save Their Homes Act of 2009, Pub. L. No. 111-22, §204(b), 123 Stat. 1649 (2009).

¹⁹ 74 Fed. Reg. 51062 (Oct. 2, 2009).

Fund Management: Increasing Fund Liquidity

The DIF's negative balance itself did not mean that the fund lacked the liquid assets necessary to quickly resolve failing banks and pay insured depositors. The fund balance, or net worth, equals the fund's assets minus its liabilities. Among the assets are cash and Treasury securities, which are liquid assets that enable the FDIC to promptly resolve failing banks and protect insured depositors. Among the DIF's liabilities is the contingent loss reserve. The negative fund balance at the end of the third quarter 2009 resulted from the increase in the contingent loss reserve as expected failures rose sharply, from \$24 billion at the end of 2008 to a peak of \$44 billion at the end of 2009. (Figure 5.2 charts the contingent loss reserve, portfolio liquidity, and fund balance for the years 2007 through 2010.)

Figure 5.2. Contingent Loss Reserve, DIF Portfolio Liquidity, and DIF Balance, Q1 2007 – Q4 2010



Even though an increase in the contingent loss reserve lowers the fund balance, it does not reduce the liquid assets of the fund unless and until the liabilities are paid. As expected failures materialized throughout 2009, however, the DIF's liquid assets declined sharply. As of June 30, 2009, the DIF's liquid assets had fallen to a little under \$30 billion from slightly over \$53 billion one year earlier. In September 2009, the FDIC projected that liquidity needs would exceed liquid assets beginning in the first quarter of 2010 and, furthermore, that liquidity needs could significantly exceed liquid assets through 2010 and 2011.²⁰ If

²⁰ FDIC, "Memorandum to the FDIC Board of Directors: Special Assessment, Restoration Plan and Proposal

not addressed, this potential squeeze on the liquid assets of the DIF threatened the FDIC's ability to pay depositors promptly.

To strengthen the DIF's liquidity, the FDIC adopted a novel approach. In November 2009, the FDIC required the banking industry to prepay their quarterly assessments for the fourth quarter of 2009 and for all of 2010, 2011, and 2012.²¹ On December 30, 2009, the FDIC collected \$45.7 billion of prepaid assessments, which boosted the fund's liquidity significantly (as Figure 5.2 illustrates).²²

The FDIC chose to require prepayment of assessments rather than imposing additional special assessments for two main reasons. First, the FDIC wanted to avoid increasing assessments when bank earnings and capital were already under stress. In the second quarter of 2009, when the special assessment was charged, FDIC-insured commercial banks and savings institutions reported an aggregate net loss of \$3.7 billion.²³ In contrast to a special assessment, which immediately affects a bank's earnings and capital, a prepaid assessment does not. Banks book a prepayment as an asset (prepaid expense) with a zero percent risk weight (meaning that the asset will not affect a bank's risk-based capital levels), and they expense it as they are charged their quarterly assessments. Industry trade groups such as the Independent Community Bankers Association and the American Bankers Association supported the prepaid assessment, the American Bankers Association stating that the assessment "strike[s] the right balance at this time to assure that the FDIC has the cash necessary to meet its obligations without impairing banks' ability to meet their obligations to their communities."²⁴

The second reason for preferring prepayment to additional special assessments was to avoid discouraging the extension of credit. When the prepayment was collected in December 2009, bank lending was already on the decline,²⁵ and throughout 2009 public scrutiny had focused on banks' ability and willingness to lend to consumers; in addition, government assistance programs that focused specifically on lending were underway. The Corporation, knowing that banks were holding significant amounts of cash in response to the freeze in short-term lending markets in the fall of 2008, believed that most of the

for Maintaining Fund Liquidity," September 28, 2009, <https://www.fdic.gov/news/board/Sept29no1.pdf>.

²¹ 74 Fed. Reg. 59056 (Nov. 17, 2009).

²² FDIC, *2009 Annual Report*, 20.

²³ FDIC, *Quarterly Banking Profile*, June 30, 2009, <https://www5-qa.fdic.gov/qbp/2009jun/qbp.pdf>.

²⁴ American Bankers Association, Comment letter on proposed rulemaking on prepaid assessments, 75 Fed. Reg. 51063 (Oct. 2, 2009), Oct. 28, 2009, <https://www.fdic.gov/regulations/laws/federal/2009/09c109ad49.pdf>; see also, Independent Community Bankers of America, Comment letter on proposed rulemaking on prepaid assessments, 74 Fed. Reg. 51063 (Oct. 2, 2009), Oct. 27, 2009, <https://www.fdic.gov/regulations/laws/federal/2009/09c82ad49.pdf>.

²⁵ The banking industry's ratio of total loans and leases to total assets had declined from a peak of 61.8 percent at the end of 2005 to 55.6 percent at the end of 2009. The ratio continued to trend downward and reached a low of 53.0 percent at the end of March 2015.

prepaid assessments would be drawn from banks' available cash and excess reserves at the Federal Reserve without significantly affecting banks' lending activities. And in fact, by the end of 2009—even after the prepayment of assessments—banks on average had a much higher ratio of cash and balances due from other depository institutions to total assets than they did before the crisis. (Cash and balances due from other depository institutions include excess balances at the Federal Reserve.) On average, the ratio of cash and balances due from other depository institutions to total assets at the end of 2009 was 8.0 percent, which was considerably higher than the 5.0 percent average from 2003 through 2007. (The ratio continued to remain considerably higher during the rest of the banking crisis and beyond.)

Just as the FDIC had opted not to borrow from the Treasury earlier in 2009 to strengthen the fund balance and the reserve ratio, the FDIC decided in late 2009 not to borrow from the Treasury to increase fund liquidity. One reason the FDIC turned to prepaid assessments was that prepaid assessments ensured that the DIF remained directly industry funded, whereas borrowing from the Treasury would not. Another reason was that, unlike the prepaid assessments, borrowings from the Treasury would bear interest, which the banking industry would have had to pay eventually through higher assessments.

In the end, the FDIC was successful in maintaining sufficient DIF liquidity throughout the crisis. After the prepaid assessment was collected at the end of 2009, liquid assets (as measured at month-end) never fell below \$34 billion. (This month-end low was reached on August 31, 2013.) The prepaid assessment was buttressed by the use of loss-sharing agreements to resolve most failed banks, and these agreements greatly reduced the Corporation's cash outflows. (Loss-sharing agreements are discussed in detail in chapter 6.)

Adjusting Risk-Based Assessments

Effective the second quarter of 2009, the FDIC made several major changes to risk-based pricing and also adjusted assessment rates to reflect these changes (see Table 5.A.2).²⁶

First, to make assessment rates more accurately reflect the risk that banks posed to the fund, the FDIC widened the range of assessment rates applicable to Risk Category I from a 2 basis point spread to a 4 basis point spread.

Second, the FDIC introduced three possible adjustments to a bank's assessment rate: the secured liability adjustment, the brokered deposit adjustment, and the unsecured debt adjustment.²⁷ These adjustments were intended to account both for liabilities that would increase the loss to the fund when a bank failed (secured liabilities and brokered deposits) and for liabilities that would reduce the loss (unsecured debt). The secured liability adjustment increased assessment rates for banks that held large amounts of

²⁶ 74 Fed. Reg. 9525 (Mar. 4, 2009).

²⁷ *Ibid.*

secured debt. When a bank fails, secured debt reduces the assets available to repay the FDIC for its outlays to protect insured deposits. At that time, however, secured debt was not part of the assessment base, so banks paid no more in assessments for issuing debt that would increase the DIF's losses if the bank were to fail.²⁸ The brokered deposit adjustment increased assessment rates for riskier banks that held large amounts of brokered deposits relative to their total domestic deposits, since brokered deposits tend to increase both a bank's probability of failure and the DIF's losses when a bank does fail.²⁹ (For the least risky banks, those in Risk Category I, the FDIC added a new ratio to the financial ratios used to determine assessment rates. The new ratio increased assessment rates for banks that used relatively large amounts of brokered deposits to fund rapid asset growth.)³⁰ The unsecured debt adjustment lowered assessment rates for banks with long-term, unsecured debt, since unsecured debt tends to reduce the DIF's losses when a bank fails.³¹

Finally, the FDIC revised the assessment methodology for large banks in Risk Category I so that assessment rates were based not only on CAMELS component ratings and long-term-debt issuer ratings (as they had been since the beginning of 2007), but also on the same financial ratios that applied to small banks. This change, like the other two, was meant to make assessment rates reflect risk more accurately, but had another purpose as well: to have rates respond to changing risk profiles sooner, since the methodology being replaced (using only CAMELS component ratings and long-term-debt issuer ratings) had often not fully reflected large banks' deteriorating conditions quickly enough.

²⁸ The secured liability adjustment was eliminated in 2011 when the assessment base was broadened to average consolidated total assets minus average tangible equity. The new assessment base encompasses all liabilities—including secured debt. The change in base is discussed in detail below in the section "Reallocating the Costs of Supporting the DIF between Small and Large Banks."

²⁹ As discussed below, beginning with the third quarter of 2016 the FDIC revised the treatment of brokered deposits in the risk-based pricing method applicable to an established small bank (generally, a bank with less than \$10 billion in total assets that has been federally insured for at least five years) so that holding large amounts of brokered deposits relative to assets can directly increase the assessment rate of any established small bank.

³⁰ The ratio applicable to Risk Category I banks excluded reciprocal deposits. Reciprocal deposits are deposits that a bank receives through a deposit placement network on a reciprocal basis, such that (1) for any deposit received, the institution (as agent for depositors) places the same amount with other banks through the network; and (2) each member of the network sets the interest rate to be paid on the entire amount of funds it places with other network members.

³¹ When an institution fails, holders of unsecured claims, including subordinated debt, do not receive distributions from the receivership estate unless and until all secured claims, administrative claims, and deposit claims have been paid in full. Consequently, greater amounts of long-term unsecured claims provide a cushion that can reduce the FDIC's loss in the event of failure.

Reforms to Fund Management and Risk-Based Pricing, 2010–2016

The Dodd-Frank Wall Street Reform and Consumer Protection Act, enacted on July 21, 2010, contained several provisions designed to strengthen the DIF. In the years since the law's enactment, the FDIC has drawn on the authorities in these provisions to develop a comprehensive, long-term fund management plan. In addition to provisions strengthening the DIF, Dodd-Frank also included provisions designed to reallocate the costs of supporting the fund between large and small banks, and these provisions, too, the FDIC has implemented.³² Finally, and independent of Dodd-Frank, the FDIC has updated its risk-based pricing methods for small and large banks, incorporating data and experience from the banking crisis to better estimate the risks that banks pose to the DIF.

Strengthening the DIF: The Long-Term Fund Management Plan

To strengthen the DIF, Dodd-Frank raised the minimum DRR from 1.15 percent to 1.35 percent and required that the reserve ratio reach this new minimum by September 30, 2020. Dodd-Frank also eliminated the upper limit on the reserve ratio (and therefore on the size of the fund), and it eliminated the requirement that the FDIC pay dividends to banks when the reserve ratio is between 1.35 and 1.50 percent. And when the reserve ratio exceeds 1.50 percent, the FDIC has sole discretion in determining whether to suspend or limit dividends.

The FDIC took advantage of Dodd-Frank's grant of greater authority to manage the fund by developing a comprehensive, long-term DIF management plan in 2010. The plan is designed to reduce procyclical volatility in the assessment system and keep assessment rates moderate and steady throughout economic and credit cycles, while also maintaining a positive fund balance even during a banking crisis. In developing the plan, the FDIC sought industry input and, in addition, undertook a historical analysis to determine the reserve ratio that would have been required to maintain both a positive balance and stable assessment rates from 1950 through 2010.

To get industry input, the FDIC organized a roundtable that was held September 24, 2010. At the roundtable, bank executives and industry trade group representatives uniformly favored steady, predictable assessments and objected to high assessment rates during crises.³³

Using historical DIF losses and simulated income data on DIF investments from 1950 through 2010, the analysis in the FDIC's historical study varied assessment rates and dividends paid from the DIF to banks to determine what would have happened to a simulated fund balance and reserve ratio during the same period. The study concluded that moderate, long-term industry average assessment rates, combined with

³² Pub. L. 111-203, 331-334, 124 Stat. 1376, 1539 (12 U.S.C. §§ 1813(y)(3), and 1817(a)(2)(B), (b)(1)(E), (b)(2), (b)(3)(B), (b)(3)(E)(ii) and (note)).

³³ 76 Fed. Reg. 79286 (Dec. 20, 2010). [76 Fed. Reg. 10672, 10,683 \(Feb. 25, 2011\)](#).

an appropriate dividend or an appropriate assessment rate reduction policy, would have sufficed to prevent the fund from becoming negative during the two banking crises that occurred during the 60-year period covered by the analysis—but only if the reserve ratio had exceeded 2.0 percent before the onset of each crisis.³⁴

To increase the probability that the reserve ratio would reach a level sufficient to withstand a future crisis, the FDIC Board set the DRR for 2011 at 2.0 percent, consistent with the FDIC's historical analysis.³⁵ The FDIC Board has voted annually since then to maintain the 2.0 percent DRR, viewing it as the minimum level needed to withstand future crises of the magnitude of past crises and as a long-term goal.

In another provision of the long-term DIF management plan and consistent with the authority granted under Dodd-Frank, the FDIC suspended dividends indefinitely (FDIRA had required that dividends be returned to the industry when the fund reserve ratio exceeds 1.5 percent). Instead, consistent with the historical analysis, the plan prescribed (and the FDIC Board adopted) assessment rates that become progressively lower when the reserve ratio exceeds 1.15, 2.0, and 2.5 percent (see Tables 5.A.4, 5.A.5, and 5.A.6).

In addition, consistent with Dodd-Frank's requirement that the reserve ratio reach the new minimum level of 1.35 percent by that date, the FDIC extended the termination of the restoration plan from the end of 2016 to September 30, 2020.³⁶

Reallocating the Costs of Supporting the DIF between Small and Large Banks

Other provisions of Dodd-Frank, as noted above, aimed to reallocate the costs of supporting the deposit insurance fund between small and large banks. The reallocation required the FDIC to amend its regulations in two ways.

First, seeking to ensure that, in the aggregate, large and small banks' shares of assessments were proportionate to their shares of industry assets, Dodd-Frank required the FDIC to amend its regulations to redefine the assessment base by broadening it from domestic deposits to average consolidated total assets minus average tangible equity. Since a bank's assessment is the product of its assessment rate and its assessment base, changing the assessment base changes a bank's assessment, all else equal. The new assessment base became effective April 1, 2011.³⁷ The rule also adjusted risk-based rates

³⁴ 75 Fed. Reg. 66272 (Oct. 27, 2010); 76 Fed. Reg. 79286 (Dec. 20, 2010); 76 Fed. Reg. 10672, 10674 (Feb. 25, 2011). For more on the historical analysis, see Lee K. Davison and Ashley M. Carreon, "Toward a Long-Term Strategy for Deposit Insurance Fund Management," *FDIC Quarterly* 4, no. 4 (2010), https://www.fdic.gov/bank/analytical/quarterly/2010_vol4_4/FDIC_Quarterly_v4n4_FundMgmt_121610.pdf.

³⁵ 75 Fed. Reg. 79286 (Dec. 20, 2010).

³⁶ 75 Fed. Reg. 66293 (Oct. 27, 2010). Given the continuing stresses on the earnings of insured depository institutions and the additional time allowed for reaching the minimum reserve ratio, the FDIC decided to forego the uniform 3 basis point increase in initial assessment rates that, pursuant to the amended plan adopted in September 2009, had been scheduled to take effect on January 1, 2011.

³⁷ 76 Fed. Reg. 10672 (Feb. 28, 2011). As permitted by statute, the assessment base for banker's banks and custodial banks is subject to reductions not applicable to other banks. The rule also eliminated the secured

to raise approximately the same aggregate amount of revenue on the new assessment base as would have been raised on the old base. (See Table 5.A.3.) While aggregate assessments remained unchanged, the proportion of total industry assessments paid by small banks decreased and the proportion paid by large banks increased, consistent with congressional intent. Before the change in the assessment base, banks with less than \$10 billion in assets held approximately 20 percent of industry assets, yet paid approximately 30 percent of total assessments; after the change, small banks paid approximately 20 percent of total assessments, consistent with their share of industry assets.

Second, when Dodd-Frank raised the minimum reserve ratio from 1.15 percent to 1.35 percent and required that the reserve ratio reach this new minimum by September 30, 2020, it also directed the FDIC, when setting assessments, to offset the effect on small banks of the increase in the minimum reserve ratio. Therefore, to raise the reserve ratio to 1.35 percent by the statutory deadline and offset the effect of the increase on small banks, the FDIC approved a final rule in March 2016 imposing quarterly surcharges on large banks.³⁸ Surcharges began in the third quarter of 2016 (the quarter after the reserve ratio exceeded the previous minimum target of 1.15 percent) and will last until the quarter in which the reserve ratio reaches or exceeds 1.35 percent. The surcharges will not, however, extend past December 31, 2018. If the reserve ratio has not reached 1.35 percent by that date, banks with \$10 billion or more in assets will be assessed a shortfall assessment on March 31, 2019. In addition, small banks will receive assessment credits for the portion of their regular assessments that contributed to growth in the reserve ratio between 1.15 percent and 1.35 percent. When the reserve ratio is 1.38 percent or higher, the FDIC will apply these credits to offset small banks' regular quarterly assessments.

Updating Risk-Based Pricing Using Data and Experience from the Crisis

Independent of Dodd-Frank, the FDIC has revised its pricing methodologies for both small and large banks, including highly complex banks.³⁹ Before the revisions, pricing methodologies had relied on data from the previous banking crisis (the bank and thrift crisis of the late 1980s and early 1990s). The large number of failures during the recent banking crisis gave the FDIC a wealth of new data on the characteristics of banks that failed. With the new data and fresh experience, the Corporation was able to update its pricing methodologies to better estimate the risks that banks pose to the DIF.

liability adjustment (secured debt was included in the new assessment base and an adjustment was no longer necessary).

³⁸ 81 Fed. Reg. 32180 (May 20, 2016). The surcharges equal an annual rate of 4.5 basis points; they are applied to a large bank's assessment base that has certain adjustments made to it. The base for the surcharge is the bank's regular assessment base reduced by \$10 billion, and adjusted for affiliated banks.

³⁹ 76 Fed. Reg. 10672 (Feb. 28, 2011). Generally, a highly complex bank is defined as (a) a large bank with at least \$50 billion of total assets that is controlled by a U.S. parent with at least \$500 billion in assets, or (b) a processing bank or a trust company with fiduciary assets of at least \$500 billion. 12 CFR § 327.8(g).

Large Banks and Highly Complex Institutions

The final rule that revised the assessment base effective April 1, 2011, also revised the pricing methodology for large banks and highly complex institutions.⁴⁰ The changes made to the large-bank methodology were meant to do three things: (1) capture risk closer to the time a bank assumes the risk, (2) better differentiate risks posed by banks during good economic and banking conditions based on how the banks would fare during periods of stress or economic downturn, and (3) account more accurately for the losses the FDIC might incur if a large bank fails.

Under the revised large-bank pricing methodology, the FDIC uses two scorecards, one for the majority of large banks and a second for highly complex institutions. Both scorecards use banks' CAMELS component ratings and financial measures to determine a performance score and a loss severity score. Together, these scores predict the performance of banks during periods of stress and are used to determine a bank's assessment rate.⁴¹ (See Tables 5.A.3 and 5.A.4.) The two scorecards are similar, but the scorecard for highly complex institutions uses some financial measures intended to reflect the more complex activities of these institutions. Risk categories were eliminated in the revised large-bank pricing methodology.⁴² To compare the revised methodology with the one it replaced, the FDIC analyzed how well the new measures would have predicted a rank ordering of large banks based on the risk they posed as of the end of 2009. (The rank ordering was based on an expert valuation of relative risk by the FDIC.) The FDIC found that the measures in the revised methodology would have performed significantly better than the method it replaced.

Established Small Institutions

A revised pricing methodology for established small banks became effective in the third quarter of 2016, which was the same quarter that lower assessment rates adopted by the FDIC Board in 2011 went into effect and also the quarter after the reserve ratio first

⁴⁰ In this rulemaking, the FDIC also created a depository institution debt adjustment (DIDA). The DIDA increases a bank's assessment rate when the bank holds long-term unsecured debt issued by another insured depository institution.

⁴¹ Some of the definitions used in the large-bank and highly complex institution pricing methodologies were amended in 2012 and 2014. The 2014 revisions also contained other changes to assessment rules applicable to large and small banks; these changes were designed to conform to regulatory changes in capital rules adopted pursuant to Basel III (an international set of capital standards that are implemented by domestic banking regulators). See 77 Fed. Reg. 66000 (Oct. 31, 2012) and 79 Fed. Reg. 70427 (Nov. 26, 2014).

⁴² In addition, long-term-debt-issuer ratings were no longer used. Dodd-Frank explicitly required all federal agencies to review and modify regulations in order to remove reliance on credit ratings and substitute an alternative standard of creditworthiness. Pub. L. 111-203, § 939A, 124 Stat. 1376, 1886 (codified at 15 U.S.C. 78o-7 note). Even before Dodd-Frank was enacted, however, the FDIC had proposed removing long-term-debt issuer ratings from its assessment calculations. 75 Fed. Reg. 23516, 23517 (May 3, 2010).

returned to 1.15 percent.⁴³ (See Table 5.A.4.) (An established small bank is generally defined as a bank that has been federally insured for at least five years and has less than \$10 billion in total assets.)⁴⁴ The new methodology draws on data from the two most recent banking crises and the years between them. The underlying model uses financial ratios and CAMELS component ratings to estimate the probability of failure over three years. The new methodology uses the results of the underlying model to determine assessment rates, and uses CAMELS composite ratings (rather than risk categories, as in the methodology being replaced) to place limits on the assessment rates that banks can be charged. The FDIC's backtesting revealed that the new methodology would have differentiated between banks that later failed and those that did not better than the methodology being replaced, and would have differentiated significantly better both immediately before and at the beginning of the crisis.

The change in the pricing methodology for established small institutions was designed to be revenue neutral (that is, to raise approximately the same aggregate amount of revenue from small banks as would have been collected under the pricing methodology it replaced).

