Maintaining Stability in a Changing Financial System—An Introduction to the Bank's 2008 Economic Symposium

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The recent turmoil in global financial markets, associated with the U.S. subprime mortgage crisis, has raised important questions about the stability and integrity of the new international financial structure. These events represent the first real stress test of the world's financial system since the late 1990s when the Asian financial crisis, Russian debt default, and Long-Term Capital Management (LTCM) shocked the system. Over the past year, credit quality problems in a relatively small part of the U.S. mortgage market have disrupted financial markets around the world and caused large financial losses at banks and other financial institutions. In response, many central banks have provided emergency liquidity to financial markets and institutions, and some have eased monetary policy to limit the spillover of this financial disruption to the broader economy.

To better understand the ongoing financial crisis and the implications for monetary and regulatory policy, the Federal Reserve Bank of Kansas City sponsored the symposium, "Maintaining Stability in a Changing Financial System," at Jackson Hole, Wyo., on Aug. 21-23, 2008. The symposium brought together monetary policy makers, financial market experts, and academic economists to discuss the current financial crisis and its implications for the broader economy. This introduction describes the context in which the crisis developed and highlights three major themes discussed at the symposium: the nature and origins of the crisis, the efficacy and appropriateness of central banks' response to the crisis, and implications for future financial system regulation.

Institutional Context for the Crisis

Recent decades have seen the transformation of financial systems around the world. Against a backdrop of falling costs for gathering and processing information, the development of sophisticated financial modeling techniques, and rising competitive pressures, many countries are moving from a traditional bank-based system of financial intermediation to a more market-based system. A central development in this process is the spread of securitization, which allows loans that were once held on bank balance sheets to be repackaged into securities that can be sold to investors around the world.

Another key development is the growth of credit risk transfer, which allows lenders to shift default risk to other parties even when they keep loans on their books.

These changes have a number of potential benefits. For example, borrowers may have greater access to credit markets at lower cost, and investors may have more investment options and more ability to manage risk exposures. However, the potential impact on the overall stability of the financial system under these new developments is less clear.

Some argue that these changes can promote financial stability by transferring risks more widely to those most able and willing to bear them. Indeed, until the onset of the recent subprime mortgage crisis, financial markets experienced a long period of relative calm. This reduced financial market volatility, coupled with low credit risk spreads, lent support to this view.

Others have been more skeptical and note that these new financial developments may require a learning period and stress testing before investors and regulators fully appreciate the risks involved with these new products and practices. In addition, some have suggested the financial stability of recent years may reflect the very benign macroeconomic environment in which the new system has developed.

Governments have struggled to keep pace with the evolving landscape. Bank regulation, under the international Basel I and II accords, has attempted to adapt capital measures to address both traditional and new risks to the banking system. But many financial developments in recent years have occurred outside of the banking system. These institutions and markets are generally not subject to the same prudential supervision and regulation as the banking system and have not had direct access to the public safety net in the form of deposit insurance and access to central bank liquidity facilities. Instead, to function effectively, these markets and institutions have relied heavily on asset-backed collateralized lending, third-party credit risk insurance, and credit ratings.

Two other important trends in recent years have been the globalization of finance and the growth of large, complex financial institutions. The globalization of finance is the product of the ongoing liberalization of domestic financial markets by governments around the world. This process has great benefits to the extent that funds flow where returns are greatest and investors around the world can more effectively diversify their financial assets. Potential externalities also exist, however, if financial difficulties in one country can spread rapidly to other countries. Moreover, there are significant regulatory issues associated with financial institutions operating across many countries.

