

World Economic and Financial Surveys

Regional Economic Outlook

Europe

Securing Recovery

OCT 09

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Executive Summary

The current European recession, one of the deepest and longest on record, is showing signs of bottoming out. After gathering pace through early 2009, the contraction appears to have ended at mid-2009, helped by rebounding confidence and a tentative pickup in global trade. Headline inflation remains low, reflecting developments in commodity prices and weak demand, especially investment. In most emerging economies, economic activity and inflation have followed similar paths, but with more heterogeneity. Especially in countries that have experienced steep declines in capital inflows, the downturn is easing more slowly.

Although policy frameworks in Europe typically take a medium-term approach, policymakers adapted and moved steadily to address many of the policy and coordination challenges posed by the crisis. Interest rate cuts, unconventional monetary measures, and rapidly accumulating fiscal deficits helped put a floor under falling economic activity. And an array of financial sector interventions succeeded in dissipating systemic hazards and lifting risk appetite and asset prices, even though their implementation and coordination was complicated at first by the unprecedented nature of the crisis and the lack of established European processes for dealing with it.

The recovery is likely to be slow and fragile. Because of the ongoing rebalancing of global demand, Europe cannot count on exports alone to drive the recovery. At the same time, the drag from rising unemployment and scarcity of credit as banks continue to deleverage their balance sheets will weigh on economic activity. The risks around this baseline are broadly balanced. On the upside, the pickup in global trade could prove stronger and longer lasting than currently anticipated. On the downside, bad loans tied to the recession could further aggravate tensions in the financial sector. Moreover, overhangs of foreign currency-denominated debt in emerging Europe create vulnerabilities that could resonate across the continent through the highly integrated banking system and tight trade links. Another risk is tied to consumption, which could suffer if employment adjusted only slowly to the cycle, raising the prospect of a jobless recovery, with possibly negative repercussions for confidence, consumption, and investment.

Beyond the short run, the recovery is likely to be hampered by the impact of the crisis on potential output and Europe's well-known structural rigidities. Europe's medium-term growth outlook has been weakened by the drop in investment that followed the crisis, threats of increasing structural unemployment, and the end of financial sector, real estate, and construction booms in a number of countries (Chapter 2). While the exact impact of the crisis is hard to pin down and some of the developments affecting potential output are bound to correct themselves, others tie into long-standing European issues, such as high levels of employment protection and unrealized growth opportunities in the market for services, particularly in advanced economies.

Against this background, policymakers should focus their attention on securing a durable and strong recovery. In the near term, they should adopt a more resolute and proactive approach to assessing the balance sheet risks faced by banks, and take action to recapitalize or restructure viable institutions and resolve others. In addition, the welcome overhaul of the European Union's (EU) financial stability arrangements should be implemented swiftly to guarantee the effective coordination of financial supervision across borders, including that between emerging and advanced economies, and to guide the implementation of macroprudential regulation to guard against future financial sector risks. Fundamental progress on comprehensive cross-border crisis management is still needed, including the creation of tools for early intervention and cost-sharing rules.

At the same time, monetary and fiscal policy need to move carefully to sustain the upswing while preparing to disengage from the extraordinary measures put in place during the crisis. Although the fragility of the recovery requires fiscal policy to follow through with planned stimuli and letting automatic stabilizers work, sustainability concerns demand a strong consolidation effort—also because of the looming fiscal costs of Europe's rapidly aging population. Monetary policy will need to remain supportive for the time being and keep all options open. In the advanced economies, there might still be additional room for maneuver through a more forceful signal of the intent to keep interest rates low and the extension of nonstandard measures. But these policies are not without costs and raise the possibility of market dislocations, moral hazard, and accumulation of risks on the much-increased balance sheets of the central banks. Central banks should thus plan to exit as soon as the recovery takes hold.

Potential growth is tightly linked to all elements of the European policy agenda. Moving fast to repair the damage the crisis has caused to potential output will make for a more dynamic and robust recovery, which, among other things, will strengthen fiscal sustainability and ease exit problems. In the advanced economies, policymakers should pursue opportunities to reform labor and product markets and make every effort to rejuvenate the Lisbon Agenda. In most emerging economies, structural flexibility that allows a shift of resources and labor to the production of tradable goods and services will be important for ensuring further progress in catching up with income levels in the advanced economies, especially if capital flows to the emerging European economies remained subdued.

The uncertainty surrounding the size of the drop in potential output due to the crisis is considerable, and policymakers will need to take it into account (Chapter 3). Central banks must clearly communicate their views on the path of potential output and its implications for price stability to anchor inflation expectations and limit the costs of policy mistakes. Given the impact of the crisis on public finances, fiscal policy should err on the side of caution and start the necessary consolidation as soon as the state of the cycle allows.