Conclusion

When the banking crisis began in 2008, the FDIC's deposit insurance fund lacked sufficient capital to withstand the losses that stemmed from that crisis. Although legislative reforms in 2006 had given the FDIC somewhat greater authority than it had had for the previous decade to manage the fund and to price for risk, the reforms came too late to allow the Corporation to build up the DIF before the crisis struck.

Dodd-Frank in 2010 gave the FDIC more authority to manage the DIF and to price deposit insurance for risk than the Corporation ever had, and the FDIC has used this authority to substantially revise its approach both to fund management and to risk-based pricing. The FDIC has developed a comprehensive, long-term DIF management plan designed to reduce procyclical volatility in the assessment system and keep assessment rates moderate and steady throughout economic and credit cycles, while also maintaining a positive fund balance even during a banking crisis. Based on a historical analysis of fund losses over a 60-year period, the FDIC has set a long-term fund reserve ratio target of 2.0 percent, since that level, combined with steady assessment rates, would have sufficed to prevent the fund from becoming negative during the last two banking crises. The FDIC also relied on this analysis to adopt moderate overall assessment rates that are intended to remain in place even during a downturn.

⁴³ 81 Fed. Reg. 16059 (Mar. 25, 2016).

⁴⁴ 12 CFR § 327.8(e), (k).

Using statistical techniques, the FDIC has also incorporated large amounts of failure data from the recent banking crisis into its risk-based pricing methodologies for small banks and for large and highly complex banks. These new methodologies are able to better distinguish between banks that are likely to survive a downturn and those that are not, consistent with the goals of a risk-based pricing system.

Appendix

Evolution of the Assessment Rate Schedules, Q1 2009 to Present

To calculate a bank's quarterly deposit insurance assessment, the bank's assessment rate is multiplied by its assessment base. All rates below are annual and are in basis points, which are cents per \$100 of the assessment base.

Table 5.A.1. Assessment Rate Schedule, Q1 2009

	Risk Category ^a			
	I	II	III	IV
Base Assessment Rate	12 to 14	17	35	50

Note: Assessment base is approximately equal to domestic deposits.

^a Risk Category I comprises banks that pose the least risk, and each successively higher risk category comprises banks that pose increasingly higher risk.

Table 5.A.2. Assessment Rate Schedule, Q2 2009 – Q1 2011

	Risk Category ^a			
	I	II	III	IV
Initial Base Assessment Rate	12 to 16	22	32	45
Unsecured Debt Adjustment	-5 to 0	-5 to 0	-5 to 0	-5 to 0
Secured Debt Adjustment	0 to 8	0 to 11	0 to 16	0 to 22.5
Brokered Deposit Adjustment	N/A	0 to 10	0 to 10	0 to 10
Total Base Assessment Rate	7 to 24	17 to 43	27 to 58	40 to 77.5

Note: Assessment base is approximately equal to domestic deposits.

^a Risk Category I comprises banks that pose the least risk, and each successively higher risk category comprises banks that pose increasingly higher risk.

Table 5.A.3. Assessment Rate Schedule, Q2 2011 – Q2 2016

	Small-Bank Risk Category ^a				Large & Highly Complex Institutions
	I	II	III	IV	
Initial Base Assessment Rate	5 to 9	14	23	35	5 to 35
Unsecured Debt Adjustment ^b	-4.5 to 0	-5 to 0	-5 to 0	-5 to 0	-5 to 0
Brokered Deposit Adjustment	N/A	0 to 10	0 to 10	0 to 10	0 to 10
Total Base Assessment Rate ^c	2.5 to 9	9 to 24	18 to 33	30 to 45	2.5 to 45

Note: Assessment base equals average consolidated total assets minus average tangible equity, with additional reductions for custodial banks and banker's banks.

^a Risk Category I comprises banks that pose the least risk, and each successively higher risk category comprises banks that pose increasingly higher risk.

^b The unsecured debt adjustment cannot exceed the lesser of 5 basis points or 50 percent of an insured institution's initial base assessment rate; thus, for example, an insured depository institution with an initial base assessment rate of 5 basis points will have a maximum unsecured debt adjustment of 2.5 basis points and cannot have a total base assessment rate lower than 2.5 basis points.

^c Total base assessment rates do not include the depository institution debt adjustment.

Table 5.A.4. Assessment Rate Schedule, Q3 2016 to Present

(After the reserve ratio reaches 1.15 percent but is less than 2.0 percent)

	Established Small Banks			Large & Highly Complex Institutions
	CAMELS Composite			
	1 or 2	3	4 or 5	
Initial Base Assessment Rate	3 to 16	6 to 30	16 to 30	3 to 30
Unsecured Debt Adjustment ^a	-5 to 0	-5 to 0	-5 to 0	-5 to 0
Brokered Deposit Adjustment	N/A	N/A	N/A	0 to 10
Total Base Assessment Rate ^b	1.5 to 16	3 to 30	11 to 30	1.5 to 40

Note: Assessment base equals average consolidated total assets minus average tangible equity, with additional reductions for custodial banks and banker's banks.

^a The unsecured debt adjustment cannot exceed the lesser of 5 basis points or 50 percent of an insured institution's initial base assessment rate; thus, for example, an insured depository institution with an initial base assessment rate of 3 basis points will have a maximum unsecured debt adjustment of 1.5 basis points and cannot have a total base assessment rate lower than 1.5 basis points.

^b Total base assessment rates do not include the depository institution debt adjustment.

Table 5.A.5. Assessment Rate Schedule

(After the reserve ratio reaches 2.0 percent but is less than 2.5 percent)

	Established Small Banks			Large & Highly Complex Institutions
	CAMELS Composite			
	1 or 2	3	4 or 5	
Initial Base Assessment Rate	2 to 14	5 to 28	14 to 28	2 to 28
Unsecured Debt Adjustment ^a	-5 to 0	-5 to 0	-5 to 0	-5 to 0
Brokered Deposit Adjustment	N/A	N/A	N/A	0 to 10
Total Base Assessment Rate ^b	1 to 14	2.5 to 28	9 to 28	1 to 38

Note: Assessment base equals average consolidated total assets minus average tangible equity, with additional reductions for custodial banks and banker's banks.

^a The unsecured debt adjustment cannot exceed the lesser of 5 basis points or 50 percent of an insured institution's initial base assessment rate; thus, for example, an insured depository institution with an initial base assessment rate of 2 basis points will have a maximum unsecured debt adjustment of 1 basis point and cannot have a total base assessment rate lower than 1 basis point.

^b Total base assessment rates do not include the depository institution debt adjustment.

Table 5.A.6. Assessment Rate Schedule
(After the reserve ratio reaches 2.5 percent)

	Established Small Banks			Large & Highly Complex Institutions
	CAMELS Composite			
	1 or 2	3	4 or 5	
Initial Base Assessment Rate	1 to 13	4 to 25	13 to 25	1 to 25
Unsecured Debt Adjustment ^a	-5 to 0	-5 to 0	-5 to 0	-5 to 0
Brokered Deposit Adjustment	N/A	N/A	N/A	0 to 10
Total Base Assessment Rate ^b	0.5 to 13	2 to 25	8 to 25	0.5 to 35

Note. Assessment base equals average consolidated total assets minus average tangible equity, with additional reductions for custodial banks and banker’s banks.

^a The unsecured debt adjustment cannot exceed the lesser of 5 basis points or 50 percent of an insured institution’s initial base assessment rate; thus, for example, an insured depository institution with an initial base assessment rate of 1 basis point will have a maximum unsecured debt adjustment of 0.5 basis points and cannot have a total base assessment rate lower than 0.5 basis points.

^b Total base assessment rates do not include the depository debt adjustment.

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6

Bank Resolutions and Receiverships

One important way that the FDIC fulfills its mission “to maintain stability and public confidence in the nation’s financial system” is by carrying out all the tasks that are triggered by the closure of failed FDIC-insured depository institutions, including the liquidation of the assets held by the failed banks.¹ The FDIC learned important lessons from its experience during the bank and thrift crisis of the 1980s and early 1990s, which generated an enormous volume of failed-bank assets. Many of these assets were retained and managed by the FDIC, and this proved to be operationally complex as well as costly. As a result, after the first crisis ended, the FDIC adopted a resolution strategy² that centered on selling assets back into the marketplace promptly, either at the time of failure or shortly thereafter. In the recent crisis, this strategy had the collateral benefit of conserving cash for the FDIC, a benefit that proved to be important as events unfolded (see chapter 5).

The nature of the 2008–2013 crisis, including both its size and the speed of the upsurge in bank failures, made it challenging for the FDIC to sell failed banks and their assets, and it required creativity and adaptability to design sales-contract features that would attract buyers. Early on, as the crisis intensified and the appetite for purchasing failed institutions dwindled in the marketplace, the FDIC responded by including an option to share credit losses with acquirers as a feature of its failed-bank offerings.³ This proved to be quite helpful. As market conditions evolved during the crisis, the FDIC responded by modifying the contract terms in loss-sharing agreements and adjusting its other asset sales strategies.

The next section of this chapter provides background information: the definitions of the terms “resolutions” and “receiverships” and a summary of the FDIC’s responsibilities for resolutions and receiverships; an account of the FDIC’s past strategy with respect to those responsibilities; and an overview of the FDIC’s readiness planning in the years preceding the outbreak of the recent crisis. The background information is followed by an account

¹ For the FDIC’s mission, vision and values, see <https://www.fdic.gov/about/strategic/strategic/mission.html>. Throughout the chapter, the term “banks” refers to all FDIC-insured depository institutions.

² Key terms, such as resolution and receivership, are defined below.

³ Loss sharing is a sales method where the FDIC sells assets to an acquirer and agrees to pay the acquirer for a pre-specified percentage of the future losses on selected failed-bank assets to make the sale more attractive. For additional discussion, see the section titled “Loss-Share Purchase and Assumption.”

of the dimensions of the crisis the FDIC had to face in 2008. This is followed by two sections on the main task of resolutions (the main task is the marketing of failed-bank franchises to potential acquirers) and then by two sections on receiverships (whose main task is managing and selling the assets that were not acquired at resolution). In each of those two subject areas, the first section presents general considerations, preparing the way for the second section, which is a narrative and analysis of the decisions the FDIC made in fulfilling its resolution and receivership responsibilities during the 2008–2013 crisis. The chapter ends with a listing and discussion of lessons learned, areas for future research and a short conclusion.

Background: Definitions and Responsibilities, Past Strategy, and Readiness Planning

The background necessary to an understanding of resolution and receivership activity during the 2008–2013 crisis covers three areas: basic definitions of terms and responsibilities; strategies the FDIC used during and after the previous crisis (1980–1994); and the readiness planning that the FDIC engaged in during the period between the two crises, when failure activity was minimal.

Definitions and Summary of FDIC Responsibilities

When a bank fails, a receivership is established at the moment the bank is closed. Similar to bankruptcy proceedings for companies other than banks,⁴ a receivership is the legal entity where all the affairs of the failed bank are handled. The receivership does not end until *all* the bank's assets are sold and *all* the claims against the bank are addressed. The term "resolution" is used in multiple ways: often it refers just to the initial phase of the receivership, but it is also used for the entire receivership process. In the second sense, therefore, a bank is not truly resolved until the receivership itself is terminated. In this chapter, however, "resolution" is used in the first sense: the initial phase of the receivership.

Resolving a failed bank takes place on a date that is established, within statutory bounds, through consultation between the bank's chartering authority and the FDIC.⁵

⁴ For a discussion of the similarities and differences between the receiverships used by the FDIC to resolve failed banks and bankruptcy proceedings used for nonbank firms, see Robert R. Bliss and George G. Kaufman, "U.S. Corporate and Bank Insolvency Regimes: An Economic Comparison and Evaluation," Federal Reserve Bank of Chicago Working Paper, 2006.

⁵ Generally, banks must be closed within 90 days after becoming critically undercapitalized. See 12 U.S.C. § 1831(o)(h)(3)(A). If a state chartering authority is unable or unwilling to close a failing bank, then the FDIC or, for members of the Federal Reserve System, the Federal Reserve Board can use its authority to close the bank and appoint the FDIC as receiver. See 12 U.S.C. §§ 1821(c) (4) and (9). The FDIC used this authority to close a state-chartered bank only once during the 2008–2013 crisis, and the Federal Reserve Board also used it only once.

On the date the bank fails, these steps are taken in this order: the chartering authority revokes the bank's charter, closes the bank, and appoints the FDIC as receiver;⁶ the entire failed bank is placed into receivership; and if the FDIC—in preparing for the resolution—has succeeded in finding an acquirer for some or all of the failed bank's assets or liabilities or both, those assets and liabilities are removed from the receivership and transferred to the acquirer.⁷ The date when these events occur is called the resolution date, and it is the culmination of a process that has involved much preparation.⁸ One major focus of the preparation—the FDIC's attempt to find a buyer for some or all of the failing bank's assets and liabilities—is called franchise marketing.⁹

But franchise marketing, important as it is, is just the first step in the receivership process that winds up the affairs of failed banks, for after the resolution date, the FDIC's responsibilities as receiver continue.¹⁰ The FDIC must service and sell the assets the acquirer does not buy; take care of the necessary bookkeeping, accounting, and reporting; identify and verify all claims, determine who should get what amount of money, and pay claims as funds become available; decide whether to sue anyone for actions that contributed to the failure (and follow through if advisable); monitor any ongoing agreements with acquirers or the purchasers of assets; and so forth. The receivership is terminated only when all the bank's assets and liabilities have been sold or liquidated or transferred or have otherwise passed beyond the FDIC's responsibility to care for them.¹¹

The activities of marketing a failed bank's franchise and managing a receivership are distinct from each other but are also closely related. Of the two activities, franchise

⁶ Theoretically, state chartering authorities could appoint an entity other than the FDIC. In practice, this is rare and it did not occur during the 2008–2013 crisis.

⁷ A lengthy settlement process occurs later to address all the details and matters that are discovered subsequently. Note that the FDIC can also separate the last step of this process (the sale to an acquirer) from the preceding steps of the resolution process. In that case, the bank fails on that date, but resolution occurs later. This option, which does not occur often, is described in the introduction to the section titled “Franchise Marketing: The Bidding Process and Resolution Options.”

⁸ Not until that date, however, will anything have been set in stone. Sometimes a failing bank manages to figure out a way to survive, and its planned closing does not occur. Also, note that in some cases banks must be closed with very little preparation, usually because of fraud or liquidity problems (liquidity problems occur when the bank lacks the cash needed to pay depositors or other creditors).

⁹ Franchise marketing is the process of packaging, marketing, and selling the operating units of an insured depository institution. In cases where the operating value of the institution exceeds the liquidation value, franchise marketing attempts to retain the incremental value of the operating units of the failing institution and allow its viable operations to continue functioning after the failure.

¹⁰ See FDIC, *Resolutions Handbook* (2014), https://www.fdic.gov/bank/historical/reshandbook/resolutions_handbook.pdf, for a more complete description of the FDIC's responsibilities and tasks associated with resolving failed banks.

¹¹ To facilitate the conclusion of receiverships, the FDIC, in its corporate capacity, may purchase and assume de minimis amounts of receivership assets and liabilities.

marketing has a much bigger effect on the FDIC's cost,¹² on the cash requirements of the Deposit Insurance Fund (DIF), and on the potential harm that bank failures may do to local economies. And franchise marketing shapes many of the receivership management activities, from the resolution date through termination of the receivership. For example, if the acquirer assumes only the insured deposits, the FDIC must determine the insurance status for each depositor and must then pay the uninsured depositors to the extent that funds become available. Compared with franchise marketing, however, the receivership management process involves a wider range of activities and requires substantially more staff and operational resources.

Although there are unique aspects to each activity, there are also some commonalities. Perhaps the strongest commonalities have to do with the sales process in the two activities. Franchise marketing involves the selling of part or all of a bank, and receivership sales involve the selling of retained assets. Table 6.1 compares these two activities. The FDIC's decisions regarding each of the two key areas reflect both the similar and the dissimilar considerations. For both activities, minimizing costs is a major goal, and that goal must be considered in light of market realities and the natural trade-off between risk and return for assets.

Table 6.1. Comparison of Franchise Sales and Retained Asset Sales

Sale Process Characteristic	Franchise Sale	Retained Asset Sales
Risk/return trade-offs and other market dynamics	The same for both	
Number of possible sale methods	Relatively few	Many
Effects on DIF, FDIC cash flow, FDIC operational capacity	Very large	Present but smaller
Effects on deposits and depositors	Yes	No
Potential effects on local (and sometimes regional or national) economy	Larger	Smaller
Number of potential buyers	Smaller ^a	Larger
Flexibility on timing	No. Sale must be arranged quickly.	Yes
Statutory constraints	A mix of general and specific requirements	Only general requirements

^a Theoretically, companies other than banks could purchase assets (but not deposits). There are, however, significant challenges to marketing to companies other than banks, especially the short time frame available for marketing. The limited marketing time frame is discussed briefly in the section titled "The Bidding Process." To date, only FDIC-insured banks that meet several qualifying criteria, or investors that meet the criteria necessary to open a bank and are vetted ahead of time, have been permitted to bid.

¹² Note, however, that the FDIC's losses are influenced more by the bank's condition and the quality of its assets than by the franchise marketing process or the receivership activities. If there is no acquirer, or if the acquirer purchases only a few assets, then the receivership activities have a stronger influence on costs than franchise marketing does.

Past Strategy

The FDIC's strategies for handling its resolution and receivership responsibilities in the 2008–2013 crisis were shaped by its experiences managing the crisis of the 1980s and early 1990s. During those years, the FDIC managed more than 1,600 bank failures and it also initially managed the Resolution Trust Corporation (RTC), which resolved nearly 750 thrift failures after its creation in 1989.¹³ In particular, that crisis generated an enormous volume of failed-bank assets. The FDIC retained and managed a large share of the assets and found the experience to be both costly and operationally complex. As a result, in the years after that earlier crisis, the FDIC adopted a resolution strategy that focused on selling the assets back into the private sector promptly, either at resolution or shortly thereafter.

This strategy was chosen because for senior FDIC staff, an important lesson of the 1980–1994 crisis was that prompt sales of failed-bank assets were advantageous to the FDIC, for four reasons. First, in the early years of the RTC, and to a lesser extent at the FDIC during the 1980s, there was an increasingly large inventory of assets—especially troubled assets—in receiverships. With such a large build-up of assets that eventually would be sold (also known as an “asset overhang”), private investors were concerned that the eventual sale of these assets might harm future asset prices; thus they were less willing to purchase the assets.¹⁴ Senior management believed that, by selling failed banks and failed-bank assets through mechanisms like loss-share agreements into the market at whatever terms the market would bear, the sales would establish market prices, which in turn would foster the recovery of asset markets by providing transparent market prices to other market participants. Second, prompt sales helped reduce asset inventories and thus reduced

¹³ The RTC was a temporary government agency charged with resolving failed thrifts from August 1989 through year-end 1995. The FDIC's role in the management of the RTC changed over time. From the inception of the RTC through the passage of the RTC Refinancing, Restructuring and Improvement Act in December 1991, the FDIC was the exclusive manager. The FDIC had a lesser role in the management of the RTC after that, but the FDIC Chairman continued to serve in an oversight role. In addition, the RTC Completion Act of 1993, passed in December 1993, required that the FDIC and the RTC create a task force to support the transition of the outstanding RTC tasks to the FDIC; it identified and analyzed differences in business practices and made recommendations about RTC practices that should be adopted by the FDIC. See FDIC, “Final Report on the FDIC/RTC Transition” Submitted to the Committee on Banking and Financial Services, U.S. House of Representatives and the Committee on Banking, Housing and Urban Affairs, U.S. Senate, December 29, 1995. Lastly, the remaining workload and the RTC employees were absorbed by the FDIC when the RTC was terminated at the end of 1995. For additional discussion on the FDIC authority, see Lee K. Davison, “The Resolution Trust Corporation and Congress, 1989–1993: Part I,” *FDIC Banking Review* 18, no. 2 (2006): 38–60 and Lee K. Davison, “The Resolution Trust Corporation and Congress, 1989–1993: Part II,” *FDIC Banking Review* 18, no. 3 (2006): 1–30. For information about the FDIC and RTC resolution and receivership activity during this period, see FDIC, *Managing the Crisis: The FDIC and RTC Experience* (1998), <https://www.fdic.gov/bank/historical/managing>, and RTC, *RTC Statistical Abstract* (1995).

¹⁴ For additional discussion of asset overhangs, see Jeffrey D. Sachs, “Conditionality, Debt Relief, and the Developing Country Debt Crisis,” in *Developing Country Debt and Economic Performance*, ed. Jeffrey D. Sachs, vol. 1, *The International Financial System* (1989), 255–96; Kent Cherny and O. Emre Ergunor, “Effective Practices in Crisis Resolution and the Case of Sweden,” *Economic Commentary* (February 2009): 1–4; and FDIC, *Resolutions Handbook* (1998).

receivership expenses. Third, removing the FDIC as the primary custodian of a large volume of banking assets is operationally simpler for the Corporation, requiring a smaller infrastructure and reducing the potential political pressures that the asset management function may elicit.¹⁵ Fourth, this strategy conserved the FDIC's cash (a consideration that was important after the 2008–2013 crisis broke, as described in chapter 5).

A second lesson learned from the crisis of 1980 through 1994 was to avoid hiring permanent staff to do temporary work. After that crisis ended, the process of downsizing the permanent resolution and receivership staff that had been hired in the 1980s was lengthy, disruptive, hard to manage, and harmful to employee morale.¹⁶

Staffing was reduced during the period between 1994 and 2008, when bank failures were rare and the need for resolution activities at the FDIC was limited. Seeking to be a responsible steward of the DIF, the FDIC controlled its operating expenses to reflect its reduced workload. It sought to achieve a balance between maintaining readiness for a future economic downturn, on the one hand, and minimizing costs (by maintaining a smaller staff and a slimmer infrastructure during a period of few failures), on the other hand. By reducing the number of employees, the FDIC recognized the risk that it might be initially understaffed if a large number of institutions failed during a short period, but it accepted this risk because the probability of such an event seemed remote.

Readiness Planning

Nevertheless, the FDIC remained aware that a potential banking crisis always lay on the horizon, however distant. Starting in 1999, in response to increasing concentration in the banking industry, the FDIC took several actions that focused on readiness for large-bank failures. Starting in the early 2000s, in response to its shrinking resolutions workload and staff, the FDIC began focusing on resolution readiness planning more generally, taking several initiatives to improve its readiness for an increasing volume of failures.

