RECONSTRUCTING the WORLD ECONOMY

Papers Presented at a Joint Conference of the Korea Development Institute and the International Monetary Fund

Olivier Blanchard and Il SaKong
Editors
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As the most severe crisis since the Great Depression appears to wind down, global policymakers face many new challenges. Some are more immediate, such as deciding when to exit from crisis support measures. Others pertain to the medium term and include reevaluating the macroeconomic policy framework, redesigning financial regulation and supervision, and strengthening the international financial architecture.

A workshop was held in Seoul, Korea, on February 25, 2010, to provide a forum for discussing these challenges. The workshop coincided with participation of the Presidential Committee for the G-20 Summit. It was especially appropriate therefore to hold the workshop in Seoul since Korea is scheduled to host and chair the forthcoming Seoul Summit in November 2010 where these issues will be taken up. The papers prepared by IMF staff are intended to serve as a starting point for these discussions. Although they reflect the IMF’s internal debate, they do not represent official IMF positions; they are in some instances appropriately provocative.

EXIT STRATEGIES

While the financial crisis hit economies around the world at more or less the same time, recovery from the crisis is taking place at different speeds across economic regions. In several advanced economies, the recovery remains vulnerable. High and still rising unemployment and weakened household balance sheets are holding back private consumption, while tighter than normal credit conditions are restraining investment. In many emerging economies, by contrast, the recovery is already underway, reflecting buoyant domestic demand and relatively healthy financial sectors. Overall, the IMF has called for supportive policies to be maintained into 2010 for a majority of the world’s economies—though in some emerging economies, the time for stimulus withdrawal has already arrived.

When to exit from macroeconomic stimulus is a difficult challenge: unwinding too early could jeopardize the recovery, while maintaining support for too long could pose risks to price, financial, and fiscal stability. In response to the request by the International Monetary and Financial Committee for the IMF to advise on the timing, and nature, of exit from crisis-related intervention measures, staff have prepared a paper—the first section in this volume—that identifies a number of basic principles to guide an exit strategy—including the need to integrate strategies across different policy-making entities, international coordination to improve the chances of success of some types of fiscal and monetary measures, and a flexible approach that can respond to unforeseen developments. The IMF is playing an important role here. By reporting on the unwinding process through our surveillance mechanisms, additional monitor-
ing, and technical support, we hope to reduce the likelihood of policy inconsistencies across countries. We are also providing analytical support for the G-20’s ongoing mutual assessment process.

GLOBAL IMBALANCES

International policy coordination will be also critical for promoting a rebalancing in world aggregate demand, which the G-20 has identified as critical for securing strong, sustainable, and balanced growth over the medium term.

Even though global imbalances have narrowed considerably since the crisis, they are likely to widen again in the absence of further adjustments. And failure to address the underlying causes of imbalances could result in the world economy getting stuck “in the middle of the stream,” threatening the sustainability of the recovery. The principal recommendations—as outlined in the second section in this volume—are as follows:

- In the United States, saving must increase. A significant adjustment in private saving has already taken place since the crisis. But public saving must be increased, over time, as the recovery gains strength.
- In China, growth should be led more by domestic demand, especially by private consumption. Better social insurance, stronger corporate governance, and increased access to credit for households and small- and medium-sized enterprises are needed. Exchange rate adjustment must play an essential supporting role.
- Many other emerging market economies should and can afford to rely more on domestic than on foreign demand.
- If oil prices remain high, as currently forecast, some oil-exporting countries can boost domestic demand further and spend more on social infrastructure.

The IMF is supporting the rebalancing effort through its policy advice and surveillance activities. Further reform of its lending facilities, such as building on the Flexible Credit Line introduced during the crisis, could also promote rebalancing by reducing the demand for precautionary reserves. Although this conference only covered the rebalancing of global macroeconomic imbalances, Korea, as Chair of the G-20 in 2010, also defines global imbalances in broad terms to include narrowing or eliminating the widening development gap.

RETHINKING MACROECONOMIC POLICY

The crisis has revealed flaws in the prevailing macroeconomic policy framework, major gaps in financial sector supervision and regulation, and vulnerabilities in the international monetary system. These issues are at the center of the current debate about the future shape of economic and financial policy and are discussed in the third section in this volume.
Before the crisis, macroeconomists and policymakers generally agreed that all would be well as long as inflation was low and stable and public debt was sustainable. But the crisis showed that vulnerabilities and threats to macrofinancial stability may develop under a seemingly tranquil surface of stable prices, small output gaps, and healthy public finances.

While many tenets of the precrisis consensus—notably low inflation and fiscal discipline—remain valid, others need to be reassessed. In particular, the crisis has reopened the question of whether macroeconomic policy should respond to asset-price and housing bubbles—and if so, how best to respond. In that context, it has been noted that the policy interest rate is a blunt (and possibly ineffective) tool to deal with these problems and that better and more targeted instruments can and should be developed. Regulatory ratios, such as capital ratios for banks or loan-to-value ratios for households, that vary over the cycle could be a promising start. But more work is needed on how to design a new macroprudential framework.

The crisis has also reminded us of lessons we had already learned, such as the importance of building fiscal space in good times. And it has made a strong case for improving automatic stabilizers, in particular those that allow some transfers or taxes to vary based on the state of the economic cycle.

THE FUTURE FINANCIAL SYSTEM

It comes as no surprise that the crisis—with its origins in the financial sector—has motivated a profound reevaluation of the global financial system. How policymakers and market participants respond to the recent events will shape the future financial system and its role in the global economy for decades to come.

To limit future crises, we must be better equipped to handle the systemic nature of financial risks in a globalized system. This will require many reforms, including a widening of the perimeter of regulation, and ensuring that the regulatory framework is broadly consistent across countries to address systemic risks and ensure a level playing field. In addition, to limit excessive leverage and risk taking, incentive-compatible regulation will have to be designed. At the same time, we must recognize that efforts to mitigate systemic risks are not costless. Thus, care must be taken to avoid excessive regulation that could stifle innovation and unduly limit the benefits of a more globally integrated financial system, a point stressed in the fourth section in this volume.

REFORMING THE INTERNATIONAL MONETARY SYSTEM

The current system, which is based on a dominant country-issued reserve currency, is marked by difficulties. In particular, the global demand for reserve assets can only be satisfied if the reserve issuer runs fiscal and external deficits. And there is no ready mechanism for surplus or reserve-issuing countries to adjust. The
problem has been aggravated in recent years as the demand for reserves has risen sharply—reflecting in part the desire of emerging markets to self-insure against costly capital account crises (as discussed in the final section in this volume).

How can these tensions best be addressed? On the demand side, we need to explore alternative insurance arrangements that could mitigate the precautionary demand for reserves. On the supply side, we should consider whether alternative reserve assets could offer greater stability and efficiency.

The recent reform in the IMF’s lending instruments—the introduction of the Flexible Credit Line and the mainstreaming of high-access precautionary arrangements—is a significant step forward in bolstering the IMF’s insurance facilities. However, these instruments cannot serve as full substitutes for reserves, given that countries must qualify for these facilities.

Recent work by IMF staff, including the papers in this volume and a paper presented to its Executive Board last summer on “Exchange Rate Regimes and the Stability of the International Monetary System,” presents a number of proposals to improve the stability of the international monetary systems in light of recent challenges. These proposals may well gain traction and practical relevance, over time, if more incremental efforts aimed at strengthening the current system prove insufficient. It is our belief that the G-20’s effort to strengthen the global financial safety net by working together with the IMF is timely and appropriate.

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At the IMF, staff of the Research and External Relations Departments were involved at every stage, and helped to make the conference a stimulating event for all the participants.

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SECTION I

Exit Strategies for Anti-Crisis Measures
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CHAPTER 1

A Strategy for Renormalizing Fiscal and Monetary Policies in Advanced Economies

CARLO COTTARELLI • JOSÉ VIÑALS

1.1. INTRODUCTION

In response to the worst economic crisis since the 1930s, government budgets and central banks have provided substantial support for aggregate demand and for the financial sector. In the process, fiscal balances have deteriorated, government liabilities and central bank balance sheets have been expanded, and government debt has increased sharply.

For most countries, some fiscal and monetary stimulus may need to be maintained well into 2010, and withdrawal should begin in 2011 if developments proceed as expected. It is now urgent, however, to clarify the strategy that governments and central banks intend to adopt to return their budgetary and monetary positions to normalcy. Failure to do so would destabilize expectations and weaken the effect of the fiscal and monetary support currently being provided.

Exiting from crisis-related intervention policies should be viewed in the context of achieving strong, sustained, and balanced growth. Attaining this objective will require meeting the onerous challenges to fiscal sustainability; normalizing monetary policy while unwinding crisis monetary measures; carefully withdrawing financial sector support; and avoiding policy inconsistencies across countries as well as in the policy mix. Effective exit strategies share common features:

• Integration—The crisis strengthened and raised awareness of linkages among different sectors and policy areas, and thus the overall strategy must take these linkages fully into account.

• Flexibility—Exiting will not involve a single, one-off decision, but will rather comprise a series of evolving decisions and trade-offs. Strategies should retain some flexibility to adjust the form and pace of unwinding in response to unforeseen developments.

1 We would like to thank Jan Gottschalk, Simon Gray, Karl Habermeier, Paolo Mauro, Mark Stone, and Ricardo Velloso for help in the preparation of the paper, and Olivier Blanchard and David Romer for insightful comments. The paper is based on information available at the time of the conference in Seoul, February 2010. For updates, see the IMF’s Fiscal Monitor and the April 2010 Global Financial Stability Report.
• **Market basis**—The strategy should rely to the extent possible on market-based incentives to take advantage of price signals. More generally, policies must aim to restore the role of market forces, including in sectors in which the government has taken on a larger role during the crisis. Failure to do so could have long-lasting effects on economic growth.

• **Clear communication**—Basic principles and plans for exit should be established early and communicated clearly and consistently by policymakers, with a view to reducing uncertainty, anchoring expectations, and mustering public support for necessary measures. However, policymakers should be careful about making irreversible commitments to a schedule; rather, they should explain the factors that will determine unwinding decisions.

Ensuring fiscal sustainability is a key priority and policy challenge, notably in light of the upsurge in government debt in many countries. Achieving fiscal sustainability will be a difficult and prolonged process, making it imperative for consolidation to begin as soon as there is clear evidence of self-sustaining recovery, whereas monetary policy being generally more nimble can respond more flexibly to evolving macroeconomic conditions. In particular, given a path for fiscal policies, monetary policy can be set to achieve a desired level of overall stimulus, tightening as needed to prevent the emergence of inflation.

This paper explores the magnitude of the problem and presents elements of a strategy to bring fiscal and monetary policy back to normalcy. It will show that the fiscal challenge is daunting for advanced economies: on average, reducing government debt-to-GDP ratios to less than 60 percent within the next two decades will require steadily improving the structural primary balance from a deficit of 4⅓ percent of GDP in 2010 to a surplus of 3⅔ percent of GDP in 2020—an 8 percentage point adjustment—and keeping it at that level for the following decade, despite rising pressures on health and pension spending. Addressing the fiscal problem will require clarity of intent and firm political resolve: health and pension entitlement reforms, cuts in the ratio between other spending and GDP, and tax increases will be necessary.

The adjustment is, in principle, considerably more tractable on the monetary side, but should not be underestimated. During the crisis, many central banks cut interest rates to very low levels and have undertaken extensive balance sheet operations, including some of a quasi-fiscal nature, mainly in advanced economies. Thus the key issues are (1) when, at what pace, and how to start tightening monetary conditions; and (2) how to preserve central bank independence. On the first point, central banks have adequate instruments to start tightening even when their balance sheets remain larger than usual. Care should be taken to do so in a manner that is fully consistent with anchoring inflation expectations, in line with the final objectives of monetary policy. To do so, it is essential to clearly communicate changes in the policy stance, which may become more complex given the multiple fronts on which monetary policy is still operating as a result of the crisis intervention measures. Secondly, regarding central bank independence, the larger crisis role of central banks and the substantial increases in public debt might give rise to pressures on some central banks to relax their commitment to price stability. Consequently, as economies recover from the crisis, it is essential that governments support the institutional, operational, and financial underpinnings of central bank independence.
Finally, policies will need to foster strong and sustainable growth. Among other things, this will require that the public sector withdraws from the control of financial and nonfinancial entities acquired during the crisis, thereby allowing for increased competition and its associated advantages for productivity growth.

1.2. SCALE OF THE PROBLEM

1.2.1. A Daunting Fiscal Challenge

The crisis has resulted in a major increase in fiscal deficits and public debts: assuming no further fiscal action, the general government gross debt-to-GDP ratio (henceforth “debt ratio”) of advanced economies is projected to rise from 73 percent at end-2007 to 109 percent at end-2014. By 2014, debt ratios will be close to or exceed 85 percent in all G-7 economies, except Canada. The fiscal outlook is significantly stronger for emerging economies (Horton, Kumar, and Mauro, 2009), but these would unlikely be shielded from a loss of confidence in public sector solvency in advanced economies: as the recent crisis has amply demonstrated, confidence crises easily spill across borders.

The fiscal challenge facing advanced economies is daunting:

• The scale of the problem is unprecedented, at least in peacetime. Major public debt increases occurred in the 1930s, but started from lower levels (e.g., U.S. federal government debt was 16 percent of GDP in the late 1920s). Indeed, the general government debt-to-GDP ratio for the largest advanced economies is now somewhat higher, on average, than it was in the early 1950s (i.e., in the immediate aftermath of World War II [Figure 1.1]).

• The debt surge far exceeds increases in assets acquired as a result of financial support operations (whose value is currently projected at 3 percent of GDP in advanced economies).

• The fiscal problem will not be resolved simply by an improvement in the cycle, exit from fiscal stimulus, and “unwinding” financial support operations. The debt surge does reflect revenue losses associated with a widening of the output gap and, to a lesser extent, fiscal stimulus packages and support to the financial system. But it also reflects a long-lasting, if not permanent, step decline in revenues—as a result of lower revenues from asset prices and financial services and the step loss in potential output—as well as a sizeable rise in the interest bill, which will grow in the years ahead to service the additional debt accumulated during the crisis. Thus, the structural primary deficit will be large in 2010 (4½ percent of GDP). Allowing the stimulus packages to expire in the years ahead, are not renewed; some fiscal adjustment is thus already included in this baseline.

3 By 2014, the interest payment burden is projected to rise by almost 2 percentage points of GDP over precrisis levels.

4 Almost half of the deterioration of the structural primary balance between 2007 and 2010 is accounted for by nonstimulus spending (e.g., increases in defense and security spending in the United States, social security spending in Japan, and various expenditure items in Italy and the United Kingdom (Fiscal Affairs Department, 2009a).
expire will only reduce this by 1½ percentage points of GDP. Moreover, the debt accumulated by 2014 will not come down on its own.

• While demographic trends were favorable in the 1930s, they are unfavorable now: the demographic shock will begin hitting advanced economies in earnest in about 5 years.

In sum, the crisis has weakened in a major way the fiscal accounts of advanced economies, compounding the impact of preexisting demographic pressures. What are the risks, if no adjustment takes place? At best, assuming that market confidence in fiscal solvency is not shaken, this will cause higher real interest rates and crowding out (as the economy recovers). At worst, this could lead to concerns that the debt will be “inflated away” or that default is inevitable. If so, debt maturities would shorten, risk premiums rise, and, ultimately, refinancing crises could emerge. Thus, while the cur-

Figure 1.1  Government debt in G-7 countries, 1950–2010 (in percent of GDP). (Sources: The data are drawn mainly from the IMF’s World Economic Outlook [WEO] database [2009 and 2010 are projections]. They refer to the general government, except for Japan [Central Government]. WEO data are supplemented by the following: Canada [1950–60]—federal gross government debt [Haver Analytics]; France [1950–77]—national debt [Goodhart, 1999]; Germany [1950–75]—credit market debt and loans [Statistisches Bundesamt Deutschland]; Italy [1950–78]—national government debt [Banca d’Italia]; Japan—central government debt [Ministry of Finance of Japan]; United Kingdom [1950–79]—national debt [Goodhart, 1999]; United States—gross federal debt [Office of Management and Budget and U.S. Census Bureau]).
rent crisis is rooted in the private sector, the next could be fiscal and, arguably, more severe because no entity would be available to bail out the public sector.5

True, default has not occurred in advanced economies since the 1930s, but the fiscal challenge is unprecedented. Whereas inflation expectations and interest rates on government paper remain low in the major advanced economies at the moment, recent experience has shown that markets often react late and suddenly to persistent disequilibria. Indeed, recent increases in government bond spreads, especially in a few European countries, illustrate these risks.

1.2.2. Implications for Monetary Policy

Decisive central bank action to cut policy interest rates and to provide liquidity and other financial support helped to prevent deflation and outright financial sector collapse. Monetary policy transmission, as gauged for example by the money multiplier, dropped sharply after September 2008 (Figure 1.2). In response, central banks cut policy rates, lengthened lending maturities, and wid-

5 It is sometimes argued that the risk of a fiscal crisis in advanced economies should not be taken too seriously because investors do not have many alternatives on how to store their wealth (other than, say, gold). However, a flight out of advanced economies into emerging markets with better fundamentals is not inconceivable. In any event, shifts in investments across advanced economies (say, between euro and dollar assets) could disrupt financial markets and exacerbate the refinancing problems of advanced economies experiencing depreciation.

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ened the range of collateral and counterparties to ensure a smooth flow of liquidity into the system.

Central banks also engaged in various asset-driven and often unconventional crisis operations, both to deal with short-term interest rates that were close to zero in some cases and to combat market disruptions. Notably, central banks purchased government securities to reduce longer-term interest rates and purchased private sector assets to counter the widening of credit spreads in specific markets (becoming the buyer of last resort in a moribund commercial paper market, for example). These measures altered the size, composition, and duration of central bank balance sheets (Figure 1.3). In a few countries, the combined impact of crisis intervention measures on central bank balance sheets has been very large: from September 2008 to end-2009, it amounted to an increase in balance sheet

![Figure 1.3](image-url)

**Figure 1.3** Key central bank balance sheet items (cumulative changes from August 2007, in percent of GDP). (Sources: Central bank websites.) (Note: Systemic liquidity easing consists of short-term operations such as repo operations and Term Auction Facility and discount window lending.)
totals of 5 to 11 percent of GDP in several advanced economies. The aftermath of these actions leaves central banks facing two main challenges.

In the shorter term, central banks will face the question of when and how to withdraw monetary stimulus. The key objective will be to maintain price stability. Inflation will likely become an issue only once economies are well on the road to recovery, so monetary tightening is not an immediate concern, and in any case, monetary tightening will proceed at a different pace across countries.

Central banks will also need to unwind the various balance sheet policies. The rolling back of liquidity providing measures is already underway and should not pose major challenges. However, several central banks have large holdings of long-term securities, and of the counterpart excess reserves, that pose some technical and operational challenges.

In the medium term, there is a risk that the enormous and ongoing increase in government debt may lead to pressure on central banks to relax their commitment to price stability. Independence—financial, operational, and political—may thus be challenged just when it is needed most to maintain the far reaching benefits of price stability.

The situation is more varied across emerging markets. Many emerging market countries may be tightening monetary policy sooner than in advanced economies, particularly in those areas where demand pressures are more intense. Some are also dealing with the challenges posed by large capital inflows.

1.3. RETURNING TO NORMALCY

1.3.1. Returning to Fiscal Normalcy: What Does It Mean and How Can It Be Done?

What should be the goal of a fiscal strategy aimed at ensuring that markets remain confident in the solvency of the fiscal accounts? The key fiscal choice facing policymakers is whether they should aim at stabilizing government debt ratios at their postcrisis high levels, or reducing those levels to more prudent levels. There is general agreement that the rise in government debts needs to be curbed as soon as a private sector recovery is securely underway. However, choosing the level at which debt ratios should be stabilized is a less straightforward question.

Stabilizing debt ratios at whatever level has been reached as a result of the crisis would be less difficult, and may thus be tempting. Is living with high debt an option? In principle, yes. Countries such as Italy and Japan, with debt ratios in excess of 100 percent for many years, have not experienced a full-blown debt crisis. However, maintaining high government debt levels worldwide into the medium term would have significant drawbacks. First, for most advanced economies, stabilizing debt ratios at their postcrisis levels would be insufficient to create or restore fiscal space for a flexible response in the event of future crises. Second,

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6 By end-2009, the balance sheet of the Federal Reserve had more than doubled compared with precrisis levels, to US$2.3 trillion, and that of the Bank of England had more than trebled, to £240 billion.
higher debt levels would be associated with greater vulnerability to crises in all countries where the risk of (even partial) default were not seen as immaterial. Third, should high debt levels persist for many of the largest economies at the same time, higher real interest rates could ensue worldwide, with adverse consequences for private investment and global growth. Finally, although it is difficult to establish the direction of causality, higher debts seem to be associated with slower growth—the experience of Italy and Japan in the past two decades is suggestive in this regard.

Thus, while stabilizing debt ratios at their current high levels would be consistent with sustainability, a more ambitious strategy aimed at lowering debt ratios to prudent levels within a pre-defined timeframe would lead to better economic outcomes. The goal should be to announce a comprehensive and credible strategy aimed at lowering government debt over time to levels regarded as prudent for advanced economies. For many advanced economies, targeting debt ratios below 60 percent (the median debt ratio for G-20 advanced economies in 2007) may be appropriate.

In the past, many countries succeeded in lowering debt from very high levels in an orderly way. The good news is that the debt ratio always converges to a level that depends just on the nominal growth rate of the economy and the level of the deficit, not the initial debt level. For example, with a nominal GDP growth rate equal to the average real growth over the past two decades in advanced economies plus inflation at 2 percent, balanced budgets would be sufficient to cut debt ratios from 100 to 65 percent in 10 years. The bad news is that the higher the initial debt level, the higher would be the primary surplus needed to run a certain overall balance. In addition, the higher the interest rates, the larger the effort that would be needed.

It is thus critical to avoid allowing concerns about high deficits and debt to cause a surge in interest rates, as this would lead to snowballing effects. Indeed, there is significant evidence that the effect of high deficits and debt on interest rates is especially pronounced when high deficits lead to a perception of “regime change,” that is, of a more relaxed attitude toward fiscal solvency. This is why it is crucial that countries clarify their strategy to ensure fiscal solvency. What should be the features of such a strategy?

1.3.1.1. The Role of Inflation in Reducing Government Debt

Some commentators have suggested that higher inflation is a reasonable price to pay to reduce the real value of government debt. We discuss why inflation should

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7 Recent staff estimates based on regressions for panels of countries suggest that long-term interest rates rise by five basis points for each 1 percent increase in the debt-to-GDP ratio (Fiscal Affairs Department, 2009a, Appendix 1). This implies that the 36 percentage point increase in government debt ratios projected for advanced economies between end-2007 and end-2014 could, other things equal, raise interest rates by about 2 percentage points. The effect can be even larger when debts are high. There is also evidence that the effect of weaker fiscal accounts on interest rates is greater when it occurs in many countries at the same time, as a larger fiscal deficit in a few countries can be more easily financed abroad.
not be part of the solution; subsequently, we show that noninflationary solutions are possible.

Inflation can alleviate fiscal problems in two ways. First, by raising seigniorage. This helps even if inflation is fully anticipated. However, given the low levels of base money in most advanced economies, this channel is less significant. Second, an unexpected rise in inflation would reduce the real value of government debt. This could make a more significant dent in government debt ratios because medium- and long-term, non-indexed, domestic currency debt accounts for three-quarters of government debt in advanced economies. However, risk premiums would probably go up, meaning that long-term rates would rise by even more than the rate of inflation. Any maturing debt would thus have to be refinanced at higher rates, an effect that would be magnified if maturities shortened and real interest rates increased as a result of higher perceived inflation risk. Altogether, if inflation were raised to, say, 6 percent for the next five years—assuming this were feasible—the average debt ratio in advanced economies would be about 8–9 percentage points lower in 2014 than in the baseline.

Is this debt reduction worth the costs and risks of higher inflation? No. Inflation would erode less than one-fourth of the expected debt increase during 2008–14. Of course, double-digit inflation would have a larger effect. But a vast range of experience across the world has shown that high inflation gives rise to major distortions in resource allocation, reduces economic growth, harms the poor, creates social and political instability, is not easily contained when unleashed, and would incur a substantial output cost when it is brought down again. Also, public debt profiles and the cost of borrowing would be adversely affected for many years to come. These were key lessons of the 1970s for the advanced economies; the experience of developing and emerging market economies with high inflation has been arguably even worse. It will thus be essential to strongly reaffirm the commitment to price stability and ensure that central banks continue to have the independence and the tools needed to fulfill this mandate.

1.3.1.2. How Have Large Government Debts Been Reduced in the Past? The Role of Growth

Standard debt dynamics decompositions show that the top 10 largest reductions in debt ratios in advanced economies over the last three decades occurred largely by running primary surpluses, not through higher growth (Table 1.1). The contribution of the differential between growth and interest rates was significant only in a few episodes of rapid growth catch-up (e.g., Iceland, Ireland, and Spain). This, however, does not take into account that it is much easier for governments to run stronger primary balances when growth is higher. Higher growth raises revenues and, if these are not spent, the effect on debt dynamics can be powerful. For example, assuming a baseline debt-to-GDP ratio of 100 percent, a 1 percentage point increase in growth for 10 years (holding spending constant and assum-

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8 A 1 percentage point increase in the inflation rate would raise seigniorage by about 0.1 percentage point of GDP in the G-7 average.
A Strategy for Renormalizing Fiscal and Monetary Policies in Advanced Economies

...ing a 40 percent tax rate) lowers government debt by 29 percentage points of GDP. Therefore, growth enhancing reforms—including more competitive goods markets and removal of labor market and tax distortions—should be a priority, as they counteract the undesirable effects of population aging on both growth and public spending. Faster immigration could also help, but this may face insurmountable political difficulties.

Nevertheless, there are two reasons why governments should not rely excessively on stronger growth as a solution to their fiscal problems. First, as far as faster growth reflects the closing of the output gap, this is already reflected in the above baseline projections. Second, there is too much uncertainty on both the magnitude and timing of the effects of structural reforms on potential growth to build a credible fiscal adjustment strategy primarily around this.

In sum, while structural reforms to boost growth should be pursued as part of a fiscal consolidation strategy, it would be prudent to base such a strategy on conservative growth assumptions, hoping for upside surprises.\(^9\)

1.3.1.3. The Magnitude of the Primary Balance Adjustment

The magnitude of the needed primary adjustment depends on the debt reduction target. And, at least in part, the debt reduction target and path depend on the nature of the supporting measures: measures affecting long-term spending trends

\(^9\) Prudence is also required because studies of growth in the aftermath of financial crises show that only a small share of the deepest output loss is regained at the end of the decade following a crisis (Cerra and Saxena, 2008; and IMF, 2009b).
would likely allow a more gradual adjustment, as markets would feel reassured that long-term sustainability is also being addressed.

For illustrative purposes, but in line with the considerations put forward above, we assume that: (1) the goal is to lower debt ratios to below 60 percent by 2030, and (2) the adjustment in the structural primary balance starts in 2011 and lasts 10 years (after which the primary is maintained constant as a share of GDP). This 10-year primary adjustment strategy would involve the average structural primary balance to improve from $-4\frac{3}{4}$ percent of GDP in 2010 to $3\frac{3}{4}$ percent of GDP in 2020, an 8 percentage point of GDP adjustment (Figure 1.4), almost 1 percentage point per year. Given the underlying pressures from population aging, the adjustment with respect to a no-policy-change scenario is more demanding, although attaining it could be facilitated by an increase in potential growth, as noted above.

This adjustment will be daunting. It will be the first time that most advanced economies undertake a simultaneous adjustment of such a magnitude. This will cast additional challenges, including from a global demand management perspective. But the adjustment is not unprecedented at the individual country level. It will require addressing more forcefully than in the past some long-standing fiscal issues on both the spending and the revenue sides.

1.3.1.4. What Policies Will Deliver the Needed Fiscal Adjustment?

Fiscal adjustments in the years ahead will have to reflect the specific circumstances currently faced by advanced economies. In this respect, two features are relevant: first, these countries already have fairly high revenue-to-GDP ratios, so that a large part of the adjustment will have to take place on the spending side;

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10 Given the weaker initial primary balance, the goal for Japan would be to lower net debt to 80 percent of GDP.
11 The choice of 2011 as the starting year of the tightening is in line with current WEO projections and announced government plans. This remains obviously tentative: the tightening will have to take place when there is confidence that private sector demand has clearly recovered. However, the results of the calculations of the needed primary adjustment are not much affected by the choice of the initial year.
12 This assumes a 1 percentage point difference between the interest rate on debt and the growth rate, in line with the average differential during the last three decades. If the difference were zero, the required primary adjustment would be 7 percentage points of GDP. If the debt target were 70 percent, the required primary adjustment would be about 7½ percentage points, with a 1 percentage point interest-growth differential. The estimate of the required fiscal adjustment is also contingent on the estimated current output gap. If the output gap were larger (smaller) than currently estimated, the initial structural primary deficit would be smaller (larger), requiring a correspondingly smaller (larger) adjustment effort.
13 The combined effect of higher spending on pensions, health, and long-term care during 2015–30 is of the order of 4–5 percentage points of GDP for both the United States and the European Union.
14 Over the past four decades, 13 advanced and 22 emerging economies have experienced cumulative adjustment in the structural primary balance of at least 8 percentage points of GDP, with annual adjustment exceeding 1 percentage point per year in several cases (particularly in emerging economies).
second, pressures from aging will imply that entitlement spending will have to be reform. More specifically:

• Fiscal adjustment will require reforming pension and health entitlements—the key source of spending pressures over the next decades. This spending already represents a sizeable share in total spending (e.g., in excess of one-third of total spending in G-7 countries); the net present value of future spending increases arising from aging is more than 10 times as large as the...
fiscal cost of the crisis (Fiscal Affairs Department, 2009b). Policy measures in this area are politically difficult, but have one advantage: their effects will be phased in over time. Indeed, as noted, to the extent that long-term spending trends are affected through structural reform, a smaller improvement in the primary balance could then be targeted in the near term. Some measures in this area can have powerful effects: for example, a two-year increase in the retirement age in European Union countries is estimated to save some 40 percent of GDP in net present value terms (Barell, Hurst, and Kirby, 2009). And some of these measures could, at least in principle, have a positive effect on output.\footnote{Extending working lives would have a positive supply-side effect on output through an increase in the labor force, which would outweigh the impact of a possible decline in the capital stock arising from a reduced need to save for retirement, as the retirement period is shortened. On the demand side, consumption would rise, owing to higher incomes.}

- Fiscal reform will need to extend beyond pensions and health care. In the absence of reform, spending in these areas would increase by 4–5 percentage points of GDP by 2030. This increase will have to be prevented, but it is unrealistic to expect that reforms could reduce pension and health spending as a share of GDP in the presence of population aging.

- To start with, not renewing the stimulus measures will improve the average primary position by about 1½ percentage points.

- Moving to more structural measures, on the spending side, a strategy focused on freezing real primary spending in per capita terms—the focus of some successful debt reduction strategies—could be considered.\footnote{In the United States, the Budget Enforcement Act of 1990 actually imposed a \textit{nominal} freeze on discretionary spending and a paygo rule for any changes in entitlements to mandatory spending or tax rules. This was one of the key reasons why the fiscal deficit disappeared during the 1990s. The nominal freeze was successful because military spending fell at a sufficiently fast rate so that other discretionary spending had room to increase.} With precrisis primary spending (excluding pension and health) equivalent to 23 percent of GDP ratio for the large advanced economies and a real growth rate of 2 percent, this approach would improve the primary balance by 3½ percentage points of GDP in 10 years. Reductions in spending ratios of this magnitude will require ensuring maximum spending efficiency, but have been implemented in some countries undergoing fiscal adjustment in the late 1980s and early 1990s.