The effects of the crisis are also likely to linger with respect to macroeconomic volatility in many emerging markets (Chapter 4). Financial markets have developed a keen eye for external and internal vulnerabilities. In particular, fiscal sustainability concerns, stemming partly from worries

about the extent of problems in the financial sector, have triggered a decompression of interest rate spreads and have increased exchange rate volatility over and above the effects of the global shocks hitting the region. In the short run, policies to stabilize the financial sector and deal with foreign debt overhangs will be helpful. But to address the more lasting volatility shifts, policymakers will profit particularly from introducing frameworks that steady fiscal policy around a sustainable path and improve financial stability arrangements. Steps in this direction would also support growth through lowering perceived investor risk and interest rates.

1. Outlook: Beyond the Crisis

With signs that the recession is bottoming out, European policymakers now need to focus on securing a durable recovery and addressing the threats to potential growth from the financial crisis and the continent's traditional structural rigidities. In the near term, further action to restore normal functioning of the financial system remains crucial, while policymakers will need to move carefully both to sustain the upswing and to prepare for exit from the extraordinary interventions in a coordinated fashion. And many emerging economies will need to adapt to lower capital inflows, address debt overhangs, and institute structural change.

Fragile Recovery

The Contraction Appears to Be Ending . . .

The crisis has hit Europe particularly hard, perhaps harder than other regions of the world (see IMF, 2009e), though considerable diversity prevails across the region. All countries have been affected by the financial crisis and the collapse in global trade, with the impact commensurate with the extent of exposure to toxic assets, reliance on securitization, and dependence on world markets. In addition, several countries are suffering from the bursting of homegrown real estate and construction bubbles (Ireland, Spain, the United Kingdom, and the Baltics, for example). And a number of countries have been left vulnerable because of concerns about fiscal sustainability like Greece and Italy or because of concerns about large current account deficits like Hungary and the Balkans.¹

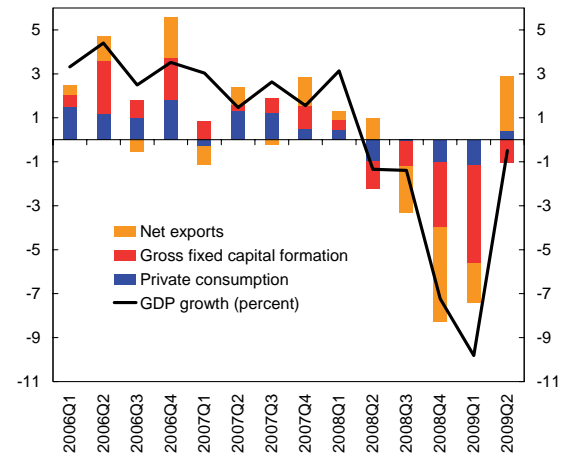
There are signs that the recession, which is now one of the deepest and longest on record, is bottoming out. In the advanced economies, very

Note: The main author of this chapter is Helge Berger.

¹ See IMF (2009d—Chapters 1 and 3) for a more detailed discussion of how homegrown risks added to the global shock and led to a cross-country differentiation of the crisis impact in Europe.

Figure 1. Euro Area: Contribution to Growth, 2006–09

(Quarter-on-quarter annualized percentage points)

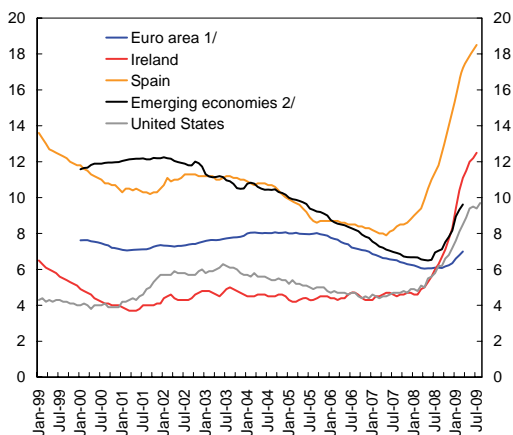


Source: Eurostat.

weak investment and falling exports were the main drivers of a contraction that gathered speed at a frightening pace in the second half of 2008 and climaxed in early 2009, with the first quarter showing an annualized drop of GDP of about 10 percent for the European Union (EU) and the euro area (Figure 1). Consumption held up relatively better in many countries, mirroring still-robust real wage growth, the absence of a large-scale labor market adjustment helped by collective bargaining agreements and government-supported work-time reductions, the operation of generous social safety nets, and some fiscal measures supporting specific purchases such as car-scrapping subsidies.² Ireland and Spain are notable exceptions to this pattern and have seen their unemployment rates rise rapidly amid construction busts (Figure 2). The pace of the fall in GDP slowed markedly during the first half of 2009, however, as the near-panic subsided,

² In Germany, for example, bargaining agreements stabilize nominal wages and can include limited employment guarantees. Short-run public subsidies for short-time or work-share programs also simultaneously stabilize employment and labor income.

