

Concluding Remarks

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When we met at this conference a year ago the financial crisis was just beginning and it was far from clear how serious it would be. By now, it is generally described as the worst financial crisis in the United States since World War II, which is to say, since the Great Depression. Further, as Chairman Bernanke told us in his opening address, the financial storm is still with us, and its ultimate impact is not yet known.

As usual, the Kansas City Fed has put together an excellent and timely program, both in the choice of topics and authors, and also in the choice of discussants. Before getting to the substance of the discussions of the last two days, I would like to make a number of preliminary points.

First, although this is widely described as the worst financial crisis since World War II, the real economy in the United States is still growing, albeit at a modest rate.¹ The disconnect between the seriousness of the financial crisis and the impact—so far—on the real economy is striking. At least three possibilities suggest themselves: first, the worst of the real effects may yet lie ahead; second, the vigorous policy responses, both monetary and fiscal, may well have had an impact; and third, perhaps, that although all of us here are inclined to believe the financial system plays a critical role in the economy,

that may not have been true of some of the financial innovations of recent years, a point that was made by Willem Buiter.

Second, the losses from this crisis, as a share of GDP, to the financial system and the government are likely to be small relative to those suffered by some of the Asian countries during the 1990s.² That may make it clearer why those crises have left such a deep impact on the affected countries.

Third, about warnings of the crisis: At policy-related conferences in recent years, the most commonly discussed potential economic crisis related to the unwinding of the U.S. current account deficit. That crisis scenario was based on the unsustainability of the U.S. current account deficit and the corresponding surpluses of China and other Asian countries, and more recently also of the oil-producing countries. In such scenarios, the potential crisis would have come about had the dollar decline needed to restore equilibrium become disorderly or rapid, creating inflationary forces that the Fed would have to counteract by raising its interest rate.

But there were also those who described a scenario based on a financial sector crisis resulting from the reversal of the excessively low risk premia that prevailed in 2006 and 2007, and in the case of the United States and a few other countries from the collapse of the housing price bubble. Among those warning about all or parts of this scenario were the BIS, with Chief Economist Bill White and his colleagues taking the lead, Nouriel Roubini, Bob Shiller, Martin Feldstein, the late Ned Gramlich, Bill Rhodes, and Stephen Roach. As in the case of most crises and intelligence failures, the question was not why the crisis was not foreseen, but why warnings were not taken sufficiently seriously by the authorities—and, I should add, the bulk of policy economists.

In his opening address, Chairman Bernanke noted the Fed's three lines of response to the crisis: sharp reductions in the interest rate; liquidity support; and a range of activities in its role as financial regulator. In his lunchtime speech yesterday, Mario Draghi, Governor of the Banca d'Italia, mentioned briefly the six areas on which the Financial Stability Forum's report, published in April, focuses. They

are: capital requirements; liquidity; risk management; transparency; credit rating agencies; and asset valuation (including the difficult and contentious topic of mark-to-market accounting). All these topics received attention during the conference, and all of them are of course receiving attention from the authorities as they deal with the crisis, and begin to institute reforms intended to reduce the extent and frequency of similar crises in the future.

Rather than try to take up these topics one-by-one, it is easier to describe the conference by focusing on three broad questions, similar but not identical to those raised in the paper by Charles Calomiris:

- What are the origins of the crisis?
- What is likely to happen next, in the short run of a year or two, and when will growth return to potential?
- What structural changes should and are likely to be implemented to prevent the recurrence of a similar crisis, and to significantly reduce the frequency of financial crises in the advanced countries?

A fourth topic, the evaluation of central bank behavior in this crisis, was implicit in the discussion in much of the conference and explicit in the last paper of the conference, by Willem Buiter.

I. The Origins of the Crisis

The immediate causes of the financial crisis were an irrationally exuberant credit boom combined with financial engineering that (i) led to the creation of and reliance on complex financial instruments whose risk characteristics were either underestimated or not understood, and (ii) fueled a housing boom that became a housing price bubble, and (iii) led to a worldwide and unsustainable compression of risk premia. The bursting of the U.S. housing price bubble and the beginnings of the restoration of more normal risk premia set off a downward spiral in which a range of complex financial instruments rapidly lost value, causing difficulties for leading financial institutions and for the real economy. These developments gradually brought the Fed and the major central banks of Europe into action as providers

of liquidity to imploding financial institutions and markets, and later led to lender-of-last-resort type interventions to restructure and/or save financial institutions in deep trouble.

