I want to thank the Governor of the Bank of France for the invitation to make the concluding remarks at this prestigious conference. I consider it an honor. A number of years ago my BIS colleague, Andrew Crockett, was said to have given a brilliant summing up at a conference at the Bank of Japan. When I asked him how he did it, he joked in replying that “it was easier when you told people what they should have said, rather than what they did actually say”. Today I will do mostly the latter, but I will not be able to resist doing some of the former as well. This is not to say that I think I fully understand what has precipitated the current crisis and where it might be leading us. Rather the words of Keynes, written in 1931, seem to me to be still relevant today. “We are in a colossal muddle. We have blundered in the operation of a delicate machine, the workings of which we do not understand.” At the least, this conference provides us with the opportunity to rethink some of the things that we used to believe we understood.

My comments today will be linear, in the sense that I will summarise the discussion of the topics in the successive sessions. In contrast, many participants made comments that were actually more relevant to other sessions than their own. This is not a criticism. This attests to the fact that, in the real world, virtually all variables are endogenous. The complexity of the economy, viewed as a system of highly interdependent real and financial variables, also helps explain the current limitations of our understanding.

Session 1: what imbalances after the crisis?

I interpret this question as asking: what is the problem? Logically, an answer to this question must be provided before we move on to suggestions for policy solutions. The question clearly assumes that “imbalances” of some kind are the essence of the problem, which is in fact a huge analytical leap. Today Lorenzo Bini Smaghi, Kiyohiko G. Nishimura and Kenneth Rogoff have reminded us that the macromodels commonly in use at universities, central banks, and international financial institutions, in fact, contain no imbalances of any significant importance. The question which motivates this session implicitly says those models must change, and change fundamentally.

Accepting that imbalances are an issue, should we worry only about external imbalances (global trade imbalances) or are domestic imbalances also a source of concern. In their comments today, Olivier Blanchard, Jacob A. Frenkel, Nouriel Roubini and Axel Weber all supported the view that external imbalances have their roots in domestic imbalances. Moreover, Pierre-Olivier Gourinchas and Olivier Blanchard also noted that, to the degree external imbalances were a separate issue, the problem had as much to do with disruptive capital flows (leading to gross international exposures) as with trade imbalances (leading to net international exposures). In sum, there are many strands to the problem of imbalances.

Turning to the nature of these domestic imbalances, Jacob A. Frenkel and others noted a wide variety of them. Financial imbalances would include overvalued assets and overleveraged financial institutions. Real imbalances would include abnormally low household saving rates in many countries, and an abnormally high fixed investment rate in China. These in turn would lead to imbalances in the structure of production; that is, industries (like construction in many countries) that would have grown too large relative to underlying demand.

The general impression created throughout the day, supported by a growing academic literature, is that these imbalances have their roots in excessive credit creation, ultimately made possible by a fiat
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Monetary system. On the one hand, we have growing support for these propositions from economic history.\(^4\) There is a rapidly expanding literature on previous economic crises of significant magnitude. On the other hand, we can also have recourse to the history of economic thought.\(^5\) It is the case that many pre-War business cycle theorists suggested that credit driven forces were ultimately responsible for major economic disturbances.

How do these imbalances create problems? Jacob A. Frenkel put it most succinctly; “they threaten sustainable growth”. Essentially, the credit driven boom turns to bust, with the latter generally being more severe if the financial system itself has been weakened in the process.\(^6\) Further, there is growing evidence that the level of potential output might also be significantly affected by such crises.\(^7\) Finally, it is worth noting that the high cost of crises arises from the interactions of real and financial imbalances in both the boom and bust phases. In this current crisis, the tensions first emerged on the financial side and then spread to the real side. Historically, however, the opposite pattern of contagion has been seen equally frequently.\(^8\) This has a profound implication; namely, that financial stability is important, but is not a sufficient condition to ensure against very bad macroeconomic outcomes.\(^9\)

The final question raised in this session had to do with the current status of the problems posed by imbalances. A few participants seemed relatively optimistic that imbalances were no longer a threat, and that the global growth we are now seeing is sustainable. Others, including Jacob A. Frenkel and Nouriel Roubini, were much more skeptical. Both effectively stated that all of the imbalances observed in 2007, when the crisis began, are still in evidence today. Indeed, there were suggestions that policy reactions to the crisis might well have worsened the underlying problems we still have to face. Nouriel Roubini described Keynesian policies to strengthen demand as being akin to “kicking the can down the road one more time”. It was also noted that our traditional arsenal of macroeconomics weapons has been largely depleted. Real interest rates are at zero or even negative; central bank balance sheets have expanded enormously; and the sovereign debts of many countries are now so large as to preclude any further stimulus, even if the economy should turn down again.