In recent years, significant consolidation both within the banking sector and across different types of financial organizations has resulted in a number of very large financial institutions both in the U.S. and abroad. Several factors have driven this consolidation, including the falling costs of information technology, the removal of regulatory barriers, and competitive pressures. While consolidation may offer greater efficiency, which can benefit households and businesses, serious concerns exist about whether these large, complex organizations can be effectively managed, especially in terms of their exposure to a broad range of risks. Consolidation also raises concerns that some institutions may have become too big or too important to fail because their failure could cause contagion across financial markets and institutions, threatening the stability of the broader financial system. The moral hazard implications of this development could weaken market discipline and corporate governance and place smaller institutions at a competitive disadvantage.

Nature and Origins of the Crisis

Although subprime mortgage lending clearly played a key role in the crisis, symposium participants identified a number of fundamental economic factors that contributed to the development and spread of the crisis. These factors include: poor incentive structures in a variety of contracts, information problems, weaknesses in supervision and regulation, design features of subprime securitizations, the use of market-value accounting, and features of the macroeconomic environment that contributed to increased financial leverage and increased risk-taking.

In the opening paper, Charles Calomiris and discussant Michael Bordo viewed the current crisis through the historical lens of past crises. According to Calomiris and Bordo, the current crisis has both old and new elements when compared to previous financial crises. Real estate crises are not uncommon historically, and Calomiris noted that the roots of many earlier crises can be traced to a combination of accommodative monetary policy, rapid growth of untested financial instruments, and government subsidization of risk-taking.

In the current crisis, the subprime lending boom has elements of all three factors, but Calomiris suggested that they are not really sufficient to explain the crisis. Rather, he emphasized agency or incentive problems in asset management. He argued that the focus on causes of the subprime lending debacle should not be on the individuals and institutions who originated the loans, or on the sponsors of structured assets and credit rating agencies, but rather, on the financial institutions and institutional investors who purchased the securities. According to Calomiris, these institutions knowingly allowed asset managers to underprice the risks of subprime loans and securities backed by these loans. Calomiris cited a number of factors for this mispricing of risk, including: industry compensation practices for asset managers, regulatory policies that led to a relaxation of ratings practices, and changes in bank capital standards that led banks to move the riskier portions of asset securitizations to off-balance-sheet entities.

Bordo also noted that the current crisis has some similar features to the U.S. banking crises in the pre-Federal Reserve/National Banking era. In particular, the banking panic of 1907 originated in a new type of financial intermediary, trust companies, who operated outside of the existing private safety net provided by the New York Clearing House.

The second paper, by Gary Gorton with discussion by Bengt Holmström, focused on asset securitization and problems in the design of mortgage securities backed by subprime loans. Asset securitization has been an important part of financial markets for more than 25 years. Thus, it is important to understand why problems arose in subprime mortgages and assets backed by subprime mortgages when similar problems had not emerged previously in assets backed by conventional home mortgages, auto and credit card loans, and even commercial real estate loans.

Gorton argued that the problems in subprime mortgage securitization can be traced to unique features of the securitization process for these loans. Specifically, subprime securitizations were based on adjustable-rate loans that were forced to be refinanced over a short time horizon. As long as housing prices increased, the lower income borrowers who received these loans could use their increased home equity to refinance into more conventional loans. Thus, the viability of these loans depended heavily on rising house prices. Furthermore, the layers of securities that were backed by these loans depended on a dynamic form of credit enhancement that made sense only when subprime borrowers could continue to refinance their loans via rising home prices. In addition, Gorton stressed that the extremely complex securitization structures that were built on the subprime loans resulted in a significant loss of information, so that the ultimate holders of the securities could not determine the credit quality of the underlying subprime loans. According to Gorton, when house prices declined and subprime loans began to default, investors had difficulty accurately valuing their mortgage-backed securities, a contributing factor to the loss of liquidity in short-term money markets.