Figure 2. Selected European Countries and the United States: Unemployment, January 1999–August 2009 (Percent)

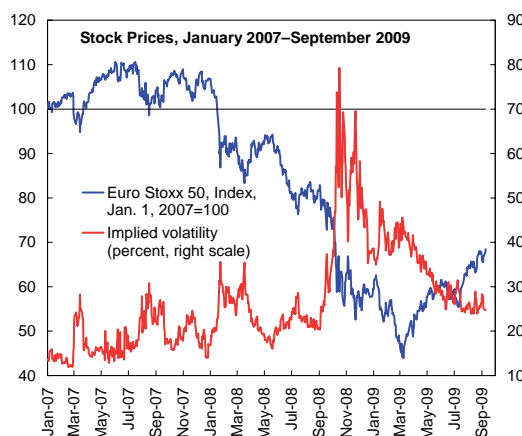
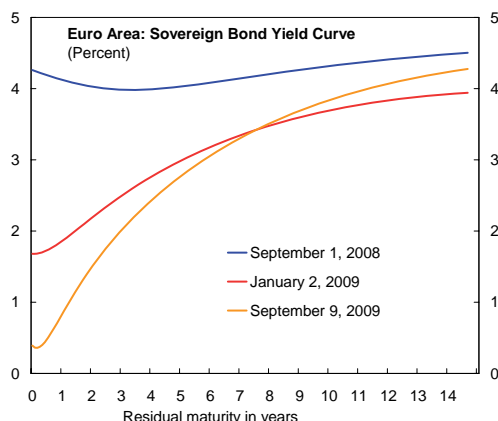


Sources: Eurostat; Haver Analytics; and IMF staff calculations.
 1/ Excluding Ireland and Spain.
 2/ Bulgaria, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Turkey, and Ukraine.

confidence ended its free fall, and policy stimulus gained traction. Hence, during the second quarter of 2009, GDP in the EU and euro area contracted by only about 1 and ½ percent (annualized), respectively, while France and Germany registered modest growth.

Most emerging European economies and new EU member states followed a similar path, but with more heterogeneity. For many of these economies, domestic demand in the rest of Europe and global trade greatly affect their business cycle, a connection that, particularly in Central Europe, is amplified by tight supply chain links to Western neighbors (for example, in the car industry). For other countries, such as the Baltics, that face sharp external financial difficulties, the speed of the downturn is easing more slowly. Russia’s recession is particularly pronounced because of the combination of the reversal in capital flows and low energy prices. Poland, in contrast, the largest of the new EU member states, has so far weathered the global storm remarkably, without registering a contraction. This success has been due to resilient consumption and a relatively low dependence on exports. In addition, the absence of internal or external imbalances allowed room for countercyclical policies.

Figure 3. Euro Area: Yield Curves and Equity Markets

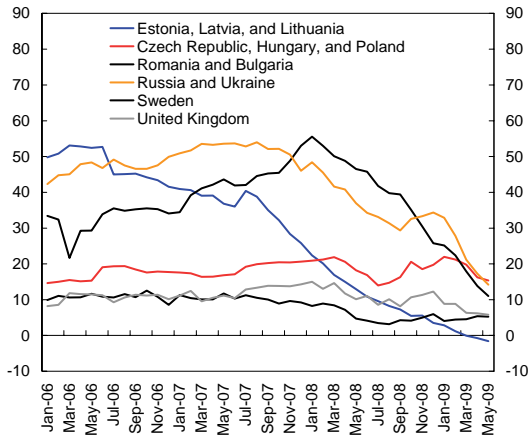


Sources: European Central Bank; Datastream; Bloomberg L.P.; and IMF staff calculations.

Financial and capital markets show signs of returning confidence and risk appetite. The yield curve has been steepening, and equity markets have steadied (Figure 3). Compared to the situation before the collapse of Lehman Brothers, when investors fled risky assets and accumulated sovereign bonds, European markets have regained some of the lost ground, and longer-term bond yields in the euro area are approaching precrisis levels. Shorter-run interest rates have come down further across advanced economies and—with delay and at a slower pace—in some emerging economies.

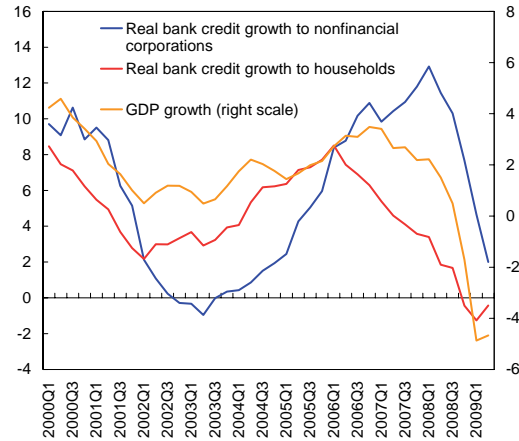
Nonetheless, problems in the banking sector linger, and credit growth continues to weaken while cross-border flows remain subdued. Banks have been measurably tightening credit standards, citing a weak economic outlook, funding difficulties, and a continued need to reduce the leverage of their balance sheets. Indeed, the pace of credit extension

Figure 4. Selected European Countries: Growth of Real Credit to Private Sector, January 2006–May 2009 1/ (Percent)



Sources: Haver Analytics; and IMF, *International Financial Statistics*.
1/ Unweighted averages of annual growth rates.

