Opening Remarks

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In choosing the topic for this year's symposium—maintaining stability in a changing financial system—the Federal Reserve Bank of Kansas City staff is, once again, right on target. Although we have seen improved functioning in some markets, the financial storm that reached gale force some weeks before our last meeting here in Jackson Hole has not yet subsided, and its effects on the broader economy are becoming apparent in the form of softening economic activity and rising unemployment. Add to this mix a jump in inflation, in part the product of a global commodity boom, and the result has been one of the most challenging economic and policy environments in memory.

The Federal Reserve's response to this crisis has consisted of three key elements. First, we eased monetary policy substantially, particularly after indications of economic weakness proliferated around the turn of the year. In easing rapidly and proactively, we sought to offset, at least in part, the tightening of credit conditions associated with the crisis and thus to mitigate the effects on the broader economy. By cushioning the first-round economic impact of the financial stress, we hoped also to minimize the risks of a so-called adverse feedback loop in which economic weakness exacerbates financial stress, which, in turn, further damages economic prospects.

In view of the weakening outlook and the downside risks to growth, the Federal Open Market Committee (FOMC) has maintained a relatively low target for the federal funds rate despite an increase in inflationary pressures. This strategy has been conditioned on our expectation that the prices of oil and other commodities would ultimately stabilize, in part as the result of slowing global growth, and that this outcome, together with well-anchored inflation expectations and increased slack in resource utilization, would foster a return to price stability in the medium run. In this regard, the recent decline in commodity prices, as well as the increased stability of the dollar, has been encouraging. If not reversed, these developments, together with a pace of growth that is likely to fall short of potential for a time, should lead inflation to moderate later this year and next year. Nevertheless, the inflation outlook remains highly uncertain, not least because of the difficulty of predicting the future course of commodity prices, and we will continue to monitor inflation and inflation expectations closely. The FOMC is committed to achieving medium-term price stability and will act as necessary to attain that objective.

The second element of our response has been to offer liquidity support to the financial markets through a variety of collateralized lending programs. I have discussed these lending facilities and their rationale in some detail on other occasions.[1] Briefly, these programs are intended to mitigate what have been, at times, very severe strains in short-term funding markets and, by providing an additional source of financing, to allow banks and other financial institutions to deleverage in a more orderly manner. We have recently extended our special programs for primary dealers beyond the end of the year, based on our assessment that financial conditions remain unusual and exigent. We will continue to review all of our liquidity facilities to determine if they are having their intended effects or require modification.

The third element of our strategy encompasses a range of activities and initiatives undertaken in our role as financial regulator and supervisor, some of which I will describe in more detail later in my remarks. Briefly, these activities include cooperating with other regulators to monitor the health of individual financial institutions; working with the private sector to reduce risks in some key markets;

developing new regulations, including new rules to govern mortgage and credit card lending; taking an active part in domestic and international efforts to draw out the lessons of the recent experience; and applying those lessons in our supervisory practices.

Closely related to this third group of activities is a critical question that we as a country now face: how to strengthen our financial system, including our system of financial regulation and supervision, to reduce the frequency and severity of bouts of financial instability in the future. In this regard, some particularly thorny issues are raised by the existence of financial institutions that may be perceived as "too big to fail" and the moral hazard issues that may arise when governments intervene in a financial crisis. As you know, in March the Federal Reserve acted to prevent the default of the investment bank Bear Stearns. For reasons that I will discuss shortly, those actions were necessary and justified under the circumstances that prevailed at that time. However, those events also have consequences that must be addressed. In particular, if no countervailing actions are taken, what would be perceived as an implicit expansion of the safety net could exacerbate the problem of "too big to fail," possibly resulting in excessive risk-taking and yet greater systemic risk in the future. Mitigating that problem is one of the design challenges that we face as we consider the future evolution of our system.

As both the nation's central bank and a financial regulator, the Federal Reserve must be well prepared to make constructive contributions to the coming national debate on the future of the financial system and financial regulation. Accordingly, we have set up a number of internal working groups, consisting of governors, Reserve Bank presidents and staff, to study these and related issues. That work is ongoing, and I do not want to prejudge the outcomes. However, in the remainder of my remarks today I will raise, in a preliminary way, what I see as some promising approaches for reducing systemic risk. I will begin by discussing steps that are already under way to strengthen the financial infrastructure in a manner that should increase the resilience of our financial system. I will then turn to a discussion of regulatory and supervisory practice, with particular attention to whether a more comprehensive, system-wide perspective in financial supervision is warranted. For the most part, I will leave for another occasion the issues of broader structural and statutory change, such as those raised by the Treasury's blueprint for regulatory reform.[2]

