

# IMPROVING GOVERNANCE OF THE GOVERNMENT SAFETY NET IN FINANCIAL CRISIS

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## INTRODUCTION

This report<sup>2</sup> explores alternative methods of providing a government safety net in times of crisis. In the present crisis, the United States has used two primary responses: a stimulus package approved and budgeted by Congress and a complex and huge response by the Federal Reserve. The report examines the benefits and drawbacks of each method, focusing on questions of accountability, democratic governance and transparency, and mission consistency. The aim is to explore the possibility of reform that might place more responsibility for provision of a safety net on Congress, with a smaller role to be played by the Fed. This could not only enhance accountability but also allow the Fed to focus more closely on its proper mission.

In particular, we explore the following issues:

1. Is there an operational difference between commitments made by the Fed and those made by the Treasury? What are the linkages between the Fed's balance sheet and the Treasury's?
2. Are there conflicts arising between the Fed's responsibility for normal monetary policy operations and the need to operate a government safety net to deal with severe systemic crises?
3. How much transparency and accountability should the Fed's operations be exposed to? Are different levels of transparency and accountability appropriate for different kinds of operations: formulation of interest rate policy, oversight and regulation, resolving individual institutions, and rescuing an entire industry during a financial crisis?
4. Should safety net operations during a crisis be subject to normal congressional oversight and budgeting? Should such operations be on or off budget? Should extensions of government guarantees (whether by the Fed or the Treasury) be subject to congressional approval?
5. Is there any practical difference between Fed liabilities (banknotes and reserves) and Treasury liabilities (coins and bonds or bills)? If the Fed spends by "keystrokes" (crediting balance sheets, as Chairman Ben S. Bernanke says), can (or does) the Treasury spend in the same manner?
6. Is there a limit to the Fed's ability to spend, lend, or guarantee? Is there a limit to the Treasury's ability to spend, lend, or guarantee? If so, what are those limits? And what are the consequences of increasing Fed and Treasury liabilities?

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<sup>2</sup> The following research consultants contributed to the preparation of this report: Dr. Robert D. Auerbach, University of Texas at Austin; Dr. Jan Kregel, Tallinn University of Technology, Levy Economics Institute of Bard College, and University of Missouri–Kansas City; Dr. Linwood Tauheed, University of Missouri–Kansas City; Dr. Walker F. Todd, American Institute for Economic Research; Frank Veneroso, Veneroso Associates; Dr. Thomas Ferguson, University of Massachusetts Boston; Dr. Robert A. Johnson, Institute for New Economic Thinking; Nicola Matthews, University of Missouri–Kansas City; William Greider, *The Nation*; J. Andy Felkerson, University of Missouri–Kansas City; Dr. L. Randall Wray, University of Missouri–Kansas City and Levy Economics Institute of Bard College; Dr. Bernard Shull, Hunter College and Levy Economics Institute of Bard College; and Yeva Nersisyan, Franklin and Marshall College.

7. What can we learn from the successful resolution of the thrift crisis that could be applicable to the current crisis? Going forward, is there a better way to handle resolutions, putting in place a template for a government safety net to deal with systemic crises when they occur? (Note that this is a separate question from creation of a systemic regulator to attempt to prevent crises from occurring; however, we will explore the wisdom of separating the safety net's operation from the operations of a systemic regulator.)

8. What should be the main focuses of the government's safety net? Possibilities include: rescuing and preserving financial institutions versus resolving them, encouraging private lending versus direct spending to create aggregate demand and jobs, debt relief versus protection of interests of financial institutions, and minimizing budgetary costs to government versus minimizing private or social costs.

9. Does Fed intervention create a burden on future generations? Does Treasury funding create a burden on future generations? Is there an advantage of one type of funding over another?

Since these issues were raised in the congressional debate over financial reform in the Dodd-Frank legislation without any major resolution, it is likely that the discussion will continue as the bill is implemented. A major goal of this research is thus to provide a clear and unbiased analysis of the issues involved as a basis for that discussion, along with a series of proposals on how the Federal Reserve can be reformed to provide more effective governance as well as more effective integration with Treasury operations and fiscal policy governance through Congress.

This report focuses on the causes of the crisis and the nature of the response. A subsequent report will focus on alternative methods of dealing with crises that would allow for greater accountability, democratic governance, and transparency.

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## FREQUENTLY USED ACRONYMS

AIG Revolving Credit Facility	RCF
AIG Securities Borrowing Facility	SBF
Agency Mortgage-Backed Security Purchase Program	AMBS
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility	AMLF
Central Bank Liquidity Swap	CBLS
Commercial Paper Funding Facility	CPFF
Federal Housing Authority	FHA
Government-sponsored enterprise	GSE
GSE Direct Obligation Purchase Program	GSEP
Maiden Lane I, II, III	ML 1, ML II, ML III
Mortgage-backed security	MBS
Primary Dealer Credit Facility	PDCF
Term Asset-Backed Securities Loan Facility	TALF
Term Auction Facility	TAF
Term Securities Lending Facility	TSLF
TSLF Options Program	TOP
Single-tranche open market operations	ST OMO

## CHAPTER 1. Summary of the Institutional and Political Contexts

In its response to the expanding financial crisis that was touched off in the spring of 2007, the Federal Reserve engaged in actions well beyond its traditional lender-of-last-resort role, which involves supporting insured deposit-taking institutions that are members of the Federal Reserve System. Support was eventually extended to noninsured investment banks, broker-dealers, insurance companies, and automobile and other nonfinancial corporations. By the end of this process, the Fed owned a wide range of real and financial assets, both in the United States and abroad. While most of this support was lending against collateral, the Fed also provided direct unsecured dollar support to foreign central banks through swap facilities that indirectly provided dollar funding to foreign banks and businesses.

This was not the first time such generalized support had been provided to the economic system in the face of a financial crisis. In the crisis that emerged after the German declaration of war in 1914, even before the Fed was formally in operation, the Aldrich-Vreeland Emergency Currency Act of 1908 provided for the advance of currency to banks against financial and commercial assets. The Act, which was to lapse in 1913 but was extended in the original Federal Reserve Act (FRA) of that year, expired on June 30, 1915. As a result, similar support to the general system was provided during the Great Depression by the “emergency banking act” of 1933 and eventually became section 13(3) of the FRA.

Whenever the Federal Reserve acts in this way to provide support to the stability of the financial system, it also intervenes in support of individual institutions, both financial and nonfinancial. The Fed thus supplants the normal action of private market processes, while its independence means the action is not subject to the normal governance and oversight processes that characterize government intervention in the economy. There is usually little transparency, public discussion, or congressional oversight before, during, or even after such interventions.

The very creation of a central bank in the United States, which had been considered a priority ever since the 1907 crisis, generated a vigorous debate over whether the bank should be managed and controlled by the financial system that it was supposed to serve, or whether it should be subject to implementation of government policy and thus under congressional oversight and control. This conflict was eventually resolved by a twofold solution: authority and jurisdiction would be split among a system of reserve banks under control of the banks it served, and a board in Washington under control of the federal government.

In the recent crisis, most of these decisions—which resulted in direct investments in both financial and nonfinancial companies—were made by the Fed.<sup>3</sup> Criticism of these actions included the fact that such decisions should have been taken by the Treasury and subject to government assessment and oversight. For example, critics point out that the assets acquired by the Fed in the Bear Stearns bailout are held in

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<sup>3</sup> The Treasury did obtain approximately \$800 billion from Congress, initially used for asset purchases, but ultimately mostly used to increase bank capital. This is discussed only briefly in this document as it is outside the scope of our current research.



an investment fund owned by the Fed but managed by a private sector financial institution—the Blackstone Group. In the Great Depression, such intervention with respect to the rescue of failed banks was carried out through a federal agency, the Reconstruction Finance Corporation.

In a sense, any action by the Fed—for example, when it sets interest rates—circumvents the market process. This is one of the reasons that the Fed had long ago stopped intervening in the long-term money market, since it was thought that this would have an impact on investment allocation decisions thought to be determined by long-term interest rates. In the current crisis, the Fed has once again taken up intervention in longer-term securities markets in the form of quantitative easing (QE).

As a result of these extensive interventions in the nonfinancial economy and its supplanting of normal economic processes, both Congress and the public at large have become increasingly concerned not only about the size of the financial commitments that have been assumed by the Fed on their behalf, but also about the lack of transparency and normal governmental oversight surrounding these actions. For the most part, the Fed has refused requests for greater access to information. This is indeed ironic, since the initial request for rescue funds by Treasury Secretary Henry Paulson was rejected precisely because it lacked details and a mechanism to give Congress oversight on the spending. Eventually, a detailed stimulus package totaling nearly \$800 billion gained congressional approval. But the Fed has spent, lent, or promised considerably more money than Congress has so far approved for direct government intervention in response to the crisis. Most of these actions have been negotiated in secret, often at the Federal Reserve Bank of New York (FRBNY) with the participation of Treasury officials. The justification is that such secrecy is needed in order to prevent increasing uncertainty over the stability of financial institutions that could lead to a collapse of troubled institutions, which would only increase the government's costs of resolution. There is, of course, a legitimate reason to fear sparking a panic.

Yet, even when relative calm returned to financial markets, the Fed continued to resist requests to explain its actions even *ex post*. This finally led Congress to call for an audit of the Fed, in a nearly unanimous vote. Some in Congress are now questioning the legitimacy of the Fed's independence. In particular, given the importance of the FRBNY, some are worried that it is too close to the Wall Street banks that it is supposed to oversee and has in many cases been forced to rescue. The president of the FRBNY met frequently with top management of Wall Street institutions throughout the crisis, and reportedly pushed deals that favored one institution over another. However, like the other district bank presidents, the president of the FRBNY is selected by the regulated banks rather than appointed and confirmed by governmental officials. This led critics to call for a change to allow appointment by the president of the nation. Critics note that while the Fed has become much more open since the early 1990s, the crisis has highlighted how little oversight the congressional and executive branches have over the Fed, and how little transparency there is even today.<sup>4</sup>

There is an inherent conflict between the need for transparency and oversight when public spending is involved, and the need for independence and secrecy in formulating monetary policy and supervising regulated financial institutions. A democratic government cannot formulate its budget in secret.

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<sup>4</sup> Appendix A provides a quick overview of the Fed's steps toward increased transparency.

Budgetary policy must be openly debated and all spending subject to open audits, with the exception of national defense. That is exactly what was done in the case of Congress's main two-year fiscal stimulus package. However, it is argued that monetary policy cannot be formulated in the open—a long and drawn-out open debate by the Federal Open Market Committee (FOMC) regarding when and by how much interest rates ought to be raised would generate chaos in financial markets. Similarly, public discussion by regulators about which financial institutions might be insolvent would guarantee a run out of their liabilities and force a government takeover. Even if these arguments are overstated, and even if a bit more transparency could be allowed in such deliberations by the Fed, it is clear that the normal operations of a central bank will involve more deliberation behind closed doors than is expected of the budgetary process for government spending. Further, even if governance of the Fed were to be substantially reformed to allow for presidential appointments of all top officials, closed deliberations would still be necessary.

The question is whether the Fed should be able to commit the public purse in times of national crisis. Was it appropriate for the Fed to commit the US government to spending trillions of dollars in order to rescue US financial institutions, as well as foreign institutions and governments? When Chairman Bernanke testified before Congress about whether he had committed the “taxpayers’ money,” he responded “no”—it was simply a matter of entries on balance sheets. While this response is operationally correct, it is also misleading. There is no difference between a Treasury guarantee of a private liability and a Fed guarantee. When the Fed buys an asset by means of “crediting” the recipient’s balance sheet, this is not significantly different from the Treasury financing an asset purchase by “crediting” the recipient’s balance sheet. The only difference is that in the former case the debit is on the Fed’s balance sheet and in the latter it is on the Treasury’s balance sheet. But the impact is the same in either case: the creation of dollars of government liabilities in support of a private sector entity.

The fact that the Fed does keep a separate balance sheet should not mask the identical nature of the operation. It is true that the Fed runs a profit on its activities since its assets earn more than it pays on its liabilities, while the Treasury does not usually aim to make a profit on its spending. Yet Fed profits above 6 percent are turned over to the Treasury. If its actions in support of the financial system reduce the Fed’s profitability, Treasury revenues will suffer. If the Fed were to accumulate massive losses, the Treasury would have to bail it out—with Congress budgeting for the losses. It is not likely that this would occur, but the point remains that in practice the Fed’s obligations and commitments are ultimately the same as the Treasury’s, and these promises are made without congressional approval, or even with its knowledge many months after the fact.

Some will object that there is a fundamental difference between spending by the Fed and spending by the Treasury. The Fed’s actions are limited to purchasing financial assets, lending against collateral, and guaranteeing private liabilities. While the Treasury also operates some lending programs and guarantees private liabilities (for example, through the FDIC and Sallie Mae programs), and while it has purchased private equities in recent bailouts (of GM, for example), most of its spending takes the form of transfer payments and purchases of real output. Yet, when the Treasury engages in lending or guarantees, Congress must provide its funds. The Fed does not face such a budgetary constraint—it can commit to trillions of dollars of obligations without going to Congress for approval.

Further, when the Treasury provides a transfer payment to a Social Security recipient, a credit to the recipient's bank account will be made (and the bank's reserves credited by the same amount). If the Fed were to buy a private financial asset from that same retiree, his bank account would be credited in exactly the same manner (and the bank's reserves would also be credited).<sup>5</sup> In the first case, Congress has approved the payment to the Social Security beneficiary; in the second case, no congressional approval was obtained. While these two operations are likely to lead to very different outcomes (the Social Security recipient is likely to spend the receipt; the sale of an asset simply increases the seller's liquidity and may not induce spending by the seller), so far as creating a government commitment, they are equivalent because each leads to the creation of a bank deposit as well as bank reserves.

Again, this equivalence is masked by the way the Fed's and the Treasury's balance sheets are constructed. Spending by the Treasury that is not offset by tax revenue will lead to a reported budget deficit and (normally) to an increase in the outstanding government debt stock. By contrast, spending by the Fed leads to an increase of outstanding bank reserves (an IOU of the Fed) that is not counted as part of deficit spending or as government debt and is off the government balance sheet. While this could be seen as an advantage because it effectively keeps the support of the financial system in crisis "off the balance sheet," it comes at the cost of reduced accountability and diminished democratic deliberation. This is unfortunate, since operationally there is no difference between support for a financial or nonfinancial entity taken by the Treasury "on the balance sheet" and one that is undertaken by the Fed "off the balance sheet" and thus largely unaccountable.

There is a recognition that financial crisis support necessarily results in winners and losers, and the socialization of losses. At the end of the 1980s, when it became necessary to rescue and restructure the thrift industry, Congress created an authority and budgeted funds for the resolution. It was recognized that losses would be socialized, with a final accounting in the neighborhood of \$200 billion. Government officials involved in the resolution were held accountable for their actions, and more than one thousand top management officers of thrifts went to prison. While undoubtedly imperfect, the resolution was properly funded, implemented, and managed to completion, and in general it followed the procedures adopted to deal with bank resolutions in the 1930s.

By contrast, the bailouts in the much more serious recent crisis have been uncoordinated, mostly off budget, and done largely in secret—and mostly by the Fed. There were exceptions, of course. There was a spirited public debate about whether government ought to rescue the auto industry. In the end, funds were budgeted and government took an equity share and an active role in decision making, and openly picked winners and losers. Again, the rescue was imperfect, but today it seems to have been successful. Whether it will still look successful a decade from now we cannot know, but at least we do know that Congress decided the industry was worth saving as a matter of public policy. No such public debate occurred in the case of the rescue of Bear Stearns, the bankruptcy of Lehman Brothers, the rescue of AIG, or the support for a number of the biggest global banks.

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<sup>5</sup> One of the findings of this research is the demonstration of the equivalence of Fed and Treasury spending on this score—a topic to be explored in detail in a subsequent report.

## CHAPTER 2. Summary of the Causes of the Global Financial Crisis: A Minskyan View

The final report of the Financial Crisis Inquiry Commission (FCIC)<sup>6</sup> makes a strong case that the global financial crisis (GFC) was foreseeable and avoidable. It did not “just happen”; it had nothing to do with “black swans with fat tails.” Rather, it was created by the biggest banks, under the noses of our “public stewards.” According to the FCIC Report, the GFC represents a dramatic failure of corporate governance and risk management, in large part a result of an unwarranted and unwise focus on trading (actually, gambling) and rapid growth. We could go farther and note that, in all this, the biggest banks were aided and abetted by government “regulators” and “supervisors” who not only failed to properly oversee these institutions, but, indeed, continually pushed for deregulation and desupervision in favor of “self-regulation” and “self-supervision.” While many want to blame the crisis on “liquidity” problems, the liquidity crisis bore little relation to an “irrational” bank run; rather, it reflected an appraisal of financial institution insolvency. That in turn can be attributed to catastrophic reductions of lending standards and to pervasive fraud.

While the FCIC Report does “name names” and accurately identifies practices and even individuals that are culpable, there is some merit in the complaint made by the Republican minority report as well as by reviewers (most notably, Joe Nocera) that there is some danger in focusing on “bad actors,” bad financial practices, and “bad events.”<sup>7</sup> It is important to understand longer-term trends. We need to put the crisis in the context of the long-term postwar transformation of the financial system. In that sense, even if the “apples” were not bad, the system was.

The view taken here deviates somewhat from the FCIC Report’s conclusion: financial fragility had grown on trend, making “it” (in the words of Hyman P. Minsky, referring to a Fisher-type debt deflation process) likely to “happen again”—even without “bad” behavior by institutions and their regulators. For that reason, we need to understand the “Minskyan” transformation—so that while the GFC was not strictly inevitable, the financial structure made a crisis highly probable. In many important respects we had produced conditions similar to those that existed on the eve of the “Great Crash” of 1929—and we experienced a similar crisis. The most important difference, however, was the response. While we emerged from the Great Depression with a robust financial system, strict regulation, and strong safety nets, as of spring 2012 we have only managed to prop up the financial institutions that caused the crisis—and have left the economy in a much weaker state than it was in either 2006 (the year before the crisis began) or 1940 (after the New Deal reforms).

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<sup>6</sup> The *Financial Crisis Inquiry Report: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, Washington, D.C.: US Government Printing Office, 2011 (hereinafter, FCIC Report).

<sup>7</sup> See Joe Nocera, “Inquiry Is Missing Bottom Line,” *The New York Times*, January 26, 2011; Gretchen Morgenson, “A Bank Crisis Whodunit, with Laughs and Tears,” *The New York Times*, January 29, 2011. Commissioners’ dissenting views appear on pp. 411–39 of the FCIC Report.

## A. The Minsky moment

When the GFC struck, many commentators called it the “Minsky crisis” or “Minsky moment,” after the economist who had developed a famous “financial instability hypothesis” that described the transformation of an economy from a “robust” financial structure into a “fragile” one.<sup>8</sup> A “run of good times” would encourage ever-greater risk taking, and growing instability would be encouraged if financial crises were resolved by swift government intervention.<sup>9</sup> As Minsky insisted, “Stability is destabilizing”<sup>10</sup>—and this seemed to perfectly describe the last few decades of US experience, during which financial crises became more frequent and increasingly severe. We could list, for example, the savings-and-loan crisis of the 1980s, the stock market crash of 1987, the developing-country debt crises (1980s, early 1990s), the Long-Term Capital Management and Enron fiascoes, and the dot-com collapse in 2000.<sup>11</sup>

Each of these led to US government intervention that prevented a downward spiral of financial markets and the economy (although in some cases, recessions followed the crises); indeed, after the dot-com crisis, the belief that a new era of lower market volatility—the “great moderation”<sup>12</sup>—had taken hold in the United States, making serious downturns impossible. All of this encouraged more risk—more financial layering and leveraging (debt issued against debt, with little net worth backing it up). So it is entirely appropriate to give credit to Minsky’s foresight.

## B. Minsky’s “stages” approach

But Minsky’s theory had actually gone much farther than this: he had developed a “stages” approach to describe the long-term transformation of the financial system since the late 19th century.<sup>13</sup> It is not necessary to go into this in detail—let us just briefly describe the three main stages. In the early 20th century a form named “finance capitalism” by Rudolf Hilferding<sup>14</sup> took hold, dominated by investment banks that provided the finance for corporations. By the late 1920s, however, these banks were mostly financing speculation in financial assets, particularly in equities issued by subsidiary trusts of the investment banks themselves. In truth, these were little more than pyramid schemes—speculating in

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<sup>8</sup> See Sunanda Sen, “The Meltdown of the Global Economy: A Keynes-Minsky Episode?” Working Paper No. 623, Levy Economics Institute of Bard College (September 2010); John Cassidy, “The Minsky Moment,” *The New Yorker*, February 4, 2008.

<sup>9</sup> Jan Kregel, *Minsky’s Cushions of Safety: Systemic Risk and the Crisis in the US Subprime Mortgage Market*, Public Policy Brief No. 93, Levy Economics Institute of Bard College (January 2008).

<sup>10</sup> What Minsky means by this is that apparent stability encourages more risk taking by investors, financial institutions, and entrepreneurs. They tend to borrow more relative to expected earnings, and innovate with riskier financial instruments. In addition, regulators might relax rules on the belief that downside risks have been reduced. All of this increases financial fragility and hence enhances instability.

<sup>11</sup> See L. Randall Wray, “The Rise and Fall of Money Manager Capitalism: A Minskyan Approach,” *Cambridge Journal of Economics* 33, no. 4 (2009): 807–28; Hyman P. Minsky, “The Transition to a Market Economy,” Working Paper No. 66, Levy Economics Institute of Bard College (November 1991).

<sup>12</sup> See Ben S. Bernanke, “The Great Moderation,” speech given at the meetings of the Eastern Economics Association, Washington, D.C., February 20, 2004.

<sup>13</sup> See Wray, “The Rise and Fall of Money Manager Capitalism.”

<sup>14</sup> Rudolf Hilferding, *Finance Capital: A Study of the Latest Phase of Capitalist Development* (London: Routledge and Kegan Paul, 1981 [1910]).

essentially worthless shares, much like the infamous “pyramid” schemes of Charles Ponzi or the modern day Bernie Madoff.<sup>15</sup>

In any event, in Minsky’s view, the Great Depression ended the finance capitalism stage and ushered in a much more stable version with the New Deal reforms of the financial sector and a much bigger role for the federal government in managing the economy. Minsky called this “managerial–welfare state” capitalism, where the “Big Bank” (Fed) and “Big Government” (Treasury) promoted stable economic growth, high employment, and rising wages and falling inequality. The United States had entered its economic “golden age,” which lasted from the end of World War II through the early 1970s.

The problem is that stability *is* destabilizing—the absence of deep recessions and severe financial crises encouraged innovations that increased financial instability.<sup>16</sup> Further, for reasons we won’t explore here, elected representatives and regulators slowly chipped away at the New Deal reforms that had promoted growth while providing social protection. After 1974, median male earnings stopped growing and began to fall,<sup>17</sup> the social safety net was reduced, and unemployment came to be seen as something of a policymaking tool used to keep inflation down (the so-called “Phillips curve” trade-off). Financial institutions were deregulated and desupervised,<sup>18</sup> and their power began to grow in a self-reinforcing manner: as they were able to capture a greater share of profits, their political power increased, making it possible for them to further subvert or eliminate regulations to gain an even larger share of profits.

There are many aspects to this transformation, and Minsky was certainly not the only one to notice it. Some called it “casino capitalism”; others identified it as “financialization.”<sup>19</sup> In important respects, it was similar to Hilferding’s “finance capitalism,” with what were called “nonbank banks” or “shadow banks” rising to challenge the commercial banks.<sup>20</sup> This development also provided justification for

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<sup>15</sup> The best account of these scams can be found in John Kenneth Galbraith’s *The Great Crash, 1929* (New York: Houghton Mifflin Harcourt, 2009 [1954]).

<sup>16</sup> For an overview of Minsky’s approach, see Dimitri B. Papadimitriou and L. Randall Wray, “The Economic Contributions of Hyman Minsky: Varieties of Capitalism and Institutional Reform,” *Review of Political Economy* 10, no. 2 (1998): 199–225.

<sup>17</sup> A study by the Brookings Institution shows that median earnings of men peaked around 1974 and have since declined significantly (for men as a whole, by 28 percent relative to 1969). See Michael Greenstone and Adam Looney, “Have Earnings Actually Declined,” Up Front Blog, Brookings, March 4, 2011.

