

**Challenges to Central Banking from Globalized Financial Systems
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Should Financial Stability Be An Explicit Central Bank Objective?

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Against the backdrop of the wide swings in equity prices in recent years, the financial market repercussions accompanying corporate accounting scandals in the United States, and the current difficulties in key emerging market economies, it seems appropriate to reconsider the role of central banks in fostering financial stability. This session asks us to address a deceptively simple question: Should financial stability be an explicit central bank objective on a par with other objectives such as price stability and sustainable economic growth? At the outset, let me emphasize that all of the views I will express in answer to this question are my own and not necessarily those of my colleagues on the Board. To summarize the discussion below, financial stability has been and always will be a fundamental objective of central banks. Indeed, many central banks around the world—including the Federal Reserve—were established in part to serve as bulwarks against chronic episodes of financial instability and the attendant adverse consequences for the economy. So at this basic level, a financial stability objective for central banks seems entirely appropriate. That said, difficult issues may arise at times in judging how much weight should be attached to financial stability versus other central bank objectives and also in judging just how “activist” central banks should be in pursuing their financial stability objectives. In this connection, the Federal Reserve has found it useful to focus on its financial stability objectives primarily through the lens of its macroeconomic goals—price stability and sustainable long-run growth. That is, the Federal Reserve seeks to foster conditions that will contribute to price stability and sustainable output growth now and in the future.

1. Public Policy And Financial Stability

It seems useful at the outset to define financial stability and to do so by defining its opposite, financial instability. In my view, the most useful concept of financial instability for central banks and other authorities involves some notion of market failure or externalities that can potentially impinge on real economic activity. Economic research in recent years has identified a variety of market imperfections such as moral hazard and asymmetric information that, if widespread and significant, can result in threats to the functioning of any financial system, such as panics, bank runs, asset price bubbles, excessive leverage, and inadequate risk management. Such outcomes are typically highly undesirable from a social welfare perspective; financial prices can diverge sharply and for prolonged periods from fundamentals, credit conditions may be

too lax at times and at other times far too restrictive, and spending and real activity may be subject to much wider swings than would otherwise be the case.

Thus, for the purposes of this paper, I'll define financial instability as a situation characterized by these three basic criteria: (1) some important set of financial asset prices seem to have diverged sharply from fundamentals; and/or (2) market functioning and credit availability, domestically and perhaps internationally, have been significantly distorted; with the result that (3) aggregate spending deviates (or is likely to deviate) significantly, either above or below, from the economy's ability to produce.

With this definition of financial instability, a clear public policy interest arises for central banks and other authorities to act in two distinct roles in pursuing financial stability—prevention of instability and management of the consequences once markets become unstable. In the area of prevention, perhaps the single most important thing a central bank can do is to foster a macroeconomic environment of low and stable inflation and sustainable economic growth. Absent such desirable macro fundamentals, the risks of financial instability are almost certainly higher and the effects of financial instability when it arises all the more pernicious. Beyond conducting sound macro policy, central banks have traditionally been involved in myriad activities, such as formulating appropriate financial regulations, implementing effective bank supervision, and operating or overseeing efficient payment systems, all of which help to attenuate the risks of financial instability.

Under the heading of management, central banks can alter monetary policy to forestall or mitigate the consequences of financial instability for the economy. When such instability slides into crisis, they can employ their basic tools to help alleviate liquidity pressures and to bolster public confidence. Liquidity pressures can be addressed, for example, through generous provision of reserves via open market operations and direct lending to depository institutions via a lender-of-last-resort or discount window function. Other monetary policy tools can be employed as well, such as possibly cutting reserve requirements and, of course, lowering policy interest rates to provide a boost to the economy.

The events of September 11 last year underscored how important it is for central banks to be ready to act promptly in a crisis to execute all of their core functions and flexibly adapt their rules. An important aspect of this preparedness is ensuring that critical systems and policy tools are robust to any and all contingencies. To this end, the Federal Reserve has been very actively implementing additional layers of backup and contingency arrangements for all of our key payment systems and operations. In the same vein, we are also encouraging banks and other financial institutions to ensure the robustness of their own systems. Although private firms that maximize profits do have market incentives to maintain adequate backup and contingency arrangements, they may not take into account the full social, or external, value of such arrangements. Because of this, central banks and other authorities have a useful role to play in encouraging and supporting private sector planning and investments that fully reflect the social value of contingency arrangements.