I. Strengthening the Financial Infrastructure

An effective means of increasing the resilience of the financial system is to strengthen its infrastructure. For my purposes today, I want to construe "financial infrastructure" very broadly, to include not only the "hardware" components of that infrastructure—the physical systems on which market participants rely for the quick and accurate execution, clearing and settlement of transactions—but also the associated "software," including the statutory, regulatory and contractual frameworks and the business practices that govern the actions and obligations of market participants on both sides of each transaction. Of course, a robust financial infrastructure has many benefits even in normal times, including lower transactions costs and greater market liquidity. In periods of extreme stress, however, the quality of the financial infrastructure may prove critical. For example, it greatly affects the ability of market participants to quickly determine their own positions and exposures, including exposures to key counterparties, and to adjust their positions as necessary. When positions and exposures cannot be determined rapidly—as was the case, for example, when program trades overwhelmed the system during the 1987 stock market crash—potential outcomes include highly risk-averse behavior by market participants, sharp declines in market liquidity and high volatility in asset prices. The financial infrastructure also has important effects on how market participants respond to perceived changes in counterparty risk. For example, during a period of heightened stress, participants may be willing to provide liquidity to a market if a strong central counterparty is present, but not otherwise.

Considerations of this type were very much in our minds during the Bear Stearns episode in March. The collapse of Bear Stearns was triggered by a run of its creditors and customers, analogous to the run of depositors on a commercial bank. This run was surprising, however, in that Bear Stearns' borrowings were largely secured—that is, its lenders held collateral to ensure repayment even if the company itself failed. However, the illiquidity of markets in mid-March was so severe that creditors lost confidence that they could recoup their loans by selling the collateral. Many short-term lenders declined to renew their loans, driving Bear to the brink of default.

Although not an extraordinarily large company by many metrics, Bear Stearns was deeply involved in a number of critical markets, including (as I have noted) markets for short-term secured funding as well as those for over-the-counter (OTC) derivatives. One of our concerns was that the infrastructures of those markets and the risk- and liquidity-management practices of market participants would not be adequate to deal in an orderly way with the collapse of a major counterparty. With financial conditions already quite fragile, the sudden, unanticipated failure of Bear Stearns would have led to a sharp unwinding of positions in those markets that could have severely shaken the confidence of market participants. The company's failure could also have cast doubt on the financial conditions of some of Bear Stearns' many counterparties or of companies with similar businesses and funding practices, impairing the ability of those firms to meet their funding needs or to carry out normal transactions. As more firms lost access to funding, the vicious circle of forced selling, increased volatility and higher haircuts and margin calls that was already well advanced at the time would likely have intensified. The broader economy could hardly have remained immune from such severe financial disruptions. Largely because of these concerns, the Federal Reserve took actions that facilitated the purchase of Bear Stearns and the assumption of Bear's financial obligations by JPMorgan Chase & Co.

This experience has led me to believe that one of the best ways to protect the financial system against future systemic shocks, including the possible failure of a major counterparty, is by strengthening the financial infrastructure, including both the "hardware" and the "software" components. The Federal Reserve, in collaboration with the private sector and other regulators, is intensively engaged in such efforts. For example, since September 2005, the Federal Reserve Bank of New York has been leading a joint public-private initiative to improve arrangements for clearing and settling trades in credit default swaps and other OTC derivatives. These efforts include gaining commitments from private-sector participants to automate and standardize the clearing and settlement process, encouraging improved netting and cash settlement arrangements, and supporting the development of a central counterparty for credit default swaps. More generally, although customized derivatives contracts between sophisticated counterparties will continue to be appropriate in many situations, on the margin it appears that a migration of derivatives trading toward more-standardized instruments and the increased use of well-managed central counterparties, either linked to or independent of exchanges, could have a systemic benefit.

The Federal Reserve and other authorities also are focusing on enhancing the resilience of the markets for triparty repurchase agreements (repos). In the triparty repo market, primary dealers and other large banks and broker-dealers obtain very large amounts of secured financing from money funds and other short-term, risk-averse investors. We are encouraging firms to improve their management of liquidity risk and to reduce over time their reliance on triparty repos for overnight financing of less-liquid forms of collateral. In the longer term, we need to ensure that there are robust contingency plans for managing, in an orderly manner, the default of a major participant. We should also explore possible means of reducing this market's dependence on large amounts of intraday credit from the banks that facilitate the settlement of triparty repos. The attainment of these objectives might be facilitated by the introduction of a central counterparty but may also be achievable under the current framework for clearing and settlement.

Of course, like other central banks, the Federal Reserve continues to monitor systemically important payment and settlement systems and to compare their performance with international standards for reliability, efficiency and safety. Unlike most other central banks, however, the Federal Reserve does not have general statutory authority to oversee these systems. Instead, we rely on a patchwork of authorities, largely derived from our role as a banking supervisor, as well as on moral suasion, to help ensure that the various payment and settlement systems have the necessary procedures and controls in place to manage the risks they face. As part of any larger reform, the Congress should consider granting the Federal Reserve explicit oversight authority for systemically important payment and settlement systems.