<sup>18</sup> There have been several important legislative actions to reduce regulation among which the most important were the Depository Institutions Deregulation and Monetary Control Act of 1980 and the Garn–St. Germain Depository Institutions Act of 1982 that freed the thrifts, and the Gramm–Leach–Bliley Act of 1999 that ended Glass–Steagall separation of investment banking from commercial banking. However, also important were changing approaches by regulators and supervisors to their roles, with much greater reliance on self-supervision by financial institutions.

<sup>19</sup> Susan Strange, *Casino Capitalism* (Manchester, UK: Manchester University Press, 1997); Jane D’Arista, “The Role of the International Monetary System in Financialization,” paper prepared for the Political Economy Research Institute conference on “Financialization of the Global Economy,” University of Massachusetts Amherst, December 7–8, 2001.

<sup>20</sup> New Deal legislation and the corresponding regulations that implemented the new laws tightly controlled the commercial banks, limiting, for example, the banks’ ability to offer interest on checking accounts, and providing deposit insurance that guaranteed the safety of consumer accounts (Banking Act of 1933; the National Housing Act of 1934 established insurance and rules for thrifts). The legislation did not, however, prohibit other types of

dropping the New Deal reforms so that the banks could “compete” with the lightly regulated shadow banks. Again, this is a huge topic, but the important point is that even as shadow banks pushed financial practice to new frontiers, the commercial banks insisted that they had to follow suit.

And it is not clear that many of these innovations serve a social purpose beyond making the top management of financial institutions incredibly rich.<sup>21</sup> At the same time, the structure of incentives and rewards were changed such that risky bets, high leverage ratios, and short-term profits were promoted over long-term firm survival and returns to investors. A good example of the transformation was the conversion of the venerable investment banks from partnerships to publicly held firms with hired and richly rewarded management. While the structure was somewhat different, the results were similar to those that led up to the 1929 crash—the “pump and dump” incentives through which management would “pump” asset and equity prices, and then sell out (“dump”) their own positions before the speculative boom collapsed. What we see by the early 2000s is the coalescence of three different phenomena that made the positions taken by the biggest financial institutions precarious: (1) the return

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financial institutions, including investment banks plus a wide variety of other kinds of financial institutions that engaged in activities closely related to banking, called “nonbank banks” or “shadow banks” (see chapter 2 of the FCIC Report). Typically, these would offer either deposit-like accounts, or would offer credit facilities, but were prohibited by the Glass-Steagall Act from doing both activities (only commercial banks were permitted to make loans and create deposits). Despite this, relatively few unregulated financial entities existed and, of those, only the investment banks were major players in the financial system until the 1960s. The success of these regulations in producing stability depended in large part on the insulation of the regulated portion of the industry from destructive competition. Banks that could not pay interest on checking accounts largely competed on the basis of the gifts offered for creating new accounts, but the need to give away free toasters did not encourage overly risky or duplicitous conduct. As the Fed began to use interest rate hikes to fight inflation in the 1960s, financial institutions responded by creating new kinds of deposit-like accounts that were not subject to regulations, including restrictions on interest rates; these included the introduction of money market funds that offered higher interest rates than federally insured institutions, particularly during the period of high interest rates in the early ‘80s. These institutions threatened to divert savings from more traditional (and more highly regulated) accounts. In the face of such developments, Congress and federal regulators have repeatedly eased the restrictions on regulated entities (such as limits on interest rates) rather than restrict the activities of the unregulated, undermining the stability-inducing provisions of the original New Deal legislation. The FCIC Report discusses some of the deregulation in chapter 4. The rise of subprime lending is covered in chapter 5; securitization and derivatives, in chapter 3.

<sup>21</sup> Indeed, many of the most celebrated “advances” have been the most subject to abuse. Both “junk bonds” and mortgage-backed securities, for example, were hailed as ways to limit risk through various types of portfolio diversification. In each case, however, the greater complexity of the transactions necessary to diversify the holdings made it easier to disguise market manipulation, customer deception, or outright fraud. For these new products to deliver their supposed advantages without undermining market stability would have required much greater oversight than the relatively more transparent transactions that preceded them. In contrast, the New Deal reforms promoted stability by limiting commercial banks to activities that could be easily supervised—the distribution of toasters is much easier to oversee than a market for collateralized debt obligations (CDOs). Some of the innovations had nothing to do with extending credit, but rather allowed speculators to bet on the failure of debtors to make promised payments; others allowed speculators to bet on inflation of food prices. As if it were not bad enough, speculation in these types of instruments could sometimes influence markets in a self-fulfilling manner: by betting on bankruptcy, speculators caused borrowing costs to rise, thus ensuring that default was more likely. The FCIC Report provides very useful summaries of several of the innovations; in particular, credit default swaps (CDSs) and synthetic CDOs. Both of these were important in allowing unregulated casino-type betting against US real estate.

of “pump and dump” strategies; (2) the move from partnerships to corporate form, which increases the agency problems (institutions run in the interests of management, not owners); and (3) excessive executive compensation that was tied to short-term performance, which increases the pressures to do anything that justifies huge bonuses.

### **C. Money manager capitalism**

Minsky called this new stage “money manager capitalism.” This label draws attention to a characteristic feature: huge pools of funds under management by professionals—pension funds, sovereign wealth funds, hedge funds, university endowments, corporate treasuries, and so on. Every money manager had to beat the average return to retain clients, something that is, of course, statistically impossible. But the combination of such incentives and virtually no government regulation or oversight encouraged not only risky behavior but also ethically compromised actions. In Minsky’s view, the rise of these managed funds was due to the success of the earlier, managerial–welfare state stage of capitalism: the absence of depressions and relatively good growth, plus policies that favored private pensions, allowed financial wealth to grow over the entire postwar period. Although financial crises came along periodically to wipe out some wealth, each crisis was contained, with the result that most wealth survived, and quickly resumed growth.

What was really important was the dynamic created by the shift of power away from banks and toward the very lightly regulated “money managers” at the “shadow banks.”<sup>22</sup> To compete, banks needed to subvert regulations through innovations and then have them legislatively eliminated. This allowed banks to increase leverage ratios, and thus risk, in order to keep pace with shadow banking practice. There was a “Gresham’s law” in operation: those institutions that could reduce capital ratios and loss reserves the most quickly were able to increase net earnings and thus rewards to management and investors. Further, there was a shift to maximization of share prices as one of the main goals of management—which supposedly aligned the interests of shareholders and top managers who received stock options in compensation. That in turn encouraged a short-term focus on performance in equity markets, which—as we discovered in 1929—is accomplished through market manipulation (both legal and illegal).<sup>23</sup>

The problem was that the sheer volume of financial wealth under management outstripped socially useful investments. To keep returns high, money managers and bankers had to turn to increasingly esoteric financial speculation—in areas that not only failed to serve the public purpose but also actively subverted it. An example would be the rise of index speculation in commodities markets, which drives up global energy and food prices and ultimately leads to hunger and even starvation around the world. The dot-com bubble is another example: here, speculators drove up the stock prices of Internet companies with no business model or prospective profits. The inevitable crash wiped out hundreds of billions of dollars in wealth.

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<sup>22</sup> Yeva Nersisyan and L. Randall Wray, “The Global Financial Crisis and the Shift to Shadow Banking,” Working Paper No. 587, Levy Economics Institute of Bard College (February 2010).

<sup>23</sup> Thorstein Veblen, *The Theory of Business Enterprise* (New York: The New American Library, 1958); Galbraith, *The Great Crash, 1929*.



#### D. Fraud and the US real estate bubble

Another example of the boom-and-bust cycle is the US real estate boom that began before 2000 and finally collapsed in 2007, triggering the GFC.<sup>24</sup> It was (arguably) the biggest speculative boom in US history, and was driven by money managers who created complex securities and derivatives for speculative bets.<sup>25</sup> Nothing is more emblematic of the speculative excess than the special collateralized debt obligations (CDOs) that allowed hedge fund managers to bet against homeowners and the holders of securitized mortgages.<sup>26</sup> Financial institutions also placed lots of bets against American homeowners. And, finally, it was this demand by investment banks and other speculators for risky instruments on which they could place bets that generated the risky “subprime” and “Alt-A” mortgages that eventually brought on the GFC.

The reader should not be misled. While the discussion so far might sound like behavior was merely ethically questionable, in truth, fraud was often involved at every step in the “home-finance food chain.”<sup>27</sup> The mortgage broker was rewarded for putting prospective homeowners into mortgages with the worst possible terms. Brokers often doctored the documents after signing—to make the terms even worse. Property appraisers were rewarded for overstating property values (so that mortgages would be larger than they should have been). The biggest financial institutions created the Mortgage Electronic Registry System (MERS) to evade fees owed to county recorders to register each sale of mortgages; MERS then apparently separated the mortgage “note” from the “deed,” destroying a clear chain of title as it cut corners.<sup>28</sup> The mortgage securitizers (investment banks) issued false “reps and warranties” in their descriptions of the mortgages backing the securities, and frequently failed to follow rules regarding the securitization process itself (the trustees apparently falsely asserted they held the mortgages—which in most cases were held by servicers, or intentionally destroyed). Mortgage servicers hired “robo-

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<sup>24</sup> See US Senate Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, *Wall Street and the Financial Crisis: Anatomy of a Financial Collapse*, Majority and Minority Staff Report, April 13, 2011.

<sup>25</sup> L. Randall Wray, *Financial Markets Meltdown: What Can We Learn from Minsky?* Public Policy Brief No. 94, Levy Economics Institute of Bard College (April 2008); L. Randall Wray, *The Commodities Market Bubble: Money Manager Capitalism and the Financialization of Commodities*, Public Policy Brief No. 96, Levy Economics Institute of Bard College (October 2008).

<sup>26</sup> In one notorious case, Goldman Sachs let hedge fund manager John Paulson handpick the riskiest mortgages to put into securities that would be purchased by investors such as pension funds. Goldman then created CDOs that would pay off if the homeowners were not able to make their mortgage payments, meaning that the securities the investors bought would fall in value. The investors would lose, the homeowners would lose their homes, and Paulson would win! Goldman, of course, won too—it got income in the form of fees for creating the securities, and also for creating the instrument that let Paulson win. See Jesse Eisinger and Jake Bernstein, “The Magnetar Trade: How One Hedge Fund Helped Keep the Bubble Going,” *ProPublica*, April 13, 2010. See also, chapter 8 of the FCIC Report. Other similar reports include Peter J. Henning and Steven M. Davidoff, “Goldman Fraud Case Holds Risks for Both Sides,” *The Deal Professor Blog*, *The New York Times*, April 16, 2010; and a series by Gretchen Morgenson and Louise Story: “Banks Bundled Bad Debt, Bet Against It, and Won,” *The New York Times*, December 24, 2009; “Investor Who Made Billions Is Not Target of Suit,” *The New York Times*, April 16, 2010; “SEC Accuses Goldman of Fraud in Housing Deal,” *The New York Times*, April 16, 2010; and “Exotic Deals put Denver Schools Deeper in Debt,” *The New York Times*, August 5, 2010.

<sup>27</sup> Wray, *Financial Markets Meltdown*.

<sup>28</sup> See L. Randall Wray, “Requiem for MERS (and the Banks that Created the Frankenstein Monster),” *The Huffington Post Blog*, January 24, 2011.

signers” to manufacture documents needed for foreclosures; they have been accused of “losing” payments and falsely claiming that borrowers were delinquent, and they even tried to foreclose on homeowners who held no mortgage at all.<sup>29</sup> Accountants signed off on fudged balances. Even though the administration has refrained from going after top management, the banks have been forced to pay fine after fine, and most of the attorney generals of the 50 states are taking action.<sup>30</sup>

### **E. Financial bubbles, Goldilocks growth, and government budgets**

As mentioned above, the financial sector grew relative to the nonfinancial sectors (manufacturing, agriculture, and nonfinancial services including government spending)—by the time of the GFC the financial sector accounted for 20 percent of US national value added and 40 percent of corporate profits.<sup>31</sup> By itself, it was an autonomous source of growth and also of rising inequality due to high compensation in the sector. Up to half of the college graduates from the elite colleges went into the financial sector because rewards there were far higher than in other sectors.<sup>32</sup> Compensation at the very top quite simply exploded.

This trend was evident by the time of the Clinton administration—with worker income lagging behind, and with loss of US manufacturing jobs, the financial sector played a big role in the Clinton recovery of the 1990s. Indeed, economic growth was sufficiently robust, and the boost to income at the very top caused federal government tax revenues to grow swiftly (it was called the Goldilocks economy—fast enough to create jobs but not so rapid as to generate inflation).<sup>33</sup> The federal government’s budget went into significant surplus for the first time since the late 1920s. While most economists thought that was good and praised President Clinton’s projection that the surpluses would continue for at least 15 years, allowing all federal debt to be retired, a few of us at the Levy Economics Institute (where Minsky worked until his death in 1996) argued that the surplus would be short-lived, would kill the boom and would cause a deep recession.<sup>34</sup>

Wynne Godley at the Levy Institute developed a “three balances” approach to macro analysis based on the accounting identity that the sum of the balances of the domestic private sector, the government sector, and the foreign sector must be zero.<sup>35</sup> While any one of these could run a surplus, at least one of the others would have to run a deficit. In the case of the United States, by the late 1990s the government sector was running a surplus of about 2.5 percent of GDP, the foreign balance was 4 percent of GDP (meaning the United States was running a trade deficit so the rest of the world had a

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<sup>29</sup> For an example, see Alice Gomstyn, “No Mortgage, Still Foreclosed? Bank of America Sued for Seizing Wrong Homes,” *ABC News*, January 25, 2010.

<sup>30</sup> Unfortunately, they seem to have caved to pressure: see L. Randall Wray, “State AGs Cave to Banksters,” *EconoMonitor Blog*, February 9, 2012. See also, chapter 22 of the FCIC Report for a discussion of the foreclosure crisis.

<sup>31</sup> Nersisyan and Wray, “The Global Financial Crisis and the Shift to Shadow Banking.”

<sup>32</sup> An NPR report is here: “Stopping the “Brain Drain” of the US Economy,” *All Things Considered*, February 6, 2012.

<sup>33</sup> See Wynne Godley and L. Randall Wray, *Can Goldilocks Survive?* Policy Note 1999/4, Levy Economics Institute of Bard College (April 1999).

<sup>34</sup> See, for example, L. Randall Wray, *Surplus Mania: A Reality Check*, Policy Note 1999/3, Levy Economics Institute of Bard College (March 1999).

<sup>35</sup> Godley and Wray, *Can Goldilocks Survive?*

surplus), and so by identity the US private sector (firms plus households) had a deficit of 6.5 percent (the sum of the other two). In other words the private sector was spending \$106.50 for every hundred dollars of income. Each year that the private sector spent more than its income, it went more deeply into debt.

This was in some sense the “ugly” side of money manager capitalism: the growth of financial assets under management was equal to the growth of financial liabilities of *somebody*. (For every financial asset there is an equal financial liability.) Godley projected that the private sector debt load would become too great, and when spending fell, the economy would slip into recession. That in turn would cause job losses and force defaults on some of the debt. Researchers at the Levy Economics Institute believed that that would set off a severe financial crisis.<sup>36</sup>

At the beginning of 2000, that appeared to be happening, but the crisis was not as severe as we expected. The private sector retrenched, spending less than its income, and the Clinton budget surpluses morphed into deficits. The dot-com bubble popped and stock markets tanked. The Fed responded by lowering interest rates as the big budget deficits helped to restore economic growth.

And then something amazing happened: the American consumer started borrowing again—at a pace even greater than during the Clinton boom years. Much of that borrowing took the form of “cash-out refinance” loans—second mortgages taken out against existing home equity—for housing purchases and big-ticket consumer items. In other words, the US real estate boom had begun. For the next 10 years, US households would spend more than their incomes, with only a brief respite in the recession of 2000. Nothing like this had ever happened before. And it was aided and abetted by the practices of the money managers discussed above, inducing homeowners to go deeply into risky mortgage debt.

By 2007, the US ratio of debt to GDP reached an all-time peak of 500 percent; or, five dollars of debt to service out of each dollar of income<sup>37</sup> (Figure 1). While much discussion in recent months has been focused on the government debt ratio, the debt-to-GDP ratios of the household sector as well as the nonfinancial and financial business sectors were all much higher in 2007 as a percent of GDP, with government debt a small fraction of the total. Nonfinancial business debt was not a huge problem, since much of this was due to long-term finance of capital equipment—and after 2000, US nonfinancial businesses actually did not borrow much. Household debt was a huge problem, of course, and still weighs heavily on consumers, preventing recovery. But what was particularly unusual, and had long been ignored, was the unprecedented rise of financial sector indebtedness, which reached almost 125 percent of GDP at the peak of the crisis.<sup>38</sup>

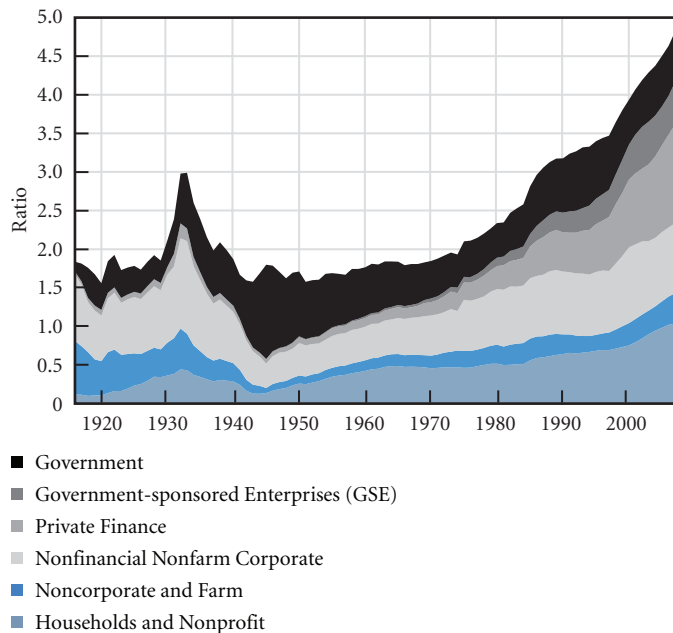
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<sup>36</sup> See, for example, these Levy Institute publications: Wynne Godley, *Seven Unsustainable Processes: Medium-term Prospects and Policies for the United States and the World*, Strategic Analysis (January 1999); L. Randall Wray, *Goldilocks and the Three Bears*, Policy Note 1998/7 (July 1998); and Godley and Wray, *Can Goldilocks Survive?*

<sup>37</sup> Nersisyan and Wray, “The Global Financial Crisis and the Shift to Shadow Banking.”

<sup>38</sup> See D’Arista, “The Role of the International Monetary System in Financialization”; and Nersisyan and Wray, “The Global Financial Crisis and the Shift to Shadow Banking.”

**Figure 1 Total Financial Liabilities Relative to GDP by Sector, 1916–2008**



*Note:* The government sector excludes all financial activities of the government (retirement funds, GNMA, and so on). The GSE sector includes government-sponsored enterprises and agency- and GSE-backed mortgage pools (among them, GNMA and FHA pools). “Private finance” excludes the GSE sector and monetary authorities (both of which are part of the financial sector in the Flow of Funds accounts). Before 1945, data for financial institutions is computed from US Census Bureau data by taking all the liabilities (excluding equity) of commercial banks, credit unions, savings institutions, life insurance stock companies, and property and life insurance companies, and by removing private banks notes, all deposits, and life insurance reserves. From 1945, the total financial liabilities of the financial sector excludes net interbank liabilities of commercial banks, liabilities of monetary authorities, private and public pension fund reserves, money market mutual funds shares, mutual funds shares, and the items previously cited. The liabilities of monetary authorities are not included anywhere. Data for the households and noncorporate sectors are deduced from Census Bureau data about net increase in liabilities and by computing backward from the 1945 level.

*Sources:* Historical Statistics of the United States: Millennium Edition (Tables Cj870-889, Ca9-19, Ce42-68, Cj787-796, Cj748-750, Cj389-397, Cj437-447, and Cj362-374); Historical Statistics of the United States: Colonial Times to 1970 (Series X 689-697); NIPA Flow of Funds (1945–).

The biggest political problem created from the experience of the Clinton years is that the wrong lesson was learned. Many continue to believe that the budget surpluses were good for the economy, indeed, they argue that the Goldilocks growth was caused by surpluses and point to the Bush deficits that followed the recession in 2000 and the Bush tax cuts that are purported to have contributed to “structural” deficits as fiscally imprudent. And so when the GFC hit the economy, the fiscal response was

too small because of fears surrounding the impact of a larger stimulus on the deficit.<sup>39</sup> When the economic slowdown lowered tax revenues, the new Obama administration saw the budget deficit explode to 10 percent of GDP—the highest since World War II. This generated fear about deficits that made it impossible to get additional support for stimulus on the necessary scale. As a result, the economy would not recover in a timely fashion.

#### **F. Financialization, layering, and liquidity**

There is one final aspect of the rise of money manager capitalism that we need to understand. Above, we mentioned that the financial sector's debt reached 125 percent of GDP. This is the debt of one financial institution to another. Most of it was very short term, even overnight. This is the "financialization" and "layering" that many economists now recognize: debt upon debt upon debt. What financial institutions had done was to shift the source of finance from deposits (household checking accounts and saving accounts) to financing positions in assets by issuing mostly short-term, nondeposit liabilities held by financial institutions. As an example, a bank would purchase mortgage-backed securities (MBSs) by issuing commercial paper; the commercial paper in turn would be bought by a money market mutual fund (MMMF) that issued deposit-like liabilities to firms and households.

This creates a potential liquidity problem. Household bank deposits are insured by the government (FDIC insurance), and banks have essentially unrestricted access to the Fed should they need to cover withdrawals. As such, runs on bank deposits are virtually a thing of the past—they almost never happen in the United States anymore—so bank deposits are a very stable funding source for banks that buy MBSs or other assets. When US mortgage markets collapsed and bad reports were coming out about crashing market values of MBSs, households did not need to worry about their insured deposits. But the MMMFs worried about the uninsured commercial paper issued by banks—if the MBS assets were bad, the commercial paper was bad too. That led to a run out of commercial paper, causing trouble for banks that had to refinance their asset positions—and they could not simply sell the MBSs because there was no market for them.

Finally, the holders of "deposits" in MMMFs *did* run out of them, because they were not insured.<sup>40</sup> Suddenly, there was a "liquidity crisis"—a run into the most liquid and safe assets (insured deposits plus federal government debt) and a run out of almost everything else. Since financial institutions relied so much on borrowing from one another, and because they no longer trusted one another, the entire global financial system froze. Without government intervention, financial institutions would have to "sell out position to make position," as Minsky put it, meaning sell their assets because they could no longer finance them. And that would lead to a debt deflation dynamic, because with no buyers, prices of financial assets would collapse. That is precisely what had happened in the 1930s, and it led to the unprecedented response by the Fed. Before turning to an examination of the response, we will first look at the history of the Fed's responses to financial crises.

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<sup>39</sup> See Noam Scheiber, "Obama's Worst Year," *The New Republic*, February 10, 2012.

<sup>40</sup> Morgan Ricks, "Regulating Money Creation after the Crisis," *Harvard Business Law Review* 1, no. 18 (May 2011).

### CHAPTER 3. Historical Response by the Fed to Financial Crises<sup>41</sup>

In this section we examine the gradual development of the Fed’s method of dealing with financial crises.