Having now proposed a definition of financial stability and listed a variety of ways in which central banks can promote financial stability, I would add a cautionary note. Focusing on the various threats of financial disruptions and the need for public intervention to promote financial stability, one can sometimes lose sight of how remarkably efficient and stable financial markets typically have been in recent decades. When new information arrives, we expect that financial asset prices should respond quickly, and, thus, there is every reason to believe that asset prices may be volatile at times. We must also bear in mind that financial markets are dynamic and evolving. The incorporation of new technologies and the constant interplay of the forces of competition, deregulation, and globalization imply that some firms, possibly even quite important ones, will fail over time through a process of economic “natural selection” or “creative destruction” in which more efficient business models displace the status quo. Thus, there is a challenge and a tension for central banks and other authorities in differentiating between developments that truly represent externalities or market failures, and thus warrant public intervention, versus those that are just part of the normal, unavoidable, and largely positive turbulence in a dynamic market.

2. *Central Banks’ Interest in Financial Stability*

For obvious reasons, central banks have long had a keen interest in financial stability. First and foremost, financial instability as defined above poses a severe threat to important macroeconomic objectives such as sustainable output growth and price stability. Largely for this reason, nearly all central banks are empowered and expected to act as a lender of last resort in financial crises. Indeed, recognition of the role of central banks in stemming financial crises dates back to Thornton and Bagehot in the eighteenth and early nineteenth centuries, respectively. This historical function of central banks as a potential source of emergency liquidity assistance to markets—through open market operations—or to particular institutions—through discount window lending—creates a need for central banks to keep close tabs on markets for signs of instability and to be prepared for action should the provision of emergency liquidity assistance prove necessary. Moreover, monetary policy is implemented largely through operations in financial markets, and the transmission of monetary policy to the real economy depends crucially on the smooth functioning of key financial institutions and markets. Attainment of sustainable real growth with stable prices in turn will make the economy less prone to financial instability. Finally, yet another manifestation of central banks’ interest in financial stability stems from their role in the operation or oversight of payment systems that, in turn, act as the critical “plumbing” supporting activity in financial markets.

As noted above, financial stability is an important objective for all central banks, and this fact has been incorporated, to varying degrees, in central bank charters. In the case of the Federal Reserve, financial stability concerns were at the core of the Federal Reserve Act. Indeed, the Federal Reserve owes its existence to the financial instability of the U.S. economy in the nineteenth and early twentieth centuries. Early attempts to create a central bank in the United States—the First Bank of the United States (1791-1811) and the Second Bank of the United States (1816-1836)—were undone by the deep public distrust, particularly in southern and western states, of the concentration of

financial power in an institution created by the federal government. Left without a central bank for the entire period between 1836 and 1913, the U.S. financial system had no effective backstop to guard against the periodic financial panics that occurred over these years. As a rule, these panics were soon followed by sharp contractions in economic activity. The panic and economic downturn sparked by the failure of the Knickerbocker Trust Company in 1907 were particularly acute, and prompted the appointment of a National Monetary Commission in 1908 to study and recommend structural changes that could improve the stability of the financial system. After the Commission concluded a lengthy and exhaustive report (twenty-three volumes) and following intense public debate, Congress finally passed the Federal Reserve Act in 1913, which created the Federal Reserve System.

The preamble of the Federal Reserve Act, stating the purpose of the Federal Reserve, simply read that it was created “To provide for the establishment of Federal reserve banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes.” This language implicitly embodied financial stability as an objective of the Federal Reserve. The references to an “elastic currency” and the “rediscounting of commercial paper” fundamentally reflected concerns about financial market liquidity, and the reference to “more effective supervision of banking” captured the desire to develop a means to avoid or mitigate banking crises. More specific references to financial stability were implemented twenty years later with the revisions of the Federal Reserve Act that were implemented in the depth of the financial and economic crisis of the Great Depression. These Depression-era revisions granted the Federal Reserve “emergency” lending powers.¹

More than forty years more were to pass before the Federal Reserve Act would contain an explicit statement of its macro policy objectives. Those objectives, added in 1977, state that “The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.”