The actions that focused on readiness for large-bank failures included (a) analyzing numerous topics related to large-bank failures in order to become more familiar with the problems that could arise; (b) becoming familiar with relevant statutes and regulations to identify changes needed to improve the Corporation's readiness; (c) identifying the likely operating challenges and potential responses to them; and (d) conducting simulation exercises where staff attempted to respond to scenarios involving hypothetical large-bank failures. To ensure strong communication with other banking regulators and a common understanding of the related issues, the FDIC discussed its findings with other regulators, and in some cases included other regulators in the simulation exercises. These exercises

¹⁵ For example, during the 1980–1994 crisis, the FDIC received complaints or requests for more generous treatment of borrowers. For additional discussion, see L. William Seidman, *Full Faith and Credit: The Great S&L Debacle and Other Washington Sagas* (1993); and FDIC, *Resolutions Handbook* (1998).

¹⁶ For additional discussion, see John F. Bovenzi, *Inside the FDIC: Thirty Years of Bank Failures, Bailouts, and Regulatory Battles* (2015).

led the FDIC to promulgate several regulations that would improve its readiness for large-bank failures: the new regulations clarified the standing of bank creditors in the event of failure;¹⁷ increased the Corporation's capacity to provide insured depositors with prompt access to their funds after failure;¹⁸ and increased the Corporation's capacity to quickly acquire critical information on qualified financial contracts.¹⁹ The exercises also led to improvements in the Corporation's processes for management reporting and for determining the insurance status of deposit accounts.

Among the initiatives that focused on readiness for a large volume of failures was the Corporate Employee Program (CEP), whose purpose was to train both new and experienced FDIC employees in a variety of functions within the organization, with the goal of creating a flexible workforce that could be redistributed depending on economic conditions and levels of resolution activity. If a significant increase in resolution activity occurred, the Division of Resolutions and Receiverships (DRR) would have first priority in using employees trained under the CEP.²⁰ A second initiative, taken in 2005, was to sign a Memorandum of Understanding with the federal government's Office of Personnel Management that authorized the FDIC, during crisis periods, to waive certain restrictions on rehiring retirees.

The events in the fall of 2008, however, were more severe than the FDIC's planning efforts had envisioned, and—of particular importance—unfolded more quickly than envisioned.

The Dimensions of the Banking Crisis of 2008–2013

After more than a decade of modest failure activity and no failures at all from mid-2004 to February 2007, the banking industry was gripped by crisis from 2008 through 2013. During those years, 489 banks were closed and the FDIC, the Treasury, and the Federal Reserve used systemic risk exceptions to mitigate the serious adverse effects associated with the potential failure of a few large, systemically important banks (see chapter 3).²¹ The

¹⁷ 12 C.F.R. § 360.8. See also 74 Fed. Reg. 5797–5807 (Feb. 2, 2009). Most, but not all, of this rule addressed processing complexities associated with sweep accounts. This clarification provided certainty to banks and creditors about how these accounts would be treated if a bank failed.

¹⁸ The complexity of the FDIC's deposit insurance rules can make it hard for the Corporation simultaneously to provide quick access to insured funds and deny immediate access to uninsured funds. See 12 C.F.R. § 360.9. See also 73 Fed. Reg. 41180–41211 (Jul. 17, 2008).

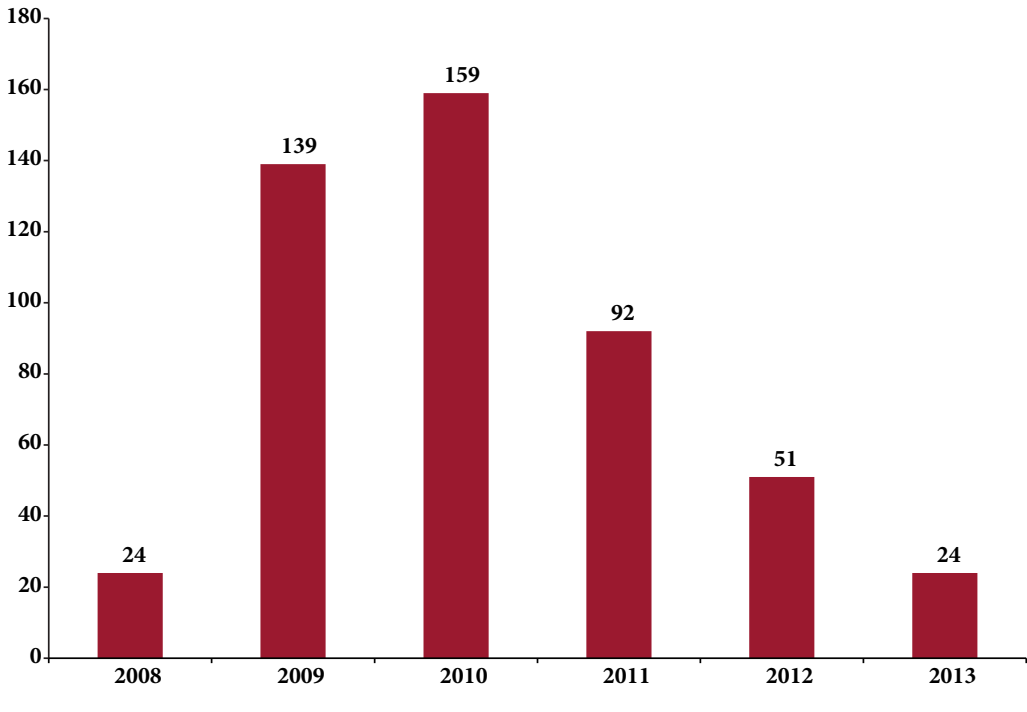
¹⁹ A qualified financial contract is a financial instrument that qualifies for special treatment if a bank fails. See 12 C.F.R. § 360.5 for a detailed definition. See 12 C.F.R. pt. 371 for the rule made to improve the FDIC's access to information. See also 73 Fed. Reg. 78162–78173 (Dec. 22, 2008).

²⁰ For additional discussion, see U.S. Government Accountability Office, "Human Capital and Risk Assessment Programs Report," GAO-07-255, 2007.

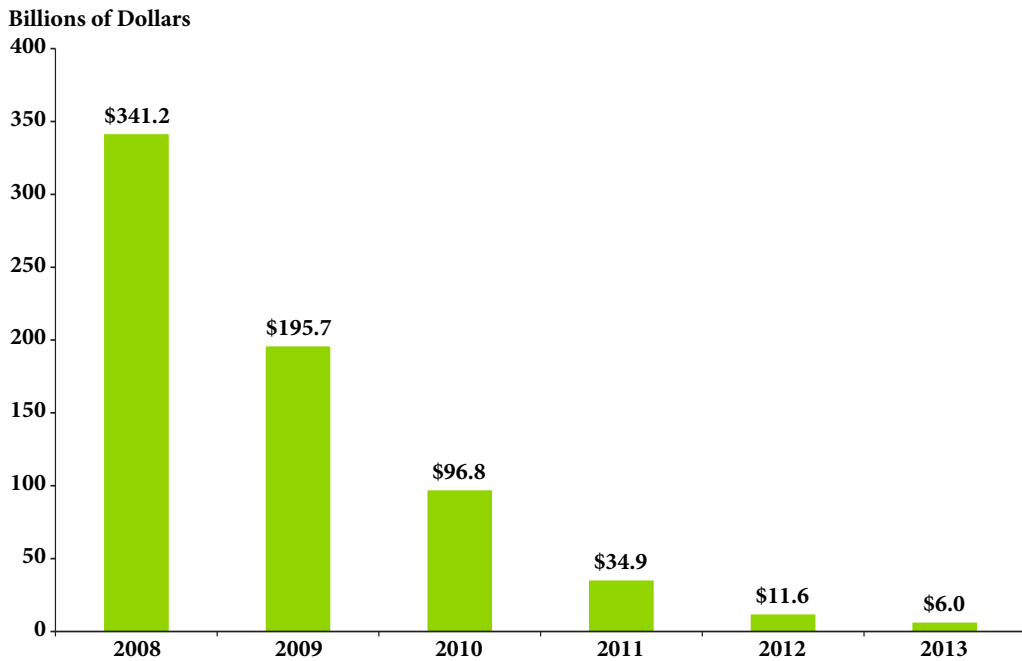
²¹ For details about the origins of the global financial crisis that erupted in 2007, see chapter 1.

489 failed banks held \$686 billion in assets and, according to the most recent estimates, cost the FDIC \$72.5 billion to resolve. Although in the first year of the crisis (2008) only 24 banks were resolved, one of them was IndyMac, a large California thrift that failed suddenly on July 8 and proved to be the most expensive failure in FDIC history (that is, at a cost of \$12.4 billion, it cost the FDIC the most to resolve); and another of the 2008 failures was Washington Mutual, the largest thrift (and the sixth-largest FDIC-insured institution) in the country at the time, which failed on September 25 and, with \$307 billion in assets, was the largest bank failure in the history of the FDIC. In the years following 2008, the dollar amount of failed-bank assets declined but the number of resolutions increased, going to 139 in 2009 and peaking at 159 in 2010. Figure 6.1 provides the number of bank resolutions by year, and Figure 6.2 provides failed-bank assets by year of resolution. (Note that, for a few banks, the resolution occurred sometime after the bank failed.)²²

Figure 6.1. Number of FDIC Bank Resolutions by Year



²² In these cases, a bridge bank was formed when the bank failed. (Bridge banks are explained in note 24 and in the associated text.) As shown in table 4.1 (in chapter 4), the number of failures matched the number of resolutions from 2011 through 2013. There were 25 failures but 24 resolutions in 2008, 140 failures but 139 resolutions in 2009, and 157 failures but 159 resolutions in 2010. IndyMac failed in 2008 and was resolved in 2009. Silverton Bank and Independent Banker’s Bank failed in 2009 and were resolved in 2010.

Figure 6.2. Total Assets of Failed Banks by Year of Resolution

Note: Assets are as of the quarter before failure.

Five of the seven largest banks that failed between 2008 and 2013 had invested heavily in riskier forms of single-family mortgages, whereas many of the smaller failed banks held significant portfolios of commercial real estate (CRE) loans, especially acquisition, development, and construction (ADC) loans.²³ The two states with the most failures were Georgia (87 bank failures, or 24.6 percent of Georgia banks as of year-end 2007) and Florida (70 bank failures, or 21.8 percent). Puerto Rico was also hit hard, for the three banks that failed in Puerto Rico, though a small number, constituted 30 percent of the banks in that territory.

Meeting the challenge of resolving 489 banks in six years began with franchise marketing. The next section explains franchise marketing: the bidding process and the several resolution options available. The subsequent section tells the story of the FDIC's franchise marketing efforts during the six crisis years, highlighting the necessary trade-offs and constraints.

²³ As of the quarter-end date before failure, single-family loans constituted 74 percent of total loans at the seven largest closed banks, but only 22 percent for the remaining 482 banks. For additional information on the lending practices that contributed to bank failures, see chapter 4 and U.S. Government Accountability Office, "Causes and Consequences of Recent Bank Failures," GAO-13-71, 2013.

Franchise Marketing: The Bidding Process and Resolution Options

As noted above, when a bank approaches failure, the FDIC prepares to resolve the bank by seeking an acquirer so that as many of the bank's assets and liabilities as possible can be sold to the acquirer instead of remaining in the receivership created on the failure date. In seeking an acquirer—that is, in marketing and selling a failing-bank franchise—the FDIC uses a bidding process that is expected to lead to one of the following outcomes, although the expectation is not always fulfilled: a basic purchase of assets and an assumption of liabilities (P&A), a whole-bank P&A, a loss-share P&A, or various combinations of the P&A options, including a P&A with loan pools. (These options are described in the next section.) If there are no bids, or if all the bids are more costly than a payout, the FDIC does a payout (also called a liquidation); in a payout, the FDIC pays all insured depositors at failure and then receives funds from asset sales gradually over time. (For the advantages and disadvantages of using a payout, see the box on page 185.)

In addition, there are two other alternatives that are permitted by the Federal Deposit Insurance Act and were occasionally, though infrequently, used. One is to resolve a failed institution by organizing a new insured depository institution called a “bridge bank.”²⁴ A bridge bank is typically used when the FDIC does not have enough time to effectively market the institution to a third party before failure. The assets and liabilities are placed in receivership, a bridge bank is established, and then selected assets and liabilities are moved into the bridge bank. The bridge bank is allowed to continue normal operations before the final resolution.²⁵ The other infrequently used alternative granted to the FDIC by the FDI Act is to organize a Deposit Insurance National Bank (DINB). A DINB is a form of payout where the deposit accounts are transferred to a newly chartered temporary bank operated by the FDIC. It is similar to a bridge bank, but its operations are more limited,²⁶ and its purpose is to ensure that depositors have continued access to their insured deposits as they transfer their deposit accounts to other financial institutions.

In seeking potential buyers for failed-bank franchises, the FDIC must take financing into consideration. As noted below in the discussion of the bidding process, either the FDIC or the acquirer may contribute cash at resolution, depending on whether an

²⁴ A bridge bank is a temporary national bank operated by the FDIC to facilitate the resolution of an insured institution. Certain requirements for private-sector banks are waived for bridge banks (such as capital requirements). The life of a bridge bank is normally limited to two years. Although extensions are permitted, the FDIC has never pursued one.

²⁵ The FDIC routinely replaces the failed bank's senior management and may curtail or shut down any segment of the bank's operations that it chooses (for example, lending operations that contributed to the bank's failure).

²⁶ For example, loans cannot be originated. Loans are not transferred into the DINB but are retained in receivership for disposition.

acquirer buys more assets than liabilities, more liabilities than assets, or equal amounts of both. As a result, resolution choices have a large influence on the FDIC's cash position, which was under pressure during the early stages of the crisis. (See chapter 5 for additional discussion.)

Advantages and Disadvantages of Using a Payout

A payout requires extensive resources for managing and selling all the assets after the bank fails. The up-front cash needs for the payout are greater than for any of the P&A options and include both capital and working capital. In addition, a payout is the resolution method that causes the most disruption to the bank's customers and the local economy: all relationships are lost, and depositors abruptly (but only briefly) lose access to their funds.^a

In terms of pricing, the payout has both advantages and disadvantages for the FDIC. Advantages include additional time for due diligence (that is, evaluating the assets, legal questions, and so forth) and marketing; the ability to publicly announce sales initiatives; and a more extensive bidder pool for asset sales that is not limited to FDIC-insured institutions. On the other hand, the bank's franchise value (if any) is lost and, in addition, transaction costs are higher, not only because the assets and liabilities undergo at least two transfers of ownership (from the failed bank to the FDIC, and from the FDIC to the ultimate buyer) but also because receivership management costs are greater.

If the FDIC had used this transaction extensively during the recent crisis, two additional problems could have arisen. First, the resulting strains on the FDIC's operating capacity could well have harmed prices because of deteriorating asset-servicing quality. Second, the volume of assets held by the FDIC could have been large enough to affect market prices.

From an overall perspective, the payout option is always available but is often the more costly approach.

^a Unless a DINB or a paying agent is established, both insured and uninsured depositors lose access to funds briefly. The FDIC almost always mails checks to most of the insured depositors by Monday or Tuesday (following a Friday failure). Checks that were written by depositors shortly before failure, but that had not cleared as of the failure date, are returned. All automated transactions scheduled for after the failure date are not executed.

The Bidding Process

In the franchise marketing bidding process, the FDIC offers one or more options to potential acquirers, and under each option, potential acquirers are invited to take either insured deposits only or all deposits. In some cases, the FDIC excludes from its offerings some or all of the brokered deposits (that is, deposits provided to the bank by a deposit

broker). (For a discussion of the role of brokered deposits in resolutions, see the box on noncore funding and franchise value in the section below titled “Resolution Options.”) In addition, potential acquirers can submit bids that do not conform to the FDIC’s offerings. The FDIC considers all bids, even those that do not conform to its offerings.

The FDIC is required by law to accept the least-cost bid (see box on page 188 for details, including conditions under which there may be an exception to the least-cost requirement).

The FDIC is also required by law to observe certain time periods for appointing a receiver for a failing bank, which has implications for the timeline for marketing a failing bank. If a bank is failing because it becomes critically undercapitalized, the Prompt Corrective Action provision of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) mandates a hard stop of 90 days before the bank is closed—90 days after the bank’s capital breaches the threshold.²⁷ Theoretically the FDIC can prepare for a failure before that clock starts running, but in practice it rarely collects the detailed data needed for a thorough evaluation of the assets that supports the marketing process until after the bank becomes critically undercapitalized. And if the bank fails for some other reason, such as fraud or liquidity problems,²⁸ the FDIC has far fewer than 90 days to prepare. These timing restrictions may make it difficult for the FDIC to collect good-quality information when it sells failed banks and for potential bidders to perform comprehensive due diligence. Researchers have found that sellers who provide better information about their products receive better prices,²⁹ and therefore the timing restrictions may affect the prices that acquirers are willing to pay. In comparison, almost no private-sector mergers and acquisitions are performed with that speed. They usually take much more time, and in almost all cases the parties have the option of deciding not to sell if they do not like the price.

As for the bidding process itself, the details have changed over time but the basic idea is always that an acquirer tells the FDIC what assets and liabilities from the failed bank

²⁷ FDIC, *Resolutions Handbook* (2014), figure 2 (on page 9) provides a typical resolution timeline. The FDIC is permitted to extend the time frame by up to 180 days if it determines, in writing, that a brief delay would reduce the loss to the DIF. See Section 38 of the FDI Act. This exception has been used occasionally to facilitate a private-sector rescue of a bank, but not to facilitate the closing of a bank.

²⁸ Liquidity problems occur when a bank lacks the cash needed to pay depositors or other creditors.

²⁹ For examples related to the importance of information in bank resolution, see Larry Benveniste et al, “Contract Design for Problem Asset Disposition,” *Journal of the American Real Estate and Urban Economics Association* 22, no. 1 (1994): 149–67; and Stephan Madaus, “Bank Failure and Pre-Emptive Planning: The Special Requirements of a Bank Resolution and a ‘Default Resolution Option,’” Working Paper, 2013. For examples that relate the value of information to asset sale prices, see Sudhir Nanda, James E. Owens, and Ronald C. Rogers, “An Analysis of Resolution Trust Corporation Transactions: Auction Market Process and Pricing,” *Real Estate Economics* 25, no. 2 (1997): 271–94; Joao Granja, “The Relation between Bank Resolution and Information Environment: Evidence from the Auctions for Failed Banks,” *Journal of Accounting Research* 51, no. 5 (December 2013): 1031–70; and James A. Berkovec, John J. Mingo, and Xuechun Zhang, “Premiums in Private versus Public Bank Branch Sales,” Federal Reserve Board’s Finance and Economic Discussion Series Working Paper, 1997.

it is willing to take,³⁰ as well as what (if any) money will change hands. Each acquirer essentially asks for the amount of additional cash that it wants. If, for example, the value of the assets bought by an acquirer exactly offsets the liabilities assumed, the bidder may not ask for any FDIC payment. But if the value of the liabilities exceeds the value of the assets (if, in other words, there is a capital shortfall), the acquirer will usually want cash. Sometimes the acquirer is willing to take less cash—perhaps because it believes it will be able to manage the bank in a way that gives it a high return at that price, or because the failed bank fits its business strategy well and the acquirer is afraid someone else will offer a lower bid. At other times, an offeror may demand more cash—perhaps because it wants a higher profit margin. And if the value of the assets purchased exceeds the value of the liabilities assumed, the acquirer will generally pay the FDIC.³¹ (See box on page 194 for a discussion of financing for the acquirer.)

Once the FDIC receives all the bids, it performs the least-cost test analysis and determines which acquirer—and which transaction—is the winner, and that is the transaction that the FDIC executes. As noted above, if there are no bids that cost less than a liquidation, the FDIC chooses the liquidation. Bids usually do not come in until about a week before the resolution date, and it is only after the FDIC receives the bids and estimates the related costs that the Corporation knows which is the winning bid or discovers that it will be liquidating the bank.

As a result of the marketing process, the FDIC knows who is likely to bid, but sometimes a bidder that showed strong interest may back out at the end, or a bidder who showed only lukewarm interest may end up submitting the winning bid. Furthermore, there is a vetting process, so the winning bidder is *always* on a pre-approved list of banks that are permitted to bid.³²

³⁰ This is usually accomplished by bidding on an FDIC offering that stipulates the liabilities to be assumed and the assets to be purchased. As mentioned above, however, the bidder can submit bids that do not conform to the FDIC's offerings.

³¹ For example, this might occur if the acquirer takes all the bank's assets but does not take the brokered deposits. In this case, the FDIC will pay the brokered deposits directly. Note that the FDIC's funding requirements for a failed bank are not necessarily the same as the amount of funds provided to the acquirer at resolution (there are often funding requirements related to those assets and liabilities that remain in the receivership).

³² As discussed below (in the section titled "Private Equity Acquirers"), some firms were allowed to create a new bank charter to acquire a failed bank. These firms also underwent a vetting process.

The Least-Cost Test

The least-cost requirement is a statutory standard applied to the resolution of failing banks under the FDI Act, as amended in 1991 by FDICIA.^a As a general rule, it requires that the FDIC determine, after any bids for a failing bank are received, whether any of those bids would impose a lesser cost on the DIF than a payout of insured deposits and associated liquidation of the failed bank's assets. If more than one bid qualifies, then the bid presenting the least cost to the DIF is accepted. The least-cost test is applied separately to every bank failure.^b In addition, the FDIC is legally permitted to liquidate a bank even if liquidation is not the least-cost alternative.

The FDIC uses its experience to determine what the market will bear and its knowledge of the bank to design offerings for the failed-bank auction. Qualified acquirers can submit bids that do not conform to the FDIC's offerings. All bids must be analyzed for the least-cost test, including those that do not conform to the FDIC's offerings. A bid can be rejected if the cost of the bid cannot be estimated. Furthermore, a bid can be rejected even if it meets the least-cost test if (a) the transaction is impossible to execute, or (b) the bid failed to meet various regulatory requirements, or (c) the FDIC believes the resulting institution would be unsafe and unsound.

