

Regulatory Reform and the Role of the Fed¹

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Introduction

I would like to thank the organizers and hosts of the Princeton Colloquium for inviting me to participate.

Global financial markets are going to be shaped for years to come by the nature of the financial regulatory reforms that are made over the coming months. It is very fitting that a school with the reputation of the Woodrow Wilson School at Princeton contribute to a better understanding of these complex issues.

Today I'll discuss three issues of reform that pertain to systemic risk: a resolution mechanism for failed financial firms, the problem of too-big-to-fail, and the role of the Federal Reserve in the financial regulatory structure.

Of course, the views I'll express today are my own and do not necessarily represent those of the Federal Reserve Bank of Philadelphia or of the Federal Reserve System.

Principles

In my view, two key principles should guide our financial regulatory reform efforts.

First, reforms need to pay attention to the incentives that will be created by the regulatory system put into place. Explicit and implicit rules and the ways they are implemented create incentives. These incentives influence the behavior of all market participants — the intermediaries, their investors, their customers, and the regulators.

One could argue, as Sheila Bair, head of the FDIC has (Bair, March 8, 2010), that the reforms of the early 1990s in response to the S&L crisis limited moral hazard in banking but created incentives to push risk-taking outside traditional banking into a shadow banking system. We need to understand the incentives any reforms create.

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A corollary to the first principle is that regulatory reforms should keep in mind longer run consequences and not just the short-run. And we should recognize that in the midst of a crisis, the bias will be toward actions to stem short-run problems even if they cause long-run problems.

A second key principle is to avoid trying to work against market forces. Instead we should design a system that harnesses market discipline to work with improved regulation.

In my view improved supervision and regulation would take the form of:

- (1) putting more emphasis on systemic risk and stability of the financial system as a whole — so-called macro-prudential supervision;
- (2) limiting the moral hazard problems that are an inevitable outcome of the government safety net;
- (3) filling in the gaps of the current regulatory structure, which hasn't kept up with innovations in the financial system, and
- (4) increasing disclosures of information from the whole spectrum of financial firms.

If we expect stockholders, creditors, and counterparties to exert market discipline, we need to ensure that these participants have the necessary information on which to act.

Resolution Mechanism

Financial institutions, which provide credit, risk-management, and liquidity services to businesses and consumers, are beneficial to economic growth precisely because they are willing to take risks and are highly leveraged (when compared with nonfinancial businesses).

But this sets up the possibility of systemic problems that threaten the functioning of the financial system, hurt real economic activity, and impose significant economic costs.

Regulation and supervision should foster stability by lowering the probability of a crisis and by reducing the costs on the rest of the economy when a shock hits the financial system.

The goal cannot be no financial disruptions and it cannot be no financial firm failures — indeed, just the opposite. Ironically, we will have a more stable financial system if we have a system that allows for failed firms to fail and less regulatory intervention to prevent closure of these firms.

That's why a resolution mechanism for failing financial institutions is crucial to any serious reform effort. The mechanisms that have been used during the recent crisis are not optimal – but they are understandable. In the face of serious distress at a large financial firm, governments could either rescue the firm or else face the uncertainty of whether letting the firm fail would cause a cascade of other failures.

Policymakers had to make these decisions in the heat of the moment using their best judgment based on limited information about the linkages among firms. Each time a firm is rescued it creates moral hazard problems ex post — firms and creditors in a similar situation infer they will be rescued. Knowing this, they don't have an incentive to discipline against excessive risk-taking, which creates problems in the long run. Policymakers faced a classic dynamic inconsistency problem. They could either allow the firm to fail at the risk of financial system collapse or rescue the firm but create future moral hazard problems.

Policymakers needed a third option – a way to allow the firm to fail without precipitating a crisis. Without that, policymakers will be biased toward bailouts, even though this means worse moral hazard problems down the road.²

A credible resolution mechanism needs to recognize this bias and it needs to change expectations. It needs to impose losses on creditors as well as shareholders and do it in a consistent manner so that they expect this ex ante and have the incentive to take adequate precautions against failure. This means the resolution mechanism for handling failed firms should be rule-based; it should give regulators less discretion, not more.

This is not just a theory. Empirical research by Barth, Caprio, and Levine (2006) supports this view. They study banking regulatory structures in more than 150 countries and find that transparency and public accountability lead to better banking sector performance than reliance on supervisory discretion.