#### A. Definition and origins of the doctrine of lender of last resort

Few terms in modern law and economics are as poorly understood as the phrase “lender of last resort” (hereinafter, LOLR). In general, this concept is considered to apply principally to central banks and their lending activities, but experience also has shown that it applies equally to a host of institutions, both public and private, ranging from finance ministries and public treasuries to corporations and even a few well-endowed individuals. Most of the guidance for understanding the role and limits of the LOLR is in the economic literature, with only a few published legal works on the subject.<sup>42</sup>

The standard definitions of the term “lender of last resort” should be read with the clear understanding that it refers to an economic doctrine that may have been granted some standing by inference in statutory law and or the occasional report in court cases. However, no US statute seems to have explicitly incorporated this term; it appears nowhere in the FRA, for example. Although it might make legal sense to view the Federal Reserve Banks as “lenders of last resort” for their member financial institutions, statutory limits were enacted in 1991 to preclude the reserve banks from making loans to profoundly insolvent (technically, “critically undercapitalized”) institutions without the explicit prior approval of the secretary of the Treasury. This limitation was intended to construct a political check or balance against bailout lending calculated to avoid the fiscal discipline of congressional appropriations.<sup>43</sup>

Michael Bordo provided a useful restatement of standard economic concepts associated with the LOLR in 1992. Noting that the key elements of the term were developed by the British economists Henry Thornton (1802) and Walter Bagehot (1873), Bordo posits that the principal economic function of the LOLR is to “allay an incipient [banking] panic by timely assurance that it [the LOLR] will provide whatever high-powered money is required to satisfy the demand,” usually by offers of “liberal access” to a discount or lending facility at a penalty rate or by open market purchases.<sup>44</sup> In the classic formulation of this doctrine, it was important that the LOLR’s loans be made at a penalty rate (that is, at a discount or interest rate above the previously prevailing market rate for comparable obligations) and only to illiquid-

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<sup>41</sup> This draws heavily on Walker F. Todd, “Central Banking in a Democracy: The Problem of the Lender of Last Resort,” in Patricia A. McCoy, ed., *Financial Modernization after Gramm-Leach-Bliley* (Newark, N.J.: Lexis/Nexis Matthew Bender, 2002).

<sup>42</sup> By far the most important of the legal writings on the lender-of-last-resort operations of the Federal Reserve System is Howard Hackley, *Lending Functions of the Federal Reserve Banks: A History* (Washington, D.C.: Board of Governors of the Federal Reserve System, 1973).

<sup>43</sup> See section 141 (a)(1) of the Federal Deposit Insurance Corporation Improvement Act of December 19, 1991, Pub. L. No. 102–242. See also, Walker F. Todd, “New Discount Window Policy Is Important Element of the FDICIA,” *Banking Policy Report* 12, no. 5 (March 1, 1993): 14–15.

<sup>44</sup> Michael Bordo, “The Lender of Last Resort: Some Insights from History,” in George G. Kaufman, ed., *Research in Financial Services: Private and Public Policy*, Vol. 1 (Greenwich, Conn.: JAI Press, 1992).

but-solvent banks.<sup>45</sup> The penalty rate formula apparently was designed to ensure that bank supervisors, or the market itself, would force the exit of insolvent institutions from financial markets sooner rather than later.

Summarizing the modern economic concepts associated with the doctrine of the LOLR, Bordo divides them into four general groups: (1) the classical view, already described, which often is associated with monetarist economists and even earlier, Keynesian economists;<sup>46</sup> (2) the open market view, associated with the Federal Reserve Bank of Richmond, which holds that it suffices for the central bank or other monetary authority to increase the stock of high-powered money through open market operations and to allow the financial market to allocate the increased stock to banks facing a panic—insolvent banks will find it difficult to obtain funds and will pay premium rates for liquidity, and solvent banks will find liquidity more easily in the market without paying penalty rates;<sup>47</sup> (3) the central bank bailout view, associated with many modern Keynesian economists and the FRBNY, which holds that only the announcement of central bank assistance in virtually unlimited amounts and without regard to capital adequacy alleviates depositor uncertainty to terminate bank panics—this policy creates the “moral hazard” that depositors eventually rely on central bank bailouts and no longer monitor the risk exposures or capital adequacy of their banks;<sup>48</sup> and (4) the free banking view, associated with many Austrian school economists, which holds that there is no need for any government authority to serve as LOLR, that it is legal restriction on the monetary (as distinguished from the credit-supplying) function of the banking system that produces banking panics, and that a free market in banking (at least for monetary functions) would produce a panic-proof (or nearly so) banking system.<sup>49</sup>

Deriving a coherent statement of the legal principles governing an LOLR operation presents many of the same problems as constitutional interpretation: Does one give greater weight to the classical view or original intention versus modern economic and banking structures? Does one give precedence to natural concepts of justice and fairness in ensuring that only the solvent survive, and that the insolvent or doubtful fail promptly? Or, rather, does one give precedence to group survival, even at the expense of spreading the costs of the insolvency of individual institutions over all remaining banks, depositors, or

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<sup>45</sup> Bordo, “The Lender of Last Resort.”

<sup>46</sup> Sources of the classical view of the LOLR may be found in Henry Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (1802), and Walter Bagehot, *Lombard Street: A Description of the Money Market* (1873). The classical view is also well described in Thomas Humphrey and Robert Keleher, “The Lender of Last Resort: A Historical Perspective,” *Cato Journal* 4, no. 1 (Spring/Summer 1984): 275–318.

<sup>47</sup> Bordo, in “The Lender of Last Resort,” properly associates the open market view with the seminal article of Marvin Goodfriend and Robert King, “Financial Deregulation, Monetary Policy, and Central Banking,” in William Haraf and Rose Kushmeider, eds., *Restructuring Banking and Financial Services in America* (Washington, D.C.: AEI Press, 1988).

<sup>48</sup> Good examples of the central bank bailout view may be found in Charles Goodhart, *The Evolution of Central Banks* (1985); E. Gerald Corrigan, “Financial Market Structure: A Longer View” (January 1987), reprinted in the Federal Reserve Bank of New York (1987) Annual Report; Corrigan, “A Perspective on Recent Financial Disruptions,” *Federal Reserve Bank of New York Quarterly Review* 14 (Winter 1989/90): 8–15; Richard F. Syron, “The Fed Must Continue to Supervise Banks,” *New England Economic Review* (January 1994): 3–8. A defense of the Federal Reserve’s role as LOLR, with strong tendencies toward defense of the central bank bailout view, is Gillian G. Garcia and Elizabeth Plautz, *The Federal Reserve: Lender of Last Resort* (Cambridge, Mass.: Ballinger, 1988).

<sup>49</sup> Bordo, “The Lender of Last Resort.”

the government? The problem with favoring the latter view concerns adverse incentive as well as possible concentration (as discussed below).<sup>50</sup>

## **B. Standard literature on the doctrine**

It is difficult to define the standard legal literature on the doctrine of LOLR. Abundant material on the doctrine exists in internal documents at the Treasury Department, the Board of Governors of the Federal Reserve System, and the Federal Reserve Banks, but most of that material is unpublished and is often classified as confidential. The few reasonably reliable published legal sources are discussed below. Most of the published material on the doctrine of LOLR is in economic literature, and some of the leading economic sources are described below as well. The principal issue raised by the paucity of legal literature and the comparative abundance of economic literature on this subject is whether judges, congresspersons and their staffs, policymakers, and lawyers should be guided exclusively, primarily, or only marginally by the economic sources. In judging the economic sources, the principal issue raised is whether a particular source or view, in Bordo's classification, is amenable to circumscription by pre-articulated rules or, rather, contemplates unlimited discretion in the LOLR.

Traditional legal doctrines regarding the LOLR appear to be roughly analogous to the classical view of the LOLR as defined by Bordo and explained in Thornton and Bagehot. The classical view of the LOLR contemplates a government-funded or -sponsored institution that, using either monopoly privileges granted by the government (e.g., the right to issue circulating currency with legal tender status) or the government's own credit (e.g., borrowing funds through tax-backed bond issues), makes loans to the class of borrowers favored by the LOLR legislation. The availability of an LOLR to a class of favored borrowers constitutes a form of subsidy. The subsidy element is theoretically reduced or eliminated by a requirement that the LOLR lend only on collateral of unquestioned current market value and only at a penalty rate, but the actual practices of LOLRs in all industrial economies since the 1930s have been protectionist (limiting availability to favored classes of borrowers, usually established industries) or subsidizing (rarely is the market-value requirement enforced with respect to collateral, and the loans usually are made at discount or interest rates lower than those that the market would have charged to similarly situated borrowers).<sup>51</sup>

The principal legal underpinning for the classical view of the LOLR in economic theory is usually found among monetarist and neoclassical economic writings.<sup>52</sup> These writings tend to support the view that, if

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<sup>50</sup> It was congressional concern over the costs of the moral hazard induced by perverse incentives of expanded federal deposit insurance and central bank bailout lending during the 1980s that prompted enactment of the FDICIA in 1991.

<sup>51</sup> See James Buchanan, "Constitutional Economics," in John Eatwell et al., eds., *The New Palgrave: A Dictionary of Economics*, Vol. 1, London and Basingstoke: Macmillan, 1987; and James Madison, "The Federalist No. 10," in Edward Meade Earle, ed., *The Federalist* (New York: Modern Library, 1937).

<sup>52</sup> See Lester Chandler, *Benjamin Strong: Central Banker* (Washington, D.C.: The Brookings Institution, 1958); Milton Friedman and Anna Schwartz, *Monetary History of the United States: 1867–1960* (1971); Jack M. Guttentag and Richard J. Herring, "Disaster Myopia in International Banking," *Princeton Essays in International Finance*, No. 164 (September 1986), and "The Economics of Bail-Out Lending," *Brookings Papers in International Economics*, No. 32 (June 1985); Edward J. Kane and George G. Kaufman, "The Lender of Last Resort," in George J. Benston et al., eds., *Perspectives on Safe and Sound Banking: Past, Present, and Future* (Cambridge, Mass.: The MIT Press, 1986); Humphrey and Keleher, "The Lender of Last Resort."



a government-funded or -sponsored institution could shorten or reduce the magnitude of aggregate financial losses suffered in a banking panic by timely loans, without disproportionate subsidy of the interest rate charged to the borrowers, then the government should undertake such loans. Among the framers of the Constitution, Alexander Hamilton was the only one who wrote explicitly in support of such an idea, in connection with the possibility of “convenient loans to the government” from his proposed Bank of the United States in 1791,<sup>53</sup> but his support was contested hotly by James Madison and Thomas Jefferson, among others.<sup>54</sup>

Similarly, the leading principled legal underpinning for the central bank bailout view of the LOLR in economic theory tends to be found in the post-1920 writings of John Maynard Keynes and modern Keynesian and post-Keynesian economists.<sup>55</sup> The principled legal view thus derived should maintain that, because of the complexities of economic organization in modern industrial societies and the generally agreed desirability of avoiding recession, some governmental assistance to particular industries (e.g., banking) or even to specific important institutions (e.g., a money center or important regional correspondent bank) could be economically justified in maintaining the supply of credit that an expanding economy would require. At the same time, in order to avoid misallocative distortions of the market mechanism through government intervention, and against which Keynes himself warned,<sup>56</sup> a principled legal defense of the central bank bailout view should avoid appearing to guarantee a bailout to all important industries or institutions at all times; that is, the perception of a “right to borrow” should be avoided, if at all possible. In actual practice, with increasing frequency since about 1980, both the Bank of England and the Federal Reserve have tended to follow a “too big / too important to let fail” policy.<sup>57</sup> Critics maintain that, in fact, few if any principled bailouts are undertaken under this view,

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<sup>53</sup> Alexander Hamilton, “Opinion on the Constitutionality of a National Bank,” in Henry Cabot Lodge, ed., *The Works of Alexander Hamilton* (London: G. P. Putnam’s Sons, 1904).

<sup>54</sup> See Madison’s speeches in the House of Representatives against Hamilton’s 1791 bank bill in Matthew St. Clair Clarke and David A. Hall, eds., *Legislative and Documentary History of the Bank of the United States* (Washington, D.C.: Gales and Seaton, 1967 [1832]). See also, accounts of Jefferson’s views of Hamilton’s bank plan in Charles A. Beard, *Economic Origins of Jeffersonian Democracy* (1949 [1915]); Dumas Malone, *Jefferson and the Rights of Man* (1951).

<sup>55</sup> See John M. Keynes, *A Treatise on Money* (London: Macmillan, 1953 [1930]), and *The General Theory of Employment, Interest, and Money* (New York: Harcourt, Brace, 1964 [1935]); Charles P. Kindleberger, *Keynesianism vs. Monetarism and Other Essays in Financial History* (London: G. Allen & Unwin, 1985).

<sup>56</sup> See Keynes, *A Treatise on Money*.

<sup>57</sup> On the Bank of England, see Goodhart, *The Evolution of Central Banks*, and Maximilian Hall, “The Johnson Matthey Bankers Affair: Have the Lessons Been Learnt?” paper presented at the Institute for International Research conference “Off-Balance Sheet Risk For Banks,” London June 29–30, 1987 (critical of bailouts). On the Federal Reserve, see Corrigan, “Financial Market Structure” and “A Perspective on Recent Financial Disruptions,” and Syron, “The Fed Must Continue to Supervise Banks” (supportive of bailouts); Irving Sprague, *Bailout: An Insider’s Account of Bank Failures and Rescues* (New York: Basic Books, 1986) (critical); Walker F. Todd and James B. Thomson, “An Insider’s View of the Political Economy of the Too Big to Fail Doctrine,” *Public Budgeting and Financial Management: International Journal* 3 (1991) (critical). For the political, constitutional, and legal aspects of the emergence of the “well-connected or too-big-to-let-fail” doctrine in the United States, see Walker F. Todd, “Lessons of the Past and Prospects for the Future in Lender of Last Resort Theory,” Working Paper 8805, Federal Reserve Bank of Cleveland (1988).

short-term political considerations being more likely explanations than reasonable adherence to principle in the actual implementation of Keynesian LOLR policy.<sup>58</sup>

The Board of Governors of the Federal Reserve System (hereinafter, the “Board”) has published most of the reasonably reliable legal literature on the doctrine favoring the LOLR, but the Board has taken nearly diametrically opposed views on the matter at different times in its history. The foremost published source is a book written by the Board’s longtime general counsel, Howard Hackley, that was published in 1973, shortly after his retirement.<sup>59</sup> Ironically, the Board published Hackley’s treatise, which generally reflects the classical view of the LOLR, during a period when the Board’s own view under Chairman Arthur Burns, was evolving toward the too-big-to-fail / too-important-to-fail policy of generalized central bank bailouts.<sup>60</sup> Next in importance after Hackley’s treatise as a source of LOLR information is the three-volume compilation of a study of the Federal Reserve Banks’ discount window mechanism undertaken at the end of the 1960s, edited by Bernard Shull.<sup>61</sup> The main regulatory product of the Hackley treatise and the Shull study was the extensive revision of the Board’s Regulation A (governing the use of the Federal Reserve Banks’ discount window) in 1973, including an explicit statement that the LOLR mechanism should not be used as a substitute for capital that either the private sector or the fiscal operations of the federal government should provide.<sup>62</sup>

Of small importance to the Board currently, but of great importance to supporters of any of Bordo’s three categories of belief other than the central bank bailout view, is the statement published in the Board’s *Federal Reserve Bulletin* in January 1932, restating the conclusions of a conference of South American central banks attended by, among others, Professor E. W. Kemmerer of Princeton University, Assistant Deputy Governor (later President) Allan Sproul of the FRBNY, and Eric F. Lamb of the bank’s Foreign Department. At the time, their views, which tended to fall between either the classical view of the LOLR and the open market view, fairly could be characterized as the leading opinions of policymakers in the Federal Reserve System. They wrote:

It is necessary, therefore, to state emphatically once more that the central banks were not created as a substitute for commercial banks and cannot be regarded as a source of panaceas for economic ills which are subject to a slow and painful process of recovery. . . . Central banks must not in any way supply capital on a permanent basis either to member banks or to the public, which may lack it for the conduct of their business.<sup>63</sup>

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<sup>58</sup> See Anna J. Schwartz, “The Lender of Last Resort and the Federal Safety Net,” *Journal of Financial Services Research* 1 (September 1987). See Bradford DeLong (deputy assistant secretary of the Treasury for economic policy at the time), Christopher DeLong, and Sherman Robinson, “The Case for Mexico’s Rescue: The Peso Package Looks Even Better Now,” *Foreign Affairs* 75, no. 3 (May/June 1996), which makes the case for LOLR in primarily political terms.

<sup>59</sup> See Hackley, *Lending Functions of the Federal Reserve Banks*.

<sup>60</sup> See Joan Edelman Spero, *The Failure of the Franklin National Bank: Challenge to the International Banking System* (New York: Columbia University Press, 1980); Sprague, *Bailout*.

<sup>61</sup> Bernard Shull, ed., *Reappraisal of the Federal Reserve Discount Mechanism*, 3 vols. (Washington, D.C.: Board of Governors of the Federal Reserve System, 1971–72).

<sup>62</sup> 12 C.F.R. Part 201, 1973.

<sup>63</sup> “Conference of South American Central Banks,” *Federal Reserve Bulletin* 18, no. 1 (January 1932): 45.

In the aftermath of the savings-and-loan insurance fund failures of the 1980s, the developing country debt crises that followed the collapse of the Mexican peso in August 1982, and the failures of several very large regional banks in the late 1980s (usually attributed to commercial real estate lending problems),<sup>64</sup> there was renewed interest at the Federal Reserve Banks in the LOLR doctrine. Several notable Reserve Bank publications dealing with LOLR doctrine emerged from that renewed interest.

There are no Federal Reserve publications at either the Board or the Reserve Banks that explicitly endorse a completely unrestrained version of the central bank bailout view of the LOLR doctrine, as described by Bordo. However, there are several Reserve Bank publications that clearly endorse either a liberalized reading of the classical view of the LOLR doctrine or a traditional Keynesian view of the central bank bailout view.<sup>65</sup> However, other Reserve Bank publications, should be read as endorsing an “original intent” version of the classical view of the LOLR, the open market view, or the free banking view.<sup>66</sup>

### C. Definition of the problem

The core of Bagehot’s “classical” doctrine of the LOLR can be found on pages 197–99 of *Lombard Street: A Description of the Money Market* (New York: Scribner, Armstrong, 1874). It is usually summarized roughly as follows: “In a banking panic, the lender of last resort should discount freely, but at a penalty rate.” What Bagehot actually wrote (p. 199) is as follows:

The only safe plan for the Bank [of England] is the brave plan, to lend in a panic on every kind of current security, or every sort on which money is ordinarily and usually lent. This policy may not save the Bank; but if it does not, nothing will save it.

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<sup>64</sup> See Gregory C. Golembe, “Financial Reform and the Handling of Failed Banks,” *The Golembe Reports*, No. 4 (June 2, 1988); Richard E. Randall, “Lessons from New England Bank Failures,” *New England Economic Review* (May/June 1993): 13–38; Richard Carnell, “A Partial Antidote to Perverse Incentives: The FDIC Improvement Act of 1991,” *Annual Review of Banking Law* 12 (1993): 317–71.

<sup>65</sup> Besides Corrigan (“Financial Market Structure” and “A Perspective on Recent Financial Disruptions”) and Syron (“The Fed Must Continue to Supervise Banks”), see Larry D. Wall, “Too-Big-to-Fail after FDICIA,” *Economic Review Federal Reserve Bank of Atlanta* 78, no. 1 (January/February 1993); William R. Keeton, “The Reconstruction Finance Corporation: Would It Work Today?” *Federal Reserve Bank of Kansas City Economic Review* (First Quarter 1992).

<sup>66</sup> From the monetarist perspective, see: Mark D. Flood, “The Great [Deposit] Insurance Debate,” *Federal Reserve Bank of St. Louis Review* 74, no. 4 (July/August 1992): 51–77; David C. Wheelock and Paul W. Wilson, “Can Deposit Insurance Increase the Risk of Bank Failure? Some Historical Evidence,” *Federal Reserve Bank of St. Louis Review* 76, no. 3 (May/June 1994): 57–71; Anna Schwartz, The Misuse of the Fed’s Discount Window, *Federal Reserve Bank of St. Louis Review* 74, no. 5 (September/October 1992): 58–69. Neo-Classicals and traditional Keynesians: see Humphrey and Keleher, “The Lender of Last Resort.” Open market proponents: Alfred Broaddus and Marvin Goodfriend, “Foreign Exchange Operations and the Federal Reserve,” *Federal Reserve Bank of Richmond* (1995) Annual Report; Marvin Goodfriend, “Why We Need an ‘Accord’ for Federal Reserve Credit Policy,” *Journal of Money, Credit and Banking* 26, no. 3 (1994): 573–80; Robert L. Hetzel, “Too Big to Fail: Origins, Consequences, and Outlook,” *Federal Reserve Bank of Richmond Economic Review* 77, no. 6 (November/December 1991): 3–15; Walker F. Todd, “The Federal Reserve Board and the Banking Crisis of the 1930s,” in Kaufman, ed., *Research in Financial Services: Private and Public Policy*, Vol. 8 (1996): 97–138; “History of and Rationales for the Reconstruction Finance Corporation,” *Federal Reserve Bank of Cleveland Economic Review* 28, no. 4 (4th Quarter 1992): 22–35; Beard, *Economic Origins of Jeffersonian Democracy*; Malone, *Jefferson and the Rights of Man*.

In other words, the “discount freely” dictum should be understood as loans against “every kind of current security, or every sort on which money is ordinarily and usually lent.”

Further passages clearly indicate that the classical LOLR is meant to demonstrate that it will lend, even in a panic, on any collateral reasonably presumed good. It must be remembered that Bagehot’s conception of the Bank of England as LOLR was formed against the backdrop of a gold standard and a 100 percent monetary reserve for the bank’s note issue. That is, the bank was externally constrained, in a way that the current Federal Reserve is not, and so the bank had to lend in a panic only on securities that it would have accepted in ordinary times and that were reasonably presumed good—no creative valuation of collateral assumptions, in other words.

In Bagehot’s view, the Bank of England had to behave this way: if it overlent on creatively valued collateral, the panic would continue because holders of the bank’s own deposit receipts and currency notes would assume that it would exhaust its specie reserves if it continued such lending for very long. Conversely, if the bank refused to lend on fairly valued and readily marketable securities, it risked the public’s perception that it had already exhausted its specie reserve, thereby increasing the panic. The only safe course for a central bank or monetary authority performing LOLR operations, in other words, is to stick fairly close to insistence on collateral that easily could be resold at approximately the same price in the open market in ordinary times. A borrower deficient in such collateral probably should not be rescued from the predictable consequences of its own folly, anyway, and is more properly a candidate for a recapitalization or solvency support operation, which necessarily must be mounted by the fiscal, not the monetary, side of government if the integrity (we today probably would say the “credibility”) of the LOLR’s monetary operations is to be respected.

The problem of collateral valuation is that valuations tend to emerge that clearly violate Bagehot’s well-founded classical dicta: savings and loan collateral in Texas, of which the same types were sold at auction for 25 cents on the dollar or less, was valued at 50 percent of face value for lending purposes. Valuation today is very much more difficult due to complexity of many of the derivative instruments held by troubled banks; it is likely that the Fed and banks alike are valuing MBSs well above what they are worth today and into the near future. We will deal with this issue in more detail in a subsequent research phase.

The “penalty rate” lending recommendation in Bagehot’s classical model is aimed at forcing borrowers to rely on the market itself to supply necessary liquidity against sound, fairly valued collateral. Bagehot called the penalty rate “a heavy fine on unreasonable timidity” of borrowers,<sup>67</sup> reluctant to apply for loans in the market and relying on the LOLR to bail them out unnecessarily. Central banks, including the Federal Reserve System itself at various times in its history, have experienced problems in managing their monetary operations when discount window borrowers overstay their welcomes, which usually does not happen when a penalty rate is in place.

The FRBNY occasionally writes about the “reluctance to borrow problem,” apparently because it wishes to kill two or more problem birds with one monetary operation stone: They would like to be able to

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<sup>67</sup> Bagehot, *Lombard Street*, p. 197.

expand banking system reserves through discount window operations as well as open market operations, and they are hamstrung in doing so as long as large banks do not willingly borrow at the discount window. Thus, they constitute a faction within the Federal Reserve that resists moves toward imposition of a penalty rate, or the posting of a rate for ordinary extensions of credit that is higher than the prevailing market rate for overnight liquidity. To summarize this section, here is what Bagehot wrote on these points (at 197–98):

The end [or object of the LOLR's advances] is to stay the panic; and the advances should, if possible, stay the panic. And for this purpose there are two rules: —First. That these loans should only be made at a very high rate of interest. This will operate as a heavy fine on unreasonable timidity, and will prevent the greatest number of applications by persons who do not require it. The rate should be raised early in the panic, so that the fine may be paid early; that no one may borrow out of idle precaution without paying well for it; that the Banking [or monetary] reserve may be protected as far as possible.