- Given the primary adjustment targets, and short of additional spending cuts, some 3 percentage points of the adjustment would have to come from the revenue side (Table 1.2). Broadening the tax base, including by fighting tax evasion, will continue to be key. Changes to the tax structure are likely to become even more relevant than in the past. In this regard, externality-correcting taxes would be among the highest priorities. Given the requirements imposed by the fight against global warming, appropriate carbon pricing (through either carbon taxation or the sale of emission rights) could
represent a new important source of revenue over the coming decades, averaging some ½ percent of GDP per year in some advanced economies over the next decade (and probably more later).

- To buttress the fiscal adjustment, developing further and strengthening existing institutional arrangements such as medium-term fiscal frameworks, fiscal responsibility laws, fiscal rules, and fiscal councils would be important. There is evidence that strong fiscal institutions are associated with better fiscal performance. Early reforms in this area would bolster the credibility of fiscal adjustment. Policies should also ensure adequate recovery of the value of assets acquired by the public sector during the crisis. In this regard, country authorities may occasionally face trade-offs between rapidly reselling assets to the private sector as soon as acquired banks or companies return to profitability, against a more gradual approach that might ultimately yield larger gains to the government’s budget (see IMF, 2009a).

### 1.3.2. Returning to a Normal Monetary Policy

The ability of central banks to preserve price stability will be crucial to attain the economic growth that is desirable in and of itself and is also needed for debt sustainability. While deflation would have pernicious effects and exacerbate the recession, inflation rates higher than those consistent with price stability would also be harmful.

The key actions that central banks will need to take are limiting and then unwinding crisis intervention operations, restructuring balance sheets, preparing instruments for monetary tightening, and adjusting policy interest rates and communicating policy actions to anchor inflation expectations in support of price stability.
1.3.2.1. Unwinding Crisis Intervention Operations and Managing Balance Sheets

It should be stressed at the outset that central banks have effective tools to steer money market rates to the appropriate levels, even in the presence of excess bank reserves. This can be done, for example, by increasing the rate of interest paid on reserves.

Central banks have begun to unwind crisis intervention measures (see the Appendix to this chapter). Most liquidity supplying crisis operations have been unwound as financial conditions normalize and the demand for excess reserve balances falls.

The purchases of long-term securities have been large in several cases. Purchases of long-term government securities were aimed mainly to reduce long-term interest rates. The Bank of England used this tool actively during the crisis, with increases in its holdings amounting to 13 percent of GDP since August 2007; there have also been significant purchases by the U.S. Federal Reserve. The purchase of private sector assets to support credit markets has mostly been time-limited.17

Central banks will need to decide whether to sell their long-term security holdings taken on during the crisis. Selling these holdings could have a macroeconomic impact, so the timing of any sales will be crucial. A running down of substantial private security purchasing operations may imply an effective tightening of monetary policy and could influence market expectations. The timing of sales needs to reflect an overall assessment of financial and economic indicators and conditions.

The greatly increased asset position of many central banks has the potential to incur losses. Long-term securities carry market risk, as longer-term assets purchased at low yields would likely lose value when interest rates rise. If capital levels remain adequate and operations show an overall profit, then over time the balance sheet should strengthen. But in the event losses are large, which on the present outlook seems unlikely in major central banks, the government would need to transfer funds to the central bank to recapitalize it.

1.3.2.2. Preparing to Tighten Monetary Policy

In adjusting policy interest rates, central banks must make sure to maintain well-anchored inflationary expectations in support of price stability. To do so, they must not fall behind the curve and must take proper account of the long and variable lags between changes in the stance of monetary policy and prices and output, as well as the uncertainties in gauging potential output and risk premiums. Policy decisions will have to be guided by sound judgment to avoid policy mistakes.

17Classification of the mortgage-backed securities purchased by the Federal Reserve as public or private securities is ambiguous; these are claims on the private sector and have the policy objective of boosting private credit, but they are guaranteed by U.S. government agencies and thus do not pose credit risk to the Federal Reserve.
Central banks must reestablish the short-term policy rate as the key tool for setting the monetary policy stance, so that they are prepared to tighten when the time comes. Central banks may want to alter other aspects of the monetary framework, including tightening collateral policy to reduce the risk of future losses and avoid market distortions, and reconsidering the appropriate set of counterparties.

Raising policy interest rates does not require the prior unwinding of unconventional crisis measures. As the economy emerges from the crisis, banks may still be holding substantial excess liquidity. Central banks can choose from several instruments and measures to begin to absorb excess reserves, with the choice reflecting whether they were injected by standard monetary instruments or by the purchase of long-term securities. The array of absorbing instruments includes reverse repossessions (selling government securities that will be bought back later), issuing central bank bills, and raising the interest rate on bank reserves held at the central bank. Any institutions or markets that could be stressed by higher interest rates should be closely supervised and, if necessary, their problems resolutely addressed by the relevant authorities.

During the unwinding, there will be an unusually high premium on effective and innovative policy communication. Markets must be reassured that longer-term concerns about price stability will be addressed. Central banks will need to lay out a general strategy to remove crisis measures and carefully explain the significance of different actions. There are trade-offs between the benefits of discussing specifics and the costs of having to depart from commitments in the face of unforeseen events. Consistency of messages across different government entities, as well as across countries, will help guide markets and the public.

1.3.2.3. Preserving Central Bank Independence

Just as importantly, government support of central bank independence and price stability through the appropriate statements and actions are needed. These would include facilitating the restructuring of central bank balance sheets and helping the central bank to fend off any inappropriate criticism of central bank actions during the crisis, including emphasizing the negative consequences that inaction would have had.

1.4. TIMING AND COORDINATION

A key challenge is to determine the appropriate timing of exit in the presence of uncertainty as to when the recovery will become entrenched. Policymakers need to chart the course between unwinding macroeconomic policies too early, which would delay the recovery (as occurred in the 1930s, when fiscal policy in the United States was tightened prematurely), and maintaining intervention too long, which would distort private incentives and create macroeconomic risks. As mentioned above, for most countries continued stimulus is appropriate in 2010, but exit should begin in 2011 if the recovery takes place at the speed currently projected. That said, both the speed of recovery to date and the fiscal space to provide
stimulus differ substantially across countries, so that the desirable extent of further stimulus also needs to reflect country-specific circumstances. In any case, it is important that any further measures be easily reversible.

Policy action can begin now in some areas, with no adverse effects on the recovery. First, it is now necessary for governments to design and communicate their strategies and measures to ensure fiscal solvency. Markets need to be reassured that fiscal policy will be tightened when the economy recovers. Second, some actions that do not risk having a negative impact on demand can be implemented now, such as institutional reforms to enhance fiscal transparency and medium-term fiscal frameworks. Even a more substantive reform of entitlements, though politically difficult, would yield important benefits in terms of signaling commitment to fiscal sustainability, without necessarily undermining demand, if the reforms focus on, say, increasing the retirement age, or if they are passed now but implemented in a gradual manner.

Markets will also react positively to monetary policy actions that reassure them of the commitment to keeping inflation in check. Going into the crisis, there were at times challenges in clearly communicating to markets the monetary policy stance, owing to extraordinary measures aimed at ensuring financial stability or easing liquidity conditions. Meeting those challenges on the way out of the crisis will require careful analysis and clear communication. Drawing a distinction between the policy stance and the measures taken to implement it will be essential.

International consistency of policies will be key to a successful exit process. A factor facilitating coordination in the introduction of the unprecedented policy measures was the substantial synchronicity of the onset of the crisis. However, early signs of recovery in some countries, but not others, suggest that the recovery may be less synchronized. As a result, ensuring international consistency of macroeconomic policies may face greater challenges in the next few years, with differing country specific circumstances playing a greater role in country authorities’ deliberations regarding the policy stance.

The rolling back of the web of domestic and international support for the financial sector will need to be done in close coordination with fiscal and monetary policy unwinding. A new financial regulatory framework and more capital will be needed to reduce the risks ensuing from the unwinding of crisis financial policies. International consistency is especially important for the unwinding of financial measures such as deposit guarantees, especially among tightly linked economies.

Coordination in fiscal policy will continue to be relevant in four key areas. First, in the short term, the international dialogue is likely to continue to focus on fiscal stimulus spillovers onto trading partners’ demand. Second, over the medium term,
the challenge will be to manage the fiscal tightening in major advanced economies without weakening global demand. This will also require appropriate monetary policy cooperation consistent with preserving price stability, crowding in private demand as fiscal policy is tightened, and strengthening other sources of demand, including from emerging economies with stronger current savings. Third, any increases in taxation—undertaken as part of the effort to bring the public finances under control—will be more effective when such increases are discussed with neighboring countries. Fourth, should some countries’ government debt sustainability be at risk, there would be a danger of contagion to other countries. Given these spillovers, close monitoring of fiscal developments by the international community—and appropriate peer pressure—will remain important.

The accommodative monetary stance of advanced countries can stimulate large and potentially destabilizing capital flows into economies with higher yields. The right policy responses will differ depending on individual country circumstances, and may include some fiscal tightening where appropriate, exchange rate appreciation or greater flexibility, macroprudential policies aimed at limiting the emergence of new asset price bubbles, and in some instances carefully designed temporary capital controls.

The IMF will seek to support international consistency by closely monitoring the unwinding process as part of its surveillance mandate. This will take the form of regular bilateral surveillance as well as existing multilateral surveillance vehicles such as the World Economic Outlook, the Global Financial Stability Report and the Fiscal Monitor. These steps will complement other ongoing work on the medium-term consistency of policies among the largest economies, including the G-20 Mutual Assessment Process.

1.5. REFERENCES


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APPENDIX. ADVANCED ECONOMIES: MONETARY CRISIS INTERVENTION POLICIES

Monetary Sector Heat Map

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**Figure 1.5** Monetary sector heat map. Notes: (1) The shading indicates the status of exiting from intervention policies as follows. (2) The heat map is designed to show the extent of the use of key monetary crisis-intervention measures. They are based on: (i) policy interest rates, (ii) the size of central bank balance sheets, and (iii) the number of crisis-intervention measures. Information for the fourth quarter of 2009 is preliminary, and policy interest rates for 2010 are based on market forecasts.

AUTHORS’ COMMENTS AND DISCUSSION

The discussants were Messrs. Landau and Sakakibara. In the fiscal area, the discussants’ and other conference participants’ observations focused on the appropriate concept and level of fiscal targets in the postcrisis world and the broad expenditure and revenue measures to reach such targets.

A few participants considered that targeting a reduction in government debt-to-GDP ratios was unrealistic and unwarranted. They argued that stabilizing the government debt-to-GDP ratio was sufficient to ensure fiscal sustainability and pointed out that this would already require a massive fiscal adjustment. They were not convinced that reducing the debt would have a beneficial impact on interest rates and economic growth, even in the medium run. The literature seeking to estimate the impact of fiscal variables on interest rates and economic growth was still not conclusive, and the costs of fiscal adjustment for both the economic recovery and society more generally should not be underestimated. In addition to the arguments contained in the paper, the presenters recognized that it would be difficult to provide a fully satisfactory analytical justification for any specific numerical target for the debt-to-GDP ratio, but pointed out that the current debt-to-GDP ratio for the advanced economies, on average, had already reached an extremely high level by historical standards. Being in uncharted territory called for prudence.

Some participants argued that net debt was a preferable target compared with gross debt. Neglecting the asset side of the government balance sheet would lead...
to excessive fiscal conservatism. There was general consensus that both gross debt and net debt were key indicators to be considered. On Japan, however, other participants pointed out that a large share of the government bonds held by public institutions represented investments to provide for future obligations (e.g., pensions). Thus, these were not liquid assets that the government would be able to easily allocate to other purposes. More generally, some participants noted that few governments would find it appropriate to deplete their assets in order to reduce the gross debt without much fiscal adjustment.

Some participants argued that the use of target debt-to-GDP ratios, even for illustrative purposes, could give the impression of a “one-size-fits-all” approach to policy recommendations. The presenters agreed that tailoring to country-specific circumstances was important. They pointed to different targets for advanced and emerging economies and to IMF research that indeed found that a given government debt-to-GDP ratio is associated with lower perceptions of risk if certain country-specific factors—such as a higher share of long-term, domestic currency debt—are in place.

Regarding how the large fiscal imbalances would be resolved, some participants expressed concern that large government debts might increase political support in advanced countries for tax measures of a protectionist nature. Some participants considered that in principle, some countries could make substantial improvements through increases in taxation (e.g., Japan’s VAT rate was relatively low and could be increased substantially), but political and societal preferences imposed major constraints on such increases. This said, most participants seemed to consider that the bulk of the action needed to take place on the expenditure side. In that regard, it was pointed out that pension reforms, while desirable, would be politically challenging.

The upshot of the likely political difficulties in improving the structural primary balance was that there might eventually be pressures on inflation as a vehicle for reducing the real value of the debt (a vehicle that presenters and participants all saw as highly undesirable), though at present the main concern was rather deflation, in light of low aggregate demand. Another consequence of pressures to reduce “headline” deficits and debts, as well as the need to boost economic growth, was a strong interest (e.g., in Asian emerging markets) in public-private partnerships (PPPs) to provide infrastructure. It was noted, however, that the use of PPPs would merely postpone the problem if it was motivated by a desire to show better headline fiscal numbers rather than the efficiency gains that often come from private sector involvement. In fact, PPPs implied long-term expenditure commitments that would eventually show up on the government’s books. Finally, there was general agreement that growth-enhancing structural reforms (to goods and labor markets) were a key element in a strategy to ensure fiscal sustainability.
Redesigning the Macro Framework
2.1. INTRODUCTION

It was tempting for macroeconomists and policymakers alike to take much of the credit for the steady decrease in cyclical fluctuations from the early 1980s on and to conclude that we knew how to conduct macroeconomic policy. We did not resist temptation. The crisis clearly forces us to question our earlier assessment.

This paper tries to question that assessment. It proceeds in three steps. The first reviews what we thought we knew. The second identifies where we were wrong. The third, and the most tentative of the three, makes a first pass at the contours of a new macroeconomic policy framework.

A caveat before we start: the paper focuses on general principles. How to translate these principles into specific policy advice tailored to advanced economies, emerging market countries, and developing countries is left for later. The paper also mostly stays away from some of the larger issues raised by the crisis, from the organization of the international monetary system to the general structure of financial regulation and supervision, touching on those issues only to the extent that they relate directly to the issue at hand.

2.2. WHAT WE THOUGHT WE KNEW

To caricature (we shall give a more nuanced picture below): we thought of monetary policy as having one target, inflation, and one instrument, the policy rate. As long as inflation was stable, the output gap was likely to be small and stable and monetary policy did its job. We thought of fiscal policy as playing a secondary cyclical role, with political constraints sharply limiting its de facto usefulness. And we thought of financial regulation as mostly outside the macroeconomic policy framework.

1 Helpful inputs from Mark Stone, Stephanie Eble, Aditya Narain, and Cemile Sancak are gratefully acknowledged. We thank Tam Bayoumi, Stijn Claessens, Charles Collyns, Stanley Fischer, Takatoshi Ito, Jean Pierre Landau, John Lipsky, Jonathan Ostry, David Romer, Robert Solow, Antonio Spilimbergo, Rodrigo Valdes, and Atchana Waiquamdee for their comments.
Admittedly, these views were more closely held in academia: policymakers were often more pragmatic. Nevertheless, the prevailing consensus played an important role in shaping policies and the design of institutions. We amplify and modulate these points in turn.

2.2.1. One Target: Stable Inflation

Stable and low inflation was presented as the primary, if not exclusive, mandate of central banks. This was the result of a coincidence between the reputational need of central bankers to focus on inflation rather than activity (and their desire, at the start of the period, to decrease inflation from the high levels of the 1970s) and the intellectual support for inflation targeting provided by the New Keynesian model. In the benchmark version of that model, constant inflation is indeed the optimal policy, delivering a zero output gap (defined as the distance from the level of output that would prevail in the absence of nominal rigidities), which turns out to be the best possible outcome for activity given the imperfections present in the economy (Blanchard and Galí, 2007).

This divine coincidence (as it has been called) implied that, even if policymakers cared very much about activity, the best they could do was to maintain stable inflation. This applied whether the economy was affected by “animal spirits” or other shocks to consumer preferences, technology shocks, or even changes in the price of oil. The coincidence failed in the presence of further imperfections and further deviations from the benchmark, but the message remained: stable inflation is good in itself and good for economic activity.

In practice, the rhetoric exceeded the reality. Few central banks, if any, cared only about inflation. All of them practiced “flexible inflation targeting,” the return of inflation to a stable target, not right away, but over some horizon. Most of them allowed for shifts in headline inflation, such as those caused by rising oil prices, provided inflation expectations remained well anchored. And many of them paid attention to asset prices (house prices, stock prices, exchange rates) beyond their effects on inflation and showed concern about external sustainability and the risks associated with balance sheet effects. But they did this with some unease, and often with strong public denial.

2.2.2. Low Inflation

There was an increasing consensus that inflation should not only be stable, but very low: most advanced country central banks chose a target around 2 percent (Romer and Romer, 2002). This led to a discussion of the implications of low inflation for the probability of falling into a liquidity trap: corresponding to lower average inflation is a lower average nominal rate, and given the zero bound on the nominal rate, a smaller feasible decrease in the interest rate—thus less room for expansionary monetary policy in case of an adverse shock. The danger of a low inflation rate was thought, however, to be small. The formal argument was that, to the extent that central banks could commit to higher nominal money growth and thus higher inflation in the future, they could increase future inflation expectations and thus decrease future anticipated real rates and stimulate activity today (Egertsson and Woodford, 2003). And, in a world of small shocks, 2 percent
inflation seemed to provide a sufficient cushion to make the zero lower bound unimportant. Thus, the focus was on the importance of commitment and the ability of central banks to affect inflation expectations.

The liquidity traps of the Great Depression, combining significant deflation and low nominal rates, were seen as belonging to history, a reflection of policy errors that could now be avoided. The Japanese experience of the 1990s, with deflation, zero interest rates, and a continuing slump, stood more uneasily in the way. But it was largely dismissed as reflecting the inability or unwillingness of the Japanese Central Bank to commit to future money growth and to future inflation, coupled with slow progress on other fronts. To be fair, the Japanese experience was not ignored by the Federal Reserve, which worried about deflation risks in the early 2000s (Bernanke, Reinhart, and Sack, 2004).

2.2.3. One Instrument: The Policy Rate

Monetary policy increasingly focused on the use of one instrument, the policy interest rate, that is, the short-term interest rate that the central bank can directly control through appropriate open-market operations. Behind this choice were two assumptions. The first was that the real effects of monetary policy took place through interest rates and asset prices, not through any direct effect of monetary aggregates (an exception to this rule was the stated “two-pillar” policy of the European Central Bank [ECB], which paid direct attention to the quantity of credit in the economy, but was often derided by observers as lacking a good theoretical foundation). The second assumption was that all interest rates and asset prices were linked through arbitrage. It followed that long rates were determined by proper weighted averages of risk-adjusted future short rates, and asset prices by fundamentals (the risk-adjusted present discounted value of payments on the asset). Under these two assumptions, one needs only to affect current and future expected short rates: all other rates and prices follow. And one can do this by using, implicitly or explicitly, a transparent, predictable rule (thus the focus on transparency and predictability, a main theme of monetary policy in the past two decades), such as the Taylor rule, giving the policy rate as a function of the current economic environment. Intervening in more than one market, say in both the short-term and the long-term bond markets, is either redundant or inconsistent.

Under these two assumptions also, the details of financial intermediation are largely irrelevant. An exception was made, however, for banks (more specifically, commercial banks), which were seen as special in two respects. First—and in the theoretical literature more than in the actual conduct of monetary policy—bank credit was seen as special, not easily substituted by other types of credit. This led to an emphasis on the “credit channel,” where monetary policy also affects the economy through the quantity of reserves and, in turn, bank credit (Kashyap and Stein, 2000). Second, the liquidity transformation involved in having demand deposits as liabilities and loans as assets, and the resulting possibility of runs, justified deposit insurance, and the traditional role of central banks as lenders of last resort. The resulting distortions were the main justification for bank regulation and supervision. Little attention was paid, however, to the rest of the financial system from a macro standpoint.
2.2.4. A Limited Role for Fiscal Policy

In the aftermath of the Great Depression and following Keynes, fiscal policy had been seen as a—perhaps the—central macroeconomic policy tool. In the 1960s and 1970s, fiscal and monetary policy had roughly equal billing, often seen as two instruments to achieve two targets—internal and external balance, for example. In the past two decades, however, fiscal policy took a back seat to monetary policy. The reasons were many: the first was wide skepticism about the effects of fiscal policy, itself largely based on Ricardian equivalence arguments. Second, if monetary policy could maintain a stable output gap, there was little reason to use another instrument. Third, in advanced economies, the priority was to stabilize and possibly decrease typically high debt levels; in emerging market countries, the lack of depth of the domestic bond market limited the scope for countercyclical policy anyway. Fourth, lags in the design and the implementation of fiscal policy, together with the short length of recessions, implied that fiscal measures were likely to come too late. Fifth, fiscal policy, much more than monetary policy, was likely to be distorted by political constraints.

The rejection of discretionary fiscal policy as a countercyclical tool was particularly strong in academia. In practice, as for monetary policy, the rhetoric was stronger than the reality. Discretionary fiscal stimulus measures were generally accepted in the face of severe shocks (such as, for example, during the Japanese crisis of the early 1990s). And policymakers would sometimes turn to discretionary fiscal stimulus even during “normal recessions.” A countercyclical fiscal stance was also seen as desirable in principle (though elusive in practice) for emerging markets with limited automatic stabilizers. This often took the form of louder calls for fiscal prudence during periods of rapid economic growth. And even for emerging markets, the consensus recipe for the medium term was to strengthen the stabilizers and move away from discretionary measures.

As a result, the focus was primarily on debt sustainability and on fiscal rules designed to achieve such sustainability. To the extent that policymakers took a long-term view, the focus in advanced economies was on prepositioning the fiscal accounts for the looming consequences of aging. In emerging market economies, the focus was on reducing the likelihood of default crises, but also on establishing institutional setups to constrain procyclical fiscal policies, so as to avoid boom-bust cycles. Automatic stabilizers could be left to play (at least in economies that did not face financing constraints), as they did not conflict with sustainability. Indeed, with the increase in the share of government in output as economies developed (Wagner’s law), automatic stabilizers played a greater role. Somewhat schizophrenically, however, while existing stabilizers were seen as acceptable, little thought was given to the design of potentially better ones.

2.2.5. Financial Regulation: Not a Macroeconomic Policy Tool

With the neglect of financial intermediation as a central macroeconomic feature, financial regulation and supervision focused on individual institutions and mar-
kets and largely ignored their macroeconomic implications. Financial regulation targeted the soundness of individual institutions and aimed at correcting market failures stemming from asymmetric information, limited liability, and other imperfections such as implicit or explicit government guarantees. In advanced economies, its systemic and macroeconomic implications were largely ignored. This was less true in some emerging markets, where prudential rules such as limits on currency exposures (and sometimes an outright prohibition against lending to residents in foreign currency) were designed with macro stability in mind.

Little thought was given to using regulatory ratios, such as capital ratios, or loan-to-value ratios, as cyclical policy tools. Spain and Colombia, which introduced rules that de facto link provisioning to credit growth, were notable exceptions (Caruana, 2005). On the contrary, given the enthusiasm for financial deregulation, the use of prudential regulation for cyclical purposes was considered improper mingling with the functioning of credit markets (and often seen as politically motivated).

### 2.2.6. The Great Moderation

Increased confidence that a coherent macro framework had been achieved was surely reinforced by the “Great Moderation,” the steady decline in the variability of output and of inflation over the period in most advanced economies. There is still some ambiguity as to whether this decline should be seen as having started much earlier, only to be interrupted for a decade or so in the 1970s, or as having started in earnest in the early 1980s, when monetary policy was changed (Blanchard and Simon, 2001; and Stock and Watson, 2002). There is also some ambiguity as to how much of the decline should be seen as the result of luck, that is, smaller shocks, structural changes, or improved policy. Improvements in inventory management and good luck in the form of rapid productivity growth and the trade integration of China and India likely played some role. But the reaction of advanced economies to largely similar oil price increases in the 1970s and the 2000s supports the improved-policy view. Evidence suggests that more solid anchoring of inflation expectations, plausibly arising from clearer signals and behavior by central banks, played an important role in reducing the effects of these shocks on the economy. In addition, the successful responses to the 1987 stock market crash, the Long-Term Capital Management (LTCM) collapse, and the bursting of the tech bubble reinforced the view that monetary policy was also well equipped to deal with the financial consequences of asset price busts.

Thus, by the mid-2000s, it was not unreasonable to think that better macroeconomic policy could deliver, and had indeed delivered, higher economic stability. Then the crisis came.

### 2.3. WHAT WE HAVE LEARNED FROM THE CRISIS

#### 2.3.1. Stable Inflation May Be Necessary, but Is Not Sufficient

Core inflation was stable in most advanced economies until the crisis started. Some have argued in retrospect that core inflation was not the right measure of
inflation, and that the increase in oil or housing prices should have been taken into account. This, however, goes against the conclusions from theoretical research (which suggests stabilization of an index corresponding to “sticky prices,” an index quite close to that used to measure core inflation) and is more a reflection of the hope that it may be sufficient to focus on and stabilize a single index, so long as it is the “right” one. This is unlikely to be true: no single index will do the trick.

Inflation, even core inflation, may be stable, and the output gap may nevertheless vary, leading to an obvious trade-off between the two. (This is hard to prove empirically, as the output gap is not directly observable. What is clear, however, is that the behavior of inflation is much more complex than is assumed in our simple models and that we understand the relationship between activity and inflation quite poorly, especially at low rates of inflation.) Or, as in the case of the precrisis 2000s, both inflation and the output gap may be stable, but the behavior of some asset prices and credit aggregates, or the composition of output, may be undesirable (for example, too high a level of housing investment, too high a level of consumption, or too large a current account deficit) and potentially trigger major macroeconomic adjustments later on.

2.3.2. Low Inflation Limits the Scope of Monetary Policy in Recessions

When the crisis started in earnest in 2008 and aggregate demand collapsed, most central banks quickly decreased their policy rate to close to zero. Had they been able to, they would have decreased the rate further: estimates, based on a simple Taylor rule, suggest another 3 to 5 percent cut would have been advisable for the United States (Rudebusch, 2009). But the zero nominal interest rate bound prevented them from doing so. One main implication was the need for more reliance on fiscal policy and for larger deficits than would have been the case except for the binding zero interest rate constraint.

It appears today that the world will likely avoid major deflation and thus avoid the deadly interaction of larger and larger deflation, higher and higher real interest rates, and a larger and larger output gap. But it is clear that the zero nominal interest rate bound has proven costly. Higher average inflation and thus higher starting nominal interest rates would have made it possible to cut interest rates more, thereby probably reducing the drop in output and the deterioration of fiscal positions (Williams, 2009).

2.3.3. Financial Intermediation Matters

Markets are segmented, with specialized investors operating in specific markets. Most of the time, they are well linked through arbitrage. However, when, for some reason, some of the investors withdraw from that market (be it because of losses in some of their other activities, loss of access to credit or to some of their funds, or internal agency issues), the effect on prices can be very large (Allen and Gale, 2005). In this sense, wholesale funding is not fundamentally different from
demand deposits, and the demand for liquidity extends far beyond banks. When this happens, rates are no longer linked through arbitrage, and the policy rate is no longer a sufficient instrument for policy. Interventions, either through the acceptance of assets as collateral, or through their straight purchase by the central bank, can affect the rates on different classes of assets, for a given policy rate. This is indeed what, under the heading of credit easing, the central banks have done in this crisis.

Another old issue the crisis has brought back to the fore is that of bubbles and fads, leading assets to deviate from fundamentals, not for liquidity but for speculative reasons. At the least, the evidence from the crisis strengthens the case for the existence of and the dangers associated with such bubbles, in this case in the housing market. And it surely puts into question the “benign neglect” view that it is better to pick up the pieces after a bust than to try to prevent the buildup of sometimes difficult-to-detect bubbles.

2.3.4. Countercyclical Fiscal Policy Is an Important Tool

The crisis has returned fiscal policy to center stage as a macroeconomic tool for two main reasons. First, to the extent that monetary policy, including credit and quantitative easing, had largely reached its limits, policymakers had little choice but to rely on fiscal policy. Second, from its early stages, the recession was expected to be long lasting, so that it was clear that fiscal stimulus would have ample time to yield a beneficial impact despite implementation lags.

It has also shown the importance of having “fiscal space” (and here there is a parallel with the earlier discussion about inflation and room to decrease nominal interest rates). Some advanced economies that entered the crisis with high levels of debt and large unfunded liabilities have had limited ability to use fiscal policy. Similarly, those emerging market economies (e.g., some in Eastern Europe) that ran highly procyclical fiscal policies driven by consumption booms are now forced to cut spending and increase taxes despite unprecedented recessions. By contrast, many other emerging markets entered the crisis with lower levels of debt. This allowed them to use fiscal policy more aggressively without fiscal sustainability being called into question or ensuing sudden stops.

The aggressive fiscal response has been warranted given the exceptional circumstances, but it has further exposed some drawbacks of discretionary fiscal policy for more “normal” fluctuations—in particular lags in formulating, enacting, and implementing appropriate fiscal measures (often because of an awkward political process). The U.S. fiscal stimulus bill was enacted in February 2009, more than a year after the start of the recession, and less than half of the authorized spending had been spent by the end of 2009.

Furthermore, the wide variety of approaches in terms of the measures undertaken has made it clear that there is a lot we do not know about the effects of fiscal policy, about the optimal composition of fiscal packages, about the use of spending increases versus tax decreases, and about the factors that underlie the sustainability of public debts, topics that had been less active areas of research before the crisis.
2.3.5. Regulation Is Not Macroeconomically Neutral

Just like financial intermediation itself, financial regulation has played a central role in the crisis. It contributed to the amplification effects that transformed the decrease in U.S. housing prices into a major world economic crisis. The limited perimeter of regulation gave incentives for banks to create off-balance-sheet entities to avoid some prudential rules and increase leverage. Regulatory arbitrage allowed financial institutions such as AIG to play by different rules from other financial intermediaries. Once the crisis started, rules aimed at guaranteeing the soundness of individual institutions worked against the stability of the system. Mark-to-market rules, when coupled with constant regulatory capital ratios, forced financial institutions to take dramatic measures to reduce their balance sheets, exacerbating fire sales and deleveraging (Adrian and Shin, 2008).

2.3.6. Reinterpreting the Great Moderation

If the conceptual framework behind macroeconomic policy was so flawed, why did things look so good for so long? One reason is that, during the past two decades, policymakers had to deal with shocks they understood rather well and for which policy was indeed well adapted. For example, the lesson that, with respect to supply shocks, anchoring of expectations was of the essence, was well understood when the price of oil increased again in the 2000s. But, even though they were better prepared to deal with some shocks, they were just not prepared for others. (This is despite the fact that they had, in effect, a number of warnings, from the LTCM crisis to the sudden stops of capital in the Asian crisis. But LTCM was dealt with successfully and was seen as a one-off event, not a potential rehearsal of the same problem on a larger, macro scale. And the difficulties faced by the financial systems of Asian countries were not thought to be relevant to advanced economies.) The poor performance of Japan in dealing with the bursting of the 1980s real estate bubble can be read in this light: the Japanese economy was exposed to a shock whose implications were not understood at the time.

It may even be that success in responding to standard demand and supply shocks, and in moderating fluctuations, was in part responsible for the larger effects of the financial shocks in this crisis. The Great Moderation led too many to understate macroeconomic risk, ignore tail risks, and take positions (and, in the case of regulators, relax rules), from leverage to foreign currency exposure, which turned out to be much riskier after the fact.