Session 2: the challenge of surveillance and coordination

This session was directed to the issue of crisis prevention. How can we prevent what we are currently experiencing from happening again? In principle, this is a very different topic from managing a crisis with a view to an effective exit. In practice, however, as Jacob A. Frenkel and Nouriel Roubini both implied, there is a significant link in that some policies designed to moderate a current crisis will raise the expected loss of future crises. For example, encouraging the accumulation of more debt in a downturn (whether private or public) raises both the probability of a future crisis and the costs of a future crisis should it occur.

Much of the session was directed to four sets of problems faced by those charged with crisis prevention. Elsewhere I have called these challenges; the acceptance problem, the identification problem, the will to act problem and the coordination problem. With respect to each, the participants indicated that significant progress had been made but that, nevertheless, much still remained to do.

The acceptance problem has to do with the authorities having the right analytical framework. Do they recognise that price stability and financial stability, while desirable, are not sufficient to avert serious macroeconomic problems arising from the evolution of the credit cycle? Put otherwise, is the spectrum of imbalances, used as indicators of prospective problems, wide enough to capture all the emerging dangers. As noted above, some policymakers seem more inclined to accept these propositions about imbalances than do others.

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4 See Reinhart and Kenneth Rogoff (2009); also Schularick and Taylor (2009) and the World Economic Outlook (2009).
5 For an overview of this literature, see Laidler (1999); Von Mises and Hayek (the “Austrians”) played a prominent role in such thinking as did Robbins and Dennis Robertson in the United Kingdom.
6 See Reinhart and Reinhart (2010) and the comments by White (2010c).
7 Cerra and Szarek (2008).
8 Reinhart and Kenneth Rogoff (2009) contended that around half of the severe downturns they document began on the real side of the economy. This includes the Great Depression in the United States, which began in 1929 and was then seriously aggravated by the banking sector collapse in 1931.
9 In effect, neither price stability nor financial stability is sufficient to ensure the avoidance of bad macroeconomic outcomes. On the former, see White (2006).
By way of example, consider three of the world's most important central banks. The Federal Reserve conducts monetary policy almost solely on the basis of one pillar: the capacity gap. In this framework, imbalances play no role. In contrast, the Bank of Japan has two *perspectives*. They look, not only at the capacity gap, but also at all the credit driven forces responsible for their last crisis. Finally, the European Central Bank seems to me to sit uneasily between the other two. Their second *pillar* appears to have been evolving, from a monetary indicator of future inflation, into becoming a credit indicator of future imbalances. Where this process of evolution now stands, however, I am not quite sure.

The *identification* problem has to do with the need to establish (to a degree of certainty sufficient to justify a policy response) whether problems are in fact building up. In this regard, a number of commentators indicated that significant progress has been made. Charles Goodhart noted, concerning aspects of Basel III, that they constituted a material advance on Basel II. Olli Rehn gave a frank account of how and why the European official community had failed to see the crisis coming. Importantly, he also laid out clearly how they intended to learn from these experiences in order to improve their surveillance capacities. Finally, by way of progress, I would note that there is a promising and growing body of research into indicators of future economic and financial crises.

Yet significant problems remain. Lorenzo Bini Smaghi reflected on the fact that stress tests of financial institutions, and also estimates of the fiscal soundness of governments, can both be very misleading. During the boom, such indicators look highly satisfactory but the bust changes perceptions drastically. Think of banks and governments in both Spain and Ireland, pre and post-crisis. Choongsoo Kim also spoke of other problems making it difficult to identify impending problems in the financial sector. Among these he referred to complexity, opacity, constant innovation and the tendency of lenders to hide problems through making new loans to “evergreen” old ones.

Choongsoo Kim also made specific references to the difficulties inherent in identifying systemic vulnerabilities. These arise from interdependencies and shared shocks, both of which are hard to monitor and evaluate. Against this background, it is perhaps not surprising that the measures proposed to deal with systemic risk under Basel III are seriously incomplete to date. Indeed, they look very much like simple “add ons” to what are essentially traditional microeconomic measures.