In discussing Gorton's paper, Holmström focused on two issues: the role that subprime mortgage-backed securities played in the collapse of liquidity in short-term money markets and the economic forces behind the growth in subprime lending. According to Holmström, a distinguishing feature of markets and institutions that provide liquidity is that they are not very information-intensive. To function effectively, these markets rely on trust and stability of asset values rather than a detailed analysis of underlying credit quality. Consequently, the design flaws in subprime mortgage securities identified by Gorton made them especially unsuited to serve as the basis for short-term asset-backed lending. Furthermore, said Holmström, the nature of liquidity-providing markets and institutions suggests that "marking to market" may not be an appropriate accounting framework for these institutions. As to why the subprime market developed and grew to such great size, Holmström suggested that its growth was driven mainly by the demand for assets resulting from inflows of savings from emerging market economies.

The liquidity crisis, associated with the collapse of subprime lending, was examined in more depth in a paper presented by Franklin Allen and Elena Carletti and discussed by Peter Fisher. As noted by many symposium participants, one of the most surprising aspects of the current crisis has been the severe disruption to the liquidity of the financial system. Markets relying on asset-based borrowing have collapsed, the interbank lending market has been disrupted, and prices of many classes of securities have fallen below fundamental values.

Allen and Carletti viewed these developments from the perspective of economic models of financial intermediation. They noted that liquidity provision can be inefficient in models with incomplete financial markets. These models can also generate both dysfunctional asset pricing, where asset values are determined by "cash-in-the-market" pricing, rather than by fundamental factors, and by contagion across financial institutions. This market failure also suggests a possible role for central banks to provide liquidity in crisis situations. Their analysis identified a need for a better understanding of how markets and institutions provide liquidity and whether mechanisms can be developed to make liquidity provision more efficient. They also recommended that market values should be supplemented by model-based and historical-cost valuations in a financial crisis when liquidity is scarce and asset prices do not reflect fundamental values.

In his discussion, Peter Fisher argued that a clearer definition of liquidity is needed to understand the liquidity problems that developed during the crisis. Instead of viewing liquidity as a stock variable that could be drawn down or disappear in a crisis, he suggested focusing on liquidity as a behavior reflecting the willingness and ability of lenders to lend. Fisher also proposed looking closer at the whole mechanism of asset-based finance, which has come to dominate short-term lending in many markets. In his view, the shift to asset-based finance, where lenders look only at collateral values and not at the underlying sources of repayment, may impart a dangerous procyclicality to the financial system.

While much of the symposium discussion focused on factors specific to subprime lending and market liquidity that may have caused or intensified the crisis, the paper by Tobias Adrian and Hyun Song Shin examined whether broader financial trends and the macroeconomic environment contributed to the crisis. Adrian and Shin noted that there was a clear trend for mortgage loans and mortgage-backed securities to be held outside the banking system in market-based financial intermediaries, such as investment banks. They also observed that these institutions exhibit procyclical leverage, which can lead to a pronounced cycle in asset prices. In this sense, the evolution of the financial system from a bank-based to a more market-based system may have increased financial fragility. In addition, Adrian and Shin suggested that monetary policy may have accentuated the cyclicality of asset prices in two ways. First, short-term interest rates determine the cost of leverage; so an accommodative monetary policy may lead to a more rapid growth of financial intermediary balance sheets and rise in asset prices. Second, greater monetary transparency may cause financial markets to underprice risk by reducing the uncertainty of future policy actions.

In his discussion of the Adrian and Shin paper, John Lipsky indicated that the broad trends they found in U.S. financial markets can also be seen in other countries. Furthermore, according to International Monetary Fund (IMF) research, the trend away from bank-based finance to more arms-length finance appears to be associated with financial instability being transmitted more readily across markets. In addition, he noted that economic downturns following episodes of financial stress appear to be more severe the larger the preceding rise in house prices and credit growth and the more firms and households had previously relied on external sources of finance.