^a See <https://www.fdic.gov/regulations/laws/rules/1000-1500.html> for details. An exception is permitted for systemic risk. For the banks discussed in this chapter, however, the systemic risk exception was not used. (On use of the systemic risk exception during the crisis of 2008 to 2013, see chapters 2 and 3.)

^b The FDIC faces additional statutory constraints related to its funding options and receivership operations. For a complete list of these constraints, see <https://www.fdic.gov/regulations/laws/rules/>.

Resolution Options

As noted above, the franchise marketing process is expected to lead to some form or variant of a purchase and assumption (P&A) transaction, although in fact there may be no bidder, or no viable bid, and in either of those cases, the FDIC will liquidate the bank, as explained above. The four forms of a P&A transaction are the basic P&A, the whole-bank P&A, the loss-share P&A, and the P&A with loan pools. Table 6.2 defines each of these options, which are discussed in more detail below.

Table 6.2. Common P&A Transactions

<i>Basic P&A</i>	The acquiring institution assumes deposits and generally purchases only the failed institution's cash, cash equivalents, and marketable securities.
<i>Whole-Bank P&A</i>	The acquiring institution assumes deposits and purchases all—or almost all—of the assets of the failed institution on an “as is” discounted basis (with no guarantees).
<i>Loss-Share P&A</i>	The acquiring institution assumes deposits and purchases assets of the failed institution beyond those acquired in a basic P&A, and the FDIC as receiver agrees to share losses on certain types of assets (up to an established limit) with the acquiring institution. In most cases, this agreement is very similar to the whole-bank P&A except for the loss-sharing provision on some of the assets purchased.
<i>P&A with Loan Pools (and Other Combinations)</i>	For loan pools, the acquiring institution assumes deposits and purchases the failed institution's cash, cash equivalents, marketable securities, and pools (groups) of loans or other assets. Bids are submitted and evaluated separately for each loan pool. Alternatively, the FDIC may effectively combine these options. For example, the FDIC may offer deposits, cash, securities, and single-family mortgages, plus a separate loan pool for all other consumer loans (thus, ORE [other real estate] ^a and commercial loans are excluded). Two other examples of frequently used combinations are (1) a whole-bank offering, except with pools for ORE and ADC loans; and (2) a mix of options across multiple banks that are all scheduled to fail on the same date.

^a ORE is real estate that is not used by the bank for its normal operations, and comprises primarily real estate that the bank owns because of a foreclosure on loan collateral.

Basic Purchase and Assumption. In a basic P&A, the deposits,³³ cash, and low-risk securities of the failed bank are passed to an acquirer, and the remaining assets are retained in the receivership. The FDIC provides cash in accordance with the winning bid; the amount of the cash roughly equals the difference between the deposits and the market value of the assets of the failed bank that were purchased by the acquirer. This resolution method offers two benefits compared with a liquidation. First, it allows at least some of the bank's deposit franchise value to be retained (on franchise value, see box on page 190). Second, there is less disruption because depositors receive continuous deposit processing services. During the crisis, many potential acquirers were not interested in a basic P&A because consumer demand for insured deposits was high (thus they could readily find deposits by other means) and they saw few opportunities to invest the cash promptly and meet their required return.

³³ This can be either all deposits or only insured deposits. Some or all brokered deposits may be excluded as well.

Noncore Funding and Franchise Value

Many banks that failed funded their operations by using brokered deposits, Internet deposits, repurchase agreements, and Federal Home Loan Bank (FHLB) advances—collectively, noncore funding—but these funds rarely contributed to franchise value. In all, the banks that failed between 2008 and 2013 held higher levels of brokered deposits and FHLB advances than healthier banks. In terms of dollars, failed banks held \$44.6 billion in brokered deposits (9.8% of all failed-bank deposits) and \$14.5 billion in Internet deposits (3.2%) at failure. In terms of number of banks, 386 failed banks (79%) held brokered deposits, 279 (57%) held Internet deposits, and 248 (51%) held both brokered and Internet deposits. Acquiring banks usually had no interest in these deposits: whereas 97% of nonbrokered deposits were assumed by other banks at failure, only 20% of brokered deposits were assumed.^a

As of the quarter before failure, 337 failed banks (69%) held FHLB advances. Excluding Washington Mutual, FHLB advances constituted 13.3% of failed-bank liabilities.^b FHLB advances sometimes reduced the value of the failed banks even more than brokered deposits did because of prepayment fees, high overcollateralization rates,^c and concerns that the FHLB advances did not fit into the acquirers' asset liability management plans.

^a Starting in April 2009, the FDIC generally did not include in its resolution offerings the brokered deposits that were processed by the Depository Trust and Clearing Corporation (a clearing and settlement company). The FDIC usually did include other types of brokered deposits.

^b Including Washington Mutual, the percentage increases to 16.5%.

^c Overcollateralization occurs when the assets that are pledged to secure the debt exceed the amount of debt issued. FHLBs sometimes increase the required levels of overcollateralization as bank health declines, and in some cases, FHLBs required a “blanket” lien that encompassed all the bank's assets.

Whole-Bank Purchase and Assumption. The whole-bank P&A is what its name implies: essentially all the bank's assets and all its liabilities are bought by the acquirer. This transaction minimizes market disruption and requires fewer staff to execute than transactions where the FDIC retains more assets. It also conserves cash for the FDIC, because although the FDIC provides cash up front to address the capital shortfall, the assets and deposits are sold together and therefore there are minimal ongoing working capital needs. Because of uncertainty about the value of the failed-bank assets, the whole-bank option was rarely cost-effective at the height of the crisis: the risk premiums demanded by potential acquirers were simply too great. As the crisis abated and asset risk premiums fell, the whole-bank option became more attractive. Even during good times, however, one implication of this option is that the pool of bidders is limited to healthy FDIC-insured institutions (deposits can be sold only to FDIC-insured banks). Nonbank bidders are unable to bid on the assets even if they want to purchase them (the restricted competition

could reduce prices) and even though nonbank bidders frequently offer the highest bids for retained asset sales. In addition, bidders are expected to take almost all the assets even if they would prefer to take only a subset.³⁴ Some studies have argued that the whole-bank option may not be cost-effective because the best acquirer for the troubled assets may not be the same party as the best acquirer for the performing assets.³⁵ In addition, the lack of adequate time to perform due diligence (because of the brevity of the marketing period) may increase an acquirer's perception of asset risk and thus reduce the price that the acquirer is willing to pay.

Loss-Share Purchase and Assumption. A loss-share P&A is very similar to the whole-bank P&A except that the FDIC, as receiver, agrees to share losses on certain types of assets (up to an established limit).³⁶ See the box on page 192 for an example. Like the whole-bank transaction, the loss-share P&A minimizes disruptions to the bank's customers and the local community, and conserves cash for the FDIC. In terms of staffing, the loss-share option requires more resources than the whole-bank option (in order to monitor the loss-share agreements after the bank fails) but substantially fewer resources than a basic P&A (or, for that matter, than a payout). Depending on circumstances, the effects of loss share on the pricing of the failed-bank franchise may vary. During periods of distress when asset values become highly uncertain, loss share offers clear advantages: the FDIC retains much of the risk exposure and therefore loss share may improve franchise sale prices; it allows the FDIC to tap the government's comparative advantage in absorbing large risks;³⁷ and it enables the FDIC to participate in asset price improvements after banks fail (by reducing loss share payments).³⁸ However, loss share is like whole-bank P&A in two respects: it limits the pool of potential bidders to healthy banks, with the result that the restricted

³⁴ In this situation, the bids may incorporate low estimates of asset value for the unwanted assets.

³⁵ Roger Kormendi et al., *Crisis Resolution in the Thrift Industry* (1989), and FDIC, "FDIC Policies for the Resolution Trust Corporation," Draft White Paper, S&L Study Group, 1989, recommend that good assets and troubled assets be sold separately.

³⁶ The FDIC in its corporate capacity acts as a backstop as well.

³⁷ This comparative advantage has been explored in insurance markets. Insurance companies in the private sector must hold capital (which is costly) to protect themselves from bankruptcy if large adverse events (such as major hurricanes) occur. To protect themselves from bankruptcy, the companies sometimes purchase re-insurance or catastrophe insurance. The price for insuring against large but unlikely risks is substantially higher than expected losses. As the size of the loss exposure increases and the likelihood of occurrence decreases, the ratio of insurance cost (for re-insurance or catastrophe insurance) to expected losses tends to increase exponentially. On the other hand, the federal government is a much larger entity and can more easily go into debt or increase taxes to cover large unexpected risks. For additional discussion, see Kenneth A. Froot, "The Market for Catastrophe Risk: A Clinical Examination," *Journal of Financial Economics* 60 (2001): 529–71, and Morton Lane and Olivier Mahul, "Catastrophe Risk Pricing," World Bank Policy Research Working Paper 4765, 2008.

³⁸ In addition, it could increase "true-up" payments, which are described later in the section titled "Evolution of FDIC Franchise Sale Offerings."

competition could reduce prices, and it asks bidders to purchase almost all the assets and deposits, even if their preference is to purchase only a subset of the failed bank's assets.

Some researchers have recommended loss share because the government is better positioned to absorb large risks than the private sector and because it helps address the lack of comprehensive information at resolution (on the part of both the FDIC and the acquirer) caused by the short duration of the marketing period.³⁹ In addition, the FDIC's experience with loss share in the early 1990s was positive.⁴⁰

Example of Loss-Share Purchase and Assumption

Assume a failing bank that holds \$100 in assets and \$100 in liabilities. All liabilities are insured deposits. The FDIC offers a whole-bank resolution with 80 percent loss-share coverage on the loan portfolio, which makes up 70 percent of the assets. The loss-share coverage is based on the book value of the loans (\$70), and it covers some—but not all—of the expenses associated with managing the loans.

The acquirer submits a \$7 discount bid. The FDIC pays the acquirer \$7 at resolution. The acquirer collects \$50 on the loans (net of expenses covered under the agreement) over time, so that \$20 in asset losses (\$70 book value minus \$50 net asset recovery) are incurred and covered by the agreement. The FDIC pays the acquirer \$16 (80 percent of \$20) to cover its share of the loss. The acquirer pays the other \$4 (20 percent of \$20), plus any other costs that are not covered by the loss-share agreement.

Note that, in the bidding process, the acquirer with the smallest discount bid wins (assuming that all other aspects of the bid are the same). The discount does not influence the calculation of the loss-share payments.^a

^a This is a simplified example. See <https://www.fdic.gov/bank/individual/failed/lossshare/> for additional discussion and <https://www.fdic.gov/bank/individual/failed/bankofmiami-p-and-a.pdf> for an example of an agreement that includes details about the loss-share coverage.

³⁹ See the section below titled “The Bidding Process” for additional discussion of the marketing period. Larry Benveniste et al., “Contract Design for Problem Asset Disposition,” *Journal of the American Real Estate and Urban Economics Association* 22, no. 1(1994): 149–67, suggested—as support for the use of risk-sharing choices for failed-bank resolutions—that governments were better placed to absorb large risks than the private sector. Mark Spiegel, “The Disposition of Failed Japanese Bank Assets: Lessons from the U.S. Savings and Loan Crisis,” *FRBSF Economic Review* (2002): 1–15, suggests loss share as a way to overcome information shortages at resolution. FDIC, “Study of Purchase and Assumption Transactions,” Unpublished Manuscript, Office of Corporate Planning, 1977, recommends risk-sharing as a response to inadequate information at resolution. FDIC, “FDIC Policies for the Resolution Trust Corporation,” Draft White Paper, S&L Study Group, 1989, suggests gain-sharing for both reasons.

⁴⁰ FDIC, *Managing the Crisis: The FDIC and RTC Experience* (1998), 193–205, <https://www.fdic.gov/bank/historical/managing>.

Loan Pools and Other Combinations of the Basic Options. The FDIC can also offer numerous combinations of the basic options. One commonly used option, called “loan pools,” is to group the assets of the failed bank into homogeneous pools at resolution, ask bidders to submit separate bids for each pool (and for deposits), and allow bidders to “link” bids, that is, allow them to set requirements for the minimum combination of assets and deposits that they will accept. Another combination is to simply exclude certain assets or liabilities from the initial franchise offering and sell them later. For example, distressed assets could be retained in the receivership so that they could be offered later to both bank and nonbank bidders.

A key benefit of these options is that they more easily attract bidders that are interested in some—but not all—of the assets. In addition, bidders that are willing to bid for the whole bank but that place very little value on certain types of assets held by the failed bank might offer better prices. However, compared with whole-bank offerings (with and without loss share), these options are harder to execute, especially if the FDIC’s operational capacity is poorly positioned to manage the tasks needed to execute the transaction. In addition, these options often require more cash and may be more disruptive to bank customers and the local economy than the whole-bank options.⁴¹

Theoretically, these options could be extended to allow asset workout companies (that is, companies that specialize in managing and selling delinquent loans and/or troubled real estate) or other nonbank firms to bid on the assets—but not the deposits—of the failed bank at resolution. Although this approach offers significant advantages by enlarging the pool of potential bidders for failed-bank assets, it also entails substantial operational challenges because of the very brief marketing period for failed banks and concerns about confidentiality.

Yet another variation is to market assets and deposits from multiple banks at the same time. Some analysts have recommended this approach as a way to improve bidder interest and, potentially, prices.⁴² Both theory and the FDIC’s experience indicate that the use of linked bids across multiple failed banks is effective and should be considered when circumstances allow.

In summary, the various options for combining types of resolution offer the potential for lower costs because the number of potential bidders is greater and bidders can more easily limit their purchases to the types of assets they most desire. However, these options generally require more FDIC resources (both staff and time) and are harder to execute

⁴¹ FDIC, “FDIC Policies for the RTC,” recommended holding back troubled assets from the initial resolution offering to improve prices. Offering troubled assets as a separate loan pool accomplishes the same objective. Roger Kormendi et al., *Crisis Resolution*, also suggested that troubled loans be sold separately. The principles espoused in Edward J. Kane, “Principal-Agent Problems in S&L Salvage,” *Journal of Finance* 45, no. 3 (1990): 57–61, also support this approach (although Kane does not specifically recommend it).

⁴² FDIC, “FDIC Policies for the RTC,” recommends linked bids. Donald R. Fraser and Hag Zhang, “Package Bidding in Thrift Resolutions,” *Journal of Financial Services Research* 11, no. 3 (1997): 283–94, and Office of Management and Budget, “Resolving the Thrift Crisis,” 1993, xiv, suggest combining thrifts for sale.

than the whole-bank options. In addition, the extent of working capital requirements is less predictable, as are the need for staff and the possibility of market disruption.

Financing for the Acquirer (Seller Financing)

In some cases, acquirers owed the FDIC money at resolution. This situation arose whenever the acquirer purchased assets from the failed bank that were worth more than the liabilities that they assumed from the failed bank.^a In this case, it might be beneficial for the FDIC to offer to finance some or all of the acquirer's contribution, potentially improving the bid price, the availability of bidders, or both.

The FDIC provided seller financing to failed-bank acquirers several times in the 1970s as a way to improve demand and expand the bidder pool for failed banks.^b The FDIC also used seller financing for three resolutions during the recent crisis: the Puerto Rico banks that failed in April 2010. Only a few potential acquirers had expressed an interest in acquiring the Puerto Rico banks, and the FDIC was concerned that some of the acquirers lacked the liquidity necessary for a successful acquisition. In all three cases, the acquirers purchased substantially more assets than the deposits they assumed.^c Without seller financing, the acquirers would have needed to bring substantial amounts of cash to close the deals.

^a This usually occurred when the acquirer purchased most or all of the assets but did not assume all the deposits—frequently in cases where a substantial amount of brokered deposits were retained in the receivership, or where the acquirer purchased only asset pools. For example, if the acquirer purchased \$100 in assets and assumed \$60 in liabilities, it would owe the FDIC \$40 at resolution. Note that asset values incorporate the bid price demanded by the acquirer.

^b FDIC, “Study of Purchase and Assumption Transactions,” Unpublished Manuscript, Office of Corporate Planning, 1977.

^c All three failed banks had large amounts of brokered deposits that were, for the most part, not assumed by the acquirers. For example, Banco Popular purchased \$9.2 billion in assets from Westernbank but assumed only \$2.4 billion in liabilities, so assets exceeded liabilities by \$6.7 billion. The FDIC provided \$5.8 billion in seller financing to close the transaction.

Franchise Marketing during the Crisis

From 2008 through 2013, the franchise marketing process evolved as conditions changed. Resolution staff were operating under constant pressure amid great uncertainty, and they had to consider multiple trade-offs in the light of competing goals and objectives. Discussed in this section are the options they chose and the changes they made over time; the role played by bridge banks; the role played by the opportunity to involve private equity acquirers; and the aggregate results for resolutions during the crisis. At the end of the process, the winning bids affected the

FDIC's overall financial position, risk exposure, and staffing requirements, and may also have influenced the local economies where bank failures were concentrated.

Evolution of FDIC Franchise Sale Offerings

At the outset of the financial crisis, the primary resolution tools in use at the FDIC were whole-bank P&A and P&A with optional loan pools. The use of these two options was in keeping with the objective of moving failed-bank assets back into the marketplace promptly and minimizing costs. Early in the crisis, however, investors' appetite for risk plummeted, so that the FDIC faced not only a lack of buyers for loan pools but also little interest in standard whole-bank purchases; moreover, buyers also showed little interest in buying the assets that were retained in receivership. In response to the evolving crisis, the FDIC sought to adapt its offerings to include sales-contract features that would attract buyers. This situation led the Corporation to rely increasingly on loss sharing as a feature of its failed-bank offerings in order to resolve the growing number of bank failures.⁴³ Many acquirers preferred the loss-share option, and by the middle of 2009, whole bank with loss share became the dominant FDIC franchise marketing option, and often the only one offered to potential acquirers. As the crisis continued and conditions in the marketplace changed, the FDIC modified the contract terms in loss-sharing agreements. The starting point, though, was the experience the FDIC had had with its loss-share program in the early 1990s.

The original (2008) agreements offered 80 percent loss-share coverage for capital losses and selected expenses. For single-family assets, coverage was provided for ten years. For other assets, coverage was provided for five years, and in addition the acquirer was required to share recoveries with the FDIC for another three years. If losses exceeded a pre-specified level, loss-share coverage increased to 95 percent.

In October 2009, the FDIC added a "true-up" feature that was designed to claw back some of the extra profits from acquiring banks in cases where the asset losses were lower than anticipated at the time of failure. There were true-up provisions for 215 transactions, or 71 percent of the loss-share transactions.

In April 2010, in response to improving markets, the FDIC stopped offering the increase to 95 percent coverage. In June 2010, the FDIC dropped loss-share coverage for consumer loans⁴⁴ and began soliciting bids for the loss coverage rate of up to 80 percent for all other types of loans and for other real estate (ORE). In September 2010, the FDIC introduced a tiered loss-sharing structure that was designed to improve the

⁴³ For additional discussion, see the section above titled "Loss-Share Purchase and Assumption" and <https://www.fdic.gov/bank/individual/failed/lossshare/>.

⁴⁴ Consumer loans are smaller than other types of loans and therefore administrative costs are relatively high, but for most banks during the crisis, anticipated losses on consumer loans were modest. Thus it seemed less likely that loss share yielded a net benefit for these loans.

acquirer's incentives to minimize asset losses.⁴⁵ But because of the complexity of that structure, it was used only 27 times. In all, the FDIC provided 95 percent coverage for 97 transactions, or 32 percent of the loss-share transactions.

In early 2011 the FDIC began to expand its regular offerings, typically offering three versions of a whole-bank resolution: no loss-share coverage; loss share for commercial assets only; or loss-share coverage for single-family and commercial assets. In April 2012 the FDIC began to limit its offerings of loss-share coverage for single-family assets to those failed banks that had extensive amounts of troubled single-family loans. As conditions continued to improve, loss sharing was gradually phased out. In the fourth quarter of 2013, the FDIC dropped loss share altogether from its regular offerings and started offering loan pools (in addition to whole-bank transactions) whenever the loans could be pooled logically and potential bidders expressed an interest in them.

Throughout the crisis, in considering how to structure its resolution offerings, the FDIC regularly reached out to potential acquirers, listened to them, and, if appropriate, adjusted its offerings accordingly. When potential acquirers showed little interest in the FDIC's whole-bank offerings for a particular failing bank, the FDIC considered ways to address the potential acquirers' concerns, usually by expanding its offerings. The most typical additions were "modified" whole bank (where certain troubled assets, such as ORE, delinquent loans, or ADC loans, would be retained in receivership but all other assets were included in the offering) or loan pools. In some cases, the FDIC would develop unique proposals to address unique situations.

In cases where the FDIC lacked enough time to market banks effectively before they failed, the FDIC used bridge banks. (See note 24 and the associated text.)

Bridge Banks

Following the 1980–1994 crisis, senior FDIC staff anticipated that bridge banks would be an important option for resolving the failures of large insured depository institutions.⁴⁶ During the 2008–2013 crisis, however, the FDIC used bridge banks for bank failures only three times.

⁴⁵ The agreement provided relatively high FDIC coverage for losses that fell below a pre-set threshold (where it was likely that losses would be incurred, regardless of asset servicing quality) and above a higher pre-set threshold (where losses were unlikely to occur unless servicing quality was poor or markets deteriorated). In the middle tier, the FDIC's coverage rate was low. For an example of this kind of agreement, see <https://www.fdic.gov/bank/individual/failed/horizonfl-p-and-a.pdf>.

⁴⁶ For example, see Arthur J. Murton, "Resolving a Large Bank: The FDIC's Perspective," speech given at the Seventh Annual Banking Conference at the Federal Reserve Bank of Chicago, October 1, 2004; and James A. Marino and Lynn Shibut, "Resolution Strategies for Large U.S. Commercial Banks," Unpublished Manuscript, 2006.

The first time was when IndyMac, a \$30 billion thrift, failed suddenly in July 2008.⁴⁷ IndyMac's size alone would have made its resolution difficult; however, its size was only one of several complicating factors. After the long period of almost no bank failures, the level of media interest in IndyMac's failure was unusually high; and a large number of depositors—roughly 30,000—held potentially uninsured deposits and therefore did not immediately gain access to all the deposits held in their accounts.⁴⁸ During the first two weeks after IndyMac's failure, a run on deposits led to the withdrawal of almost \$3 billion from the newly chartered bridge institution, IndyMac Federal.⁴⁹ The unprecedented deposit withdrawals likely reduced IndyMac Federal's franchise value and clearly signaled to the FDIC that a much deeper issue was lack of trust in the financial system. The FDIC quickly took action and began a campaign to educate the public on deposit insurance and the FDIC. After a few weeks, the withdrawal rate at IndyMac Federal slowed and the deposit base stabilized, but the IndyMac experience highlighted the risks and challenges of deploying the bridge bank structure.