2.4. IMPLICATIONS FOR THE DESIGN OF POLICY

Identifying the flaws of existing policy is (relatively) easy. Defining a new macroeconomic policy framework is much harder. The bad news is that the crisis has made clear that macroeconomic policy must have many targets; the good news is that it has also reminded us that we have in fact many instruments, from “exotic” monetary policy to fiscal instruments, to regulatory instruments. It will take some time,
and substantial research, to decide which instruments to allocate to which targets, between monetary, fiscal, and financial policies. What follows are explorations.

It is important to start by stating the obvious, namely, that the baby should not be thrown out with the bathwater. Most of the elements of the precrisis consensus, including the major conclusions from macroeconomic theory, still hold. Among them, the ultimate targets remain output and inflation stability. The natural rate hypothesis holds, at least to a good enough approximation, and policymakers should not design policy on the assumption that there is a long-term trade-off between inflation and unemployment. Stable inflation must remain one of the major goals of monetary policy. Fiscal sustainability is of the essence, not only for the long term, but also in affecting expectations in the short term.

### 2.4.1. How Low Should the Inflation Target Be?

The crisis has shown that large adverse shocks can and do happen. In this crisis, they came from the financial sector, but they could come from elsewhere in the future: for example, the effects of a pandemic on tourism and trade or the effects of a major terrorist attack on a large economic center. Should policymakers therefore aim for a higher target inflation rate in normal times, in order to increase the room for monetary policy to react to such shocks? To be concrete, are the net costs of inflation much higher at, say, 4 percent than at 2 percent, the current target range? Is it more difficult to anchor expectations at 4 percent than at 2 percent? Achieving low inflation through central bank independence has been a historical accomplishment, especially in several emerging markets. Thus, answering these questions requires that we carefully revisit and reevaluate the benefits and costs of inflation. (Classic references include Fischer and Modigliani [1978], Summers [1991], and Akerlof, Dickens, and Perry [1996]. More recent attempts include, for example, Fagan and Messina [2009], and Williams [2009].)2

Were central banks to decide to increase the target, they would face two important transition issues. The first issue relates to anticipated versus unanticipated inflation. The argument above is about choosing an inflation target for normal times. It is not about increasing inflation today to reduce the debt burden accumulated during the crisis. In steady state, a higher target would imply a perfectly anticipated higher average inflation, which would be reflected into debt contracts. In contrast, an unanticipated increase in inflation would inflate away the debt, and expropriate debt holders. This is why any change in the inflation target, if it were to be adopted, should be put in place gradually, so as to let markets adjust nominal rates in anticipation of higher inflation in the future.

The second issue relates to central bank credibility. If the target were increased by, say, 2 percent, how could the public be reassured that further changes would not be made? This is an important concern, present in all instances in which a central bank changes its operating rules. The answer, as for other changes under-

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2 Another benefit of slightly higher inflation rates would be greater ease in absorbing relative wage and price misalignments in the presence of nominal rigidities (Krugman, 1998; and Benigno and Ricci, 2010).
taken by central banks, is transparency and pedagogy, a careful explanation of why changes have been made. This has been done successfully in the past: for example, when central banks stopped announcing targets for monetary aggregates. And, indeed, (admittedly small) changes in the target, both by the ECB and by the Bank of New Zealand, have not affected their credibility (Bank of New Zealand, 2007).

A final related question is whether, when the inflation rate becomes very low, policymakers should err on the side of a more lax monetary policy, so as to minimize the likelihood of deflation, even if this means incurring the risk of higher inflation in the event of an unexpectedly strong pickup in demand. This issue, which was on the mind of the Federal Reserve in the early 2000s, is one we must also return to.

### 2.4.2. Combining Monetary and Regulatory Policy

Part of the debate about monetary policy, even before the crisis, was whether the interest rate rule, implicit or explicit, should be extended to deal with asset prices. The crisis has added a number of candidates to the list, from leverage to current account positions to measures of systemic risk.

This seems like the wrong way of approaching the problem. The policy rate is a poor tool to deal with excess leverage, excessive risk taking, or apparent deviations of asset prices from fundamentals. Even if a higher policy rate reduces some excessively high asset price, it is likely to do so at the cost of a larger output gap. Were there no other instrument, the central bank would indeed face a difficult task, and this has led a number of researchers to argue against reacting to perceived asset bubbles and other variables (Mishkin, 2008b). But there are other instruments at the policymaker’s disposal—call them cyclical regulatory tools. If leverage appears excessive, regulatory capital ratios can be increased; if liquidity appears too low, regulatory liquidity ratios can be increased; to dampen housing prices, loan-to-value ratios can be decreased; to limit stock price increases, margin requirements can be increased. True, none of these is a magic bullet and all can be, to some extent, circumvented. Nevertheless, they are likely to have a more targeted impact than the policy rate on the variables they are trying to affect. In this light, it seems better to use the policy rate primarily in response to aggregate activity and inflation and to use these specific instruments to deal with specific output composition, financing, or asset price issues.

A related issue is the potential conundrum created by the effect of low interest rates on risk taking (Borio and Zhu, 2008). If it is indeed the case that low interest rates lead to excessive leverage or to excessive risk taking (a case that remains to be proven), should the central bank, as some have suggested, keep the policy rate higher than is implied by a standard interest rule? Again, absent other instruments, the central bank would face a difficult choice, having to accept a positive output gap in exchange for lower risk taking. If, however, we take into account

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3 Bank of England (2009) provides a detailed discussion of the tools that could be used to complement the current regulatory ratios to manage aggregate risk over the cycle.
the presence of the other instruments, which can directly affect leverage or risk taking, then the problem can be better handled through the use of those instruments, rather than through modification of the policy rule.

If monetary and regulatory tools are to be combined in this way, it follows that the traditional regulatory and prudential frameworks need to acquire a macroeconomic dimension. Measures reflecting systemwide cyclical conditions will have to complement the traditional institution-level rules and supervision. As for monetary policy decisions, these macroprudential measures should be updated on a regular and predictable (or even semiautomatic) basis to maximize their effectiveness through a credible and well-understood policy stance. The main challenge, here, is to find the right trade-off between a sophisticated system, fine-tuned to each marginal change in systemic risk, and an approach based on simple-to-communicate triggers and easy-to-implement rules.

If one accepts the notion that, together, monetary policy and regulation provide a large set of cyclical tools, this raises the issue of how coordination is achieved between the monetary and the regulatory authorities, or whether the central bank should be in charge of both.

The increasing trend toward separation of the two may well have to be reversed. Central banks are obvious candidates as macroprudential regulators. They are ideally positioned to monitor macroeconomic developments, and in several countries they already regulate the banks. “Communication” debacles during the crisis (for example on the occasion of the bailout of Northern Rock) point to the problems involved in coordinating the actions of two separate agencies. And the potential implications of monetary policy decisions for leverage and risk taking also favor the centralization of macroprudential responsibilities within the central bank. Against this solution, two arguments were given in the past against giving such power to the central bank. The first was that the central bank would take a “softer” stance against inflation, as interest rate hikes may have a detrimental effect on bank balance sheets. The second was that the central bank would have a more complex mandate, and thus be less easily accountable. Both arguments have merit and, at a minimum, imply a need for further transparency if the central bank is given responsibility for regulation. The alternative, that is, separate monetary and regulatory authorities, seems worse.

### 2.4.3. Inflation Targeting and Foreign Exchange Intervention

The central banks that adopted inflation targeting typically argued that they cared about the exchange rate only to the extent that it had an impact on their primary objective: inflation. This was probably largely the case in the major advanced economies. For smaller countries, however, the evidence suggests that, in fact, many of them paid close attention to the exchange rate and also intervened on foreign exchange markets to smooth volatility and, often, even to influence the level of the exchange rate (Mishkin, 2008a).

The actions of the central banks were more sensible than their rhetoric. Large fluctuations in exchange rates, arising from sharp shifts in capital flows (as we saw
during this crisis) or other factors, can create large disruptions in activity. A large appreciation may squeeze the tradable sector and make it difficult for it to grow back if and when the exchange rate decreases. Also, when a significant portion of domestic contracts is denominated in foreign currency (or is somehow linked to exchange rate movements), sharp depreciations can cause severe balance sheet effects with negative consequences for financial stability, and thus, output.

In this context, the discrepancy between rhetoric and practice is confusing and undermines the transparency and credibility of the monetary policy action. Central banks in small open economies should explicitly recognize that exchange rate stability is part of their objective function. This does not imply that inflation targeting should be abandoned. Indeed, at least in the short term, imperfect capital mobility endows central banks with a second instrument in the form of reserve accumulation and sterilized intervention. This tool can help control the external target while domestic objectives are left to the policy rate.

Of course, there are limits to sterilized intervention, and these can be easily reached if capital account pressures are large and prolonged. These limits will be specific to each country and will depend on countries’ openness and financial integration. When these limits are reached and the burden falls solely on the policy rate, strict inflation targeting is not optimal, and the consequences of adverse exchange rate movements have to be taken into account.

Note that this discussion provides yet another example of the important relation between policies and regulation discussed in the previous subsection. For instance, to the extent that prudential rules can prevent or contain the degree of contract dollarization in the economy, they will allow for greater policy freedom with respect to exchange rate movements. In turn, the perception of an “excessively stable” exchange rate can lead to greater incentives for contract dollarization.

2.4.4. Providing Liquidity More Broadly

The crisis has forced central banks to extend the scope and scale of their traditional role as lenders of last resort. They extended their liquidity support to non-deposit-taking institutions and intervened directly (with purchases) or indirectly (through acceptance of the assets as collateral) in a broad range of asset markets. The question is whether these policies should be kept in tranquil times.

Two arguments have traditionally been made against such public liquidity provision. The first is that the departure of private investors may reflect, at least in part, solvency concerns. Thus, the provision of liquidity carries risk for the government
balance sheet and creates the probability of bailout with obvious consequences for risk taking. The second is that such liquidity provision will induce more maturity transformation and less-liquid portfolios. While this outcome is sometimes referred to as moral hazard, it is not by itself a bad one: to the extent that public liquidity provision can be provided at no cost, it is indeed optimal to have the private sector do this maturity transformation. The cost may, however, be positive, reflecting the inability of the government to fully avoid solvency risk, and thus the potential need for higher taxation or foreign borrowing.

Both problems can be partly addressed through the use of insurance fees and haircuts (the first argument suggests, however, relying, in normal times, on indirect support and appropriate haircuts to reduce credit risk, rather than on direct purchases). The problems can also be addressed through regulation, by both drawing up a list of assets eligible as collateral (in this respect, the ECB was ahead of the Federal Reserve in having a longer list of eligible collateral) and, for financial institutions, by linking access to liquidity to coming under the regulatory and supervision umbrella.

2.4.5. Creating More Fiscal Space in Good Times

A key lesson from the crisis is the desirability of fiscal space to run larger fiscal deficits when needed. There is an analogy here between the need for more fiscal space and the need for more nominal interest rate room, argued earlier. Had governments had more room to cut interest rates and to adopt a more expansionary fiscal stance, they would have been better able to fight the crisis. Going forward, the required degree of fiscal adjustment (after the recovery is securely under way) will be formidable, in light of the need to reduce debt against the background of aging-related challenges in pensions and health care. Still, the lesson from the crisis is clearly that target debt levels should be lower than those observed before the crisis. The policy implications for the next decade or two are that, when cyclical conditions permit, major fiscal adjustment is necessary and, should economic growth recover rapidly, it should be used to reduce debt-to-GDP ratios substantially, rather than to finance expenditure increases or tax cuts.

The recipe to create additional fiscal space in the years ahead and to ensure that economic booms translate into improved fiscal positions rather than procyclical fiscal stimulus is not new, but it acquires greater relevance as a result of the crisis. Medium-term fiscal frameworks, credible commitments to reducing debt-to-GDP ratios, and fiscal rules (with escape clauses for recessions) can all help in this regard. Similarly, expenditure frameworks based on long-term revenue assessments help limit spending increases during booms. And eliminating explicit revenue earmarking for prespecified budget purposes would avoid automatic expenditure cuts when revenues fall. A further challenge, as governments come under greater pressure to display improved deficit and debt data and are tempted to provide support to ailing sectors through guarantees or off-budget operations, is to ensure that all public sector operations are transparently reflected in fiscal data and that well-designed budget processes reduce policymakers’ incentives to postpone needed adjustment.
2.4.6. Designing Better Automatic Fiscal Stabilizers

As discussed above, the exception of this crisis confirms the problems with discretionary fiscal measures: they come too late to fight a standard recession. There is, thus, a strong case for improving automatic stabilizers. One must distinguish here between truly automatic stabilizers—that is, those that by their very nature imply a procyclical decrease in transfers or increase in tax revenues—and rules that allow some transfers or taxes to vary based on prespecified triggers tied to the state of the economic cycle (see Baunsgaard and Symansky, 2009).

The first type of automatic stabilizer comes from the combination of rigid government expenditures with an elasticity of revenues with respect to output of approximately one, from the existence of social insurance programs (defined-benefit pension and unemployment benefit systems fall into this category), and from the nature of income taxes. The main ways to increase the macroeconomic effect of these automatic stabilizers would be to increase the size of government, (to a lesser extent) to make taxes more progressive, or to make social insurance programs more generous. However, reforms along these lines would be warranted only if they were based on a broader set of equity and efficiency objectives, rather than motivated simply by the desire to stabilize the economy.

The second type of automatic stabilizer appears more promising (see Seidman, 2003; Feldstein, 2007; Elmendorf and Furman, 2008; and Elmendorf, 2009). This type does not carry the costs mentioned above and can be applied to tax or expenditure items with large multipliers. On the tax side, one can think of temporary tax policies targeted at low-income households, such as a flat, refundable tax rebate, a percentage reduction in a taxpayer’s liability, or tax policies affecting firms, such as cyclical investment tax credits. On the expenditure side, one can think of temporary transfers targeted at low-income or liquidity-constrained households. These taxes or transfers would be triggered by the crossing of a threshold by a macro variable. The most natural variable, GDP, is available only with a delay. This points to labor market variables, such as employment or unemployment. How to define the relevant threshold, and which taxes or transfers to make contingent, are issues we must work on.

2.5. CONCLUSION

The crisis was not triggered primarily by macroeconomic policy. However, it has exposed flaws in the precrisis policy framework, forced policymakers to explore new policies during the crisis, and forces us to think about the architecture of postcrisis macroeconomic policy.

In many ways, the general policy framework should remain the same. The ultimate goals should be to achieve a stable output gap and stable inflation. But the crisis has made clear that policymakers have to watch many targets, including the composition of output, the behavior of asset prices, and the leverage of differ-

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4 The idea of an automatic fiscal stimulus goes back to the 1950s (Phillips, 1954; Musgrave, 1959).
ent agents. It has also made clear that they have potentially many more instruments at their disposal than they used before the crisis. The challenge is to learn how to use these instruments in the best way. The combination of traditional monetary policy and regulation tools, and the design of better automatic stabilizers for fiscal policy, are two promising routes. These need to be explored further.

Finally, the crisis has also reinforced lessons that we were always aware of, but with greater experience have now internalized more strongly. Low public debt in good times creates room to act forcefully when needed. Good plumbing, in terms of prudential regulation and transparent data in the monetary, financial, and fiscal areas, is critical to our economic system functioning well. Capitalizing on the experience of the crisis, our job will be not only to come up with creative policy innovations, but also to help make the case with the public at large for the difficult but necessary adjustment and reforms that stem from those lessons.

2.6. REFERENCES

CHAPTER 3

“Rethinking Macroeconomic Policy”: Comments

YUNG CHUL PARK

The paper by Olivier Blanchard, Giovanni Dell’Ariccia, and Paolo Mauro is an important contribution to the current debate on the causes of the failure of macroeconomics in general and many sophisticated forecasting models in particular in predicting the 2008–09 global economic crisis. At a time when all countries—both developed and developing—are struggling to find a way out of the crisis, this paper provides a new approach that will help construct a more effective setting for the conduct of monetary policy. Unfortunately, however, it has been unduly highlighted for a single member—4 percent—which the authors propose as a new target rate of inflation, while receiving much less attention on many of the suggestions for building a new framework than it deserves.

The authors admit that in the wake of the crisis, economists have come to realize that many of the conventional propositions in macroeconomics, such as irrelevancy of financial intermediation and sine qua non of stable and low inflation, were wrong and what economists did not know may have contributed to the failure of detecting the signs of a looming crisis. Yet, the authors do not believe that inflation targeting should be replaced by any other alternative frameworks for monetary policy, provided it is reinforced by financial regulatory tools and better fiscal automatic stabilizers. Many people who expected from the authors comprehensive, if not revolutionary, changes in macroeconomics are likely to be disappointed, but the paper provides an excellent summary of what economists did not know before and have learned after the crisis. In what follows, this note raises a number of questions on designing a new macroeconomic policy framework from the perspectives of emerging economies.

3.1. INFLATION TARGETING

Many laymen, who have become accustomed to price stability and have a limited background in economics, would find it difficult to understand the argument that the target rate of inflation and hence interest rates need to be raised to increase the room for monetary policy. Lifting up the target rate of inflation to 4 percent or to as high as 6 percent, as Rogoff (2008) suggests, which is expected to push up interest rates by 2 percentage points or more, will hardly be enough to inflate out of the high debt levels many countries—both developed and developing—are saddled with. Yet, it may be construed as an attempt at debt deflation in disguise.
The zero bound is a constraint on interest rate policy, but if the target rate were to be raised, how high should it be? In the absence of any consensus on an optimal rate of core or headline inflation, it is difficult to argue that 4 percent would be an appropriate target level. The federal fund rate was lowered from a high of 5.27 percent in August 2007 before the onset of the crisis to 0.08 in January 2010. Would the 4 percent target instead of 2 percent have created more room for monetary policy in the United States? It may not have.

Target rates of inflation in advanced countries are concentrated around 2 percent a year, whereas in emerging and developing economies they are around 3½ percent (Schmitt-Grohe and Uribe, 2010). If advanced countries were to double their target rate following the authors’ suggestions, should emerging economies do the same in view of the fact that they are more susceptible to internal and external shocks, pushing up the target rate to a level as high as 7 percent? In an extreme case where the target rate is doubled, in many emerging and developing economies, the default risk-free interest rate could rise to 9 percent in normal times. Can one justify such a high rate of interest for the sake of improving effectiveness of monetary policy? If interest rates in global financial markets are to go up to 6 to 7 percent, most emerging economies would find an equally large increase in their cost of external borrowing in reserve currencies. The high cost of external financing would pose a significant barrier to their development efforts.

There is an emerging consensus that monetary policy should be geared not only to stabilizing prices but also financial markets and institutions in order to facilitate the attainment of this additional objective. The authors propose that central banks be armed with a number of macroprudential regulatory instruments such as the loan-to-value, debt-to-income, and cyclical loan and capital provisioning. Changes in these instruments have an effect on the lending capacity of banks and other financial institutions and hence on monetary and credit aggregates. As price and financial stability are not independent but interrelated objectives, central banks cannot rely on the interest rate rule for stabilizing prices and set aside regulatory tools for mitigating financial turbulences. Both instruments are likely to be employed whenever monetary policy actions are called for either price or financial stability. Therefore, addition of regulatory instruments implies that changes in the quantity of credit or other monetary aggregates can complement the interest rate rule and hence can be integral components of the arsenal of monetary policy instruments. This change in the scope and operation of monetary policy may then weaken the case for a higher target rate.

In most emerging economies, the markets for real assets such as housing and commercial real estate and land are segmented, illiquid, and are not closely linked with other financial markets. These markets have also been major sources of financial instability as they are prone to speculation and the boom-bust cycle. In these economies, the interest rate rule is hardly adequate to preserve financial stability unless it is supplemented by macroprudential tools.

There is also the uncertainty as to whether central banks would be able to change inflation expectations by just announcing a new target rate. If market participants are unable to form their expectations of future inflation because of
the lack of the central bank credibility, much of the effect of monetary expansion required to double the target rate is likely to fall on the demand for both financial and real assets to raise their prices, before, given a relatively long operational lag, reaching the markets for goods and services. The asset price increase could subsequently provoke speculation and set off a boom-bust cycle in financial and real asset markets. To prevent the ensuing financial instability, macroprudential tools may have to be activated. The combined effect of the monetary expansion and changes in the regulatory instruments would then have an ambiguous effect on current and future inflation, making it difficult to anchor inflation expectations.

3.2. FINANCIAL INTERMEDIATION

One of the lessons of the crisis is that financial intermediation matters. Many anomalies of the financial system caused by the expansion of shadow banking and proliferation of structured derivative products have been at the root of the current crisis. They may also have weakened effectiveness of monetary policy. It would therefore be interesting to examine the extent to which the effectiveness of inflation targeting is predicated on the structure of the financial system. For example, the more complex and diversified financial system, the less effective is inflation targeting. Many proposals for financial reforms have been put forward by a number of advanced economies and various global forums. If excessive leverage and risk taking are the problems to be controlled to enhance efficiency and stability of the financial system, would it not be a better solution to reform the system rather than relying on macroprudential tools to mitigate them?

Once financial market stability is explicitly accepted as an objective of monetary policy, it follows that central banks should have a clear understanding of causal relations between price and financial stability. Price stability may create an economic environment conducive to excessive risk taking and hence susceptible to financial instability. Would sustaining financial stability assure price stability? If indeed it did, what factors would then explain the underlying asymmetry?

In managing a new inflation targeting framework, it would also be necessary to define and construct an operational measure of financial stability. Unlike in the case of price stability, there are not many indices of financial stability observable and credible to the general public for the central banks to adopt for the conduct of monetary policy. In the absence of such indices, central banks may find it difficult to respond to disruptions in real and financial asset markets or anchor expectations on financial stability, however it is defined.

3.3. STERILIZED INTERVENTION

Prior to contemplating any sterilized intervention emerging economies must determine as a precondition an adequate amount of foreign exchange reserve to be held. A rule of thumb is provided by the Greenspan–Fischer prescription, which requires an amount of reserve equal to the volume of short-term foreign
liabilities. Given their volatility, foreign investments in domestic equities need to be included in the definition of short-term external liabilities. If they are, the amount of reserve to be adequate multiplies. For example, at the end of 2007, Korea’s reserve should have been close to 50 percent of its GDP.

If such a large amount is required, emerging economies may not see any rationale in participating in international financial intermediation. As far as intervention in the foreign exchange market is concerned, what is needed from the point of view of policymakers is a set of operational guidelines determining the circumstances that call for intervention and timing of entering and leaving the market. The IMF would be the ideal institution to establish such guidelines.

In most emerging economies, keeping the current account in balance or its deficit at a sustainable level is an important policy objective. The question then arises as to which policy instrument could be employed to achieve current account balance. It is hard to believe that fiscal policy could be reserved for the current account objective. This suggests the possibility of allowing the reserve intervention not only for smoothing volatility of the nominal exchange rate, but for restoring the current account by influencing its level. There is also the question of whether emerging economies should consider capital control as a means of stabilizing the exchange rate. The authors suggest that when the limits to sterilized intervention are reached, and the consequences of adverse exchange rate movements have to be taken into account. Although they do not advocate capital control explicitly, in the absence of other effective policy instruments, they seem to suggest that emerging economies may have to resort to this contentious measure. If this indeed is the case, the authors are entering into a controversial area where the past experiences do not shed much light on the effectiveness of various capital control measures.

3.4. REFERENCES


In discussing the current macroeconomic framework, I will focus on the institutional aspects that have proved successful, in particular from the European perspective. These are central bank independence, the centrality of price stability for monetary policy, and the need to adopt a medium-term, rules-based perspective in the conduct of monetary and fiscal policies. The financial crisis has not contested or discredited these three principles.

However, it is certainly true that other aspects of the international consensus framework merit some deep re-thinking. I will discuss four such elements, namely inflation targeting, central banking as risk management, monetary policy and asset prices, and fiscal policy.

4.1. THE REFERENCE MODEL

Inflation targeting, together with the canonized version of the New Keynesian model on which it is predicated, is perhaps the main building block of the precrisis consensus paradigm. Although they are closely connected, I wish to separate the policy prescriptions from the underlying model, and address each in turn.

The shortcomings of the New Keynesian modeling paradigm have been recognized before, but addressing them has not yielded a paradigm shift to overcome them.

The first shortcoming of this paradigm is its inability to explain and recognize the importance of financial frictions and the role of money. Money is at best ignored—and at worst derided—as a redundant and unnecessary complication. This has to do with the fragile theoretical foundations of the mechanisms which, in this paradigm, account for the connection between the real economy, financial imbalances, and the state of confidence and inflation.

This disregarding of money goes hand-in-hand with the assumption of the absence of risk. The mainstream model excludes default. If assets are formulated at all, they all net out. No risk generated in the financial sector can affect the real economy. The financial crisis has clearly exposed the flaws in this assumption. It has led to a misapprehension of the root causes of the crisis and its propagation mechanism.

Liquidity and money are key for the European Central Bank’s (ECB’s) monetary policy strategy. Far from showing that the ECB’s strategy lacks theoretical
foundations, the crisis has borne out our broad-based approach and exposed the incompleteness of the transmission mechanism in the reference model.

The second shortcoming of this paradigm is its undue focus on small economic fluctuations around benign states of the economy. This left economists unprepared in terms of being able to predict the crisis and its impact.

Third, the paradigm rests on the built-in assumption that the announcement of an inflation target automatically yields credibility. The canonized version of the model does not allow for an understanding of how institutional strength and a track record affect credibility. Institutional strength requires central bank independence, for which, in turn, legal independence is a necessary, but by no means sufficient, prerequisite.

4.2. INFLATION TARGETING

The reference model has been at the heart of inflation targeting approaches. In brief, inflation targeting can be summed up as follows.

- First, take inflation and output gap forecasts as summary statistics of the state of the economy.
- Second, ignore a host of variables, particularly money and credit. Assume that these adjust to the state of the economy, but do not influence it independently.
- Third, fine-tune the policy instrument so that inflation forecasts—whatever the nature of the shocks that might have caused them—are stabilized, and output volatility is minimized, at a preset horizon.

It has long been known that it is misleading to limit the information set to output gap and inflation forecasts. Output gaps are ill-defined and cannot be accurately measured.

Furthermore, inflation forecasts are not summary statistics of the state of the economy. Different underlying shocks—even though they might lead to the same inflation forecast—can have vastly different implications for policy.

4.3. RISK MANAGEMENT

It has frequently been argued that central banks should act as risk managers by organizing their framework around events with a high deflationary impact. To minimize the likelihood of deflation, central banks should err on the lax side and aim at significantly higher inflation rates. With this in mind, the IMF asks whether a permanent inflation target of 4 percent is appropriate. The proposal is nothing less than asking whether in the pursuit of price stability, central banks put macroeconomic stability at risk.

I do see the temptation for governments to ask for higher inflation in order to monetize the dramatic buildup of public debt in nearly all advanced economies. This is why calling on central banks to raise inflation rates permanently is most unhelpful. It deflects from the most pressing problem that, currently, macroeco-
nomic stability is threatened by the unsustainable position of public finances in nearly all advanced economies. I can only reject the idea of raising inflation rates permanently. I would not like to imagine the consequences if, on top of the current financial fragilities and in an environment of high public debt, the general public were to lose trust in the purchasing power of money.

There is no evidence whatsoever to support that deviating from price stability and aiming at an inflation rate of 4 percent would enhance economic prosperity or growth. On the contrary, no one would seriously deny that inflation has a detrimental impact.

The inflation tax does not constitute just another tax distortion. It greatly exacerbates distortions from existing taxes, contributing to a misallocation of resources and a rise in the tax burden, especially for lower-income households, and ultimately depresses economic growth.

It is an irrefutable and empirical fact that inflation variability rises with the level of inflation, which in turn increases uncertainty for investors and long-term interest rates through a rise in the inflation risk premium.

A permanent increase in inflation curtails, rather than stimulates, long-term growth. A considerable body of empirical research finds that the Phillips curve has a negative bend in the long run: inflation and inflation volatility penalize capital formation and thus detract from the economy’s growth potential.

Empirical evidence confirms this negative relationship, with a 100 basis point permanent increase in inflation being associated with a 10–30 basis point decrease in trend output growth. Therefore, if this is applied to the euro area, a 4 percent inflation target would shave no less than ½ percentage point per year off trend growth!

As for using monetary policy to manage macroeconomic risk, it should be recognized that this would introduce harmful asymmetries. It avoids policy restriction when positive supply-side shocks reduce inflation, fueling asset price booms, and when the asset price boom finally turns into a bust, it leads central banks to overreact to negative demand-side shocks. So, financial instability meets two formidable multipliers, the first being a procyclical monetary response to expansionary disinflations in good times and the second being moral hazard in financial markets, namely the expectation that the central bank will aggressively protect the markets from “tail events” in bad times. These expectations encourage markets to tend toward risky strategies, overexposures, and exuberance.

4.4. ASSET PRICES AND MONETARY POLICY

It is worth mentioning the role of asset prices in the conduct of monetary policy. A long series of booms and busts over the past four decades have demonstrated that asset price developments can pose serious threats to macroeconomic and price stability, and that, as a result, central banks cannot simply neglect them. In this respect, it appears that a comprehensive monetary policy strategy, which also

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1 For a comprehensive review of the empirical evidence, see the article entitled “Price Stability and Growth” in the May 2008 issue of the ECB’s Monthly Bulletin, pp. 75–87.
gives prominence to money and credit developments, might be better able to “lean against the wind” of financial exuberance. Central banks should be equipped with a broad-based analytical framework for monitoring and analyzing in detail such developments. At the ECB, this approach is underpinned by the monetary analysis, the second pillar of our monetary policy strategy.

4.5. FISCAL POLICY

For many commentators, the financial crisis has underlined the need for a return of the state in managing macroeconomic developments. Of course, together with central bank liquidity support, discretionary government intervention has been key in forestalling a repeat of a 1930s-style depression. However, we are observing a drift in public liabilities that will prove hard to correct with the usual stabilizers. In some countries, this drift actually has nothing to do with the financial crisis. It is rooted in the policy hyperactivism that was already in place before the crisis. And this is despite the obvious dangers of an overreactive fiscal stance, which cannot be decided and implemented without long lags.

Here, fiscal rules, such as the Stability and Growth Pact in the European Union, can help. If given enough authority, rules can induce symmetric behavior.

It remains to be seen how the discretionary fiscal measures adopted in response to the crisis can be wound down and reversed to support fiscal sustainability in the longer run. As the ECB has started to gradually phase out its extraordinary liquidity support measures, fiscal authorities should also start to withdraw stimulus to safeguard public solvency over the medium term. To support this, we have the right mechanisms in place in Europe. Governments will have to comply with and, as experience shows, even re-enforce the fiscal rules enshrined in the Stability and Growth Pact.

4.6. CONCLUSION: SOME LESSONS

From this quick overview, I draw two lessons for monetary policy.

The first lesson to be learned is that central banks need to broaden—not restrict—their overview of the economy. Monetary data are critical in warning against risks that are slow to appear in inflation forecasts. Monetary analysis at the ECB consistently sent early signals that risk was broadly underpriced, when inflation was quiescent and measures of slack were moderate.

The second lesson is that price stability is the only anchor that can pin down the economy in turbulent times. It is not sufficient to guarantee financial stability, but it is certainly necessary to prevent financial instability.

Increasing the level of inflation at which central banks should aim would be a step in the wrong direction. Our price stability mandate has not constrained us from responding forcefully and successfully to the biggest disinflationary shock experienced in generations. With inflation rates in the euro area currently projected to be slightly above 1 percent in the short to medium term, deflation risks continue to be absent, and price stability has been maintained. Most importantly, of course, price stability has not compromised macroeconomic stability.
Toward A Stability-Oriented Policy Framework

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Seoul, Korea
25 February 2010

Key Issues

• Inflation targeting
• Central banks as risk managers
• Monetary policy and asset prices
• Fiscal policy
The New Keynesian Reference Model

The crisis has exposed the weakness of the New Keynesian reference model on which inflation targeting is predicated.