Central Bank Responses to the Financial Crisis

A second major theme of the symposium examined the responses of central banks to the crisis. While many central banks altered lending and liquidity mechanisms as the crisis developed, the Federal Reserve, unlike most other central banks, also eased policy significantly. These policy actions by central banks elicited sharply different views from symposium participants on a number of key issues. First, should central banks ease policy in response to a financial crisis—or, more generally, what is the role of a financial stability mandate for central banks? Second, can—and should—central banks separate monetary policy from liquidity provision? And third, should central banks respond more symmetrically to asset-price or credit bubbles?

In his paper, Willem Buiter provided a pointed critique of central bank responses to the financial crisis. Focusing on the Federal Reserve, European Central Bank, and Bank of England, Buiter was highly critical of their behavior and especially of some of the actions taken by the Federal Reserve. In particular, Buiter thought the Federal Reserve's aggressive easing of policy was inappropriate and inconsistent with maintaining price stability. While he was more favorable to the liquidity responses of the three banks, he suggested that all three were unprepared for the crisis and had failed to understand the changing structure of the financial system and its need for nontraditional liquidity facilities.

The discussants of Buiter's paper, Alan Blinder and Yutaka Yamaguchi, gave the central banks higher marks. Both thought that the Federal Reserve had acted appropriately in easing monetary policy in an environment of great uncertainty to prevent the likelihood of financial distress spilling over to the broader economy. In noting the similarities of the current crisis to the recent Japanese experience, Yamaguchi also suggested it was time to reconsider whether central banks should move away from the conventional wisdom that they should only clean up after a financial crisis but not actively resist the buildup of credit bubbles.

Three other issues raised in earlier papers and discussions are also relevant to the issues covered in this session. While some participants supported Buiter's position that a central bank should rely on liquidity measures rather than monetary policy in response to a crisis, Michael Bordo suggested an opposing view. Bordo noted that targeted liquidity measures may have the undesirable feature of putting credit allocation decisions in the hands of the central bank, which could undermine its independence. The paper by Adrian and Shin also questioned whether central bank lending and monetary policy actions could really be separated. In their view, a central bank's short-term interest rate target affects the cost of financial system leverage. This suggests that central banks can contribute to credit and asset-price excesses if they maintain a low policy rate for too long. However, this view also suggests that cutting the target rate in a crisis may help in unwinding leverage, thus lessening the severity of a crisis. Finally, in his luncheon remarks, Mario Draghi questioned whether central banks should have a formal financial stability mandate and whether this mandate could come into conflict with its mandate for price stability.

Future Financial System Regulation and Supervision

The third major theme of the symposium focused on prospective changes to the system of financial system supervision and regulation. In his opening remarks, Federal Reserve Chairman Ben Bernanke emphasized the importance of strengthening the financial system to reduce the frequency and severity of future crises while, at the same time, mitigating the potential moral hazard problems created by government intervention in financial crises.

One way of strengthening the financial system, said Bernanke, is to strengthen the financial infrastructure to make it better able to function effectively in periods of stress. Possible measures to accomplish this end include: improving methods for clearing and settling trades for credit default swaps and other over-the-counter (OTC) derivatives; enhancing the resilience of markets for triparty repo and reducing the use of this market for overnight financing of less-liquid forms of collateral; providing the Federal Reserve with explicit oversight authority for systemically important payments systems; and developing procedures for prompt resolution of financial institutions whose failure poses systemic risks to the financial system.

A second approach to strengthening the financial system discussed by Bernanke is to develop a systemwide approach to financial supervision and regulation. As compared to more traditional supervision and regulation, which focuses on activities and risks at individual institutions, a systemwide or "macroprudential" approach focuses on common patterns in risk profiles across institutions and sectors and also looks at the interconnections among institutions and markets. This approach also focuses on whether the existing structure of financial supervision and regulation may impart procyclical behavior to credit extension and asset prices over the business cycle and whether a redesign of this structure may reduce this procyclicality. Several symposium participants also noted that "macroprudential" supervision and regulation, which has been advocated by the Bank for International Settlements (BIS) for many years, may be an alternative to using monetary policy to prevent the formation of credit and asset-price bubbles.