Figure 5. Euro Area: Real Bank Credit and GDP Growth, 2000:Q1–2009:Q2 (Percent)



Sources: Eurostat; European Central Bank; Haver Analytics; and IMF staff calculations.

to households and firms is declining in the euro area and elsewhere (Figure 4), and small- and medium-sized enterprises especially are complaining about credit constraints. Recent surveys of bank lending, however, indicate that the pace of standard tightening might be decreasing, at least in EU countries, and it is noteworthy that GDP growth declined even faster than credit aggregates in the euro area, which sends mixed signals about the extent to which supply constraints are affecting credit at this point (Figure 5).

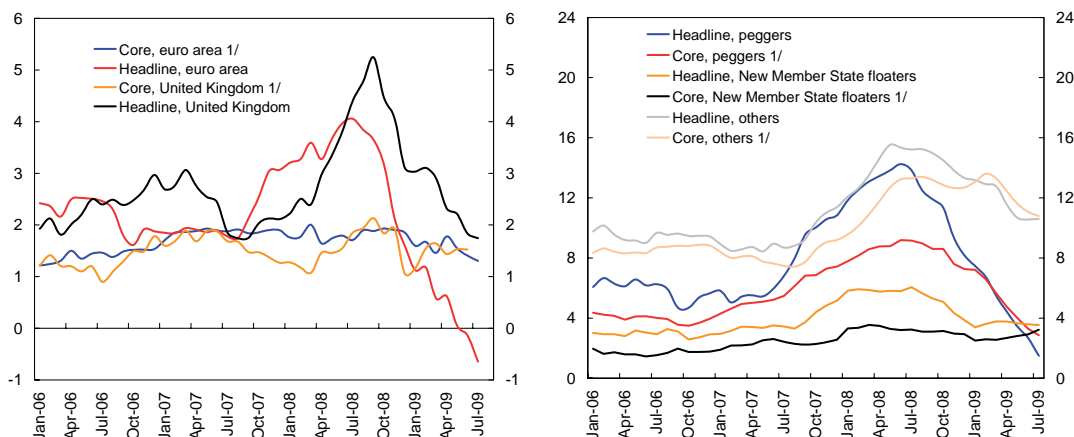
Meanwhile, in emerging Europe, increased official financing and regional coordination between private and public agents have averted a collapse in capital flows to emerging economies; market participants, though, remain concerned about the level of private debt, the availability of external financing, and the instability of the exchange rate (IMF, 2009c). Hence, while capital flows into the region have rebounded slightly from their crisis lows, they remain limited, and there are indications, that interest rates spreads will remain elevated for many European emerging markets for some time (Chapter 4).

... And Inflation Bottoming Out

Against the background of the deep recession associated with a sharp decline in commodity prices, headline inflation has fallen considerably in most advanced economies. In the euro area, it reached into negative territory in mid-2009, and although the most recent readings suggest that inflation may be past its trough, much will depend on any further fluctuations in energy prices (Figure 6). Measures of core inflation, which exclude energy prices, have been declining at a slower pace or moving sideways, which may be among the reasons why inflation expectations are well anchored at positive levels.³ Price developments in emerging European economies, while following the same general pattern, continue to show somewhat more diversity mostly because of nominal fluctuations in the exchange rate. This phenomenon also sets apart the United Kingdom, where the depreciation of the pound has contributed to positive headline inflation since the beginning of the crisis.

³ Consensus inflation expectations for the euro area have remained close to the aim of the European Central Bank (ECB) of keeping inflation rates below, but close to, 2 percent over the medium term throughout the crisis, and break-even expectations have recovered from their end-2008 lows to levels close to 2 percent recently (IMF, 2009a).

Figure 6. Selected European Countries: Headline and Core Inflation, January 2006–July 2009
(Percent)



Sources: Eurostat; Haver Analytics; national authorities; and IMF staff calculations.

Notes: Peggers: Bulgaria, Estonia, Latvia, and Lithuania; New Member State floaters: the Czech Republic, Hungary, Poland, Romania, and the Slovak Republic; Others: Russia, Turkey, and Ukraine.

1/ Harmonized index of consumer price inflation (excluding energy, food, alcohol, and tobacco) excluding Russia and Ukraine, for which national definition was used.

Growth May Be Around the Corner . . .

