

FEDERAL RESERVE BANK *of* CHICAGO

Last Updated: 11/30/09

Too-Big-To-Fail: A Problem Too Big to Ignore

European Economics and Financial Center
London, England

Introduction

Good evening and thank you for the opportunity to address this distinguished group in such an important time for the global economy. The European Economics and Financial Center (EEFC) has a history of engaging practitioners and theorists in the healthy exchange of ideas, promoting closer links between the two groups. Indeed, the type of research and advisory work performed by the EEFC is even more important when policy is addressing interconnected global issues.

As we all are too well aware, these are turbulent times in financial markets. We are in the midst of the worst financial crisis since the 1930s. Numerous important financial institutions have either disappeared or survived only with substantial government assistance. Even among those escaping such fates, many have seen their balance sheets significantly damaged by poor risk management over the last decade. As these institutions have deleveraged and recapitalized, there have been substantial disruptions in credit flows, and economic activity around the world has suffered significantly.

This crisis has revealed some major weaknesses in our financial regulatory framework. If we truly hope to be able to say "never again," we need to act aggressively to address these weaknesses. All around the world, there is a healthy debate currently under way over how best to do this. I believe this debate is valuable. As we adopt new public policies in response to the crisis, we need to be confident in our evaluations of the lessons we've learned and understand how regulatory changes will affect the efficiency of the financial services sector going forward. Here in the UK, you have responded to the turmoil with the passage of the Banking Act of 2009. In the U.S., the Obama administration has just unveiled a plan for financial regulatory reform and sent it to Congress for review.¹

All the major proposals seek to impose greater discipline on the industry. Such discipline, both from the market and from regulators, should lead to changes in behavior that reduce the likelihood that firms will find themselves on the brink of failure. In practice this is likely to mean new requirements on capital structure, enhanced liquidity management, and perhaps some restrictions on activities. But, no matter how well crafted such policies are, we also have to recognize the risk that financial institutions still may fail. Thus, there appears to be broad agreement on the need for reforms in how we deal with the possible failure of systemically important financial institutions—what people often call the too-big-to-fail (TBTF) problem. That is my topic for this evening.

For good reason, the development of an orderly process for resolving distressed institutions is a common element of both your Banking Act and the Obama administration's new proposal. I'll argue that having such a mechanism is important not just because some institutions will inevitably fail and thus need resolution, but because without it, market discipline is significantly compromised. For market discipline to be effective, failure has to be a real possibility for all institutions. Meltzer once said: "Capitalism without failure is like religion without sin." And given the events of the last two years, market participants would be justified in at least having some doubts about whether certain firms would be allowed to fail in future crises. Thus, in order to create effective market discipline, we need a regime shift that removes such doubt.

As I'll discuss, TBTF is a very important, but difficult problem. And one for which important details all too often get overlooked or ignored. However, it is the details that will determine the success of policy in this area. Additionally, there is probably no single adjustment that would resolve the problems associated with TBTF.

Rather, it will likely take a multifaceted solution. Tonight, I want to give you my take on some issues related to too-big-to-fail, as well as stress the importance of some of the details and the reasons for a multifaceted approach to the problem. I should note that these are my own views and not necessarily those of my colleagues in the Federal Reserve System.

What is the too-big-to-fail problem?

The TBTF problem is the perception—and perhaps the reality—that the failure of some institutions would have such large spillovers to other parts of the financial system, and such significant repercussions for the economy, that regulators would need to step in to prevent failure. These interventions could insulate creditors, counterparties, and perhaps even shareholders from losses. Left unchecked, this introduces a classic moral hazard problem: Financial institutions will have incentives to grow too large, to take on too much risk, and to be too slow to recapitalize when they encounter difficulties.

In the U.S., the TBTF problem first came to prominence with the 1984 failure of Continental Illinois Bank—a bank located directly across the street from the Chicago Fed. In the resolution process, equity holders were wiped out, but there were concerns about the potential spillovers if debt holders were required to take losses. Thus, Continental was deemed TBTF and debt holders were rescued.² The Federal Deposit Insurance Corporation (FDIC) took temporary ownership of the bank and did not relinquish it until later in the decade.