In his luncheon address, Mario Draghi also focused on the need to revamp financial supervision and regulation to dampen the cyclicality of credit, asset prices, and risk-taking. According to Draghi, progress is needed in three key areas: improving incentives for risk management and control, improving the resiliency of the system to shocks through a stronger financial infrastructure and shock absorbers, and developing measures for dampening the cyclicality of risk-taking.

With regard to these objectives, Draghi suggested a number of actions. To improve incentives, he advocated implementing Basel II, strengthened to take account of new risk exposures and with improved liquidity procedures, and methods to enhance transparency and valuation practices. With regard to strengthening the resilience of the system to shocks, he identified infrastructure improvements similar to those discussed by Bernanke as well as better national and cross-border resolution procedures for systemically important institutions. For individual institutions, he emphasized a renewed effort to establish capital and liquidity buffers that would enable institutions to withstand external shocks without impeding efficiency or encouraging regulatory arbitrage. With regard to reducing the cyclicality of risk-taking, Draghi supported efforts to examine how capital requirements might be used to dampen procyclicality. However, he stressed the need for any changes in the structure of capital requirements to be both transparent and consistent across countries.

The role of capital requirements and their potential use in reducing the incidence and severity of financial crises was examined in more detail in the symposium paper presented by Anil Kashyap, Raghuram Rajan, and Jeremy Stein and discussed by Jean-Charles Rochet. According to Kashyap, Rajan, and Stein, the appropriate design of capital requirements requires an understanding of the incentives driving financial institution behavior and the implications of this behavior for financial stability. They noted that use of leverage may be optimal from the standpoint of individual institutions in addressing corporate governance issues, but an unwinding of leverage can also serve as a mechanism for propagating problems at individual institutions across the system in times of crisis. They also examined how capital requirements might be designed to deal with these issues and suggested that a form of capital insurance may be superior to both fixed capital requirements and capital requirements that vary over the cycle. Under their proposal, financial institutions would purchase an insurance policy that would automatically provide more capital when the financial system as a whole is under stress. Such an approach would generally be cheaper to financial institutions because they would not have to hold excess capital in good times but would be able to automatically replenish capital in bad times without facing the difficulty of raising new capital from markets in periods of stress.

In discussing the Kashyap, Rajan, and Stein paper, Jean-Charles Rochet agreed that existing capital regulations were in need of reform to better incorporate systemic risks and reduce procyclicality in credit extension and risk-taking. While he found the Kashyap, Rajan, and Stein capital insurance plan interesting, Rochet identified some potential problems that might reduce its effectiveness.

According to Rochet, rather than relying on private insurance contracts, it might be preferable to have the government provide the insurance. Rochet also suggested that existing capital requirements under Basel II are flawed because they rely on a value-at-risk (VaR) methodology that assumes a fixed probability of default. Such an approach, according to Rochet, does not force financial institutions to properly take account of the systemic risks that they might impose on the financial system. In addition, Rochet advocated that institutions with access to central bank liquidity facilities be required to satisfy more stringent requirements for capital, liquidity, and risk management. He also recommended that a central clearing platform be used for OTC financial contracts and that such a framework could also be used to improve the credit-rating process by removing the direct linkages between security issuers and the credit rating agencies.

Postscript

This year's symposium provided considerable insight into the ongoing subprime mortgage crisis and its effects on financial markets and institutions. At the conclusion of the symposium, participants were hopeful that financial stress would begin to abate so that the process of financial reconstruction could begin. However, in mid-September, financial conditions worsened significantly in the United States and abroad, and there were increasing signs of weaker economic activity around the world. In response, many central banks and governments responded aggressively with additional liquidity measures, monetary policy easing, and other wide-ranging policy actions. The unprecedented scope of these actions underscores the enormity and complexity of the issues discussed at this year's symposium and suggests that these topics will be discussed at future policy conferences for many years to come.

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