

**The Path to Financial Stability  
February 11, 2014**

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Thank you very much for inviting me to speak with you today. This institute is doing excellent and important work to further our understanding of economic policy, and I appreciate the opportunity to share my perspectives as both an economist and a policymaker. Today, I'd like to talk about the financial turmoil of 2007 and 2008, and some of the policies that contributed to those unhappy events. I will argue that our response to the crisis has failed to address what remains the most critical issue facing our financial system: institutions that are deemed "too big to fail," or, more precisely, too big to fail without a government-funded creditor rescue. I will also talk about a path toward a more stable and less dependent financial system. Before I begin, I should note that my views are my own and do not necessarily represent the views of my colleagues in the Federal Reserve System.<sup>1</sup>

What is the nature of the problem? In my view it is best described as two mutually reinforcing conditions that seriously distort the incentives of financial market participants to monitor and control risk. First, creditors of some financial institutions feel protected by an implicit government commitment of support should the institution become financially troubled. Second, policymakers often feel compelled to provide support to certain financial institutions to insulate creditors from losses.

The way the second condition reinforces the first should be fairly clear. Instances of government intervention reinforce creditors' expectations of support and thereby dampen incentives to contain risk-taking. This promotes financial firms of greater size, complexity and interconnectedness, and it also encourages greater leverage and more reliance on highly liquid short-term funding. Thus, the apparent fragility of modern financial market arrangements is not entirely a force of nature. Instead, financial instability should be seen as a *consequence* of the moral hazard effect of official intervention.

Creditor expectations of support, in turn, often compel policymakers to intervene in the event of distress, since disappointing those expectations by withholding support could provoke a sudden, turbulent readjustment of investor beliefs regarding support for other, similarly situated firms. Concern about exacerbating moral hazard takes a back seat to the urgently felt need to stem the volatility that would result from disappointed expectations. Perceived guarantees thus encourage fragility, which induces interventions, which encourages further fragility. The ultimate result of this cycle is taxpayer-funded subsidies to financial firms that are widely viewed as deeply unfair.

What we have is a fundamental flaw in the relationship between government and the financial sector. And the impact of this flaw is growing. At the end of 1999, the government safety net — including both the implicit support I just outlined and explicit support provided by programs such as deposit insurance and pension guarantees — covered 45 percent of financial sector liabilities, according to Richmond Fed researchers. By the end of 2011, that number had grown to 57 percent, about the same size it was at the end of 2009, despite the many new regulations we have put in place since the crisis.<sup>2</sup> I believe many of these new regulations are quite valuable, given where we found ourselves in 2009, but I do not believe that enhanced regulations will, by themselves, solve the “too big to fail” problem. Instead, we need measures that give market participants an incentive to develop resilient financial arrangements and that end the expectation of government support. The Dodd-Frank Act of 2010 provides some important tools to help us do so, but further legislation would be useful as well. This work will not be easy, but I believe it is absolutely necessary if we hope to make financial stability compatible with democracy.

### **How Did We Get Here?**

The origins of “too big to fail” can be traced back to the Emergency Banking Act of 1933, which marks the beginning of federal deposit insurance in this country. This Act was signed after a tidal wave of bank failures between 1929 and 1933, when more than one-third of the country’s roughly 25,000 banks failed; entire states declared bank holidays, followed by the declaration of a nationwide bank holiday in March 1933.<sup>3</sup> Depositor losses and the disturbances in the payment system were enormously disruptive. At the time, the U.S. banking system was highly fragmented: Interstate branching was prohibited and only eight states and the District of Columbia allowed statewide branching. This meant banks were unable to diversify risks across regions or head off bank runs by moving funds between branches. Most communities in the country were served by just a few small local banks that were highly vulnerable to local economic shocks.<sup>4</sup>

One popular account of this episode holds that the crisis was caused by self-fulfilling depositor panic: Fearing failure, people rushed to withdraw their funds, thus ensuring that failure occurred. But modern scholarship has concluded that the crisis was in fact the result of fundamental shocks to the solvency of the banking system. The Federal Reserve allowed the money supply to collapse. The resulting severe deflation — a 28 percent decline in average prices over three years — drove many bank borrowers into default. Bank runs contributed to the decline in the money stock, but the Fed could have offset the effects through open market purchases of securities.<sup>5</sup> These shocks were then exacerbated by the fragmented banking system.<sup>6</sup> The most striking evidence for this is the contrasting case of Canada, a country that experienced similar economic shocks but whose banking laws allowed consolidation. As a result, there were no serious banking panics, despite the lack of a central bank.<sup>7</sup>