Secondly. That at this rate these advances should be made on all good banking securities, and as largely as the public asks for them. The reason is plain. The object is to stay alarm, and nothing therefore should be done to cause alarm. But the way to cause alarm is to refuse some one who has good security to offer. . . . No advances indeed need be made by which the Bank will ultimately lose. . . . That in a panic the bank, or banks, holding the ultimate reserve [the LOLR] should refuse bad bills or bad securities will not make the panic really worse; the “unsound” people are a feeble minority, and they are afraid even to look frightened for fear their unsoundness may be detected. The great majority, the majority to be protected, are the “sound” people, the people who have good security to offer. If it is known that the Bank of England is freely advancing on what in ordinary times is reckoned a good security—on what is then commonly pledged and easily convertible—the alarm of solvent merchants and bankers will be stayed.

Some things remain today as they were in Bagehot's day. He concludes this statement of the “classical” principles of the LOLR with the following observation:

If we examine the manner in which the Bank of England has fulfilled these [LOLR] duties, we shall find, as we have found before, that the true principle has never been grasped; that the policy has been inconsistent; that, though the policy has much improved, there still remain important particulars in which it might be better than it is.<sup>68</sup>

In short, an enormous moral hazard problem tends to arise whenever central bank rescues begin.<sup>69</sup> The moral order problem posed by the operations of an LOLR in a democracy is illustrated by analogy to the

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<sup>68</sup> Bagehot, *Lombard Street*, p. 199.

<sup>69</sup> By far the best analysis of the psychological, historical, political, and economic factors inducing public officials to behave this way, tending to deny and cover up adverse information regarding the size of economic holes to fill with public funds and then pretending after the fact that the public funds were well spent, including an econometric formula for predicting the probability of such behaviors on the part of public officials, is in Edward J. Kane, “How Incentive-Incompatible Deposit-Insurance Funds Fail,” in Kaufman, ed., *Research in Financial Services: Private and*

problem of the morally proper incidence of taxation in a democracy. Alexis de Tocqueville, writing about the Ancien Régime and the French Revolution, pointed out that, all things considered, the English nobility was more haughty, arrogant, and elitist than the French nobility before the revolution (1789), but that the English aristocrats had a greater tendency than the French to mingle socially with their social inferiors. Beginning in the 15th century, French kings struck a bargain of sorts with their nobles regarding taxation. The French rule then was, as it continued to be in England, “No royal taxation without the consent of the common counsel of the realm.” King Charles VII of France obtained from the nobles their consent to impose direct taxes on the people, by royal decree alone (the *taille*) if, in exchange, the nobles were exempted from such taxation. De Tocqueville writes that this change of procedure, regularly resorted to by French kings for the next three centuries, set the French nobility apart from the French people in a way that usually did not occur in England and was the principal source of, in his view, the leading cause of the French Revolution: the separation of men who resembled each other remarkably (nobles and peasants) into little groups that were strangers to each other and indifferent to each others’ fates. The following passages illustrates this argument eloquently and well:

I dare to affirm that, from the day when the [French] nation, tired from the long disorders that had accompanied the captivity of King John and the dementia of Charles VI, permitted its kings to create a general tax without its consent, and when the nobility was so cowardly as to allow the Third Estate to be taxed, provided that the nobility was excepted from it, on that day was sown the seed of almost all the vices and almost all the abuses that undermined the Old Regime for the rest of its existence and finally caused its violent death. I admire the singular sagacity of the [15th century historian] Commynes when he says, “Charles VII, who won this point of imposing the *taille* [any direct royal tax] at his pleasure, without the consent of all three estates, laid a mighty burden on his soul and the souls of his successors and gave his kingdom a wound that will bleed for a long time.”<sup>70</sup>

After Congress approved Hamilton’s funding schemes, Jefferson warned President Washington that Hamilton’s schemes, including a limited LOLR operation involving the federal government’s assumption of about \$20 million of states’ debts, unnecessarily were sowing the seeds of discontentment among the public. Eventually, the public did rebel, in western Pennsylvania in 1793–94, producing among the leaders of the Whiskey Rebellion the man who became Jefferson’s secretary of the Treasury in 1801 with a mandate to undo Hamilton’s funding schemes, Albert Gallatin.<sup>71</sup>

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*Public Policy*, Vol. 4, (1992). Kane demonstrates that there are, as he so characteristically and indelicately puts it, “straightforward . . . incentives for officials to lie” about the actual condition of financial institutions and deposit insurance funds (p. 66).

<sup>70</sup> Alexis de Tocqueville, *L’Ancien Régime et la Révolution* (Paris: Flammarion, 1988 [1856]), pp. 190–91.

<sup>71</sup> Beard, *Economic Origins of Jeffersonian Democracy*, and Malone, *Jefferson and the Rights of Man*; Thomas P. Slaughter, *The Whiskey Rebellion: Frontier Epilogue to the American Revolution* (New York: Oxford University Press, 1986).

#### **D. Conclusion**

This suggests that further research should consider the extent to which Fed obligations that result from LOLR interventions are similar to the obligations imposed on the Treasury by congressional decisions. In some respects they are quite different, but in others they are similar. This then raises the issue of the lack of democratic accountability when a central bank engages in a rescue of unprecedented size. It is important to understand the dilemma that an LOLR, especially a central bank rescue plan, creates. It is all the more crucial, when policymakers do not seek to ground any LOLR rationale in the American constitutional and legal traditions instead of ceding the entire territory to a set of economists who are not formally required by their profession to observe any objective ethical standards and who tend to understand the Constitution very little, if at all. The strictest legal, moral, and economic scrutiny should be the appropriate standard of review whenever proposals for central bank bailouts or other LOLR bailouts are proposed.

In its present institutional structure, the Federal Reserve System is ill suited to act as a democratically accountable lender of last resort. It could be argued that such functions properly have belonged to the fiscal side of government, anyway, and should be completely separated from the monetary operations of the central bank. Accordingly, the LOLR problem is that those who demand that LOLR loans occur usually are not those who subsequently would bear the risk of loss. Also, those who borrow usually do not confer new benefit on the general public in doing so where the loan is undertaken to retire a previously existing obligation, in whole or in part, and such repayments usually are the principal basis for LOLR loan requests.

## **CHAPTER 4. The Too-Big-to-Fail Doctrine: Motives, Countermeasures, and the Dodd-Frank Act<sup>72</sup>**

### **A. Introduction**

Government policies to forbear, support, and bail out banks and other financial companies deemed too-big-to-fail (TBTF) are now widely recognized as raising several critical issues: (1) a moral hazard issue that encourages large banks to take excessive risk; (2) a competitive issue that puts smaller banks at a competitive disadvantage; and (3) a behavioral issue that encourages banks to grow inefficiently to a “protected” size and complexity. During periods of financial stress, government officials have promised “never again.” During periods of economic prosperity, they have sanctioned large-bank growth by merger and ignored the ongoing competitive imbalance.

The inability over many years to do away with TBTF practices suggests that its etiology has not been fully understood. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 constitutes the most recent effort to eliminate TBTF.

### **B. The TBTF problem in perspective**

Financial institutions deemed TBTF are not a recent phenomenon. Looking back, one can find evidence of such protection from the very early days of modern banking. In the United States, however, the modern version of the problem developed about 30 years ago with the failure of Continental Illinois of Chicago, at the time one of the largest banks in the country. Out of an expression of concern for the systemic impact, the Office of the Comptroller of the Currency (OCC) announced that the largest banks in the United States, including Continental, were too big to fail; and the FDIC, supported by the Federal Reserve, announced protection for all its creditors and those of its affiliates. Through the remainder of the 1980s and into the 1990s, creditors of both failed savings and loan associations and large commercial banks were also afforded government protection.

The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 and the FDIC Improvement Act (FDICIA) of 1991 aimed at the elimination of TBTF. Both provided more stringent regulation and supervision, including increased capital requirements. FDICIA constrained FDIC and Federal Reserve discretion in supporting uninsured creditors of failing banks. It also established a new procedure, termed “prompt corrective action” that was intended to close banks before their capital was extinguished. FDICIA, nevertheless, included a “systemic risk exemption,” applicable to large banks. It was expected, however, to be exercised rarely, and required a joint determination by the FDIC, the Federal Reserve, and the secretary of the Treasury (with agreement by the president).

These constraints appeared to make a continuation of TBTF practices at the least, uncertain—a condition that some celebrated as “constructive ambiguity.” However, between the early 1990s and the financial crisis of 2008, the persistence of favorable funding costs for very large banks, as well as Federal Reserve behavior, strongly suggested that TBTF was alive and well. The Fed’s organization of a bailout

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<sup>72</sup> This draws heavily on Bernard Shull, “Too-Big-to-Fail: Motives, Countermeasures, and the Dodd-Frank Response,” Working Paper No. 601, Levy Economics Institute of Bard College (June 2010).



for Long-Term Capital Management in 1998, out of concerns for large banks to which the hedge fund was indebted, provided evidence. Experience in the recent financial crisis eliminated all doubt.

### **C. Reasons for resistance and remedies**

Conventional wisdom is that the roots of TBTF lie in inadequate regulation and supervision, with the result that large banks take on excessive risk; and, in their imminent failure, bailouts become an imperative. Bailouts are justified, as Chairman Alan Greenspan suggested with respect to the Long-Term Capital Management episode, on the grounds that the impact on moral hazard is more than offset by the disaster in financial markets that would occur if the hedge fund had been forced into sudden bankruptcy.<sup>73</sup> The conventional remedy for preventing bailouts, then, is better regulation and supervision.

There is a question, nevertheless, as to whether regulators tend to exaggerate systemic threats. A post-bailout analysis of Continental Illinois found that closing the bank without protection for uninsured creditors would not have resulted in the failure of many other banks. There was little empirical evidence that substantial system-wide damage would have occurred if Long-Term Capital Management had not been bailed out.<sup>74</sup> However, even if regulators perceive a low probability of substantial systemic damage prior to a bailout, they may still conclude that the expected cost of doing nothing is high.

In any event, the claim of exaggeration conforms to the view that the persistence of TBTF practices is not due to inadequate regulation, but rather to the frailty, if not malevolence, of the regulators. It has been contended that, out of concern for their careers, they have covered up large bank problems, have been sluggish in closing banks when insolvent, and much too quick to bail them out.<sup>75</sup> It is a small step to link such behavior to complaints about the political influence of large financial institutions.

If the roots of TBTF lie in perverse regulatory behavior, then reforms are needed to alter incentives and, possibly, the entire regulatory culture. One author has suggested a publicly funded West Point for financial regulators who, at higher salaries, would be willing to “embrace the fiduciary duties their agency owes to society. . . .”<sup>76</sup>

Finally, TBTF practices can also be attributed to the high value the government places on the survival of the largest banks. In countries where large banks are critical to the allocation of resources, the relationship is apparent. Absent central planning or industrial policy, and with well-developed capital markets, this cause may not seem important in the United States.

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<sup>73</sup> See Roger Lowenstein, *When Genius Failed* (New York: Random House, 2000), pp. 194–95, 229–30; Government Accounting Office, *Long-Term Capital Management: Regulators Need to Focus Greater Attention on Systemic Risk*, GAO Report GGD-00-3 (October 1999).

<sup>74</sup> Gary H. Stern and Ron J. Feldman, *Too Big to Fail* (Washington D.C.: Brookings Institution Press, 2004), pp. 48–49.

<sup>75</sup> Edward Kane has been the principal proponent of this view. For a recent expression of this argument, see Kane, “The Importance of Monitoring and Mitigating the Safety-Net Consequences of Regulation-Induced Innovation,” *Review of Social Economy* 68, no. 2 (June 2010), and “Redefining and Containing Systemic Risk,” *Atlantic Economic Journal* 38, no. 3 (September 2010).

<sup>76</sup> Kane, “Redefining and Containing Systemic Risk.”

There is, nevertheless, a long history of interdependence in the bank-government relationship. In the *Hearings on Continental Illinois*, Congressman Jim Leach (R-IA) asked Comptroller of the Currency C. T. Conover whether one could not argue for the bailout “on size grounds . . . to save something that is truly important, *a national resource*”(italics added).<sup>77</sup> Congressman Frank Annunzio (D-IL) defended the bailout by citing the “10,000 or 12,000 Continental employees would have lost their jobs, as well as the employees of the other banks who had large uninsured deposits.”<sup>78</sup> The “national resource” rationale is, in fact, the only one that would also account for bailouts of nonfinancial firms, such as Chrysler and GM.

If, in fact, a “national resource” rationale underlies the persistence of TBTF, better supervision and regulation might or might not help, but more dedicated regulators would be irrelevant. Bailouts would reflect a regulatory dedication to government purposes. The remedy, rather, would lie in structural de-concentration to diversify the national interest among a large enough group of financial companies such that the failure of any one or few would not be seen as critical.

Unfortunately, bank merger policy over the last several decades has promoted concentration and facilitated the growth of a handful of megabanks that now dominate the financial system. If the largest banking companies had achieved their current size because of economies of scale and scope, a proposal to deconcentrate would suggest the need to balance costs and benefits. But after decades of economic research, a consensus has emerged to the effect that economies of scale are exhausted at well below the size of the largest banks, and economies of scope are difficult to find. At most, one can say that available techniques for investigating large bank economies are inadequate, in part because of their fewness, and in part because it is not possible to separate the advantages of scale and scope from those of being too big to fail.<sup>79</sup>

#### **D. The Dodd-Frank response**

The Dodd-Frank Act is the latest in a series of legislative efforts to exorcize TBTF. It formally forbids future bailouts and proscribes all practices that would generate taxpayer losses. To effect these prohibitions, it has, among other things, created a new Financial Stability Oversight Council (FSOC), chaired by the Treasury Department and composed of other federal agencies with financial sector responsibilities. The aim of the FSOC is to identify and monitor risks to the financial system, and coordinate responses.

The Act designates all bank holding companies with over \$50 billion as systemically important financial institutions (SIFIs). The FSOC is responsible for establishing criteria for designating nonbank financial institutions as SIFIs. All SIFIs are to be supervised by the Federal Reserve, and subject to “enhanced

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<sup>77</sup> Jim Leach, “Inquiry into Continental Illinois Corp. and Continental Illinois National Bank,” September 18, 1984, p. 373. The Comptroller replied: “No, we never thought Continental was important as a national resource.” It is not clear from the record that Leach accepted this answer.

<sup>78</sup> Frank Annunzio, “Inquiry into Continental Illinois Corp. and Continental Illinois National Bank,” September 18, 1984, pp. 80–81.

<sup>79</sup> For a recent review of the literature, see Frederic M. Scherer, “A Perplexed Economist Confronts ‘Too Big to Fail,’” HKS Faculty Research Working Paper Series RWP 10-007, Harvard Kennedy School (March 2010). For a brief analysis of the issue, see Robert DeYoung, “Scale Economies are a Distraction,” *The Region* (The Federal Reserve Bank of Minneapolis) (September 2010): 10–13.

prudential standards” including higher capital requirements and other balance sheet constraints related to the level of systemic risk they portend.

The Act requires SIFIs to develop credible resolution plans, so-called “living wills,” that will permit their safe liquidation through bankruptcy. The FDIC and the Federal Reserve are authorized to require changes in the structure and activities of SIFIs if needed to establish credible plans. Companies that do not develop a credible plan are subject to serious penalties, including forced divestitures.<sup>80</sup> The alternative to bankruptcy, is the “orderly liquidation authority,” provided the FDIC. It can take a failed financial company into receivership so that it continues to function (e.g., as a “bridge bank”) until sold.<sup>81</sup>

In addition to more stringent supervision and regulation, Dodd-Frank includes some new restrictions on financial industry structure. First, it establishes a prohibition on mergers and acquisitions for financial companies (depository institutions, other Federal Reserve supervised nonbank financial companies, and foreign bank in the United States) where the resulting firm’s liabilities exceed 10 percent of the aggregate liabilities of all financial companies nationwide.<sup>82</sup> The previous 10 percent limit had applied only to banking companies and deposits of insured depository institutions.<sup>83</sup> The restricted coverage had invited circumvention by large banking companies through the acquisition of firms with nondeposit liabilities.

The Act also adds a new element to merger review. Before Dodd-Frank, the Federal Reserve, in passing on large mergers and acquisitions, considered competitive effects, based on antitrust standards, “the convenience and needs of the community,” including conformity to the requirements of the Community Reinvestment Act, and the financial/managerial condition of the resulting institution, including its “safety and soundness.” Dodd-Frank requires that it now also “take into consideration the extent to which a proposed acquisition, merger, or consolidation would result in greater or more concentrated risks to the stability of the United States banking or financial system.”<sup>84</sup> Thus, the Federal Reserve must now evaluate the systemic threat and, possibly, related competitive effects of combinations that create or increase the size of banking companies too big to fail—something it has never done before.<sup>85</sup>

## **E. Prospects**

The new law aggressively strengthens the regulation and supervision of large financial companies. It newly extends bank regulation to nonbanking companies, and is innovative in its “living will”

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<sup>80</sup> The Act constrains both Federal Reserve and FDIC support for failing companies; see Dodd-Frank Act, Title II, sec. 1101.

<sup>81</sup> See Sheila C. Bair, “We Must Resolve to End Too Big to Fail,” Remarks before the 47th Annual Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, May 5, 2011.

<sup>82</sup> Dodd-Frank Act, sec. 622. Liabilities are defined as “risk-weighted assets minus regulatory capital.”

<sup>83</sup> Riegle-Neal Banking Interstate Banking and Branching Efficiency Act of 1994, Title I, sec. 101.

<sup>84</sup> Dodd-Frank Act, sec. 604 (d), (e), (f).

<sup>85</sup> The Dodd-Frank Act also provides that financial holding companies, with assets of \$50 billion or more, must notify the Board before acquiring ownership or control of companies with \$10 billion or more in assets that are engaged in “permissible” nonbanking activities (sec. 163 [b][4]). The Federal Reserve must also consider whether these acquisitions would result in additional risk to financial stability.

requirement. The extension reflects the importance of large nonbank companies in the crisis of 2008–09. The “living will” seems a critical addition, but also raises significant questions.

In a recent talk, Sheila C. Bair, former chairperson of the FDIC, discussed the difficulties of safe resolution, given the complexity of large financial companies with hundreds or thousands of subsidiaries across national and global jurisdictions.<sup>86</sup> She observed that, “[u]nder the new . . . resolution framework, the FDIC should have a continuous presence at all designated SIFIs, working with the firms and reviewing their resolution plans as part of their normal course of business. . . .” But “safe resolution” will require more of the agencies than a “continuous presence”; “ultimate effectiveness will still depend on the willingness of the FDIC and the Federal Reserve . . . to require organizational changes that promote the ability to resolve SIFIs. . . . [They] must be willing to insist on organizational changes. . . . Unless these structures are rationalized and simplified in advance, there is a real danger that their complexity could make a SIFI resolution far more costly and more difficult than it needs to be.”

Congress missed the opportunity to break-up the large failing financial companies during the crisis, but left it to the FDIC and the Federal Reserve to rationalize their organizational structure so that any future failures will not present a systemic threat. This delegation of authority is remarkable in its potential reach and raises a myriad of questions. It remains to be seen how the FDIC and the Federal Reserve will deal with this new authority.

Dodd-Frank does little to constrain the growth of large banking companies directly. The new 10 percent liability limit will not reduce the size of any of the largest financial companies nor keep them from taking advantage of their existing dominance to grow further without merger.

The new “risk to stability” factor in merger review does not preclude the approval of combinations that present a systemic threat. Governor Daniel K. Tarullo of the Federal Reserve recently pointed out that the potential systemic costs in such merger cases must be balanced against the “potential benefits from . . . a lesser likelihood of failure or . . . a greater capacity to . . . fill the gap if one of the . . . large competitors were to fail.”<sup>87</sup> Increased competition for larger banks, as a result of a merger, and possible efficiency gains, are also likely to be weighed against the potential systemic cost. The problematic nature of such balancing is obvious. Nevertheless, there is an indirect measure in Dodd-Frank that may impact structure. Governor Tarullo has also suggested that the higher capital requirements for SIFIs (Dodd-Frank and Basle III) will tend to restrain large financial company growth. He suggests that they

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<sup>86</sup> Bair, “We Must Resolve to End Too Big Too Fail.”

<sup>87</sup> Daniel K. Tarullo, “Industrial Organization and Systemic Risk,” Remarks at the Conference on the Regulation of Systemic Risk, Federal Reserve Board, Washington, D.C., September 15, 2011, pp. 5, 6. Two recent large merger cases should throw additional light on how the Federal Reserve Board intends to implement the new systemic risk consideration: the Capital One acquisition of ING; and PNC’s acquisition of Royal Bank of Canada branches in the United States. Each would result in banks with over \$300 billion in assets. (Note: The Board approved the PNC acquisition in December 2011 and the Capital One acquisition in February 2012.)

will “offset any funding advantage SIFIs derive from their perceived status as too-big-to-fail, and provide an incentive for such firms to reduce their systemic footprint.”<sup>88</sup>

Finally, it is worth mentioning that Dodd-Frank does not give credence to complaints that bank regulators have not functioned in the public interest. To the contrary, it augments the authority of the existing agencies and their staff, supplemented by the new FSOC coalition, and depends for its success on their effective performance.

In summary then, Dodd-Frank’s promise to end TBTF principally relies on extending and strengthening regulation and supervision. The “living will” is a new element, but raises practical issues that will not be resolved easily. It is worth repeating that, up to now, reforms have been unsuccessful. As long ago as the Continental Illinois bailout in 1984, Congressman Fernand St. Germain (D-RI) expressed his frustration: “[We] battled uphill . . . to enact an entire set of new and improved supervisory powers—to make certain that no one in the Federal supervisory bureaucracy could claim they lacked the tools. Yet, today, we return to this forum . . . the granddaddy of bank failures . . . rolled into the ditch uncontrolled. . . .”<sup>89</sup>

There are reasons why regulation and supervision are limited in what they can accomplish, not the least being the impact of unanticipated shocks to bank solvency.<sup>90</sup> The failure of the new law to promote de-concentration directly, leaving the potential beneficiaries of TBTF policies as they were, will invariably raise questions. Much will depend, as it always has, on how the regulatory agencies exercise their extensive discretion, now amplified by Dodd-Frank. This is something that will not be known for years. Despite the Act’s stated ban on TBTF, it has, to its discredit, failed to eliminate the misgivings that existed prior to the crisis of 2008–09.

## F. Conclusion

It is widely recognized that government support for large banking companies in danger of failing has harmful consequences. Repeated efforts to do away with TBTF practices over the last several decades have, however, been unsuccessful. This lack of success suggests that one or more factors of importance have not been addressed. Traditionally, Congress has located the problem in inadequate regulation and has responded by strengthening it. Others have located the problem in inadequate regulators, suggesting the need for modifying the incentives they confront. A third explanation suggests that TBTF is

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<sup>88</sup> Daniel K. Tarullo, “Statement before the Committee on Banking, Housing, and Urban Affairs,” Board of Governors, Federal Reserve System, Washington, D.C., December 6, 2011, page 6. Higher capital requirements would operate as a tax on size. For an early proposal to reform merger policy, including the need for higher capital requirements for large banks, see Bernard Shull and Gerald A. Hanweck, *Bank Mergers in a Deregulated Environment* (Westport, Conn.: Quorum Press, 2001), pp. 190–97.

<sup>89</sup> Fernand St. Germain, “Inquiry into Continental Illinois Corp. and Continental Illinois National Bank,” September 18, 1984, p. 1.

<sup>90</sup> See, for example, Hyman P. Minsky, “Financial Instability Revisited: The Economics of Disaster,” Prepared for the Steering Committee for the Fundamental Reappraisal of the Discount Mechanism, Board of Governors of the Federal Reserve System, Washington, D.C. (June 1972); Bernard Shull, *The Limits of Prudential Supervision: Reorganizing the Federal Bank Regulatory Agencies*, Public Policy Brief No. 5, Levy Economics Institute of Bard College (May 1993).

symbolic of the value government places on the survival of large banks, viewed as a “national resource.” The “national resource” explanation suggests the need for deconcentration.

Finding the principal root cause for TBTF in inadequate regulation and supervision, Dodd-Frank Act extends and augments the authority of the regulatory agencies. It has, thus, taken an approach that, up to now, has never failed to fail. In doing little to eliminate the dominance of a handful of very large financial companies, it has left the critical element for bailouts intact. Because much will depend on how the regulators exercise their discretion, the success of the law will, unfortunately, be problematic for years to come.