It has become conventional to blame a too easy monetary policy in the U.S. during the years 2004-2007 for the excessive global liquidity, but this issue was not much mentioned during the conference. The Fed may have taken a long time to raise the discount rate from its one percent level in June 2003 until it reached 5.25 percent three years later. But it should be remembered that the concern over deflation in 2003 was both real and justified.

More important in the development of the bubble in the housing market was the availability of financing that required very little—if any—cash down and provided low teaser rates on adjustable rate mortgages. As is well known, the system worked well as long as housing prices were rising and mortgages could be refinanced every few years. The fact that the housing finance system developed in this way reflects a major failure of regulation, a result in part of the absence of uniform regulation of mortgages in the United States, and in some parts of the system, the absence of practically any regulation of mortgage issuers. This was and is no small failure, whose correction is widely seen as one of the most pressing areas of reform needed as the U.S. financial regulatory system is restructured.

The first line of defense for the financial system should be internal risk management in banks and other financial institutions. These systems also failed, and their failure is even more worrisome than the failure of the regulators—for after all, it is very difficult to expect regulators, with their limited resources and inherent limits on how much they can master the details of each institution's risk exposure, to do better than internal risk management in fully understanding the risks facing an institution. Based on my limited personal experience—that is to say on just one data point—I do not believe the risk managers were technically deficient. Rather their ability to envisage extreme market conditions, such as those that emerged in the last year in which some sources of financing simply disappeared, was limited. Perhaps that is why we seem to have perfect storms, once in a century events, so regularly.

There is a delicate point here. If risk managers are required to assign high probabilities to extreme scenarios, such as those of the last year, the volume of lending and risk-taking more generally might be seriously and dangerously reduced. Thus it is neither wise nor efficient for the management of financial firms or their regulators to require financial institutions to become excessively risk averse in their lending. But if these institutions pay too little attention to adverse events that have a reasonable probability of occurring, they contribute to excesses of volatility and crises. The hope is that despite the moral hazard that will be enhanced by the authorities' justified reactions in this crisis, there is a rational expectations equilibrium that ensures a financial system that is both stable and less crisis prone—even though we all know we will not be able entirely to eliminate financial crises.

As Tobias Adrian and Hyun Song Shin stated in their paper, this is the first post-securitization financial crisis. With so much of the financial distress related to securitization, the “originate to distribute” model of mortgage finance has come under close scrutiny. Views are divided. Some see the loss of the incentive to scrutinize mortgages (or whatever assets are being securitized) closely as a major factor in the crisis, suggesting that the crisis would not have been so severe had the originators of the mortgages expected to hold them to maturity. This is clearly true. Others pointed out that securitization has been very successful in other areas, especially the securitization of credit card receivables, and that it would be a mistake to reform the system in ways that make it harder to continue the successful forms of securitization—another view that has merit.

A few years ago Warren Buffett described derivatives as financial weapons of mass destruction, at the same time as Alan Greenspan explained that new developments in the financial system, including ever-more sophisticated derivatives and securitization, enabled a better allocation of risks. It seems clear that in this crisis financial engineers invented instruments that were too sophisticated—at this point it is obligatory to refer to “CDOs squared”—for both their own risk managers and their customers to understand fully, and that this is part of the explanation for the depth and complexity of the

crisis. That is to say that the Buffett view is a better guide to the role of financial super-sophistication, at least in this crisis. But as with securitization, it would be a mistake to overreact and try to regulate extremely useful techniques out of existence.

The role of the rating agencies in this crisis has received a great deal of criticism, including in this conference. However, in considering reforms of the system, we should focus on the particular conflicts of interest that the rating agencies faced in rating the complex financial instruments whose nature was not well understood by many who bought them, and try to deal with those conflicts, while recognizing that external ratings by an independent agency will continue to be necessary for risk management purposes despite all the difficulties associated with that fact.

Let me turn now to leverage and liquidity, the latter the topic of the paper by Franklin Allen and Elena Carletti. It has repeatedly been said that this crisis was in large measure due to financial firms becoming excessively leveraged. This must have been said in one way or another about every financial crisis for centuries—and it was certainly said during the financial crises of the 1990s, including the LTCM crisis. Most financial institutions, notably including banks, make a living off leverage. Nonetheless, there should be leverage constraints—required capital ratios—for any financial institutions that receive or are likely to receive protection from the public sector. Of course, one element of the regulatory game is that regulators impose regulations and the private sector seeks ways around them. So regulators have to be on their toes.