Other Central Bank Charters

Other countries have also recognized the interdependence of macroeconomic performance and financial stability and, as a result, many central bank charters reflect a concern for both macro objectives—such as price stability and satisfactory economic performance—and financial stability. Table 1 reports some key passages from several central bank statutes. Text in italics indicates passages that would seem to provide an explicit goal for the central bank in pursuing financial stability. Text highlighted in gray

¹ The emergency lending powers in Section 13(3) were amended slightly in 1991 with the passage of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991. The changes removed certain restrictions on the type and maturity of collateral that can be accepted to secure such lending, which, in turn, allows the Federal Reserve somewhat more flexibility in addressing such an emergency funding need.

could be interpreted as encompassing financial stability as an implicit central bank objective.

What can be said about the overall pattern of statutory financial stability objectives among central banks? At least among the small sample of central banks listed in Table 1, all have at least some implicit references to financial stability and many have quite explicit references to financial stability as a factor that central banks need to consider. In many cases, the explicit references to financial stability fall in the realm of banking and the efficient operation of the payment system. However, some have references that seem to embody a broader notion of financial stability.

3. *Financial Stability Objectives: Relative Weight and Activism*

The foregoing discussion suggests that financial stability to some degree already is an important objective for central banks around the world, even for those that are sometimes viewed as solely concerned with price stability. The real question then may not be so much whether financial stability should be a central bank objective, but rather how policymakers should weigh that objective in reaching policy decisions. Here one could imagine a range of possibilities. At one extreme, a central bank might focus almost entirely on an objective such as price stability with financial stability concerns only entering in an extreme scenario when a crisis is underway. Svensson (2002) labels this a strict inflation targeting regime.² At another extreme, a central bank might be highly sensitive to signs of financial instability and be quite willing to take pre-emptive policy actions to address potential instabilities even when such steps might not be warranted solely by reference to the near-term outlook for price stability and economic activity. In a thought-provoking paper, Borio and Lowe (2002) develop a rationale for just such an activist, pre-emptive approach by a central bank in a pursuing financial stability objective.³ In a nutshell, they argue that financial imbalances may develop even at times when prices are stable and output is close to potential. As a result, central banks need to be prepared to take pre-emptive actions to head off potential financial instability even when such policy actions may not be fully justified by the outlook for inflation and output.⁴

There seem to be at least three basic issues that arise in contemplating the degree of activism that central banks should adopt in pursuing a financial stability objective. To summarize briefly: The first basic issue involves questions about how a financial stability objective would affect central bank incentives and interact with the central bank's other policy goals. Although I do not want to overemphasize the point, a financial stability objective that is accorded too much weight could, at the margin, impair the conduct of monetary policy in achieving macro ends. A second issue involves how a financial stability objective might be perceived by the public and investors. On this score, it seems

² Lars Svensson, "Monetary Policy and Real Stabilization," presented at a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 29-31, 2002.

³ Claudio Borio and Phillip Lowe, "Asset Prices, Financial and Monetary Stability: Exploring the Nexus," BIS Working Papers, July 2002.

⁴ Borio and Lowe, for example, p. 22.

likely that a central bank adopting a highly activist approach in the pursuit of a financial stability objective would court moral hazard. And finally, there are serious questions about whether a very activist approach to financial stability could end up contributing to the volatility of economic variables.

Interactions With Other Policy Objectives

One basic issue is how much weight central banks should attach to a financial stability as an objective vis-à-vis their other objectives. Of course, in many cases, the relative weight a central bank places on financial stability may not be especially important if a financial stability objective is essentially auxiliary and tends primarily to reinforce the rationale for policy actions warranted by other objectives. For example, a sudden seizing up in financial markets is likely to be associated with a weakening in aggregate demand. In this case, the pursuit of monetary policy objectives and a financial stability objective would be largely in accord and both would be served by additional monetary policy stimulus. Conversely, a significant and unwarranted easing in credit supply conditions might be accompanied by growth of output well above that of potential. Again, in this case, financial stability considerations would tend to support the tightening of monetary policy that is justified in the first instance by the goal of economic stabilization.