Yet another key component of the software of the financial infrastructure is the set of rules and procedures used to resolve claims on a market participant that has defaulted on its obligations. In the overwhelming majority of cases, the bankruptcy laws and contractual agreements serve this function well. However, in the rare circumstances in which the impending or actual failure of an institution imposes substantial systemic risks, the standard procedures for resolving institutions may be inadequate. In the Bear Stearns case, the government's response was severely complicated by the lack of a clear statutory framework for dealing with such a situation. As I have suggested on other occasions, the Congress may wish to consider whether such a framework should be set up for a defined set of nonbank institutions.[3] A possible approach would be to give an agency—the Treasury seems an appropriate choice—the responsibility and the resources, under carefully specified conditions and in consultation with the appropriate supervisors, to intervene in cases in which an impending default by a major nonbank financial institution is judged to carry significant systemic risks. The implementation of such a resolution scheme does raise a number of complex issues, however, and further study will be needed to develop specific, workable proposals.

A stronger infrastructure would help to reduce systemic risk. Importantly, as my FOMC colleague Gary Stern has pointed out, it would also mitigate moral hazard and the problem of "too big to fail" by reducing the range of circumstances in which systemic stability concerns might be expected by markets to prompt government intervention.[4] A statutory resolution regime for nonbanks, besides reducing uncertainty, would also limit moral hazard by allowing the government to resolve failing firms in a way that is orderly but also wipes out equity holders and haircuts some creditors, analogous to what happens when a commercial bank fails.

II. A Systemwide Approach to Supervisory Oversight

The regulation and supervisory oversight of financial institutions is another critical tool for limiting systemic risk. In general, effective government oversight of individual institutions increases financial resilience and reduces moral hazard by attempting to ensure that all financial firms with access to some sort of federal safety net—including those that creditors may believe are too big to fail—maintain adequate buffers of capital and liquidity and develop comprehensive approaches to risk and liquidity management. Importantly, a well-designed supervisory regime complements rather than supplants market discipline. Indeed, regulation can serve to strengthen market discipline, for example, by mandating a transparent disclosure regime for financial firms.

Going forward, a critical question for regulators and supervisors is what their appropriate "field of vision" should be. Under our current system of safety-and-soundness regulation, supervisors often focus on the financial conditions of individual institutions in isolation. An alternative approach, which has been called system-wide or macroprudential oversight, would broaden the mandate of regulators and supervisors to encompass consideration of potential systemic risks and weaknesses as well.

At least informally, financial regulation and supervision in the United States already include some macroprudential elements. As one illustration, many of the supervisory guidances issued by federal bank regulators have been motivated, at least in part, by concerns that a particular industry trend posed risks to the stability of the banking system as a whole, not just to individual institutions. For example, following lengthy comment periods, in 2006, the federal banking supervisors issued formal guidance on underwriting and managing the risks of nontraditional mortgages, such as interest-only and negative amortization mortgages, as well as guidance warning banks against excessive concentrations in commercial real estate lending. These guidances likely would not have been issued if the federal regulators had viewed the issues they addressed as being isolated to a few banks. The regulators were concerned not only about individual banks but also about the systemic risks associated with excessive industrywide concentrations (of commercial real estate or nontraditional mortgages) or an industrywide pattern of certain practices (for example, in underwriting exotic mortgages). Note that, in warning against excessive concentrations or common exposures across the banking system, regulators need not make a judgment about whether a particular asset class is mispriced—although rapid changes in asset prices or risk premiums may increase the level of concern. Rather, their task is to determine the risks imposed on the system as a whole if common exposures significantly increase the correlation of returns across institutions.

The development of supervisory guidances is a process that often involves soliciting comments from the industry and the public and, where applicable, developing a consensus among the banking regulators. In that respect, the process is not always as nimble as we might like. For that reason, less-formal processes may sometimes be more effective and timely. As a case in point, the Federal Reserve—in close cooperation with other domestic and foreign regulators—regularly conducts so-called horizontal reviews of large financial institutions, focused on specific issues and practices. Recent reviews have considered topics such as leveraged loans, enterprise-wide risk management and liquidity practices. The lessons learned from these reviews are shared with both the institutions participating in these reviews as well as other institutions for which the information might be beneficial. Like supervisory guidance, these reviews help increase the safety and soundness of individual institutions, but they may also identify common weaknesses and risks that may have implications for broader systemic stability. In my view, making the systemic risk rationale for guidances and reviews more explicit is certainly feasible and would be a useful step toward a more systemic orientation for financial regulation and supervision.