- Money considered redundant, absent of risk and default
- Focus on small fluctuations around benign states of the economy
- Central bank credibility imposed: institutional aspects are missing

Inflation Targeting Provisions

- Consider output gaps and inflation forecasts summary statistics of economy
- Ignore money and credit
- Fine-tune interest rate changes so as to stabilize inflation forecasts around target
The Central Bank as a Risk Manager

Should central banks err on the lax side?
• Discussion deflects from sovereign risk currently posing the biggest threat to macroeconomic stability
• Ignores known costs of inflation:
  – Inflation tax and welfare redistribution
  – Inflation risk premium in long-term interest rates
  – Adverse impact on capital accumulation and long-term growth

Asset Prices and Monetary Policy

• Past boom and bust shows that asset prices, credit, and money cannot be ignored.
• The ECB’s monetary policy strategy supports “leaning-against-the-wind” of financial exuberance.
Fiscal Policy

- Sovereign risk not always a result of crisis management, but rather originates from too much discretion in the past.
- Need to establish and comply with fiscal policy rules
- To this end, an institutional framework needs to be reinforced.

Conclusion

- Central banks need to broaden policy horizon and information set on which policy decisions are based.
- Pursuit of price stability has not constrained central banks from reacting forcefully and successfully to forestall deflation.
The Future Financial System
CHAPTER 5

Redesigning the Contours of the Future Financial System

LAURA E. KODRES • ADITYA NARAIN

5.1. EXECUTIVE SUMMARY

The crisis has elicited a profound re-evaluation of the way in which the global financial system works. How both policymakers and market participants respond to the crisis will shape the future financial system for at least a generation. This paper explores some of the probable outcomes and argues that for the global financial system to serve its purpose of supporting economic growth, a more robust and stable system must be designed and put into place.

The crisis has made it obvious that reform of supervision and regulation is essential to create a safer financial system less prone to excessive risk taking. In addition to improved supervision of individual institutions, greater emphasis needs to be put on financial regulations that reflect the systemic nature of financial risks and the role that macroeconomic policies play. Care must be taken, however, to avoid excessive regulation that could stifle innovation and the benefits of a more globally integrated financial system. This note suggests the key aspects of the contours will be the following.

- Banks will return to their more traditional function—regulation will attempt to limit the risks banks assume by imposing higher capital requirements (therefore permitting less leverage), probably limiting their profits.
- The nonbanking sector will likely have a greater competitive advantage—both in supplying credit and providing investors with nonbank services—and will thus grow. The perimeter of regulation will need to be set to take into account more acutely the risks in the nonbank sector.
- The global financial system will be smaller, and less levered, than in the recent past, and could well be less innovative and dynamic, at least for a while. How this will affect economic growth will depend on whether a more stable system motivates a higher level of savings and investment over the long run.
- Market infrastructure, including more exchange trading of previously over-the-counter instruments and robust netting and clearing systems, will be reinforced to protect investors from counterparty risks, and will provide needed simplicity and transparency to make risks clearer and the financial system safer.

1 Helpful comments were received by many individuals in the IMF and from the private sector.
Global consistency of regulation and financial sector taxation will be essential to mitigate systemic risks, to avoid unintended distortions, and to help ensure a level playing field. The IMF, given its membership, will have a key role in guiding the move to the new financial system by contributing to the discussions on regulatory design, monitoring implementation, warning of a buildup of systemic and fiscal risks, examining macrofinancial linkages, and assessing risks to global growth.

5.2. INTRODUCTION

The crisis has elicited wide-ranging discussion and deep introspection about what the future contours of the financial system should look like, particularly about how regulation and supervision should be reformed to encourage a financial system that better mitigates systemic risks. This paper discusses the weaknesses prevalent in the runup to the crisis, the probable changes in the regulatory environment, and how the financial system is likely to be shaped by them. Finally, this paper explores the role that the IMF can play in moving toward a more robust and stable global financial system.

A financial system should provide society with the means of matching savers and investors so as to transform today’s resources into tomorrow’s consumption—and to do this efficiently and safely. Ultimately, a smooth functioning financial system should help to produce stable and sustainable economic growth. In the runup to the crisis, some of these goals were not met—behavior of market participants, policymakers, regulators and supervisors, and others interacted in ways that gave rise to extreme instability, resulting in levels of government intervention into the private sector of advanced economies that have not been experienced since the Great Depression.

While there were many causes of the crisis, the crisis illustrated that regulation and supervision were inadequate for the risks that were undertaken by the market. Implementation and enforcement of existing regulation was also too lax, reflecting a steady drift toward a more hands-off supervisory style, where the attitude that the private sector “knows best” was permitted to take hold. In some countries this caused an under-resourcing of supervisory agencies that then were unable to stay on top of market practices. Moreover, supervisors focused too much on risks of individual entities or markets without explicitly factoring in the potential for a buildup of systemic risks that could result in crisis.

The regulatory reforms that are emerging in policy discussions are aimed at moving the overall financial system to a lower point on the risk/return trade-off—lowering risks, raising costs, and thus, most likely, lowering returns earned by the sector. Ideally, this would be best accomplished by establishing price-based incentives for important parts of the financial system to avoid extreme systemic risks—essentially by making it more expensive for institutions to do so. Alternatives, albeit less preferable, would involve outright quantity constraints on positions, the size and scope of activities, or even limits on the types of instruments that can be purchased or sold. In various venues, both approaches are under discussion.

A financial system that is more highly regulated and takes less risk is probably less likely to cause large gyrations in financial stability and real economic activity,
but at the same time it could be associated with slower economic growth. While formal studies are scarce, there is a supposition that economies with more financial innovation, higher leverage, and greater ability to take on risks are associated with a steeper economic growth path at least for some time. This effect, of course, is difficult to disentangle from other influences, such as those from fiscal and monetary policies. Nonetheless, the recent experience suggests that higher growth that is spurred by poor financial innovation, without economic value, may be illusory and come with a heavy price in the form of crises that may have a significant cost in terms of the longer-term growth trend. That said, a more stable financial system may encourage its use, with savers and investors more willing to use financial intermediaries thereby raising the economic growth trend.

On the regulatory front, two very different scenarios are possible in the months ahead.

- First, having skirted systemic collapses, in part because of the rapid deployment of new government facilities and other support mechanisms, and facing strong resistance from the private sector to new regulation and at least a temporary recovery of profits, the official community allows complacency to set in and the difficult reform agenda is allowed to languish.
- Second, that the crisis has been so devastating and generated such a public backlash that every public body wants to be seen as responding vigorously. However, action on numerous fronts by the various public entities could result in over-regulation to a degree that certain markets may simply disappear and valuable financial innovations and products are blocked.

Either outcome would be undesirable. Moreover, there is probably little appetite for removing ineffective or outdated regulations as this might be perceived as further deregulation. What needs to occur is that sensible and better regulation is designed and implemented—a Goldilocks solution—not too little, nor too much, but just right to do the job of preventing problems where markets fail to operate properly.

The key questions as to what the future financial system will look like can be summarized as follows. Although formal answers are, at this point, a guess, the outlines—the contours—of the more probable responses can be described.

On the financial system as a whole:
- Will the global financial system be safer and simpler?
- What will be the role of banks versus the role of nonbanks in financing growth?
- Will the domestic financial system be smaller as a proportion of the domestic economy?
- At the global level, will financial integration continue or reverse?

On the banking sector:
- What kind of banking system will we have?
- Will bigger banks dominate or will smaller banks be more prevalent, or both?
On financial markets and instruments:

- Which type of markets will we have? Simpler? More transparent?
- Will there be more organized venues for clearing and settlement versus over-the-counter bilateral trading?
- Will certain types of instruments be encouraged or discouraged?

Before attempting to answer these basic questions in light of potential regulatory responses, this paper reviews how the financial system ended up in the situation of today.

### 5.3. WHAT WENT WRONG

The financial crisis unfolded in an environment where financial institutions and other investors were excessively optimistic about asset prices and risk against a backdrop of low nominal interest rates. Indeed, in the 5 to 6 years prior to the crisis several trends signaled that the financial system was becoming more vulnerable.² First, while not a determining factor in which countries were hit by the crisis, a rapid expansion of the financial sector was evident in many countries. Some of this was spurred by high levels of household borrowing for the purchase of real estate, some of which was based on a loosening of underwriting standards. Second, reliance on non-deposit-based funding became prevalent in the banking systems of the subsequently hardest hit countries. In part, this development was linked with a need to finance structured credit instruments held in off-balance sheet vehicles. Third, in the banking sector of many countries, trading account income, as well as commission and fee income, rose while net interest income from the traditional banking business was lackluster. Using traditional measures of leverage of banks’ balance sheets, overall banking system leverage was either elevated or grew rapidly in the advanced countries that suffered the most (Germany, Switzerland, the United Kingdom, and the United States).

These same trends were evident in three important emerging market countries (Brazil, China, and India), though to a much lesser degree. Growth in financial system assets was less steep. Banking system assets were mostly stable implying that what growth did occur was in the nonbank financial sector. However, most of this recorded growth took place in mutual and pension funds, not in leveraged entities, as in the advanced economies. Hence, these countries were initially less vulnerable to the shocks that transpired.

While the global trends were evident to many onlookers, their potential risks were largely dismissed in part because of the belief that market discipline would rein in excessive risk taking, at least in market-based systems. But the crisis revealed significant shortcomings in widely held views regarding risk management and the effectiveness of market discipline and self-regulation in the financial sector, as well as regulatory approaches based on them.

² The following refers to these countries: Australia, Brazil, Canada, China, France, Germany, India, Singapore, Switzerland, the United Kingdom, and the United States.
• While credit risk transfer is a powerful innovation, it often did not spread risk to those outside (or even more widely within) the banking system best able to handle the risks, as assumed. Nor did supervisors, and in some cases the banks themselves, understand where risks were located even inside a specific bank. The regulatory focus was on capital standards for credit risk, and funding liquidity risk did not receive due attention. Moreover, the use of various “Tiers” of capital let capital of lesser quality count in the regulatory ratios. The increased access to wholesale funding markets was welcomed, but the risk that it could dry up suddenly was largely ignored.

• Nonbanks proved to be systemically important, not just because of their size, but because of the interconnectedness to other important intermediaries. The size and interconnectedness of nonbank entities therefore caused several to be the recipients of government support previously reserved only for banks.

• Leverage was greater than initially thought, in part because it was embedded in instruments in ways that were not transparent and in part because regulatory ratios did not adequately incorporate some risks. The procyclicality embedded in the financial system was also stronger than initially perceived, arising from feedback effects between financial institutions’ balance sheets, asset prices, and the economy, building up latent instability in the upswing and amplifying damage in the downturn.

• Short-term incentive structures, which relied excessively on self-regulation, also encouraged outsized risk taking. Regulators did not recognize that such incentives would undermine market discipline, and thus did not impose offsetting changes in accounting, transparency, governance, or risk management systems.

• Inadequate resolution schemes for financial institutions and a lack of information about the potential spillovers compounded initial difficulties when they arose.

The inability to effectively supervise and efficiently resolve large, complex, cross-border financial institutions became evident as a major source of moral hazard, systemic risk, and eventual fiscal cost. Subsequent responses by governments also demonstrated that actions cannot be easily directed to domestic institutions or markets without affecting others and can have very rapid effects in other countries during a period of high uncertainty.

5.4. PRINCIPAL (AND PRINCIPLED) CHANGES TO THE REGULATORY ENVIRONMENT

The underlying philosophy of regulation changed with the crisis—policymakers recognize that prudential regulation to ensure the safety and soundness of individual institutions will not be sufficient to address systemic risks. The changes being proposed to the framework for financial regulation to address systemic risks
fall into one of two broad categories: those that are aimed at reducing the likelihood of future crises and those that are aimed at managing them better.

The preventive measures focus on both strengthening existing microprudential (entity level) regulatory requirements, as well as developing a framework for macroprudential (system-wide) regulation and supervision. The overall thrust of the preventive measures is to enhance the shock absorbers available in the system by increasing the buffers to cover losses and liquidity shortages, placing constraints on overall leverage in the financial system, and extending the regulatory perimeter to include all systemically important institutions, markets, and instruments.

Progress is being made in microprudential regulation and some enhancements to the regulatory framework have already been issued and implemented, including increased capital requirements in some areas, improved firm-wide risk management, guidance on sound compensation practices for supervisory review, and increased disclosure requirements for certain items. Other microprudential regulation, namely countercyclical capital requirements and more stringent funding liquidity requirements, is being formulated by the Basel Committee on Bank Supervision during 2010 with the objective of implementing these reforms by end-2012, assuming economic conditions are not adverse.

An operational framework for macroprudential supervision is still evolving. There is broad agreement on the components, which will enable regulation to take a more system-wide view. The key features of the macroprudential approach are (1) dampening procyclicality so that both upswings and downturns are not amplified by regulations or market practices and (2) greater attention to systemically important financial institutions where significance is not judged by size alone, but also on other factors such as leverage, interconnectedness, or complexity. The areas identified where procyclicality could be addressed range from (1) changes to capital regimes; (2) provisioning for losses; (3) rules linked to accounting practices; (4) risk management systems; and (5) compensation schemes. Attention to systemic liquidity difficulties also falls into the macroprudential realm.

The issue of identifying systemically important financial institutions involves both the ability to extend the perimeter of supervision to less- or unregulated segments as well as actions to counter regulatory arbitrage that inevitably follows tighter regulation in one sector. The IMF, the Financial Stability Board, and the Bank of International Settlements produced a set of underlying principles for authorities to use to identify systemically important institutions, markets, and instruments, an important first step. Clearly, more information from a number of currently unregulated entities (including about risk exposures) will needed to complete this exercise. The next step will be to decide how regulatory and supervisory approaches can be adapted. Providing clarity about how institutions are to be chosen, but at the same time maintaining some discretion to avoid circumven-

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3 There is also a realization among monetary policymakers that they should take into account financial stability concerns just as financial regulation should take a more system-wide approach. This is discussed in IMF Working Paper 09/70 "Financial Stability Frameworks and the Role of Central Banks: Lessons from the Crisis."
tion, will be a major challenge.\(^4\) Even though the line between institutions inside and outside the perimeter will always be difficult to discern, those overseeing the stability of the financial system will need to diligently collect the necessary information and devise better ways of staying on top of developments that may indicate where excessive risks reside.

Related to the identification of systemically important institutions is how to address too-big- or too-important-to-fail institutions. Two big (and intertwined) issues under discussion are (1) whether public policy should proactively inhibit institutions from becoming so large or interconnected as to be perceived as too big, or too important, to fail and (2) how should a failure of a systemically important institution be dealt with in both domestic and cross-border contexts.

While there is broad agreement on the risks that too-important-to-fail institutions pose, there is less agreement on how they should be dealt with. Consensus is building around the use of preventive measures, such as higher capital and liquidity requirements related to their contribution to systemic risk and more intensive supervision. Direct limits on size and scope of banks are also being proposed. For instance, limiting the activities of banks, including using their own funds (and hence implicitly depositors’ money) to finance proprietary trading desks, hedge funds, or private equity funds, may be another route to attempt to reduce the riskiness of banks and, in principle, their likelihood of failure, though the effectiveness of this proposal has not been examined in detail. Similarly, some believe that a return of traditional banking—banks taking retail deposits and making loans to households and corporates—will alleviate the too-important-to-fail problem. However, even traditional banks can be such large providers of credit in a country that a restriction to traditional banking will not redress the effect a failure may have on the real economy. Moreover, most severe banking crises are linked to excessive credit expansion. Spending time understanding how and why the failure of an institution can be detrimental (and to whom) could help avoid unintended consequences and focus any preventive measures directly on the problem.

Another angle is to develop a special resolution regime for financial institutions (not just banks). It is important to assure the continuity of financial services during an unwinding or bankruptcy. In addition to averting a disruption in the flows of payments, this also helps underpin confidence in the financial system, helping to avert panics and runs. Even without a formal resolution procedure, it would be helpful if too-important-to-fail institutions prepare, in advance, plans for their unwinding in the event of insolvency or failure, a so-called “living will.” This may, in part, encourage a reduction in complexity and “de-risking.”

Managing cross-border resolution issues is even more difficult. This will require consistent national approaches when a bank fails in several countries and are more contentious because domestic operations are subject to individual national legal frameworks. Progress in this area is likely to be slow. In the absence of an agreement about how to resolve bank failures across borders, the risk of

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\(^4\) Some countries are discussing whether they will provide a continuous scale along which institutions will be arrayed from highly systemic to nonsystemic. Others intend to have a more distinctive definition, identifying those that are and are not systemically important.
ring-fencing, where countries try to keep a bank’s assets within their borders, becomes higher. This notion has spawned a debate about whether self-standing subsidiaries of financial institutions would help to lower spillovers. The benefits to subsidiarization, such as a lessening of spillovers in bankruptcy, would need to be evaluated against the efficiency losses if internal transfers of cross-border funding were to be disallowed. In the cases where actual losses affect the public, ex ante burden sharing rules among national authorities would be highly useful, although they are unlikely to be agreed on or credibly enforced in the near term.

Product design can have a stability impact if the nature of the risk embedded in the product is opaque and mispriced, as in the case of the complex credit derivatives, and if products are structured in a way that exacerbates a run on liquidity, as was the case with money market funds. Reforms are underway to remove some of the informational and incentive problems that plagued securitized products. Credit rating agencies are providing more information about the underlying loans and modeling techniques used in their ratings. As well, incentive structures for those who are originating loans now reward longer-term decision making. In addition, regulators are insisting that originators hold more of the underlying loans to incentivize better monitoring. In general, however, although the crisis pinpointed some issues with specific products, it is not clear how to judge when new products will pose systemic risks.

Markets can also have a systemic impact if they are insufficiently transparent, thereby potentially leading to mispricing, misuse, or concentrating risk and laying the basis for an eventual destabilizing adjustment; this was the case in the credit default swaps market. Reform efforts in the credit default swaps market are focused on making the market more transparent and reducing counterparty exposures. Consensus has emerged that other over-the-counter markets may need to be moved to central counterparties or be subject to additional transparency requirements. Where such central clearing mechanisms existed during the crisis, payments flowed smoothly and defaults were handled well. Looking forward, however, it will be important to construct such central counterparties carefully so that the benefits of counterparty netting are not offset by the concentration of operational risk inherent in these important institutions.

5.5. THE FUTURE OF THE FINANCIAL SYSTEM: ACTION AND REACTION TO THE CRISIS AND REGULATORY REFORMS

The aim of many in the international financial community is to make the system less crisis prone. But what will be the private sector reactions to the set of regulations outlined above?

5.5.1. For the System as a Whole

5.5.1.1. Will the Global Financial System Be Safer and Simpler?

With higher capital charges and less ability to use leverage in the banking system, will the global financial system be less risky? Institutions that carry out
maturity transformations (for instance, borrowing short-term to lend longer-term) will be subject to more oversight regarding mismatches between the maturities of their assets and liabilities and will be required to hold more loss-bearing capital, cushioning the institution in downturns. Even without regulatory reform, many institutions are rethinking their risk-taking activities and how they can better align risk taking with employee compensation. The removal or modification of policies that tend to add to procyclicality and exacerbate financial cycles will also reduce the buildups of risk and leverage in the upswing and temper the outcomes of deleveraging and risk reduction in the downswing. The global financial system should become less risky if the reform agenda is carried out.

Will the global financial system be simpler? After witnessing how complexity can obscure risks and blunt attempts to resolve crises, simplicity is being welcomed by many investors. Simplicity will be easiest to see in the types of financial instruments produced and traded. During the crisis, counterparty risk was heightened by uncertainties surrounding nontransparent and difficult-to-value complex securities. This has made many financial institutions more wary about these securities. Moreover, some reforms intend to apply higher capital charges on nonstandardized products to encourage standardization. While there will always be a place for designing instruments and transactions tailored to satisfy specific clients’ needs, less of this activity will occur.

To better anticipate where systemic risks are building up, supervisors and regulators will encourage simpler institutional arrangements among and within regulated financial institutions. This may mean certain activities are only permitted in certain types of institutions. This should, in turn, facilitate better reporting of risk exposures, and alongside this, lower the hurdles to sharing information across regulatory entities and across borders. The unknown interconnections surrounding credit default swaps contract holders in the fall of 2008 is a prime example of what both the private sector and the official sector are already addressing through increased use of data repositories and information sharing. Those responsible for overseeing financial stability will also benefit from the ability to see through organizational structures and gain relevant aggregated and disaggregated information.

To the extent that the global financial system is safer and simpler, it will have an effect on the overall trend of economic growth. After deleveraging has run its course and the steady state is attained, the safer system should result in a dampening of the amplitude around the growth path. Whether this leads to a higher or lower growth path will depend on whether the ensuing stability encourages more use of the financial system to intermediate between savers and investors, or whether the regulations have slowed innovation inhibiting efficient intermediation. It may be, however, that some of the previous increase in the growth potential that was attributed to financial intermediation was false and some financial innovations were counterproductive—producing products that did not benefit society at large. If so, then these resources could be redeployed and better used in other nonfinancial activities, thereby supplementing growth.
5.5.1.2. What Will Be the Role of Banks Versus the Role of Nonbanks?

Lower leverage and higher required liquidity holdings within the banking system will likely result in greater demand to access credit through capital markets (e.g., corporate bonds). The need for higher lending spreads means that bank credit will be more expensive and hence those who are able to tap the now relatively cheaper capital markets for funding their investments will be more inclined to do so. While there may be higher demand for nonbank credit, a question remains as to whether there will be enough incentive to channel savings through alternative financial intermediaries (e.g., mutual funds, life insurance companies) to supply it. Will the less heavily regulated parts of the financial system be able to obtain funding and provide credit to households and corporations to replace the lower amounts supplied by banking institutions? Unless savers become highly risk averse, placing their funds in protected deposit accounts, intermediation outside the banking system is going to grow.

Because of the higher capital required to be held against risky assets, risky credits will likely shift out of the banking sector to the nonbank financial system. Regulations will need to be adopted to oversee the risks in the nonbank sector better. An important question is whether bank-like regulation will need to be extended to other institutions (e.g., private equity, hedge funds, real-estate investment trusts) currently viewed as “nonbank” but similarly characterized by high leverage and asset-liability mismatches in maturity, liquidity, or currency terms. If so, policymakers need to decide whether these institutions will also be eligible for access to the same protections provided to deposit holders and for central banks’ liquidity support mechanisms. Alternatively, policymakers may decide that such risk shifting is acceptable as long as it remains outside a well-protected banking system. The key will be to be transparent about what are acceptable risks for various institutions to take and the protections that apply.

The extent of credit risk transfer (e.g., securitization) outside the banking system that takes place will depend importantly on how regulation is formulated. New regulations have already constrained some previously used forms of securitization—generally the more complex forms. For securitization to be sustained, longer-term investors (insurers, pension funds, and so on) will need to be convinced that the new regulations on securitization are adequate to prevent the abuses that occurred in the runup to the crisis. But if regulations applied to securitization are too strict, originators may not find it economical to originate loans to distribute, potentially limiting the usefulness of securitization. A careful re-regulation of securitization markets is needed to restart this credit channel.

It could be that other institutional forms are used for risk taking, though they may seek safer ways to take specific risks. Allocations to proprietary trading desks in banks are being scaled back in anticipation of increased regulatory and capital costs. Counterparty risks will be reduced through better margining and centralized counterparty clearing facilities, but with higher costs of financial resources that serve as leverage, hedge funds and private equity funds may try to take on more specific types of risks rather than leverage up on commonly held trades.
5.5.1.3. Will the Financial System Be Smaller as a Proportion of the Economy?

The new higher capital requirements and other regulatory strictures on banks imply that in the steady state, the banking system is likely to be smaller overall. In the near term, bank deleveraging may overshoot and reduce the size of the banking system below its long-run equilibrium. In this interim stage, the public sector has, and may need to continue, to intermediate savings to assure credit continues to be supplied. After this interim period, the banking sector will likely be scaled back to a smaller, but more stable, size, particularly if the activities that a bank is able to undertake are more restricted.

If a smaller banking sector results, the likely size of the financial system, both bank and nonbank (in terms of the value added to the economy, or assets, or assets as a percentage of GDP), could be difficult to judge, with factors pulling in both directions. To the extent that households in advanced economies need to rebuild savings and hence demand other financial services (not necessarily credit services), say, related to retirement, the nonbank sector will expand, at least partly offsetting the decline in traditional banking. Alternatively, if households and other investors become more cautious in light of recent shocks, they may prefer to place their funds in low-risk investments, such as insured bank deposits or government securities that do not require much financial management, then depending on how the funds are used, the financial system could shrink overall.

5.5.1.4. At the Global Level, Will Financial Expansion and Integration Continue?

At the global level, the degree of cross-border financial flows is difficult to predict. Although many assume globalization of finance is an unstoppable trend, the crisis has led some countries to rethink their openness and their vulnerability, skeptical of mature markets’ integrity. Fallout from the crisis may lead some countries to dissuade foreign entrants and governments may decide to encourage nationalization of certain financial institutions. Domestic investors may prefer to invest at home. There could be a generalized pull-back from cross-border relationships as the cost of managing a global institution on a consolidated basis increases, offsetting the gains that can come from managing liquidity on a global basis. Outright protectionism, for instance prohibitions of foreign ownership of domestic assets or firms may increase, but should be resisted.

On the more positive side, if globally connected institutions are identified and their addition to systemic risks, if any, are dealt with through enhanced cross-border cooperation to prevent crises or manage crises if they occur, globalization could be enhanced. Regarding prevention of crises, globally accepted methods are not out of reach. For instance, the oversight of some cross-border financial institutions through “colleges of supervisors” (whereby supervisors from different countries exchange supervisory information and their examination strategies for financial institutions that operate in each of multiple countries) is being strengthened. The various international bodies that coordinate banking supervision,
securities market oversight, accounting rules, and so on, already provide venues for discussion and re-regulation. That said, there are some very difficult issues when it comes to managing and resolving crises that still require agreement, including the application of insolvency regimes and the sharing of losses. Some groups, including the IMF, are working to hammer out cross-border resolution regimes.

Emerging and developing economies have made good progress over the years in adopting global financial standards, constructing compatible market infrastructure, and improving their legal systems. In many cases, these economies have reaped the benefits of their financial development. However, the crisis has shaken confidence in this approach, causing some countries to question whether they are adopting potentially flawed regulations and supervisory practices. Is the “originate to distribute” model employed by financial institutions in some advanced countries still to be emulated? To keep globalization moving forward to the benefit of all countries, emerging and developing countries should continue to adopt tried and tested financial regulation and infrastructure, making sure their systems are resilient and robust.

5.5.2. On the Banking Sector

5.5.2.1. What Kind of Banking System Will We Have? Bigger Banks? Smaller Banks? Or Some of Each, Providing a More Tiered Banking System?

Whether large global banks become smaller or the system is made up of fewer very large institutions (i.e., more concentrated) depends on several forces. Higher capital requirements and a supervisory focus penalizing “size” and complexity could drive banks to curtail growth and to divest themselves of noncore businesses. Even without additional regulation, the higher cost environment and the recent difficulty of managing complex organizational structures may cause bank managers to decide that divesting business lines and being more specialized may improve profitability. Indeed, some large banks are doing this already. Smaller, cooperative banks or mutual institutions may also thrive. These banks, less reliant on shareholders’ expectations, were generally able to avoid many of the mistakes made by larger private sector institutions. Though not always considered the most efficient, vibrant, or innovative institutions, in many countries they dependably supply the small- and medium-sized enterprises and many households with their credit needs.

Pressures that lead banks to become larger include a funding advantage for firms believed to be “systemic” or too-important-to-fail and thus backstopped by the government; remuneration schemes linked to size or number of deals rather than risk-based profitability; and a belief that a “full service” global bank is necessary to service clients requiring a global reach and broad product capabilities. As noted above, regulations are directed toward changing this landscape, making it more expensive to become systemically important. Competition policy, however, is ill-suited to address systemic risk, given its focus on financial product pricing.
distortions rather than financial stability. As a result, determining whether financial stability will be undermined by a financial institution’s merger or acquisition should be undertaken not only by competition authorities, but also by those assigned the task of maintaining financial stability. New methods for this type of analysis will be required as it is much more related to issues of interconnectedness and the overall importance of an institution for the financial system rather than whether prices of bank services are too high because of a lack of competition with other banks. Thus new measures need to be designed alongside actions to dissuade institutions from acquiring the status of too-important-to-fail.

It may be that the new financial system forces banks to choose between becoming larger or opting to be smaller, resulting in a more tiered system. Some banks may be willing the pay the “systemic risk tax” (the design of which is being avidly discussed) and remain large or even grow larger and expect to receive public support, having paid their dues. Other banks may decide they are unlikely to need public support and prefer to avoid the additional costs that go with systemic importance, deciding to divest themselves of some business lines or become smaller to avoid a tax.

5.5.3. On Financial Markets and Instruments

5.5.3.1. What Type of Markets Will We Have? Simpler? More Transparent?

More transparent markets with greater amounts of trade information supplied to the market will be forthcoming to satisfy investor requirements. Already in many markets, participants are demanding better information and are receiving it. The calls for standards on information provision and best practices are emerging to cover a number of areas previously deemed to have lax reporting or where little information was available. If improvement is not provided by the private markets on their own, given that opacity is often in the interest of private firms, regulators should assess what information should be given out (and what should not) and to whom the information should be provided, as well as the cost of collection and disbursement. Too much information about an institution’s positions or exposures could lead others to behave strategically in a way that undermines the trading process. However, further global coordination on what confidential information could be reported to supervisors could lower costs and allow various authorities to foresee dangerous developments.

5.5.3.2. More Organized Clearing Venues Versus Bilateral Over-the-Counter Trading?

Risk mitigation infrastructure will be an important part of the new financial system. The ability to identify and unwind positions smoothly is a prerequisite to allowing shocks to be absorbed easily in a financial system. This lesson is being relearned as much of recent instability arose because of lack of transparency in over-the-counter markets about who owed what to whom, which increased perceived counterparty credit risks. For instance, the troubles in counterparty risks
in credit default swaps—all of which were traded over-the-counter—has moti-
vated netting initiatives and the construction of several central counterparties for
these contracts. Through multilateral netting, these central counterparties allow
counterparties to offset exposures with each other in a way that lowers the overall
exposures to the participating counterparties. By putting many trades in one
place, however, the structural integrity of a central counterparty needs to be
impeccable so that it can withstand the default of one or more of its counterpar-
ties without others being affected.

While central counterparties are effective when instruments are standardized,
other mechanisms such as valuation and matching facilities will also reduce risks.
More robust margining systems, in which cash or collateral is held to protect
against default or nonpayment, will also help in this regard. Already, resources
devoted to these issues are bearing fruit in the form of better modeling of margin-
ing systems and the development of trade repositories.

5.5.3.3. Will Some Instruments Be Encouraged or Discouraged?
For Some Types of Institutions or Investors?

Regulation will both explicitly and implicitly discourage certain types of instru-
ments or markets. It is important that this is done consciously and not left to the
realm of unintended consequences of actions taken. Regulation is mostly likely to
discourage instruments that contain a high degree of risk (especially leverage), are
difficult for users or investors to price, and may have some type of systemic or
destabilizing effect on markets. Although standardization is to be encouraged, it
will also make it more difficult to hedge custom-made or specialized risks, raising
costs to some set of end users. Overall, then, the key will be to ensure that there
are standards defining acceptable use by certain types of investors and greater
disclosure of the product’s risks and returns.

If regulation is insufficiently consistent globally, however, the use of some
types of instruments will simply move to unregulated, or less regulated, jurisdic-
tions. This is especially problematic when the jurisdiction now originating the
associated risks does not have the capacity to oversee their effects, particularly
when the impact is felt cross-border. Worries about offshore financial centers fall
into this category.