However, there is some potential for perceived conflicts between the traditional macro policy objectives and a financial stability objective. Sometimes in tightening the stance of policy, for example, policymakers are concerned about the possibility that outsized financial market reactions could occur or that an associated decline in asset prices will reveal financial vulnerabilities in some sectors. At the margin, it would seem that a financial stability objective that was weighted quite heavily would tend to make that concern more pronounced, which arguably could hinder the effectiveness of monetary policy in securing price stability and sustainable real growth. For example, one might wonder whether the Federal Reserve's changes in procedures in the late 1970s to target a narrow monetary aggregate, with the attendant rapid increase in the level of the federal funds rate, would have been possible in a regime that tended to view sharp swings in interest rates as a threat to financial stability. Potential problems also can arise when central banks need to implement policy easings. For example, some have argued that the Bank of Japan was too slow in easing policy in response to the decline in economic activity in the early 1990s, partly because it feared that an aggressive easing would risk reinflating asset price bubbles.⁵

⁵ Whether the Bank of Japan was, in fact, greatly concerned that aggressive easing would reflate asset bubbles is unclear, but market participants perceived this to be a significant factor in the BoJ's policy deliberations. See Ahearne, Gagnon, Haltmaier and Kamin et. al., "Preventing Deflation: Lessons from Japan's Experience in the 1990s," International Finance Discussion Papers, Board of Governors of the Federal Reserve System, June 2002, p. 23.

Moral Hazard

Another important issue raised by a very activist approach to pursuit of financial stability objectives is how such an approach would affect the incentives of market participants. It seems quite possible that wide recognition that central banks place heavy weight on warding off financial instability could work to exacerbate moral hazard. Investors might conclude that a central bank with a very activist approach in addressing financial instability would be more inclined in many scenarios to step in to forestall a crisis. For example, investors may perceive that an activist central bank would be more likely to come to the rescue of large financial institutions that are perceived to be systemically important—a perception that would tend to reinforce a view that some institutions are “too big to fail.” Moral hazard may also arise at the macro level as well. If investors are convinced the Federal Reserve will aggressively ease policy in response to adverse shocks to particular markets, they may undervalue the risks they assume in their investment decisions. This perception could also lead to a misallocation of resources and, paradoxically, contribute to a deterioration in financial stability over a long horizon.

Inadvertent Destabilizing Actions

Still another concern that might be associated with a highly activist pursuit of a financial stability objective is the possibility of inadvertently contributing to greater variability in macroeconomic variables. As Milton Friedman famously cautioned many years ago, when the lags and impact of monetary policy actions are uncertain, activist monetary policy aimed at damping output fluctuations, albeit well-intentioned, can easily end up amplifying such fluctuations instead. One scenario in which this concern seems especially relevant today is the case of asset price bubbles. Some authors, including Borio and Lowe, have suggested that a central bank may be able to take actions to burst such bubbles at an early stage and thereby avert some especially serious future consequences if the bubble otherwise were to continue to inflate for some time before bursting. To be sure, central banks can and should lean against the wind to the extent that such asset price distortions affect the outlook for inflation and output. But to go beyond this to a policy of actively seeking to burst a bubble seems very problematic—there are simply too many uncertainties involved. One can never be sure that a bubble is inflating. And even if a bubble could be identified with certainty, calibrating the necessary policy actions necessary to burst a bubble without significant damage to the real economy would be extraordinarily difficult.⁶

4. *Incorporating Financial Stability in a Decision-Making Framework*

The previous discussion suggests that there may be significant problems associated with an overly activist approach in pursuing financial stability objectives. But this begs the question of just how a central bank should take financial stability

⁶ These issues are discussed in more detail by Alan Greenspan, “Economic Volatility,” presented at a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 29-31, 2002.

considerations into account in reaching policy decisions. In conducting monetary policy, the Federal Reserve normally prefers to focus on its broad macro policy objectives—low inflation and sustainable output growth—and to consider financial instability implicitly through its effect on these fundamental variables. Financial instabilities that are significant enough to cause the expected path either of output to move significantly above or below that of estimated potential output or of inflation to deviate from intentions are then a cause for concern and policy can be eased or tightened as appropriate. Admittedly, determining what is “appropriate” over an extended horizon may involve complicated and difficult judgments about the short- and long-run effects of alternative policy prescriptions: It is possible, for example, that attaining long-run goals for sustainable growth may require some sacrifice of output in the near-term. Nonetheless, concerns about financial instability in this instance would be evaluated largely by reference to expectations about inflation and output.