Legislators were well aware that branching restrictions contributed to banking panics, but policymakers did not respond to the crisis by eliminating the restrictions on branching. The unit banking system was popular with politically influential populist and agrarian groups, and these forces lobbied instead for a system of government-provided deposit insurance that would preserve small local banks by protecting their depositors. Although there was significant opposition to the idea of deposit insurance — including by President Roosevelt and Sen. Carter

Glass, an architect of the Federal Reserve System — the supporters prevailed. In fact, it was not until the 1990s that banks were allowed to open branches both within states and across state lines.<sup>8</sup>

The obvious drawback to deposit insurance is that it creates moral hazard: Bankers have an incentive to make riskier investments, and depositors have less incentive to monitor the risk-taking behavior of their banks.<sup>9</sup> We saw these incentive problems come to a head during the savings and loan crisis of the 1980s, when hundreds of federally insured savings and loan institutions failed, bankrupting the Federal Savings and Loan Insurance Corporation and costing taxpayers an estimated \$124 billion. While many factors contributed to the savings and loan debacle, it is unlikely that it could have reached the proportions it did without the distorted incentives created by federal deposit insurance.<sup>10</sup>

The proponents of deposit insurance cannot take all the blame for “too big to fail,” however. Beginning in 1970, the Fed and other regulators began to intervene in credit markets in ways that protected *uninsured* creditors of large financial firms. First, the railroad Penn Central Transportation Company defaulted on \$82 million in commercial paper obligations. The Fed responded by encouraging banks to borrow from the Fed to purchase commercial paper, thus providing support to securities markets. In 1972, the Federal Deposit Insurance Corporation (FDIC) gave the \$1.2 billion Bank of the Commonwealth a \$60 million line of credit that prevented its failure.<sup>11</sup> In 1974, the Fed lent \$1.7 billion to Franklin National Bank and assumed \$725 million of its foreign exchange book. In 1984, the failing \$40 billion bank Continental Illinois was able to borrow from the discount window even as it was receiving a capital injection from the FDIC.

The precedents set by these actions, along with many others, led many economists to be concerned about the issue of “too big to fail” even before the recent financial crisis. In 2004, Gary Stern, then the president of the Minneapolis Fed, and Ron Feldman, an executive vice president at the Minneapolis Fed, published the book “Too Big to Fail: The Hazards of Bank Bailouts.” In it, they warned that “the TBTF problem is real, costly, and becoming more severe.”<sup>12</sup> Unfortunately, they were proven correct just a few short years later.

Because the financial crisis of 2007–08 has been the subject of numerous popular accounts, you are no doubt familiar with the dramatic sequence of events. So instead of telling the tale yet again, I will just point out some important highlights that are suggested by the perspective of the two mutually reinforcing expectations I referenced at the outset of my remarks. In 2007 estimates of the losses likely to be experienced on subprime mortgages rose significantly. This caused investors to revise their assessments of financial entities deemed likely to be exposed to those losses. As a consequence, the credit terms available to these entities deteriorated. The risk premia on their obligations in wholesale funding markets rose, and the maturity of the obligations they were able to issue was sharply reduced.

In August 2007, the Federal Open Market Committee took its first step in response to the tumult in financial markets by lowering the interest rate charged on discount window loans to banks and encouraging banks to borrow. Then in December 2007, in response to rising interest rates in interbank lending markets, the Fed launched the Term Auction Facility to provide term loans to

depository institutions. The guiding principle behind these actions, and others that followed, was that credit markets were malfunctioning and the remedy was additional central bank lending. Arguably, however, market participants inferred that the Fed was standing by, ready to rescue the creditors of financial institutions that showed signs of distress — which actually occurred the following spring when the New York Fed helped finance the purchase of Bear Stearns by JPMorgan. These actions are likely to have reduced the incentives of other large financial firms, such as Lehman Brothers, to strengthen their positions by raising additional equity or reducing their reliance on short-term funding. Capital markets were clearly open for the large financial institutions prior to the middle of 2008, as demonstrated by the equity issuance that did occur. But not enough new capital was raised; apparently the costliness of shareholder dilution made it more attractive for large financial firms to rely instead on the implied backstop of government support.