After the failure of Continental and the heavy losses associated with the thrift industry in the late 1980s, the U.S. Congress was very critical of bank supervisory forbearance. It enacted legislation that dictated "prompt corrective action," or PCA. When a troubled bank's capital falls below successive capital thresholds, it must raise additional capital, restrict activities, restrict interest payments and asset growth, cease payment of dividends, and limit senior executive compensation.³ With the same legislation, an explicit policy on TBTF was codified in the systemic risk exception to the 1990 Federal Deposit Insurance Corporation Improvement Act (FDICIA). The goal was to explicitly minimize the use of TBTF by making the process very public and requiring sign-off by leading regulators and senior officials, including the U.S. President.

While PCA worked fairly well in the recent financial crisis, some large commercial banks failed and were liquidated. Others were purchased, some with support from regulatory authorities and some without support. There were, however, some perceived inconsistencies and concerns about ad hoc procedures in certain situations. Two notable cases were the sale of Wachovia Corporation—which, by the way, was the first time the systemic risk exception to FDICIA was ever deployed—and when the FDIC took over management of the day-to-day operations of IndyMac Federal Bank after it was unable to find a buyer.

The recent financial crisis also revealed new dimensions of the TBTF problem. The systemic risk exception applies only to commercial banks. But recently there have been significant issues regarding the systemic implications from the failure of large nonbank financial firms. Significant problems in the U.S. have occurred surrounding investment banks, and similar concerns are being expressed about insurance companies and hedge funds. There are also issues regarding the relationships between banks and their parent holding companies. For example, significant losses have been imposed on stakeholders of bank holding companies—although the stakeholders were not always clear on whether they owned claims on the bank or on the holding company. More generally, the complicated interconnections between the bank and its holding company have made the resolution of the bank more difficult and costly.⁴

These nonbank financial institutions are organizations for which no formal systemic risk exception exists; their resolution is handled through standard bankruptcy proceedings.⁵ Such proceedings do not bring any extra resources to bear to deal with potential spillover effects to other market participants and the real economy. Although the societal costs from such spillovers are difficult to quantify, at times they could be substantial. Concerns about the disruptive aspects of putting a systemically important nonbank through the bankruptcy process has made regulators and others rethink the regulatory infrastructure covering these institutions in a number of ways.

Can regulators "just say no"?

Let's discuss some of the means people have suggested to address TBTF problems. One view is rather simple: Let the market work. This view holds that TBTF problems arise only because regulators lack sufficient backbone to let large firms fail. If the authorities would just commit to not undertaking bailouts and let existing financial and bankruptcy laws operate, the resolution process would proceed with losses being allocated according to predetermined priorities. There may be temporary market disruptions, but the claim is that the disruptions will be manageable.

Advocates of such a hands-off policy argue that the main problems resulting from TBTF are moral hazard and the long-run distortions and inefficiencies associated with it. In this view, problems arise when authorities deviate from a policy of nonintervention, sending mixed signals and confusing markets. This weakens the incentives of firms and their creditors to exercise prudent judgment. If there were no expectation of a government intervention, financial institutions would be compelled to choose a capital structure to withstand market forces, prudently manage risk, and, as a result, lower the probability of a large bank failure.

The logic of market discipline is certainly compelling. Given adequate transparency, the market has substantial potential to monitor firm behavior, perhaps more closely than a small number of regulators. And in my view, enhanced market discipline is almost certainly an important part of the solution to our regulatory problems. But the shift to a policy of increased reliance on market discipline is not a simple process. Regulators cannot simply decide to "just say no" going forward. Their commitment to avoid intervention must be credible, and must be perceived to be credible by the markets. Credibility can take years to develop and can be destroyed quickly by just one instance of forbearance or the provision of exceptional assistance.

Plus there is another issue: It is not obvious that the optimal choice in dealing with the potential failure of a systematically important financial institution is always to "just say no." Let's think about the underlying the decision to let such an institution fail or to provide it with exceptional support.

The costs of providing exceptional support are increased future risk-taking by other large or highly interconnected (TBTF) institutions without inducing corresponding increases in risk management. Such increased risk-taking would lead to distortions in both the levels and allocation of credit, possibly inducing excessive investment in higher-risk projects or sectors of the

economy. This would adversely affect real macroeconomic performance.