## CHAPTER 5. Overview of the Crisis Response

As in the case of the causes of the GFC, the details of the response by governments are complex. This research will not address the fiscal stimulus packages adopted by the United States and other nations. These helped to put a floor on aggregate demand, preventing the deep recession from worsening into another great depression. However, among the large countries, only China mounted an effort that was sufficiently large to pull itself out of the downturn. In the United States and other countries, the fear was that too much fiscal response would worsen deficits and burden the nations with debt. In truth, the deficits exploded anyway, as plummeting spending and income destroyed tax revenues. Further, for reasons we cannot go into, these fears about sovereign deficits and debts were misplaced for nations like the United States, UK, and Japan that issue their own currencies.<sup>91</sup>

Let us turn, however, to the Fed's response—which, except for the \$800 billion fiscal stimulus package allocated to the Treasury, was left to handle the crisis.

### A. Liquidity or solvency crisis?

It has been recognized for well over a century that the central bank must intervene as “lender of last resort” in a crisis. This is usually explained—as discussed above with reference to Walter Bagehot—as a policy of stopping a run on banks by lending without limit, against good collateral, at a penalty interest rate.<sup>92</sup> This would allow the banks to cover withdrawals so the run would stop. Once deposit insurance was added to the assurance of emergency lending, runs on demand deposits virtually stopped. However, as discussed, banks have increasingly financed their positions in assets by issuing a combination of uninsured deposits plus very short-term nondeposit liabilities (such as commercial paper). Hence, the GFC actually began as a run on these nondeposit liabilities, which were largely held by other financial institutions. Suspicions about insolvency led to refusal to roll over short-term liabilities, which then forced institutions to sell assets.<sup>93</sup> In truth, it was not simply a liquidity crisis but rather a solvency crisis brought on by risky and often fraudulent practices.<sup>94</sup>

Not only did all “finance” disappear, but there was also no market for the risky assets—so there was no way that banks could sell assets to cover “withdrawals” (these were not normal withdrawals by depositors but rather a demand by creditors to be paid). As markets turned against one institution after another, financial institution stock prices collapsed, margin calls were made, and credit ratings agencies downgraded securities and other assets. The big banks began to fail.

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<sup>91</sup> L. Randall Wray, “Fixed and Flexible Exchange Rates and Currency Sovereignty,” Working Paper No. 489, Levy Economics Institute of Bard College (January 2007).

<sup>92</sup> See Todd, “Central Banking in a Democracy,” pp. 135–60, for a critical analysis of interpretations of lender-of-last-resort functions.

<sup>93</sup> Wray, *Financial Markets Meltdown*.

<sup>94</sup> See Edward Harrison, “Mervyn King: ‘Systemic Insolvency Is Now the Problem,’” Credit Writedowns Blog, December 17, 2010.

It is important to note that most of the solvency problems were initially limited to a handful of financial institutions—the biggest ones, including the top half-dozen banks, the big investment banks, a few big mortgage lenders, and the money market mutual funds. All but the MMMFs had been heavily involved in the risky activities; the MMMFs got in trouble only because they held the commercial paper of these (likely) insolvent institutions. The vast majority of US banks were not holding the most troubled assets, although some had made what would turn out to be risky home equity loans and commercial loans after the economy sank into recession. In most cases, for all but the biggest financial institutions it was the GFC and then the deep recession that created problems with their loans.

Government response to a failing, insolvent bank is supposed to be much different than its response to a liquidity crisis.<sup>95</sup> In short, the government is supposed to step in, seize the institution, fire the management, and begin a resolution. There are alternative approaches to resolution but in the case of the United States there is a mandate to minimize costs to the Treasury (the FDIC maintains a fund to cover some of the losses so that insured depositors are paid dollar for dollar). Normally, stockholders lose, as do the uninsured creditors—which would have included other financial institutions. It is the Treasury (through the FDIC) that is responsible for resolution. In the midst of the crisis, Treasury Secretary Paulson did ask Congress for funds to deal with the crisis and was provided with roughly \$800 billion. However, rather than resolving institutions that were probably insolvent, he first tried to buy troubled assets from them; apparently after realizing that he would need much more funding to take all the bad assets off their books, he switched to an attempt at recapitalizing them—buying stock in the troubled banks. Yet the crisis continued to escalate, with problems spilling over to insurers of securities, including the “monolines” (which specialized in providing private mortgage insurance), and then to AIG, all of the investment banks, and, finally, the biggest commercial banks.

## **B. Deal making and special-purpose vehicles**

With Congress reluctant to provide any more funding, the Fed and Treasury gradually worked out an alternative approach. In addition to injecting capital into troubled institutions, the Treasury conducted a stress test to identify institutions likely to fail. However, many analysts believed these tests set thresholds that were far too lax.<sup>96</sup> When an institution did face failure, the Treasury and the Fed—usually represented by the FRBNY—would try to make a deal to merge the failing institution into another. Often it would be necessary for the Fed to lend to the failing institution for some period while the deal was negotiated. In addition, the Fed created a number of special facilities to provide funding for institutions and also to take troubled assets off their books. By purchasing bad assets, the Fed could conceivably turn a failing bank into a solvent bank. Let us briefly look at this alternative approach.

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<sup>95</sup> See above, which summarizes Bernard Shull, “Too-Big-to-Fail: Motives, Countermeasures, and the Dodd-Frank Response,” manuscript presented at the Ford Foundation Research and Policy Project on Improving Governance of the Government Safety Net in Financial Crises,” New York, November 3, 2011.

<sup>96</sup> Noted risk analyst Christopher Whalen argued that the stress test was “about politics”—that the major banks would be insolvent if forced to absorb losses; see Edmund L. Andrews and Eric Dash, “Government Offers Details of Bank Stress Test,” *The New York Times*, February 25, 2009. The stress test was conducted in spring 2009 and roundly criticized as too weak. Later, the Treasury admitted that the results were “negotiated” with the banks under examination; see Tom Blumer, “WSJ: Treasury’s Stress Test Results ‘Negotiated’—Not to Mention Arbitrary and Potentially Corrupt,” NewsBusters.org, May 10, 2009.



It must be emphasized that the US Treasury and, indeed, the economic team of the Obama administration was heavily represented by individuals with experience in investment banking. In an article by Steven M. Davidoff and David T. Zaring,<sup>97</sup> it is argued that the “bailout” can be characterized as “deal making through contracts,” as the Treasury and Fed stretched the boundaries of law with behind-closed-doors hardheaded negotiations. It appears that the government did negotiate with a view to keeping its own risk exposure limited; at the same time, it insisted on large “haircuts” to stockholders’ equity but minimal losses to bondholders. It also avoided penalties on bank directors and officers—rarely investigating possible fraud or dereliction of duty. Finally, it avoided “market solutions” in favor of “orderly solutions.” In other words, where markets would shut down an insolvent financial institution the government would instead find a way to keep the institution operating by merger. The one major exception was Lehman Brothers, as the government allowed the investment bank to fail. Davidoff and Zaring attribute this to an attempt to demonstrate government’s willingness to negotiate tough terms.

Further, government relied on the two institutions that are least constrained by the law: the Fed and the Treasury. Throughout the crisis, the government would stretch and flex its authoritative muscles but would not boldly violate the law. Davidoff and Zaring argue that the federal government was allowed substantial leeway in its interpretation as state courts were not likely to interfere. Further, the Fed has in the past interpreted its activities as exempt from “sunshine” laws.<sup>98</sup>

In many ways, this deal-making approach that was favored over a resolution-by-authority approach is troubling from the perspectives of transparency and accountability, as well as the creation of moral hazard. Again, we will explore these issues in a subsequent report.

The other element of this approach was the unprecedented assistance through the Fed’s special facilities that were created to provide loans as well as to purchase troubled assets (and to lend to institutions and even individuals that would purchase troubled assets). To be sure, in a crisis the central bank must act as a lender of last resort (as discussed above), but the Fed’s actions went far beyond “normal” lending. First, it is probable that the biggest recipients of funds were insolvent. We cannot be sure of this because the Treasury’s stress tests were weak, and while the FDIC is responsible for declaring depository institutions insolvent, it had a strong incentive to avoid doing so: its reserves were far too small to handle a number of failures of large banks and it could not risk going to a skeptical Congress to ask for more funding. Second, the Fed provided funding for financial institutions (and to financial markets in an attempt to support particular financial instruments) that went far beyond the member banks that it is supposed to support. It had to make use of special sections of the FRA, some of

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<sup>97</sup> Steven M. Davidoff and David T. Zaring, “Regulation by Deal: The Government’s Response to the Financial Crisis,” *Administrative Law Review* 61, no. 3 (Summer 2009).

<sup>98</sup> It literally “took an act of Congress” to get the Fed to release any information concerning its bailout of banks. Senator Sanders led a heroic effort (joined by long-time Fed critic Ron Paul and Congressman Grayson) to shine some light on the Fed’s bailout activities; and Bloomberg successfully sued for release of data under the Freedom of Information Act, forcing the Fed to “dump” 25,000 pages of data on discount window borrowing.

which had not been used since the Great Depression. And, as in the case of the deal making, the Fed appears to have stretched its interpretation of those sections beyond the boundaries of the law.<sup>99</sup>

Below we will provide a detailed examination of the facilities and dollar amounts. Note that it would not be accurate to call every intervention by the Fed a “bailout.” Lending reserves by the Fed to a bank that is short of “liquidity” (reserves needed to meet withdrawals or clearing against other banks) is expected to increase sharply in a crisis. Further, the Fed decided to engage in massive quantitative easing that saw its balance sheet grow from well under \$1 trillion before the crisis to nearly \$3 trillion; bank reserves increase by a similar amount as the Fed’s balance sheet grows. Such actions do not necessarily indicate a bailout, as they could be consistent with liquidity provision to solvent banks.

Still, QE included asset purchases by the Fed that went well beyond treasuries—the usual asset bought by the Fed when it wants to inject reserves into banks. The Fed bought a lot of MBSs in its QE, and while some of these were backed by Fannie and Freddie (hence, ultimately were government liabilities) the Fed also bought “private label” MBSs (not government backed). To the extent the Fed paid more than market price to buy “trashy” assets from financial institutions, that could be construed as a bailout. In any case, the Fed’s actions went far beyond this—to include highly unusual actions that are reasonably characterized as a “bailout” of institutions that were probably insolvent. And the volume of such intervention is truly unprecedented—even the Great Crash saw nothing on this scale.

As discussed in detail below, there are two main measures of the total Fed intervention that could qualify as unusual.<sup>100</sup> The first measure is “peak outstanding” Fed lending summed across each special facility (at a point in time). Several researchers have provided such a calculation—including the Government Accounting Office (GAO), Bloomberg, and the Fed itself—and all reached a number around \$1.5 trillion. This occurred in December 2008—and represents the maximum outstanding loans made through the Fed’s special facilities on any day since the crisis began. (As of November 2011, total outstanding Fed loans stood at about \$800 billion—half the peak.) This peak measure gives an idea of the maximum effort to save the financial system at a point in time, and also some indication of the Fed’s total exposure to risk of loss. To be sure, the Fed demands collateral against its loans, and it is highly improbable that the Fed would lose anything close to that. Indeed, many of the special facilities were successfully wound down with no losses; the only facilities that are likely to incur substantial losses are those associated with the rescue of AIG.

The second method is to add up Fed lending and asset purchases through these special facilities over time to obtain a cumulative measure of the Fed’s response. To be clear, if the Fed lent \$1 billion each day, and that was repaid each evening only to be renewed the next morning with another \$1 billion, that would total \$30 billion of Fed response over a month. The cumulative measure counts every new loan and every asset purchase made over the course of the life of each special facility. Some of the

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<sup>99</sup> See Alexander Mehra, “Legal Authority in Unusual and Exigent Circumstances: The Federal Reserve and the Financial Crisis,” *University of Pennsylvania Journal of Business Law* 13, no. 1 (March 2, 2011) (updated after publication).

<sup>100</sup> See James Felkerson, “\$29,000,000,000,000: A Detailed Look at the Fed’s Bailout by Funding Facility and Recipient,” Working Paper No. 698, Levy Economics Institute of Bard College (December 2011).

facilities lasted only a short period, others lasted for two years or more. In some cases, a financial institution borrowed a large amount of funds for a very short period; in other cases, an institution repeatedly borrowed, returning to the Fed many times and remaining in debt for periods up to nearly two years. The cumulative measure would capture such repeated borrowing as continued Fed assistance to the troubled institution. Thus, even if the second institution borrowed less on any given day, the Fed response to help it could sum to a number as large as a short period of assistance through a large loan to an institution that recovered quickly and needed no further help.

Finally, another reason to provide a cumulative measure is to indicate just how unprecedented the Fed's intervention was in terms of time. The crisis began in early 2007 (although most of the facilities were created in 2008) and major Fed interventions continued until 2010 (Fed support for Eurobanks was ramped up again in 2012).

The cumulative lending and asset purchases made through the special facilities totals more than \$29 trillion for the period to November 2011.<sup>101</sup> For comparison, after the crash of '29, the Fed lent to 123 institutions a total of \$23 million (in today's dollars) between 1932 and 1936.<sup>102</sup> The word "unprecedented" really does not adequately describe the Fed's intervention to rescue financial institutions. At the beginning of 2008, the Fed's balance sheet was \$926 billion, of which 80 percent of its assets were US Treasury bonds; in November 2010, its balance sheet had reached \$2.3 trillion, of which almost half of its assets were MBSs. Over the next year, it ramped up its purchases of Treasuries (and reduced its use of the special facilities) so that its balance sheet was close to \$3 trillion—three times larger than it was on the eve of the crisis.

One final comment: many of the Fed's special facilities used "special purpose vehicles" (SPVs) created to buy assets or to make loans. Note that the creation of SPVs by banks had played a big role in causing the GFC—banks created SPVs to move risky assets off their balance sheets so that they would not need to hold capital, and so that government regulators and supervisors would not see the risk. This allowed banks to take on much more risk and more leverage in an effort to increase profits. In an ironic twist the Fed followed the example set by banks as it created SPVs to subvert constraints written into the FRA.

As discussed above, there is no problem with Fed lending to member banks to stop a run. It is a bit more problematic to lend to *insolvent* member banks, but still legal. In "unusual and exigent" circumstances, the Fed is free to go much farther under section 13(3) of the FRA, although as Alexander Mehra explains, the bar is still high. In such circumstances the Fed can lend to individuals, partnerships, and corporations at a discount if they are unable to secure adequate credit from other banks. Further it must lend against indorsed or secured assets.

However, the Fed's invocation of this section to justify its intervention is problematic: it created SPVs and then lent to them so that they could buy troubled assets. In other words it financed the purchase of an asset, rather than making a loan. In most cases its loan was to its own SPV, and not to the party that needed assistance. In some cases the loans were not technically "discounts" and were not against

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<sup>101</sup> Felkerson, "\$29,000,000,000,000."

<sup>102</sup> Mehra, "Legal Authority in Unusual and Exigent Circumstances."

endorsed assets (the SPVs owned no assets until they got the loans that allowed them to buy troubled assets); and in most cases the beneficiaries could have obtained loans from other banks, albeit at higher interest rates. In all these respects, the law was “stretched” if not subverted. In all those respects this looks like “bailout” and not “liquidity provision.”

The volume of Fed assistance of questionable legality under 13(3) was very large. Its four SPVs lent approximately \$1.75 trillion (almost 12 percent of the total Fed cumulative intervention). In addition, its questionable loan programs that either lent against ineligible assets or lent to parties that were not troubled total \$9.2 trillion (30 percent of the total intervention). In sum, of the cumulative \$29 trillion lent and spent by fall 2011, over 40 percent was perhaps improperly justified under section 13(3).<sup>103</sup>

### C. Incentives

With the deal-making and bailout approaches of the Fed and Treasury, it is unlikely that financial institutions have learned much from the crisis—except that risky behavior will lead to a bailout. In the savings-and-loan crisis of the 1980s, many institutions were shut down and resolved, and more than a thousand officers in top management served jail time. In the current crisis, no top officer has been prosecuted, much less jailed. Banks have been slapped on the wrists with some fines—usually without being forced to admit wrongdoing.

Critics<sup>104</sup> have long argued that continued expansion of government’s safety net to protect institutions deemed too big to fail not only runs afoul of established legal tradition but also produces perverse incentives and competitive advantages. The largest institutions enjoy “subsidized” interest rates—their uninsured liabilities have de facto protection because of the way the government (the Fed, FDIC, OCC, and Treasury) props them up, eliminating risk of default on their liabilities (usually only stockholders lose). The deal-making approach described above extended the principle of lender of last resort activities to entirely novel areas—protecting creditors of even shadow banks and, as discussed, favoring bond holders while forcing stockholders and securities holders (and defrauded homeowners) to take losses. As William Black argues, these too-big-to-fail institutions are also “systemically dangerous institutions” (SDIs).<sup>105</sup> It could be argued that they actually destroy economic value—not just the capital value of the firm, but also the financial and real wealth of the economy as a whole. Total financial losses that can be attributed to the GFC already exceed \$10 trillion, and will eventually sum to much more. And, of course, that does not include the real economic losses—nearly 10 million jobs in the United States alone.

With all the government support most of the financial institutions have so far survived the crisis. While they are reluctant to quickly resume the practices that caused the crisis—subprime lending, securitization of junk assets—they did not suffer much from them. It is probable that if the economy and

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<sup>103</sup> Calculations are based on Mehra, “Legal Authority in Unusual and Exigent Circumstances,” and Felkerson “\$29,000,000,000,000.”

<sup>104</sup> Todd, “Central Banking in a Democracy.”

<sup>105</sup> William K. Black, “The Two Documents Everyone Should Read to Better Understand the Crisis,” The Huffington Post Blog, February 25, 2009.

financial sector were to recover, risky practices would come back.<sup>106</sup> Further, and more alarmingly, the financial sector bounced right back to taking 40 percent of corporate profits, to payouts of huge bonuses to top management and traders, and to accounting for 20 percent of value added toward national GDP.

All of this is in sharp contrast to the 1930s New Deal reform. Half of all banks failed that time around, and most of the survivors were taken over by the government. Management was replaced. The Pecora Commission was given relative free rein to investigate the causes of the crisis and to go after the crooks. Widespread defaults and bankruptcies wiped out a lot of the private sector's debt. The financial sector was downsized and rendered unimportant for several decades. World War II led to budget deficits equal to 25 percent of GDP, and government debt grew much faster than income so that it flooded private portfolios with safe and liquid assets. The New Deal provided jobs and then a safety net for those who fell through the cracks of the "golden age" of US economic growth. The managerial-welfare state version of capitalism emerged to replace finance capitalism.

This time, after the GFC, we still have the modern version of finance capitalism—money manager capitalism—somewhat worse for the wear, but still pumping up commodities market bubbles and the stock market.

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<sup>106</sup> There are already some reports that subprime MBSs are making a comeback; e.g., see Jillian Berman, "Subprime Mortgage Bonds Back in Fashion," *The Huffington Post*, February 17, 2012.

## **CHAPTER 6. A Detailed Examination of the Fed's Response**

### **A. Introduction**

There have been a number of estimates of the total amount of funding provided by the Federal Reserve to stabilize the financial system in the period 2007–12. Congress, led by Senator Bernie Sanders (I-VT) and Congressman Alan Grayson (D-FL), ordered the Fed to provide a detailed account of its rescue efforts, and a successful Freedom of Information Act suit by Bloomberg News resulted in a “dump” of 29,000 pages of raw data on the Fed's actions. Although Bloomberg has claimed that the cumulative “spending” by the Fed (this includes asset purchases plus lending) was \$7.77 trillion, reports have not been sufficiently detailed to determine exactly what was included in that total. This section presents the most comprehensive investigation of the raw data to date. The purpose of this section is to provide a descriptive account of the Fed's response to the recent financial crisis—to delineate the essential characteristics and logistical specifics of the “alphabet soup” of LOLR machinery rolled out to save the world financial system.

### **B. Overview of the crisis response**

The apparent guiding objective of the Fed's LOLR operations is to halt the initiation and propagation of financial instability through the provision of liquidity to individual financial institutions or financial markets, or both. At any given moment in time, the available supply of ultimate dollar liquidity is determined by the actions of the Fed and the US Treasury. As the LOLR to solvent financial institutions, the Fed has traditionally found it satisfactory to accomplish its LOLR responsibility through conventional channels. The conventional tools are threefold.

When acting as the LOLR, the Fed can increase the availability of liquidity by lending directly to institutions through the discount window. Transactions of this nature are conducted at the initiative of participants. The Fed can also make the terms on which it lends to institutions more generous by decreasing the rate it charges for borrowing or lengthening the repayment period for loans. In recent years, however, preoccupation with control of the money stock has shifted emphasis from measures conducted at the initiative of the borrower to those undertaken at the initiative of the Fed. This new line of thinking holds that the provision of liquidity in times of crisis should be executed through the medium of open market operations. According to this way of thinking, the market mechanism will efficiently allocate liquidity to those who have the greatest need during times of heightened demand. This third method has come to dominate the Fed's actions.

In response to the gathering financial storm, the Fed acted quickly and aggressively through conventional means by slashing the federal funds rate from a high of 5.25 percent in August 2007 to effectively zero by December 2008. The Fed also decreased the spread between its primary lending rate at the discount window and the federal funds rate to 50 basis points on August 17, 2007, and extended the term from overnight to up to 30 days. On March 16, 2008, the Fed further reduced the spread to 25 basis points and extended terms up to 90 days. However, the efficacy of the Fed's conventional LOLR tools had little effect during the initial stages of the recent financial crisis—which continued to gather

steam. Moreover, the period of moderation brought about by each measure was of relatively short duration. These actions largely failed to ameliorate rapidly worsening conditions in opaque markets for securitized products such as MBSs.

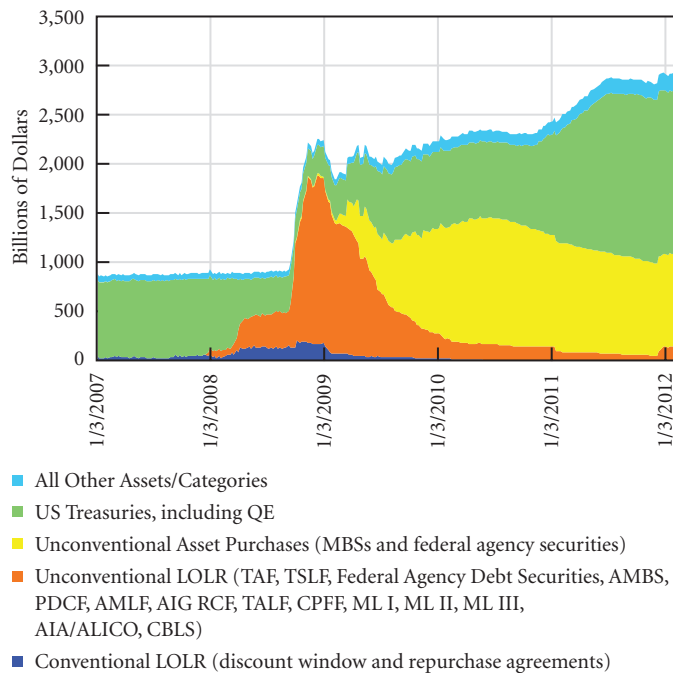
In an attempt to counter the relative ineffectiveness of its conventional LOLR tools, the Fed designed and implemented a host of unconventional measures, unprecedented in terms of size and scope. The goal of these unconventional measures was to improve financial market conditions and, by improving the intermediation process, to stabilize the US economy as a whole. The authorization of many of these measures would require the use of what was, until the recent crisis, an ostensibly archaic section of the FRA—section 13(3), which gave the Fed the authority “under unusual and exigent circumstances” to extend credit to individuals, partnerships, and corporations (see the discussion above).