A system-wide focus for financial regulation would also increase attention to how the incentives and constraints created by regulations affect behavior, especially risk-taking, through the credit cycle. During a period of economic weakness, for example, a prudential supervisor concerned only with the safety and soundness of a particular institution will tend to push for very conservative lending policies. In contrast, the macroprudential supervisor would recognize that, for the system as a whole, excessively conservative lending policies could prove counterproductive if they contribute to a weaker economic and credit environment. Similarly, risk concentrations that might be acceptable at a single institution in a period of economic expansion could be dangerous if they existed at a large number of institutions simultaneously. I do not have the time today to do justice to the question of the procyclicality of, say, capital regulations and accounting rules. This topic has received a great deal of attention elsewhere and has also engaged the attention of regulators; in particular, the framers of the Basel II capital accord have made significant efforts to measure regulatory capital needs "through the cycle" to mitigate procyclicality. However, as we consider ways to strengthen the system for the future in light of what we have learned over the past year, we should critically examine capital regulations, provisioning policies and other rules applied to financial institutions to determine whether, collectively, they increase the procyclicality of credit extension beyond the point that is best for the system as a whole.

A yet more ambitious approach to macroprudential regulation would involve an attempt by regulators to develop a more fully integrated overview of the entire financial system. In principle, such an approach would appear well-justified, as our financial system has become less bank-centered and because activities or risk-taking not permitted to regulated institutions have a way of migrating to other financial firms or markets. Some caution is in order, however, as this more comprehensive approach would be technically demanding and possibly very costly both for the regulators and the firms they supervise. It would likely require at least periodic surveillance and information-gathering from a wide range of nonbank institutions. Increased coordination would be required among the private- and public-sector supervisors of exchanges and other financial markets to keep up-to-date with evolving practices and products and to try to identify those that may pose risks outside the purview of each individual regulator. International regulatory coordination, already quite extensive, would need to be expanded further.

One might imagine also conducting formal stress tests, not at the firm level as occurs now, but for a range of firms and markets simultaneously. Doing so might reveal important interactions that are missed by stress tests at the level of the individual firm. For example, such an exercise might suggest that a sharp change in asset prices would not only affect the value of a particular firm's holdings but also impair liquidity in key markets, with adverse consequences for the ability of the firm to adjust its risk positions or obtain funding. System-wide stress tests might also highlight common exposures and "crowded trades" that would not be visible in tests confined to one firm. Again, however, we should not underestimate the technical and information requirements of conducting such exercises effectively. Financial markets move swiftly, firms' holdings and exposures change every day, and financial transactions do not respect national boundaries. Thus, the information requirements for conducting truly comprehensive macroprudential surveillance could be daunting indeed.

Macroprudential supervision also presents communication issues. For example, the expectations of the public and of financial market participants would have to be managed carefully, as such an approach would never eliminate financial crises entirely. Indeed, an expectation by financial market participants that financial crises will never occur would create its own form of moral hazard and encourage behavior that would make financial crises more, rather than less, likely.

With all these caveats, I believe that an increased focus on system-wide risks by regulators and supervisors is inevitable and desirable. However, as we proceed in that direction, we would be wise to maintain a realistic appreciation of the difficulties of comprehensive oversight in a financial system as large, diverse, and globalized as ours.

III. Conclusion

Although we at the Federal Reserve remain focused on addressing the current risks to economic and financial stability, we have also begun thinking about the lessons for the future. I have discussed today two strategies for reducing systemic risk: strengthening the financial infrastructure, broadly construed, and increasing the system-wide focus of financial regulation and supervision. Work on the financial infrastructure is already well under way, and I expect further progress as the public and private sectors cooperate to address common concerns. The adoption of a regulatory and supervisory approach with a heavier macroprudential focus has a strong rationale, but we should be careful about over-promising, as we are still rather far from having the capacity to implement such an approach in a thoroughgoing way. The Federal Reserve will continue to work with the Congress, other regulators and the private sector to explore this and other strategies to increase financial stability.

When we last met here in Jackson Hole, the nature of the financial crisis and its implications for the economy were just coming into view. A year later, many challenges remain. I look forward to the insights into this experience that will be provided by the papers at this conference.

Endnotes

[1]See, for example, Ben S. Bernanke (2008), "Liquidity Provision by the Federal Reserve," speech delivered (via satellite) at the Federal Reserve Bank of Atlanta Financial Markets Conference, Sea Island, Ga., May 13.

[2]See Department of the Treasury (March 2008), *Blueprint for a Modernized Financial Regulatory Structure.*

[3]Ben S. Bernanke (2008), "Financial Regulation and Financial Stability," speech delivered at the Federal Deposit Insurance Corporation's Forum on Mortgage Lending for Low and Moderate Income Households, Arlington, Va., July 8.

[4]See, for example, Gary H. Stern and Ron J. Feldman (2004), *Too Big to Fail: The Hazards of Bank Bailouts* (Washington: Brookings Institution Press).