It should be difficult for regulators to override the resolution mechanism. Making sure the resolution method is rule-based is important. Or modifying the bankruptcy statutes rather than leaving resolution up to regulatory discretion is an idea that is worth considering.³

Also, a system of prompt corrective action for nonbank financial firms, which specifies actions that supervisors and firms must take as the firm's financial condition deteriorates would be very helpful.

Regarding bankruptcy, the statutes certainly would have to be modified so that institutions could be resolved quickly and so the interests of the public and not just the creditors are represented (since the systemic consequences of the failure impose costs on the entire economy and not just those with claims against the failed firm). This might be handled by allowing a federal regulatory agency to participate in the bankruptcy proceedings and allowing it to force undercapitalized firms into bankruptcy. There would also have to be work toward harmonizing our laws with those of foreign countries.⁴ But Jackson and Skeel (2010) make a fairly compelling case that modified bankruptcy can work even for large, complex financial firms and might work better than trying to scale up and extend the current administrative resolution regime that works well for small banks.⁵

² Supervisors also have incentives to forbear, leaving insolvent institutions open too long. They are usually judged on the number of firms that fail on their watch than on the misallocation of resources that occurs for leaving institutions open too long.

³ The bankruptcy resolution mechanism would not be in lieu of other regulatory reforms, e.g., higher capital requirements, requiring firms to hold some form of contingent capital like mandatory convertible debt that would convert into equity in periods of stress, or higher levels of capital based on higher asset growth, leverage growth, and reliance on short-term borrowing to fund long-term assets.

⁴ A bilateral agreement between the U.S. and Britain might be a place to start rather than trying to get all countries consistent. As Jackson and Skeel (2010) explain, when Lehman failed, one of the issues was that its cash management system swept the cash balances of all its subsidiaries each day into the holding company in New York and then sent out the cash to the respective subsidiaries the next day. When the holding company failed, this cash was initially considered to be assets of the holding company and not the subsidiary. As a result, in Asia, many Lehman subsidiaries failed because of loss of access to funds. The fact that there may be a question about whose cash it is or that there can be a delay in determining this are both problems. Jackson and Skeel argue that an international treaty between the U.S. and U.K., given their importance as global financial centers, could solve much of this problem.

⁵ Jackson and Skeel (2010) argue that the special treatment in bankruptcy of qualified financial contracts, or QFCs (like repos, swaps, and other derivatives) is largely unjustified. In their view, repos should be "treated as terminated as of the commencement of the bankruptcy case, with claims and collateral value determined as of that date. Swaps,

Having firms develop so-called living wills that document their exposures and describe how they could be unwound in a timely way would be helpful as a way to ensure that the systemically important parts of the firm are identified before a firm gets into financial trouble, which would aid in any subsequent resolution.

Too-big-too-fail

A related issue is how to deal with large or systemically interconnected financial institutions in general, before they get into financial trouble. Some of these firms are very complex – e.g., the organizational hierarchy of Bank of America takes 199 pages to list; some are small in size but very interconnected, like Bear Stearns.⁶ These firms are subject to the most severe moral hazard problems because they are more difficult to close once they get into trouble.

A credible resolution mechanism coupled with a number of other reforms including revised capital requirements that involve contingent capital and capital charges based on contributions to systemic risk, increased disclosures, subjecting large nonbank financial firms to consolidated supervision, and systemic-risk-focused supervision are a better approach than legislated limits on size or restrictions on products.

I think it's important to recognize that some institutions get large not to game the system but for reasons of efficiency. A growing body of research now supports the view that there are significant economies of scale in banking. Many people continue to cite the older research that used data from the 1980s, which didn't find these economies. But the more recent work, done by me and others, using data from the 1990s and 2000s finds significant scale economies at banks of all sizes.^{7,8}

other derivatives, and similar 'hedge-like' QFCs should be treated as executory contracts subject to assumption and rejection, albeit within a constrained time period" p. 47. Cash-like collateral in the hands of the counterparty or its agent should be "available for recoupment and setoff, probably without the permission of the bankruptcy courts." Collateral posting that occurs due to the underlying master contract should be given a partial safe-harbor from preference law. (Right now all QFCs are exempted from preference law [i.e., fraudulent conveyance provisions] – the trades done immediately prior to any bankruptcy filing won't be unwound by the filing). The argument made by the ISDA for the current exemption is that without the safe-harbor protections, market participants would be reluctant to enter into transactions with a weakening party in order to avoid transactions (receiving payments or taking collateral) within the Bankruptcy Code's time periods relating to preferences and fraudulent conveyances.)