Perhaps the worst breach in the regulation of bank leverage comes from the existence of off-balance sheet financing. There is no good reason to permit off-balance sheet financing, particularly when, as in the current crisis, items that many thought were off-balance sheet return to the balance sheet when they become problematic.

Liquidity shortages have been a central feature of this crisis, but that too is typically the case in financial crises. In their paper Allen and Carletti focus on the role of liquidity—particularly the hoarding of liquidity—in explaining several features of market behavior during the

crisis: the phenomenon that the prices of many AAA-rated tranches of securitized products other than subprime mortgages fell; that inter-bank markets for even relatively short-term maturities dried up; and the fear of contagion.

There is little doubt that required liquidity ratios will be imposed on financial institutions following this crisis, but it also has to be recognized that instruments that appear liquid during good times become illiquid during crises. Thus few instruments other than short-term government paper should be eligible as liquid for purposes of the liquidity ratio.

Several speakers and discussants raised the issue of compensation systems for traders and managers in the financial system. There is little doubt that the heads I win, tails you lose, nature of bonus payments contributes to excessive risk taking by traders. It remains to be seen whether it will be possible to change the compensation system to provide incentives that will more closely align private and social benefits and costs.

II. What Next?

As Chairman Bernanke noted in his opening remarks, the financial crisis is not yet over. At the time of the conference the most immediate problem on the agenda was the future of the GSEs, particularly Fannie Mae and Freddie Mac. As the financial crisis has deepened, as the housing market has deteriorated and housing prices have fallen, and as risk aversion has increased, the situation of these two massive housing sector financial institutions has worsened, to the point where the widespread belief that the government would stand behind them if they ever got into trouble was essentially confirmed by the authorities in July.

Because of a lack of clarity of the plan announced in July, the U.S. Treasury issued a more far-reaching plan in the first half of September. The two GSEs had become too big to fail, not only because of their role in the U.S. housing market, not only because of their political power in Washington, but also because their bonds constituted a significant share of the reserves of China, Japan and other countries.

A default on the liabilities of the GSEs would have had a major immediate impact on the exchange rate of the dollar, and long-lasting effects on market confidence in the dollar and its role as a reserve currency, and those were risks that the U.S. authorities rightly were not willing to take.

The GSE rescues in July and September followed the Bear Stearns intervention in March, and raised the question of what more it would take to stabilize the U.S. financial system, as well as the financial systems of Switzerland and the U.K., and possibly other countries. The special liquidity operations of the major central banks are part of the answer. Beyond that, there were suggestions to give more help to mortgage borrowers who now have negative equity in their houses. And more than one speaker referred to the need for a new Reconstruction Finance Corporation, without specifying what such an organization would be expected to do—probably if established it would be expected to help recapitalize the financial system.

Capital raising by stressed financial institutions is another component, though several speakers expressed doubts about the banks' capacity to raise capital at an affordable price at this time. Anil Kashyap, Raghuraj Rajan and Jeremy Stein suggested a scheme whereby banks would buy insurance that would provide capital in downturns or crises, with the insurance policy being one that makes a given amount of capital available to a bank in a well-defined event in which the overall condition of the banking system—for moral hazard reasons, not the condition of the bank itself—deteriorates. This is an interesting proposal, whose institutional details need to be worked out, but it is probably not relevant to the resolution of the current crisis.

The end of the housing price bubble and its impact on the financial system marked the start of the financial crisis, and the contraction of house-building activity was the main factor reducing the growth rate of the economy as the financial sector difficulties mounted. Martin Feldstein in his introductory remarks suggested that U.S. house prices still have 10-15 percent to fall to reach their equilibrium level, but that they may well overshoot on the downside, and thus prolong the crisis. He emphasized the negative effect of the decline in housing wealth on consumption and aggregate demand. Willem

Buiter argued that to a first approximation there is no wealth effect from a rise or decline in the price of housing for people who expect to continue to live in their house—or to put the issue another way, that the perfect hedge against a change in the cost of housing is to own a house. Nonetheless Buiter agreed that the availability of financing based on the owners' equity in the house would have an effect on aggregate demand.