Policymakers were certainly aware that their actions might exacerbate moral hazard. And certainly, we can all understand a bias against inaction when faced with an unknown, but potentially grave, outcome. But the distortion in banks' risk-taking incentives was viewed as a long-run issue to trade off against the immediate value of cushioning an imminent blow to financial market functioning. Because financial crises are relatively infrequent, it was thought, the incentive distortion would only affect outcomes in the relatively distant future, leaving sufficient time for policymakers to contain moral hazard effects through tougher regulation. But the crisis we have just been through tells a different story. It wasn't just some distant future crisis that was affected by the precedents being set; it was the next chapter in the current crisis. Each new move to expand institutions' use of Fed lending also had the effect of increasing expectations of official support in the months ahead.

During the crisis, and still today, many people view government-provided backstops to large financial firms as a necessity to prevent financial system malfunctions. You've likely heard that central banks should act as a "lender of last resort." This idea is often attributed to Henry Thornton, a British economist who wrote an influential book on central banking in the 1800s, and Walter Bagehot, a British essayist and journalist who wrote his book on central banking in the 1870s.<sup>13</sup> But Thornton and Bagehot wrote when lending was the primary mechanism by which the Bank of England increased the circulating stock of money — coins and paper bank notes — when the demand for those instruments increased. Their writings make clear that they were not recommending rescues for insolvent institutions. Their prescriptions thus were about monetary policy, not credit policy.<sup>14</sup>

In contrast, the Fed's emergency lending programs did not increase the net supply of liquid assets to the economy. Fed lending was offset by sales of Treasury securities, so the supply of currency plus reserves did not increase. Instead, the lending programs reallocated credit, effectively selling Treasury securities to the public and using the proceeds to provide funds to private entities on terms they would not otherwise have obtained in the marketplace. The Fed's lending thus constituted credit allocation, a form of fiscal policy, not the monetary policy Thornton and Bagehot had in mind.<sup>15</sup>

The idea that public sector backstops are a necessity is often motivated more broadly by theoretical models based on "multiple equilibria" or market segmentation in which outcomes are

inherently unstable or suboptimal in the absence of government support.<sup>16</sup> I have not found these models terribly persuasive as accounts of the financial market phenomena that we grappled with at various points during the crisis, because the critical frictions on which these theories are based seem at odds with observations. More broadly, the thesis that financial market instability is inherent, rather than induced by poor policies, must confront the fact that instances of instability are quite unevenly distributed across different countries and different regulatory regimes, as exemplified by the contrasting experiences of the United States and Canada not only during the 1930s but throughout these countries' histories.<sup>17</sup> If financial fragility were an inherent feature of financial markets, financial panics would be ubiquitous, but that's not what we see.

## **The Regulatory Response**

The government's main response in the aftermath of the recent financial crisis was the Dodd-Frank Act, a 2,300-page piece of legislation passed in 2010 that was designed to address the perceived weaknesses in the financial system that led to the crisis. Dodd-Frank put in place roughly 400 new rules, created a new federal agency and has required a tremendous amount of hard work from people throughout our regulatory system. But it also fails to address the central problem.

One broad strategy of the Dodd-Frank Act is to address "too big to fail" by preventing failure in the first place. The Act provides for enhanced supervision of large financial firms via stronger capital and liquidity requirements, periodic stress-testing, counterparty credit limits and risk-management requirements, among other measures. Beefing up such ex-ante constraints on risk-taking is important, but it's not infallible. New opportunities for risk-taking will always emerge as financial markets and economies evolve, and it is asking a lot to expect front-line supervisors to forever substitute for well-aligned incentives. Moreover, stronger restraints on risk-taking increase the incentive for market participants to find a way to operate outside the regulated sector. This regulatory bypass gives rise to what's come to be called "shadow banking" — bank-like activities conducted outside the legal confines of the banking industry. Shadow banking arrangements played a major role in the financial crisis; paradoxically, some of these arrangements were the result of past financial regulations intended to prevent crises. Expanding regulation to chase down fragility wherever it appears is not a promising strategy.

The Dodd-Frank Act also created a new mechanism to resolve large financial firms that become distressed in spite of enhanced supervision. Title II of the Act established the Orderly Liquidation Authority, or OLA, which gives the FDIC the ability, with the agreement of other financial regulators, to take a firm into receivership. The FDIC also is able to borrow funds from the U.S. Treasury to make payments to creditors of the failed firm or to guarantee the liabilities of the failed firm. The funds are to be repaid from recoveries on the assets of the firm or from assessments against the largest, most complex financial companies.