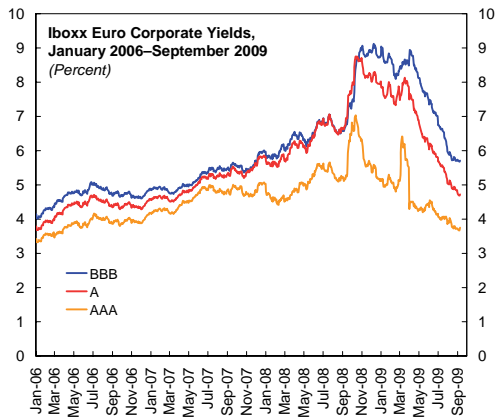
Strong policy action across many advanced and emerging economies has eliminated the fears of a major depression and helped stabilize demand. High-frequency indicators have also been increasingly pointing upward (Figure 7), equity values are well off their lows, and there are signs that declines in housing prices are abating. Still, with credit declining, unemployment set to rise, and household balance sheets to be repaired in a number of countries in Europe, upward momentum is likely to remain weak for some time. Indeed, the positive signs of the second quarter in the euro area mask some underlying vulnerabilities: consumption held up, but to a large extent because of temporary public schemes; net exports contributed, but mostly because of declining imports; and capital spending and inventories constituted a drag. History also suggests that recoveries from a deep financial crisis are sluggish (see IMF, 2008, and Chapter 2 of this REO).

The baseline forecast thus calls for real activity to remain fairly stable during the rest of 2009, giving way to a moderate recovery in 2010 and a gradual return to more solid growth only afterward (Table 1). In advanced economies, GDP growth should therefore average 0.5 in 2010 and grow at a rate of 1.1 percent by end-2010. Most countries in

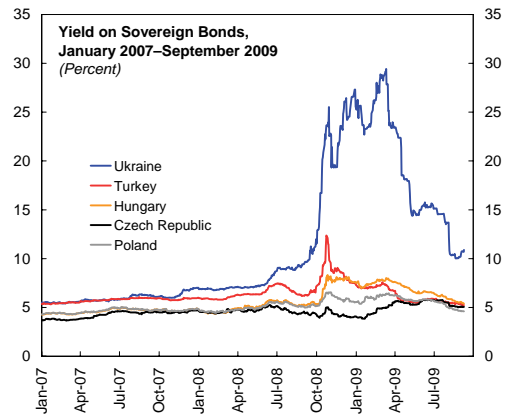
emerging Europe should see growth resume in 2010, with the subregion's GDP rising by an average of 1.7 percent. There is a stark difference, however, between the weaker outlook for countries that need to restructure their economy as they adjust to sharply reduced capital inflows and the more promising prospect for those with an already competitive export sector.

The baseline predicts headline inflation to remain subdued, as output gaps are expected to continue to be large while commodity prices are projected to rise moderately. The latter will be the dominant factor nudging euro area inflation back to positive levels during the remainder of 2009 to an average of about 0.8 percent during 2010. Countries such as Germany and Ireland that were hit particularly hard by the crisis will experience inflation well below this average. For emerging economies, the picture is more diverse, reflecting, in addition, differences in exchange rate regimes, inflation targets, and policy performance. In the Baltics and Romania, downward pressures are likely to persist for some time, whereas in other New Member States and a number of Balkan countries inflation should be past its trough. In some countries (Ukraine and Russia, for example), inflation will remain relatively high, despite a projected decline.

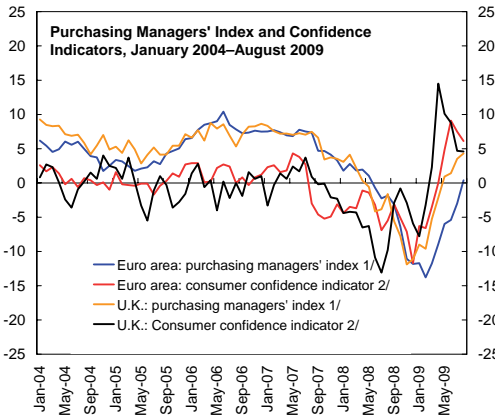
Figure 7. Selected European Countries: Key Short-Term Indicators



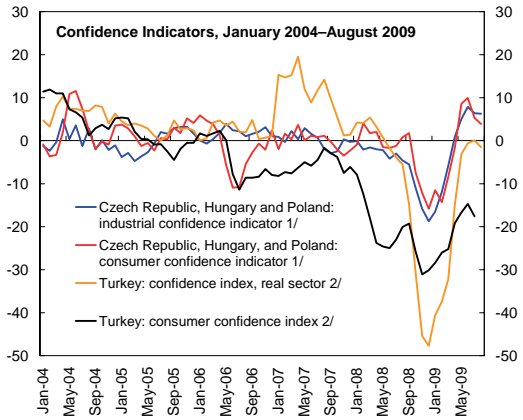
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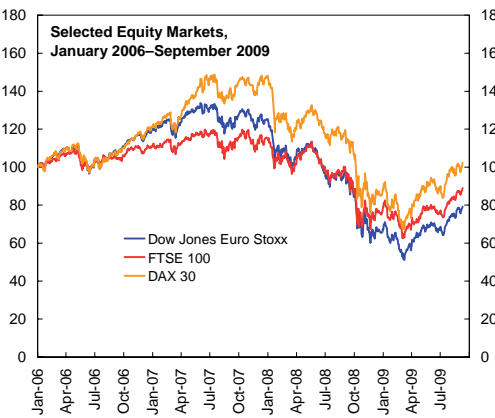
Source: J.P. Morgan.