The will to act problem has to do with forbearance, even after potentially dangerous problems have been identified. Indeed Charles Goodhart was so convinced of its importance that he contended that the countercyclical capital requirements associated with Basel III were useless; they would never be triggered by the domestic authorities. Why might the official sector forbear? One domestic reason mentioned by Charles Goodhart is that a tightening of policy during the boom, when many people are profiting greatly, will be hugely unpopular. There are also international reasons for forbearance. Tightening regulation in country A will immediately be attacked as giving an advantage to country B. As for tightening monetary policy, Jose de Gregorio noted that this would raise the real exchange rate and lower competitiveness. At the least, this would be inconvenient for many. Others suggested (discussed further below) that such tightening might in fact be ineffective if it attracted large enough capital inflows from abroad.

Faced with all of these incentives to forbear, Charles Goodhart concluded that macroprudential regulation should be guided by rules as much as by discretion. He also suggested that regulators in the future be required to justify publicly any decision not to follow rules agreed beforehand.

Finally, effective surveillance faces the *coordination* problem. I will cover the domestic aspects of this in the next section. Here, I will focus only on comments made concerning international coordination. Many participants noted how much progress had been made to date. In his introductory comments, Governor

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10 For a fuller consideration, see White (2010a).
11 See Borio and Dhryman (2009) and Barrell et al. (2010).
12 Choongsoo Kim made the broader point that economic interdependencies and shocks can also have social and political origins and vice-versa. Consider the effects on oil prices of recent political events in the Middle East and North Africa, and the fact that these events were in part triggered by rising food prices, themselves a product of rising demand. In short, the endogenities extend well beyond the economic sphere.
13 On this see Hellwig (2010).
14 This is consistent with Brunnermeier et al. (2009).
15 Suggestions of this sort can also be found in various Annual Reports of the BIS.
Christian Noyer provided an excellent overview of this. As well, Mario Draghi emphasised the important contributions made by the Financial Stability Board (FSB), and Choongsoo Kim underlined the significant achievements of the G20 process. Closely related, Choongsoo Kim also noted how internationally coordinated interest rate cuts and currency swaps had helped limit the damage at the height of the crisis itself.

Nevertheless, many participants stressed how much was left to be done. Mario Draghi laid out the work program which the FSB intended to undertake. Rather more fundamentally, Olivier Blanchard and Martin Wolf pointed out how the lack of a shared analytical model (what is the problem?) could get in the way of coordinated solutions. Mario Draghi, Jacques de Larosière and Choongsoo Kim all noted the unwillingness of countries to forego sovereign objectives in the absence of a clear and present crisis. Finally Franklin Allen stressed the unwillingness of the advanced countries to restructure the International Financial Architecture to reflect adequately the increased economic power of newly emerging market economies. This impeded international cooperation because many emerging countries do not trust institutions, like the International Monetary Fund (IMF), which they felt to be directed by others.

Session 3: the role of central banks and lessons learned from the crisis

Deciding what central banks should do to help prevent crises depends on what one believes is the underlying problem to be confronted. To use a distinction made by Janet Yellen, is it a problem with “monetary” roots or with “financial” roots or both? Put another way, are crises likely to be endemic in the monetary system we have, or are they primarily due to a failure of regulation? If the former, the problem is a macroeconomic one touching both the financial system and the real economy. Evidently, to the extent this is true, central banks will have a more fundamental role to play.

An important question raised was whether central banks should alter policy rates to “lean against the wind” of credit growth when it was judged to be excessive? Jean-Pierre Landau, Charles Goodhart and Athanasios Orphanides all seemed to answer no. In his presentation, Olivier Jeanne even referred to this conclusion as being “part of the post crisis consensus”. Rather, these participants all seem to give priority to the use of macroprudential instruments in such circumstances.

I have questioned such conclusions elsewhere and would do so again today. The basic argument from theory has been presented just above. The argument from practice is that macroprudential instruments to curb credit excesses, while certainly useful, will eventually prove insufficient if the profit incentive for avoidance is big enough. Probably, use of both monetary and macroprudential instruments will be required in the end. However, in what order and in what relative degree, evidently remain subjects to be debated.

Lorenzo Bini Smaghi and Athanasios Orphanides raised another important issue; how should central banks respond to supply side shocks. This is closely related to the question of whether “price stability is enough” to guide the conduct of central banks. I argued at the last Bank of France seminar that the low inflation observed in advanced market economies (AMEs) prior to 2007 was in large part due to strong productivity growth in previously state-managed economies. In effect these developments were acting to produce a “good” deflation rather than an “ugly” one. Nevertheless, central banks around the world resisted these price trends through unusually easy monetary policies, thus contributing materially to the problem of imbalances which still haunts us. There is an early literature on this which deserves much more attention than it has received.