Alternatively, the costs of letting a large institution fail in a disorderly way are the macroeconomic consequences of resulting disruptions in financial markets. Creditworthy households and businesses may not be able to fund their ongoing activities. Furthermore, investment in plant and equipment would be distorted, which could also have long-run implications resulting from a suboptimal capital stock.

The cold calculus of this decision would involve comparing the two costs. This is very difficult to do and intelligent individuals can reasonably disagree on the two magnitudes. Proponents of the "just say no" policy will argue that in the moment of crisis, regulators overestimate the cost from current market distortions and discount the future benefits from imposing market discipline. That is human nature. As a result, regulators may occasionally err on the side of providing exceptional assistance.⁶ Perhaps. However, it is not at all clear that this has been the case in recent situations.

Consider one of the more prominent episodes during the course of the current crisis. In March of last year, the Federal Reserve provided extraordinary assistance to facilitate the sale of Bear Stearns to JPMorgan Chase. Proponents of the "just say no" position argue that this was a mistake.⁷ Bear should have been allowed to fail, they argue, with debt holders and counterparties taking appropriate losses. This, in their view, would have sent a clear message that government assistance would not be forthcoming in the future. They claim the consequences for the economy would have been relatively modest and worth the long-term benefits. I disagree.

Let's think about the counterfactual question of what would have happened if we had simply let Bear fail at the outset of the crisis. While it is impossible to know for sure how events would have turned out, I think that it is quite likely that we would have seen markets seize up sooner than they actually did. My thinking is influenced by the events following the failure of Lehman Brothers, when investors became extraordinarily risk averse and withdrew liquidity funding. I think a Bear Stearns failure would have almost surely led to similar risk aversion. For instance, Bear also was prominent in the tri-party repo market, which serves as an important source of short-term funding for large financial institutions. Upon failure, Bear's counterparties would have received collateral, which they either could not or would not want to hold. This could have led to a dumping of certain asset classes on the market at fire-sale prices and, most likely a general aversion to counterparty risk. Similarly, just like the Reserve Fund held too much of Lehman Brothers' commercial paper when it failed, other mutual funds were likely overexposed to the paper of Bear Stearns. Thus, a Bear failure might also have generated at the time a run on money market mutual funds and commercial paper markets.

Furthermore, the problems in financial markets were already largely in place by the spring of 2008. Losses related to mortgage portfolios were going to be incurred by someone. The credit default swap (CDS) exposure of AIG (American International Group Inc.) had been put in place years before and losses from that exposure were not a result of poor risk management following the demise of Bear Stearns, on March 17. In retrospect, given the massive mortgage-related losses, the downgrade of AIG was likely inevitable based on its investment strategy. The calls for additional CDS collateral were going to be triggered regardless of the decisions on Bear Stearns or Lehman Brothers, resulting in the type of liquidity crisis that necessitated loans from the central bank.

In my view, the conclusion to be drawn from this hypothetical is that not providing exceptional assistance to Bear would have resulted in financial distress and a stock market implosion in March of last year rather than in September. While one cannot say for sure whether the situation would have been worse, I personally doubt it would have been better. Without assistance, the potential for even more widespread disruption seems more plausible to me. A fundamental observation is that large mortgage losses had to be allocated among leveraged investors. This set in motion a scramble to avoid taking losses.

Nevertheless, the argument can be made that by letting Bear Stearns enter bankruptcy during a period of financial distress, financial institutions would have realized that they would be subject to market discipline in the future, which would induce more prudent behavior. However, I think it is more likely that we would have seen exactly the opposite reaction. Given the likely severe fallout, regulators would have been sharply criticized. This could have generated a perception that regulators would never again allow such a calamity to occur. Thus the commitment to "just say no" would no longer be credible. The market would perceive the potential for using TBTF to actually be greater than before, not less. Indeed, this is the lesson that some draw from the failure of Lehman Brothers and the resulting financial upheaval.

These concerns about the role of market discipline and its limitations are strongest during times of crisis. The decisions regarding the failure of a single large bank during a more tranquil time could be very different. But the cost-benefit calculus could also be made significantly different, even during times of crisis, if a better infrastructure was in place to resolve problem institutions in a less disruptive manner. We would all prefer such a tilting away from forbearance and public assistance. However, to assume you could "just say no" in the environment of March 2008 with the existing infrastructure is somewhat idealistic in my view and overlooks a number of details involved with the resolution process.