A year after the start of the crisis, with the financial situation not yet stabilized, many ventured guesses as to how severe the downturn would be and how long it would continue. There seemed to be near unanimity that the recovery would not begin this year, and a majority view that growth in the U.S. would resume after mid-year 2009. The dynamics of recovery are complicated, for so long as the financial system continues to deteriorate, it will negatively affect the real economy, and the real economic deterioration in turn will have a negative effect on the financial crisis. That is why some conference participants believed that recovery in the U.S. would not take place until 2010.

III. Longer-term Reforms

The agenda for longer-term reform of the financial system to reduce the frequency and intensity of financial crises was laid out in the speech by Mario Draghi, which drew on the excellent report of the Financial Stability Forum which he chairs, published in April.³ Several other noteworthy reports, including the Treasury's report on the reorganization of financial sector supervision in the United States,⁴ two reports by the private sector Countercyclical Risk Management group, headed by Gerry Corrigan,⁵ and the report of the IIF, the Institute of International Finance,⁶ have also been published in the last several months.

The reform agenda suggested by the Financial Stability Forum has already been described, to reform capital requirements; liquidity; risk management; transparency; credit rating agencies; and asset valuation. In presenting a summary of the FSF Report, Mario Draghi emphasized the role that poor risk management, fueled by inappropriate incentives, had played in generating the crisis. He argued

that the strengthening and implementation of the Basel II approach would significantly align capital requirements with banks' risks. He also discussed ways of reducing the pro-cyclicality of the behavior of the banking system, and the need in formulating monetary policy to take account of financial sector developments—the latter a point developed in the persuasive paper by Adrian and Shin.

The reports of the Counterparty Risk Management Group have presented a set of recommendations to improve the plumbing of the financial system, particularly in trading and dealing with sophisticated and by their nature closely interlinked derivative contracts. Among the recommendations are to attempt to move more contracts to organized markets, and to impose some form of regulation. Further, in light of the huge volume of outstanding derivative contracts, the unwinding of a major financial company is bound to be extremely difficult and costly, despite the existence of netting contracts that in principle could make that process much less difficult. Hence there can be little doubt about the need for further work on market infrastructure.

In addition, this crisis has led to a rethinking of the structure of financial market regulation, centered on the role of the central bank in regulation. The apparent failure of coordination in the United Kingdom among the Treasury, the Bank of England, and the FSA in dealing with the Northern Rock case at a time when the central bank was called upon to act as lender of last resort, has led to a reexamination of the FSA model, that of a single independent regulator over the entire financial system, separate from and independent of the central bank. The Fed's role in the rescue of Bear Stearns, and the apparent extension of the lender of last resort safety net to investment banks has led many to argue that the Fed should supervise all financial institutions for whom it might act as lender of last resort—and the Fed has already reached an agreement with the SEC on cooperation in supervising the major investment banks, which have not until now been under the Fed's supervision.⁷

Historically supervision has been structured along *sectoral* lines—a supervisor of the banks, a supervisor of the insurance companies, and so forth. More recently the approach has been *functional*, in particular distinguishing between prudential and conduct-of-business supervision.

In the *twin-peaks* Dutch model, prudential supervision of the entire financial system is located in the central bank, and conduct of business supervision in a separate organization, outside the central bank. In the Irish model, both functions are located in the central bank.⁸ In Australia, prudential and conduct-of-business supervision are located in separate organizations, both separate from the central bank. As is well known, in the UK the FSA—the Financial Services Authority—is responsible for supervision of the entire financial system, and is located outside the central bank. Sometimes a third function is added—that of supervision of (stability of) the entire financial system, a responsibility that is typically assigned to the central bank.⁹ It is absolutely certain that the structure of supervisory systems will be revisited as a result of this crisis. One conclusion, I strongly believe, will be that prudential supervision should be located within the central bank.

Another issue that will be reexamined is the role of the lender of last resort, and how far the central bank's safety net should extend. The analytic distinction between problems of liquidity and solvency is helpful in thinking through the role of the lender of last resort, but the judgment of whether an institution faces a liquidity or a solvency problem is rarely clear in the heat of the moment. Traditionally it has been thought that the central bank should operate as lender of last resort only for banks,¹⁰ but as the Bear Stearns case showed, the failure of other types of institutions may also have serious consequences for the stability of the financial system.¹¹ And of course, the moral hazard issue has always to be borne in mind in discussing the depth and breadth of the security blanket provided by the lender of last resort.