5.6. THE ROLE OF THE IMF

The IMF is playing a key role in the development of financial regulation and its
implementation by national authorities. The IMF can serve as an authority to
ensure that reform efforts are both sustained and coordinated. The IMF, with its
knowledge of members’ financial systems and experience in monitoring global
standards and codes, is uniquely positioned to help ensure that a redesigned
financial system benefits all its members, not just some. It is able to see the pros
and cons of different regulatory structures, what has worked well, and what has
not, and can help translate this into practical regulation. The IMF could advise
countries about where best the country could place a mandate for financial stabil-
ity, depending on its current financial architecture. The IMF may thus be able to help minimize collateral damage to households and firms that would otherwise occur if the reform of the financial system fails to occur or does so in an uncoordinated way, leading to an unlevel playing field. Through its surveillance activities, the IMF can bring peer pressure to bear on those countries that fail to conform to international best practice.

To help foster a more stable global financial system, the IMF will need to refine its surveillance of the financial system using a more global approach—including by looking at the connections between the financial system and the macroeconomy—so-called macrofinancial linkages. IMF policy advice is being strengthened by enhancing the interaction between multilateral and bilateral surveillance and through more targeted technical assistance in the areas of supervision, regulation, and crisis management. Assessment of contingent fiscal liabilities to the financial sector and their impact on systemic risk is becoming a particular focus.

The IMF already contributes to ongoing discussions on regulatory reform through its interactions with the financial sector standard setters (Basel Committee on Banking Supervision, the International Organization of Securities Commissions, International Accounting Standards Board, and the International Association of Deposit Insurers). The IMF will increasingly interact with the Financial Stability Board and the Bank of International Settlements on topics of mutual interest. The roles of these bodies will become further intertwined as the Financial Stability Board helps advance the agenda for international financial regulatory changes, the Bank of International Settlements collects data and performs research, and the IMF brings to bear its members’ experiences, tracking and encouraging the implementation of new standards and regulatory changes through its bilateral surveillance and technical assistance.

There is already an explicit expectation from the G-20 that the Financial Sector Assessment Programs and the Reviews of Standards and Codes process be expanded to include surveillance of the evolving framework of macroprudential supervision once it is in place. The IMF’s unique position in monitoring implementation and enforcement through the Financial Sector Assessment Program should help to spur reform efforts. To assure compliance with emerging regulations, best practices, or guidelines, the IMF has recently developed additional ways for reviewing the implementation of new standards and codes, and adopted proposals for making the Financial Sector Assessment Programs and Reviews of Standards and Codes more flexible in their application and more targeted and timely in their delivery.

5.7. CONCLUSION

In sum, the overall contours of the future financial system will likely be a simpler, safer, higher-cost financial system with perhaps slower, but more stable, growth and fewer crises—assuming financial regulation and supervision are effectively reformed. The financial system will evolve to where there is less leverage, less
profit, but more bona fide intermediation between savers and investors. This new and improved system may look less innovative and dynamic and more old-fashioned, but will likely deliver financial products that do a better job of satisfying the needs of households and firms. There will probably be less credit provided exclusively by banks and a larger diversity of types of institutions in the nonbank sector. Some banks may become smaller and more specialized, whereas others may continue to be large and global, but with tighter strictures and oversight on how they operate.

To get to this safer, sounder financial system, coordinated and consistent implementation of better, smarter regulation and oversight will be needed. The recognition that individual financial institutions were inadequately regulated and supervised, in part because they were evaluated without regard to their increasing interconnectiveness and the systemic risks they posed, will lead to a regulatory framework that is more holistic and better suited to mitigate systemic risks. For this to occur, however, monetary, fiscal, and financial authorities need to work together across their usual policy boundaries to make sure their policies do not work at cross purposes. The more regulation can be made to set incentives so that the private sector operates safely and effectively, the less constractive it needs to be. There should be no illusions, however, that the private sector will resist even “incentive compatible” regulations, as their flexibility and compensation will be reduced. Hence, reforms will need to be introduced with determination in face of such resistance. To make such a transition to the new system in the more globalized financial world of today, a firm commitment to do so and international cooperation on the new financial regulatory structure will be essential.
“Redesigning the Contours of the Future Financial System” does a particularly nice job in summarizing:

- what went wrong;
- the potential changes to regulatory arrangements; and
- how financial systems are likely to evolve over the years ahead.

I don’t plan to go over this material in detail, but instead I would like to make a few general observations.

If there is a central theme to these observations, it is that we need to take the time to get the details of new regulatory arrangements right, and there needs to be scope for different countries to tailor solutions to their specific circumstances, but to do so within a globally agreed framework.

There are many reasons why things went wrong. But, at least in my view, most of these have their roots in the underestimation of risk during the boom. The paper states it very nicely, that “financial institutions were excessively optimistic about asset prices and risk.” This underestimation of risk is, of course, not something that is new, and it will surely happen again. All financial cycles have their origins in people thinking that favorable cyclical developments represent some form of favorable structural change. What is different this time is the damage that this error did to the world economy.

This underestimation of risk was a global phenomenon, reaching almost every corner of the world. But importantly, the impact on financial systems was not uniform across the world. So while it has become common to talk of the global financial crisis, this is really a misnomer. It has not been a crisis in all financial systems. Rather, it has been a crisis in the financial systems of many of the advanced economies of the North Atlantic. And this crisis arose out of the decisions by a relatively small number, perhaps 40 to 50, of large, internationally active banks. Particularly problematic were these banks’ purchases of structured credit instruments in off-balance-sheet vehicles financed by short-term debt.

In contrast, we did not see a crisis in the financial systems in Asia, in Australia, or in a number of other countries. And in most of these cases, banks have continued to effectively intermediate between borrowers and savers.
These differences suggest that care needs to be taken in fashioning a global regulatory response. Some global tightening of standards is clearly appropriate. And equally importantly, so too is a review of supervisory practices, which the paper could give more attention to. But as we do this work, we need to ensure that responses to deal with problems in one part of the global system are right for the parts where there were fewer problems. If we do not do this, some countries may end up incurring costs to address problems in other countries’ financial systems. This would seem to be inappropriate.

Some of these potential costs were discussed in the paper, and the most important of these is the possibility of slower economic growth. A tightening of regulatory requirements on capital, liquidity, and the amount of maturity transformation that banks can do will increase the spread between what depositors’ receive on their funds and what lenders pay for their funds. Or put slightly differently, society will pay more for financial intermediation. One possible effect of this is that it will lead to a lower level of investment, and thus ultimately a lower capital stock, and thus lower GDP per person.

Now even if this is the case, our societies may be prepared to pay this cost, especially if the benefit is durable stability—as Kodres and Narain put it, we may be prepared to move down the risk-return frontier. But it is not obvious to me that the financial systems in every country are currently a long way from where they should be on this frontier. Some financial systems clearly were in the wrong place and that needs to be corrected, but for other systems, the picture is less clear cut.

For a number of countries, it is plausible to argue that a move to a significantly different place on the risk-return frontier would probably not improve economic welfare. That does not mean that improvements are not required. But it does mean that financial regulation in these countries does not need to be completely rethought. Going forward, as we frame new rules and supervisory approaches, we need to do so in a globally coordinated way, but one that recognizes that the starting point differs across countries. This means that flexibility in the application of a globally agreed framework needs to be part of the solution.

A second general issue that I would like to touch on is how policymakers deal with episodes in which risk appears to be underestimated—as I said before, I see this is at the heart of the current problems. As was noted in the paper, part of the answer here is macroprudential supervision and, in particular, the possibility of moving prudential instruments—including capital ratios—in a countercyclical fashion.

In principle, this is an excellent idea—if risk is building up, then supervisory requirements should be tightened. It is difficult to disagree with this. But realistically, I also see it as being difficult to implement effectively, at least in many financial systems. This means that we need to be careful in not overpromising what can be achieved here by regulatory policy alone.

One of the main difficulties lies in the political economy of discretionary countercyclical policy. What we are asking supervisors to do is to tighten up when things are going very well and where they assess that aggregate risk is rising, but where private investors either do not see this risk or are happy to accept it. I know that they should be prepared to do this if they think the market has got it wrong, but I wonder whether they will be able to follow through when it comes to the crunch.
If history is any guide, the forces against them are likely to be strong indeed. After all, in the last boom, there were many central banks writing in their Financial Stability Reviews that risk was being underpriced, that the overall level of risk was rising, and that leverage was building up in difficult-to-measure places. Despite this, these warnings were largely ignored and, in many cases, did not lead to a material policy response by central banks and regulators. Perhaps in the next boom things will be different, but history suggests caution!

This political economy problem is one reason why some have argued that there should be a form of Taylor-like rule that forces supervisors to act. In my view, the possibility of reaching any type of international consensus on how this rule might work is remote, and even if a consensus could be reached I am not sure it is a good idea.

Unfortunately, assessing financial system risk remains more art than science. It is possible that this may change over time, but progress to date on measurement has been slow. Part of the difficulty is that financial system risk is multidimensional. There are no fixed formulae. It depends on the complex interaction between credit growth, asset prices, the pace of innovation in the financial system, and the competitive environment. This measurement problem poses a major roadblock to developing a rule. And even for monetary policy, where the objective is clearer and can be directly measured, people have rightly avoided rules. The same is likely to be true here.

So where does this leave us? Inevitably, good countercyclical policy requires good judgment and significant courage. The lessons from the recent experience should at least assist in the development of a set of “traffic lights” that assist supervisors in making the necessary judgements. When these traffic lights turn orange, they should lead the supervisors to ask more questions and increase the intensity of their supervision. Here, it is as much about the supervisory practices as it is about the rules.

But we should also be thinking about prudential requirements that, de facto, become more binding in the good times, even without discrete adjustments by the supervisors. One example of this might be a limit, say 90 percent, on the proportion of a dwelling that can be secured by a mortgage. In normal times, when lenders are reasonably careful, such a restriction is not likely to be that binding. But in a boom it might be expected to bite more severely, given the apparent preparedness of lenders to lift loan-to-valuation ratios when confidence is high and asset prices are rising. There may be other ideas along these lines.

The third issue is the future shape of the financial system. “Redesigning the Contours of the Future Financial System” asks a whole series of questions about the size and shape of tomorrow’s financial systems. Most of these are too hard for me to answer. So, I just want to make one general observation drawn from the experience in Australia, which I suspect is not atypical.

That observation is that if one set of financial institutions is too tightly regulated, another set of institutions inevitably springs up to intermediate between those who have the money and those who want the money.

The only way to stop this is very heavy regulation of all financial intermediation. In our own case, we went through this in the 1970s, implementing ever
tighter financial regulation to catch the institutions developing at the fringe, for it was these institutions that were causing the problems. In the end, we didn’t like where this took us, with distortions and inefficiencies popping up all over the place. So we got to the point that the only sensible course was to change direction and to liberalize.

I want to make it clear that this does not mean that a tightening of regulation is not appropriate—it clearly is. The recent experience has been so terrible in a number of countries that significant change is needed. But we must be careful, and there is a balance to be struck. Money is very fluid, especially in a boom, and there is always a fringe. Clamping down too hard on the center of the system risks pushing the intermediation somewhere else, and as we found out in the 1970s, we did not like the consequences of that either.
The lessons from the global financial crisis have shaped the debate on the future contours of the financial system. The paper by Kodres and Narain does an excellent job of asking the pertinent questions. The relative roles of the banking and capital market sector, as well as the particular form in which financial intermediation will take place, are all questions that policymakers will need to bear in mind in guiding financial development and the reform of financial regulation.

Here, I will take one strand of the debate outlined in the paper, and try to connect the dots between three headings, namely:

- procyclicality;
- systemic risk spillovers; and
- stock of noncore liabilities of the banking system.

First, some background. The financial system channels funds from savers to borrowers. Some of the funding flows directly, such as through the direct sale of marketable securities to households, but much of the credit is channeled through the banking system.

The most important source of funding available to the banking sector is retail deposits of household savers. However, retail deposits grow in line with the aggregate wealth of the household sector. In a boom when credit is growing very rapidly, the growth of bank balance sheets outstrips the growth in the pool of retail deposits. As a result, the growth of bank lending results in greater lending and borrowing between the intermediaries themselves. Figure 7.1 depicts a stylized financial system with two banks: Bank 1 and Bank 2. Both banks draw on retail deposits to lend to ultimate borrowers. They can also hold claims against each other, if they so choose.

Imagine a boom where the assets of both banks double in size, but the pool of retail deposits stays fixed. Then, the proportion of banking sector liabilities in the form of retail deposits must fall. In other words, rapidly expanding bank assets is mirrored by the increased cross-claims across banks. In this simple example, we see that growth in bank assets and increased systemic risk are two sides of the same coin.

The relationship between total banking sector assets and increased cross-exposure across banks holds more generally as an accounting identity.
Define the core liabilities of a bank as its liabilities to claimholders who are not financial intermediaries themselves. Retail deposits would be the best example of core liabilities. Covered bonds held by a pension fund would also count as a core liability. However, any liability of an intermediary held by another intermediary would be a noncore liability. Under this definition, we have the following expression for the total core liabilities of the banking sector consisting of \( n \) banks:

\[
\text{Total Core Liabilities} = \sum_{i=1}^{n} e_i z_i (\lambda_i - 1)
\]

where \( e_i \) is the equity of bank \( i \), \( \lambda_i \) is the leverage of bank \( i \), and \( z_i \) is the ratio of bank \( i \)'s core liabilities to its total liabilities.\(^1\)

Core liabilities grow slowly in line with household wealth. Thus, during a boom when bank assets grow rapidly because of an increase in bank leverage, there must be a corresponding fall in \( z_i \), the proportion of bank \( i \)'s liabilities that are in the form of core liabilities. To put it another way, intermediaries lend and borrow from each other much more during a boom.

The growth in noncore liabilities is often accompanied by the shortening of maturity of the liabilities, such as overnight repos. The increased use of short-maturity liabilities can be seen as the mirror image of the increased proportion of noncore liabilities in the banking system.

Figure 7.2 depicts a traditional deposit-taking bank that collects deposits and holds mortgage assets against household borrowers. All banking sector liabilities are core liabilities in such a system. However, greater use of noncore liabilities is associated with lengthening intermediation chains, as illustrated in Figure 7.3.

In this illustration, the mortgage asset is held in a mortgage pool, a passive firm whose sole role is to hold mortgage assets and issue liabilities (mortgage-backed

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securities) against those assets. The mortgage-backed securities might then be owned by an asset-backed security issuer who pools and tranches the mortgage-backed securities into another layer of claims, such as collateralized debt obligations. Then, a securities firm might hold collateralized debt obligations on their own books for their yield, but finances such assets by collateralized borrowing through repurchase agreements (repos) with a larger commercial bank. In turn, the commercial bank would fund its lending to the securities firm by issuing short-term liabilities, such as financial commercial paper. Money market mutual funds would be natural buyers of such short-term paper, and ultimately the money market fund would complete the circle, as household savers would own shares to these funds.

The illustration in Figure 7.3 is a simple example of potentially much more complex and intertwined relationships. What is noticeable from the institutions involved in Figure 7.3 is that they were precisely those institutions that were at the sharp end of the financial crisis of 2007 and 2008. Subprime mortgages cropped up in this chain, and the failure of Bear Stearns and Lehman Brothers owed to problems in the smooth function of this chain.

At each stage of the intermediation chain, the funding interest rate must be lower than the asset interest rate. As the intermediation chain becomes longer, more short-term funding must be used to support the chain, as short-term funding tends to be the cheapest.

In this way, the growth of noncore liabilities and the increased use of short-term debt are all consequences of the rapid growth of bank assets during a boom.

To the extent that the ratio of noncore to core liabilities reflects the stage of the financial cycle, it also reflects the degree of risk-taking by the banking sector and the extent of underpricing of risk. Risk is being underpriced in the sense that banks take cues from current buoyant market conditions to take on additional exposures now, without taking sufficient account of the fallout to the rest of the economy when the bubble eventually bursts. Having gone through the recent financial crisis, we are now very familiar with this type of market failure.

In the terminology of economics, the cause of the market failure is an externality. Banks take account of their own short-term objectives without taking account of the spillover effects of their actions on other banks and on the economy as a whole. The textbook method to correct an economic externality is to impose a corrective tax (a Pigou tax) that better aligns the incentives of the individual actors to the interests of society as a whole.
A tax on noncore liabilities can serve as such a corrective tax. During a boom, the tax on noncore liabilities makes the noncore funding more expensive, and hence can dampen the boom in the upswing caused by the underpricing of risk. In order for a tax to serve its purpose most effectively, the tax should have the twin properties that it be targeted at those activities that cause the greatest spillover effects, and it should not be easily evaded. The noncore liabilities tax scores highly on both.

The revenue raised by the tax is secondary. The main purpose of the tax is to align incentives. A good analogy is with the Congestion Charge used to control car traffic into central London. Under this charge, car drivers pay a daily fee of 8 pounds to drive into central London. The main purpose of the charge is to discourage drivers from bringing their cars into central London, thereby alleviating the externalities associated with traffic congestion.

In the same way, the noncore liabilities tax should be seen primarily as a tool for aligning the incentives of banks closer to the social optimum. The revenue raised by the tax would also be of benefit—perhaps for the purpose of a resolution fund—but the revenue is a secondary issue.

Discussions of the future shape of financial intermediation can usefully take account of the intimate conceptual links between procyclicality, systemic risk spillovers, and the stock of noncore liabilities of the banking system. The stage of the financial cycle is reflected in the composition of the liabilities of the banking sector. In a boom, we have the conjunction of three features:

- lending expands rapidly;
- noncore liabilities increase as a proportion of total liabilities; and
- systemic risk increases through greater cross-holdings between intermediaries.

There are implications of these observations for the reform of financial regulation, currently under discussion through the G-20 process. The Financial Stability Board and the Basel Committee are examining two key strands in the proposed reform, namely capital requirements that vary over the financial cycle and capital surcharge for systemically important financial institutions.

Additionally, the G-20 has mandated the IMF to examine financial sector burden sharing whereby the costs of government intervention during the financial crisis can be imposed on the financial industry itself.

So far, these initiatives have been conducted largely independently of each other in spite of the close conceptual affinities between them. There is a danger that each initiative is developed in isolation, to be piled on top of each other at the implementation stage in cumulative fashion. Such an outcome would be unfortunate, as the resulting regime will suffer from conceptual inconsistencies. There is also the danger that the cumulative application of the new charges will result in double- or triple-taxation of the same activities.

Consideration of the link between systemic risk and procyclicality suggests that if systemic risk is to be taxed, it must be done in procyclical fashion. Merely slapping on a time-invariant “systemic surcharge” is not sufficient. By the same
token, a procyclical capital requirement can, by itself, serve as a tax on systemic risk spillovers.

Finally, the noncore liabilities of the banking sector can be regarded as a measure both of the stage of the financial cycle and of the vulnerability of systemic risk spillovers. Therefore, a tax on noncore liabilities of the banking system (as recently proposed in the United States) can be regarded as a way to achieve the twin goals of dampening procyclicality of the financial system, as well as to mitigate systemic risk spillovers.
Global Imbalances: In Midstream
Before the crisis, there were strong arguments for reducing global imbalances. As a result of the crisis, there have been significant changes in saving and investment patterns across the world and imbalances have narrowed considerably. Does this mean that imbalances are a problem of the past? Hardly. This paper argues that there is an urgent need to implement policy changes to address the remaining domestic and international distortions that are a key cause of imbalances. Failure to do so could result in the world economy being stuck in “midstream,” threatening the sustainability of the recovery.

8.1. INTRODUCTION

Global imbalances are probably the most complex macroeconomic issue facing economists and policymakers. They reflect many factors, from saving to investment to portfolio decisions, in many countries. These cross-country differences in saving patterns, investment patterns, and portfolio choices are in part “good”—a natural reflection of differences in levels of development, demographic patterns, and other underlying economic fundamentals. But they are also in part “bad,” reflecting distortions, externalities, and risks, at the national and international levels. So it is not a surprise that the topic is highly controversial, and that observers disagree on the diagnosis and thus on the policies to be adopted.

Our purpose in this paper is twofold. First, we aim at clarifying the issues, laying down the facts, interpreting past and current imbalances, and forecasting their future evolution. Second, we argue that there are good reasons to want to reduce imbalances further. As a result of the crisis, there have been significant changes in saving and investment patterns across the world, and imbalances have narrowed considerably. This notwithstanding, we argue that there is an urgent need to implement policy changes to address the remaining domestic and international distortions that are a key cause of imbalances. Failure to do so could

1 One of the series of “Seoul papers” on current macro and financial issues. We are grateful to Caroline Atkinson, Nicoletta Batini, Tam Bayoumi, Charlie Bean, Fred Bergsten, Christian Broda, Matthieu Bussière, Paul Cashin, Nigel Chalk, Menzie Chinn, Stijn Claessens, Charles Collyns, Carlo Cottarelli, Irineu de Carvalho Filho, Uri Dadush, Jörg Decressin, Kemal Dervis, Nicolas Eyzaguirre, Stan Fischer, Charles Kramer, Justin Lin, John Lipsky, Enrique Mendoza, Ashok Mody, Jonathan Ostry, Jean Pisani-Ferry, Hélène Rey, David Robinson, Antonio Spilimbergo, Ted Truman, and Kenichi Ueda for useful comments.
result in the world economy being stuck in midstream, threatening the sustainability of the world recovery.

This paper is organized as follows. In Section 8.2, we review the arguments for or against reducing imbalances. Section 8.3 takes a brief look back at the evolution of imbalances before the crisis (with the Appendix presenting a more comprehensive discussion), and attempts to gauge the extent to which imbalances before the crisis reflected the problems and distortions discussed in Section 8.2. Section 8.4 discusses where the crisis has left us. Imbalances have decreased since the beginning of the crisis. The questions are (1) why this is, (2) whether these changes are permanent or transitory, and (3) how this affects the conclusions and policy recommendations reached before the crisis. We take up the last question in Section 8.5. We conclude that imbalances are likely to remain lower than they were before the crisis, but that the case for reducing some of them further is still very strong.

8.2. GLOBAL IMBALANCES: GOOD OR BAD?

Current account balances reflect a plethora of macroeconomic and financial mechanisms. And in a global world, there is no reason for current accounts to be balanced. Indeed, it is desirable for saving to go where it is most productive, and imbalances can therefore emerge naturally from differences in saving behavior, in the rate of return on capital, or in the degree of risk or liquidity of different assets. So, imbalances, even large ones, are surely not prima facie bad. It is therefore essential to be clear as to what factors are behind them, and then act, if justified, on the causes.

8.2.1. “Good” Imbalances

Consider three familiar examples of “good” imbalances. First, saving behavior: It makes good sense for countries whose population is aging faster than their trading partners’ to save and run current account surpluses in anticipation of the dissaving that will occur once the workforce shrinks and the number of retirees rises. Second, investment behavior: A country with attractive investment opportunities may well want to finance part of its investment through foreign saving, and thus run a current account deficit. Third, portfolio behavior: A country that has deeper and more liquid financial markets may well attract investors, generating currency appreciation and a current account deficit. In all these cases, it would be unwise to want to reduce imbalances: They reflect the optimal allocation of capital across time and space.²

But imbalances can be symptoms of underlying distortions, or be dangerous by themselves. Let us quickly go through the list.

8.2.2. Domestic Distortions

The list of potential examples here is also familiar: High private saving is not necessarily good. It may reflect a lack of social insurance, which forces people to engage in high precautionary saving. Or it may reflect poor firm governance,

² See Cooper (2007) for a “benign” interpretation of global imbalances broadly along these lines.
which allows firms to retain and reinvest most of their earnings. Conversely, low private saving can clearly be bad, driven by bubble-driven asset booms, or excessively rosy expectations about future growth. Public borrowing is often too high, reflecting political factors. And factors such as poor protection of property rights or lack of competition in the financial system can lead to excessively low investment. In all these cases, the purpose of policies should not be to reduce the resulting current account imbalances per se, but to reduce the underlying distortions. Doing so will typically reduce imbalances, but this is not the goal.

8.2.3. Systemic Distortions

Particularly following the Asian crisis, many emerging economies have run large current account surpluses and accumulated very substantial foreign exchange reserves. These reserves have been predominantly denominated in U.S. dollars, reflecting the role of the dollar in international transactions and the liquidity of the U.S. bond market.

One reason behind this strategy has been a reliance on export-led growth. Whereas this may be a reasonable growth strategy from the country’s perspective, and especially so if it starts from a position of excessively high external indebtedness, it comes at the expense of other countries. And the problem can become systemic if several countries representing a significant fraction of world trade adopt these strategies.

Another reason for the accumulation of reserves has been self-insurance. Whereas this may again be rational at the individual country level, it is globally inefficient relative to alternative arrangements, such as the establishment of credit lines, reserve-pooling arrangements, swap lines, or other forms of insurance.

To the extent that imbalances reflect such systemic distortions, the policy response should be to reduce these distortions at the systemic level. In the first case, the issue could in principle be addressed through some international mechanism to limit exchange rate undervaluation. In practice, however, designing and enforcing a mechanism that goes beyond international peer pressure is a daunting challenge. In the second case, the policy response should be to improve the global provision of liquidity and provide incentives for countries to decrease self-insurance and reserve accumulation.

8.2.4. Domestic Risks

Even if the factors behind current account balances are “good,” they may interact with other distortions to create inefficient outcomes or increase risks.

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3 By export-led growth, we mean a policy strategy that relies on an undervalued exchange rate coupled with measures to compress domestic demand, thus preventing “overheating” and real appreciation through inflation.

4 Bernanke (2005) argues that the increase in desired savings in several emerging markets was a key factor explaining low world interest rates and the decline in private saving in the United States and some other advanced economies. Caballero, Farhi, and Gourinchas (2008a, 2008b) and Mendoza, Quadrini, and Rios-Rull (2009) provide theoretical models explaining emerging market demand for advanced economies’ assets for liquidity and insurance purposes.
For example, real appreciations driven by increases in capital flows can crowd out manufacturing activity and lead to Dutch disease-type phenomena—particularly in the presence of externalities that make changes in manufacturing activity very costly to reverse. Large current account deficits and real exchange rate appreciations resulting from credit booms fueled by “over-optimism” can be difficult to unwind without a protracted real depreciation, which can be very painful when the exchange rate is fixed and partner-country inflation is low.

Capital flows—particularly for smaller economies—may be volatile, leave in a hurry, and be disruptive. Capital flow volatility can be driven by self-fulfilling factors, as well as by an underestimation of liquidity risk by borrowers. Having a large current account deficit has proven very costly in the current crisis—countries with larger initial deficits have experienced larger output declines.

In all these cases, underlying shocks are interacting either with distortions—for example, a tradable sector externality leading to Dutch disease—or with the underestimation of foreign exchange or liquidity risk by domestic borrowers. In principle, the right policy is thus to correct the externalities through taxes or subsidies, and limit the risks taken by domestic borrowers through prudential regulation or controls on capital flows.

### 8.2.5. Systemic Risks

In addition, if countries with external imbalances are large and capital flows liquid, imbalances may lead to systemic problems, namely the risk of “disruptive adjustments.” A case in point is the United States, where the risk that investor demand for U.S. assets would fall short of what was needed to finance a rapidly growing stock of external liabilities was often considered, before the crisis, to be one of the main risks facing the world economy (see for example IMF, 2005; Krugman, 2007; and Obstfeld and Rogoff, 2007).

Two remarks are relevant here. The focus in that discussion is often on net asset positions, and on the large reserve positions of central banks. As a matter of logic, what matters more may not be net, but rather gross external positions. Indeed, the cross-border effects of the financial crisis were initially transmitted through the large holdings of U.S. corporate securities by European banks, rather than through the “net” holdings of U.S. securities by emerging markets. And rapid changes in investor demand are probably less likely to occur when central banks rather than private investors are holding dollar assets.

In the presence of such systemic risks, the best policy response is not obvious. It may be that just taking care of the other distortions, for example limiting the foreign currency exposure of domestic borrowers, reduces the size of the problem or the disruptions from exchange rate adjustments, and makes the problem less important. Otherwise, intervention ex-post to allow for more orderly adjustment (for example in the form of extensive liquidity provision) may be the best response.
8.3. SO GOOD OR BAD? AN INTERPRETATION OF RECENT HISTORY

Figure 8.1 shows the absolute value of world current account balances scaled by world GDP and suggests a sustained increase in imbalances starting in 1996, with only a short dip at the time of the 2001–02 recession. We therefore start our analysis in 1996. The task of interpreting what happened during that period should in principle be straightforward: look at imbalances and identify distortions and risks. In practice, of course, the task turns out to be much harder, for two reasons.

First, the nature of imbalances has changed through time, with different factors and players playing an important role in different periods. A closer look at the evidence (see the Appendix) suggests dividing recent history into three main stages leading up to the crisis: 1996–2000, 2001–04, and 2005–08. The deficits and surpluses of the main countries or country groups are shown in Table 8.1. (Figure 8.2 gives a year-by-year account.) It shows, for example, that among our country groups, Japan was the main counterpart to U.S. deficits during the 1990s, and that China’s surpluses are large in absolute terms only during the period 2005–08.

Second, assessing whether imbalances were good or bad, and the role of distortions and risks, turns out to be far from obvious in practice, and thus a major source of disagreements. Take for example China today, with high saving, high growth, and a large current account surplus (see Yu, 2007, for a detailed discussion of factors underpinning the Chinese current account). Consider various interpretations, all of them found in the literature:

- One interpretation is that the high saving rate reflects cultural factors. Given this high saving rate, the argument goes, low internal demand must be
Global Imbalances: In Midstream?

compensated by high external demand, and an appropriately depreciated real exchange rate. Under this interpretation, there would be no need for a change in policies.5

• Another is that the saving rate is high because of the underprovision of social insurance to households, and poor governance of firms. Under this interpretation, the right policy for China is to provide better insurance and improve governance. This will decrease saving and the current account.

• Yet another is that the Chinese surpluses reflect an intentional undervaluation of the exchange rate, together with an appropriately high saving rate to avoid overheating.6 If there are externalities from fast growth of the export sector, such a combination makes sense from the point of view of China. Should then China “do nothing”? This raises a systemic issue: clearly not all countries can undervalue the exchange rate, and thus such a strategy may be seen as unfair competition. Other countries may insist on appreciation as the right course.

These examples highlight how the experience of individual countries can be interpreted quite differently, and lead observers to different conclusions regarding the need and scope for policy action. As we shall see, some of the same ambiguities affect more generally the interpretation of history. Here is our own attempt at an interpretation.

8.3.1. Differences in Perceived Profitability, 1996–2000

In the first part of our sample, imbalances were largely a relative profitability story. On one side, U.S. investment increased, linked to the high tech boom and expectations of higher productivity growth. And, on the other side, investment in East Asia decreased, with the decrease linked to the aftermath of the Asian crisis and Japan’s protracted reces-

5 Our goal at this point is not to assess the relative validity of the different interpretations, just to show how the same facts can be interpreted differently.

6 Dooley, Folkerts-Landau, and Garber (2005) view the undervaluation strategy as ensuring the absorption of surplus labor in the traded goods’ sector.
ion. (Figures 8.3 and 8.4 give the evolution of investment and saving by country group.) These two forces were reflected in a U.S. current account deficit of 0.8 percent of world GDP, and a current account surplus of 0.4 percent of world GDP for emerging Asia and Japan. U.S. net inflows were heavily tilted to foreign direct investment and portfolio equity, as foreigners took a stake in strong domestic prospects.

Were these early imbalances “good” or “bad”? While, in retrospect, optimistic expectations about U.S. productivity growth were not fully justified and stock market valuations turned out to be significantly inflated in the United States and elsewhere, productivity differentials clearly played an important role in explaining the dollar appreciation and the widening of the U.S. current account deficit. As for the decline in investment in emerging Asia, it was mostly the consequence of the balance sheet adjustment underway following the boom that preceded it and the depth of the crisis. Similarly, low investment in Japan reflected a deep recession, which in turn was related to longer-term failures of dealing with the aftermath of the real estate bubble earlier in the decade. In sum, while perceptions of a tech boom turned out to be optimistic, imbalances were largely “good,” reflecting the reallocation of capital in response to perceived differences in profitability.