To position ourselves to better utilize market discipline, we need a better resolution process that will address the new dimensions of the TBTF problem. I believe an effective resolution process requires two elements:

1. An entity must be responsible for overseeing systemically important financial institutions (micro-prudential regulation). In order to reduce the chances that the systemically important institutions get into financial difficulties, that entity would need the power to gather necessary data and to restrict the behavior of these institutions. The entity would also need to evaluate the interconnectedness of institutions and to address potential problems for markets as a result of spillover effects (macro-prudential regulation).
2. There should be a well-defined resolution process that limits market disruption and avoids the problems associated with a financial institution going through the standard bankruptcy process. Regulators have been criticized too often for addressing each failure in an ad hoc manner, as if there were no lessons from history. The need for an advance plan is imperative.⁸

The Obama administration's reform plan provides useful proposals for these concerns. Yet even under the best plan that meets these elements, getting the details right is crucial. Who will decide when the resolution process begins? What should the trigger be? Should prompt corrective action begin at higher levels of capitalization than the current triggers for banks? Is temporary nationalization a necessary component? Will allowing for this potential lead to excessive use of this option? How will a multinational presence complicate the policy alternatives and how can that best be addressed? Details matter, and by getting the details correct, we can hopefully minimize the TBTF problem going forward.

Limiting size and complexity

Some recommendations to address TBTF involve limiting the ability or incentive of financial institutions to become particularly large or complex, thus lessening the odds of adverse spillovers. In other words, to keep institutions from becoming too big to fail, keep them from becoming too big, period.⁹ In the U.S., one could possibly achieve this by strictly enforcing national deposit share limits and perhaps tightening those limits over time. One could even consider the breaking up of firms in a manner similar to how Standard Oil was broken up in the U.S. in the early twentieth century. But size is not the only factor that would need to be considered. There would also have to be limits on "interconnectedness" and on product complexity. Additionally, there are probably other time-varying dimensions that may prove to be significant. The dynamic and evolutionary features of systemic importance will require continual monitoring.

I'd like to make two points about these policy alternatives. First, one would assume that financial institutions increase their size, develop new financial products, and become interconnected with other firms because doing so creates real economic value. It may be that this went somewhat beyond socially optimal levels in recent years. But at a basic level, growth, new products, and activities that increase interconnectedness can improve welfare. Thus, one needs to be careful to not overly constrain such activities.¹⁰

A second issue involves the market response to regulatory constraints. If we constrain certain behavior, firms will likely develop alternative means to accomplish the same ends.¹¹ One can argue that many of the off-balance-sheet items and special-purpose vehicles that were created in recent years were at least in part attempts to get around regulatory constraints. This so-called regulatory arbitrage also likely increased the role of the shadow financial sector.¹² Thus, while constraints sound straightforward and simple to implement, they may require significant resources to effectively enforce and may be less effective than expected as firms attempt to get around them.

While severe limits on the size and scope of financial institutions may be neither feasible nor desirable, if such activities result in risk to the financial system it may be appropriate to impose special requirements on them. Thus, an alternative proposal to address TBTF is to expand the risk-based capital requirements to explicitly account for contributions to systemic risks. This could involve larger weights on factors associated with systemic risk, such as institution size, off-balance-sheet activities, and the degree of interconnectedness with other institutions. Adjusting capital requirements for these and other systemic factors would make the decisions of financial institutions more closely reflect their impact on society rather than just themselves. This idea of forcing financial institutions to account for the impact of their actions on others is also addressed in the Obama administration's proposal. This approach could fit within our existing Basel capital requirements, as regulators could expand the risk factors to account for systemic risk. Of course, we would still encounter regulatory avoidance. And it also could be particularly difficult to decide on the variables and weights to include in the risk-based capital calculations.