In 2009 the FDIC used bridge banks to resolve two bankers' banks.⁵⁰ Bankers' banks provide a variety of banking services to other depository institutions. They are harder to resolve than traditional depository institutions for two main reasons. First, only depository institutions are permitted to be shareholders of bankers' banks, and very few banks are interested in entering this specialized business area. Second, they present resolution difficulties because of their interconnectedness with other depository institutions. One of the banks was sold to another bankers' bank shortly after the failure; the other one was paid out after the customers were given time to move their deposits to other banks.

Private Equity Acquirers

Another consideration for the FDIC in marketing failed banks was the possibility of expanding the number of acquirers by working with private equity investors. Private equity investors are wealthy individuals (or groups of individuals) who are seeking high-yield investments, and as the crisis unfolded, several private equity investors expressed an interest in purchasing failed banks. The FDIC wanted to ensure that any purchase of failed banks by private equity investors was consistent with, and in the best long-term

⁴⁷ Because IndyMac was a thrift institution, the bridge bank was technically a conservatorship due to a gap in the law that was since addressed.

⁴⁸ Many of these depositors were later found to be fully insured, but over the closing weekend the FDIC lacked full information, so funds were held back until the insurance status of these deposits could be determined. What made the deposit insurance determinations at IndyMac so challenging was the volume of deposit accounts, including brokered deposits and a large number of trust accounts (the latter are governed by complex deposit insurance provisions).

⁴⁹ John F. Bovenzi, *Inside the FDIC: Thirty Years of Bank Failures, Bailouts, and Regulatory Battles* (2015), 16.

⁵⁰ Silverton National Bank failed on May 1, 2009, and Independent Banker's Bank failed on December 18, 2009.

interests of, the banking industry. The FDIC also sought open discussion and transparency surrounding the participation of private equity firms in the banking industry.

The FDIC was well aware of the associated risks, but it was also cognizant of the potential benefits. The risks derive from the nature of banking, which is a unique business that requires specialized management skills—skills that many private equity investors may not fully appreciate. Newly chartered banks have historically failed at much higher rates than well-established banks,⁵¹ and the takeover of a failed bank and its troubled assets introduces additional complications that most de novo banks do not have to face. In addition, private equity investors generally prefer short-term investments (often seeking to cash out in three to five years), a preference that could prove problematic in running and managing a bank. At the same time, however, new investors might increase the number of bidders for failed banks and infuse capital into the industry, thus potentially increasing the availability of credit to businesses, consumers, and the overall economy.

On November 21, 2008, the Office of Comptroller of the Currency (OCC) announced the availability of a “shelf” charter that would facilitate the purchase of failed banks by private equity investors.⁵² A shelf charter allows investors to seek conditional and preliminary approval of a bank charter that will become active only if the investor purchases a failed bank. On July 9, 2009, to address the risks posed by private equity investment, the FDIC published a proposed Statement of Policy on qualifications for failed-bank acquisitions,⁵³ and on September 2, 2009, the Corporation released a final Statement of Policy.⁵⁴ The Statement of Policy addressed requirements related to capital, source of strength,⁵⁵ time restrictions on selling the depository institution, ownership

⁵¹ Robert DeYoung, “De Novo Bank Exit,” *Journal of Money, Banking and Credit* 35, no. 5 (2003): 711–28, found that de novo banks that were established between 1980 and 1985 failed at much higher rates than other banks during the period after they consumed their start-up capital but before they became mature. In addition, he found that de novo banks that were established during a period of stress were more likely to fail than other de novo banks. Yan Lee and Chiwon Yom, “The Entry, Performance, and Risk Profile of De Novo Banks,” FDIC Center for Financial Research Working Paper 2016-03, 2016, found similar results for de novo banks chartered between 2000 and 2008.

⁵² See Office of the Comptroller of the Currency, “OCC Conditionally Approves First National Bank Shelf Charter to Expand Pool of Qualified Bidders for Troubled Institutions,” NR 2008-137, November 21, 2008, <https://www.occ.gov/news-issuances/news-releases/2008/nr-occ-2008-137.html>. The Office of Thrift Supervision (supervisor of thrifts until 2010, when it was abolished by Dodd-Frank) later announced a program as well.

⁵³ FDIC, “Proposed Statement of Policy on Qualifications of Failed Bank Acquisitions,” 74 Fed. Reg. 32931–32934 (Jul. 9, 2009), <https://www.fdic.gov/regulations/laws/federal/2009/09policyJuly9.pdf>.

⁵⁴ FDIC, “Final Statement of Policy on Qualifications of Failed Bank Acquisitions,” 74 Fed. Reg. 45440–45449 (Sept. 2, 2009), <https://www.fdic.gov/regulations/laws/federal/2009/09FinalSOP92.pdf>. For additional discussion, see also Frank Righeimer Martin, “Private Equity Investments in Failed Banks: Appropriate Investors Welcome,” *North Carolina Banking Institute* 14, no. 1 (2010), <http://scholarship.law.unc.edu/ncbi/vol14/iss1/17>.

⁵⁵ Under a source-of-strength requirement, the owner is required to provide additional capital to the depository institution if its capital falls below specified thresholds.

structure, and disclosure. On November 26, 2008, the FDIC announced that it had established a modified bidder qualification process that allowed interested parties that did not have a bank charter, such as private equity investors, to bid for failed banks.⁵⁶

From 2008 to 2013, 18 private equity investor groups purchased 60 failed banks (or 12 percent of the banks that failed in those years). These failed banks held \$84 billion in assets (12 percent of all failed-bank assets over the same period), and the investors purchased \$75 billion in assets held by these banks. (Excluding Washington Mutual, the private equity investor groups purchased 22 percent of all failed-bank assets.) The investors brought \$5.6 billion in capital to the industry.

Aggregate Results for Resolutions during the Crisis

Table 6.3 summarizes the use of the different strategies deployed by the FDIC from 2008 to 2013. The failed banks are grouped into five categories: (1) Washington Mutual Bank (WaMu), (2) other whole-bank P&A,⁵⁷ (3) loss-share P&A,⁵⁸ (4) other P&A,⁵⁹ and (5) payout and DINB.⁶⁰ For failed banks that were placed into bridge banks before resolution, the final resolution method was used for categorization.

Of the \$686 billion in assets resolved over the course of the crisis, \$307 billion (45 percent) were the assets of WaMu. The second-largest bank that failed was IndyMac (\$30 billion, or 4.5 percent).

Early in the crisis, loss-share transactions increased quickly, going from 2 in 2008 to 91 in 2009, and from 2009 to 2011 they made up a larger number of resolutions than all other strategies combined. The number of loss-share resolutions peaked in 2010 and dropped substantially in 2012 and 2013. In every year of the crisis except 2008 and 2012, however, loss share was used to resolve the majority of failed-bank assets. In all, excluding WaMu, loss-share transactions were used for 62 percent of the failed banks and 82 percent of failed-bank assets. The heaviest use of other P&A and payout/DINB resolutions was made during 2009 and 2010, the most challenging years of the banking crisis.

⁵⁶ See FDIC, “FDIC Expands Bidder List for Troubled Institutions,” Press Release PR-127-2008, November 26, 2008, <https://www.fdic.gov/news/news/press/2008/pr08127.html>.

⁵⁷ WaMu was a whole-bank P&A but is reported separately because of its size and unique characteristics. “Other whole-bank P&A” is all P&As (WaMu excluded) where 90 percent or more of assets were passed to the acquirer and no loss-share coverage was provided.

⁵⁸ P&A where loss share was provided on any assets at resolution, regardless of the share of assets passed to the acquirer.

⁵⁹ P&A that was not loss share or whole bank. It includes basic P&As, loan pools, and other combinations.

⁶⁰ DINBs are described above in the introduction to the section titled “Franchise Marketing: The Bidding Process and Resolution Options.”

Table 6.3. FDIC Bank Resolutions by Resolution Type, 2008–2013

Resolution Type		(Dollars in Billions)						Total
		2008	2009	2010	2011	2012	2013	
WaMu	Number	1						1
	Assets	\$307.0						\$307.0
Other Whole Bank P&A	Number	1	13	14	23	15	12	78
	Assets	\$0.1	\$1.7	\$2.0	\$5.4	\$2.3	\$1.4	\$12.9
Loss Share P&A	Number	2	91	130	58	20	3	304
	Assets	\$16.5	\$174.2	\$86.8	\$26.4	\$4.8	\$3.4	\$312.1
Other P&A	Number	20	25	6	9	12	8	80
	Assets	\$17.7	\$12.9	\$1.0	\$2.3	\$3.4	\$1.2	\$38.4
Payout/DINB	Number		10	9	2	4	1	26
	Assets		\$6.8	\$7.1	\$0.9	\$1.1	\$0.0	\$15.9
Total	Number	24	139	159	92	51	24	489
	Assets	\$341.2	\$195.7	\$96.8	\$34.9	\$11.6	\$6.0	\$686.3

In terms of resolution costs, the several resolution strategies fared very differently. Table 6.4 summarizes FDIC losses by resolution type.⁶¹

Table 6.4. FDIC Losses by Resolution Type, 2008–2013

Resolution Type	Number of Failures	Total Assets (\$ Billions)	Total Cost to FDIC (\$ Billions)	Loss Rate (Cost/Assets)		
				Weighted Mean	Mean	Median
P&A						
Washington Mutual	1	\$307.0	\$0.0	0.0%	0.0%	0.0%
Other Whole Bank	78	\$12.9	\$2.2	16.8%	23.0%	23.4%
Loss Share	304	\$312.1	\$56.8	18.2%	22.3%	21.6%
Other	80	\$38.4	\$9.3	24.3%	33.9%	34.1%
Total P&A	463	\$670.4	\$68.3	10.2%	24.4%	23.3%
Payout/DINB	26	\$15.9	\$4.4	27.4%	33.2%	34.7%
Total	489	\$686.3	\$72.7	10.6%	24.9%	23.6%

Note: Assets are as of the final Call Report filed by the failed bank. Loss estimates are as of year-end 2016. The weighted mean loss rate is weighted by assets. Systemic failures are excluded.

⁶¹ The resolution costs reported here are as of year-end 2016. These estimates include undiscounted activity through year-end 2016 plus estimated future activity discounted to year-end 2016. For additional discussion, see Rosalind Bennett and Haluk Ünal, “Understanding the Components of Bank Failure Resolution Costs,” *Financial Markets, Institutions and Instruments* 24, no. 5 (2015): 349–89.

WaMu resulted in no loss to the DIF. Total resolution costs over the crisis were \$72.7 billion and represented 10.6 percent of total assets at failure (including WaMu); excluding WaMu, losses represented 19.2 percent of total assets.⁶² Also excluding WaMu, loss-share P&A had the lowest mean and median loss rates, and whole bank had the lowest weighted average loss rate. The loss rates for other P&A were similar to those for payouts and DINBs. Note that studies have found that the relative condition of the failed bank influences the resolution type that is used at failure. This phenomenon, called “selection bias,” was documented during earlier periods but has not been estimated for the 2008–2013 crisis.⁶³ One should therefore interpret the results in Table 6.4 carefully because some (or possibly all) of these cost differences may be attributable to differences in financial condition. To gain additional insight, please see Table 6.5, which provides selected financial condition indicators by resolution type.

Table 6.5. Selected Condition Indicators by Resolution Type

Resolution Type	Number of Banks	Noncurrent Loan Rate ^a	(Averages as of Final Call Report Filed before Failure)		
			Brokered to Total Domestic Deposits	ADC Loans to Total Loans ^b	Equity to Assets
P&A					
Washington Mutual	1	4.1%	18.1%	1.8%	7.9%
Other Whole Bank	78	12.7%	3.8%	10.3%	1.3%
Loss Share	304	16.8%	9.6%	21.0%	1.2%
Other	80	19.4%	16.0%	25.7%	1.8%
Total	463	16.6%	9.8%	20.0%	1.3%
Payout/DINB	26	15.1%	25.7%	23.9%	1.8%

^a The sum of nonaccrual loans plus loans 90+ days delinquent, divided by total loans.

^b ADC stands for Acquisition, Development, and Construction.

WaMu had a capital ratio (that is, the ratio of equity to assets) of 7.9% and a noncurrent loan rate of 4.1%. For the other groups, capital ratios were lower and noncurrent rates

⁶² If IndyMac were also excluded, the loss rate drops to 17.3 percent. This compares with a loss rate of 12.7 percent for FDIC resolutions from 1980 to 1994, and 25.2 percent for thrift resolutions (by the FSLIC and the RTC) from 1980 to 1994. Because (1) failed thrifts held more real estate loans than did failed banks during the 1980–1994 period, and (2) real estate loans were the primary driver of losses during the 2008–2013 crisis, one might conclude it would be likely that losses during the recent crisis would be similar to thrift losses during the earlier one. However, this was not the case: the thrift losses in the earlier period were exacerbated by closure delays on the part of the FSLIC and by the inadequate financial resources of both the FSLIC and the RTC.

⁶³ See Rosalind Bennett and Haluk Ünal, “The Effects of Resolution Methods and Industry Stress on the Loss on Assets from Bank Failures,” *Journal of Financial Stability* 15 (December 2014): 18–31; and James A. Berkovec and Nellie J. Liang, “Selection in Failed Bank Auction Prices: An Econometric Model of FDIC Resolutions,” Federal Reserve Board Finance and Economics Discussion Series 93-40, 1993.

were higher. The whole-bank P&A without loss share had a noncurrent rate of 12.7%, and brokered deposits constituted 3.8% of deposits. The payout/DINB group had the highest level of brokered deposits (25.7%), and other P&A had the worst noncurrent rate (19.4%) and the highest concentration of ADC loans (25.7%). It seems likely, then, that the condition of the banks within each category contributed to the differences in the FDIC loss rates shown in Table 6.4. Even so, the FDIC estimated that the loss-share transactions saved \$42 billion, or 13.6 percent of total assets, compared with the estimated cost of a payout.⁶⁴

As shown in Table 6.4, the loss-share bank failures cost the FDIC an estimated total of \$56.8 billion. As of year-end 2016, the FDIC had paid \$29.5 billion in loss-share payments, and total loss-share payments were expected to be \$31.4 billion, or 55 percent of the total loss. Most of the remaining costs were related to the asset discounts that were part of the bids submitted by acquirers. Although the total asset discount for the loss-share bank failures amounted to \$30.1 billion (which represents the sum of all acquirers' bids for their transactions), the FDIC's related losses were somewhat lower than that.⁶⁵ Unlike the loss share payments, the losses related to the asset discount were insensitive to future asset price changes. As of year-end 2016, no true-up payments had been made on the 215 transactions with true-up provisions, but the FDIC anticipated receiving \$837 million in true-up payments to offset these losses.⁶⁶

Receiverships: Staffing and Infrastructure, Interactions and Trade-Offs

Although franchise marketing is a key component of the FDIC's resolution activities, it is just the first step in the receivership process that winds up the affairs of failed banks. A few of the main receivership tasks undertaken during the crisis are the subject of this section of the chapter. Those activities (plus other activities that are not discussed here)⁶⁷ require

⁶⁴ The cost savings estimate was calculated as the difference between the resolution cost and the payout cost, divided by the payout cost, based on the least-cost test estimates for the loss-share resolutions at the time of resolution. Therefore, the estimate does not consider subsequent asset price movements or other changes that may influence the cost of the loss-share transactions or payouts. It also does not consider the possibility that the FDIC could have resolved the banks using methods other than loss share or a payout.

⁶⁵ In many cases, the acquirer would receive cash or would purchase more assets than the liabilities that it assumed, or both. In other cases, including some of the largest loss-share transactions, the relationship between the asset discount and the FDIC's loss was more complicated, but the FDIC's loss generally amounted to 80 to 100 percent of the asset discount.

⁶⁶ There were additional expenses and recoveries as well, but these were small in comparison with the loss-share payments and the asset discounts. On true-up payments, see the beginning of the section above titled "Evolution of FDIC Franchise Sale Offerings." Some early termination payments were probably influenced by anticipated future true-up payments. As of year-end 2016, true-up payments were expected from 64 percent of the outstanding loss-share agreements that included true-up provisions.

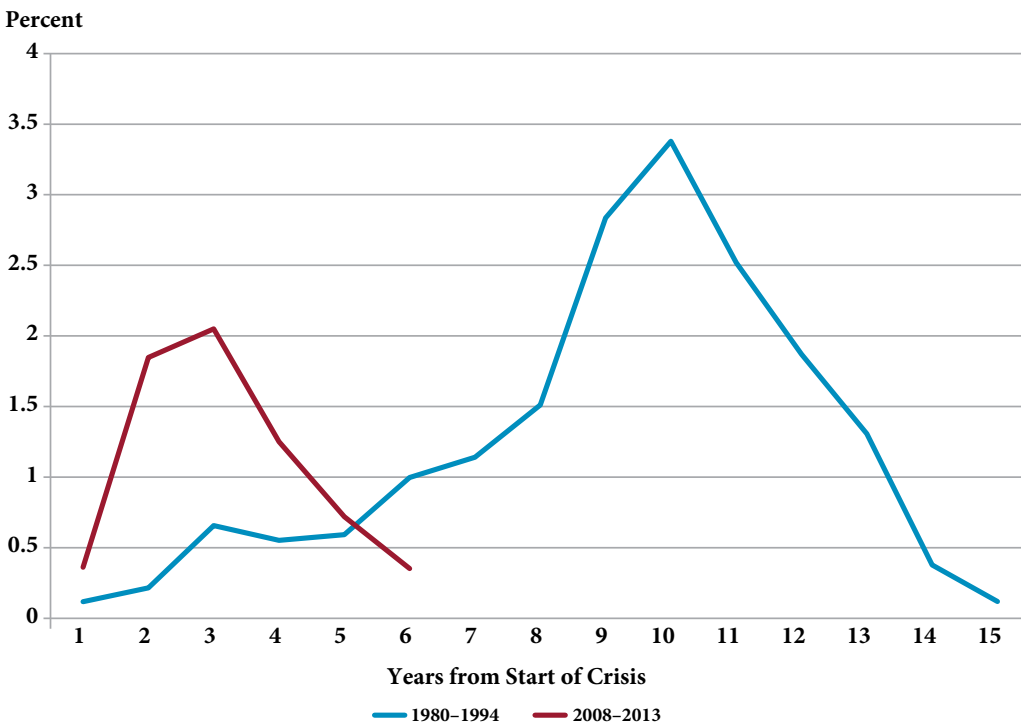
⁶⁷ Among the important tasks not discussed are accounting, reporting, deposit insurance determination, receivership liability management, contract management, legal claims, and enforcement.

substantial staffing and infrastructure to execute well, and so this section begins with a discussion of the FDIC’s staff at the onset of the crisis and the process that was followed to develop the necessary resolution and receivership infrastructure to manage the workload. The section goes on to discuss strategic considerations: interactions and trade-offs.

Staffing and Infrastructure

As noted above, the events in the last half of 2008 and the corresponding rise in resolution activity were more severe and—importantly—unfolded more quickly than the FDIC’s planning efforts had envisioned. The plans anticipated that individual large banks would fail quickly but did not anticipate either the number of large-bank failures or the increased speed of small-bank failures. Figure 6.3 compares the 1980–1994 crisis with the 2008–2013 crisis in terms of the speed and extent of failures.

Figure 6.3. Failed Banks as a Percentage of All Banks by Year from Start of Each Crisis

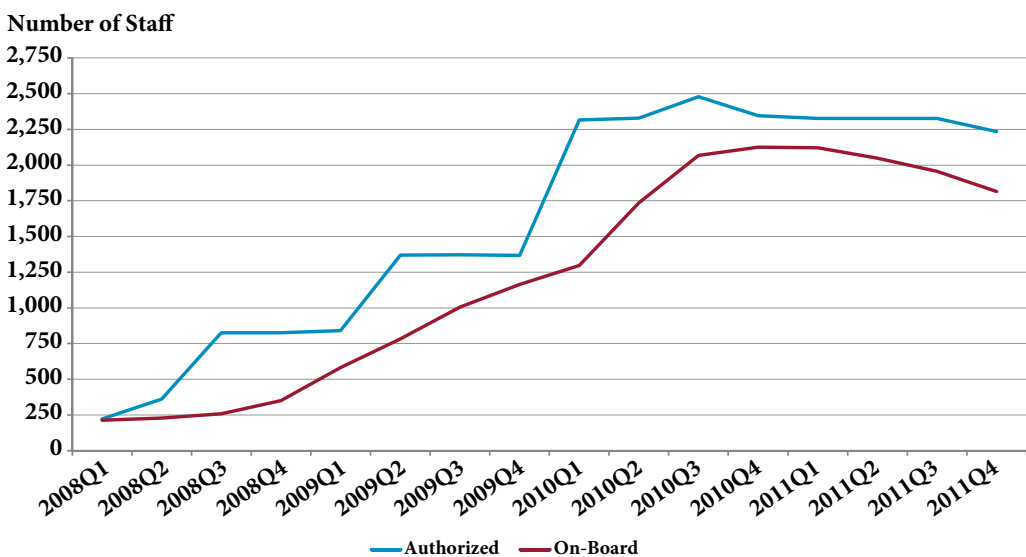


Failure rates increased much faster during the 2008–2013 crisis: by 2009, the second year of the recent crisis, almost 2 percent of banks had failed—a rate that was not reached until the previous crisis was past its eighth year. The difficulty of keeping pace with the speed at which the recent crisis unfolded imposed costs on the FDIC. In some cases the costs were relatively minor, such as when the accounts payable function fell behind in paying bills, which it did for several receiverships. In other cases, the costs were potentially more substantial. For example, some assets might have lost value because asset management

resources were overtaxed. In addition, the FDIC’s staffing challenges were always kept in mind when decisions were being made about resolution offerings to potential bidders.