But there may also be cases in which a central bank faced with the prospect of financial instability needs to adjust policy by more than could be justified solely by the forecasts for output and inflation. In my view, though, this is perfectly consistent with a central bank that conducts monetary policy using forecasts for key macro variables as its primary guideposts but also considers the risks to the forecasts for those key macro variables.⁷

One might think of this as a process of stress testing by monetary policy decision makers in which they regularly assess not just the likely path of output and inflation in reaching their policy decisions but also the potential for adverse outcomes in light of recent or potential shocks. For example, the FOMC reviews documents prior to each meeting that give the staff’s forecasts for inflation, output, and other variables based on economic models and the informed judgment of the staff. That forecast forms a baseline for discussion of policy alternatives at each FOMC meeting, although FOMC members of course develop their own view of the economic outlook. Issues of financial stability can be fairly readily incorporated in this process by considering “what if” exercises. For example, following a sharp increase in risk spreads in fixed-income markets, FOMC members might look not just at a baseline forecast but also how that forecast might change if some type of financial instability—perhaps a further, more extreme deterioration in credit availability—were to ensue. This scenario might influence the FOMC’s monetary policy decision, depending on the likelihood of the scenario and the potential costs in terms of output or inflation variability associated with it. This basic framework of guiding policy not just by the likely path of key macro variables but also by a sense of the risks to that outlook provides a structured way to incorporate concerns about financial instability into the broader policy discussion.

Recent Episodes of Financial Instability

⁷ Svensson (2002) argues that optimal policy is based predominantly on an evaluation of forecasts for output and inflation and that financial stability is best viewed as a constraint on policy that becomes binding only on occasion. The FOMC tends to follow a more nuanced approach in which an assessment of the asymmetries in the outlook is part of its normal deliberations. Such risks sometimes include discussions of various types of financial imbalances.

Unfortunately, central banks including the Federal Reserve have faced an elevated frequency of episodes involving real or potential financial instability in recent years. The discussion below provides a brief review of the Federal Reserve's approach in three such instances, and illustrates how its actions could be rationalized in the decision-making framework described above.

Fall of 1998: The period of global financial turmoil touched off by the Russian debt default in August 1998 and then greatly exacerbated by the well-publicized travails of the hedge fund Long Term Capital Management (LTCM) was perhaps the most intense episode of financial instability in recent years. The Federal Reserve, like other central banks, paid close attention to an array of financial indicators at this time. Nearly all such indicators portrayed a dour picture of economic prospects—risk spreads widened sharply, stocks prices fell, and banks reported tightening terms and standards on business loans. Also disturbing were reports from contacts with market participants that capital markets were seizing up as dealers and other market makers recoiled from risk-taking. A sharp widening in the spread between off-the-run and on-the-run Treasury securities underscored the fact that investors were willing to pay a very high premium for liquidity. Facing what some were referring to as the most acute financial crisis in decades, the Federal Reserve eased policy by 75 basis points in three equal steps, including an intermeeting move in mid-October of 1998, and maintained that lower funds rate through June of the subsequent year. In part, these actions were motivated by a change in economic forecasts. But at least part of this cautious behavior reflected the FOMC's concerns about financial instabilities and associated downside risks to the economic forecast. Indeed, the minutes from the September 29, 1998 FOMC meeting reported:

“In the Committee's discussion of current and prospective economic conditions, members focused on developments that pointed to the potential for a significant weakening in the growth of spending. They recognized that there were at present few statistical indications that the economy was on a significantly slower growth track. Indeed, the available data suggested that consumer expenditures and business investment retained considerable strength. At the same time, however, investors' perceptions of risks and their aversion to taking on more risk had increased markedly in financial markets around the world. That change in sentiment was exacerbating financial and economic problems in a number of important trading partners of the United States. In addition, it was generating lower equity prices and tightening credit availability in U.S. financial markets. As a consequence, the downside risks to the domestic expansion appeared to have risen substantially in recent weeks.” [emphasis added]

Productivity Growth and the Stock Price Runup: Economic developments in the United States in the late 1990s were quite favorable. Output growth was unusually strong and, in no small part, that strength seemed attributable to a sizable pickup in the trend growth of labor productivity spurred by the proliferation of new technologies, especially in the computing and telecommunications sectors. Investors read the favorable

productivity trends as auguring enhanced profit growth, prompting a substantial runup in equity prices in 1999 and into 2000 that pushed standard valuation measures—such as price-earnings ratios—well above historical benchmarks. Although it is difficult to identify an equity risk premium with great precision, it certainly seemed at the time that investors were quite optimistic about the returns they could expect to earn by holding equities. The rise in equity wealth and strong growth of income over this period contributed to a brisk pace of consumer spending and an accompanying decline in the personal savings rate. Core measures of inflation, however, remained quite subdued even as the unemployment rate and other measures of resource utilization moved to levels that previously would have been viewed as threatening a rise in inflation pressures.