⁶ See the National Information Center's organizational hierarchy data (<http://www.ffiec.gov/nicpubweb/nicweb/nichome.aspx>). Also, according to Herring (2010) (as quoted in Jackson and Skeel, 2010), "The sixteen large, complex international financial institutions identified by the IMF and the Bank of England have 2.5 times more majority-owned subsidiaries than the sixteen largest multinational manufacturing firms." And, "the most complex SIFI (systemically important financial institutions) had 2,435 majority-owned subsidiaries, 50 percent of them chartered abroad." As Rajan (2009) discusses, "A number of factors other than size may cause an institution to be systemically important including (i) the institution's centrality to a market (mortgage insurers, exchanges), (ii) the extent to which systemic institutions are exposed to the institutions (AIG), (iii) the extent to which the institution's business and liabilities are intertwined, or are in foreign jurisdictions where the U.S. bankruptcy stay does not apply, so that the act of failing the institution will impose substantial losses on its assets, and (iv) the extent to which the institution's business interacts in complex ways with the financial system so that the authorities are uncertain about the systemic consequences of failure and do not want to take the risk of finding out."

⁷ Partly this reflects improvements in the methods used for measuring scale economies — use of more flexible functions forms, taking into account risk and financial capital in empirical models, incorporation of off-balance sheet activities into the models of banking. But it likely also reflects a real change in the scale of efficient production of banking services. This change possibly reflects changes in regulation — removal of geographic restrictions on competition and elimination of regulatory ceilings on deposit interest rates, as well as improvements in physical technology and applied financial management techniques.

⁸ For example, in my research with Allen Berger (1998) we estimated the efficiency of almost 6,000 U.S. commercial banks in continuous existence over the six-year period 1990-95 and found that about 20 percent of

Geographic restrictions on banking in place until the mid-1990s (with passage of the Riegle-Neal bill in 1994) led to many small banks but also created a lot of inefficiency and local monopolies, not in the public interest.

Regarding activity limits, Barth, Caprio, and Levine's (2006) cross-country study suggests that limiting the activities of banks can lead to greater concentration in fewer lines of business and reduces the stability of the banking system rather than increases it. Similarly, empirical research does not lend support to bringing back Glass-Steagall. The studies that examine the 1920s and early 1930s before passage of the Glass-Steagall Act in 1933 and a more modern study suggest that conflicts were not generally a problem in mixing investment and commercial banking activities. (Ang, et al., Puri, Ang and Richardson, Benzoni and Schenone).

Moreover, there is little evidence that underwriting corporate bonds and securities, which the repeal of Glass-Steagall enabled commercial banks to do, was the cause of the recent crisis. Banks did a lot of underwriting of mortgage-backed securities, but they held onto the higher rated pieces.

To the extent that economic considerations drive size and a financial firm's choice of activities, strict size and activity limits would prevent the economy from realizing the benefits of growth and diversification. Even if we now think, given the crisis, that those benefits are outweighed by the potential costs, I don't think strict size and activity limits will be effective. They work against market forces and don't align incentives. They would create great incentives for firms to avoid these restrictions, and for a shadow banking system to emerge, without necessarily reducing systemic risk. We need to avoid taking measures that would merely push risk-taking outside of the regulated financial sector.⁹ I'd rather that we focus on increasing the costs to becoming too complex or too large commensurate with the risks these types of institutions impose, like a capital charge for contribution to systemic risk.

All this points to the importance of trying to close the gaps in our supervision – to put financial firms not associated with banks under a regulatory structure and to understand the incentives to avoid regulation – hence the need for a focus on macro-prudential supervision of the financial system.

banking coasts were lost due to scale inefficiencies, similar to the loss of resources due to X-inefficiencies (or waste). In every bank size class from less than \$50 million in assets to more than \$10 billion, we found scale economies for more than 90 percent of the firms in the size class. In each class the typical bank would have to be 2 to 3 times as large as the current size in order to maximize cost scale efficiency for its product mix and input prices. In other studies I have co-authored with Joseph Hughes (summarized in Mester, 2009, and Hughes and Mester, 2010), we find that risk-management and revenue effects are correlated with bank size. Large banks may choose to take on larger amounts of risk because the cost of managing additional risk decreases with bank size. The standard analysis, which was used in earlier studies, might not detect scale economies that actually exist because standard analysis does not account for risk. Holding risk and capital-asset ratios constant, we found large scale economies even for the largest banks and bank holding companies. Using data from 1984-2006, Wheelock and Wilson find that banks had increasing returns to scale even in 2006, when the largest banks had nearly \$1 trillion in assets. Feng and Serletis (2010) using data from 2000-2005 for large U.S. banks also find scale economies at the largest banks.