In June 2008, the FDIC increased its authorized staff for the Division of Resolutions and Receiverships (DRR) from 227 to 339. By September 2008, the total authorized DRR staff stood at 825, but the actual on-board DRR staff was only 259. The hiring of additional staff became a priority, and the FDIC dedicated resources to building its staff.⁶⁸ Even so, it took time to search for, hire, and train new staff while also abiding by the various procedures and mandates related to hiring federal employees. Looking ahead to the “Lessons Learned” section, one can see that more-robust pre-crisis readiness planning may help reduce such delays in the future.⁶⁹ Figure 6.4 represents total authorized and on-board DRR staff during the first four years of the crisis.

Figure 6.4. Total DRR Authorized and On-Board Full-Time Staff, 2008–2011



The FDIC eventually reviewed more than 25,000 applications for DRR positions, and in 2011, when DRR staffing was at its peak, the Division had more than 2,100 employees—an almost tenfold increase from the number at year-end 2007. To reduce the kind of staff disruption and layoffs that had occurred during and after the 1980–1994 crisis, the FDIC hired mostly temporary employees. Of the total DRR staff at its peak, over 80 percent were temporary employees.

⁶⁸ Note that DRR received critical support from other divisions, especially in the legal and administrative areas. These other areas, as well as the bank supervision area, were also stretched thin as the crisis ramped up, and thus the staffing efforts extended beyond DRR.

⁶⁹ For example, new organization charts and position descriptions could be drafted and approved ahead of time as part of a readiness plan.

More than 60 of the employees were rehired annuitants. The plan to rehire annuitants was one part of the FDIC's readiness planning that proved to be particularly beneficial because these highly seasoned retirees were able to immediately begin contributing to receivership activities. In contrast, the Corporate Employment Program did not work as designed. The CEP assumed that many of the employees who would be shifted to resolution tasks would come from the supervision area. However, as resolution activity began to increase, the workload of other divisions—including supervision—also increased, so that the realignment of resources was inhibited. (See chapter 4 for additional discussion.)

Much like the consolidated offices established during the 1980–1994 crisis, regional temporary satellite offices (TSOs) were established in the 2008–2013 crisis. Their primary tasks were managing resolution and receivership activities and selling any retained assets related to failed financial institutions in their geographic area of responsibility.⁷⁰ The opening of the first TSO was authorized by the FDIC in November 2008, and took place three months later, in California. Two additional TSOs were subsequently opened: a Florida office in August 2009, and an Illinois office in May 2010.

The use of TSOs allowed for easier coordination during bank failures: they improved FDIC communication with the staff of the failed institution and with acquirers, borrowers, and creditors; and they reduced travel costs. They also improved the FDIC's hiring options because they were located in areas with large numbers of finance professionals seeking work. In contrast to what had happened during the 1980–1994 crisis, the TSOs were closed as planned. The temporary staff began to decline in 2011. The California TSO closed in January 2012, the Illinois TSO in September 2012, and the Florida TSO in April 2014.

Staffing was one concern, and infrastructure was another. Infrastructure here refers to two things: enhanced information technology (IT) capability, and the use of contractors.

The FDIC's readiness planning had included building an enhanced IT infrastructure, and the Corporation improved its ability to market failing depository institutions by establishing virtual data rooms (VDRs) that streamlined the process of providing information to potential acquirers of failed banks.⁷¹ This change proved to be instrumental in the effective marketing of failed institutions, and without such a pre-crisis investment it would have been much harder to successfully sell as many failed institutions. A new general ledger was introduced in 2005, and in 2007 the FDIC implemented a new franchise marketing and asset management tool and began developing a new insurance determination system. Some of these IT investments were more successful than others. The unexpected size and speed of the 2008–2013 crisis challenged the design and capacity of some of the updated IT infrastructure, which had

⁷⁰ FDIC Board Resolution 11-08 No 077274.

⁷¹ VDRs are electronically accessed data repositories that provide potential bidders with access to financial data on the failing institution, legal documents, information on the due diligence process and on bidding procedures, and descriptions of the resolution transactions being offered.

been built for a slower-developing and smaller crisis.⁷² These experiences emphasized the importance of scalability in the designing of IT systems and the associated business processes related to resolutions and receiverships.

Another key component of the FDIC's resolution infrastructure was the extensive use of contractors throughout the 2008–2013 crisis. Early in the crisis, when staffing was especially thin, the use of contractors was an essential part of the FDIC's failure-resolution process. However, the contract review process was overtaxed, and it quickly became apparent that the contracting arrangements in place as of year-end 2007 were insufficient for the volume and type of work required. In addition, the time frame to approve new contracts or to modify existing contracts under FDIC's delegations of authority was not conducive to supporting the volume of failures that the FDIC faced early in the crisis. (Delegations of authority define the levels of FDIC management that are authorized to approve various actions. For example, contracts above \$10 million might require approval by the FDIC Board of Directors.) Thus, several adjustments were made to provide timely contractor services that could keep pace with the number of failures. These adjustments included entering into many more contracts, expanding the sizes of contracts, and adjusting the delegations of authority.

In addition, the FDIC built up its contract oversight process. To manage the rapidly expanding workload, it was necessary to hire and train Contract Oversight Managers at a very fast pace. The FDIC developed and implemented new contractor evaluation metrics, established contractor performance evaluations to assess current contractors or to award future contract tasks, created automated systems for compiling contractor metrics, and streamlined the process of getting contractors on board. In 2010, the FDIC established a central contract oversight group that supervised most of the Corporation's receivership contracts.

Once an adequate set of contracts was in place and capacity was increased, the FDIC's overall experience with the use of contractors was positive. The contracts supported a wide variety of tasks, including accounting, financial reporting, investigations, loan servicing, real estate management, asset sales, specialized asset sales, information technology services, data analysis, reviews of compliance with loss-share agreements, and asset valuation. Over the course of the crisis, however, the need for contractors diminished. In 2008, contractor expenses made up 60 percent of total receivership expenses, but as the FDIC staff was built up, expenditures on contractors gradually fell. In 2013, contracting costs made up 32 percent of total receivership expenses.

The staffing, IT, and contracting resources that were developed during the crisis supported numerous resolution and receivership activities, some of the most important of which were related to the management and disposition of the assets that were retained in receivership.

⁷² In addition, there were delays in developing the insurance determination system; it was completed in 2010.

Strategic Considerations: Interactions and Trade-Offs

All assets that are retained in a receivership have to be liquidated (sold) according to the principles stipulated in FDICIA:

[T]he Corporation shall conduct its operations in a manner which—

- (i) maximizes the net present value return from the sale or disposition of such assets;
- (ii) minimizes the amount of any loss realized in the resolution of cases;
- (iii) ensures adequate competition and fair and consistent treatment of offerors;
- (iv) prohibits discrimination on the basis of race, sex, or ethnic groups in the solicitation and consideration of offers; and
- (v) maximizes the preservation of the availability and affordability of residential real property for low- and moderate-income individuals.⁷³

Within this broad mandate, the FDIC has considerable flexibility in formulating asset liquidation strategies, but it also must consider a number of inherently contradictory goals and make a number of trade-offs. These trade-offs are discussed below. They are always considered in the context of the need to make the three basic choices that influence the returns from receivership sales: how quickly to sell; what sales method to use; and how to service the assets before they are sold. And these decisions are interdependent. For example, if the FDIC chooses sales methods that require a long preparation time before the assets are sold, then the FDIC must stand ready to manage a large portfolio of assets during crisis periods (because as existing assets are prepared for sale, others will come in and the total number and value of assets in receiverships will build up). Therefore, the FDIC must consider all three aspects of its asset sale process—how quickly, what method, and how to service—as it makes decisions about retained asset sales and management and how best to meet the statutory requirements.

As noted in the “Background” section early in the chapter (in the subsection titled “Past Strategy”), after its experience in the crisis of 1980 to 1994, the FDIC sought to return retained assets to the private sector quickly. However, the economic environment in 2008 through 2013 made this hard to do without incurring significant losses. This difficulty highlights an inherent trade-off when it comes to speed in asset sales. On the one hand, quick sales avoid potential inefficiencies and costs associated with government asset management; these inefficiencies could include weaker incentives to maximize asset recoveries (compared with incentives in the private sector),⁷⁴ additional loan servicing transfer costs,⁷⁵ and more-

⁷³ 12 USC § 1821(d)(13)(E). See also 12USC § 1823(d)(3)(D).

⁷⁴ Researchers have suggested several reasons for weakened incentives if the government manages assets. For additional discussion, see William L. Megginson et al., “The Choice of Private versus Public Capital Markets: Evidence from Privatizations,” *Journal of Finance* 59, no. 6 (2004): 2835–70.

⁷⁵ A loan servicing transfer is a change in the company that processes loan payments. These companies

costly audit and review processes (compared with the private sector).⁷⁶ Further, as noted above, the accumulation by the government of a substantial share of assets may cause an asset overhang problem that could cause private investors to defer asset purchases in the belief that prices will drop in the future.⁷⁷ On the other hand, if a liquidating entity like the FDIC sells assets quickly in a downturn, it may obtain poor prices for even high-quality assets, as competition for asset sales is weak and potential buyers with the best ability to maximize asset values might lack the resources needed to bid on the assets.⁷⁸ Thus, buyers would be likely to expect to get bargains and would bid accordingly. Moreover, when asset markets are experiencing fire sales,⁷⁹ the quick sale of significant amounts of retained assets by a large entity like the government may worsen market conditions. Because the effects of quick asset sales vary substantially with market conditions and because the FDIC sells assets during periods of both good and bad market conditions (but mostly when markets are weak), the FDIC's best strategic choices may change as market conditions shift.

In addition to questions about the timing of asset sales, the FDIC must consider the best method of selling assets. The FDIC relied heavily on competitive auctions for its sales of retained assets.⁸⁰ Researchers have found that the best choice of auction format depends on the situation (e.g., market conditions, asset characteristics) in which the

collect loan payments, maintain loan records, collect and pay insurance and taxes related to loans, and follow up on loan delinquencies. They charge fees to take on new assets. In addition to the fees, loan servicing transfers may impose indirect costs, such as lost information or delays or miscommunications in addressing delinquencies. The number of loan servicing transfers is reduced if assets are sold at or shortly after resolution.

⁷⁶ Governments inevitably face more public scrutiny than private companies. For additional discussion, see Seidman, *Full Faith and Credit*.

⁷⁷ See the subsection "Past Strategy" for a description of an asset overhang, and see note 14 for related literature.

⁷⁸ See Andrei Shleifer and Robert W. Vishny, "Liquidation Values and Debt Capacity: A Market Equilibrium Approach," *Journal of Finance* 47, no. 6 (1992): 1343–66; also Joao Granja, Gregor Matvos, and Amit Seru, "Selling Failed Banks," *Journal of Finance* 72, no. 4 (2017): 1723–84.

⁷⁹ A fire sale is a sale in which a financially constrained asset holder sells an asset for less than its true value because the holder needs cash right away. During the 2008–2013 crisis, the prevalence of fire sales led several types of assets to lose value very quickly. Fire sales were also exacerbated by a lack of financing options for potential buyers. For more details, see Andrei Shleifer and Robert W. Vishny, "Fire Sales in Finance and Macroeconomics," *Journal of Economic Perspectives* 25, no. 1 (2011): 29–48; Markus K. Brunnermeier, "Deciphering the Liquidity and Credit Crunch 2007–2008," *Journal of Economic Perspectives* 23, no. 1 (2009): 77–100; *Turmoil in U.S. Credit Markets: Recent Actions Regarding Government Sponsored Entities, Investment Banks and Other Financial Institutions, Before the Senate Banking, Housing, and Urban Affairs Committee*, 110th Cong. (September 23, 2008) (testimony by Henry M. Paulson Jr., Secretary of the Treasury); and Timothy F. Geithner, *Stress Test: Reflections on Financial Crises* (2014).

⁸⁰ Other options include selling assets at a fixed price, negotiating with borrowers to recover funds, negotiating sales with potential buyers, or, for performing loans, holding assets and collecting the payments.

auction will be held.⁸¹ In practice, it can be hard to identify the ideal auction format, but the FDIC used a variety of auction formats in response to the circumstances it faced.

The FDIC also faces decisions and trade-offs associated with the terms of the sale. A basic question is whether to sell the asset outright or retain some risk in hopes of higher prices. For some of its sales of retained assets, the FDIC set terms that shared risks with the buyer (that is, where the FDIC and the buyer shared future asset losses and recoveries). More specifically, the FDIC's securitizations⁸² and limited liability companies⁸³ included risk-sharing provisions. Like the use of P&A agreements with loss share for franchise sales, these risk-sharing sale methods have the potential to improve prices—but the FDIC could lose money after the sale if asset values drop or if the assets are not well managed. In addition, these risk-sharing options require oversight after the sale is complete, and the costs associated with the oversight function are large enough that asset sales with risk-sharing are not cost-effective for small amounts of assets. In contrast, selling assets outright is simpler to execute and reduces the FDIC's risk exposure immediately, thereby eliminating the need for oversight.

Several characteristics of the economic environment during the crisis made the risk-sharing of assets attractive to buyers: the sudden and steep deterioration in some asset markets at the beginning of the 2008–2013 crisis, the accompanying uncertainty about asset values,⁸⁴ and the lack of good information about some failed-bank assets. But if the terms of these transactions are not properly designed, risk-sharing can weaken the incentive for buyers to manage assets well. Good contract design and monitoring processes are therefore vital to the success of this strategy.

The question of how to service assets is primarily focused on loans because most retained assets are loans and, as described below, the servicing of loans is a complex task. On the servicing question, the FDIC chose not to hire contractors to do both the loan servicing and the loan sales (which is a method that was used in the 1980–1994

⁸¹ Numerous authors have found connections between asset sale processes (and especially auction formats) used by sellers of assets and the resulting sales revenue. See, for example, Paul Klemperer, "Auction Theory: A Guide to the Literature," *Journal of Economic Surveys* 13, no. 3 (1999): 227–86; Vijay Krishna, *Auction Theory* (2009); and Guhan Subramanian, *Negotiauctions: New Dealmaking Strategies for a Competitive Marketplace* (2010). However, much of the research involves theoretical analyses that do not fully capture the circumstances faced by the FDIC as it makes decisions about auction formats.

⁸² Securitization is the process of creating one or more securities that are collateralized by a pool of other financial assets and are then sold to investors. The sections below titled "Sales of Securities" and "Securitizations" describe the FDIC's securitization activities during the crisis.

⁸³ A limited liability company (LLC) is a hybrid type of legal structure that provides the limited liability features of a corporation and the tax efficiencies and operational flexibility of a partnership. The section below titled "Limited Liability Companies" describes the FDIC's LLC activities during the crisis.

⁸⁴ Nicholas Bloom, "The Impact of Uncertainty Shocks," *Econometrica* 77, no. 3 (2009): 623–85, found that increases in uncertainty have been accompanied by decreases in investment, while Bloom et al., "Really Uncertain Business Cycles," NBER Working Paper Series 18245, 2012, found that uncertainty rises during recessions and could be an important driver of business cycles.

crisis) because of the challenges of designing good contract incentives.⁸⁵ The other options for servicing retained loans are discussed in more detail below (in the section titled “Asset Servicing”).

Receivership Tasks during the Crisis

Any discussion of receivership tasks during the 2008–2013 crisis must begin with the dimensions of the FDIC’s receivership responsibilities during that period and then with the particulars of what was entailed in servicing assets at that time. The environment and the particulars of what had to be done lead directly to the methods the FDIC used for selling retained assets and to decisions about which methods would be best for which asset type: the trade-offs discussed above can be seen influencing the FDIC as it decided on the best way to manage and sell the assets it held in receivership. Finally, this section discusses one important receivership task that did not have to do with selling retained assets but, instead, followed directly from decisions made during franchise marketing: the administration and oversight of loss-share P&As.⁸⁶

The Dimensions of the FDIC’s Receivership Responsibilities during the Crisis

As of year-end 2007, the FDIC was managing only \$800 million of assets that were retained in receiverships, but by year-end 2008 that number had risen to \$15.1 billion. Figure 6.5 shows certain key types of assets held for liquidation for the years 2008 through 2013. During that period, the FDIC managed a total of \$87.5 billion in assets from 492 failed depository institutions.⁸⁷

The volume of receivership assets peaked in 2009 and then steadily decreased. The reduction in receivership assets was the result of several factors. The failure rate stabilized and then fell after 2010, and compared with 2009, the volume of new assets that were retained in receivership at resolution dropped somewhat in 2010 and substantially after 2010, as the asset size of the failed banks fell. As the failure rate stabilized, the FDIC continued to liquidate its previously acquired assets, reducing the total number of assets in liquidation. Moreover, in more than 60 percent of failures during the 2008–2013 crisis,

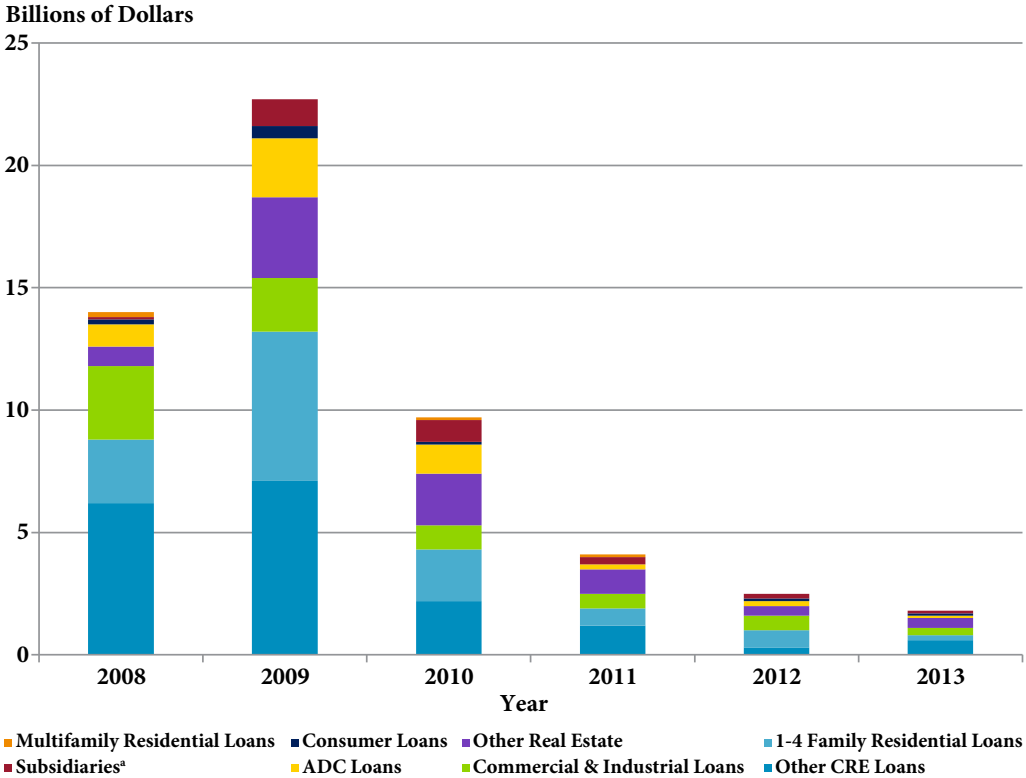
⁸⁵ See FDIC, *Managing the Crisis*, 333–71, for additional discussion of the importance of incentives in these types of contracts and the related challenges. See also Resolution Trust Corporation, “Hard to Sell Asset Review Project,” 1992.

⁸⁶ As noted previously, a number of important tasks are not discussed in this chapter, including accounting, reporting, deposit insurance determination, receivership liability management, contract management, legal claims, and enforcement.

⁸⁷ In addition to the 489 bank failures during the crisis period, there were a few receiverships from pre-crisis bank failures that were still open when the crisis began.

the receiver did not retain any loans from the failed institution.⁸⁸ From 2008 to 2016, the FDIC liquidated almost 95 percent of the assets that were retained in the 489 receiverships created during the crisis, and only \$3.2 billion of the assets remained unsold. In addition, the FDIC had terminated 145 (30 percent) of the receiverships.

Figure 6.5. Loans, ORE, and Subsidiaries in Liquidation, 2008–2013



Asset Servicing

Most of the assets that were retained in receiverships during the crisis were loans, and for retained loans the FDIC as receiver undertook the associated servicing responsibilities previously held by the failed institution. Loan servicing included general loan administration tasks such as collecting payments and managing escrow accounts, but it also included more resource-intensive responsibilities such as monitoring delinquencies, managing defaulted loans, and approving loan or line of credit disbursements. Like private-sector institutions, the FDIC was subject to a large number of statutory and

⁸⁸ In other words, the acquirer purchased all the loans.

regulatory requirements that set standards for loan servicing tasks.⁸⁹ For foreclosed properties, servicing involved property management tasks such as maintaining the property, collecting rents, paying local taxes, and so forth.

As part of receivership planning, the FDIC began analyzing loans that required special attention, such as unfunded and partially funded lines of credit, and ADC loans.⁹⁰ In some cases, decisions to extend additional credit were a matter of policy. For example, the FDIC advanced additional credit to a wilderness farm that would otherwise have lacked the necessary funds to provide food for its animals. Many funding decisions were time sensitive, and it was important for the FDIC to have the capabilities to make prompt decisions about extensions of credit. To that end, the FDIC had explicit delegated authority for determining whether to extend additional funds under a failed institution's credit facility.

In the years between the 1980–1994 crisis and the most recent crisis, the FDIC had established the internal goal of placing 90 percent of the marketable loans retained in receivership in a sales initiative within 90 days of the failure date (and another internal goal of terminating receiverships [in the absence of specific impediments] within three years).⁹¹ In those interim years, when an institution failed, the FDIC generally managed and sold the loans from a field receivership site that was established at the failed bank's location. The FDIC was usually able to sell all, or almost all, of the retained loans from the receivership site at reasonable prices within three months. The FDIC would continue to operate the necessary IT systems that had been used by the failed institution and would retain enough staff members from the failed institution to service the assets until they were sold. This strategy was economical, and it allowed the FDIC to close the receivership field site promptly and avoid costly loan servicing transfers.⁹²

As the crisis began to unfold, however, the FDIC no longer received bids that met its price expectations on its bulk loan sales that occurred immediately after failure. For example, bidders were offering 30 to 50 cents on the dollar for performing loans that, in better times, had sold at or close to par. Consequently loans were not sold and field receiverships remained open for an extended time—upward of a year or even longer. The accumulation of assets at different receivership sites was expensive, and it became

⁸⁹ Relevant statutes include (but are not limited to) the Equal Credit Opportunity Act, the Truth in Lending Act, the Small Business Regulatory Enforcement Fairness Act, the Service Member's Civil Relief Act, the Fair Debt Collections Practices Act, and the Fair Credit Reporting Act.