As part of its effort to halt growing financial instability, the Fed “ballooned” its balance sheet from approximately \$900 billion in September 2008 to over \$2.9 trillion dollars as of March 1, 2012. Figure 2 depicts the weekly composition of the asset side of the Fed’s balance sheet from January 3, 2007, to March 1, 2012, and distinguishes between the Fed’s conventional and unconventional LOLR operations.<sup>107</sup>

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<sup>107</sup> Figure 2 aggregates Fed asset balance sheet elements so as to depict more clearly how the Fed’s balance sheet may be arranged with an eye toward the distinction between conventional and unconventional asset classes. Conventional asset classes include: Conventional LOLR (discount window lending and repurchase agreements); US Treasuries; and All Other Assets (consisting of assets denominated in foreign currencies, premiums paid on securities bought, accrued interest and other accounts receivable) and Asset Categories (comprising the gold and special drawing rights certificate accounts, Treasury coin, net ownership in the Term Asset-Backed Securities Lending Facility (TALF), items in the process of clearing, and bank premises). Unconventional asset classes include: Unconventional Asset Purchases, made up of MBSs and the direct obligation of government-sponsored entities (GSEs), and Unconventional LOLR, including the Term Auction Facility (TAF); Term Security Lending Facility (TSLF) and TSLF Options Program (TOP); Primary Dealer Credit Facility (PDCF); Asset-Backed Commercial Paper Money Market Mutual Fund Facility (AMLF); Agency Mortgage-Backed Security Purchase Program (AMBS); Federal Agency Debt Securities; AIG revolving credit facility (AIG RCF); TALF; Commercial Paper Funding Facility (CPFF); Maiden Lane I, II, and III (ML I, II, and III); preferred interest in AIA/ALICO; and the Central Bank Liquidity Swap (CBLS) lines.

**Figure 2 Federal Reserve Assets, January 3, 2007 – March 1, 2012 (in billions of dollars)**



Sources: Federal Reserve H.4.1 Weekly Statistical Releases and other Fed sources

As is clearly indicated in the graph, the Fed’s response to events from autumn of 2008 resulted in an enlargement of its balance sheet from \$905.6 billion in early September 2008 to \$2,259 billion by the end of the year—an increase of almost 150 percent in just three months. This initial spike in the size of the Fed’s balance sheet reflects the coming online of a host of unconventional LOLR programs. The graph also depicts the winding down of unconventional tools starting in early 2009. However, the decrease in the size of the Fed’s balance sheet was of short duration, as the focus of the Fed shifted from liquidity provisioning to the purchase of long-term securities—which, as of March 1, 2012, comprised approximately 88 percent of the Fed’s balance sheet.

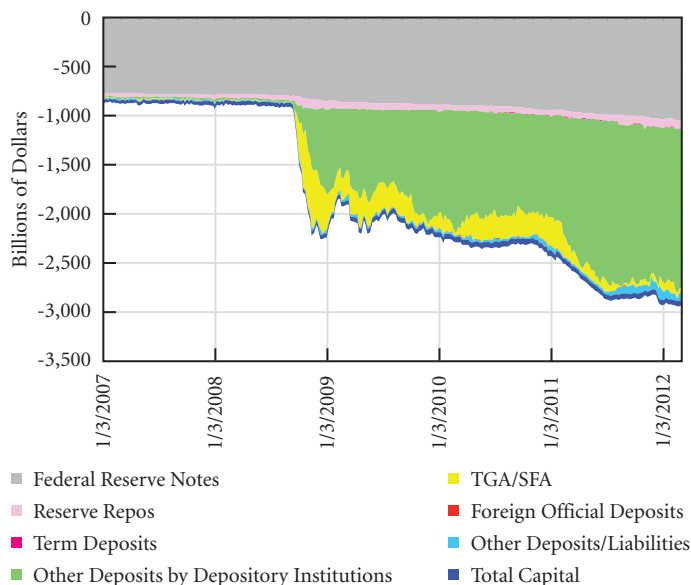
Figure 3 shows the structure of Fed liabilities over the same period. Casual inspection of the graph indicates the expansion of the Fed’s balance sheet was accomplished entirely through the issuance of reserve balances, creating liquidity for financial institutions.<sup>108</sup> Below, as we present the specifics

<sup>108</sup> Figure 3 follows the aggregation of liability balance sheet elements for the Fed. The liabilities are: Federal Reserve Notes; Reverse Repos; Term Deposits; Other Deposits by Depository Institutions (including reserve balances and service-related balances held by depository institutions); Treasury General Account (TGA) and Treasury Supplemental Financing Account (SFA); Foreign Official Deposits; Other Deposits (including deposits of international and multilateral organizations at the FRBNY) and Other Liabilities (comprising deferred-availability cash items and other liabilities and accrued dividends); and Total Capital.



regarding amounts of assistance provided under each facility, it will be convenient to refer back to Figures 2 and 3.

**Figure 3 Federal Reserve Liabilities, January 3, 2007 – March 1, 2012 (in billions of dollars)**



Sources: Federal Reserve H.4.1 Weekly Statistical Releases and other Fed sources

### C. Methodology

Before moving on to an analysis of the characteristics of each of the facilities implemented by the Fed in its response to the crisis, a methodological note is in order. We have elected to adopt a twofold approach to measuring the scale and magnitude of the Fed’s actions during and since the financial crisis. The composition of the Fed’s balance sheet is expressed in terms of stocks; that is, it reflects the Fed’s asset and liability portfolio *at a moment in time*. However, the provision of liquidity through reserve creation by the Fed in the purchase of assets manifests itself as a flow. The outstanding asset and liability balances on the Fed’s balance sheet adjust as transactions are conducted. This is simply a definitional outcome of double-entry accounting. When private sector economic units repay loans or engage in liquidity-absorbing transactions, the Fed’s balance sheet shrinks. Conversely, when private sector agents participate in liquidity-increasing transactions with the Fed, the Fed’s balance sheet grows in size.

The changing composition and size of the Fed’s balance sheet offers insight into the scope of the Fed’s actions since the crisis. Furthermore, given that many of the programs were specifically targeted at classes of financial institutions or markets, and later at specific financial instruments, we are able to identify the markets and individual institutions that the Fed deemed worthy of “saving.” To account for

changes in the composition of the Fed's balance sheet as transactions occur and are settled, we report two measures referencing the weekly influence of an unconventional facility on the composition and size of the asset side of the Fed's balance sheet: the weekly amount outstanding (stock) and the weekly amount lent (flow). The amount outstanding adjusts due to the repayment process but fails to capture the entire picture. The complete picture emerges when we include the weekly amount lent. As will be seen, many of the unconventional actions taken by the Fed were the result of a targeted response to a particularly traumatic event. Given that the respective facilities reflect different terms of repayment, and that initial usage of a crisis facility after an adverse shock was generally large, the amount outstanding will often increase to a high level and remain there until transactions are unwound. The spike in the Fed's balance sheet captures this. Considering the disparity between lending and repayment, special emphasis will be placed on the peak dates for the amounts lent and outstanding, since such time periods were often associated with excessive turmoil in financial markets. However, this leaves us with a dilemma: how are we to measure the magnitude of the Fed's efforts?

Our attempt to capture the magnitude of the Fed's efforts is informed by the idea that when the Fed operates as LOLR, it interrupts the normal functioning of the market process (Minsky 2008 [1986]). To provide a complete account of the Fed's extraordinary response, we argue that each unconventional transaction by the Fed represents an instance in which private markets were incapable or unwilling to conduct normal intermediation and liquidity provisioning activities. We exclude actions directed at the implementation of monetary policy (as opposed to crisis response), or what have been identified as the conventional tools of LOLR operations. Thus, to report the magnitude of the Fed's unconventional rescue efforts, we have calculated cumulative totals by summing each transaction conducted by the Fed over time. Reference to the changing composition of the Fed's balance sheet and cumulative totals will present a narrative regarding the scope of the Fed's crisis.

To sum up, there are three different measures that we will report. The appropriate measure chosen depends on the question being asked. First, there is the size of the Fed's balance sheet *at a point in time*—the sum of its assets and liabilities. That tells us how much ultimate liquidity the Fed is providing at that point in time; it also gives some measure of the risks to the Fed (e.g., by looking at its stock of risky assets purchased from banks). Next, there is the *flow of lending over a period*, as a new facility is created to deal with an immediate need for funds. Spikes will indicate particular problems in the financial sector that required the Fed's intervention. Finally, there is the *cumulative total* of all the funds supplied by the Fed outside "normal" monetary policy operations, which gives an idea of the scope of the impact of the global financial crisis.

#### **D. The facilities created in response to the crisis**

The Fed has issued public statements arguing that its crisis response machinery was implemented sequentially and consists of three distinct stages, each represented by a specific policy tool. Each stage can be broadly viewed as a response to the evolution of the crisis as it proliferated through financial markets. The characteristics of each facility within the different stages were largely conditioned by a more or less shared set of objectives.<sup>2</sup> The presentation of the Fed's response as a sequential response to events is useful for the categorization of the unconventional LOLR operations. The rationale for and

purpose of the programs initiated during the different stages is indeed chronologically associated with economic events. However, this approach has a major shortcoming in that it does not take into account actions on the part of the Fed that were directed at specific institutions. We have chosen to adopt the stages approach due to its merit as a narrative explaining the Fed's response to major events over the course of the crisis, and included the support provided by the Fed to specific institutions that occurred within the period of time with which a stage is identified. Within each stage, we present the individual facilities in chronological order.

#### **i. Stage 1: Short-term liquidity provision**

Crisis facilities associated with Stage 1 were aimed at providing short-term liquidity to solvent banks and other depository institutions as well as to other types of financial institution.<sup>109</sup> Facilities mobilized under the auspices of Stage 1 were aimed at "improving aggregate liquidity and also the distribution of liquidity across financial intermediaries."<sup>110</sup> Both Sarkar (2009) and Bernanke (2009) identify the objectives of the Stage 1 facilities as being consistent with the intent of the Fed's traditional LOLR mandate.

The Term Auction Facility (TAF) was announced on December 12, 2007. The TAF was authorized under section 10B of the FRA and was "designed to address elevated pressures in short-term funding markets."<sup>111</sup> Historically, depository institutions have obtained short-term liquidity during times of market dislocation by borrowing from the discount window or from other financial institutions. However, the "stigma" associated with borrowing from the discount window led many depository institutions to seek funding in financial markets. Given pervasive concern regarding liquidity risk and credit risk, institutions resorting to private markets were met with increasing borrowing costs, shortened terms, or credit rationing. To address this situation, the TAF provided liquidity to depository institutions via an auction format. The adoption of an auction format allowed banks to borrow as a group and pledge a wider range of collateral than generally accepted at the discount window, thus removing the resistance to borrowing associated with the "stigma problem." Each auction was for a fixed amount of funds, with the rate determined by the auction process.<sup>112</sup> Initially, the auctions offered a total of \$20 billion for 28-day terms. On July 30, 2008, the Fed began to alternate auctions on a biweekly basis between \$75 billion, 28-day term loans and \$25 billion, 84-day credit.

The TAF ran from December 20, 2007, to March 11, 2010. Both foreign and domestic depository institutions participated in the program. A total of 416 unique banks borrowed from this facility. The five largest borrowers through the TAF program were, in billions: Bank of America (\$280), Barclays PLC (\$232), Royal Bank of Scotland (\$212), Bank of Scotland (\$181), and Wells Fargo (\$154). As for aggregate totals, 19 of the 25 largest borrowers were headquartered in foreign countries. The top 25 banks, all of which borrowed in excess of \$47 billion, composed 72 percent of total TAF borrowing. Of the 416

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<sup>109</sup> Ben S. Bernanke, "The Crisis and the Policy Response," Stamp Lecture, London School of Economics, January 13, 2009.

<sup>110</sup> Asani Sarkar, *Liquidity Risk, Credit Risk, and the Federal Reserve's Response to the Crisis*, Staff Report No. 389, FRBNY, September 2009.

<sup>111</sup> Federal Reserve, Press Release, December 12, 2007.

<sup>112</sup> Federal Reserve, "Federal Reserve Actions," Monetary Policy Release, March 11, 2008, p. 219.

unique participants, 92 percent borrowed more than \$10 billion. Of the \$2,767 billion borrowed by the 25 largest participants, 69 percent (\$1,909.3 billion) went to foreign institutions. The Fed loaned \$3,818 billion in total over the run of this program. For the TAF, peak monthly borrowing occurred in January 2009 at \$347 billion; while the peak amount outstanding was, in early March 2009, at approximately \$493 billion. The last auction held for this facility occurred on March 8, 2010, with loans maturing on April 8, 2010. All loans have reportedly been repaid in full, with interest, in agreement with the terms of the facility.

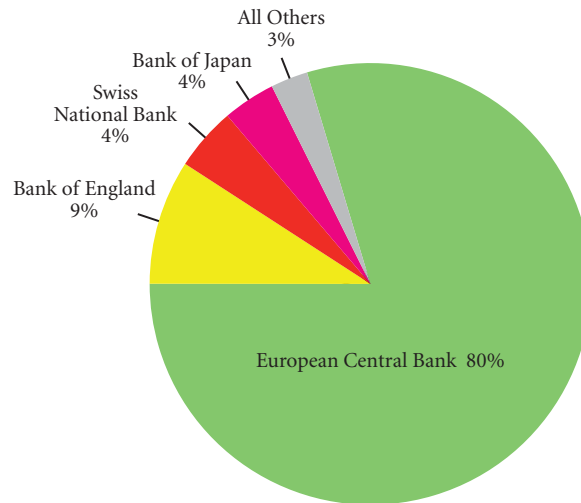
As an additional response to “pressures in short-term funding markets,” the Fed opened up currency swap lines with foreign central banks called the Central Bank Liquidity Swap (CBLS) lines.<sup>113</sup> With the CBLS, two types of credit arrangements were created under the authorization of section 14 of the FRA. Dollar liquidity swaps were arrangements that allowed foreign central banks to borrow dollars against a prearranged line of credit. The CBLS are structured as a repo contract in which the borrowing central bank would sell to the Fed a specified amount of its currency at the exchange rate prevailing in foreign exchange markets. Simultaneously, the participating foreign central bank would agree to buy back its currency on a specified date at the same exchange rate at a market-based rate of interest. The facility ran from December 2007 to February 2010 and issued a total of 569 loans.

In terms of individual bank borrowing, the European Central Bank was the largest counterparty at \$8,011.37 billion, followed by the Bank of England (\$918.83 billion), the Swiss National Bank (\$465.812 billion), the Bank of Japan (\$387.467 billion), Danmarks Nationalbank (\$72.788 billion), Sveriges Riksbank (\$67.2 billion), the Reserve Bank of Australia (\$53.175 billion), the Bank of (South) Korea (\$41.4 billion), Norges Bank (\$29.7 billion), and Bank de Mexico (\$9.663 billion), respectively. Figure 4 depicts most access to the CBLS lines was by the European Central Bank.

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<sup>113</sup> Federal Reserve, Press Release, December 12, 2007.

**Figure 4 Borrowing by Foreign Bank Counterparties,  
December 12, 2007 – July 13, 2010**



Source: Federal Reserve

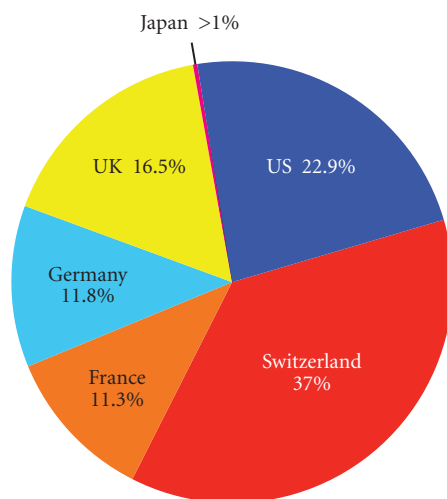
For the CBLS lines, peak monthly lending occurred in October 2008 at \$2.887 trillion. Peak outstanding reached its high in December 2008 at \$583.13 billion, and peak weekly lending occurred in mid-October 2008 at \$851.286 billion. In total, through July 13, 2010, the Fed had lent \$10,057.415 billion to foreign central banks through this program. All loans have been repaid as of March 2, 2012, when due, under the terms and conditions of the swap agreements, and it is expected that all current outstanding loans will be repaid.<sup>114</sup>

As it became apparent that existing conventional and nonconventional LOLR operations were failing to adequately allocate liquidity, the Fed announced on March 7, 2008, that it would conduct a series of term repurchase transactions—single-tranche open market operations (ST OMO)—expected to total \$100 billion. These transactions were 28-day repo contracts in which primary dealers posted collateral eligible under conventional open market operations. The Fed is authorized to engage in open market transactions by section 14 of the FRA, and such operations are to be considered a routine part of the Fed’s operating tool kit. However, we have chosen to include these transactions as part of the Fed’s unconventional LOLR response, since their explicit purpose was to provide direct liquidity support to primary dealers. In 375 transactions, the Fed lent a total of \$855 billion dollars. Peak monthly transactions occurred in the months of July, September, and December 2008 at \$100 billion, consistent with the level of lending the Fed had expected. As these transactions were conducted on a schedule; the amount outstanding quickly peaked, on April 30, 2008, at \$80 billion and remained at that level until the facility was discontinued on December 30, 2008. All extant primary dealers participated. Of these 19 institutions, nine were headquartered in foreign countries. As indicated in Figure 5, 77.1 percent (\$657.91 billion) of all transactions were conducted with foreign-based institutions. The largest five

<sup>114</sup> It should be noted that on June 29, 2011, the Fed extended the swap lines through August 1, 2012 (Federal Reserve 2011a). As of March 2, 2012, \$107.763 billion remained outstanding.

program participants, Credit Suisse (\$259.31 billion), Deutsche Bank (\$101.93 billion), BNP Paribas (\$96.5 billion), Royal Bank of Scotland Securities (\$70.45 billion), and Barclays Capital (\$65.55 billion) were all foreign-headquartered institutions.

**Figure 5 Single Tranche Open Market Operations, by Country, March 7 – December 30, 2008**



Source: Federal Reserve

To supplement the aid provided to investment banks through the ST OMO and to address widening spreads in repo markets, the Fed announced on March 11, 2008, that it would extend its Treasury securities lending program to “promote liquidity in the financing markets for Treasury and other collateral and thus to foster the functioning of financial markets more generally.”<sup>115</sup> This nonconventional expansion of a conventional program was named the Term Securities Lending Facility (TSLF) and began conducting auctions on March 27, 2008.<sup>116</sup>

The Fed instituted a twofold classification scheme for eligible collateral under the TSLF. Schedule 1 collateral was identified as “federal agency debt, federal agency residential-mortgage-backed securities (MBS), and nonagency AAA/Aaa-rated private-label residential MBS.”<sup>117</sup> Schedule 2 included agency collateralized-mortgage obligations and AAA/Aaa-rate commercial mortgage-backed securities, in addition to Schedule 1 collateral. In conjunction to the TSLF, the Fed announced the TSLF Options Program (TOP), to facilitate access to liquidity in funding markets during periods of elevated stress, such

<sup>115</sup> Federal Reserve, “Federal Reserve Actions,” Monetary Policy Release, March 11, 2008.

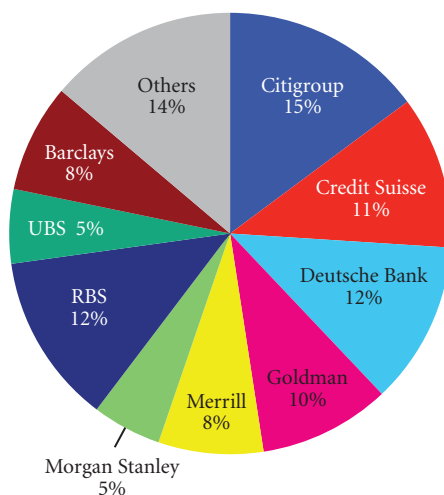
<sup>116</sup> It needs to be noted that the Fed routinely engages in overnight lending of Treasury securities. Following the Fed’s lead, we include transactions undertaken as part of the TSLF as part of the Fed’s crisis response.

<sup>117</sup> Federal Reserve, “Federal Reserve Actions.”

as quarter ends, on July 30, 2008. The TOP allowed participants to purchase the right but not the obligation to borrow funds if it became necessary. The TSLF and TOP facilities are important, as they mark the first use by the Fed of the powers given under section 13(3) of the FRA.

Eighteen primary dealers participated in the TSLF program, while only 11 accessed the TOP facility. Of the 18 participants that took part in the TSLF, TOP, or both, eight were foreign institutions. The five largest individual borrowers (three of which were foreign-based) were, in billions: Citigroup Global Markets (\$348), Royal Bank of Scotland (\$291), Deutsche Bank Securities (\$277), Credit Suisse (\$261), and Goldman Sachs (\$225). Figure 6 indicates that 86 percent of total borrowing was done by the nine largest program participants.

**Figure 6 TSLF Participation, by Institution, March 27, 2008 – July 16, 2009**



Source: GAO

The week ending September 10, 2008, was the largest in terms of lending (\$110.848 billion) and the week ending October 1 the peak for amount outstanding (\$235.544 billion). The Fed lent \$1,940 billion through the TSLF and another \$62.3 billion under TOP, for a cumulative total of \$2.0057 trillion. All loans have reportedly been repaid on time in full, with interest, within the terms of the program.

It is also during Stage 1 that the first instance of the Fed offering assistance to a specific institution appears. Throughout early to mid-March 2008, Bear Stearns was experiencing severe funding problems as counterparties refused to enter into transactions with it, even for assets of unquestionable quality. Problems in securing access to liquidity resulted in Bear informing the Fed on March 13 that it would most likely have to file for bankruptcy the following day should it not receive an emergency loan. In an attempt to find an alternative to the outright failure of Bear, negotiations began between representatives from the Fed, Bear Stearns, and JPMorgan. The outcome of these negotiations was

announced on March 14, 2008, when the Fed Board of Governors voted to authorize the FRBNY to provide a \$12.9 billion loan to Bear Stearns through JPMorgan Chase against collateral consisting of \$13.8 billion. This bridge loan was repaid on Monday, March 17, with approximately \$4 million in interest. This temporary measure allowed Bear to continue to operate while courting potential buyers. On March 16, JPMorgan agreed to a provisional merger with Bear Stearns. Subsequent negotiations formulated the structure of JPMorgan's acquisition of Bear Stearns. The purchase of Bear was accomplished when the FRBNY (\$28.82 billion) and JPMorgan (\$1.15 billion) funded a special-purpose vehicle (SPV), Maiden Lane, LLC (ML I), which purchased Bear's assets for the approximate market value of \$30 billion. Authorization to conduct the transaction was provided by section 13(3) of the FRA. Maiden Lane, LLC, would repay its creditors, first the Fed and then JPMorgan, the principal owed plus interest over 10 years at the primary credit rate beginning in September 2010. The structure of the bridge loan and ML I represent one-time extensions of credit. As such, the peak amount outstanding occurred at issuance of the loans.

As the Fed endeavored to prevent the disorderly failure of Bear Stearns over the weekend of March 15, it was also laying the groundwork for implementing a standing credit facility to assist primary dealers. The Fed officially announced the Primary Dealer Credit Facility (PDCF) on March 16, 2008, in an attempt to prevent the effects of the Bear Stearns situation from disrupting markets. The PDCF would function essentially as a "discount window for primary dealers" and would provide a nonmarket source of liquidity to ease strains in the repo market.<sup>118</sup> Authorized by section 13(3) of the FRA, the PDCF would lend reserves on an overnight basis to primary dealers at their initiative. PDCF credit was secured by eligible collateral, with haircuts applied to provide the Fed with a degree of protection from risk. Initial collateral accepted in transactions under the PDCF were investment-grade securities. Following the events in September of that year, eligible collateral was extended to include all forms of securities normally used in private sector repo transactions. The PDCF issued 1,376 loans totaling \$8,950.99 billion. The peak weekly amounts outstanding and lent occurred on September 26, 2008, at \$146.57 billion and \$728.643 billion respectively.<sup>119</sup> The five largest PDCF borrowers were, in billions: Merrill Lynch (\$2,081.4), Citigroup (\$2,020.2), Morgan Stanley (\$1,912.6), Bear Stearns (\$960.1), and Bank of America (\$638.9).

Figure 7 captures the heavy use of the PDCF by the largest borrowers. As the graph shows, the five largest borrowers account for 85 percent (\$7,610 billion) of the total. Eight foreign primary dealers would participate in the PDCF, borrowing just 6 percent of the total. The PDCF was closed on February 1, 2010. All loans extended in this facility have been repaid in full, with interest, in agreement with the terms of the facility.