A final issue was the role that should be assigned to central banks in the activation and management of macroprudential instruments. Most commentators

16 Of course, this distinction has deep roots in the academic literature. See Padoa-Schioppa (2010).
17 White (2009).
18 If, in Wicksell’s terms, the gap between the natural rate of interest and the financial rate is big enough, then both macroprudential instruments and capital controls will suffer from significant leakages.
19 The specific shock referred to by Lorenzo Bini Smaghi was a decline in the level of potential in advanced market economies (AMEs), somehow fostered by faster growth in the emerging market economies (EMEs). He then went on to conclude that this could provide a justification for tighter monetary policies in AMEs than otherwise.
20 White (2008).
21 See Borsa and Filardo (2004).
22 Selgin (1999) surveys this literature. See also Beckworth (2008). Hakerler (1986) contends that this was the fundamental insight that allowed Hayek, almost alone, to predict the Great Depression in the United States.
seem to feel central banks should have an important role, though for different reasons. Jean-Pierre Landau noticed that monetary instruments and macroprudential instruments are not independent in that both will affect spending. Thus, some cooperation (or even coordination) in use will be required. Athanasios Orphanides agreed, suggesting that central bankers have more of a macroeconomic orientation than regulators. Moreover, they currently have a significant degree of instrument independence from political influence. This will help in dealing with the “will to act” problem. Olivier Jeanne, however, made a counterargument. He worried that central banks might still be prone to “capture”, not by government, but by the financial sector.

Session 4: towards which international monetary system?

Martin Wolf (the moderator of the session) pointed out that the International Monetary System (IMS) we have is wildly different from the one favored by the consensus after the fall of Bretton Woods. What we were supposed to get was floating exchange rates, domestic monetary policy anchored on some nominal target, and essentially no role for foreign exchange reserves. What we got instead was “fear of floating”, monetary policies seriously circumscribed by international considerations, and an unprecedented accumulation of foreign exchange reserves.

These extraordinary divergences would, in themselves, attest to the importance of the topic of this Session. Moreover, as a complementary justification, there was the recurrent suggestion throughout the day that the external and domestic imbalances referred to above could not have grown so large had the IMS imposed more discipline on both debtors and creditors. Franklin Allen and Pierre-Olivier Gourinchas perhaps put the most emphasis on this international dimension, but Jacob A. Frenkel, Christian Noyer, Axel Weber and Janet Yellen also saw it as an important contributor in the buildup to the crisis.

To be more specific about the process, I would contend that investment was very weak in the AMEs in the two decades preceding the crisis. Moreover, even as aggregate demand weakened, globalisation was leading to an effective increase in global supply. Central banks in the AMEs responded with very easy monetary policies (not least the Federal Reserve). Confronted with upward pressure on their exchange rates, many emerging market economies (EMEs) (not least China) responded with equally easy monetary policies and massive exchange rate intervention. With the reserves subsequently reinvested in AMEs, there was a truly global expansion in credit—with all of the side effects noted about.

As in earlier sessions, the discussion focused less on how to extricate ourselves from current difficulties than on reform of the IMS looking forward. In this regard, a number of participants noted two awkward facts that any significant reform would have to take into account.

The first awkward fact, alluded to by both Jacques de Larosière and Lorenzo Bini Smaghi, is that uncovered interest parity (UIP) does not hold except over very long time periods. This has a number of important implications, noted in particular by Jose de Gregorio and Xiaolian Hu. International capital flows cannot be thought of as necessarily welfare enhancing because they can lead to costly booms and busts. Moreover, the severity of such crises is likely to be greatest in EMEs. Further, floating exchange rates in such circumstances are likely to become uncomfortably volatile. Finally, monetary tightening might in some cases be counter-productive if capital inflows lead to an easing of credit conditions. In response to such a market failure, Michel Camdessus, Jose de Gregorio, Xiaolian Hu and Jacob A. Frenkel all asked whether this might provide some justification for the use of capital controls. If so, Michel Camdessus added that we also needed internationally agreed criteria for when capital controls could be applied.

The second awkward fact was referred to by Jacob A. Frenkel, Pierre-Olivier Gourinchas, Olivier Jeanne and Nouriel Roubini; the time for reform might be running out. While the US dollar had retained its safe haven status throughout the crisis, concerns were increasing as to its future status. The United States had uncontained levels of deficits and debt, at all levels of government, and the Federal
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Reserve was also buying an unprecedented proportion of their sovereign debt. Olivier Jeanne raised the possibility of an emerging “peso” problem and the associated possibility of a sudden, sharp increase in risk premia. He said he knew of no historical example where a central bank had forced its government to default by refusing to buy its bonds.