This incorporation of systemic risk factors would require supervisors to obtain improved measures of interconnectedness and systemic importance. Along these lines, the Squam Lake Working Group on Financial Regulation¹³ has recommended the development of a new comprehensive database to be managed by supervisors. All larger institutions would be required to provide systemic-risk-related data at regular time intervals—say, on a quarterly basis—into the central system, as would financial institutions of any size deemed to have operations that would lead to significant spillover effects. One could easily envision this including a broad array of financial institutions (banks, thrifts, insurance companies, hedge funds, government-sponsored enterprises, etc.) and possibly entities outside of the financial sector.

The goal is to allow regulators and, potentially, the market to better understand the fault lines in financial markets and to more clearly understand the impact of systemic risk. The Squam Lake Working Group stresses the need to share the information among regulatory agencies and to provide it to the private markets, perhaps with a lag, to enable the marketplace to detect trends and tendencies that may otherwise be overlooked.¹⁴

In addition to modifying the risk weights, there have also been proposals to introduce countercyclical capital requirements. It is typically during boom times that excessive risk taking occurs, as firms get caught up in the good times and seem to assume they will continue forever. Countercyclical capital requirements would tend to lean against the wind to combat this. For example, just to fix ideas for the discussion, to be considered *adequately capitalized*, tier 1 plus tier 2 capital requirements could be changed from 8 percent across the entire business cycle to perhaps 10 percent during "good times" and 7 percent during "problem times." Time-varying requirements would serve as a governor to excessive growth and would allow for the generation of an additional capital cushion that could be utilized when the economy slows. Although this would induce credit restraint if imposed in the middle of a cycle, sufficient planning and credibility would ultimately lead institutions to adopt more risk-prudent capital structures.

While I believe there is a place for such revisions to capital requirements, again, the details are crucial. Attempting to force firms to hold capital to reflect the systemic risks they pose is easy to defend in principle, but very difficult to adequately implement. Liquidity problems were a major concern during the recent crisis. How would liquidity be incorporated into changes in capital requirements? Recall that the Basel capital requirements generated concerns about banks gaming imperfections in the relative capital requirements across asset risk categories. Imposing capital requirements on systemic-risk-related factors and weights that vary across the business cycle would be significantly more difficult and would induce a response by the affected firms. Thus, regulators would need to anticipate and react to that response in setting policy. As such, properly setting capital requirements will likely be an ongoing, iterative process.

Contingent capital and self-created bankruptcy plans

The idea of supplementing bank capital during "good" times has been taken further by Mark Flannery and members of the Squam Lake Working Group. Fundamentally, the argument is that banks need to hold more capital and they tend to resist holding higher levels because it is expensive. Similarly, existing shareholders are not in favor of issuing new capital because of the associated dilutive effects. To address this problem, the Squam Lake Working Group proposes that systemically important banks should be required to issue new "contingent capital certificates." These securities would be sold as debt liabilities that make standard tax-deductible interest payments. However, unlike conventional debt obligations, they would be converted into equity shares if some predetermined threshold was breached.¹⁵ The triggering mechanism could be based on a number of things including existing capital levels, equity share prices, declaration by the regulators that conditions of systemic stress exist, or a violation of covenants in the debt contract. Conversion would not be optional; rather it would be mandatory once triggered by one of these mechanisms. If all goes well, the bonds are retired with typical cash payments to the debt holders. However, if the bank's position deteriorates, the debt converts into new equity shares, diluting the existing shares and serving to cushion losses. To avoid reaching this point of conversion the bank would likely be more willing to promptly issue new equity when difficulties are encountered. Thus, the new debt instruments could improve risk-taking incentives and provide an additional capital cushion to insulate taxpayers and the deposit insurance fund from costly interventions. Another problem might occur if the supply of funds to these convertible investments is small, and hence, the debt would be expensive. Well, if more capital was in place, the convertible debt would be less likely to convert; hence, it would be less risky and presumably cheaper. For safety and soundness reasons, a better capital structure is a key objective, and these forces help to improve the capital structure.

A related alternative involves enhancing capital cushions by requiring systemically important firms to purchase contingent capital in the form of capital insurance.¹⁶ The general purpose is the same as that for using contingent capital certificates—that is, to provide a source of additional capital during crisis periods. With this proposal it is imperative that the insurance be fail-proof; thus, proposals typically require that the insurance funds be placed in a segregated lock box—perhaps in Treasuries.¹⁷ Targeted issuers of the insurance could include sovereign wealth funds or private equity. The trigger for the insurance payment could be based on the condition of the individual firm or on the condition of the financial industry. Again, the purpose of the insurance is to address catastrophes; thus it would be more commonly associated with deteriorating industry conditions.