While the FDIC must pay creditors at least what they would have received in a liquidation of the firm, the Act does give the FDIC broad discretion to pay some creditors more than bankruptcy would allow. Moreover, the ability to inject funds borrowed from the Treasury allows the FDIC to immediately pay off creditors whose claims would otherwise be subject to bankruptcy proceedings. Short-term creditors are likely to believe they will benefit from the FDIC's

discretion, causing them to pay insufficient attention to risk and to invest in fragile funding arrangements. If expectations of support for the creditors of financially distressed institutions are widespread, regulators will likely feel forced to provide support to these short-term creditors to avoid the turbulence of disappointing expectations. Rather than ending “too big to fail,” this would replicate the two mutually reinforcing expectations that define it.

## **The Path Forward**

If more regulation isn't the answer, what is? In my view, ending these mutually reinforcing problems requires bringing about two alternative mutually reinforcing conditions. The first is that creditors do not expect government support in the event of financial distress. If we can achieve that, private sector financial firms and their creditors will have the incentive to avoid fragile financing arrangements and to limit risk-taking, thereby reducing the pressure for government intervention. The second necessary condition is that policymakers actually do allow financial firms to fail without government support. If we can make unassisted failures manageable, then policymakers could credibly commit to forgoing rescues, thereby improving private sector incentives.

There are several steps we can take to create a credible path to failure without external government support. The first is to rigorously implement the provision in the Dodd-Frank Act that requires large and complex financial institutions to create resolution plans, also known as “living wills.” These are detailed plans that explain how a financial institution could be wound down under U.S. bankruptcy laws without threatening the rest of the financial system or requiring a public bailout. The plans explain how to disentangle the many different legal entities — sometimes numbering in the thousands — that make up a large financial firm. Under the Dodd-Frank Act, large banks and other “systemically important” firms are required to submit these plans on an annual basis for review by the Fed and the FDIC. The first wave of filers has made two rounds of submissions.

Resolution planning provides a structured approach for understanding what's likely to happen in the event that a large financial firm should fail. In contrast, in past crises policymakers found themselves with little or no preparatory work to draw on. In fact, resolution planning has proven valuable already by giving participating firms a more detailed understanding of their legal structure, and many have used them to “clean up” their structure and close down unneeded legal entities.

More to the point, however, if resolution plans indicate that bankruptcy would pose a risk to the system as a whole, regulators can order changes in the structure and operations of a firm in order to make it resolvable in bankruptcy without government assistance. The Federal Reserve and the FDIC can jointly determine that a plan is “not credible” or would not facilitate an orderly resolution under the bankruptcy code, in which case the firm would be required to submit a revised plan to address identified deficiencies. A resubmission could include plans to change the funding strategy, business operations and corporate structure in order to eliminate deficiencies. If the Fed and the FDIC jointly determine that the revised plan does not remedy identified deficiencies, they can require more capital, increase liquidity requirements or restrict the growth, activities or operations of the firm.

The immense complexity and scale of large banking organizations might make bankruptcy planning appear daunting. Indeed, this has led some to suggest that government-funded resolutions under Title II should be our main strategy in cases of financial distress. I do not think such a defeatist attitude is warranted, however. Certainly, the needed alterations to the structure and operations of large financial firms will be unpopular with the firms since they are likely to involve reductions in reliance on short-term funding and derivatives, and the adoption of more easily severable subsidiary structures. But I believe these changes are feasible without sacrificing any inherent benefits those institutions provide to the economy. The largest obstacle to credible living wills, in my view, might be mustering the political will to compel needed changes rather than defaulting to continued dependence on government backstops.

Another useful step toward financial stability would be to critically examine the bankruptcy code itself and look for ways to better adapt it to the business of large financial firms, particularly those that rely heavily on short-term funding to finance longer-term assets. In fact, such work has been underway here at Stanford as part of the Resolution Project of the Hoover Institution.<sup>18</sup> This work and that of other scholars, such as Mark Roe of Harvard University, has highlighted the fact that many short-term financing instruments and derivatives are exempt from bankruptcy's automatic stay. This safe harbor treatment arguably over-encourages the use of such instruments, and thereby enhances the growth and fragility of shadow banking. Some have proposed limiting this exemption, as well as adding a new chapter to the bankruptcy code specifically adapted to large financial firms.<sup>19</sup> These reform proposals strike me as compelling and worthy of serious consideration.