⁹ This has been the trend. In 1960, depository institutions (commercial banks, savings and loans, and credit unions) held 60 percent of the assets held by the financial sector. By 2009, this share had fallen to 30 percent. See Table 1.

The Federal Reserve's Role in Supervision

The Federal Reserve works with other agencies to supervise and regulate banks. It is a complicated system partly because there are several different regulators, partly because there are many banks – in the U.S. there are currently about 8000 insured depository institutions – and partly because there are three major aspects to regulation: safety and soundness, consumer protection, and investor protection. (See Table 2.)

The Fed has oversight responsibility for about 5000 bank holding companies, including umbrella supervision of large, complex financial firms; the supervision of about 850 banks that are both state-chartered and members of the Federal Reserve System (state member banks); and the oversight of foreign banking organizations operating in the United States.

In the majority of countries, the central bank serves as a financial supervisor.¹⁰ Yet some proposals would strip the Fed of its regulatory and supervisory role over all or part of its current responsibilities. I think we would all agree that the Fed, as well as the other regulators, missed some things leading up to the crisis. But I believe divesting the Fed of its role in supervision and regulation would be detrimental to financial stability. The crisis has shown pretty clearly that bank supervision is a complement to the functions of central banking, including serving as lender of last resort, setting monetary policy, and fostering financial stability.

For example, the U.K. is similar to the U.S. in being a financial system with many large financial institutions. The U.K. separated supervision from the central bank in the 1990s and set up the Financial Services Agency (FSA) to focus on bank supervision. But following the problems at Northern Rock and the apparent coordination problems among the Treasury, Bank of England, and FSA (which are required to agree on any rescues) (see Kashyap, 2010), they are taking some steps to reverse the separation. The Bank of England was given statutory responsibilities in the area of financial stability, its powers to collect information from banks were augmented, and many have called for it to be given increased supervisory authority.¹¹

The Fed's staff has a wide range of expertise, which puts it in the best position to supervise large, complex financial organizations for both the safety and soundness of individual institutions and also for risks to the financial system as a whole.

The Fed led last year's Supervisory Capital Assessment Program (SCAP) or so-called bank stress test. This was a prototype of the type of scenario analysis that needs to be done to assess financial stability. It took staff with expertise in macroeconomic forecasting; sectoral, regional, and global economic developments; a vast array of international and domestic financial markets; and the inner workings of payments systems for clearing and settlement of financial instruments to do the analysis. This expertise has been gained by Fed staff in carrying out their central banking functions.

¹⁰ Barth, Caprio, and Levine's (2006) study of 151 countries show that central banks serve as either the sole supervisor (in 61 countries) or as one of several supervisory agencies (in 21 countries).

¹¹ As discussed in Bernanke (2010), in Germany, plans to shift bank supervisory powers from the financial services regulator to the Bundesbank have received significant attention. In the European Union, a new European Systemic Risk Board is being established under which national central banks and the European Central Bank will play a key role in efforts to protect the financial system from systemic risk. More broadly, in most industrial countries today the central bank has substantial bank supervisory authorities, is responsible for broad financial stability, or both.

Research documents that the synergies go the other way as well.¹² The Fed's participation in the oversight of banks of all sizes gives it useful information about the health of the economy and financial system. This knowledge improves its ability to carry out its central banking functions, including setting monetary policy and lending through the discount window. For example, the Fed needs good information on the condition of the firms so that its discount window loans go to solvent firms having temporary liquidity problems and not to insolvent firms. The Fed's regional roots, and its representation of Main Street in the monetary policy process, would be weaker if the Fed didn't have responsibility for examining smaller banks.

But we have to do supervision better. The crisis unveiled significant weaknesses in the Fed's and the other regulators' implementation. The Fed has already made significant changes to the way it does consolidated supervision increasing its focus on identifying risks to the financial system as a whole and doing a more comprehensive evaluation of the holding companies and all their subsidiaries, not just the banks. The Fed is also doing more horizontal reviews, similar to the stress test, to look at common sources of risks and best practices at managing risks. The Fed will continue to evaluate and develop its methods.

Rather than strip the Fed of its supervisory duties, which I think would be detrimental to financial stability, I think we'd do better to make the Fed's responsibility for financial stability more explicit and to increase the Fed's accountability for financial system oversight. The Fed could deliver a financial stability report to Congress and the public similar to the monetary policy report it presents twice a year. This would mobilize the staff to continue to apply its ample expertise to the important task of monitoring financial stability and determining which policies are most effective for avoiding instability and mitigating its impact on the economy when it does arise.