Figure 8.2 Global imbalances, 1996–2008. Note: Current account balances (in percent of world GDP). CHN, China; EMA, emerging Asia; JPN, Japan; OIL, oil exporters; ROW, rest of the world; U.S., United States. (Source: World Economic Outlook, January 2010 update. The composition of country groups is as follows. EUR surplus: Austria, Belgium, Denmark, Finland, Germany, Luxembourg, Netherlands, Sweden, Switzerland; EUR deficit: Greece, Ireland, Italy, Portugal, Spain, United Kingdom, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Turkey, Ukraine; Emerging Asia: Hong Kong S.A.R., Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China, Thailand; Oil exporters: Algeria, Angola, Azerbaijan, Bahrain, Republic of Congo, Ecuador, Equatorial Guinea, Gabon, Iran, Kazakhstan, Kuwait, Libya, Nigeria, Norway, Oman, Qatar, Russia, Saudi Arabia, Sudan, Syria, Trinidad and Tobago, United Arab Emirates, Venezuela, Yemen; Rest of the world: remaining countries.)
8.3.2 Declining U.S. Saving, 2001–04

The picture changed in the early 2000s. On the deficit side, the U.S. current account deficit averaged 1.4 percent of world GDP during 2001–04. The dominant factor became the decline in U.S. saving, reflecting a very significant deterioration in public saving. (Private saving also declined during 1996–2000, but...
remained broadly stable thereafter, with increasing corporate saving offsetting declining household saving. The large structural deterioration in fiscal accounts was viewed as undesirable (by many economists as well as the IMF) in light of the looming increases in age- and health-related expenditures arising from population aging. In addition, the steady decline in household saving, reflecting borrowing...
against increasing house values and rising asset prices more generally, was also considered a problem (and global rebalancing scenarios were typically based on an increase in household saving likely triggered by less buoyant asset prices).

On the surplus side, as Table 8.1 shows, more players were involved. The surpluses in Japan and emerging Asia continued. The surpluses of oil exporters increased in line with the increase in oil prices. And surpluses in a number of “core” European countries (see Figure 8.2 for a detailed list) increased sharply, reflecting for the most part declining investment.

The nature of capital flows also changed. (Figure 8.5 gives the levels of gross capital flows by country group. Figure 8.6 gives the level and the composition of capital flows into the United States.) The relative importance of debt flows in the financing of the U.S. current account deficit increased, despite low interest rates and a depreciating dollar. There was also an increase in the share of purchases by official investors, which accounted for some 20 percent of total inflows, and around 40 percent of the U.S. current account deficit.

Were imbalances good or bad? The main driver (U.S. fiscal deficits, with continuing low private saving) was “bad.” Again, the picture on the surplus side is more complex: the widening of surpluses by oil exporters was reasonable, in light of the uncertainty about future price dynamics, the exhaustible nature of oil, and adjustment costs in increasing investment. Some of the surplus in “core Europe” reflected a reallocation of investment to “peripheral Europe” where current account deficits started to rise, spurred by convergence prospects. Emerging Asian investment remained weak, with depreciated real effective exchange rates.

8.3.3. Asset Booms and Busts, 2005–08

In the years just preceding the crisis, asset booms, associated with lower saving and higher investment, became an increasingly important factor. On the deficit side, the United States, with continued low saving, was now joined by countries such as Ireland, Spain, the United Kingdom, and Central and Eastern Europe countries (“peripheral Europe”), with asset price booms and high investment. On the surplus side, the surplus in China increased dramatically as saving rose even faster than domestic investment, and rising oil prices implied ballooning surpluses for oil producers. Surpluses continued in Germany and other Central and Northern European countries (“core Europe”), while the surpluses in the rest of emerging Asia and Japan moderated relative to world GDP, reflecting the increase in oil prices.

Capital flows increased dramatically during this period, with debt flows again playing a key role. Official investors continued to buy significant amounts of U.S. Treasury and agency bonds, but foreign purchases of U.S. corporate bonds—particularly from European financial institutions—also rose sharply.

Once again, we have to ask: Were those imbalances good or bad? To a large extent, developments during this period reflected the “financial excesses” that eventually led to the current financial crisis. On the deficit side, U.S. deficits were largely bad, even ex-ante and surely ex-post, reflecting fiscal deficits, and, it
turned out, overoptimistic expectations and the housing boom. (Some current account adjustment was underway during the period, spurred by the depreciation of the dollar, but this was offset by higher oil and commodity prices.) Current account deficits in emerging Europe were an example of an initially good thing later turning bad, particularly in those countries where current account deficits as a ratio of GDP were in double digits, driven by credit and asset price booms.
Global Imbalances: In Midstream?

On the surplus side, the widening surpluses of oil producers were largely the natural response to higher oil prices, notwithstanding very rapid growth in imports. At the same time, these surpluses may have been further boosted by a depreciated exchange rate (as most oil producers’ currencies are pegged to the U.S. dollar, which had been depreciating since 2002). For China and some other emerging Asian countries, were current account surpluses good or bad? As we

Figure 8.6  (A) United States current account deficit and capital inflows (ratio of GDP). Note: The bar “other” captures primarily flows of banks and other financial institutions that are not in the form of securities. The line “official assets” measures net purchases of U.S. assets by foreign official institutions (primarily central banks) as ratio of U.S. GDP. (B) Composition of U.S. portfolio debt inflows (billions US$). (Source: Bureau of Economic Analysis.)
discussed earlier for the case of China, there is little agreement on this point. Even if systemically inefficient, some accumulation of reserves by emerging market countries was individually rational, although the overall amount of reserve accumulation is difficult to justify on the basis of insurance motives (see Jeanne, 2007). The preference of official investors for liquid assets (particularly U.S. Treasury bonds) was probably largely justified, as the U.S. government bond market is indeed deep and liquid, and several oil exporters peg to the U.S. dollar. Still, the “premium on liquidity” came at the expense of the benefits of a more diversified asset portfolio—particularly if one considers the size of the overall asset accumulation by these players.

8.3.4. Summary

Our brief characterization of imbalances highlights a number of themes. First, the case that imbalances reflected primarily distortions, both at the domestic and international level, is particularly strong from 2001 onward. Second, a variety of factors are needed to explain the evolution of imbalances over time. Constants are the large current account deficit in the United States and external demand for U.S. assets, with the latter taking different forms in different time periods, as discussed earlier. Other factors—high oil prices and the large savings of oil exporters, high and rising saving rates in China, the investment boom driven by asset prices in peripheral Europe, the collapse in investment in emerging Asia excluding China and in Japan—played roles of varying importance at different periods in time.

There are clearly interrelations among these factors. For example, the sharp rise in oil prices is related to the very rapid growth in China and other emerging markets, and global growth more generally. And, in turn, the large transfer to oil exporters, that have a high propensity to save, helped widen imbalances, drive down world interest rates, and fuel the boom. But “one-size-fits-all” explanations (U.S. fiscal profligacy, U.S. consumer profligacy, the saving glut in emerging Asia, undervaluation of the Chinese yuan, Bretton Woods II) just miss the essential complexity of what has happened since the mid 1990s.

8.3.5. Policy Advice Precrisis

The IMF had long worried about global imbalances. In its “multilateral consultations on global imbalances” (conducted in 2006 with China, the euro area, Japan, Saudi Arabia, and the United States), it promoted a joint approach to reducing global imbalances while sustaining world growth. Each participant put forward its own set of proposed policy adjustments, which were also discussed by its peers.

7 Also, their willingness to hold substantial amounts of government-sponsored enterprise assets on the basis of an implicit U.S. government guarantee was validated ex-post. Privately issued U.S. asset-backed securities were held almost exclusively by investors in advanced economies, particularly large European financial institutions. In contrast, emerging market investors held U.S. Treasury and agency bonds.
These plans, presented in the spring of 2007, centered on an increase in U.S. private saving, a decrease in U.S. fiscal deficits, and an increase in private consumption and an exchange rate adjustment in China. Other recommendations were for an increase in domestic demand and growth in Saudi Arabia, and the implementation of structural reforms to spur productivity growth, particularly in the nontraded goods sector, in the euro area and Japan.

The IMF’s role was to moderate and coordinate the discussions, and to provide an assessment of the consistency and effectiveness of the proposed policy plans. Its view was that while these plans fell short of its recommendations, they went “in the right direction” and, if fully implemented, could lead to narrower imbalances and more balanced world growth. (In 2007 and 2008, after the multilateral consultations, the staff also expressed concerns about the investment and asset booms in a number of European countries, notably Spain and the Baltics.)

The trigger for the crisis did not come from a “disorderly unwinding of global imbalances,” one of the scenarios that had worried the IMF, but from failures within the financial system. Still, these failures also reflected some of the distortions and financial excesses that contributed to imbalances in the first place. And the unraveling of these financial excesses is causing a sharp decline in global imbalances. So will imbalances unwind on their own without further disruptions, or should policymakers still try to reduce them? If the latter, how much of the previous advice remains relevant? How should it be modified in the light of the crisis, and the change in the economic environment? We turn to these questions in the next section.

8.4. THE CRISIS AND THE FUTURE

8.4.1. Looking at 2009—A Reduction in Imbalances

In 2009, global imbalances are estimated to have contracted to a significant extent (Table 8.2 and see Figure 8.9). This contraction reflects a number of factors:

- A substantial decline in oil prices from their average 2008 levels, implying a very large contraction in the surplus of oil exporters and a corresponding improvement in the current account balance of oil-importing countries.

<table>
<thead>
<tr>
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<th>2005–08</th>
<th>2009</th>
<th>2010–14</th>
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<tbody>
<tr>
<td>United States</td>
<td>–1.4</td>
<td>–0.7</td>
<td>–0.7</td>
</tr>
<tr>
<td>Peripheral Europe</td>
<td>–0.8</td>
<td>–0.5</td>
<td>–0.5</td>
</tr>
<tr>
<td>Rest of the world</td>
<td>–0.2</td>
<td>–0.4</td>
<td>–0.5</td>
</tr>
<tr>
<td>China</td>
<td>0.6</td>
<td>0.5</td>
<td>0.7</td>
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<tr>
<td>Emerging Asia</td>
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<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Japan</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Oil exporters</td>
<td>1.0</td>
<td>0.3</td>
<td>0.7</td>
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<tr>
<td>Core Europe</td>
<td>0.7</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Discrepancy</td>
<td>0.4</td>
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example, the direct effect of lower oil prices is estimated to have reduced the U.S. current account deficit in 2009 by over 1 percent of GDP relative to 2008, and the surplus of oil exporters by over 10 percent of their GDP (over 0.6 percent of world GDP).

- Asset price busts, leading to a sharp contraction in domestic demand and thus a substantial improvement in the current account of a number of deficit countries severely affected by the crisis (including the United States, Ireland, Spain, the United Kingdom, and some countries in Central and Eastern Europe).
- On the financial account side, a global increase in home bias, implying a diminished willingness of foreign investors to finance large net external imbalances.
- As the crisis has had a particularly strong impact on demand for durable consumption and investment goods, a sharp contraction in exports of investment goods, affecting a number of surplus countries, in particular Germany and Japan, and leading to a large reduction in their current account surplus.

8.4.2. Lower Global Imbalances in the Future

What will happen in the future depends on how long the factors we just listed will be in play. Clearly, some of them are likely to be transitory. The large output gaps in most countries will eventually disappear, at a rate determined by the strength of the recovery. And in most countries, the sharp increase in private saving is likely to unwind as uncertainty is reduced and income and asset prices recover; so are, in the opposite direction, the various fiscal stimuli, which will have to be phased out over time.\(^8\)

But some of the changes are likely to be long lasting, if not permanent:

- Private saving is projected to be generally higher than before the crisis. This is because, even as output returns to its potential level, asset prices, and thus wealth, may not return to precrisis levels any time soon. The increase in saving is expected to be larger in the United States, where private saving was unusually low before the crisis, and where the crisis has probably durably affected saving behavior. To the extent that U.S. saving is indeed more affected than in other countries, this implies a reduction in the U.S. current account deficit, and lower global imbalances.
- Investment rates are likely to be significantly lower in a number of countries than they were before the crisis. To the extent that tighter financial regulation increases the cost of intermediation, the cost of capital will increase. In the countries that experienced housing booms precrisis, housing investment is likely to be low for some time. To the extent that housing price booms were associated, in many countries, with large current account deficits (from

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\(^8\) Cottarelli and Viñals (2010) discuss strategies to unwind the monetary and fiscal stimuli adopted in response to the crisis.
the United States to Spain and Ireland), this also implies lower deficits in those countries, and lower global imbalances.

- Risk premiums on cross-border flows to many debtor countries have risen, implying a higher cost of capital. While these premiums are lower now than at the peak of the crisis, they are likely to remain higher than precrisis levels and lead to a more modest recourse to external finance. This is also likely to limit the scope for running large current account deficits, and again reduce global imbalances.

- A factor that has not played out much during the crisis but is likely to be important in the near future is the reserve behavior of emerging market countries. There are two reasons for this. We are seeing the first now: the worry about large capital inflows is leading emerging economies, especially in Asia, to limit exchange rate appreciation and accumulate further reserves. And more generally, the crisis can be read by many countries as suggesting that more rather than less reserves are desirable.

So what do these factors imply for the unwinding of global imbalances? If we go back to past policy advice and the main conclusions of the multilateral consultations, one important adjustment—the increase in U.S. private saving—is under way. However, other parts of the global external adjustment process are not in place yet. In response to the crisis, U.S. fiscal deficits have increased significantly and will need to decline substantially in the future. Current account adjustment in China, while significant in 2009, may turn out to be largely temporary, particularly if the yuan is not allowed to appreciate; a number of other emerging market countries are still running surpluses and accumulating foreign reserves.

So how will global imbalances evolve? It is useful to go through a number of scenarios.

### 8.4.3. Scenarios

**Scenario 1.** In this “ideal” scenario, there is a gradual adjustment in the U.S. fiscal position; China’s saving rate declines, the yuan appreciates, and China’s current account surplus declines. Also, a number of other emerging markets allow a rebalancing of growth toward domestic demand and some current account deterioration, with better international assurances of global liquidity provision leading to a decline in reserve accumulation and precautionary saving. As a result, some of the major distortions are reduced, global imbalances are smaller, and world growth is sustained and balanced.

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9 How much can higher domestic demand in emerging Asia help global rebalancing? The region’s GDP, currently around 50 percent of U.S. GDP at market exchange rates, is projected to increase to 70 percent of U.S. GDP in 2014. Therefore, even a substantial reduction in the region’s surplus would not by itself imply a large reduction in the current account deficit of the United States and other deficit countries in Europe, all the more so since emerging Asia’s trade is not entirely with these regions. This suggests that sustained U.S. and world growth would require a more general “demand rebalancing” involving other countries with room to expand domestic demand.
Scenario 2. China increases internal demand but is reluctant to let the real exchange rate appreciate. In turn, several other emerging markets are reluctant to allow for an appreciation of their currencies vis-à-vis the yuan.\(^\text{10}\) Faced with little improvement on net exports, and given its inability to ease monetary policy because of the zero bound on the policy interest rate, the United States is reluctant to decrease its fiscal stimulus, and continues to run large deficits. Under this scenario, underlying distortions are not reduced and global imbalances widen again. This poses serious risks of a disruptive adjustment in light of the unbalanced nature of the recovery and the fact that imbalances would be associated with rapidly rising public debt, an asset class where external holdings are very large, and hence foreign investors’ sentiment particularly important.

Scenario 3. The behavior of China and other emerging markets is similar to the one in Scenario 2, but the United States phases out its fiscal stimulus. As a result, growth stalls in the United States, and this affects the rest of the world. While countries that have the room to increase internal demand do so and are able to sustain growth, the result is again unbalanced growth, with the risk of global slowdown. For example, the euro area could be facing an appreciated real effective exchange rate at the same time as a demand slowdown in countries experiencing large adjustment in house prices, such as Ireland and Spain.

Of course one can think of many other scenarios. All three scenarios rely heavily on a continuing “world liquidity trap” assumption, namely that, in most advanced countries, interest rates will remain low, so there is little room to stimulate demand through monetary policy. If this were not the case, for example, the adverse effects of fiscal consolidation on growth could be offset through lower interest rates. In this case, there would be less need for continuing fiscal stimulus under Scenario 2, and more room under Scenario 3 for the United States and other advanced countries to reduce fiscal deficits while maintaining growth.\(^\text{11}\)

And one can think of other outcomes, better or worse. For example, while forecasts are for a long-lasting increase in the U.S. personal saving rate, they are associated with substantial uncertainty. It may be that U.S. consumers will in fact return to low saving, a scenario which would lead to an outcome similar to Scenario 2, but this time with low private saving rather than large public dissaving: distortions would remain, and so would global imbalances. Or U.S. investment could turn out stronger than currently forecast, leading to stronger demand and growth in the United States. At the same time, emerging market investment could be stronger, leading these countries to fight overheating by accepting a real appreciation, with an improvement in U.S. exports.

So what will actually happen? *World Economic Outlook* forecasts have elements in common with Scenario 3. They project a lasting reduction of global imbalances relative to their precrisis levels (Figure 8.7), with the U.S. current account deficit remaining moderate, reflecting a relatively sluggish recovery. At the same time, however, the Chinese surplus is projected to remain large and, with oil

\(^{10}\)Ito (2007) discusses the influence of the yuan on exchange rate policy in other Asian countries.

\(^{11}\)For a presentation of the argument, see Blanchard, 2009. For a nice formalization of the “world liquidity trap” argument, see Jeanne, 2009.
prices remaining elevated, surpluses in oil exporters are projected to widen again, despite rising domestic consumption and investment. Overall, these projections imply that net asset positions in surplus countries will continue to increase and so will net liability positions in deficit countries (Figure 8.8).\footnote{These forecasts have their own limitations. They are constructed on the basis of constant real exchange rates and do not exactly add up to zero, reflecting a global discrepancy between the projections of deficit and surplus countries, which also exists in historical data. Hence the accumulation of assets by creditor countries may be somewhat slower than depicted in Figure 8.8, or the accumulation of net liabilities by debtor countries somewhat faster.}

In short, one of the three central adjustments emphasized in the earlier multilateral consultations has taken place, namely the increase in U.S. private saving. Two remain to be implemented, lower fiscal deficits in the United States and lower current account surpluses in China and a number of other emerging market countries. If these do not take place, there is a high risk that the recovery will be weak and unbalanced. Staying in midstream is dangerous. The challenge is to get closer to Scenario 1.

### 8.5. POLICY IMPLICATIONS

Our overall assessment is that the precrisis policy advice and the conclusions from the multilateral consultations still largely hold. Namely, it is important to address domestic and systemic distortions.
8.5.1. Attacking Domestic Distortions

- Increase private and public U.S. saving. The private part has largely taken place. The public part will have to take place over time. This will be good for the United States and help global rebalancing.

- Increase social insurance, strengthen corporate governance, and implement reforms to increase access to credit for households and small and medium enterprises in China. This will be good for the Chinese economy and help global rebalancing.

- Move from export-led toward more domestic demand-led growth in a number of emerging market countries. This change in the policy mix will likely require exchange rate adjustments to maintain internal and external balance. More generally, a current account surplus is not necessarily a sign of virtue. A number of emerging market economies that have strengthened their external position and macroeconomic policy framework and whose growth prospects are good can afford to rely more on domestic demand and let the current account balance decrease, in line with their higher growth prospects.

- If oil prices remain high, as is currently forecasted, some oil-exporting countries have room for higher domestic demand, and more spending on social infra-

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**Figure 8.8** Net foreign asset projections (in percent of world GDP). CHN, China; EMA, emerging Asia; JPN, Japan; OIL, oil exporters; ROW, rest of the world; U.S., United States. (Note: The chart reports the net foreign asset position of each country/region, scaled by world GDP. Net foreign asset positions for 2009 onward are estimated as \( NFA(t + 1) = NFA(t) + CA(t + 1) \) where \( NFA \) is net foreign assets and \( CA(t + 1) \) is the projected current account balance according to the April 2010 *World Economic Outlook*. For the United States, net foreign asset in 2009 is estimated on the basis of end-of-year data. (Source: Lane and Milesi-Ferretti, External Wealth of Nations database, and authors’ calculations.)
structure needs. This gradual demand rebalancing would be eased by an adjustment of the real exchange rate to reflect their much-improved terms of trade.

8.5.2. Attacking Systemic Distortions

The crisis has again brought to the fore the need to improve global liquidity provision. Providing such liquidity would decrease the need for reserve accumulation and could have larger benefits. Many emerging market countries have come a long way in recent years—they have improved external positions, improved macro policy, and reduced vulnerabilities and mismatches. All these improvements have helped them cope well with the global financial crisis. With stronger external balance sheets and domestic fundamentals more generally, these countries have at least some room to capitalize on that progress by relying more on domestic demand as a source of growth. But many of these countries are reluctant to have negative current account balances. Better liquidity position, perhaps by building on the new facility introduced by the IMF during the crisis, would alleviate their worry about current account deficits and external debt.13

8.5.3. In Sum

In the fallout from the financial crisis, the adjustment process of global imbalances has started. But stopping in midstream is dangerous—while imbalances are smaller than they used to be, the world economy is fragile. Failure to act on the remaining domestic and systemic distortions that caused imbalances would threaten the nascent recovery.

8.6. REFERENCES


13Mateos y Lago, Duttagupta, and Goyal (2010) discuss options for reform of the international monetary system.
APPENDIX. THE EVOLUTION OF IMBALANCES

As discussed in the text, there are many factors behind global imbalances, from shifts in private or public saving behavior, to changes in current or expected productivity growth, to the accumulation of foreign exchange reserves, to movements in commodity prices, to shifts in investors’ attitudes towards risk or liquidity (see Obstfeld and Rogoff, 2009, for a comprehensive discussion). Figure 8.2 provides a visual summary of the main countries and regions with current deficits and surpluses since 1996. It suggests dividing recent history into three main stages leading up to the crisis.


The period 1996–2000 was characterized by fast world growth—despite the Asian crisis, the Russian crisis, and the financial turbulence following the collapse of long-term capital management—an expansion in global capital flows (see Figure 8.5).

Between 1996 and 2000, the U.S. current account deficit gradually widened from 1.5 percent to 4.3 percent (see Figure 8.6). The widening of the deficit reflected a sharp increase in U.S. investment during a period of buoyant U.S. economic growth, which exceeded the increase in domestic saving driven by fiscal...
consolidation (see Figures 8.3 and 8.4). Foreign direct investment and portfolio equity flows linked to the productivity boom and dot-com bubble accounted for 40 percent of U.S. capital inflows and were larger than the current account deficit itself. Sustained by high demand for U.S. assets, the dollar appreciated by 18 percent throughout the period (Figure 8.9).

Figure 8.9 Real effective exchange rates, 1996–2009. (Source: authors’ calculations based on IMF data.)
The main surplus counterparts of the widening U.S. deficit were Japan and—after the Asian crisis—emerging Asia. Japan was in recession in 1997–98, and the lingering effects of the crisis of the early 1990s implied low perceived profitability and a sharp decline in investment (see Figures 8.4 and 8.5), thus widening the current account surplus. In emerging Asia, investment collapsed following the Asian crisis and the region’s external balance swung into a large surplus, with sharply lower real effective exchange rates (see Figure 8.9).

**Declining U.S. Saving, Declining Investment in Surplus Countries (2001–04)**

With the unwinding of the dot-com bubble and a recession in advanced economies, imbalances narrowed in 2001, but expanded again from 2002 onwards. While the United States remained the dominant deficit country, the factors driving the deficit were now different. U.S. investment declined relative to the earlier period, but domestic saving fell even more, as the fiscal balance worsened—public saving fell by over 5 percentage points of GDP between 2000 and 2004.

In terms of U.S. external financing, portfolio equity and foreign direct investment flows fell in importance and foreign purchases of U.S. bonds became dominant—particularly Treasury securities and corporate bonds. The share of these purchases undertaken by official investors was over 20 percent of total inflows and over 40 percent of the U.S. current account deficit. And after peaking in early 2002, the dollar depreciated throughout the period.

In several surplus countries (Japan, emerging Asia, but also Central and Northern European countries, particularly Germany), current account imbalances reflected declining investment rates, while the increase in oil prices since 2003 boosted saving and surpluses in oil exporters. The currencies of China and oil exporters, closely tied to the U.S. dollar, depreciated during the period, as did the Japanese yen. Conversely, European currencies appreciated.

**Asset Price Booms, Oil Prices, and Reserve Accumulation (2005–08)**

From 2005 until the crisis, the global economy was characterized by a boom in economic activity and international capital flows, particularly among advanced economies, with a further significant widening in the dispersion of current account balances around the world.

The U.S. current account deficit remained large: an adjustment in real trade flows, spurred by a significant weakening of the dollar, was offset by deteriorating terms of trade, driven by the sharp increase in oil prices. With a global boom in capital flows, both outflows from and inflows into the United States increased significantly, with foreign purchases of U.S. Treasury, agency, and corporate bonds accounting for the lion’s share of U.S. external financing.

At the same time, Southern Europe, Ireland, the United Kingdom, as well as countries in Central and Eastern Europe (peripheral Europe) accounted for an
increasing fraction of global current account deficits and experienced significant real exchange rate appreciations. The widening deficits were primarily driven by an investment boom, with construction playing a particularly important role. Declining private saving rates were offset by higher public saving, helped by the upswing in the cycle. And large capital flows and a sharp compression of spreads implied easy external financing even for countries running very large deficits.

Counterparts to these deficits were China (with a fivefold increase in its surplus between 2004 and 2007, and an accumulation of foreign exchange reserves of over US$1.5 trillion between 2004 and 2008) and oil exporters, as well as Germany and a few other countries in Central and Northern Europe (the euro area remained in broad balance). While investment increased in all these regions, the increase in national saving was much higher. In China, the real effective exchange rate appreciated throughout the period, as did the currencies of oil exporters, after depreciating steadily alongside the dollar since 2002, while in European surplus countries real exchange rates were broadly stable.

The financial crisis became more and more severe throughout 2008. Cross-border capital flows declined dramatically in the second half of the year, and by the end of the year the world economy was in recession. Yet for the year 2008 as a whole, global imbalances did not decline, primarily because of the spike in oil prices. In the United States, imports declined in real terms and the non-oil trade balance improved by ¾ percent of GDP—but the larger oil bill implied that the U.S. current account deficit only stabilized. Elsewhere, current account balances worsened in oil importers, with the exception of China where the surplus remained high, while the surplus in oil exporters exceeded US$800 billion.

After the dramatic changes in growth, exchange rates, asset prices, and commodity prices in late 2008, the full-blown effects of the crisis on imbalances were felt in 2009, a year that saw a sharp narrowing in current accounts across the world (see Figure 8.7). We elaborate on medium-term prospects for global imbalances in Section 8.4 of the main text.
Comment on “Global Imbalances: In Midstream?”

CHARLES BEAN

This is an important contribution to the literature on global imbalances, which has been bedevilled hitherto by much muddy thinking. Blanchard and Milesi-Ferretti begin by making the important point that current account imbalances need not be “bad.” In particular, they may be warranted by: international savings differences resulting from different rates of time preference; differences in investment prospects across countries; and differences in financial markets, in particular the relative supply of high-quality and liquid assets. But Blanchard and Milesi-Ferretti also note that imbalances can arise through distortions, in which cases the imbalances are indeed “bad” in nature. For instance, high household savings may reflect inadequate household insurance, while high corporate savings may reflect defective financial intermediation from lenders to borrowers. Moreover, even if the source of imbalances is “good,” they may interact with other distortions to create inefficient outcomes or generate risks.

Blanchard and Milesi-Ferretti list a lot of the usual suspects, but three other “bad” imbalances relevant to recent experience are worth noting. First, the imbalances, even if “good” in source, may be badly financed. The current crisis was characterized by a plethora of distorted incentives in advanced country financial markets, including an incentive to shift loans off-balance-sheet in order to circumvent capital requirements; employment contracts that encouraged excessive risk taking; an incentive to excessive loan origination when those loans are to be securitized and sold; and ratings agencies that acted in the originator’s interest rather than the investor. In addition, we saw the creation of complex securities that were hard to value in stressed conditions. Even if the imbalances were “good” in source, their interaction with these distortions heightened risks and made them “bad” in impact.

Second, and somewhat relatedly, Blanchard and Milesi-Ferretti put a relative shortage of high quality assets in their list of “good” imbalances. But Ricardo Caballero has argued that such asset shortages lie behind the serial bubbles seen in financial markets in recent years.

Finally, investors are prone to focus on interest differentials and underplay exchange rate risk. The result has been that international capital flows have been susceptible to a “carry trade” in which investors borrow in low interest rate jurisdictions in order to invest in countries with higher rates. But these carry-trade flows have proved to be volatile, resulting in excessive exchange rate and asset price movements, as well as compromising monetary independence.
In the second part of their paper, Blanchard and Milesi-Ferretti break the era since 1996 into three roughly equal periods. The authors argue that the imbalances were largely “good” during 1996–2000 and reflected differences in perceived investment opportunities (even though the assessment of U.S. prospects was in reality somewhat overoptimistic). According to them, the picture was more mixed during 2001–04, with an unsustainable fall in U.S. saving, especially that of the public sector (“bad”), matched by higher savings in some of the surplus countries that appeared rational (“good”). Finally, the 2005–08 period is characterized by predominantly “bad” imbalances: the financial excesses were associated with unjustified falls in savings across a number of advanced economies—my earlier point is relevant here—coupled with a widening in the Chinese surplus (though the authors rather pull their punches on whether this was “good” or “bad” in nature).

I broadly concur with this narrative, and in particular with the point that numerous factors generated the current account imbalances. But I do have a slightly different take on the final period. Blanchard and Milesi-Ferretti characterize the imbalances as driven by events in financial markets, but not driving them. I see things as being more of a two-way street, with relatively high Asian savings seeking a safe home depressing long-term real interest rates and, together with overly loose U.S. monetary policy, stoking up a leveraged “search for yield.”

The final part of their paper takes us up to the present and casts an eye at what the future might hold. As they note, we have seen some narrowing in the global current account imbalances, reflecting both the relative cyclical impact of the financial crisis, as well as more stimulatory policies in surplus countries. The question is whether they will continue to narrow, whether this is as far as it goes, or whether the narrowing will prove to be merely temporary, reversing as global growth resumes. Blanchard and Milesi-Ferretti argue that some of the narrowing reflects the rise in private savings in the deficit countries and is likely to persist; that seems reasonable.

The key question is, however, not whether the imbalances narrow. Rather it is whether the narrowing is consistent with the attainment of full employment in all countries on a sustainable basis. In order to achieve this, a reallocation of global demand from the deficit countries to the surplus economies is necessary. And to achieve the associated sectoral reallocation of resources, one would expect that to be accompanied by an appreciation of the surplus countries’ real exchange rates. That is essentially Blanchard and Milesi-Ferretti’s Scenario 1.

However, it is not clear that the necessary adjustment in the real exchange rate will be permitted to occur. Full employment in all regions, the elimination of the imbalances, and unchanged real exchange rates represent a mutually inconsistent triad. So what might happen if real exchange rates remain unchanged? Blanchard and Milesi-Ferretti identify two particular alternatives. Scenario 2 is essentially a return to the status quo ante. Scenario 3 involves excess supply in the deficit countries, full employment in the surplus countries, and some narrowing of imbalances by virtue of the underemployment in the former; this is broadly similar to the picture painted in the latest World Economic Outlook. I have grave
doubts, however, that it is a viable political equilibrium. Sustained weak growth and high unemployment in the United States, accompanied by an ongoing current account deficit, is very likely to prompt the introduction of protectionist measures there. At best, that might result in an appreciation in the shadow real exchange rate of the surplus countries. But there is also the prospect of retaliation and a more generalized trade war, repeating the errors of the 1930s.