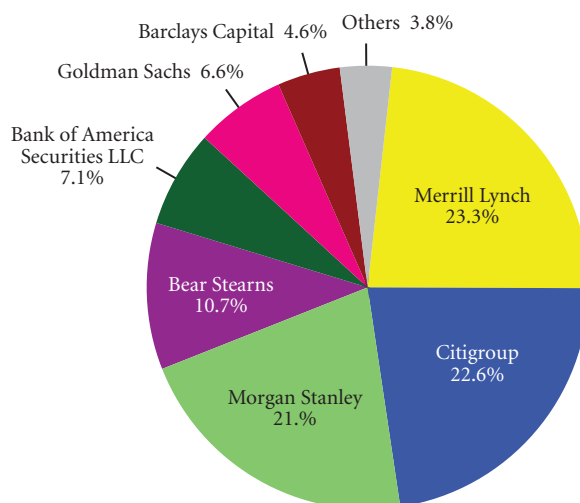
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<sup>118</sup> Tobias Adrian, Christopher R. Burke, and James J. McAndrews, "The Federal Reserve's Primary Dealer Credit Facility," *Current Issues in Economics and Finance* 15, no. 4 (August 2009): 1–10.

<sup>119</sup> Since the PDCF issued overnight loans, the amount outstanding reflects only loans for one day, while the amount lent includes the total of loans for a week.



**Figure 7 PDCF Borrowing, by Institution, March 17, 2008  
– May 12, 2009**



Source: Federal Reserve

In its involvement with American Insurance Group (AIG), the Fed again acted as LOLR to a specific institution. Confronted by the possibility of the voidance of millions of personal and business insurance products, the Fed took steps to ensure AIG’s survival through several targeted measures. To help guarantee AIG enough space to create a viable plan for restructuring, the Fed provided the firm with a revolving credit facility (RCF) on September 16, 2008, which carried an \$85 billion credit line; the RCF lent \$140.316 billion to AIG in total. To assist AIG’s domestic insurance subsidiaries acquire liquidity through repo transactions, a securities-borrowing facility (SBF) was instituted. Cumulatively, the SBF lent \$802.316 billion in direct credit in the form of repos against AIG collateral. As a further step in addressing the firm’s problems maintaining liquidity and staving off capital pressures, an SPV, Maiden Lane II, LLC (ML II), was created with a \$19.5 billion loan from the FRBNY to purchase residential MBSs from AIG’s securities lending portfolio. The proceeds received by AIG in the sale of its residential MBS portfolio were used to repay the SBF and terminate that program. To address the greatest threat to AIG’s restructuring—losses associated with the sizable book of CDOs on which it had written credit default swaps (CDSs)—another SPV, Maiden Lane III, LLC (ML III), was funded by an FRBNY loan to purchase AIG’s CDO portfolio. The purchases by ML III totaled \$24.3 billion.

As part of AIG’s divestiture program, the Fed conducted transactions on December 1, 2009, in which the FRBNY received preferred interest in two SPVs created to hold the outstanding common stock of AIG’s largest foreign insurance subsidiaries, American International Assurance Company (AIA) and American Life Insurance Company (ALICO). On September 30, 2010, an agreement was reached between the AIG, the Fed, the US Treasury, and the SPV trustees regarding the AIA/ALICO transactions to facilitate the repayment of AIG’s outstanding obligations to the US government. AIG, the Treasury, and the FRBNY announced the closing of the recapitalization plan announced on September 30, 2010, and all monies owed to the RCF were repaid in full in January 2011. Section 13(3) of the FRA was invoked to conduct

each facility providing AIG direct assistance. Table 1 lists the specific total dollar amounts for facilities providing AIG with assistance and the amount outstanding as of March 1, 2012.

**Table 1 Facilities Providing AIG with Assistance (in billions of dollars)**

Facility	Total	Amount Outstanding as of March 1, 2012
RCF	140.316	0
SBF	802.316	0
Maiden Lane II	19.5	2.867
Maiden Lane III	24.3	8.613
Preferred Interests in AIA/ ALICO	25	0

Source: Federal Reserve

**ii. Stage 2: Restart the flow of credit by provision of liquidity to key credit markets**

The second stage of actions taken by the Fed represents an even larger departure from conventional LOLR operations when the Fed, in an attempt to relieve the inability (or unwillingness) of financial institutions to lend, chose to extend loans directly to support what were viewed as critical credit markets. The goal of the Fed in this stage of its efforts was to restart the flow of credit to households and businesses through the institution of programs designed to provide loans to intermediaries who would then purchase debt issued in key financial markets.

The Fed’s first foray into supporting key credit markets occurred in the aftermath of the Lehman Brothers bankruptcy. On September 1, 2008, the Reserve Primary Fund, the oldest money market mutual fund (MMMF) in the United States, lowered its share price below \$1 and “broke the buck.” As a response to the uncertainty regarding the value of positions in MMMFs, investors scrambled to withdraw funds. During the week of September 15, investors withdrew \$349 billion. The total withdrawn in the following three weeks amounted to an additional \$85 billion.<sup>120</sup> To meet withdrawal requests, many mutual funds were forced to sell assets, triggering increased downward pressure on asset prices. The creation of the AMLF was an attempt to forestall the liquidation of assets by funds, and therefore prevent further deflation in asset prices. The Fed responded to this series of events with a facility targeting the MMMF market.

The Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) was designed to extend nonrecourse loans to intermediary borrowers at the primary credit rate, which used the funds to purchase high quality asset-backed commercial paper (ABCP) issued by MMMFs. The indirect process adopted was necessitated by “statutory and fund-specific limitations,” which prevented the MMMFs from borrowing directly from the Fed. The larger goal of the program was to provide liquidity in the

<sup>120</sup> FCIC Report, p. 357.

broader money markets.<sup>121</sup> The AMLF was announced on September 19, 2008, and executed by the Federal Reserve Bank of Boston. All loans were fully collateralized, and borrowers and intermediaries were subject to eligibility requirements. To ensure that the AMLF was being used in accordance with its stated purpose, the Fed would later require MMMFs to provide proof of material outflows prior to selling ABCP under the AMLF program.<sup>122</sup> The authorization for the AMLF program would again come from section 13(3) of the FRA.

Two institutions, JPMorgan Chase and State Street Bank and Trust Company, constituted 92 percent of AMLF intermediary borrowing. Over the course of the program, the Fed would lend a cumulative total of \$217.435 billion. Peak weekly lending reached its apex the week of September 25, 2008, at \$88.6 billion, and the peak amount outstanding, \$152.1 billion, was reached on October 2, 2008. Funds selling in excess of \$10 billion composed roughly 58 percent of overall ABCP sales. All loans have reportedly been repaid in full, with interest, in agreement with the terms of the facility. The AMLF was closed on February 1, 2010.

Despite providing support to the MMMFs through the AMLF to prevent redemption requests from disrupting debt markets, MMMFs showed little inclination to resume their purchases of commercial paper (CP). Uncertain about counterparty credit risk and their own liquidity risk, MMMFs shifted their portfolios toward more secure assets, such as US Treasuries.<sup>123</sup> As a consequence of the “flight to safety” by market participants, credit markets “froze up,” stalling the flow of credit to households and businesses. To address this disruption, the Fed announced the Commercial Paper Funding Facility (CPFF) on October 7, 2008. This facility was authorized under section 13(3)<sup>124</sup> of the FRA and was designed to improve liquidity in CP markets. The program was structured to operate through an SPV since the CPFF’s logistics fell outside the Fed’s traditional operating framework. The SPV provided assistance by purchasing highly rated ABCP and unsecured US dollar–denominated CP of three-month maturity from eligible issuers. To manage credit risk the Fed attached fees to program participation, collecting \$849 million from program participants, according to the Fed’s website.

A total of 120 unique institutions took part in this facility. The top 10 borrowers (each borrowing in excess of \$30 billion) account for 64.3 percent (\$473.9 billion) of all borrowing. The cumulative total lent under the CPFF was \$737.07 billion. The top five largest borrowers accounted for 41.7 percent of total borrowing; they are: UBS (\$74.5 billion), AIG (\$60.2 billion), Dexia SA (\$53.5 billion), Hudson Castle (\$53.3 billion), and BSN Holding (\$42.8 billion)—see Figure 8. Peak lending occurred during the first week of operations at \$144.59 billion, and the largest amount outstanding occurred on January 22, 2009, at \$348.176 billion. The CPFF was suspended on February 1, 2010, and all loans have reportedly been paid in full under the terms and conditions of the program.

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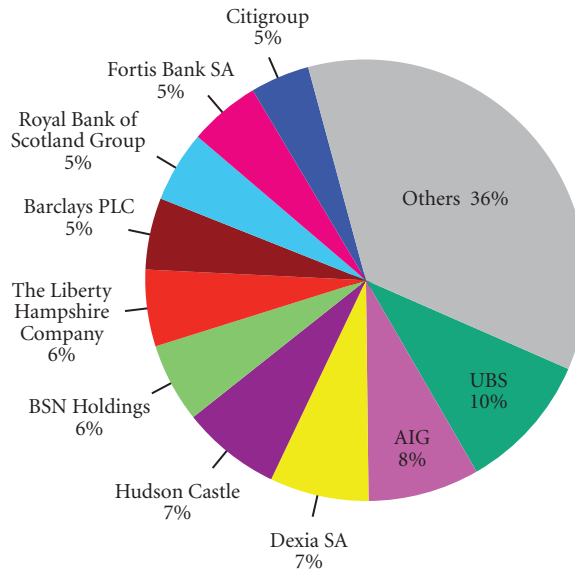
<sup>121</sup> Federal Reserve, *95th Annual Report, 2008* (June), p. 53.

<sup>122</sup> Federal Reserve, Press Release, January 30, 2009.

<sup>123</sup> Richard G. Anderson and Charles S. Gascon, “The Commercial Paper Market, the Fed, and the 2007–2009 Financial Crisis.” *Federal Reserve Bank of St. Louis Review* 91, no. 6 (November/December 2009): 589–612.

<sup>124</sup> See the discussion above about the Fed’s possibly inappropriate use of section 13(3) to create and fund some of these special facilities.

**Figure 8 CPFF Borrowing, by Institution, October 27, 2008  
– January 25, 2010**



Source: GAO

Despite the creation of CPFF and AMLF to improve conditions in credit markets, pervasive uncertainty resulted in rising credit standards. At the time, it was believed that upward of 70 percent of banks tightened standards.<sup>125</sup> Financial innovation in the credit intermediation process over the 20 years preceding the crisis had resulted in the development of an “originate to distribute” model in which pools of loans were packaged by lenders and sold as fixed-income products. The sale of securitized ABS products allowed lenders to move long-term (and illiquid) loans off their balance sheets and, in the process, collect immediate profits and to release funding for new loans. To confront gridlock in ABS markets, and to increase the flow of credit throughout the US economy, the Fed announced the creation of the Term Asset-backed Securities Loan Facility (TALF) on November 25, 2008.

Operating similarly to the AMLF, the TALF provided nonrecourse loans to eligible borrowers posting eligible collateral, but for terms of five years. Borrowers would then act as intermediaries, using the TALF loans to purchase ABSs. These ABSs were required to have received a credit rating in the highest investment-grade category by two approved ratings agencies and would serve as collateral for the TALF loan. The ABS categories eligible for issuance under the TALF included: auto loans, student loans, credit card loans, equipment loans, “floor plan” loans, insurance premium finance loans, small-business loans fully guaranteed by the US Small Business Association, servicing advance receivables, and commercial mortgage loans. Authorization to conduct the TALF was provided under section 13(3) of the FRA.

Although the Fed terminated lending under the TALF on June 30, 2010, loans remain outstanding under the program until March 30, 2015. The Fed loaned \$71.09 billion cumulatively through this program.

<sup>125</sup> Federal Reserve, *The January 2009 Senior Loan Officer Opinion Survey on Bank Lending Practices*.

Significantly smaller in size than other emergency lending programs, the TALF's peak in terms of amount lent occurred the weeks beginning June 4, 2009, at \$10.72 billion, and after suspending operations, the amount outstanding peaked at \$48.19 billion on March 18, 2010. Of the 177 borrowers, those borrowing over \$2 billion constituted 58 percent (\$41.24 billion) of the total. As of March 2, 2012, over 10 percent of loans (\$7.569 billion) remained outstanding. No collateral has yet to be surrendered due to default on payments.

iii. **Stage 3: Purchases of long-term securities**

The final stage of the Fed's response is composed of the purchase of long-term securities in an attempt to further support the functioning of credit markets.<sup>126</sup> Stage 3 programs involve the "expansion of traditional open market operations support to the functioning of credit markets through the purchase of long-term securities for the Fed's portfolio."<sup>127</sup> Policy actions associated with this stage are the purchase of the direct obligations of housing-related government-sponsored enterprises (GSEs), agency GSE MBSs, and subsequent rounds of QE. QE, while unconventional, is well known in monetary policy theory and in practice, most noticeably, by the example afforded by the Bank of Japan's monetary policy from the 1990s onward. As the purchase of Treasuries represents a weapon from the monetary policy arsenal and therefore is not associated with LOLR operations, we will consider only the Fed's purchase of MBSs in this section.

Throughout the first half of 2008, it became increasingly apparent that problems emerging in the subprime mortgage market would not be contained without having adverse effects upon the market for more conventional mortgages and the housing market in general. Leading up to the financial crisis, the GSEs were by far the largest players in the mortgage market, guaranteeing approximately \$5.3 trillion in mortgages; moreover, operating with less than 2 percent capital the GSEs were highly leveraged.<sup>128</sup> As the crisis in the subprime sector worsened, investors were concerned about the solvency of the GSEs. This concern manifested itself in higher funding costs for the GSEs created by increasing spreads between their direct obligations and those of the US Treasury. In an attempt to increase the availability of credit and reduce costs to potential homebuyers (or those refinancing existing mortgages), the Fed announced on November 25, 2008, that it would begin to purchase the direct obligations of the GSEs. Initially the program was slated to buy up to \$100 billion in GSE direct obligations; however this figure was increased to \$200 billion on March 18, 2009. Figure 9 shows that the program peak occurred in March 2010 at \$160.011 billion. As of March 2, 2012, the Fed's portfolio contains \$100.817 billion in GSE obligations.

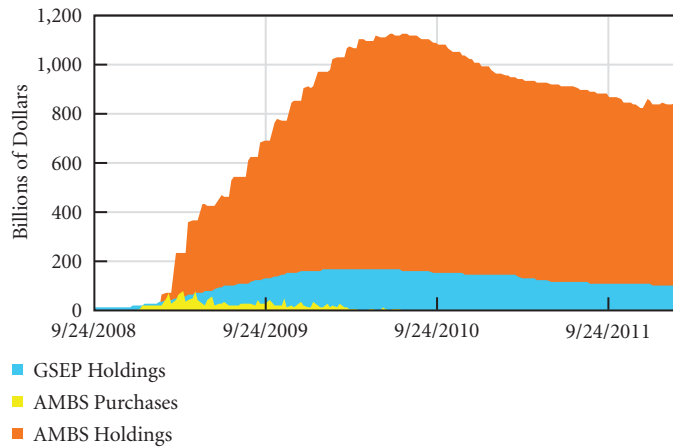
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<sup>126</sup> See Bernanke, "The Crisis and the Policy Response."

<sup>127</sup> Federal Reserve, "Credit and Liquidity Programs and the Balance Sheet," November 4, 2011.

<sup>128</sup> FCIC Report, p. 309.

**Figure 9 Weekly MBS Purchases and Amounts Outstanding, September 24, 2008 – March 1, 2012 (in billions of dollars)**



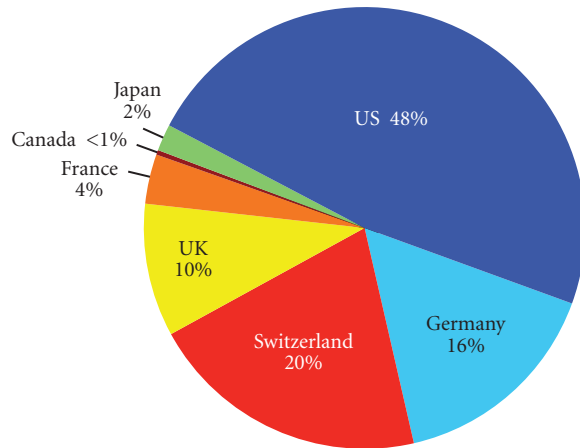
Source: Federal Reserve

The Agency Mortgage-Backed Securities (AMBS) Purchase Program was authorized by section 14 of the FRA. It was created to stabilize the price of MBSs, as well as to “increase the availability for credit for the purchase of houses, which in turn should support housing markets and foster improved conditions in financial markets more generally.”<sup>129</sup> As of July 2010, the Fed had purchased some \$1,850.14 billion in MBSs via open market operations conducted by the FRBNY. However, as the Fed was making purchases, it was simultaneously conducting sales—with net MBS purchases by the Fed at \$1,250 billion. Figure 9 indicates that the Fed’s MBS holdings peaked at \$1,128.67 billion on June 23, 2010. The highest weekly purchases occurred for the week beginning April 12, 2009, when the Fed made gross purchases of \$80.5 billion. All transactions were conducted with primary dealers for MBSs of three maturities: 15, 20, and 30 years—with the purchase of 30-year MBSs making up 95 percent of total purchases.

The top five sellers of MBSs to the Fed (Deutsche Bank Securities, Credit Suisse, Morgan Stanley, Citigroup, and Merrill Lynch) accounted for 61 percent (\$1.145 trillion) of total MBS purchases. Of the 16 program participants, the nine foreign primary dealers constituted over half (52 percent, or \$964.53 billion) of MBS sellers. The distribution is shown in Figure 10.

<sup>129</sup> Federal Reserve, Press Release, November 25, 2008.

**Figure 10 MBS Purchases, by Country**



Source: Federal Reserve

**E. Aggregated results**

When all individual transactions are summed (cumulatively) across all unconventional LOLR facilities, the Fed's response totaled \$29,785.14 billion dollars. Note this includes direct lending plus asset purchases. Table 2 depicts the cumulative amounts for all facilities; any amount outstanding as of November 10, 2011 is in parentheses below the total. Figure 11 breaks down the relative percentages of all crisis facilities.

**Table 2 Cumulative Facility Totals (in billions of dollars)**

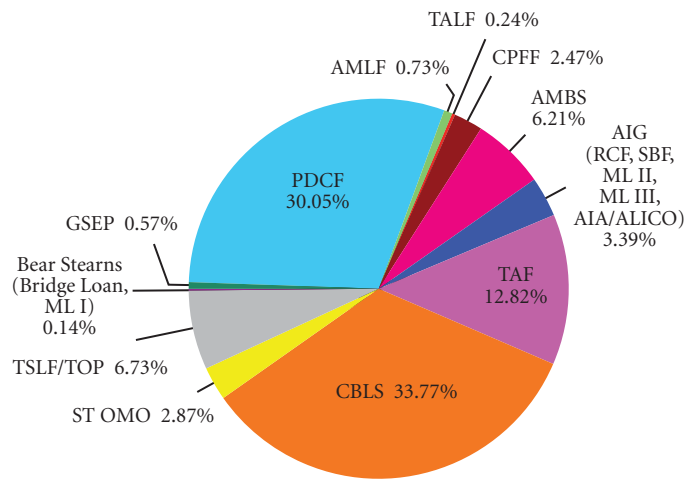
Facility	Total	Percent of Cumulative Total
Term Auction Facility	3,818.41	12.82
Central Bank Liquidity Swaps	10,057.4	33.77
	(107.763)	
Single Tranche Open Market Operation	855.0	2.87
Terms Securities Lending Facility and Term Options Program	2,005.7	6.73
Bear Stearns Bridge Loan	12.9	0.04
Maiden Lane I	28.82	0.10
	(3.265)	
Primary Dealer Credit Facility	8,950.99	30.05
Asset-backed Commercial Paper Money Market Mutual Fund Liquidity Facility	217.45	0.73
Commercial Paper Funding Facility	737.07	2.47
Term Asset-backed Securities Loan Facility	71.09	0.24
	(7.569)	
Government Sponsored Entity Direct Obligation Purchase Program	169.011	0.57
	(100.817)	
Agency Mortgage-Backed Security Purchase Program	1,850.14	6.21
	(849.26)	
AIG Revolving Credit Facility	140.316	0.47
AIG Securities Borrowing Facility	802.316	2.69
Maiden Lane II	19.5	0.07
	(2.867)	
Maiden Lane III	24.3	0.08
	(8.613)	
AIA ALICO	25.0	0.08
<b>Total</b>	<b>29,785.14</b>	<b>100.0</b>

Note: Figures in red indicate amounts outstanding as of November 10, 2011.

Source: Federal Reserve



**Figure 11 Total Federal Reserve Crisis Response, by Facility**



Source: Federal Reserve

Three facilities—CBLS, PDCF, and TAF—would overshadow all other unconventional LOLR programs, and make up 71.1 percent (\$22,826.8 billion) of all assistance.

With reference to aggregate peak totals for the amounts outstanding and lent, respectively, the dates on which these occurred were December 10, 2008 at \$1,716.63 billion and October 15, 2008, at \$1,864.16 billion. The latter amount and date clearly reflect the disruptions manifested in financial markets due to problems associated with Lehman and AIG. While the former is simply the stocks accrued as a result of the Fed’s actions, the latter is represented by flows (in terms of reserve balances created) to address the disruptions.

The cumulative total for individual institutions provides even more support for the claim that the Fed’s response to the crisis was truly of unprecedented proportions and was targeted at the largest financial institutions in the world. If the CBLS were excluded, 83.9 percent (\$16.41 trillion) of all assistance would be provided to only 14 institutions. Table 3 displays the degree to which a few very large institutions received the preponderance of support from the Fed. To stress the extent of borrowing by a few large institutions, we note that the six largest institutions presented in Table 3 account for over half (53.5 percent) of the total Fed response, excluding loans made to foreign central banks under the CBLS. Moreover, the six largest foreign-headquartered institutions listed in the table account for almost a quarter (23.4 percent) of total lending.

**Table 3 Largest Bailout Participants, excluding CBLS  
(in billions of dollars)**

Participant	Total	Percent of All Funding
Citigroup	2,654.0	13.6
Merrill Lynch	2,429.4	12.4
Morgan Stanley	2,274.3	11.6
AIG	1,046.7	5.4
Barclays (UK)	1,030.1	5.3
Bank of America	1,017.7	5.2
BNP Paribas (France)	1,002.2	5.1
Goldman Sachs	995.2	5.1
Bear Stearns	975.5	5.0
Credit Suisse (Switzerland)	772.8	4.0
Deutsche Bank Securities (Germany)	711.0	3.6
RBS Securities (UK)	628.4	3.2
JPMorgan Chase	456.9	2.3
UBS (Switzerland)	425.5	2.2
All Others	3,139.3	16.1
<b>Total</b>	<b>19,559.00</b>	<b>100.0</b>

Source: Federal Reserve

## F. Conclusion

This section has focused on the Federal Reserve's response to the 2007–09 global financial crisis as it acted to preserve the largest financial institutions. We will never know what might have happened had there not been such a strong intervention. The best we can do is study the methods through which central banks prevented what might have been financial Armageddon.

## CHAPTER 7. Conclusions and Prospects

In his *General Theory*, Keynes argued that the fetish for liquidity causes substandard growth, financial instability, and unemployment. The desire for a liquid position is antisocial because there is no such thing as liquidity in the aggregate. The stock market makes ownership liquid for the individual “investor,” but since all equities must be held by someone, my ability to sell out depends on your willingness to buy in.

Over the past several decades, the financial sector taken as a whole moved into very short-term finance of positions in assets. This is related to the transformation of investment banking partnerships that had a long-term interest in the well-being of their clients to publicly held “pump-and-dump” enterprises whose main interest appears to be the well-being of top management. It is also related to the rise of shadow banks that offered deposit-like liabilities but without the protection of FDIC, to the Greenspan “put” and the Bernanke “great moderation” that appeared to guarantee that all financial practices—no matter how crazily risky—would be backstopped by Uncle Sam, and to very low overnight interest rate targets by the Fed (through to 2004) that made shorter-term finance cheap relative to longer-term finance.

All of this encouraged financial institutions to rely on extremely short-term finance. Typically, financial institutions were financing their positions in assets by issuing IOUs with a maturity measured in days or hours. Overnight finance was common—through repos, asset-backed commercial paper, and deposit-like liabilities.