Summary

So, in summary, I think we need:

(1) to use a rule-based and less discretionary method to resolve nonbank financial firm failures,

(2) to solve too-big-to-fail via a credible resolution method and higher costs imposed on firms that pose more systemic risk rather than trying to use strict size or activity limits,

and

(3) to maintain the Fed's regulatory oversight of state member banks and bank holding companies of all sizes, with increased accountability for macro-prudential supervision.

¹² Peek, Rosengren, and Tootell (1999) show that bank supervisory information can improve forecasts of inflation and unemployment. Peek, Rosengren, and Tootell (2009) show that macroeconomic forecasts can improve forecasts of the risk of contagious bank failures (as measured by the share of bank assets held at banks with CAMELS ratings of 3 or worse) and bank supervisory information about the risk of contagious failures can improve macroeconomic forecasts.

Table 1. Relative Shares of Total Financial Intermediary Assets, in percent

	1960	1970	1980	1990	2000	2005	2007	2009
Insurance companies	23.7	18.2	14.8	15.2	12.1	11.8	10.4	10.8
Life insurance	20.7	15.5	11.2	11.7	9.6	9.2	8.1	8.4
Property and casualty	3.0	2.7	3.6	3.5	2.5	2.6	2.3	2.4
Pension funds	7.6	7.6	8.7	9.0	6.9	4.9	5.1	5.4
Private	3.9	3.2	4.4	4.8	3.1	2.3	2.4	2.7
Public (federal, state and local government)	3.7	4.4	4.3	4.2	3.8	2.6	2.7	2.7
Finance companies and ABS issuers	5.1	5.4	5.7	8.4	12.4	16.8	17.5	13.5
Mutual funds	1.1	1.3	2.1	10.4	15.1	13.6	15.2	17.5
Stock and bond	1.1	1.3	0.9	6.6	8.6	9.1	9.8	11.9
Money market	0.0	0.0	1.2	3.8	6.5	4.5	5.4	5.6
GSEs and REITS	2.2	4.7	8.8	14.6	21.4	21.2	21.1	22.9
Depository institutions (banks)	60.4	62.7	60.0	42.4	32.0	31.7	30.8	29.9
Commercial banks	39.1	40.4	37.5	28.6	24.8	24.3	24.5	24.9
Savings and loans and mutual savings banks	20.4	21.0	21.0	12.1	5.4	5.4	4.5	3.0
Credit Unions	0.9	1.3	1.5	1.7	1.9	2.0	1.8	2.0
Total	100.0							

Source: Federal Reserve Flow of Funds data as of April 7, 2010 and author's calculations.

Table 2. Federal Regulatory Authority: Current Structure

		SAFETY AND SOUNDNESS			CONSUMER PROTECTION			INVESTOR PROTECTION
		Rules	Exams	Enforcement	Rules [†]	Exams	Enforcement	
BANKING ORGANIZATION								
Holding Company	Bank	Fed	Fed	Fed	NA	NA	NA	NA
	Thrift	OTS	OTS	OTS	NA	NA	NA	NA
Banks and Thrifts (DIs)	State Member	Fed*	Fed	Fed	Fed	Fed	Fed	NA
	State Nonmember	FDIC*	FDIC	FDIC	Fed	FDIC	FDIC	NA
	National	OCC*	OCC	OCC	Fed	OCC	OCC	NA
	Thrift	OTS*	OTS	OTS	Fed	OTS	OTS	NA
Nonbank (S&S: if risk to DI)		NA	Fed	Fed	Fed	None	FTC	NA
Insurance/Securities/Commodities (S&S: if risk to DI)		NA	Fed	Fed	NA	NA	NA	SEC/CFTC
OUTSIDE BANKING ORGANIZATION								
Systemically important nonbanks		None	None	None	Fed	None	FTC	NA
Consumer credit-related nonbanks		NA	NA	NA	Fed	None	FTC	NA
Credit Union		NCUA	NCUA	NCUA	Fed	NCUA	NCUA	NA
Insurance/Securities/Commodities		NA	NA	NA	NA	NA	NA	SEC/CFTC

Source: The Federal Reserve Bank of Kansas City.

* Coordinated through the Federal Financial Institutions Examination Council (FFIEC).

[†]The Federal Reserve currently has rule-writing authority over most of the major consumer protection laws. Other laws are assigned to other agencies or to multiple agencies for rule-writing. Some laws do not have a designated rule-writer.

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