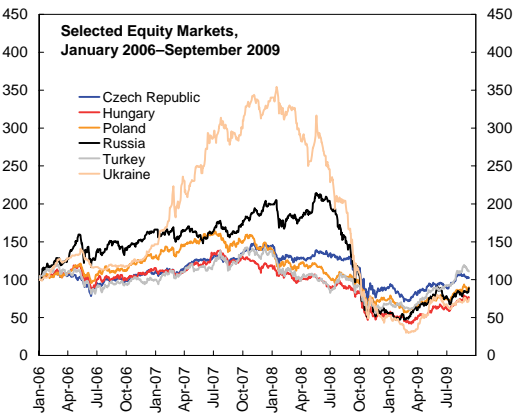
Sources: Eurostat, European Commission Business and Consumer Surveys; Haver Analytics; and IMF staff calculations.
 1/ Seasonally adjusted; deviations from an index value of 50.
 2/ Percentage balance; difference from the value three months earlier.



Sources: Haver Analytics; and IMF staff calculations.
 1/ Averaged percentage balance; difference from the value three months earlier.
 2/ Difference from an index value of 100.



Source: Datastream.



Source: Datastream.

Table 1. European Countries: Real GDP Growth and CPI Inflation, 2006–10*(Percent)*

	Real GDP Growth					CPI Inflation				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Europe 1/ 2/	4.2	3.9	1.7	-4.7	0.8	3.6	3.6	5.7	3.0	2.7
Advanced European economies 1/	3.2	2.8	0.8	-4.0	0.5	2.2	2.1	3.4	0.7	1.0
Emerging European economies 1/ 2/	7.2	6.8	4.2	-6.6	1.7	7.8	7.8	12.0	9.0	7.2
European Union 1/	3.4	3.1	1.0	-4.2	0.5	2.3	2.4	3.7	0.9	1.1
Euro area	2.9	2.7	0.7	-4.2	0.3	2.2	2.1	3.3	0.3	0.8
Austria	3.5	3.5	2.0	-3.8	0.3	1.7	2.2	3.2	0.5	1.0
Belgium	3.0	2.6	1.0	-3.2	0.0	2.3	1.8	4.5	0.2	1.0
Cyprus	4.1	4.4	3.6	-0.5	0.8	2.2	2.2	4.4	0.4	1.2
Finland	4.9	4.2	1.0	-6.4	0.9	1.3	1.6	3.9	1.0	1.1
France	2.4	2.3	0.3	-2.4	0.9	1.9	1.6	3.2	0.3	1.1
Germany	3.2	2.5	1.2	-5.3	0.3	1.8	2.3	2.8	0.1	0.2
Greece	4.5	4.0	2.9	-0.8	-0.1	3.3	3.0	4.2	1.1	1.7
Ireland	5.4	6.0	-3.0	-7.5	-2.5	2.7	2.9	3.1	-1.6	-0.3
Italy	2.0	1.6	-1.0	-5.1	0.2	2.2	2.0	3.5	0.7	0.9
Luxembourg	6.4	5.2	0.7	-4.8	-0.2	2.7	2.3	3.4	0.2	1.8
Malta	3.8	3.7	2.1	-2.1	0.5	2.6	0.7	4.7	2.1	1.9
Netherlands	3.4	3.6	2.0	-4.2	0.7	1.7	1.6	2.2	0.9	1.0
Portugal	1.4	1.9	0.0	-3.0	0.4	3.0	2.4	2.7	-0.6	1.0
Slovak Republic	8.5	10.4	6.4	-4.7	3.7	4.5	2.7	4.6	1.5	2.3
Slovenia	5.9	6.8	3.5	-4.7	0.6	2.5	3.6	5.7	0.5	1.5
Spain	4.0	3.6	0.9	-3.8	-0.7	3.6	2.8	4.1	-0.3	0.9
Other EU advanced economies										
Denmark	3.3	1.6	-1.2	-2.4	0.9	1.9	1.7	3.4	1.7	2.0
Sweden	4.2	2.6	-0.2	-4.8	1.2	1.5	1.7	3.3	2.2	2.4
United Kingdom	2.9	2.6	0.7	-4.4	0.9	2.3	2.3	3.6	1.9	1.5
New EU countries 1/	6.6	6.0	4.0	-4.3	0.7	3.2	4.3	6.5	3.4	2.2
Bulgaria	6.3	6.2	6.0	-6.5	-2.5	7.4	7.6	12.0	2.7	1.6
Czech Republic	6.8	6.1	2.7	-4.3	1.3	2.5	2.9	6.3	1.0	1.1
Estonia	10.0	7.2	-3.6	-14.0	-2.6	4.4	6.6	10.4	0.0	-0.2
Hungary	3.9	1.2	0.6	-6.7	-0.9	3.9	7.9	6.1	4.5	4.1
Latvia	12.2	10.0	-4.6	-18.0	-4.0	6.6	10.1	15.3	3.1	-3.5
Lithuania	7.8	8.9	3.0	-18.5	-4.0	3.8	5.8	11.1	3.5	-2.9
Poland	6.2	6.8	4.9	1.0	2.2	1.0	2.5	4.2	3.4	2.6
Romania	7.9	6.2	7.1	-8.5	0.5	6.6	4.8	7.8	5.5	3.6
Non-EU advanced economies										
Iceland	4.3	5.6	1.3	-8.5	-2.0	6.8	5.0	12.4	11.7	4.4
Israel	5.3	5.2	4.0	-0.1	2.4	2.1	0.5	4.6	3.6	2.0
Norway	2.3	3.1	2.1	-1.9	1.3	2.3	0.7	3.8	2.3	1.8
Switzerland	3.6	3.6	1.8	-2.0	0.5	1.0	0.7	2.4	-0.4	0.5
Other emerging economies										
Albania	5.5	6.3	6.8	0.7	2.2	2.4	2.9	3.4	1.7	2.0
Belarus	10.0	8.6	10.0	-1.2	1.8	7.0	8.4	14.8	13.0	8.3
Bosnia and Herzegovina	6.9	6.8	5.5	-3.0	0.5	6.1	1.5	7.4	0.9	1.6
Croatia	4.7	5.5	2.4	-5.2	0.4	3.2	2.9	6.1	2.8	2.8
Macedonia, FYR	4.0	5.9	4.9	-2.5	2.0	3.2	2.3	8.3	-0.5	2.0
Moldova	4.8	3.0	7.2	-9.0	0.0	12.7	12.4	12.7	1.4	7.7
Montenegro	8.6	10.7	7.5	-4.0	-2.0	2.1	3.5	9.0	3.4	2.1
Russia	7.7	8.1	5.6	-7.5	1.5	9.7	9.0	14.1	12.3	9.9
Serbia	5.2	6.9	5.4	-4.0	1.5	12.7	6.5	11.7	9.9	7.3
Turkey	6.9	4.7	0.9	-6.5	3.7	9.6	8.8	10.4	6.2	6.8
Ukraine	7.3	7.9	2.1	-14.0	2.7	9.1	12.8	25.2	16.3	10.3