In a sense, this period is similar to the situation that Borio and Lowe posit in which “imbalances” may develop even during a period when the current macroeconomic environment is viewed as quite favorable. The FOMC, however, did not frame its policy deliberations over this period in terms of the need to take action to address a potential bubble in the stock market. Rather, it focused on the outlook for output and inflation and the risks to that outlook. The FOMC was particularly aware that the stronger trend productivity growth would tend to be associated with a higher level of “equilibrium” real interest rates and that the degree of monetary policy restraint associated with any given setting of the target funds rate would need to be judged in this light.

The FOMC responded to these economic developments by tightening policy appreciably, moving the target federal funds rate up from 4-3/4 percent in early 1999 to 6-1/2 percent in May of 2000. In explaining its actions, the FOMC noted that it was concerned that growth of aggregate demand would outstrip the growth in potential supply, leading to imbalances that would pose a risk of inflation pressures. For example, in explaining its actions in August of 1999 and February of 2000, the FOMC stated:

“Today's increase in the federal funds rate, together with the policy action in June and the firming of conditions more generally in U.S. financial markets over recent months, should markedly diminish the risk of rising inflation going forward.” (August 24, 1999).

“The Committee remains concerned that over time increases in demand will continue to exceed the growth in potential supply, even after taking account of the pronounced rise in productivity growth. Such trends could foster inflationary imbalances that would undermine the economy's record economic expansion.” (February 1, 2000). [emphasis added]

An important factor underlying the Committee's sense of the risks of inflationary pressures was the role of accelerating productivity growth in boosting earnings expectations and stock prices which, in turn, were providing considerable impetus to wealth and spending. For example, the minutes of the February 2000 meeting noted:

“In the Committee's review of current and prospective economic developments, members commented that the economy still seemed to be growing very vigorously as it entered the new year....Accelerating productivity, although

adding to the growth of the economy's potential output, also had induced expectations of rapidly accelerating business earnings that in turn had generated sharp increases in stock market wealth and lifted the growth of purchasing power and spending above that in incomes. Relatively high real interest rates that reflected the increased productivity and damped the rise in asset values would be needed to help restore balance.” [emphasis added]

September 11 Attacks: The terrorist attacks offered another example of the way in which policy decisions could be shaped importantly by concerns about potential financial instabilities viewed as risks to the economic forecast. On top of the appalling loss of life, the attacks caused major damage to the physical infrastructure of a number of key firms central to trading and market making activities. In an economy that had already been weakening prior to the attacks, many policy makers worried that the decline in stock prices, widening in risk spreads, and impairment of market functioning raised the odds of highly adverse events in which economic activity could plunge. In view of these risks, the FOMC eased policy 50 basis points prior to the reopening of markets on Monday, September 17. In explaining that action, the FOMC pointed both to a less sanguine economic outlook and to significant uncertainties (downside risks) associated with that outlook. The minutes from the FOMC’s August 2001 meeting (which included a summary of the FOMC teleconference call held on the morning of the September 17th) reported:

“Subsequently, on September 17, 2001, the Committee members voted unanimously to ease reserve conditions appreciably further, consistent with a reduction in the federal funds rate of 50 basis points to a level of 3 percent. This policy action was associated with the approval by the Board of Governors of a reduction of equal size in the discount rate to a level of 2-1/2 percent. These actions were taken against the backdrop of heightened concerns and uncertainty created by the recent terrorist attacks and their potentially adverse effects on asset prices and the performance of the economy. In conjunction with these policy moves, the Federal Reserve would continue to supply, as needed, an atypically large volume of liquidity to the financial system. As a consequence, the Committee recognized that the federal funds rate might fall below its target on occasion until more normal conditions were restored in the functioning of the financial system. The Committee's vote encompassed the retention of a statement in its press release indicating that the balance of risks remained weighted toward weakness for the foreseeable future.” [emphasis added]