On the other hand, the assets were increasingly esoteric positions in mark-to-myth structured assets with indeterminate market values—indeed, often with no real markets into which they could be sold. (A lot of this was “bespoke” business, with the assets never entering any market.) Further, many of these assets had no clearly defined income flows—virtually by definition, a NINJA loan (no income, no job, no assets) has no plausible source of income to service the debt. That is just the most outlandish example, but much of the “asset-backed commercial paper” had no reliable source of sufficient income to service the liabilities issued. To a significant extent, disaster could be avoided only by asset price appreciation so that positions could be refinanced. That included many of the “hybrid” subprime and Alt-A mortgages—with teaser rates that would balloon after three years. Default was assured unless the borrower could refinance into better terms.

Meanwhile, the US debt-to-GDP ratios reached 500 percent—that is, a dollar of income was needed to service \$5 of debt. Inevitably, the short-term liabilities of financial institutions could not be serviced, and they could be rolled over only so long as the myths were maintained. As soon as some holders of these risky assets wondered whether they would be repaid, the whole house of cards collapsed. And that

largely took the form of one financial institution refusing to “roll over” another financial institution’s short-term IOUs. Over four years and trillions of lost dollars of wealth later, we are still in crisis.<sup>130</sup>

Since 2008, we’ve had a steady stream of recommendations concerning what to do to remedy the problem. Most of the “reforms” suggested misidentify the problem, or have no political viability. The Dodd-Frank legislation that finally was passed is toothless and will do little to remedy current problems or to prevent future crises. It does have one positive effect: many of the Fed’s bailout actions last time around are now illegal—but where there’s a will, there’s a way to get around such restrictions.<sup>131</sup> Still, so far as legislative reforms go, the best we can hope for is that the next crash will open the possibility for real reform.

In an interesting piece, former Treasury adviser Morgan Ricks has offered a proposal that is thoughtful, coming down squarely in the middle of those who want to tweak with a few more regulations and those who want to close down the biggest institutions.<sup>132</sup>

Ricks quotes University of Chicago’s Douglas Diamond that “financial crises are always and everywhere about short-term debt.” Financial crises occur because of this conflict between the desire for liquidity by individuals, and the impossibility of liquidity for society as a whole. Think of it this way: all assets—financial or real—must find homes, so we cannot all get out of them simultaneously. In a crisis, that is precisely the problem: we all try to sell out, but cannot. In the GFC, holders of the very short-term liabilities of financial institutions rationally decided to get out. A lot of the analyses of a run to liquidity rely on the supposition of irrationality, but there was nothing irrational about the run out of short-term financial institutions liabilities in 2008. This was not merely a liquidity crisis—short-term finance of illiquid positions in assets. Rather, these institutions were holding bad assets. The suspected insolvency led immediately to a liquidity crisis as creditors refused refinance.

So what is Ricks’s solution? “Term out”: force financial institutions that take risky bets to finance their positions in assets by issuing longer-term liabilities. In that case, there is no easy way to “run out.” The creditors are locked into the crazy bets made by the debtors. Maybe they’ll pay off; maybe they won’t. His proposal is worth considering.

Turning to investment banks, before 1999 they used partner’s money, with low leverage. But then they went public and adopted a new business model: maximize share prices—and top management was rewarded with bonuses for doing so. To align interests, part of their compensation was in the form of stock options. They greatly increased leverage and moved to short-term finance. The investment banks made people like Hank Paulson and Bob Rubin rich—and then the top management obtained positions in Treasury that helped to backstop the banks’ risky positions. The so-called “Greenspan put” and “Bernanke great moderation” convinced markets that these risky short-term liabilities issued by investment banks betting in complex CDOs squared and cubed were actually as safe as FDIC-backed

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<sup>130</sup> See chapter 21 of the FCIC Report for discussion of the economic fallout.

<sup>131</sup> Morgan Ricks, “Regulating Money Creation after the Crisis,” *Harvard Business Law Review* 1, no. 75 (May 18, 2011).

<sup>132</sup> For Ricks’s proposal, see “A Former Treasury Adviser on How to Really Fix Wall Street,” *The New Republic*, December 17, 2011.

bank deposits. And then when the whole thing collapsed, the Fed and Treasury really did bail them out—to the tune of tens of trillions of dollars.

Following Ricks's suggestion, what should we do? Segregate financial institutions into two mutually exclusive camps. One is subject to regulation and supervision of the asset side of its balance sheet. It gets to issue insured deposits. As these are payable on demand, they are by nature short term, and are the primary medium of exchange and means of payment that is necessary in any monetary economy. It is a safe and sound sector that restores the protection afforded by Glass-Steagall.

The other camp consists of all those who are not subject to such supervision and regulation. They are pretty much free to buy any assets, but they must “term out”—finance positions by using long-term liabilities. And they cannot issue anything that purports to be similar to a deposit. In short, they offer an experience that is not suitable for everyone. This will reduce the problem of short-termism with respect to financing positions in risky assets. It also mitigates the complaint about excessive regulation: any institution that hates regulation can avoid it almost completely by funding long-term. And it makes the payments system safe by keeping the risky operators out.

Will that long-term-funded and unregulated partition of the financial sector periodically crash and burn? Yes, it will, and those that take excessive risks will fail.

The Fed's bailouts of Wall Street certainly stretched and might have violated both the law as established in the FRA (and its amendments) and also well-established procedure. There is a long tradition in the Fed of making a distinction between continuous versus emergency borrowing at the Fed. Briefly, the Fed is permitted to lend (freely, as Bagehot recommended) to resolve a liquidity crisis, but it has long refused to provide “continuous” lending. Here the idea is that the Fed should stop a liquidity crisis but then solvent financial institutions should quickly return to market funding of their positions in assets.

And yet, the crisis started in 2008. Four years later the Fed is still lending and at “subsidized” (below market) interest rates. This creates a tremendous moral hazard problem. The proposal advanced by Ricks will not work if the Fed (and Treasury) backstops the unregulated sector.

The Fed is also generally prohibited from lending to “nonbank” financial institutions—what we now call shadow banks that are not members of the Federal Reserve System and that do not issue FDIC insured deposits. However, there is an exception granted in the Fed's “13(3)” provisions that allow the Fed to lend in “unusual and exigent” conditions. Certainly the crisis in 2008 qualifies as unusual and exigent. However, as discussed the 13(3) restrictions are tight and the Fed seems to have stretched the law. Some might object that while there was some questionable, possibly illegal activity by our nation's central bank, was it not justified by the circumstances?

The problem is that this “bailout” validated the questionable, risky, and in some cases illegal activities of top management on Wall Street, those running the “control frauds” in the terminology of William K.

Black.<sup>133</sup> By agreement of most researchers, the effect of the bailout has been to continue if not increase the distribution of income and wealth flowing to the top one-tenth of one percent. It has kept the same management in control of the worst serial abusers as they paid record bonuses to top management. Some of their fraudulent activity has been exposed, and the top banks have paid numerous fines for bad behavior. Yet, Washington has been seemingly paralyzed—the US attorney general, has not begun a single investigation of criminal behavior by top management.<sup>134</sup>

What should have been done? Bagehot's recommendations are sound but must be amended. Any of the "too big to fail" financial institutions (what William Black calls "systemically dangerous institutions") that needed funding should have been required to submit to Fed oversight. Top management should have been required to submit resignations as a condition of lending (with the Fed or Treasury holding the letters until they could decide which should be accepted—this is how Jessie Jones resolved the bank crisis in the 1930s). Short-term lending against the best collateral should have been provided, at penalty rates. A comprehensive "cease and desist" order should have been enforced to stop all trading, all lending, all asset sales, and all bonus payments until an assessment of bank solvency could have been completed. The FDIC should have been called-in (in the case of institutions with insured deposits), but in any case, the critically undercapitalized institutions should have been dissolved according to existing law: at the least cost to the Treasury and to avoid increasing concentration in the financial sector.

This would have left the financial system healthier and smaller; it would have avoided the moral hazard problem that has grown over the past three decades as each risky innovation was validated by a government-engineered rescue; and it would have reduced the influence that a handful of huge banks have over policymakers in Washington.

In any event, we need to explore—now—how the Fed and Treasury should respond to the next crisis. Our research is concerned with questions of democratic governance and accountability. In this report we have attempted to bring to light what *was* done in order to better understand what *should be done* to increase democratic control and to hold policymakers accountable. In subsequent research we will turn to those issues.

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<sup>133</sup> William K. Black, *The Best Way to Rob a Bank Is to Own One: How Corporate Executives and Politicians Looted the S&L Industry* (Austin: University of Texas Press, 2005).

<sup>134</sup> Indeed, he worked with 49 of the state attorneys general to "resolve" the foreclosure fraud crisis in a manner that avoided criminal investigation. See Wray, "State AGs Cave to Banksters."

## APPENDIX A. Fed Transparency Chronology

The Fed has increased its transparency in a series of steps since 1994. To put matters in context, it is useful to remember that FOMC deliberations before 1994 were highly secretive and that rate hikes were disguised in coded releases as decisions to “increase slightly the degree of pressure on reserve positions.” It was left to markets to figure out what federal funds rate target the FOMC had in mind. By the end of 1993, the Fed’s relations with Congress were rather strained for two reasons. First, there was fear that Fed officials were leaking decisions to market favorites, perhaps through government officials outside the Fed. Second, some in Congress worried that the Fed had a bias against employment and growth. Critics of the Fed, led by Congressman Henry B. González (D-TX), chairman of the House Banking Committee, called for greater transparency (FOMC 1993, conference call of October 5). This conflict came to a head when Chairman Greenspan apparently made less than forthright statements about the existence of detailed transcripts of FOMC meetings, initially implying that no records were kept. As it happened, written records of all FOMC deliberations since 1976 did exist, and pressure was applied on the FOMC for their release. The Fed debated the political and economic consequences of greater transparency, and eventually agreed to release transcripts and other materials associated with FOMC meetings. The material is now available on the Fed’s website with a five-year lag. (See FOMC 1993, 1994; specifically, the period from October 1993 to May 1994, for discussions surrounding the wisdom of operating with greater openness—and for fascinating internal discussions about how to deal with González and Congress.) Now, of course, the Fed not only warns that rates “must rise at some point” long in advance of its decisions to reverse policy, but it also announces precisely what its target FFR is. Hence, *transparency* has increased greatly over the past decade. This was part of its strategy of moving toward “consensus building”—to create consistent expectations in the market.

The following summarizes the main steps taken to improve transparency.<sup>135</sup> We will explore these issues in much more detail in subsequent research.

**February 1994:** Upon prodding from Congressman González, FOMC announces it will announce changes to its overnight federal funds rate target.

**February 1995:** Again, after prodding from Congressman González, FOMC agrees to issue “lightly edited” verbatim transcripts of meetings with a five-year lag.

**August 1997:** Fed announces its policy target is the federal funds rate.

**December 1998:** Fed begins to announce its views on likely future direction of policy, in terms of “bias” to change rates.

**December 1999:** Fed switches from announcement of bias to statement on “balance of economic risks.”

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<sup>135</sup> Adapted from “Timeline: Federal Reserve’s Transparency Steps,” Reuters, January 3, 2012.

**March 2002:** Fed begins to immediately report whether there were dissenting votes at FOMC meeting.

**July 2004:** Fed adds core inflation forecast to its forecast of overall forecast in semiannual monetary policy reports to Congress.

**December 2004:** FOMC accelerates release of minutes to three weeks rather than the previous average of six weeks.

**February 2005:** Fed provides two-year forecasts from policymakers in its February monetary policy report to Congress. Previously, the February report contained only forecasts for the current year.

**November 2007:** Fed decides to provide forecasts four times a year instead of two, and extends forecast horizon from two to three years.

**February 2009:** FOMC adds longer-run projections for GDP, unemployment, and inflation.

**December 2010:** Thanks to the efforts of Congressman Barney Frank (D-MA) and Congressman Grayson, Fed agrees to release data on its crisis lending through emergency facilities.

**March 2011:** After exhausting legal appeals, Fed releases names of banks that borrowed at the discount window during the financial crisis.

**April 2011:** Chairman Bernanke holds first news conference after an FOMC meeting.



## APPENDIX B. Abstracts of Additional Background Research Papers Related to This Report

1. Thomas Ferguson and Robert Johnson, "Too Big To Bail: The 'Paulson Put,' Presidential Politics, and the Global Financial Meltdown. Part I: From Shadow Financial System to Shadow Bailout," *International Journal of Political Economy* 38, no. 1 (Spring 2009)

This paper analyzes how a world financial meltdown developed out of US subprime mortgage markets. It outlines how deregulatory initiatives allowed Wall Street to build an entire line of new, risky financial products out of raw materials the mortgage markets supplied. We show how further bipartisan regulatory failures allowed these same firms to take on extreme amounts of leverage, which guaranteed that when a crisis hit, it would be severe. A principle focus is the "Paulson put"—the effort by the US Treasury secretary to stave off high-profile public financial bailouts until after the 2008 presidential election. The paper shows how the Federal Home Loan Bank system and other government agencies were successfully pressed into service for this purpose—for a while.

2. Thomas Ferguson and Robert Johnson, "Too Big to Bail: The 'Paulson Put,' Presidential Politics, and the Global Financial Meltdown. Part II: Fatal Reversal—Single Payer and Back," *International Journal of Political Economy* 38, no. 2 (Summer 2009)

This paper is the second part of our study of the world financial crisis. The discussion centers on the "Paulson put" that defined the "shadow bailout"—the effort by the Treasury and the Federal Reserve to put off high-profile financial bailouts until after the 2008 presidential election. The role Fannie Mae and Freddie Mac played in the collapse of the "Paulson put" is traced at length, along with the failure of Bear Stearns and the eventual nationalization of the GSEs. The Lehman bankruptcy receives detailed attention in the context of the US presidential election. John Taylor's recent arguments about the relative (un)importance of the Lehman episode are examined and rejected. The establishment of TARP and its aftermath are also examined in some detail.

3. Thomas Ferguson and Robert Johnson, "When Wolves Cry 'Wolf': Systemic Financial Crises and the Myth of the Danaid Jar" (April 2010)

Financial crises are staggeringly costly. Only major wars rival them in the burdens they place on public finances. Taxpayers typically transfer enormous resources to banks, their stockholders, and creditors, while public debt explodes and the economy runs below full employment for years. This paper compares how large countries have handled bailouts over time. It analyzes why some have done better than others at containing costs and protecting taxpayers. The paper argues that political variables—the nature of competition within party systems and voting turnout—help explain why some countries do more than others to limit the moral hazards of bailouts. In particular, after 2008, two variables predict very well how tough different countries set conditions for help to their banks. These are voting turnout and the percentage of socialist parties deputies in the parliament.

4. Thomas Ferguson and Robert Johnson, "The God That Failed: Free Market Fundamentalism and the Lehman Bankruptcy," *The Economist's Voice* 7, no. 1 (2010)

This paper critically examines claims by John Taylor and by John Cochrane and Luigi Zingales that it was not the Lehman bankruptcy but rather the efforts to stabilize the system undertaken by the US government and the Federal Reserve in response to the bankruptcy triggered the financial collapse. The paper shows that data on credit default swaps and yield curves are incompatible with their claims.

## APPENDIX C. Summaries of Reports by Robert Auerbach on Fed Transparency and Accountability

1. Robert Auerbach, “Chairman Bernanke’s ‘Urban Legend’ about Deception and Corruption at the Fed,” *The Huffington Post*, October 18, 2011

On the same day, October 4, 2011, I testified on Capitol Hill about the terrible record for transparency and corrupt records at the Federal Reserve, its chairman, Ben Bernanke, gave a strong opposing view before the Joint Economic Committee. When Senator Michael Lee (R-UT) said he was concerned about the “general veil of secrecy under which the Federal Reserve typically operates,” Bernanke replied: “That’s an urban legend” (defined as “a bizarre untrue story that circulates in society”). Bernanke’s reply incorporated the Fed’s urban legend: “We are thoroughly audited at this point.” and “Nobody has found an impropriety.” While Bernanke may confine this reply to the partial audit in the 2010 Dodd-Frank law, which the Fed vigorously opposed, the Fed’s long history of deception and corruption should not be bypassed.

House Committee on Banking, Finance, and Urban Affairs Chairman Henry Reuss (D-WI) proposed a GAO audit of the Fed in 1976. The Fed orchestrated a massive campaign using the officials of the private banks it regulates to lobby to kill the audit bill. The Fed won. The bill could not garner enough support to pass out of the committee. It passed the Government Operations Committee two years later, only after glaring no-audit barriers for Fed monetary policy and international operations were added. Billions of dollars can be made from inside information leaks from the Fed’s monetary policy operations. One necessary step to stop leaks is to severely limit inside information on future Fed policy to a few Fed employees.

This has not happened. Congress received information in 1997 that non-Federal Reserve employees attended Federal Reserve meetings where inside information was discussed. Banking Committee Chairman González and Congressman Maurice Hinchey (D-NY) asked Fed Chairman Alan Greenspan about the apparent leak of discount rate information. Greenspan admitted that non-Fed people, including “central bankers from Bulgaria, China, the Czech Republic, Hungary, Poland, Romania and Russia,” had attended Federal Reserve meetings where the Fed’s future interest rate policy was discussed. Greenspan’s letter (April 25, 1997) contained a 23-page enclosure listing hundreds of employees at the Board of Governors in Washington, D.C., and in the Federal Reserve Banks around the country who have access to at least some inside Fed policy information.

In 1995, Greenspan held a nonrecorded vote—no fingerprints—to destroy the source transcripts of FOMC, the Fed’s policymaking committee. On November 1, 2001, Donald Kohn, the future Fed vice chairman, said that this destruction would continue and that the Fed considered the destruction to be legal. The Fed’s shredding machines destroyed the 1995 source FOMC transcripts of Fed officials who bypassed the Congress and voted for a \$5 billion loan to Mexico collateralized by revenue from Mexico’s oil industry. When the potential loan became public the peso stopped falling, and the loan was not

made. No audits can be made of source FOMC transcripts that were formerly sent to the National Archives and Records Administration because the transcripts are destroyed. That is not an urban legend.

A 1997 González investigation, assisted by the GAO, found extensive corrupt accounting at the cash section of the Los Angeles branch of the San Francisco Fed Bank with dire possibilities at other Fed vault facilities. Greenspan informed González that nearly \$500 thousand had been stolen from Fed vaults by Fed employees from 1987 to 1996. The González/GAO investigation indicated this was an understatement. The Fed Banks' vaults contain uncirculated currency and coin transferred from the Bureau of Engraving and Printing and cash from banks throughout the country. The Fed district banks and branches need to be audited with GAO personnel who are trained and experienced in central bank operations and auditing. When will these audits be done and reported to the Congress or will Bernanke dismiss this national security problem as an urban legend?

2. Robert Auerbach, "The Federal Reserve's \$3.3 Trillion Insider Loans Follow a History of Corrupt Practices," *The Huffington Post*, December 8, 2010

When the severe financial panic struck the United States in 2008, it was absolutely essential that the nation's central bank, the Federal Reserve, preserve the nation's payment system. The payment system includes bank accounts, especially those guaranteed by the government such as commercial bank accounts and money market accounts that have federal insurance, a liability of the taxpayers. The payment system includes the operation and security of digital transfers of funds. That should not mean that the Federal Reserve is authorized to make loans to any individuals, partnerships and corporations with the approval of as few as two unelected bureaucrats. It should not mean that these few unelected officials face no required checks or balances. It should not mean that Federal Reserve officials need no detailed source records, nor, if they do exist, should they destroy them, a policy they began in 1995. There should be full individual accountability for each of the Fed's unelected officials who have immense power over the economy.

Only two unelected bureaucrats at the Federal Reserve can decide who can receive trillions of dollars of loans without even consulting Congress. The Board of Governors of the Federal Reserve (not the Fed's other policy committee, the Federal Open Market Committee) has the immense power to bypass the congressional appropriation process to make loans to individuals, partnerships and corporations that are "unable to secure adequate credit accommodations from other banking institutions" provided there are "unusual and exigent circumstances." Before 2002, at least five of the seven Fed governors had to authorize the action (section 13[3] of the FRA). In 2001 the law was amended after the 9/11 terrorist attacks so that if there are less than five governors in office these loan powers could be authorized by a "unanimous vote of all available members then in office—if at least 2 members are available" (11/26/01 [115 Stat. 333]).

Consider a few of the many past events at the Federal Reserve described in *Deception and Abuse at the Fed* (2008).<sup>136</sup> They can be described as corrupt practices that do not belong in the government of our

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<sup>136</sup> Robert D. Auerbach, *Deception and Abuse at the Fed: Henry B. Gonzalez Battles Alan Greenspan's Bank* (Austin: University of Texas Press, 2008).

great democratic nation. For 17 years, the Federal Reserve lied that it had no transcripts of one of its two policymaking committees. The obfuscation ended in 1994 during a congressional investigation by House Banking Committee Chairman González. Fed personnel were forced to reveal the 17 years of neatly typed transcripts around the corner from Fed Chairman Alan Greenspan's office. The Fed again began issuing the transcripts with a long lag of five years. Then, in 1995, the Greenspan Fed voted (without any record of how each unelected bureaucrat voted) to destroy the source transcripts and send only the edited records to the National Archives and Records Administration where they are stored for 30 years. Donald Kohn, who became the vice chairman of the Fed's Board of Governors, answered a letter I had sent to Fed Chairman Greenspan. Kohn said that the destruction was considered legal.

Almost immediately after Alan Greenspan became chairman of the Fed in August 1987 he was confronted with a stock market crash. Stock market prices reached their peak in August and then fell with a 22.6 percent drop occurring in one day, October 19, 1987. Seven years later the Greenspan Fed, under pressure from a González investigation and a series of hearings, sent Congress the long list of FOMC phone conference call transcripts from 1976 to 1993. The Greenspan Fed may have correctly handled the liquidity problems associated with the stock market crash. The cautionary word "may" is appropriate because the Fed reported to the Congress that transcripts of eight consecutive "FOMC Telephone Conference Calls" following the crash are listed as "no transcript" (October 21, 22, 23, 26, 27, 28, 29, and 30). What did the individual FOMC members advise during this period? Did their individual views reflect skill in conducting the Fed's operations? What could we have learned for dealing with future crashes that were never sent to the Congress?

A Russian default crisis caused a large hedge fund in the United States, Long-Term Capital Management, to collapse in 1998. When LTCM failed—it lost \$4.6 billion in four months—the Greenspan Fed thought that this was potentially so harmful to financial markets that it required Fed intervention. Working from the offices of the New York Fed Bank, the Fed orchestrated a bailout by private sector banks. Greenspan could not or would not tell Congress the details of the bailout apparently because the nation's central bank produced no detailed public records of its actions. Hundreds of lawyers and many large financial firms were evidently involved in this operation. The London edition of the *Financial Times* reported:

For more than three hours, members of the House Banking Committee lined up to condemn last week's bailout of Long-Term Capital Management. From both sides of the political debate, members attacked the operation as—at best—an indictment of the central bank's poor scrutiny of the US financial system, and—at worst—a piece of crony capitalism in which Mr. Greenspan and his senior colleagues were protecting the well fed princes of American banking. (10/03/98)

\$4.6 billion is less than a rounding error compared to the \$3.3 trillion of Federal Reserve loans it has been forced to expose. Senator Sanders and Congressman Ron Paul (R-TX) led the efforts to pass an audit bill of the Fed activities during the recent economic and financial crisis. Senator Sanders's amendment to the Dodd-Frank Reform bill for an audit of the Fed's transactions during the present recession passed on a vote of 96 to 0 in the Senate on May 11, 2010. This was strong bipartisan support for complete records from the Federal Reserve. The Fed had fought the audit and along with many

people waved its banner of independence from politics which means protect us from individual accountability. (See chapter 10 in *Deception and Abuse at the Fed.*)

Valuable exploitable inside information was hidden by the most powerful peacetime bureaucracy in the United States that secretly transacted \$3.3 trillion loans during the current economic turmoil. Initial records indicate a vast array of private firms and some individuals who may have benefited from these loans. I previously described exploitable inside information problems in the Fed's foreign currency operations. Greenspan informed González it would be ignored. There must be checks and balances for the Fed's activities. The complete source records and transcripts of the Fed meetings that led to the \$3.3 billion in loans should be made available in a timely manner. During a crisis they should inform members of the banking committees in the House and Senate that have security clearance. If the CIA can inform Congress, why should the Fed be exempt?