A third step toward financial stability is to identify regulatory or legal impediments to private sector arrangements that would reduce instability. One example is money market mutual funds, which benefited from substantial official support at the height of the crisis in 2008.<sup>20</sup> These funds' asset holdings are restricted to short-term financial instruments, and they operate very much like bank accounts but without the overlay of banking regulation and supervision. (Indeed, money market mutual funds arose in the 1970s and became popular as a means of bypassing regulatory limits on bank deposit interest rates.) Regulations stipulate that if the value of a fund's assets falls below the value it has promised to investors — if it "breaks the buck" — then the fund must be liquidated. Money funds thus are prevented from temporarily suspending full payment in the event of difficulty, although such suspensions have allowed institutions in other settings to staunch destabilizing runs. In the recent crisis, for example, many hedge funds avoided instability and preserved value by delaying redemptions. We should eliminate the regulations that artificially prevent money market funds and other financial intermediaries from structuring themselves in ways that reduce their fragility and vulnerability to runs.

A final step may be required before financial stability can be assured. Market participants must have well-anchored expectations that government-funded rescues will not be forthcoming. Ideally, policymakers would act in a manner that is consistent with those expectations. But in turbulent times, as we've seen, it may be tempting to put seemingly urgent short-run considerations ahead of preserving a record of precedents that keep market expectations well-anchored. Complete credibility of a commitment to forgo rescues may be difficult if regulators retain discretionary authority to intervene. This is a particular danger for central banks, whose

independent balance sheet places their fiscal actions beyond the scope of the legislative appropriations process.<sup>21</sup> Credible commitment to orderly unassisted resolutions thus may require eliminating the government's ability to provide ad hoc rescues. This would mean repealing the Federal Reserve's remaining emergency lending powers. And once robust and credible resolution plans are in place, we would be able to responsibly wind down the FDIC's Orderly Liquidation Authority and related financing mechanisms.

In concert, I believe these actions can enable us to create a financial system where market participants don't expect government support and thus fund themselves responsibly; where taxpayers aren't on the hook for institutions with the wrong incentives; but where financial institutions can effectively provide the services a dynamic and innovative economy requires. This is going to be hard work, and from some vantage points it might even look impossible. But the alternative seems even less promising — the specter of an ever-increasing share of the financial sector effectively guaranteed by taxpayers. That prospect is unlikely to serve our country well. So I believe we owe it to our citizens to do whatever work it takes to create a stable and resilient financial system.

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<sup>1</sup> I would like to thank Jessie Romero for assistance in preparing these remarks.

<sup>2</sup> The Richmond Fed's estimates of the size of the safety net are available [online](#).

<sup>3</sup> Kris James Mitchener, "[Bank Supervision, Regulation, and Instability During the Great Depression](#)," National Bureau of Economic Research Working Paper no. 10475, May 2004.

<sup>4</sup> More information about the [banking panics](#), the [bank holiday of 1933](#) and the [Emergency Banking Act of 1933](#) is available at [federalreservehistory.org](#).

<sup>5</sup> Milton Friedman and Anna Schwartz, *A Monetary History of the United States*, Princeton, N.J.: Princeton University Press, 1963. As Friedman and Schwartz noted, monetary policy, not bank failures, was the primary cause of the severe economic contraction: "If [failures] had occurred to precisely the same extent without producing a drastic decline in the stock of money, they would have been notable but not crucial. If they had not occurred, but a correspondingly sharp decline had been produced in the stock of money by some other means, the contraction would have been at least equally severe and probably even more so" (p. 352).

<sup>6</sup> See Charles Calomiris, "[Banking Crises and the Rules of the Game](#)," National Bureau of Economic Research Working Paper no. 15403, October 2009; and Mitchener (2004).

<sup>7</sup> Although Canada had zero bank runs or failures in the same time period, it did have a severe depression after its money supply declined by 13 percent (Friedman and Schwartz 1963, p. 352). For more on the Canadian banking system, see Bruce Champ, Bruce D. Smith, and Stephen D. Williamson, "[Current Elasticity and Banking Panics: Theory and Evidence](#)," *The Canadian Journal of Economics*, November 1996, vol. 29, no. 4, pp. 828-864; and Michael D. Bordo, Angela Redish, and Hugh Rockoff, "[A Comparison of the Stability and Efficiency of the Canadian and American Banking Systems, 1870-1925](#)," *Financial History Review*, April 1996, vol. 3, no. 1, pp. 49-68.