The September 11 attacks also provided an example of the way in which the Federal Reserve employed its full range of policy tools to address risks to the forecast. On the morning of September 11, the Federal Reserve issued a brief public statement indicating that it was operating and that the discount window was available. With an important market mechanism for distributing reserves among banks—the brokered federal funds market—significantly impaired, there were huge imbalances in reserve positions across the banking system. These were met through extraordinarily large levels of discount window lending for a few days and also by huge injections of reserves via the

open market desk. A sizable portion of the funding needs on some days was concentrated at foreign banking organizations. To allow foreign central banks to better meet the dollar-denominated funding needs of their institutions, the Federal Reserve arranged swap lines with the ECB and the Bank of England and expanded its existing swap line with the Bank of Canada. To augment bank liquidity further, the Federal Reserve waived all daylight overdraft fees and the penalty portion of charges for overnight overdrafts and lengthened Fedwire operating hours for several days after the attacks. The Federal Reserve also greatly eased the limits on its security lending facility, thereby helping to reduce the pressure firms faced in acquiring securities made scarce by settlement difficulties. In addition, as noted earlier, the federal banking regulators issued a joint statement recognizing the possibility of significant balance sheet expansion for some banks and suggesting that banks contact them if they had concerns about how this would affect their capital ratios. These temporary arrangements were gradually unwound as financial conditions returned to normal.

5. Conclusion

Financial stability is and always will be of vital interest to central banks and is certainly an appropriate objective for central banks. There are some complexities, however, in determining just how financial stability considerations should be taken into account in reaching policy decisions. In this context, the Federal Reserve has found it useful to view financial stability in terms of its impact on the economic outlook, including its effects on the forecasts for key economic variables and the risks to those forecasts. Much of the discussion above was framed in terms of an individual central bank balancing concerns about domestic financial stability with other objectives. But in today's globally integrated markets, it is more important than ever for central banks and other financial authorities to share information, to communicate about crisis prevention measures, and to recognize a common interest in effective crisis management actions. In this vein, the work being done in various forums to develop a deeper understanding of the international dimensions of financial instability and to foster important structural improvements in areas such as payment systems, banking and securities market regulations, and accounting standards is especially important and relevant.

Table 1: Financial Stability As An Explicit Central Bank Objective Among Other Countries	
Bank of Canada	<p>“regulate credit and currency in the best interest of the economic life of the nation, to control and protect the external value of the national monetary unity and to mitigate by its influence fluctuations in the general level of production, trade, prices and employment so far as may be possible within the scope of monetary action, and generally to <i>promote the economic and financial welfare of Canada.</i>”</p>
Bank of England	<p>“Objectives of the Bank of England shall be (a) to maintain price stability, and (b) subject to that, to support the economic policy of Her Majesty’s Government, including its goals for economic growth and employment.”</p> <p><i>Note: There is a memorandum of understanding between the Bank of England and the government that delineates the Bank’s responsibilities in the area of financial stability. It assigns the Bank of England responsibility in three broad areas including stability of the monetary system, stability of financial system infrastructure particularly in the area of payment systems, and monitoring of the financial system as a whole.</i></p>
Bank of Japan	<p>“The objective of the Bank of Japan, as the central bank of Japan, is to issue bank notes and to carry out currency and monetary control.”</p> <p>“In addition to what is prescribed by the preceding Paragraph, the Bank’s objective is to ensure smooth settlement of funds among banks and other financial institutions, <i>thereby contributing to the maintenance of an orderly financial system.</i>”</p> <p>“(Currency and monetary control shall be aimed at, through the pursuit of price stability, contributing to the sound development of the national economy.)”</p>
ECB	<p>“the primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, it shall support the general economic policies in the Community with a view to contributing to the achievement of the objectives of the Community.”</p> <p><i>“the basic tasks to be carried out through the ECSB shall be....to promote the smooth operation of the payment systems.”</i></p> <p><i>“The ECSB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system.”</i></p>
Reserve Bank of New Zealand	<p>“The primary function of the Bank is to formulate and implement monetary policy directed to the economic objective of achieving and maintaining stability in the general level of prices.”</p> <p>“In formulating and implementing monetary policy the Bank shall--- (a) <i>Have regard to the efficiency and soundness of the financial system.</i>”</p>
Riksbank	<p>“The objective of the Riksbank's operations shall be to maintain price stability.”</p> <p><i>“In addition, the Riksbank shall promote a safe and efficient payment system.”</i></p>