⁹⁰ FDIC, "A Borrower's Guide to an FDIC Insured Bank Failure," <https://www.fdic.gov/bank/individual/failed/borrowers/>.

⁹¹ See FDIC, "Annual Performance Goals," 2008. ("Percentage of failed institution's assets marketed: 90 percent of the book value of a failed institution's marketable assets is marketed within 90 days of failure.") For details on the FDIC's current strategic goals, see FDIC, "Strategic Plans," <https://www.fdic.gov/about/strategic/>.

⁹² See note 75 for a definition of a loan servicing transfer and a discussion of the related costs.

increasingly difficult to manage the overall portfolio or to take advantage of opportunities to coordinate sales of assets across receiverships.⁹³ Therefore, the FDIC shifted to a policy of transferring retained loans to national servicers⁹⁴ within 90 days of an institution's failure (at least for loans that were not expected to sell quickly from the receivership field site at reasonable prices).⁹⁵ The national servicers collected information on the receivership loans on-site, which reduced costs and improved data quality. After 2010, the FDIC began to rely heavily on national servicers as its primary asset managers. As a result of the switch to national servicers, the average time the FDIC remained on-site at a failure decreased from more than a year to about 115 days.

Asset Sales by Type of Asset

Because the types of assets that needed to be sold influenced both the FDIC's decisions about sale methods and the markets into which the retained assets were sold, the FDIC generally organized its sales efforts by asset type. The three asset types whose sales are discussed here are securities, loans, and ORE.

Sales of Securities. In most cases, the acquiring institution assumed the failed institution's holdings of U.S. Treasuries, municipal securities, and similar investment-grade securities. The FDIC usually offered the other securities from the failed institution to potential acquirers as part of the franchise sale at resolution, but often potential acquirers were not interested in purchasing risky, illiquid securities and priced them accordingly. Thus the FDIC retained many illiquid, hard to price, and complex securities in its receiverships.

For disposal of the more liquid securities, competitive auctions to qualified bidders were conducted by in-house staff, sometimes with the assistance of a financial advisor under contract to the FDIC. This method was typically used for agency debt, agency-issued mortgage-backed securities, and municipal securities—all of them where potential bidders could use prices paid for other recent sales to inform their bids.⁹⁶

⁹³ The average cost of maintaining an open receivership site, including rent, receivership assistance contracts, and payroll services contracts, was about \$500,000 per month. Many of the costs did not decline even as the number of outstanding assets declined. In addition, failed-bank staff members or general-purpose receivership contractors were not always highly skilled in asset management. Moreover, it was hard to develop and maintain accurate, up-to-date asset listings for all the assets in receivership when assets were being serviced at a large number of open receivership sites.

⁹⁴ National servicers are servicers and private firms that specialize in loan servicing and have a national (rather than local) scope.

⁹⁵ Currently the decision as to whether the loan portfolio can be sold quickly on-site or whether it is moved to a national servicer for a structured transaction is made on a case-by-case basis. If the FDIC can obtain about the same price for a loan sale made on-site right after failure as it can with later sales from a national servicer (possibly using a structured transaction), it is advisable to sell from the receivership site, which—when a quick sale at a market price is feasible—has lower management costs compared with the cost of using a loan servicer.

⁹⁶ Likewise, the FDIC could use recent asset prices to set reserve prices (that is, the minimum price that the

In situations where the FDIC liquidated securities with transfer restrictions, or in cases where there was a limited number of candidate purchasers for a specific asset, a negotiated sale was arranged.⁹⁷

The FDIC retained a substantial volume of private label mortgage-backed securities (PLMBS) that acquirers rejected. Because few investors were purchasing these types of assets at the time, the FDIC believed that the prices it could obtain in an auction would fall below the long-term value of the securities. Therefore, the FDIC used the PLMBS that were retained in receiverships to collateralize eight PLMBS securitizations that it issued in 2010.⁹⁸ Seven were residential MBS and one was a commercial MBS. This strategy improved pricing and marketability because the FDIC provided a guarantee, backed by the full faith and credit of the U.S. government, for the senior tranche of each securitization.⁹⁹ The securitizations had two features to help reduce the FDIC's potential exposure under the guarantee. First, the senior tranche was overcollateralized, allowing the securitization to absorb substantial losses without triggering the FDIC guarantee. Second, the FDIC used interest earned on the underlying MBS to make payments toward the principal balance in the senior tranche.

The PLMBS securitizations were considered a successful alternative to auctioning the securities in 2010. The principal balance of the PLMBS that were used to collateralize the FDIC securities was \$6.35 billion. The FDIC estimated it would net \$3.46 billion if it sold the PLMBS in 2010 through an auction. Providing a guarantee improved the securities' marketability, and the face value of the securitizations sold was \$4.2 billion. Additional proceeds from the securitizations, such as guarantee fees and increases in the value of retained interests, resulted in a projected recovery of \$5.12 billion,¹⁰⁰ which was 48 percent more than the estimated recovery from an auction at the time. As of year-end 2016, the outstanding face value of the FDIC securities was \$1.06 billion, but the outstanding face value of the underlying securities was \$2.82 billion. Any payments made on the underlying securities that were not needed to satisfy the FDIC securities would go to the receiverships.

It is impossible to determine with certainty whether the securitizations were more advantageous than a strategy of holding the PLMBS for future auction would have been. The securitizations provided a substantial cash recovery in 2010, thus improving the FDIC's cash position compared with what it would have been if a holding strategy had been used, and enabled the FDIC to receive much better prices than the prices that would

FDIC would accept). These securities had low loss rates.

⁹⁷ For example, negotiated sales could be used for limited partnership interests, closely held securities, and securities with a "right of first refusal" restriction.

⁹⁸ After 2010, the FDIC did not acquire enough mortgage-backed securities to warrant further securitizations.

⁹⁹ A senior tranche is the least risky tranche in a securitization and takes losses only when all the other tranches have lost their full value. For a detailed explanation of securitization and tranches, see chapter 1.

¹⁰⁰ This figure includes the transaction cost associated with securitizations.

have been achieved with a cash sale. Both approaches (securitization with a guarantee, and holding) required that the FDIC bear the full risk of further price deterioration, but holding the MBS might have allowed the FDIC to more fully participate in potential price improvements, receive slightly higher interest income, and avoid certain transaction costs.

Sales of Loans. The FDIC retained over \$50 billion in loans in its receiverships, and therefore the task of selling them was daunting. Moreover, there were many types of loans (ranging from small consumer loans to large commercial loans), and the quality of the loans varied (ranging from loans where the borrowers were routinely paying the loans on time, to loans that were in foreclosure proceedings). The FDIC used bulk sales to sell loans outright; in addition, it used two kinds of structured sales. Outright sales are when all aspects of ownership, including risk, are transferred from one party to another party. Structured sales are a form of joint ownership where multiple parties share not only the asset management responsibilities but also the benefits and costs of a pool of assets.¹⁰¹ The two kinds of structured sales the FDIC used were securitizations (defined in note 82 as “the process of creating one or more securities that are collateralized by a pool of other financial assets and are then sold to investors”) and limited liability companies (LLCs), which were the legal entities used to execute a type of joint venture that was used heavily during the crisis.

—***Bulk Sales.*** The FDIC routinely offered loans for bulk sale, in pools grouped by loan type, loan performance status, and/or geography; these types of sales are often called “bulk loan sales” or “whole loan sales.”¹⁰² The FDIC used third-party contractors to sell the loans, usually at an on-line sealed-bid auction.¹⁰³ The contractor would provide Internet marketing, due diligence, imaging and indexing of files, pooling, an on-line bidding platform, and closing services for the sales. To encourage wide participation in the auctions, the FDIC sought potential buyers through many venues, and assets were marketed both through the FDIC’s public website and through the loan sale contractor’s website. Because of the challenges associated with estimating the value of many of these loans, the FDIC did not usually set reserve prices (that is, the minimum price that the FDIC would accept). Instead, it would monitor the extent of interest expressed by bidders (measured by the number of bids or the number of bidders who performed due diligence) to determine whether the winning bid constituted a true market price.

¹⁰¹ Contracts enumerate the responsibilities, benefits, and costs for each party. Clearly, these sales are more complex than straightforward asset sales, called here “outright sales.”

¹⁰² In locations where there were many loans for sale at the same time, the groups were more homogeneous. When the FDIC had fewer loans available for sale, the loan pools were more diverse.

¹⁰³ The FDIC’s sealed-bid process is a form of a “first price sealed bid auction,” where bidders submit bids to the auctioneer in such a manner that no other bidders know one’s bid—for example, in a sealed envelope. The bidder submitting the highest bid wins the object and pays what he or she bid.

The FDIC sold \$10.6 billion in retained assets using bulk loan sales; the loss rate for these loans was 49 percent.¹⁰⁴ Bulk loan sales carried no retained risk for the FDIC and provided quick cash infusions at a time when the DIF's cash balance was under pressure. Seller financing was never offered. Prompt loan sales limited the time during which the FDIC was required to service the retained loans. However, early in the crisis, relatively few buyers were interested in these loans (which were often viewed as high risk because they had been originated by failed banks), and the buyers who were interested often suffered funding constraints or were seeking bargains. Given the loss rates for cash loan sales of assets related to real estate, the FDIC found structured instruments (such as loan securitizations and LLCs, discussed below) to be an appealing alternative.

—**Securitizations.** As the volume of unsold loans held in receiverships increased during the 2008–2013 crisis, the FDIC explored alternative disposition options, including loan securitizations. With the securitization market remaining largely frozen at the start of the 2008–2013 crisis, the FDIC began to securitize loans with an FDIC guarantee, backed by the full faith and credit of the U.S. government, to increase the marketability and prices of its securitizations. From 2010 through 2013, the FDIC issued eight securitizations backed by \$3.0 billion in loans; six transactions had an FDIC guarantee on the senior tranches. The total face value of the Class A securities (see next paragraph) was \$2.2 billion, or 73.9 percent of the collateral book value.

After the FDIC identified and assembled loans for securitization, an underwriter recommended a securitization structure. For example, the first securitization issued was structured with three classes (the senior “A” tranche, the mezzanine “M” tranche, and the first loss “OC” tranche) as well as with residual certificates. For the securitizations of performing loans, the senior class (that is, the “A” tranche) typically accounted for 80 to 85 percent of the overall capital structure and carried an FDIC corporate guarantee.¹⁰⁵ Generally, subordinate interests on the residential securitizations (all junior classes below the guaranteed senior tranches) were held by FDIC receiverships, with the option of marketing them at a later date. Subordinate-class certificates on commercial property transactions were sold to private investors at issuance. For both residential and commercial transactions, all residual certificates were retained by the FDIC.

The FDIC Board of Directors approved each securitization before it was marketed. The FDIC drafted clauses in its securitization trust documents that were designed to reduce operational risk. Third-party contractors facilitated all aspects of the securitization transaction, including pricing, marketing, and settlement. Consistent with the improving asset markets, all of the transactions performed above original expectations. As of the end

¹⁰⁴ For additional details, see <https://www.fdic.gov/buying/historical>.

¹⁰⁵ For the two securitizations where most of the collateral was nonperforming loans (that is, loans where the borrowers were delinquent), the size of the senior tranche was less than half of the collateral balance and no guarantees were provided.

of 2016, one transaction had been unwound;¹⁰⁶ the outstanding face value of the class “A” securities had decreased by over 80 percent, to \$395 million; and, \$928.3 million in collateral remained outstanding, with payments due to the receiverships. Therefore, it appears highly unlikely that the FDIC will be required to make payments on any guarantees.

The FDIC’s securitization program, in which a significant volume of loans were sold quickly, enabled the Corporation to improve its cash position. The FDIC was able to sell at reasonable prices, even when markets were in disarray, because it used its guarantee authority and retained the residuals; however, this also meant that the FDIC retained almost all of the risk exposure. The improving asset markets, as well as careful attention to contract design, contributed to the recoveries from these instruments and allowed the FDIC to avoid having to make guarantee payments.

—*Limited Liability Companies.* As an alternative to bulk sales or securitizations, the FDIC used what are referred to as equity partnerships, Structured Transaction Sales, or LLC transactions.¹⁰⁷ Whereas most of the loans that were securitized were of relatively high quality, most of the loans sold into Structured Transaction Sales were subperforming or nonperforming (that is, borrowers were delinquent or the loans had other problems). In a Structured Transaction Sale, the FDIC as receiver for one or more failed banks created a separate entity (the LLC) and then assigned assets to the LLC from one or more receiverships in exchange for all of the equity interest in the LLC. The FDIC then sold a portion of the LLC equity interest to a third-party investor that became the managing member of the LLC. Proceeds from the assets were paid to a custodian/paying agent, which distributed the proceeds to the FDIC and the investor according to the terms of the specific LLC agreement. When a large share of the assets had been liquidated, the LLC usually terminated with a bulk sale or the managing member’s buyout of the FDIC’s LLC interest.

During the 2008–2013 crisis the FDIC entered into 35 Structured Transaction Sales, disposing of 43,315 assets with a book value of \$26.2 billion. These Structured Transaction Sales disposed of approximately 30 percent of all assets unsold at bank resolution. The terms of each of the transactions were published by the FDIC.¹⁰⁸ Of the Structured Transaction Sales, 20 (57 percent) held ADC loans, 8 (23 percent) held other CRE loans, and 7 (20 percent) held single-family mortgage loans.¹⁰⁹ The average

¹⁰⁶ A transaction is unwound when the buyers of the FDIC securities have been paid in full and the security is extinguished. If, at that point, any of the loans that collateralized the securities have outstanding balances, then all the remaining payments made on the loans belong to the residual certificate holders—in this case the FDIC receiverships.

¹⁰⁷ As stated in note 83, an LLC is a hybrid type of legal structure that provides the limited liability features of a corporation and the tax efficiencies and operational flexibility of a partnership. The private-sector “owners” of an LLC are referred to as “members.”

¹⁰⁸ See FDIC, “Structured Transaction Sales,” <https://fdic.gov/buying/historical/structured/index.html>.

¹⁰⁹ Note that about \$1 billion of the assets were ORE rather than loans. Almost all of the ORE related to foreclosed ADC loans.

size of the ADC transactions was larger than the average size of the other types: ADC transactions constituted 65 percent of total LLC assets.

In September 2009, after six sales, the FDIC revised the form of the LLCs to offer financing as an option. By providing seller financing when such financing was not generally available from private sources, the FDIC hoped to attract more investor interest and improve prices. On the basis of feedback from potential acquirers and a preliminary analysis of bids received, the strategy seemed to be successful.

Table 6.6 provides information about the performance of these transactions. For each group of LLCs, four estimates of value are compared. The middle two columns aggregate estimates that were prepared by financial advisors shortly before the LLCs were created: they estimated the value of the assets if a cash sale were to be conducted or if an LLC were to be created. The last two columns aggregate estimates prepared by the LLC managing members (the companies that managed the LLCs). The “Initial” column reports the estimates that the managing members prepared shortly after each LLC was created, and the “June 2016” column reports the most recent estimates.

Table 6.6. LLC Recovery Rates

Category	Number of LLCs	Initial Book Value (\$ Millions)	Pre-Close Financial Adviser Estimate (%)		LLC Managing Member Estimate (%) ^a	
			Bulk Sale	LLC	Initial	June 2016 ^b
FDIC Financing						
No	12	5,868.5	23.4	34.5	34.1	33.4
Yes	23	20,306.6	31.9	42.5	42.2	51.5
Asset Type						
ADC	20	17,001.3	24.4	36.1	33.5	43.7
Other CRE	8	4,708.0	38.0	47.0	54.6	54.2
SFR	7	4,465.8	42.8	51.5	51.2	54.7
Overall LLC Program	35	26,175.1	30.0	40.7	40.3	47.4
Median		490.7	33.5	41.6	42.0	42.5
Mean		857.6	34.4	42.2	43.8	44.9
Standard Deviation		828.6	14.5	13.8	14.8	15.5

^a Net present value of projected or actual cash flows as of the LLC sale date, divided by the initial asset balance. The discount rate is adjusted for risk using a method similar to the one used in the FDIC’s financial statements. Note proceeds are discounted at lower rates than equity distributions.

^b For the June 2016 estimate, over 90 percent of the cash flows are actuals rather than estimates.

The aggregate across all LLCs showed that, on a program-wide basis, the estimated recovery from a bulk sale of the assets was 30 percent and the estimated recovery from an LLC sale was 40.7 percent. The managing members initially estimated a 40.3 percent recovery. The most recent estimates anticipate a 47.4 percent recovery. For 71 percent

of the transactions, the current estimates are higher than the original estimates.¹¹⁰ On the basis of the pre-close estimates, the use of LLCs would have saved the FDIC an estimated \$2.8 billion dollars (compared with bulk sale estimates); on the basis of the most recent estimates, the savings increased to \$4.6 billion. Improvements in the asset markets probably contributed to the increased return. On the basis of this simple comparison, seller financing did not appear to influence the difference between the two pre-close estimates (one for whole-loan sales and one for the LLCs); after the sale, however, the transactions with seller financing showed stronger improvements. ADC assets provided much lower returns (43.7 percent) than either other CRE (54.2 percent) or single-family residential assets (54.7 percent). ADC assets also showed the strongest improvements compared with the initial projections; this may be because of value added through effective servicing or because ADC loan values are more heavily influenced by improvements in the real estate market, or both.¹¹¹ In terms of the number of bids received or differences in the basic structure of the risk-sharing agreements, no clear trends in recoveries were readily discernible.

Sales of Other Real Estate (ORE). As with most types of assets in receivership, the number of ORE assets (that is, foreclosed properties) increased rapidly at the start of the 2008–2013 crisis, and by the end of the crisis more than 13,500 ORE assets had been acquired. To dispose of its ORE, the FDIC relied primarily on direct sales of the assets by real estate brokers. If the assets did not sell within established FDIC timelines, the properties were sold at public auction. One advantage of this strategy was that the brokers aggressively marketed the property during the listing period, since properties placed in public auctions were subject to a reduced commission. In addition, the FDIC found that disclosing that a property was to be included in a scheduled auction often caused a hesitant buyer, fearful of becoming involved in competitive bidding, to make an offer.

The FDIC's ORE auctions were held in a location near the properties being sold. In addition, often there were options that allowed bidders to submit bids by phone or online as well. The auctions included dozens, and sometimes even hundreds, of properties for sale from multiple receiverships. The FDIC sought to include a mix of attractive and less-appealing properties in each auction to increase interest and encourage competitive bidding. The properties were listed both on the FDIC's website and on the auctioneer's

¹¹⁰ Note that more than 90 percent of the most recent estimate has already been realized. All recovery estimates are discounted to the LLC sale date.

¹¹¹ The servicing of ADC loans is more complicated than the servicing of other real estate loans. See OCC, "The Comptroller's Handbook," 2013, for a discussion. For evidence that land prices are more volatile than other real estate prices, see Joseph B. Nichols, Stephen D. Oliner, and Michal R. Mulhall, "Swings in Commercial and Residential Land Prices," *Journal of Urban Economics* 73 (2013): 57–76, and Raphael W. Bostic, Stanley D. Longhofer, and Christian L. Redfearn, "Land Leverage: Decomposing Home Price Dynamics," *Real Estate Economics* 35, no 2 (2007): 183–208. Land makes up a larger share of the collateral value for ADC loans than for other types of real estate lending.

website before the sale. The FDIC set reserves for the properties at these auctions, based on its assessment of marketability and the length of time the property had been previously marketed. At least a few absolute auctions¹¹² were included to strengthen investor interest; these were typically used for the least desirable properties.

The types of ORE sold included bank premises, commercial properties, undeveloped land, multifamily properties, and single-family residences. The highest recovery rate (70.4 percent of book value) was for bank premises. These properties tended to be well maintained and located in well-trafficked areas. Other commercial properties had a recovery rate of 57.4 percent. The real estate class suffering the lowest total recovery rate was unimproved land, at 36.4 percent. This class of real estate, with no immediate use and sometimes located in areas that were overbuilt, often had very little value. The largest class by number of units of properties auctioned was single-family residential properties, constituting nearly 50 percent of the number of properties that were auctioned. The recovery rate for these properties was also higher, at 63.4 percent, than the overall recovery rate (59.4 percent) for all ORE sales.¹¹³

Loss-Share Administration and Oversight

One important task of receiverships does not have to do with selling retained assets but with following up on a critical decision made during franchise marketing. When the FDIC entered into loss-share agreements at resolution, the P&A contracts included a section that laid out the acquirers' and the FDIC's responsibilities associated with the assets that were to receive loss-share coverage. Because the FDIC retained a large share of the risk exposure from the portfolio of assets under loss-share agreements and because the FDIC's loss-share coverage might weaken the acquirers' incentives to work aggressively to minimize losses, it was important for the FDIC to protect its interests by carefully monitoring the acquirers' performance under those agreements.¹¹⁴

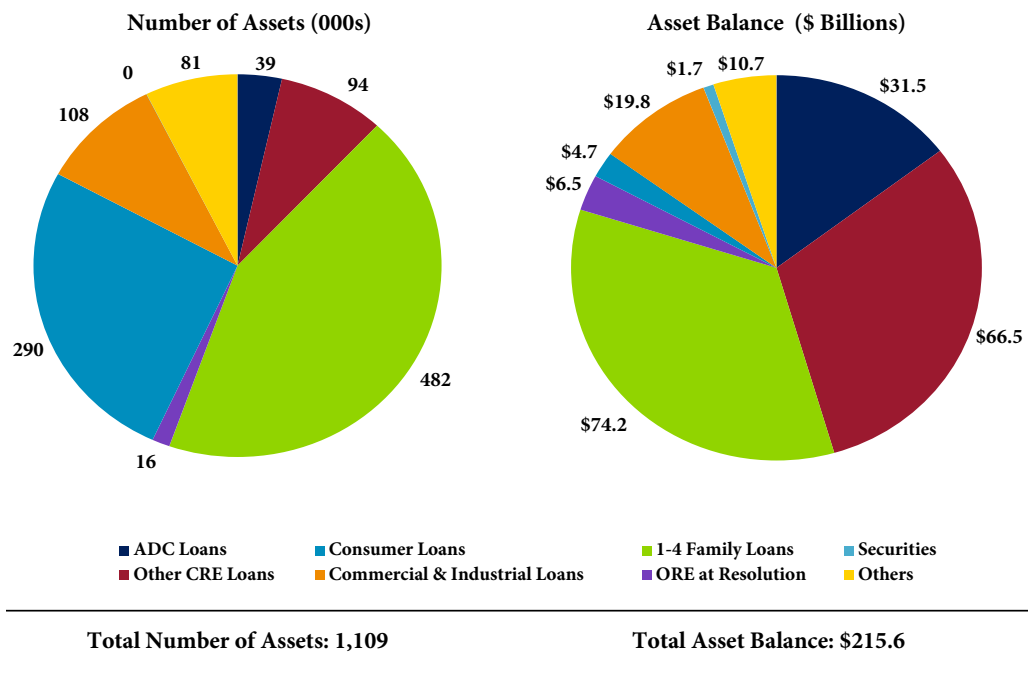
The portfolio of assets under loss-share agreements was dominated by real estate loans. CRE loans (which included both ADC loans and other types of CRE loans) constituted 45% of portfolio assets (\$98 billion), and single-family mortgages constituted 35% (\$74 billion). Another 3% (\$6.5 billion) was ORE. A total of 1.1 million assets were placed in the program. On the basis of asset counts, most of the assets were consumer loans: single-family mortgages constituted 43% of the assets, and other consumer loans constituted 26%. Figure 6.6 provides details.