Source: IMF, *World Economic Outlook*.

1/ Average weighted by PPP GDP.

2/ Montenegro is excluded from the aggregate calculations.

... But a Robust Recovery Is Unlikely

While the recession is likely to be over, the recovery may not be smooth. On the positive side, confidence has rebounded sharply, in some cases even reaching precrisis levels (Sweden, for example),

and equity markets have been buoyant. At the microlevel, the ongoing inventory adjustment could proceed more quickly than many firms anticipate, which could prompt stronger orders than what is currently on the books. Yet, these factors may provide only temporary support for the recovery.

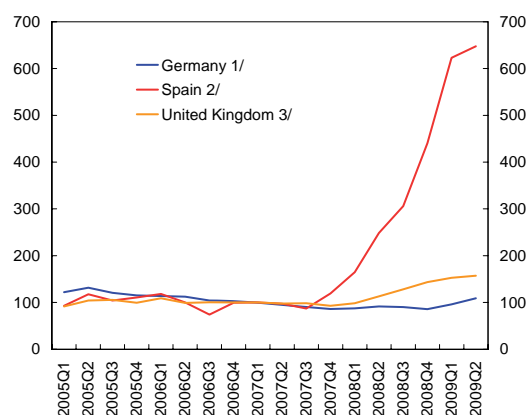
The nature of the global recovery entails substantial risks for Europe. Ideally, as global rebalancing takes place, countries hitherto strongly relying on exports would shift to domestic demand. If that shift were to occur, with emerging Asia in the lead, the upswing could help Europe's more export-oriented economies regain their footing earlier and more solidly than expected. In case of a short-lived rebalancing, however, global trade would fail to deliver the uplift assumed in the baseline forecast (IMF, 2009e). As the crisis has amply demonstrated, Europe is tightly linked to Asia through trade, and Europe's high degree of internal integration would spread the repercussions of such a reversal in net exports throughout the region, including among emerging countries.

Links between the real and the financial sector could turn more negative than envisaged. As credit quality declines further because more households struggle with falling income and more firms enter bankruptcy, banks will be less willing or able to support the recovery. Corporate insolvencies are indeed worrisome: for instance, compared to 2008, bankruptcies are up by about 10 percent in Germany, 50 percent in the United Kingdom, and 300 percent in Spain, though from a very low base in the last case (Figure 8). As a consequence, firms seeking new investment financing during the upswing could face constraints. That the European Central Bank (ECB) and the Bank of England have recently turned to moral suasion, asking banks to restart their lending and pass on interest rate cuts to borrowers, underlines this risk. Emerging economies remain vulnerable to significant credit contractions, with the added threat of negative intra-European feedback loops between parent banks and their affiliates abroad.