The welfare properties of the various distortions that promote international imbalances are touched on only implicitly by Blanchard and Milesi-Ferretti; they would have been worth bringing into sharper relief. Many of the domestic distortions impinge primarily on the welfare of the home country: for instance, the lack of a household safety net in China. In such a case, the home country has an incentive to undertake reform, so this sounds like a no-brainer. But such first-best solutions are not necessary easily achievable. If they were, then they would probably have taken place already.

The imbalances that are trickiest to deal with, however, are those that generate negative externalities for other countries. When we see such an externality in other areas of economics, we usually recommend the introduction of a suitable tax/subsidy on the externality, or else look to the losers to pay the generators of the externality to alter their behavior. It is hard to see this sort of solution working in an international economic context. At present, the G-20 are relying on peer pressure working through the Framework for Strong, Sustainable, and Balanced Growth. It is an open question whether this will succeed where the multilateral effort undertaken by the IMF ahead of the crisis did not. But the stakes are high. And a question for the longer term is whether this will need to be superseded by an international monetary system that builds in more explicit incentives for both deficit and surplus countries to moderate unsustainable current account imbalances.

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1 Though it looks like we may be about to see something similar introduced to finance global action against carbon emissions.
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Few issues in international macroeconomics and finance have occupied the attention of policymakers and researchers in recent years as much as the debate on the causes, consequences, and measurements of global payments imbalances. To the extent that current account imbalances reflect the influences of underlying economic fundamentals such as differences in growth prospects, investment opportunities, demographic factors, and stages of economic and capital market development across countries, they can be considered “good” in the sense that their counterpart—net capital flows—serve to move capital from surplus to deficit countries. But this is where the consensus ends and the debate begins.

The debate on imbalances is multifaceted, encompassing both the national macroeconomic policy disparities that generate the imbalances and the political economy of balance of payments adjustment in the contemporary environment of shifting global growth balance, a changing geopolitical landscape, and growing national anxiety about employment and job prospects. The fact that the distribution of imbalances is heavily concentrated in two of the world’s largest economies, the United States and China, has raised the potential for policy tension and systemic risks, if for no other reason than placing the U.S.—China bilateral relationship at the center of the debate.

A recent paper by Blanchard and Milesi-Ferretti (2009) is a timely contribution not only to the global imbalances debate but also to the broader issue of balance of payments financing and adjustment that has engaged the international economic policy community since the establishment of the Bretton Woods institutions in 1944. It also makes the case that the recent narrowing of imbalances is underpinned by several factors that are likely to be transitory, while other factors remain that are likely to have a more enduring impact on lowering global imbalances. Indeed, some of the underlying distortions that led to the imbalances we see today not only remain in play but now threaten to derail the global recovery. Even with economic indicators improving and policy normalization beginning to take hold in many emerging market economies, the sustainability of the recovery is very much in doubt: sovereign risk is on the rise, while a multispeed global economic recovery portends increasing international policy tension over which countries must shoulder the burden of adjustment of large global macroeconomic imbalances.
Finally, Blanchard and Milesi-Ferretti (2009) reiterate the IMF’s long-standing concerns about the evolution of global imbalances since the mid-1990s, asserting that a multilateral approach to consultations on global imbalances served, in the precrisis period, to create a degree of consensus on policy measures. Changing patterns of saving and investment across countries have also been of long-term concern to the World Bank, and we believe the time is ripe for undertaking a new approach to global imbalances.

In this paper, we articulate an alternative point of view that looks beyond the traditional view of global imbalances (i.e., the critical role of U.S. macroeconomic policy on one hand and China’s exchange rate policy on the other). Rather, we develop a structural determinants view of global imbalances that recognizes the role of high corporate saving in China, the reserve currency status of the U.S. dollar, and the growth strategy of Asian emerging countries as part of the broader trend of the global economy moving toward a multipolar order. The structural manifestation of this move toward multipolarity is that a certain degree of current account imbalances across countries (and their counterpart capital flows) could serve both as a source of growth and a source of potential instability. The critical policy implication to be drawn from this alternative perspective is the need for a more nuanced approach to address global imbalances—one that more carefully weighs their current macroeconomic underpinning with longer-term structural determinants that will inevitably take longer to adjust.

An analysis of the record of global imbalances over the postwar era suggests that while payments imbalances have been a key feature of international economy, their patterns—and the way in which the international policy community has dealt with them—has changed considerably. In the immediate postwar years, when most exchange rates were fixed, cross-border capital mobility was restricted, and access to private sources of foreign capital was limited to a few high-income countries, while balance of payments imbalances remained relatively small and were managed through financing, primarily through official sources. The role of policy in this era was confined to coordinating what Webb (1991) refers to as management of the symptoms of incompatible national macroeconomic policies. But as capital markets have been liberalized and exchange rates made more flexible, balance of payments constraints on national economies have been considerably eased, thus facilitating larger payments imbalances, particularly in advanced economies with international currencies and developed financial markets such as the United States and the United Kingdom.

The present discussion focuses on three key areas: whether global imbalances pose a threat to global financial stability, what policy actions are needed to reduce imbalances and how effective such actions would be, and whether countries can be convinced to take such actions.

### 10.1. ARE GLOBAL CURRENT ACCOUNT IMBALANCES A THREAT TO THE RECOVERY OR TO GLOBAL FINANCIAL STABILITY?

The conventional view that global imbalances pose a threat to global financial stability through the mechanism of asset price bubbles depicts only one side of a
complex relationship that is fundamentally structural in nature. Both global imbalances and asset prices react to the same force—the stance of monetary policy in reserve currency countries—that drive household wealth and consumption. In turn, patterns of household wealth and consumption are key determinants of the level of current account imbalances.

In the lead-up to the financial crisis, the world experienced an extended period of low inflation and increased globalization, the latter most evident in the sustained opening up of the Chinese economy and the rapid assimilation of the former planned economies of Europe into the world economy starting in the early 1990s. In an environment of low inflation, central banks were able to keep interest rates at low levels without fear of inflationary consequences. Low inflation and interest rates, along with regulatory forbearance in the financial sectors of major advanced economies, resulted in excessive risk-taking creation and spectacular asset price appreciation in many markets. The ample liquidity created by this excessive borrowing was funneled back into asset markets, leading to near-euphoria about the growth of markets and overconsumption at the household level. In this environment of overvalued asset markets, poor lending and investment decisions stemmed from lax regulation as well as from overconfidence and euphoria associated with low interest rates and ample liquidity. What was missing in the popular view of the boom at the time it was happening was an appreciation of an element of structural vulnerability. Rather, prevailing conditions and risk perception induced individual household, firm, and investor behavior that were collectively not stable.

From the mid-1990s until 2007, a defining feature of global finance in developed countries was the escalating integration of the household sector into capital markets. In the United States, a combination of booming equity and real estate markets inflated household wealth from $40 trillion in September 2002 to $66 trillion in June 2007, an increase of 65 percent, while U.S. disposable income increased by 29 percent over the same period (Figure 10.1). Asset market exuberance was accompanied by excessive credit creation, made possible through low interest rates and the technology of asset securitization. This correlation between household wealth and income on the one hand and capital markets on the other was a significant departure from the tradition of U.S. income and wealth creation through employment. For many households, mortgage equity withdrawals became an important source of income, reaching 8.3 percent during the peak of the asset market bubble.

As U.S. asset markets boomed and household borrowing and consumption expanded, massive amounts of capital flowed into the country to offset a large, growing current account deficit. The dollar’s international reserve status and its safe haven characteristics, coupled with the country’s large and deep capital markets and developed legal institutions, allowed it to succeed in selling huge amounts of government and corporate bonds on international markets. As of June 2008, foreign holdings of long-term U.S. securities amounted to $9.46 trillion, or 18 percent of total assets outstanding. This success, however, did not remove credit risk or the risk that an abrupt loss of investor confidence could trigger a disorderly adjustment in U.S. asset prices and the value of the dollar.
Comments on Dealing with Global Imbalances

Though the financial crisis has resulted in a considerable narrowing of global current account imbalances, they are likely to widen once again, particularly because many of the long-term structural factors that encourage such imbalances remain in play: a low U.S. national savings rate, dependence of Europe and Asia on the United States for aggregate demand, financial market and corporate governance weaknesses in China, unresolved regulatory weaknesses in the global banking industry, and the unique role of the U.S. dollar in global trade and finance. The key postcrisis difference, however, is dramatically expanded public debt and deficits in major advanced economies, as the financial rescue measures of 2008–09 have shifted leverage from the private to the public sector on a grand scale.

Though China’s aging population may keep household savings relatively high, the real driving force behind China’s high national savings in recent years is the growth of corporate sector savings (Figure 10.2). Distortions such as limited competition, corporate governance weaknesses, and under-taxation, along with advantageous bank financing for state-owned enterprises and firms in export-oriented sectors have led to high retained earnings, high profit concentration, and widening income disparity (Lin, Dinh, and Im, 2010). And though U.S. household savings have increased by about 2.2 percentage points of GDP since the start of the crisis (in part arising from the asset bubble bursting), the increase has been more than offset by deterioration in the government deficit of 7 percentage points of GDP. With the government deficit projected to remain high in the foreseeable future, U.S. demand for foreign financing will continue to be a key feature of the global economy for years to come.

Figure 10.1 U.S. household wealth and disposable income.

1 China’s household savings, now at 22 percent of GDP, is just below that of India, which has a very young population. So the aging population cannot be the main reason for China’s high savings.

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WHAT SORTS OF POLICY ACTIONS ARE NEEDED TO REDUCE IMBALANCES? HOW EFFECTIVE WOULD THESE ACTIONS BE IN REDUCING IMBALANCES?

Seen from the contemporary perspective of globalized financial markets, policy responses geared toward promoting an orderly adjustment of global imbalances must not only address existing policy distortions, but also incorporate implications of the changing global economic and financial landscape. What is called for is a global response, grounded in multilateralism and cognizant of the fact that global payments imbalances are more than just trade imbalances and U.S.—China bilateral imbalances. At the peak of imbalances in 2006, the U.S. current account deficit ($803 billion) represented 60 percent of total world external deficits, while China’s current account surplus ($253 billion) represented 17 percent of total world external surpluses. In 2008, estimates for the United States and China were 44 percent and 23 percent, respectively (Figure 10.3). Other countries with large surpluses included Germany, $245 billion (13 percent); Japan, $157 billion (12 percent); Saudi Arabia, $147 billion, (7 percent); and Russia, $96 billion (7 percent).

Moving forward, policymakers must focus on the medium-term strategy of rebalancing global aggregate demand, a process that will involve structural adjustment in both deficit and surplus countries. Undoubtedly, exchange rate adjustments can contribute to this reorientation. Currently, many emerging economies operate under some variety of managed exchange rate regime with limited convertibility on capital accounts and intervene quite actively to attenuate exchange rate appreciation in the face of uncertain export demand. Two distinct phases characterize recent movements in emerging currencies: first, a phase of sharp decline as the crisis led to a reversal of private financial flows to emerging markets;
and second, from March 2009 to April 2010, distinct appreciation of those same currencies (Figure 10.4). Yet the renminbi, one of the two currencies at the epicenter of the imbalances debate, has exhibited a different pattern: after appreciating 17 percent against the U.S. dollar between July 2005, when the authorities moved to a managed floating regime, and July 2008, China abruptly halted its appreciation and reset the rate at a fixed 6.83 renminbi per U.S. dollar (Figures 10.4 and 10.5).

China’s policy of holding the renminbi stable since July 2008 corresponds with both intensification of the global crisis and the surprising strengthening of the dollar during the first 6 months of the crisis owing to its safe haven characteristics.
and the reversal of carry trades (McCauley and McGuire, 2009). From a regional perspective, one consequence of this change in policy is that it has broken the correlation between the renminbi and Asian currencies under a floating exchange rate regime, both in nominal and in real terms (Figures 10.5 and 10.6).

As the world’s preeminent global liquidity provider, the United States enjoys the advantage of running a current account imbalance without facing the financing constraints that would be imposed on other countries. The dollar’s unique role in global trade and financial transactions—reserve currency; currency of debt denomination; and medium of pricing of trade and commodities, including oil—gives it a degree of structural support unmatched by other currencies. The fact that each of these roles is structural means that shifting global dependence away from the dollar will require sustained effort. It is also important to recognize that trade competitiveness in China is not just a function of exchange rate, but also of the country’s massive amount of investment in infrastructure and human capital. A sharp depreciation of the dollar or sharp appreciation of the renminbi would not be desirable, particularly during the fragile period of global recovery.

Reforms such as expanding social insurance and strengthening corporate governance are efforts in China that could lead to a decline in corporate savings that would be helpful in reducing China’s excessive national saving rate, even though such measures require a medium- to long-term time frame to be implemented. Addressing financial fragility, for example, requires a reexamination of the financial regulatory framework both at national and international levels. In contrast, addressing regulatory failures and introducing cross-national financial policies that relieve the need for self-insurance through reserve accumulation are reforms that can be implemented more quickly and can be the basis for effective coordina-
Comments on Dealing with Global Imbalances

In all cases, the events of 2007–09 present a unique opportunity to reshape regulatory parameters on a global level, while recognizing national competencies in certain areas. But developing countries’ interests and stakes need to be kept in mind as the new battery of financial regulations is developed and implemented.

At the international level, measures to reduce the incentives or urge for emerging market economies to accumulate reserves would be helpful in reducing foreign demand for dollars and dollar-denominated claims. The debate on reserve accumulation has focused on the vast amassing of dollar reserves in China and other Asian countries, which view reserves as self-insurance against global economic shocks. But the phenomenon of reserve accumulation is not limited to Asia, or even to oil-exporting nations. Developing countries as a group (especially those that are commodity exporters) are now accumulating reserves at a far greater rate and on a much larger scale than advanced economies in the aftermath of the East Asian financial crisis in the late 1990s. Likewise, removing certain national policy distortions that have a significant impact at the international level—rigid exchange rate regimes, limited capital account convertibility, and lack of a viable international currency other than the U.S. dollar—could also contribute to an overall decline in global imbalances.

Furthermore, addressing global imbalances is likely to require adequately resolving developing countries’ concerns about their IMF representation and the conditions attached to emergency borrowing. Solutions such as enhanced swap and credit lines and reserve pooling arrangements will be successful only if they assuage both political and economic anxieties. Though the IMF’s 2009 effort to enhance global liquidity through the allocation of $283 billion in special drawing

Figure 10.6 Exchange rate movements in China and Asian countries with floating currency regime (real effective). *Simple average of real effective exchange rates of India, Indonesia, Malaysia, Singapore, and Thailand.
rights offers some help in alleviating the precautionary demand for reserve accumulation, more needs to be done, particularly because the effect on developing countries of a special drawing right increase is limited because of IMF country quotas.

10.3. FROM A GLOBAL POLITICAL ECONOMY VIEWPOINT, CAN COUNTRIES BE CONVINCED TO TAKE THESE ACTIONS?

The present is neither the first time the world economy has faced large external payments imbalances nor the first time that questions of balance of payments adjustment and burden sharing have engaged the international policy community so intensely. Postwar history is replete with such episodes. In the early 1980s, the United States, under the Reagan administration, embarked on a course of expansionary fiscal and tight monetary policy to support the country’s massive rearmament, a shift that was accompanied by considerable international debate. Politics was also a key element in President Nixon’s 1971 decision to take the dollar off the gold standard, a move that ushered in the collapse of the Bretton Woods system. In that case, domestic pressure from labor, along with a corporate America and a banking industry bent on expanding exports, facilitating foreign investment, and opening access to the growing offshore Eurodollar markets, were part of the prevailing political calculation involved in extricating domestic macroeconomic policy from the constraint of external commitments. And, just as now, these episodes featured tough international bargaining by policymakers alongside their recognition of the need for evolving sensible cooperative solutions in order to safeguard collective interest and preserve global financial stability.

On other fronts, the global political economy forces in play today are quite different from those of the 1970s or 1980s. For one, economic power and the distribution of financial resources are more multipolar. The growing influence of emerging economies, such as China, with very different development ambitions, resource bases, and political constraints than the United States and its traditional postwar allies, Western Europe and Japan, is also a factor. The rise of Brazil, Russia, India and China, emergence of the euro as a legitimate rival to the dollar, and much deeper global financial markets with growing South-South linkages have also altered the global political economy landscape significantly (Dailami and Masson, 2010).

Today, an exercise of monetary power that delays adjustment of imbalances or results in asymmetric distribution of the burden of adjustment is no longer a viable solution. That said, global payments imbalances are fundamentally structural and will take time to unwind. For U.S. policymakers, reducing the current account deficit to a level consistent with long-term growth in foreign demand for dollar liquidity and portfolio investment in U.S. assets would be a positive step (see Blanchard, Giavazzi, and Sa [2005] for an analysis of the role of foreign demand for U.S. assets). For China, moving toward capital account convertibil-
ity in a gradual and sequential manner would command high policy priority. For the world economy as a whole, reducing large excess capacity, which has an adverse impact on global investment and growth would be the most urgent challenge to address. All countries must be mindful of the interaction of economic policy across national borders. The abrupt correction of global imbalances brought about as the result of political pressure in deficit countries, for example, could worsen excess capacity and undermine the ongoing global recovery. In all cases, successful reining in of imbalances will be a global effort requiring strenuous measures by both deficit and surplus countries to use the crisis as an impetus to initiate necessary structural reforms.

10.4. REFERENCES


SECTION V

Future of the International Monetary System
CHAPTER 11

The Debate on the International Monetary System

ISABELLE MATEOS Y LAGO • RUPA DUTTAGUPTA • RISHI GOYAL

11.1. EXECUTIVE SUMMARY

The global crisis resurrected deep-rooted concerns about the functioning of the international monetary system. Despite its relative stability, the current “non-system” has the inherent weaknesses of a setup with a dominant country-issued reserve currency, wherein the reserve issuer runs fiscal and external deficits to meet growing world demand for reserve assets and where there is no ready mechanism forcing surplus or reserve-issuing countries to adjust. The problem has amplified in recent years in line with a sharp rise in the demand for reserves, reflecting in part emerging markets’ tendency to self-insure against costly capital account crises. This paper considers options to address these tensions, thereby contributing to the ongoing debate on strengthening the international monetary system. On the demand side, it explores alternative insurance arrangements that could mitigate the precautionary demand for reserves. On the supply side, it assesses a menu of alternative reserve assets that could offer sustained stability and efficiency. Many of the proposals presented would require fundamental changes in the forms and degree of international cooperation, but may gain realism and practical relevance if more incremental efforts at strengthening the current system fail.

11.2. INTRODUCTION

The phrase “international monetary system” refers to the rules and institutions for international payments. Less abstractly, it refers to the currency/monetary regimes

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of countries, the rules for intervention if an exchange rate is fixed or managed in some way, and the institutions that back those rules if there is a problem (through official credits, controls, or parity changes). With the world divided into a camp of major currencies that float freely and permit the free flow of capital, and another camp with varying degrees of control over exchange rates and cross-border flows, today’s international monetary system is something of a “non-system.” A key notion in this setup is that of reserve asset: so long as a country fixes or manages its exchange rate, it needs a liquid international asset of stable value to intervene with. Since the demise of real assets like gold as monetary anchors, the U.S. dollar has been the world’s principal reserve asset. For the most part, that system has worked reasonably well—except when it has not.

In a nutshell, the concern brought to the fore by the crisis is the tension between (1) the scale and volatility of global capital flows, which motivates ever larger reserve buffers, and (2) questions about the desirability of anchoring the international monetary system on one country’s currency (the U.S. dollar), given the origins of this crisis in the U.S., the heart of the global financial system. As discussed below, these tensions are not new, and to some extent reprise the difficulties experienced by the previous—and also dollar-based—Bretton Woods monetary system. The goal of this paper is to shed some light on the underlying tensions and touch on the reform proposals that have been floated.

In offering perspectives on tensions in the international monetary system and possible avenues for resolving these, this paper does not attempt definitive conclusions and remedies—-not least because many of the ideas discussed require dramatic changes in the scale of global policy coordination, and amendments to the IMF’s Articles of Agreement. Section 11.3 begins by outlining the problem with current arrangements for meeting the world’s demand for reserve assets (e.g., the lack of adjustment by the reserve issuer and its “exorbitant”—if earned—privilege of low-cost access to foreign capital). Section 11.4 asks how the demand side can be ameliorated by reducing incentives for reserve accumulation. Although some of the proposed remedies could be implemented quickly, they would only address part of the problem. Thus, Section 11.5 looks at the alternatives on the supply side, ranging from competing reserve currencies to multilateral assets like the special drawing rights or a new global currency. These remedies share a longer timeframe of implementation, but present difficult trade-offs in terms of stability, efficiency, sovereignty, and practicality. All this suggests that the current system, suitably strengthened, may endure for some time longer.

11.3. WHAT IS WRONG WITH TODAY’S SYSTEM?

In the midst of the world’s worst economic and financial crisis in over 70 years, striking at the heart of the system, old worries have resurfaced about the inherent instability and unfairness of a system based on the currency of one country (see, for

2 In a complementary paper, Blanchard and Milesi-Ferretti (2009) discuss the risks from, and remedies for, large current account surpluses in some countries and deficits in others (global imbalances).
example, Zhou, 2009). All of these charges are open to debate, but the recurrence of concerns and phases of instability suggest a need to look for durable remedies.

Although many countries have moved off fixed exchange rates, the world as a whole has a growing appetite for reserves (see Section 11.4). Having this demand met predominantly by public asset issuance of one country makes it challenging, in practice, to achieve fiscal and external balance while providing an adequate amount of safe assets to the rest of the world. Key risks are either deflationary bias if too few reserves are provided or accumulation of an unsustainable debt overhang if reserves are too many (the "Triffin dilemma,” which was originally developed in a world with few cross-border capital flows, but still lives today, albeit in a different form, see Box 11.1).

The reliance on one country as a key supplier of global reserve assets gives that country a unique advantage—some call it an “exorbitant privilege”—in running its policies. This is because this center country has more macroeconomic policy space by virtue of the greater liquidity of its markets and ability to borrow in its own cur-

BOX 11.1

Triffin Revisited

The Triffin dilemma was presented originally in a world of scarce capital flows, where the world's appetite for reserves was met through net asset issuance by the United States. With global capital flows, a single country that produces the global risk-free asset could, in principle, provide a range of liquid assets to the rest of the world, while investing a similar gross amount in assets abroad and running a balanced current account:

- In some countries, reserves have been accumulated rapidly in the face of strong capital inflows in recent years, not sustained current account imbalances. But for the world as a whole, given central banks' revealed preference for public sector liabilities, external balance would require that, in the reserve issuer, either the public sector accumulates foreign assets to balance foreign purchases\(^1\) or the private sector offsets public sector dissaving through increased net saving.

- In practice, demand for reserves is likely to lower real interest rates for the reserve issuer below the level that would prevail in the absence of global capital flows (the "autarkic" rate), thereby providing incentives to dissave for both the public and private sectors.

- Should the reserve issuer’s public sector be unwilling to accommodate the foreign demand, alternative reserve assets (such as agency paper) could arise that may not be of the same quality or usability during stress periods. This "debasement" is the modern equivalent of the deflationary bias and further contributes to systemic instability.

Thus, a contemporary version of the Triffin dilemma is likely to assert itself, wherein growing demand for safe (U.S. Treasury) assets would lead to indebtedness, which in time could undermine the confidence that is the basis for its reserve asset status.

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\(^{1}\) The public sector could also purchase domestic assets while the private sector purchases foreign assets.
currency abroad at lower cost, as well as the seigniorage earned from issuing a global currency (distinct from, but associated with, its role as a reserve asset). For example, the ability to borrow in its own currency gives the reserve issuer a capital gain when its currency depreciates vis-à-vis its financial partners—with U.S. assets being mainly foreign currency denominated and U.S. liabilities almost entirely dollar denominated, the United States enjoyed a net capital gain from the gradual dollar depreciation for several years in the runup to the crisis of over $1 trillion (see Clarida, 2009, for a recent estimate in a long body of work). That said, while in the early decades of the Bretton Woods system the dollar’s primacy was rooted in law, this has not been the case for the past 30 years: dollar reserves have been accumulated as a matter of choice and the track record of U.S. policies over decades has, in the main, helped preserve macroeconomic and financial stability. Its open capital account and deep financial markets have contributed to growth in global trade in goods and assets, as scale economies in the use of the dollar have materialized. In that sense, the relative return on assets could be seen as payment for world banking services, and what privilege the dollar enjoys is an earned one.

This “privilege” reflects also an asymmetry in adjustment to shocks, with much greater pressure on (nonreserve) deficit countries to adjust than surplus or reserve-issuing deficit countries. Thus, persistent surpluses create a demand for financial instruments that the center country (and it only) can easily meet, a combination that accommodates the buildup of global imbalances.

Another uncomfortable implication of a system giving primacy to one country’s currency is that the world is in a sense hostage to the reserve issuer’s ability to preserve its currency’s value. This in itself is a source of uncertainty as evident in recent concerns about the U.S. dollar. An obvious solution is for the center country to adopt policy frameworks that durably alleviate such concerns: strengthen financial regulation, keep public finances on a sustainable path, and lower incentives to inflate away any debt overhang by ensuring central bank independence, issuing inflation-indexed instruments, and adopting a credible fiscal responsibility framework. In principle, contestability should provide reserve issuers with an incentive to implement such policy frameworks, though an imperfect one in the absence of credible challengers. In addition, IMF surveillance could be a multilateral mechanism to foster discipline. However, deprived of an enforcement mechanism, surveillance alone has historically been a weak anchor. The mutual assessment process assisted by IMF surveillance that the G-20 leaders agreed on at their Pittsburgh Summit in September 2009 could help give it more traction.

Finally, large official holdings of reserves distort global capital flows toward the center, reducing the benefits of capital account liberalization. They also breed market uncertainty, which may be particularly destabilizing when, like now, holdings are highly concentrated. The exceptional volume and concentration of dollar reserve holdings by the official sector (Figure 11.1) provide some support for the current system in normal times, for instance, to be able to counteract—with some multilateral coordination—potentially destabilizing market movements. But they can heighten risks in periods of uncertainty, as it has been argued their management may reflect nonmarket considerations.
11.4. LOWERING THE DEMAND FOR RESERVES

Despite the movement toward floating since the 1970s, the global stock of reserves has kept rising relative to key benchmarks, owing in large measure to emerging markets, and these reserves have been accumulated across exchange rate regimes (see Figure 11.1). Thus, moving away from fixed exchange rate regimes need not imply a diminution in reserve accumulation in the presence of other motives for holding reserves.

- Emerging markets’ holdings reflect in some cases an end in themselves: to buffer the scale of exchange rate adjustments in the face of shocks—traditional terms of trade shocks but also those from hot money inflows in good times that turn to sudden stops in bad times; to accumulate liquidity as a backstop for a potential banking crisis; and to boost policy credibility. According to some estimates, insurance motives account for about two-thirds of current reserve holdings, or $4 to $4½ trillion, and over half of the increase over the past decade (drawing on Obstfeld, Shambaugh, and Taylor, 2010).

- In a few other cases, reserve holdings are a byproduct of efforts to limit nominal exchange rate appreciation either out of concern for its impact on growth or as part of the monetary policy framework (the latter reflecting structural factors). For instance, commentators generally agree that, in cases such as oil exporters and China in recent years, reserve accumulation far exceeds conceivable precautionary needs, and reflects, respectively, the desire to boost public savings to ensure intergenerational equity in the context of eventual depletion of oil reserves, and the counterpart to an export-led growth strategy (see, for example, Subramanian, 2009).

- Different motivations require different responses. We focus here on lowering the precautionary demand. Other forms of demand for reserve assets may be more realistically mitigated by measures targeted at avoiding the unbound accumulation of current account surpluses, and providing opportunities for diversification (see Section 11.5) or for investments in less liquid assets (e.g., via sovereign wealth funds).

The relative stability of countries holding large reserves over the crisis has confirmed for many emerging markets the desirability of large-scale insurance. However, self-insurance is a costly, globally inefficient way of meeting the need. Over time, this need would be expected to decline as the “core” of the system expands to include more emerging markets that have a track record of policy credibility and that allow automatic adjustments of their exchange rates (i.e., moving to truly floating exchange rate regimes) while holding minimal reserves, similar to most advanced economies. Adoption at the national and global levels of prudential and regulatory measures that limit the scope for capital flows to disrupt financial systems would help too, as would stronger surveillance over global financial stability. Meanwhile, the alternatives to self-insurance include:

- Third-party insurance, in theory, is the most efficient response, but also difficult to implement given market failures at many levels: the absence of
The stock of international reserves has increased rapidly in recent years, by more than key macro-financial variables, especially for emerging markets.

Although no obvious reserve pattern by de facto exchange rate arrangement exists, a handful of countries account for more than half of total reserve holdings.

End-2009 reserve stocks for countries grouped by de facto exchange rate arrangement

International Reserve Concentration (as percent of total world reserve holdings, average for 2006–09)
Meanwhile, despite the United States being the global crisis epicentre, liquid dollar assets were a safe haven; and the dollar share in reserves has remained high.

**Figure 11.1 Evolution of international reserves and the use of U.S. dollars in the international monetary system.**

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liquid markets; significant upfront costs to underwriters for identifying risks and returns adequately (creating a first mover’s disadvantage); difficulty in pricing tail events such as financial crises, moral hazard, adverse selection, and counterparty risks; as well as the inability to diversify sovereign risks. Even if these market failures were addressed, insurance would probably be limited to small or medium-sized sovereign clients.

- **Borrowing** from a global or regional reserves pool or through access to a global lender of last resort (i.e., able to deploy its resources rapidly in a crisis), provided these are viewed as credible and less costly alternatives to self-insurance (see later discussion).

The IMF, given its global membership and crisis prevention and resolution mandates, has a central role to play in fostering and offering such alternatives. In fact, the IMF already fulfills this role to some extent, but the effectiveness of its instruments is arguably hampered by concerns about governance and stigma. Moreover, on-demand financing will need to be sufficient to offset a sudden stop or stem a bank run. The current crisis has also rekindled the possibility that advanced countries may need external financing, like in the IMF’s early days, and IMF resources would need to be bolstered significantly to play any meaningful role in potentially financing all but the smallest advanced countries. In addition to the IMF, other insurance arrangements, such as regional pools and bilateral swaps, would be useful complements, although with more limited scale, scope for risk sharing, and surveillance arrangements.

### 11.4.1. Access to Precautionary Resources

With the creation of the Flexible Credit Line and mainstreaming of high-access precautionary arrangements, the IMF has added sensible contingent credit line instruments to its toolkit. But not all countries qualify, nor can they have assurance that they will qualify when money is needed—an issue exacerbated by perceptions of lack of fairness of the IMF’s governance structure. Thus, the existence of these instruments cannot be seen as a direct substitute for reserves. The predictability and reliability of access to the Flexible Credit Line could be enhanced with an objective qualification process to determine which member countries qualify for access (see Ostry and Zettelmeyer, 2005). While this would not ensure access to all members, it would enhance predictability as to whether additional resources (when needed) are available, and in what range. As a side benefit, the process could act as an incentive for countries to build a track record of good policies. A trade-off to consider in designing the process is that qualification decisions might need to be kept confidential, to avoid destabilizing nonqualifying countries. At the same time, if not made public, the availability of the instrument would not have the same impact on market confidence as actual reserve buffers. Increasing access to unconditional resources can be achieved with the following.

- **A pure liquidity line.** This could be achieved by establishing an overdraft facility similar to those enjoyed up to a limit by commercial banks with central banks. Access rights could be set in proportion to members’ quotas, or linked to another indicator of capacity to repay. The first credit tranche
policy provides a good model (currently at 25 percent of quota, and available effectively without conditionality), though the size of this facility would need to be substantially larger (e.g., 100 percent of quota subject to debt sustainability checks). The impact would be all the greater if combined with a quota increase.