A final reform proposal requires that systemically important financial institutions help plan their own resolution process. The idea is to have a "shelf bankruptcy" plan that has already considered and addressed problem resolution areas. This may sound somewhat odd, but the firm itself must be in a preferred position to be aware of potential impediments to resolution.¹⁸ Supervisors would require firms to address potential resolution problem areas, such as the transfer of the derivatives book or resolution of foreign subsidiaries. One can envision this plan being stress tested as part of the regular examination process. Such a discussion would yield risk-management benefits for the firms and the supervisor. Requiring such a plan could also somewhat constrain firms from taking on higher-risk activities during boom times and would force them to think about contingent plans and develop them even when financial difficulties seem far removed. Again, the plan sets up ex ante procedures to help avoid conditions that require consideration of TBTF.

As interesting as these new proposals are, they also have potential implementation problems. Again, details count. For contingent capital there is the matter of deciding on the appropriate conversion trigger. For the "shelf bankruptcy" plan, there are potential issues of regulatory avoidance and attempting to hide relevant information. There is also the issue of deciding whether the information should be made public. All these issues need to be carefully evaluated. The quality of the decisions on these details will determine the effectiveness of the new program.

Closing comments

So where do I come out on these issues? I do believe that we can do a much better job of preventing (albeit, not entirely avoiding) crisis situations and I believe we can be better prepared to address them when they do occur. Much of the current policy discussion on the need for some form of a systemic risk regulator and improved resolution process is most appropriate and should be thoroughly vetted. Both ideas are included in President Obama's regulatory reform proposal that was recently sent to Congress. Obviously, there are a number of details to be addressed, but I hope we can grasp the moment and not let the opportunity to implement meaningful reform pass.

I believe that such policies aimed at influencing the ex ante behavior of the firm are likely to be effective at avoiding crisis situations in the first place. The reinforcement or backup capital created through the contingent capital or catastrophe insurance requirements would better enable firms to ride out the turbulent times. The countercyclical capital requirements and/or the self-created "shelf bankruptcy" plan could serve as a governor on risk-taking during boom times, again, serving to decrease the potential for encountering financial crises. It could also lead to a more efficient and effective failure resolution process. I believe these proposals merit careful consideration.

For a number of reasons, I think it is important to create "regime-shifting" reforms. Here, the reform proposals could also be useful in that they announce to the industry that a new regulatory environment exists. Procedures would be in place to dampen the potential need for TBTF policies. There would be fewer costs involved from letting relatively complex firms be resolved without social assistance. Thus, there would be fewer incentives to protect the troubled financial firm. Realizing this, it would be in the financial firm's best interest to more prudently manage risk. Less emphasis would be placed on regulatory experiences from the past. Moral hazard would be reduced.

Finally, while I find a number of these proposals to be interesting, I don't see how any in isolation would fully address all the associated problems. It seems that there is a need for a systemic regulator and a fully developed failure resolution plan for systemically important firms. While these changes are necessary, additional tools are required to alter firm behavior to lower the potential for encountering problems and to make the resolution go smoothly once it becomes necessary. I believe a number of the proposals discussed could serve that purpose, and they would be complementary instead of substitutes. They warrant serious consideration if we are to adequately address the issues associated with TBTF.

Notes

¹ See The Banking Act of 2009, [available online](#); and U.S. Department of the Treasury, 2009, *Financial Regulatory Reform, A New Foundation: Rebuilding Financial Supervision and Regulation*, Washington, DC, June 17, [available online](#).

² While Continental Illinois is often associated with the first use of the TBTF policy in the U.S., many of the characteristics of the resolution were not unique and had been utilized before. The Federal Deposit Insurance Corporation (FDIC) had provided assistance in the form of a \$325 million loan to First Pennsylvania only four years earlier. Similarly, the FDIC had guaranteed all deposits just two years earlier in the case of Greenwich Savings Bank. However, the FDIC's involvement as a primary shareholder was unique. See Federal Deposit Insurance Corporation, 1997, *An Examination of the Banking Crises of the 1980s and Early 1990s*, Vol. 1 of *History of the Eighties—Lessons for the Future*, Washington, DC, chapter 7, [available online](#).