In the financial crises of the 1990s, particularly those in Asia in 1997-98, the IMF argued that countries could avoid financial crises by (i) ensuring that their macroeconomic framework was sound and sustainable, and (ii) that the financial system was strong. To what extent does the current crisis validate or contradict that conclusion? The macroeconomic *situation* of the United States in recent years has not been sustainable, in that the current account deficit clearly had to be corrected at some point; similarly longer-run budget projections point to the need for a substantial correction in future. This does not necessarily mean that the U.S. macroeconomic *framework*

was not sustainable. It is clear however that the financial system was not strong, and that in particular, the supervisory system was not a system, but a collection of separate and not well coordinated authorities, with substantial gaps and shortcomings in its coverage.

The question of the connection between the unsustainability of the macroeconomic situation and the financial crisis remains a key question for research.

IV. Evaluating Policy Performance So Far

In his interesting and provocative paper, Willem Buiter criticizes, among other things, the Fed's "rescue" of Bear Stearns, and its failure to control inflation.¹² The Bear Stearns rescue still looks sensible, in light of the fragile state of the financial system when it took place, and in light of the fact that the existing owners were not protected but rather saw the value of their shares massively marked down.

As to the inflation point, Buiter in part argues that the Fed was too slow in raising interest rates in the period 2003-2006, and in addition that it was obvious that the entry of Chinese and Indian producers and consumers into the world economy would be inflationary, and should have been anticipated by the Fed. With regard to the latter point, we should remember that until about a year ago the predominant view about the entry of China and India into the global economy, was that it was a deflationary force, pushing down on wages in the industrialized countries.

Why the changed view? That must be a result of the overall balance of macroeconomic forces in the global economy, which switched from deflationary to inflationary as the rapid global growth of the last four years continued. It remains to be analyzed where the inflationary impulses were centered, and what role was played by China's exchange rate policy.

More generally, whether the ongoing integration of China and India into the global economy will lead to deflation or ongoing inflation as the relative prices of goods consumed directly or indirectly by them—middle class goods—rise will also be determined by the overall balance of global macroeconomic policy.

V. Concluding Comment

Typically, the question the returning traveler is asked after attending an international conference as well known as this one is “Were they optimistic or pessimistic?” This time the answer for the short run of up to a year is obvious: “pessimistic.” But if the authorities in the U.S. and abroad move rapidly and well to stabilize the financial situation, growth could be beginning to resume by the time we meet here again next year.

Author’s note: This is an edited version of concluding comments delivered at the Federal Reserve Bank of Kansas City conference, “Maintaining Stability in a Changing Financial System,” Jackson Hole, Wyoming, August 21-23, 2008. In light of their importance, I have had to mention some of the financial developments that occurred after the Jackson Hole conference. However I have tried to minimize the use of hindsight in preparing the written version of the comments and have tried to keep them close to the concluding comments delivered on August 23, 2008.

Endnotes

¹This comment was made before the upward revision (in late August, after the Kansas City Fed conference) of second quarter GDP.

²Whether this statement turns out to be true depends on the ultimate cost to the public of the many rescue measures announced after the Jackson Hole conference.

³“Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience,” Financial Stability Forum, April 2008.

⁴“The Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure,” U.S. Treasury, March 2008.

⁵“Containing Systemic Risk: The Road to Reform,” Counterparty Risk Management Policy Group III (CRMPG III), August 6, 2008. “Toward Greater Financial Stability: A Private Sector Perspective,” Counterparty Risk Management Policy Group II (CRMPG II), July 27, 2005.

⁶“IIF Final Report of the Committee on Market Best Practices: Principles of Conduct and Best Practice Recommendations,” Institute of International Finance, July 2008.

⁷This was written before the disappearance of the major investment banks in the U.S.

⁸More accurately, the organization is known as the “Central Bank and Financial Services Authority of Ireland.”

⁹The U.S. Treasury’s March 2008 report on the reform of the supervisory system, *op. cit.* adopts this tri-functional approach.

¹⁰The current Bank of Israel law (passed in 1954) allows the central bank to lend only to banks. In cases of liquidity, the central bank can do that on its own authority; in solvency cases, it needs the approval of the government.

¹¹This point is reinforced by the Fed’s decision in September to extend a loan to AIG, to prevent its immediate collapse.

¹²Alan Blinder’s discussion of Willem Buiter’s paper provides a more comprehensive analysis of the major points raised by Buiter.