• Contingent general special drawing right allocations. Instead of depending on ad hoc allocations requiring an 85 percent majority of the IMF’s Governors, special drawing rights could be generated automatically at a predetermined pace, but allocated only in case of systemic crises, with the latter predefined on the basis of global economic and financial conditions. The key would be in ensuring that these resources are used to deal with crises but do not become a permanent transfer, for example, by reinstating a reconstitution requirement whereby countries would need to rebuild their special drawing right holdings up to a minimum share of their cumulative special drawing right allocations over a certain time horizon.

• Supporting insurance markets. The IMF could play a role to help develop insurance markets against exogenous shocks, or encourage countries to make greater use of private sector hedging instruments by offering technical support. It could also use its surveillance to inform insurers (along with the broader public) on the risk profile of potential clients (Box 11.2).

— Moral hazard could be addressed by restricting the insurance payout to crises that are not caused by domestic policies, while linking the availability and cost of safety net instruments to IMF surveillance assessments would strengthen countries’ incentives to adopt good policies. Instruments could be made contingent on country exposures to specific global conditions such as commodity prices (for commodity exporters), or the VIX index, to serve as hedging instruments, with premiums rising with the risk profile. Admittedly, it would be possible to design purely exogenous triggers only for those countries whose economies are small relative to the world economy and whose actions do not affect global conditions. The use of clear preconditions as triggers for payouts (tied to global indexes) is also key to ensure that insurers have no scope for reneging on their contracts.

— Greater IMF involvement in coordinating or even providing insurance (see Cohen and Portes, 2006; Cordella and Levy-Yeyati, 2006; and Eichengreen, 2009) raises several issues, however—for instance, balance sheet impact of systemic events, possible conflict of interest issues for its surveillance assessments, or inducing irresponsible behavior for other insurers (see Box 11.2)—suggesting that the IMF’s role should probably be limited to supporting insurance or at best as a temporary market.

The near impossibility of designing an insurance instrument against systemic shocks does not imply that country insurance against any capital account crisis is doomed to failure. Insuring against country-specific external risks—such as sudden stops triggered by slumps in commodity prices for commodity exporters—would seem both feasible and useful.
Should the IMF Provide Country Capital Insurance?

Insurance provided by the private sector against sudden stops has not been extended to sovereigns spontaneously. Private contingent credit lines extended to the sovereign are limited; options on the VIX or EMBI or CDS spread are rare, while a strategy aimed at obtaining a significant payoff in the event of large declines in the S&P500 is likely to be very expensive. The global catastrophe reinsurance market is mainly within advanced economies. GDP-indexed bonds are rarely used and generally are not tradable.

This limited range largely reflects market failures (discussed previously). Thus, a global institution like the IMF (or any other international financial institution) could seek to generate the needed economies of scale for reducing underwriting costs, while pooling country-specific risks in a diversified portfolio to substantially reduce pricing. An advantage over existing facilities is that such an instrument could be available to the entire membership, with the strength of countries’ fundamentals and policies reflected in their risk premiums rather than in qualification or nonqualification. However, several issues need to be considered to assess the appropriateness of the IMF in providing insurance.

- Pricing systemic risks: The recent crisis has revealed how cross-country linkages can trigger a global crisis. While the IMF may be in a better position to identify systemic risks than private insurers, even so, pricing rare systemic events would be challenging.
- Balance sheet effects on the IMF: Related to the above, risks of a near-global shock with simultaneous payouts need to be recognized, and premiums would need to be invested appropriately to build a cushion for substantial payouts. If the IMF were the insurer, this facility should draw on a separate pool of resources rather than its General Resources Account to eliminate the risk of a large payout affecting the IMF’s ability to finance its standard lending facilities.
- Role of surveillance: The IMF’s surveillance assessments, used to determine risk premiums insurance, would get more traction, limiting adverse selection and moral hazard. Access to superior and timely information as a market maker would also help safeguard the system and facilitate backstop provision in the event of a liquidity squeeze (see later discussion). However, there could be a potential conflict of interest between the role of conducting unbiased surveillance on the one hand, while retaining an insured clientele on the other. The use of very objective and automatic qualification criteria may minimize the scope for such a conflict.
- Reverse moral hazard: Private insurers, knowing that insurance provided to countries backed by the IMF are relatively safe, could be induced to take more risks in other investments.

To minimize concerns associated with systemic risks, one option would be to design an insurance instrument that excludes global shocks—while limited in scope, such a facility could still insure countries against idiosyncratic shocks (such as commodity price slumps for commodity exporters) as long as they do not become systemic events. Also, clear and automatic criteria would need to be used for suspending payouts under global crises. In the latter event, the IMF’s role as a liquidity provider would be key (see subsequent discussion). To address the remaining issues—such as a potential conflict of interest for surveillance—the IMF’s market-making role can be temporary, allowing it to exit once the market is sufficiently deep. In this phase, the IMF could continue to encourage countries to make greater use of available private sector insurance through its surveillance assessments, estimation of risk premiums associated with alternative tail events, and by promoting adherence to data dissemination standards that allow a more reliable identification of vulnerabilities.
— With respect to systemic events too, the IMF could play a very important role in providing a backstop to a potential global liquidity squeeze (see subsequent discussion).

Emerging markets’ less-than-full confidence in IMF financing might also reflect concerns about the IMF’s governance structure. These concerns could be addressed by appropriate rebalancing of IMF quotas and management/staff diversity, which would increase the confidence of many members that decisions are fair. Alternatively, to ensure that there is no conflict of interest between IMF lending and its assessment of country policies to qualify for loans, qualification decisions could be made—or at least reviewed—by a politically independent body of technocrats with incontrovertible analytical credentials (along the lines suggested for early warnings by Stern, 2009). However, forming such a politically acceptable group to take these qualification decisions, and ensuring the group is effectively insulated from pressures, would be a tall order.

11.4.2. A Larger Pool of Resources—Some Considerations

To provide meaningful comfort, the IMF would require a much greater resource base, which grows in line with precautionary needs. Academic assessments of the minimum resources that the IMF would need range from $1 trillion (Johnson, 2008), to an unlimited amount implied by Calvo’s (2009) call for the IMF as a lender of last resort. A rough estimate of precautionary reserves currently held is around $4 to $4½ trillion, six times the IMF’s lending capacity after the agreed tripling from precrisis levels. A greater and more dynamic lending capacity could be achieved directly from members (all or a subset) or by issuing special drawing rights:

• Indexed quotas. As a quota-based institution, the most natural way for the IMF to expand its resource base would be to expand its quotas and keep them growing in line with benchmarks of the size and perhaps volatility of the global economy (e.g., GDP, capital flows). A simple indexation mechanism would be ideal but may not be realistic in light of many members’ budgetary frameworks, which may not allow them to make such an open-ended forward commitment of resources. But a treaty-based presumption of indexation could go a long way.

• A reserve pool. In addition, willing members might decide to pool part of their reserves (e.g., in a trust fund), offering control over the use of resources proportional to their contributions. Such a pool could directly supplement the IMF’s own resources in the way the New Arrangements to Borrow currently does (i.e., providing additional financing for facilities supported by the IMF’s general resources), or it could provide financing for alternative facilities that may not be supported by the membership as a whole (e.g., because they are perceived by some creditors as too risky), thereby offering a further solution to the governance problem identified above (as contributors could have a predominant say in how the resources are used). Of course, this latter form of reserve pool could be established by members indepen-
ently of the IMF, but relying on the IMF to manage it would offer both convenience and efficiency benefits.

- **New special drawing rights.** Currently, special drawing rights are created when there is a long-term global need to supplement existing reserves, and allocated unconditionally to members based on their quotas. Reforms could be implemented to allow for special drawing rights to be created and temporarily allocated to specific members to finance the IMF’s various credit lines, allowing the IMF to respond to any crisis with limited or no resource constraints. At the same time, there would be clear predetermined criteria to cancel the special drawing rights once the crisis had passed and the IMF had been repaid (see Cooper, 2009; and Ocampo, 2009). This type of mechanism would also help in responding effectively as a preprogrammed “lender of last resort” during periods of intense global liquidity demand. As special drawing rights are claims on stronger members’ reserves, this would be conceptually analogous to a contingent reserve pool involving all members with strong enough balance of payments.

### 11.4.3. Other Incentives

Another way to reduce the demand for reserves would be a charge to cover the potential instability in the international system caused by such behavior. This could be implemented by a remunerated reserve ratio above certain thresholds, with the proceeds used to bolster the global reserve pools for emergency lending discussed above. Countries subject to the reserve requirement would be remunerated at the market special drawing right rate and would thus not face an incentive to reduce their own reserves; however, the availability of these resources to meet the liquidity needs of others would contribute to reducing their demand for reserves. Stronger direct incentives could be envisioned; for example, Eichengreen (2009) moots a tax on persistent current account surpluses. Such asymmetric penalties seem unlikely to find global support, however, unless most countries found themselves with broadly balanced external positions or no excess reserves. To garner support, such measures could be announced with a long enough transition period prior to implementation and only after superior alternatives to self-insurance have been secured.

### 11.5. supplying other reserve currencies

As the solutions reviewed above to attenuate the demand for reserves would at best address only a part of the problem, it is worth looking into alternative reserve currency systems that could be envisaged in place of the current dollar-based one: multiple or competing reserve currencies with no dominant one; a special drawing rights-based system that pools the main reserve currencies; and a bancor-style global reserve currency that circulates along with other currencies. Each system has its pros and cons and needs to be assessed against several criteria among which

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trade-offs are inevitable. Here, we focus on the following: stability, efficiency, political feasibility, ease of implementation, and fairness (Figure 11.2 provides a summary assessment). The preferred system will depend on the premium placed on the different objectives and whether the net gains justify the effort to overcome the practical obstacles involved. Also, different systems have different winners and losers compared to the current one, which raises an additional hurdle in finding global agreement on something else than the status quo. Of course, none of these new systems would come about by legislation. All would require a synchronous change in the behavior of the world’s major central banks, as well as varying degrees of coordination among governments.

11.5.1. Competing Reserve Currencies

Although there are few precedents, it is possible that several broadly substitutable reserve currencies could emerge over time—the main difference with today’s system being the absence of a clearly dominant one. The prospect of competing on a par with the dollar as a global reserve asset is a possibility for economies with financial systems, international trade, and GDP that are comparable in size to those of the United States, and backed by policy-making institutions with similar credibility. The euro, first, the yen and the Chinese renminbi, later, may find themselves in that position in the future, if the respective authorities are willing to take the steps needed for such a development to occur (see Box 11.3). A question is whether even fully substitutable currencies could overcome the network externalities that strongly push all actors to converge to a dominant currency—historically, bi-currency systems such as gold/silver in the nineteenth century and sterling/dollar following World War II, have tended to converge to a mono- or dominant-currency one, and although transaction costs have declined greatly,
What Would It Take for New International Reserve Currencies to Emerge?

New international reserve currencies may emerge in the future, but for this, a number of developments will be required. In the near term, given the dominance of the U.S. dollar in private transactions and financial markets, few candidates could replace it. The euro, the yen, the renminbi, and possibly other currencies may take on a greater global role in the future, as the following reconditions are increasingly met:

- **Deep and liquid financial and foreign exchange markets that remain resilient during crises.** Prerequisites for developed financial markets include an open capital account and currency convertibility.¹ Financial market infrastructure is also important.
  
  — **Current situation:** The U.S. financial markets are the most deep and liquid, followed by the euro area; the United Kingdom and Japan are less so. These differences were especially evident when, at the height of the recent crisis, liquidity evaporated in all markets except the United States. Lower depth and liquidity reflects structural issues as well as restrictions. For example, fragmentation and lower credit quality in sovereign offerings is believed to hamper financial market development in the euro area. Similarly, a withholding tax on interest—in effect until recently—is believed to have hindered foreign participation and deepening of government securities markets in Japan. Lack of convertibility and capital account restrictions have led to relatively underdeveloped financial markets in China.

- **Macroeconomic stability to ensure confidence in a currency’s long-term purchasing power.** Policy-making institutions with credibility and a track record of maintaining price stability are a critical ingredient. Whether this would also entail moving to a market-determined exchange rate regime remains an open question.
  
  — **Current situation:** While current reserve currency issuers (Euro area, Japan, the United Kingdom, and the United States) have had track records of broadly comparable strength, the crisis has raised fiscal sustainability concerns, requiring credible exit strategies to avoid undermining their reserve issuer status. China’s adoption of conservative fiscal and monetary policies in the context of a pegged exchange rate and capital controls has so far helped maintain a relatively low inflation environment and resilience to external shocks, and key would be to preserve macroeconomic stability over the medium term even as the economy undergoes fundamental structural changes.

- **Wide use in private sector transactions.** A currency with a large share in world GDP, trade, and finance attracts more users as other countries use it for trade, as a monetary anchor, as well as to conduct financial transactions. This attracts network externalities through a self-reinforcing cycle of lower transaction costs and higher liquidity.
  
  — **Current situation:** Bank of International Settlements data from 2005 indicate that the U.S. dollar was involved in about 90 percent, and the euro in almost 40 percent, of all foreign exchange transactions. Other currencies were less

¹ A number of convertible currencies (e.g., Swiss franc, Australian dollar, Swedish krona) are eligible reserve assets, but are not used globally.
there is evidence that these network externalities are alive and well (e.g., Meissner and Oomes, 2008).

Such a system would impose policy discipline on reserve issuers, as concerns about the value of one currency could lead to a shift towards the others. The “exorbitant privilege” currently enjoyed by the United States would be spread across a few more countries’ currency areas. But overcoming network thresholds and coordinating an orderly shift away from the dollar as the dominant reserve currency will be challenging. If network thresholds could be overcome, the efficiency that results from scale economies would be sacrificed in part, though that may be an acceptable price to pay for greater systemic stability. At the same time, competing stores of value could lead to higher exchange rate volatility if reserve asset holders manage their portfolios actively (see United Nations, 2009). Close policy coordination among key reserve issuers would be necessary to keep such exchange rate volatility at bay. Instability risks would also be lower in a world where demand for precautionary reserves had been tamed so that the bulk was held for transactions purposes, attenuating the need for active portfolio management.

11.5.2. A Special Drawing Rights-Based System

The special drawing right—which is a claim on a basket of currencies but not a currency itself—is enjoying a renaissance after falling into near oblivion for decades. Recently, both demand (from Brazilian, Russian, Indian, and Chinese central banks) and supply of special drawing right assets (from the IMF) have materialized, though on a limited scale—about 4 percent of global reserves. If promoted to gradually become the principal reserve asset in the system (as in fact envisaged by the IMF’s Articles of Agreement), it could allow for a shift away from a dollar-centric system while maintaining the network externalities that favor a single currency-anchored international monetary system. By being available as a composite product, the special drawing right also offers a convenient means of reserve diversification and stable store of value. For the special drawing right to take on a significant role, however, its liquidity would need to increase massively. To this end, in addition to greater issuance by the IMF and efforts to enhance the liquidity of the special drawing right market, key players would need
to encourage and subsidize the development of a private special drawing right market (e.g., with treasuries and private borrowers issuing special drawing right-denominated debt [though settled in one of the component currencies], and perhaps some major countries pegging to and invoicing in it). If embraced by enough actors, liquidity could grow relatively rapidly. Such a system would have the following properties:

- **Stability.** A special drawing right-based system inherits many of the positives associated with a multiple reserve currency system. It provides instant diversification benefits by pooling together the main reserve currencies; therefore, it is a more stable store of value and unit of account compared to its component currencies taken separately (and is also greatly more convenient than managing an equivalent portfolio of the component currencies). Being a derivative product, whether a special drawing right-denominated reserve asset would be a good store of value would still very much depend on the stability of the component currencies. However, as the weights of different currencies in the special drawing right basket are defined in “hard” terms (e.g., 44 U.S. dollar cents per special drawing right), relative weights adjust automatically on the basis of exchange rate movements, providing a policy disciplining mechanism on reserve issuers (as a country issuing too much would see its exchange rate depreciate and therefore so would its weight in the special drawing right basket).

- **Balance.** A special drawing right-based system would spread the “exorbitant privilege” across the countries whose currencies make up the special drawing right basket, and this spreading of privilege could be achieved faster and more broadly than in the multiple reserve currency system discussed previously, where economies of scale remained an important consideration. Moreover, special drawing rights issued by the IMF, if targeted to emerging markets and developing countries in sufficient volume to make up a significant share of their reserves over time, would reduce the need for them to export capital to reserve issuing countries, as special drawing rights replicate the “hard” currency properties of the underlying components without the need to hold them (as suggested by Clark and Polak, 2004). Adopting a rule requiring countries to reconstitute their holdings of special drawing rights over a certain horizon after spending them might be necessary to prevent such special drawing right allocations from being a pure transfer of resources and make sure they actually boost reserves.

- **Coordination requirements.** The steps required to move to a special drawing right-based system would be ground breaking, requiring considerable appetite for global policy coordination, including from the United States, whose reserve asset would replace the special drawing rights. That it could be mobilized and sustained seems doubtful unless the system—whether the current one or another it morphed into—fails in a major way. A somewhat less ambitious alternative would be to make the special drawing right one of the alternative reserve currencies in a multicurrency system as described above.
Should a shift to a special drawing right-based system be deemed desirable, a global substitution account, as envisaged in the 1970s, could speed up the transition if support for it could be mobilized. However, it may not be in the interest of the broader membership as it would socialize costs of adjusting a few large balance sheet positions concentrated in the dominant currency (Box 11.4). That said, to the extent demand for special drawing right-denominated reserve assets grows faster than the supply of U.S.-issued reserve assets shrinks, the process could lead to an increase in U.S. interest rates, with implications for the interest rate differential with other major currencies and bilateral exchange rates. The pace of transition would therefore warrant careful consideration.

**BOX 11.4**

**A Global Substitution Account?**

The crisis has revived interest in a global off-market mechanism for reserve holders to convert their excess reserves into special drawing right-denominated assets. Operated transparently and with clear rules, it could alleviate concerns of a disorderly diversification out of dollars by the largest reserve holders. If the account holds a large share of its assets in dollars, it would bolster confidence in the current reserve asset in the near term by taking potential overhang off the market. If a gradual shift to a system based on alternatives to the dollar were deemed desirable, or inevitable, asset allocation rules could be put in place stipulating a gradual rebalancing of the portfolio (see Bergsten, 2009).

The idea is not new. Similar plans were devised in the late 1970s, when concerns about the dollar’s value—like now—were running high. It involved having the IMF set up a so-called substitution (or reserve diversification) account, which would have allowed central banks to swap dollar assets (typically, short-term U.S. T-bills) for special drawing rights. The IMF would in turn convert the U.S. T-bills for longer-term claims on the U.S. Treasury, with the spread between the long-term interest rate and the short-term rate paid to special drawing right holders helping to cover the exchange rate risk.

In fact, however, there was no assurance that the exchange rate risk would be covered (e.g., the shift in relative demand could flatten the yield curve and reduce the term premium). Other mechanisms for sharing the exchange rate risk were floated, such as investing in government bonds of the special drawing right component currencies (16 at the time) or using a portion of the IMF’s gold stock to absorb the costs. But the scheme never came into force as members could not agree over cost-sharing of these risks, presumably reflecting in the end a fairly sanguine view of the dollar’s prospects, which turned out to be warranted.

Today’s circumstances seem rather similar, and making the substitution account a reality would require agreement on socializing the exchange rate risk that is currently concentrated in certain large balance sheet positions. Indeed, some have argued that Governor Zhou’s proposal to substitute the special drawing right for the dollar is a way for the Chinese central bank to diversify reserves swiftly out of dollars without facing capital losses. Ironically, the status quo may offer better incentives toward orderly diversification, as the high costs of moving out of dollar assets too fast make such a move unlikely.
The Debate on the International Monetary System

BOX 11.5

Keynes’s Bancor and How It Might Work in Today’s International Monetary System

Keynes’s original proposal envisaged a global bank (the International Clearing Union), which would issue its own currency (bancor), based on the value of 30 representative commodities including gold, exchangeable against national currencies at fixed rates. All trade accounts would be measured in bancor, while each country would maintain a bancor account vis-à-vis the International Clearing Union (expected to be balanced within a small margin), and also have an overdraft allowance vis-à-vis the International Clearing Union. When countries experienced large trade deficits (more than half of the bancor overdraft allowance), they would pay interest on their accounts, undergo economic adjustments (possibly also capital controls) and devalue their currencies. Conversely, countries with large trade surpluses would also be subject to a similar charge and required to appreciate their exchange rates. This mechanism would bring in a smooth symmetry of adjustments across countries and avoid global imbalances.

The global reserve currency conceived here would, akin to Keynes’s bancor, be accepted as international legal tender by the member countries of the international monetary institution that backs it, with the latter being the sole issuer of the currency (unlike Keynes’s bancor, global reserve currency would not be commodity based, however). While member countries would not issue the global reserve currency, they could issue financial instruments such as bonds denominated in it, and choose how the value of their currencies vis-à-vis the global reserve currency would be determined. The balance sheet of the international monetary institution would need to be impeccable (“AAAA”) to ensure full credibility in the international community (including the private sector), given that the latter would be allowed to hold global reserve currency and global reserve currency denominated bonds.¹

Issuance rules or modalities would be key to ensuring a stable value. Rules would be unlikely to achieve adequate fine-tuning of global liquidity provision, given the complexity of the task. Discretion would give the governing body of the international monetary institution power of such importance as to warrant a governance structure similar to that of an independent central bank, melding accountability and representativeness with political independence and expertise. This body would also be responsible for determining the composition of the international monetary institution’s assets (i.e., how to maintain a mix of country assets to minimize balance sheet risks).

This proposal—assuming a strong and well-allocated balance sheet of the international monetary institution—would achieve most of the desirable properties of an international monetary system—including efficiency and symmetry of adjustment, maximal scale economies, and eliminate exorbitant privilege for any country (see Figure 11.2).

Key implementation issues to be addressed include political coordination to set up the international monetary institution and agree on its governance arrangements (a high degree of political independence would be required); economic decisions on the size and composition of its balance sheet; and measures needed to jumpstart network effects (similar to those discussed for ensuring the liquidity of the special drawing right).

The credibility of the international monetary institution and the stable value of the global reserve currency depend not only on appropriate implementation of the above but also a track record of sound judgment by the international monetary institution board. In this regard, many of the problems of ordinary monetary policy would also arise here, such as potentially long lags in the effects of decisions and possible destabilizing impacts on exchange rates.

¹ See United Nations (2009) for a similar proposal of a new global reserve system.
11.5.3. A Global Reserve Asset and Currency

A radical redesign of the international monetary system would be to introduce a new currency (Box 11.5)—an “outside” money—that could be used in international transactions and would float alongside national currencies.\(^3\) The currency would be issued by an international monetary institution with a governance structure quite different from today’s IMF and geared toward ensuring a stable value. Disconnected from the economic problems of any individual country and with a balance sheet backed by the membership of the institution, this currency could serve as the global risk-free asset. Scale economies in its use could deliver efficiency in international transactions, and the “exorbitant privilege” enjoyed by other major reserve issuers would be transferred to the institution’s membership. Therefore, adjustment would become less asymmetric, as surplus countries that peg their exchange rates to this currency would see their currencies appreciate relative to deficit countries that float, enhancing systemic stability. Such an institution could also serve as a true global lender of last resort that could attenuate deflationary bias and resolve funding issues associated with multilateral bailouts or lines of credit. However, a solution of this nature seems so impossibly taxing of national sovereignty that it would be tempting to dismiss it as utopian. Yet, a monetary institution with even more demanding features—the European Central Bank—is celebrating its 11th anniversary this year. If a special drawing right-based system were to emerge at some stage, taking the next step to a sui generis global currency may seem less of a giant leap than from today’s vantage point.

11.6. CONCLUSION

The current system has its flaws, including occasional bouts of serious instability, but it also has proved its strength and resilience when the conceivable alternatives have not. As the pressure points in current arrangements are better understood, so the remedies become clearer—a more stable center, stronger policy frameworks in the periphery countries, and of course less volatile capital flows. These remedies must be pursued, but counting on them alone to achieve lasting stability would be assuming the problem away.

The ideas discussed in this paper—toward better insurance and a gradual widening of the reserve asset menu—aim to help policymakers think beyond the status quo in fundamental ways. Rather than rapid, far-reaching change with unpredictable consequences, the key in the period ahead will be to agree on a set of initiatives that will nudge the system toward lasting stability. In this spirit, serious consideration should be given to the proposed avenues to provide alternatives to self-insurance, and to the potential—both practical and political—for other currencies to acquire a greater role in the global reserve system. Such work could help the system evolve to shape developments rather than the other way around, as has tended to be the norm historically.

\(^3\) An extreme version would be to have a global currency that would serve as domestic currency for the countries that wish to do so.
11.7. REFERENCES


Remarks on “The Debate on the International Monetary System”

CHANGYONG RHEE

The paper “The Debate on the International Monetary System,” prepared by Isabelle Mateos y Lago, Rupa Duttagupta, and Rishi Goyal, discusses the weaknesses of the current international monetary system and considers options from both the demand and supply sides to strengthen the system. The paper states:

…the current “non-system” has the inherent weaknesses of a setup with a dominant country-issued reserve currency, wherein the reserve issuer runs fiscal and external deficits to meet growing world demand for reserve assets and where there is no ready mechanism forcing surplus or reserve-issuing countries to adjust. The problem has amplified in recent years in line with a sharp rise in the demand for reserves, reflecting in part emerging markets’ tendency to self-insure against costly capital account crises.

While Mateos y Lago, Duttagupta, and Goyal’s paper covers a broad range of contributors to the inherent weaknesses of the international monetary system, I would like to focus specifically on “self-insurance” as a significant contributor to the problem and ways in which the incentive for emerging markets to self-insure could be reduced.

Addressing the self-insurance issue is important for the G-20. One of the main agendas for the G-20 this year is the Framework for Strong, Sustainable, and Balanced Growth, and the purpose of the Framework is to help manage the transition of the global growth to a more balanced pattern of growth. Reducing the motivation to accumulate foreign reserves for self-insurance purposes will assist in rebalancing the global imbalance.

When looking at reducing the motivation to self-insure, I would like to bear in mind those countries that are pursuing sound macroeconomic policies and strong financial regulations and yet, just as the recent financial crisis has demonstrated, countries that can be victimized by sudden capital reversals. I would like to therefore cover the four areas presented by Mateos y Lago, Duttagupta, and Goyal’s paper—improving the IMF’s flexible credit line, FX liquidity insurance, regional and global reserve pool, and institutionalizing bilateral swaps—as ways to strengthen global financial safety nets and therefore reduce motivation for these countries to self-insure.

In discussing these options, I will cover the global responses first. Possible global responses include improving the existing Flexible Credit Lines available...
through the IMF and setting up an FX liquidity insurance scheme. Then, regional responses such as the regional multilateral swap arrangements will be discussed. Finally, I will address how bilateral arrangements can help and be further strengthened.

12.1. DEMAND-SIDE RESPONSES

12.1.1. At a Global Level

12.1.1.1. Flexible Credit Line

One practical way the global safety net can be strengthened is to improve the Flexible Credit Line. Three countries have received help from the IMF during the recent crisis, demonstrating the usefulness of the facility. In Asia, however, it will take a long time to take away the stigma effects associated with receiving IMF’s help. We need to improve on this. One option could be to introduce a predetermined automatic eligibility condition. For example, we could let countries that have maintained sound macroeconomic policies with a certain level of reserves for a certain period be prequalified for these facilities. This could also have a positive effect of creating incentives for better macroeconomic management for emerging market economies.

In addition to putting in place predetermined and strict triggering conditions, we may need to increase the size beyond the excess cap of 1,000 percent and lengthen the duration of the Flexible Credit Line beyond the current 6 months to make the Flexible Credit Line even more useful. This will require new funding resources. Bilateral swaps, transfers to the IMF, special drawing rights, regional swap arrangements, and reserve pooling can be some of the answers. In addition, there has been much discussion about a financial transaction tax. While it has been suggested that the revenues be used to address climate change financing issues, I believe using it as a self-insurance mechanism would be an ideal solution. One of the arguments against the Tobin tax is reduced capital inflow and outflows. Using its revenues for an insurance mechanism would actually have a positive effect on capital flows, mitigating the distortionary effect of the Tobin tax.

12.1.1.2. FX Liquidity Insurance

There could also be some form of FX liquidity insurance mechanism that combines all the attributes of the different options being discussed here. The idea is to link most central banks to the IMF and to let these central banks provide credit lines. The IMF would create some form of trust fund to operate as an insurance fund. Insurance premiums and special drawing rights, among others, can be sources of funding.

While in the 1980s and 1990s most emerging market crises arose from sovereign problems, in the recent crisis, the main root of the problem was liquidity shortage of individual financial institutions. There must be some mechanism not only to provide lending to governments but also to directly address the shortage problem in the private sector. But achieving this outcome is no easy task. It will require changing the mandate of the IMF, dealing with moral hazard problems,
and calculating the right amount of the risk premiums, among other things. It will be a daunting task, but one that is worth exploring.

12.1.2. At a Regional Level

Another possible response to strengthening the safety nets to reduce the incentive to self-insure is to establish some linkages between regional multilateral swap arrangements such as the Chiang Mai Initiative with the IMF. For example, the Chiang Mai Initiative can be the first line of defense and the IMF can be the second line of defense. The role of the IMF can be direct lending to the Chiang Mai Initiative or co-financing lending using the Flexible Credit Line. This would require lots of political effort. Not only the IMF and advanced countries’ support, but also the political support of ASEAN+3 countries will be needed. There will be all kinds of politically difficult questions as well (such as who will be in charge of surveillance functions, what should be the risk allocation rules, and who will manage the reserve) that need to be resolved.

In the 10 years after the Asian financial crisis, Asian countries have come a long way. The Asian financial crisis led to increased regional cooperation, and we created the Asian bond market fund and the Chiang Mai Initiative mechanism. I hope that the recent crisis can provide another opportunity for us to further cooperate and make concerted efforts to improve the financial safety nets.

12.1.3. At a Bilateral Level

Bilateral swaps between major central banks have proven effective during the recent crisis, and it would be a waste if we let this kind of facility disappear. The problem is that they are ad hoc in nature. If a similar crisis arrives again, it will be important for emerging market economies to have access to this kind of facility. One feasible way to make sure of that may be to transfer bilateral swaps to multilateral institutions such as the IMF. This does not mean extending bilateral swaps without limit, but rather better utilizing the amounts central banks have already pledged to the IMF.

The other option may be the standardization of bilateral swaps so that when things go bad emerging market economies can always rely on the same facilities. In order to address the moral hazard problem, we can introduce a stringent triggering condition such that the swap would not be released if capital reversals are arising from domestic problems and not from exogenous shocks.

12.2. SUPPLY-SIDE RESPONSES

Finally, on the supply side, I agree with Mateos y Lago, Duttagupta, and Goyal’s paper that it will take a long time to establish a new reserve currency. Therefore if our objective is to create another reserve currency, there may be no easy solution. However, if we narrow down our focus to developing mechanisms that would reduce self-insurance motivation and help cope with sudden reversals, this may not be as difficult to achieve.
A colleague from the Bank of England enlightened me on the difference between a reserve holding incentive and lag of international liquidity. What appears to be happening currently is not the lag of international liquidity, but a kind of hoarding behavior by some countries which is adding to the problem of sharp rise in demand for reserves. Hence, even though special drawing rights allocation and creation cannot solve the real hard currency problems, we can utilize special drawing rights to reduce incentives to hold reserves.

For instance, during the recent crisis, we used special drawing right allocations to help emerging market economies ex-post, but it would have been much more helpful if it had been an ex-ante solution. Having a trigger condition and automatic special drawing right allocation rules when sudden capital reversal takes place might be another way of reducing the self-insurance motivation. While there are moral hazard problems associated with this option and more studies are required before it can be seriously considered, I believe there is merit in exploring this option further.