³ See a summary of the Prompt Corrective Action policy embedded in the Federal Deposit Insurance Improvement Act, 12 U.S.C.1831o, [available online](#).

⁴ See Sheila C. Bair, 2009, "Deposit Insurance Corporation on regulating and resolving institutions considered 'too Big To Fail,'" statement before the U.S. Senate, Committee on Banking, Housing, and Urban Affairs, Washington, DC, May 6, [available online](#).

⁵ In unusual and exigent circumstances, the Federal Reserve can, under section 13(3) of the Federal Reserve Act, lend to nonbank financial institutions.

⁶ The natural policy option from this view would be to simply forbid or make it exceptionally difficult to provide the exceptional assistance.

⁷ Such views, or similar views, can be found in Brian Carney's interview with Anna Schwartz: Carney, 2008, "Bernanke is fighting the last war," *Wall Street Journal*, October 18, [available online](#); see also John B. Taylor, 2009, "The financial crisis and the policy responses: An empirical analysis of what went wrong," National Bureau of Economic Research, working paper, No. 14631, January.

⁸ The process should, if possible, preserve normal priority amongst creditors. There should be explicit rules that should be adhered to in order to add credibility to the process.

⁹ Federal Reserve Governor Daniel Tarullo recently mentioned this possibility. Tarullo, 2009, "Financial regulation in the wake of the crisis," speech at the Peterson Institute for International Economics, Washington, DC, June 8.

¹⁰ That said, some innovations that exploit holes in tax and regulatory structures may simply reallocate rents rather than produce greater economic value.

¹¹ This is what Ed Kane terms the "regulatory dialectic." See Kane, 1977, "Good intentions and unintended evil: The case against selective credit allocation," *Journal of Money, Credit, and Banking*, Vol. 9, No. 1, part 1, February, pp. 55–69.

¹² There are even times where the response to regulation has been precisely the opposite of that intended. See Douglas D. Evanoff, 1990, "An empirical examination of bank reserve management behavior," *Journal of Banking and Finance*, Vol. 14, No. 1, March, pp. 131–143.

¹³ The Squam Lake Working Group on Financial Regulation is a nonpartisan, nonaffiliated group of fifteen academics who have come together to offer guidance on the reform of financial regulation. Policy positions of the group can be found at www.squamlakeworkinggroup.org.

¹⁴ The Squam Lake Working Group recognizes the potential for window dressing, which could limit the usefulness of the data. While this is a problem with all mandated data, it may be less of a problem than usual in this case. For complicated portfolio or off-balance-sheet strategies with significant term and liquidity risk, unwinding positions regularly for window-dressing purposes is probably difficult and costly.

¹⁵ Alternative triggering mechanisms could be utilized. See Mark Flannery, 2005, "No pain, no gain? Effecting market discipline via reverse convertible debentures," in *Capital Adequacy Beyond Basel: Banking, Securities, and Insurance*, Hal S. Scott (ed.), Oxford: Oxford University Press, chapter 5; see also The Squam Lake Working Group on Financial Regulation, www.squamlakeworkinggroup.org.

¹⁶ See Anil K Kashyap, Raghuram G. Rajan, and Jeremy C. Stein, 2008, "Rethinking capital regulation," paper presented at Federal Reserve Bank of Kansas City symposium, Maintaining Stability in a Changing Financial System, Jackson Hole, Wyoming, August 21–23, [available online](#).

¹⁷ If there were no problems with the insured financial firm, the insurer would get access to the funds at the end of the contract period, with interest, plus the premiums paid for the insurance.

¹⁸ Such a proposal has been included in President Obama's regulatory reform plan. Others regulatory officials have also mentioned it as a viable policy option; see, for example, Mervyn King, 2009, speech by governor of the Bank of England at the lord mayor's banquet for bankers and merchants of the City of London at the Mansion House, London, UK, June 17.

Note: Opinions expressed in this article are those of Charles L. Evans and do not necessarily reflect the views of the Federal Reserve Bank of Chicago or the Federal Reserve System.