What positive suggestions for reform could be made? Franklin Allen, who emphasised the role of international factors in the current crisis, suggested a variety of measures to help convince countries that they need not build up high levels of foreign exchange reserves for precautionary reasons. Not least, he supported an international safety net, based on the IMF. Somewhat surprisingly, Choongsoo Kim questioned the approach by noting that many countries had accumulated reserves for competitive rather than for precautionary reasons.

Xiaolian Hu raised the question of the appropriate role to be played by the issuers of the international reserve currency. She felt the United States must be appropriately mindful of the international implications of its domestic policies. If the United States failed to do so, it would be more appropriate to replace the dollar with a new currency (like the special drawing right –SDR) under the governance of an international rather than a domestic body. In response, Martin Wolf, Jacques de Larosière, Kiyohiko G. Nishimura and Janet Yellen all noted that the blame for imbalances did not lie totally with the debtors. Both the Gold Standard and Bretton Woods had failed, in large part because those amassing reserves had failed to respond appropriately.

Against this background, Minister Christine Lagarde then made a number of practical suggestions as to how the functioning of the IMS might be improved, rather than altered radically. The aim of the G20, under Chairman Sarkozy, should be to “turn a jungle into a park”. While there was no time for any detailed analysis of her proposals, there seemed to be general agreement with the proposition made initially by Martin Wolf in his opening statement. Namely, that the core requirement is to impose some form of international discipline on both the United States as debtor (exempted for now by its reserve currency status) and on China and others (exempted for now by being creditors).

Both Olivier Blanchard and Jacques de Larosière suggested greater efforts to convince creditors that international cooperation was in their own best interests over the longer term. Olivier Blanchard focused on domestic reforms (reducing “distortions”) that would not only ease international tensions but also raise domestic living standards. Jacques de Larosière (and William R. White from the floor) made the traditional and most powerful argument for cooperation; namely, when debtors cannot pay, creditors don’t get paid. Jean-Pierre Trichet expressed the view that this logic would eventually prevail. However, others seem skeptical that it would do so in time to prevent a further stage of the crisis from unfolding. In the corridors, fears of protectionism and of a possible dollar crisis seemed equally shared.
While most of the conference had to do with future reforms, there were many passing references to how we might unwind existing imbalances in an orderly way. Most of these suggestions focused on international trade imbalances. The recommendations made were quite traditional; namely, deficit countries must increase saving rates while creditor countries must decrease them. Movements in nominal exchange rates would then also be desirable to provide incentives for appropriate resource reallocations between the tradable and non-tradable sectors. Indeed, giving that many creditor EMEs are already producing at full capacity, lowering their national saving rate without nominal exchange rate appreciation would seem an invitation to increased inflation. A number of commentators also noted the important role that financial reforms could play in supporting global rebalancing.

As already noted in the discussion of Sessions 2 and 3, a number of participants feared another significant downturn going forward. Not only did underlying imbalances remain large, but there were also good reasons to doubt the effectiveness of traditional stimulative macroeconomic policies. This raised the issue of what else might be done to facilitate exit from the crisis? Kenneth Rogoff had broached this issue early in the day by noting that there had been an excessive use of debt instruments in the lead up to the crisis. If many of those who issued debt, had instead issued equities (or some other instrument with a state-contingent payout), then there would have been a more generalised sharing of risks. This would have helped avoid the disruptive effects of bankruptcy, in the face of unbearable debt service commitments, that we now have to deal with.

Kenneth Rogoff’s suggestion leads naturally to the next question. Given that there has been an excessive reliance on debt, should it now be made easier to reduce existing debt levels than is currently the case. Jacob A. Frenkel, Olivier Jeanne, Kenneth Rogoff and Nouriel Roubini all felt this issue should now be squarely on the table. Households that cannot pay imply still more banks that cannot pay. And more banks that cannot pay imply still more sovereigns that cannot pay. There seemed general support for the view that we need to find better ways to reduce excessive debt burdens while preserving as much value as possible.

Finally, it was noted that debt service burdens can also be alleviated by a faster rate of economic growth. Over the years, the OECD has suggested a wide variety of structural reforms that could make a material contribution to increasing factor inputs and also the rate of growth of total factor productivity. With time, new opportunities for profit provided by such reforms would also lead to higher aggregate demand as both investment and labour incomes rose. Evidently, in the current environment of household and financial sector deleveraging, the benefits of structural reform will emerge only slowly. This should not, however, dissuade governments from taking the beneficial actions required.

26 See in particular the regular publication “Going for growth” OECD (2010).
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