¹¹² An absolute auction is an auction where the seller does not set a reserve price (minimum required price). Buyers are attracted to absolute auctions because they sometimes result in bargain prices.

¹¹³ Source: <https://sales.fdic.gov/closedrealestate/>. These figures include most, but not necessarily all, sales of retained ORE from 2008 to 2013.

¹¹⁴ For additional information about the loss-share program, see the section above titled "Loss-Share Purchase and Assumption." See also FDIC, "Loss Share Questions and Answers," <https://www.fdic.gov/bank/individual/failed/lossshare>.

Figure 6.6. Loss-Share Asset Portfolio at Resolution, Number and Dollar Amount



About 32% of the asset value of CRE loans came from ADC loans that were especially problematic.¹¹⁵ At resolution, 35% of the ADC loans were in default, whereas 11% of the other CRE loans were in default. About 9% of the single-family mortgages were in default at resolution.¹¹⁶

The primary goals of the review program were to minimize the FDIC’s losses and ensure that the acquirer complied with the terms of the loss-share agreement. If an acquirer had asset management weaknesses, inaccurate loss reporting, or other compliance problems, the FDIC could mitigate its losses by quickly identifying problems, asking the acquirer to address them, and following up with the acquirer appropriately. Two key components of the monitoring program were regular on-site reviews and the review of standard information reported by the acquiring banks. The FDIC undertook on-site reviews for most acquirers annually, although acquirers of the largest portfolios were reviewed semiannually.

The FDIC also required that acquirers with single-family loss-share coverage pursue a loan modification program. Under this program, the loan terms for delinquent owner-occupied single-family mortgages were modified (to make the loan affordable to the

¹¹⁵ Many failed banks had large ADC exposures. For additional discussion, see chapter 4 and U.S. General Accountability Office, “Causes and Consequences of Recent Bank Failures,” GAO-13-71, 2013.

¹¹⁶ Calculations are based on asset balances rather than counts.

borrower)¹¹⁷ if the estimated net present value of the modified loan was higher than the net present value of foreclosure.¹¹⁸ Acquirers had several options for assisting troubled borrowers in managing their mortgages, thereby minimizing FDIC costs: the acquirer could adopt the loan modification program described in the agreement, or other programs approved by the U.S. Treasury (such as its Home Affordable Modification Program [HAMP]), or other programs that met the same purpose.¹¹⁹ As of March 2017, acquiring banks had modified 25,736 owner-occupied first-lien single-family mortgages, and two-thirds of the loans were still active and under the loss-share program. Almost 80 percent of the modified loans that were active in the loss-share program were current, and another 6.6 percent were 30 to 59 days delinquent. Compared with other loan modification programs, these results appear generally favorable. For example, Fitch reported cumulative-to-date default rates of 30 percent or more for modified loans.¹²⁰

Because loss share imposes administrative costs on both the acquirers and the FDIC, it was often beneficial to terminate agreements once the value of the FDIC's loss-share coverage fell below the loss-share agreements' administrative costs. As of year-end 2016, the FDIC had terminated 151 single-family agreements and 156 non-single-family agreements. In sum, all the agreements at 159 failed banks had terminated.¹²¹ In 2017, early termination activity continued to be brisk.

Lessons Learned for Resolutions and Receiverships

As the crisis unfolded, the FDIC learned a great deal and kept making adjustments to improve its results. Some of the most important lessons learned from that experience are discussed here.

¹¹⁷ Loans were modified so that the monthly mortgage payment fell below a predetermined percentage of the borrower's income. This was achieved by reducing the interest rate, lengthening the term of the loan, and/or deferring principal and interest payments on part of the loan balance. For a sample agreement, see pages 58-93, and especially pages 92-93, of <https://www.fdic.gov/bank/individual/failed/firstfederal-cap-and-a.pdf>. Also, note that the FDIC provided loss-share coverage for modifications of noncurrent loans as well as performing loans with high risk of imminent default—that is, where there was a strong chance that the loan would default soon because of the loan characteristics.

¹¹⁸ In estimating the net present value of modifications, acquirers were expected to consider the redefault probability (that is, the probability that the loan might default again) after modification.

¹¹⁹ The FDIC had to approve alternative programs (except the U.S. Treasury programs) to ensure that they met the program goals.

¹²⁰ Fitch, "Risk Growing in Mortgage Loan Modifications: Historical Modification Data Review," Feb. 9, 2017, 5. These rates were reported nearly six years after modifications, and some of the loan modifications under the loss-share program are not this mature. However, Fitch also reported that 75 percent of redefaults occurred in the first two years after modification (p. 1).

¹²¹ At some banks, loss-share coverage was provided only for single-family assets or only for non-single-family assets.

Lesson 1: Readiness Planning Is Essential

Early in the crisis, as the speed and size of failures exceeded expectations, the FDIC's infrastructure was challenged (despite the FDIC's efforts to improve infrastructure before the crisis), and the Corporation was forced to devote resources to the expansion of its capacity on a largely ad hoc basis. In hindsight, it might have been more effective if the FDIC, as part of its readiness planning, had built a larger and more agile infrastructure—including staff, contracts, and IT systems—during the lull between the end of the previous crisis and the start of this new one.

The FDIC now has the opportunity to explore options for maintaining readiness in a low-failure environment with that environment's concomitant pressures on the FDIC to streamline its operations.¹²² The difficulty is that trade-offs are necessary between two of the FDIC's responsibilities: to be a steward of the DIF and to maintain preparedness for a crisis. In other words, budgetary pressures must be balanced against the reality that the magnitude and speed of banking crises are unpredictable. In its readiness planning since the end of the crisis, the FDIC has increased its baseline staffing for resolution and receivership activities and it continues to enhance its systems and processes to bolster its receivership capabilities. Developing scalable and up-to-date receivership IT systems is an important aspect of readiness planning because deploying the right technology contributes to the FDIC's ability to manage a crisis successfully.

But since crises can occur quickly, it is also helpful to have a roadmap for increasing key resources and infrastructure when needed. Whether through the use of contractors, reallocated employees, rehired annuitants, or new employees, the roadmap can make it easier for the FDIC to build its capacity quickly. Plans to build capacity should remain broad and focus on scalability and flexibility, but they should also include the technical and operational details necessary to implement quick capacity-building.

Finally, although the 2008–2013 crisis began quickly, especially in comparison with the 1980–1994 crisis, the FDIC noticed underlying currents of weakness in depository institutions well before the failures accelerated. For example, the FDIC's *2007 Annual Report* stated that “The year posed major challenges to financial institutions and to the economy as a whole. Slumping housing markets and escalating problems, particularly related to subprime mortgage lending, were among the chief contributors to increased uncertainty in the financial markets.”¹²³ The FDIC also noticed weaknesses through its monitoring of the condition of institutions between examinations: the FDIC's Statistical CAMELS Off-Site Rating (SCOR) system began to flag an increasing number of

¹²² Maintaining readiness in this kind of environment may include exploring how other agencies or private companies with highly variable resource demands address their resource challenges. For example, the Federal Emergency Management Agency has developed readiness capabilities despite the unpredictable need for disaster relief. The Department of Defense has addressed its need to quickly expand capacity by using reservists.

¹²³ FDIC, *2007 Annual Report*, 4.

potentially troubled depository institutions in early 2007.¹²⁴ Going forward, it will be helpful to examine the possibility of building resolution capacity earlier—that is, when standard indicators of industry condition (including, for example, the SCOR system), financial and market indicators, or other signals draw attention to substantial weaknesses in the banking industry, even if failure projections are uncertain. The risk of possibly becoming temporarily overstaffed (if bank failures should not materialize) might be a cost that is justified by the highly cyclical and uncertain workload, but research is needed to identify which triggers are likely to be most helpful in initiating the build-up of staff.

Lesson 2: Consider Offering More Resolution and Financing Options to Acquirers

As noted above, the loss-share transaction was the FDIC's dominant resolution offering from mid-2009 through 2010. In early 2011, the FDIC expanded its regular resolution offerings to include whole bank without loss share, and the FDIC subsequently supplemented its regular offerings with other options (especially loan pools) more frequently before it began to phase out loss share in 2012. The loss-share option was attractive early in the crisis and, especially, at the height of the crisis. Loss share leveraged the FDIC's natural advantage over private parties in absorbing large risks during a period when the market's appetite for risk was low. It reduced disruption to bank customers and communities during a period when the cost of disruption was high,¹²⁵ and it minimized staff and cash needs during a period when both were in short supply and future needs were uncertain but potentially very large. It might, however, have been advantageous for the FDIC to have broadened its offerings more quickly as its resources improved and as its programs for selling retained assets became more established.¹²⁶ For example, the FDIC might have offered loan pools with and without loss share as well as whole-bank transactions.

In addition, the FDIC might consider broadening its options for funding resolutions. During the crisis, the FDIC avoided borrowing from the U.S. Treasury or the Federal Financing Bank (FFB) by imposing prepaid deposit insurance assessments.¹²⁷ With the

¹²⁴ SCOR uses quarterly Consolidated Reports of Condition and Income (Call Report) data to help the FDIC identify institutions that have worsening financial conditions between examination cycles. For details, see Charles Collier et al., "The SCOR System of Off-Site Monitoring: Its Objectives, Functioning, and Performance," *FDIC Banking Review* 15, no. 1 (2003): 17–32.

¹²⁵ GAO, "Causes and Consequences." The GAO studied the disruption caused by failures from 2008 to 2011 and stated that "our results suggest that bank failures in a state were more likely to affect its real estate sector than its labor market or overall economy" (p. 146). Thus, the FDIC's resolution methods appear to have resulted in less severe disruption than what had been documented from earlier bank failures.

¹²⁶ Economic theory and research point to benefits for the FDIC from offering a wide variety of options so that the markets can determine the most cost-effective option. See Edward J. Kane, "Principal-Agent Problems in S&L Salvage," *Journal of Finance* 45, no. 3 (1990): 755–64; Kormendi et al., *Crisis Resolution*; and FDIC, "FDIC Policies for the RTC."

¹²⁷ For additional discussion, see chapter 5 as well as FDIC, Prepaid Assessments, 74 Fed. Reg. 59056–59066 (Nov. 17, 2009), <https://www.fdic.gov/regulations/laws/federal/2009/09finalad51nov17.pdf>. As discussed in chapter 5, prepaid assessments had benefits beyond the improved liquidity of the DIF. The DIF cash

infusion of cash from the industry, resolution and receivership methods that required working cash became relatively more attractive to the FDIC than they had been before the prepaid assessment. Another way to improve the cash position of the DIF (and thus provide more freedom to adopt resolution methods that require working cash) might have been to offer notes to acquirers instead of, or as an alternative to, cash. This option raises serious policy questions that would need to be considered, including questions about the appropriate note terms, when and how to offer notes to acquirers, the risks associated with this option, and what controls should be put into place.

Lesson 3: Include Use of National Servicers for Large-Scale Crises in Readiness Plans

Before the recent crisis, the FDIC had been able to sell assets quickly at field sites that were open for only a few months at each failed-bank location. When the crisis struck and markets for such assets suddenly dried up, the FDIC retained more assets, its scope of operations suddenly widened, and its previous strategy became less cost-effective. Thus the FDIC benefited by shifting to a reliance on national loan servicers. National servicers made possible stronger and more consistent loan servicing and supported a more comprehensive asset sales strategy—one that often improved prices by grouping assets from multiple receiverships into various sales initiatives. However, executing such a large shift in operations in the middle of a crisis was not optimal, and the FDIC might have avoided some of the associated disruption had there been an opportunity to make the change earlier. This experience suggests that readiness plans should include either the ongoing maintenance of national servicing contracts—even during periods when the FDIC’s receivership activity levels are modest—or an ability to switch to national servicing contracts promptly without having to expend scarce resources to set up the program. Although the cost of retaining national servicers during periods of low activity may seem high, these costs must be balanced against the value of being able to seamlessly scale up this key component of receivership operations when activity levels increase, especially with little lead time.

Lesson 4: Structured Sales Worked Well

The FDIC used two types of structured transactions to sell retained assets during the crisis: LLCs and securitizations. Both of these asset sale methods allowed the FDIC to pool similar assets to attract more bidder interest; they were also designed so that the FDIC retained a significant share of the financial risks associated with the assets (thus potentially improving the FDIC’s recoveries but leaving the FDIC exposed to additional losses if markets declined).

position was also improved by increased assessment rates, a special assessment in 2009, and the FDIC’s heavy use of whole-bank resolutions, including loss-share resolutions.

Although recoveries varied across individual LLC transactions, the overall recoveries for the LLC program were materially higher than estimated bulk loan sale recoveries and original estimates. The strong recoveries were probably influenced by the combination of well-aligned incentives and the market and asset management expertise of the managing members. Recoveries for securitized loans were also higher than estimated recoveries from bulk loan sales. Market improvements probably contributed to the higher recoveries for both programs.

Lesson 5: Effective Loss-Share Administration Requires Adequate Infrastructure

For three reasons, FDIC oversight of the loss-share agreements was critical to the success of the loss-share program. First, the risk exposure that the FDIC retained was in this instance substantial. Second, the program had the potential to weaken the incentive of acquirers to manage the portfolios in ways that minimized the FDIC's costs. Third, some acquirers were unfamiliar with the program requirements. Four elements proved to be most important for administering the oversight process. The FDIC and the acquirer needed to move quickly to ensure a mutual understanding of expectations; the FDIC had to conduct regular on-site reviews to ensure compliance with the loss-share agreements; the FDIC needed to follow up on any areas of disagreement or noncompliance; and the automated data collection and reporting system, together with the associated requirements for standardized data reporting, made it possible to apply FDIC procedures more consistently, and supported effective program-wide management. To mitigate program losses effectively in the future, it is critical that the FDIC implement the necessary back-office operations and infrastructure to oversee the program promptly and effectively.

Postscript: Areas for Future Research and Conclusion

A well-informed staff is invaluable when a crisis erupts. A staff that has a strong knowledge of the FDIC's historical resolution experience and a deep understanding of its options and the legal requirements, operational requirements, costs, and policy trade-offs for each option improves the FDIC's ability to make good decisions. During the 2008–2013 crisis, however, the FDIC made numerous choices based on incomplete information. Although incomplete information is inevitable during periods with heavy bank-failure activity, there may be opportunities to reduce the FDIC's future uncertainties by using information from the recent crisis (both from the FDIC and elsewhere) and the available academic research to analyze questions likely to arise the next time bank failures increase. The next time may be either another crisis or a period of more-moderate increases in failure activity.

Examples of areas in which additional research may prove helpful are the trade-offs in resolving failed banks, costs and benefits of prompt asset sales, early-warning tools, the

use of risk-sharing transactions and the incentives embedded in risk-sharing agreements, the market power of asset buyers, and seller financing options.

Trade-Offs in Resolving Failed Banks. Study the trade-offs among minimizing costs, minimizing disruption from failures, minimizing operational and financial risk, minimizing liquidity needs, and encouraging market discipline when failed banks are sold. How should the FDIC balance these trade-offs as it considers what resolution strategies to pursue? Should the balance shift in response to industry conditions and general economic conditions, and, if so, how?¹²⁸

Costs and Benefits of Prompt Asset Sales. The FDIC's strategic shift toward swift liquidation was implemented consistently through all its asset sale programs and was embodied in Annual Performance Goals for prompt marketing of assets and termination of receiverships.¹²⁹ This was a fundamental policy choice with broad effect. It yielded notable benefits, such as minimizing asset servicing costs, reducing the FDIC's need for receivership infrastructure, and reducing potential market distortions from excessive government holdings of assets. There were also costs. Because assets were sold promptly during a serious downturn, high risk premiums (and possibly discounts demanded by asset buyers with market power) were embedded in many of the sale prices.¹³⁰ Receivership interest earnings were lower.¹³¹ The importance of asset liquidation speed to the resolution process and the importance of the associated costs to the FDIC—and to society—call for careful analysis of the effects that follow from this fundamental policy choice.

Early-Warning Tools. Investigate the possibility of devising early-warning tools that could trigger timely increases in resolution staff yet would be relatively unlikely to yield “false positives” that would lead to excessively high staff levels.

Risk-Sharing. Consider how much risk-sharing is appropriate for the FDIC. How should factors such as industry condition influence the FDIC's use of risk-sharing strategies? In addition, explore how the incentives embedded in the various loss-share, LLC, and securitization contracts influenced (a) the performance of the underlying assets; (b) the servicer's/asset manager's behavior; and (c) the FDIC's losses. What are the implications

¹²⁸ The FDIC's statutory mandates preclude some potential shifts but allow others.

¹²⁹ As noted above, the FDIC sought to market all assets within 90 days and to terminate receiverships (without specific impediments) within three years. The FDIC currently has very similar goals in place. For details on the FDIC's current strategic goals, see FDIC, “Strategic Plans,” <https://www.fdic.gov/about/strategic/>.

¹³⁰ The FDIC mitigated the costs by marketing widely and including risk-sharing provisions.

¹³¹ This occurred because the earning assets were sold quickly. Had they remained in receiverships, the receiverships would have collected more interest payments.

for future resolution and receivership choices (choice of tools, design for the sharing percentages, thresholds, true-up, and so forth)?

Market Power of Asset Buyers. Consider how the small number of interested and qualified buyers influences franchise and asset sales, and thus how the market power of asset buyers affected the FDIC's losses. How effective were the FDIC's strategies for counteracting the downward pressure on asset prices because of the market power held by asset buyers? What resolution policies, methods, or practices might reduce the extent of that market power and therefore reduce the FDIC's losses?

Seller Financing Options. Consider additional seller financing options for franchise sales, bulk loan sales and ORE sales. The available evidence shows that asset buyers found it difficult to obtain financing early in the 2008–2013 crisis and that asset prices drop materially when financing options are not readily available.¹³² The FDIC never offered seller financing for bulk loan sales or ORE sales, and rarely offered it for franchise sales.¹³³ Some analysts have advocated a broader use of seller financing for retained asset sales.¹³⁴ Despite the credit risk associated with seller financing, it may be worthwhile to consider whether there might be additional situations where seller financing could yield net benefits, and, if so, how to manage risk exposure, set appropriate loan terms and borrower vetting processes, and minimize market distortions.

* * *

Because every crisis—and every failing bank—is unique, crisis resolution necessarily involves making judgments in a difficult environment and with a high degree of uncertainty. During the 2008–2013 crisis, the FDIC successfully resolved 489 bank

¹³² See Andrei Shleifer and Robert W. Vishny, "Liquidation Values and Debt Capacity: A Market Equilibrium Approach," *Journal of Finance* 47, no. 6 (1992): 1343–66; Joao Granja, Gregor Matvos, and Amit Seru, "Selling Failed Banks," *Journal of Finance* 72, no. 4 (2017): 1723–84; Viral Acharya, Sreedhar T. Bharath, and Anand Srinivansan, "Does Industry-wide Distress Affect Defaulted Firms? Evidence from Creditor Recoveries," *Journal of Financial Economics* 85, no. 3 (2007): 787–821; and Viral Acharya, Hyun Song Shin, and Tanju Yorulmazer, "Crisis Resolution and Bank Liquidity," *Review of Financial Studies* 21, no. 6 (2011): 2166–205.

¹³³ Seller financing was offered only for the three franchise sales where it was used. Seller financing is irrelevant for many commonly used franchise sale structures because acquirers do not need cash to close the transaction. It may be helpful for whole-bank structures where brokered deposits are retained in receivership, for loan pools, and for other combination structures.

¹³⁴ See Michael Lea and Kenneth Thygeson, "A Model of the Asset Disposition Decision of the RTC," *Journal of the American Real Estate and Urban Economics Association* 22, no. 1 (1994): 117–33; FDIC, *Final Report of the FDIC/RTC Transition* (1995); and FDIC "FDIC Policies for the RTC." None of these documents suggests universal use of seller financing; instead, they all recommend it in certain circumstances or for certain types of assets (such as for commercial ORE or for troubled assets). In contrast, Office of Management and Budget, "Resolving the Thrift Crisis," 1993, discusses trade-offs associated with seller financing but does not advocate its use.

failures representing \$686 billion in assets. Insured deposit balances were protected and receivership assets were liquidated, with the net proceeds used to pay creditors as required by law. The FDIC benefited from (a) a robust set of resolution tools provided by Congress, (b) its previous experience in applying those tools, and (c) its willingness to wield those tools in new ways to respond to new challenges. Moreover, the FDIC considered the various trade-offs in light of the constraints it was operating under and took decisive actions that proved to be quite successful overall. Particularly important examples of such actions were offering loss share early in the crisis and switching to national loan servicing contracts. Nonetheless, there are also lessons to be learned from the FDIC's experience in the crisis of 2008 through 2013, as this section has indicated. Following up on these lessons will further strengthen the FDIC's crisis preparedness, enhancing its ongoing contribution to maintaining the nation's financial stability.

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