<sup>8</sup> For more on the debate about deposit insurance, see Mark D. Flood, "[The Great Deposit Insurance Debate](#)," *Federal Reserve Bank of St. Louis Review*, July/August 1992, vol. 74, no. 4, pp. 51-77; and Charles Calomiris, "[Is Deposit Insurance Necessary? A Historical Perspective](#)," *The Journal of Economic History*, June 1990, vol. 50, no. 2, pp. 283-295.

<sup>9</sup> John H. Kareken and Neil Wallace, "Deposit Insurance and Bank Regulation: A Partial-Equilibrium Exposition," *The Journal of Business*, July 1978, vol. 51, no. 3, pp. 413-38.

<sup>10</sup> Michael Dotsey and Anatoli Kuprianov, "[Reforming Deposit Insurance: Lessons from the Savings and Loan Crisis](#)," *Federal Reserve Bank of Richmond Economic Review*, March/April 1990, pp. 3-28.

<sup>11</sup> Federal Reserve Chairman Arthur Burns favored a bailout, according to Irving H. Sprague, "[Bailout: An Insider's Account of Bank Failures and Rescues](#)," Washington D.C.: Beard Books, 1986.



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<sup>12</sup> An excerpt is available on the Minneapolis Fed's [website](#).

<sup>13</sup> Henry Thornton, "An Enquiry Into the Nature and Effects of the Paper Credit of Great Britain," 1802, Edited and with an Introduction by F.A. Von Hayek, New York: Rinehart and Co., 1939. Walter Bagehot, "Lombard Street," London: Harry S. King and Co., 1873. For explanation and discussion of Thornton and Bagehot's views on the lender of last resort, see Thomas M. Humphrey, "[Lender of Last Resort: The Concept in History](#)," Federal Reserve Bank of Richmond *Economic Review*, March/April 1989, pp. 8-16; and Michael D. Bordo, "[The Lender of Last Resort: Alternative Views and Historical Experience](#)," Federal Reserve Bank of Richmond *Economic Review*, January/February 1990, pp. 18-29.

<sup>14</sup> Marvin Goodfriend, "[The Elusive Promise of Independent Central Banking](#)," Institute for Monetary and Economic Studies, Bank of Japan *Monetary and Economic Studies*, November 2012, vol. 30, pp. 39-54.

<sup>15</sup> An exception was after October 2008, when the Fed began paying banks interest on excess reserves and stopped offsetting lending-induced increases in the supply of reserves.

<sup>16</sup> For example, see Douglas W. Diamond and Philip H. Dybvig, "[Bank Runs, Deposit Insurance, and Liquidity](#)," *Journal of Political Economy*, June 1983, vol. 91, no. 3, pp. 401-419; and Andrei Shleifer and Robert Vishny, Winter 2011, "[Fire Sales in Finance and Macroeconomics](#)," *Journal of Economic Perspectives*, vol. 25, no. 1, pp 29-48.

<sup>17</sup> Charles W. Calomiris and Stephen H. Haber, *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit*. Princeton, N.J.: Princeton University Press, 2014; and Bordo, Redish, and Rockoff (1996).

<sup>18</sup> The [Resolution Project](#) at Stanford University's Hoover Institution

<sup>19</sup> For example, see Thomas H. Jackson and David A. Skeel Jr., "[Dynamic Resolution of Large Financial Institutions](#)," University of Pennsylvania Law School *Faculty Scholarship*, no. 453, October 2012; Mark J. Roe, [Testimony Before the Subcommittee on Regulatory Reform, Commercial and Antitrust Law of Committee on the Judiciary](#), United States House of Representatives Hearing on the Bankruptcy Code and Financial Institution Insolvencies, December 3, 2013; Mark J. Roe, "[The Derivatives Market's Payment Priorities as Financial Crisis Accelerator](#)," *Stanford Law Review*, March 6, 2011, vol. 63, no. 3, pp. 539-590; and Kenneth E. Scott and John B. Taylor, eds., *Bankruptcy Not Bailout: A Special Chapter 14*, Stanford, Calif.: Hoover Institution Press, 2012.

<sup>20</sup> See Eric S. Rosengren, "[Money Market Mutual Funds and Stable Funding](#)," Speech at the Federal Reserve Bank of New York Conference on Stable Funding, New York, September 27, 2013; and the Federal Reserve Bank presidents' [comment letter](#) on the Securities and Exchange Commission's Money Market Fund Reform; Amendments to Form PF release, September 12, 2013.

<sup>21</sup> Goodfriend (2012)