Another risk lies in the fragility of European employment dynamics. While employment has held up well so far, it is likely to deteriorate, particularly in advanced economies. With the growth outlook modest, sales and revenues far below precrisis levels, and the burden of excess capacities heavy, firms are likely to adjust their payrolls downward and postpone rehiring until later in the upswing. Indeed,

Figure 8. Selected European Countries: Bankruptcies, 2005–09

(Index, 2007Q1 = 100)



Sources: Haver Analytics; National Institute of Statistics; and IMF staff calculations.

1/ Excluding Nordrhein-Westfalen. Data for 2009:Q2 estimated based on April and May 2009 figures.

2/ Provisional data since 2006:Q1.

3/ Data for England and Wales.

the stylized facts suggest that employment in euro area countries is significantly more persistent than in the United States or in many of Europe's emerging economies (Figure 9). On average, employment tends to hold up better during downturns but takes much longer to pick up during upturns. As a consequence, the recovery is likely to be jobless, and initially further job losses are probable (Box 1)—a situation that opens up the possibility of a downward spiral of deteriorating consumer sentiment, consumption, and investment.

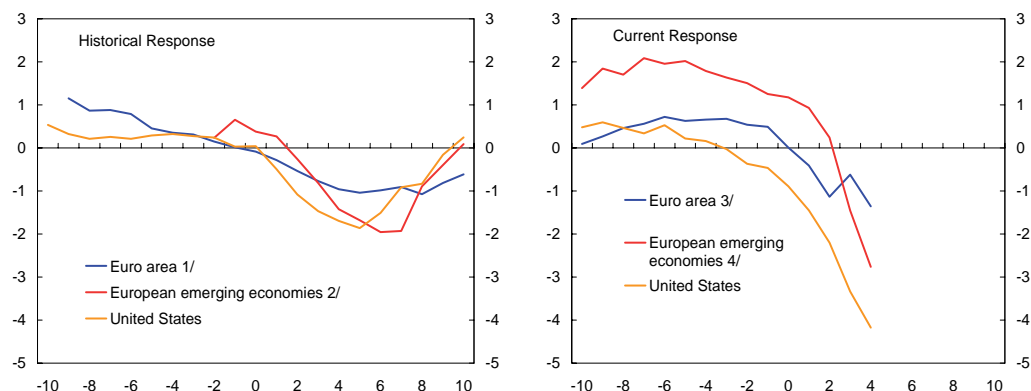
Strong Policy Response

Although policy frameworks in Europe typically take a medium-term approach, policymakers have adapted and moved steadily to address many of the policy and coordination challenges raised by the crisis. As a result, economic policy has contributed significantly to reducing the impact of the crisis, truncating tail risks, and paving the way for the recovery.

Progress in Repairing the Financial System

The first phase of financial sector interventions was characterized by a flurry of measures aimed at eliminating systemic risk that, owing to the

Figure 9. Selected Countries: Employment Over the Business Cycle
(Employment rate, change in percent)



Sources: OECD, *Economic Outlook*; Haver Analytics; and IMF staff calculations.
Notes: All data are logarithmic change times 100. Time-axis shows quarters around the peak of the business cycle.

1/ Excludes Greece, Luxembourg, Netherlands, Slovak Republic, and Slovenia.

2/ Bulgaria, Estonia, Latvia, Poland, Romania, and Turkey.

3/ Excludes Luxembourg, Slovak Republic, and Slovenia.

4/ Bulgaria, Estonia, Hungary, Latvia, Poland, Romania, and Turkey.

urgency of the crisis and the lack of established European processes for dealing with it, often had an impromptu character (see IMF, 2009d). While early on central banks provided significant liquidity support, measures to address underlying solvency issues—such as guarantees of bank liabilities, the provision of funds for recapitalization, the restructuring of unviable institutions, and the establishment of ways to deal with impaired assets, took longer to coordinate and implement; a process still underway.

More unified financial sector stress testing for the entire region is now being undertaken. A joint supervisory exercise, coordinated by the Committee of European Banking Supervisors (CEBS) and supported by the ECB, looked into the robustness of 22 major European banking groups, the majority of which are operating across borders, including in emerging Europe. And an initiative involving Central, Eastern, and Southern European central banks coordinated by the IMF is stress testing banks in this region to provide an up-to-date assessment of their potential resilience to shocks and to identify capital needs. While not immediately linked to action, these exercises provide critical information that can help supervisors gauge what needs to be done to clean

the remaining financial sector risks from the system.

Meanwhile, a focused effort is underway to fill some of the policy gaps at the European level and to clarify the framework for postcrisis financial stability and the regulatory environment essential for allowing the financial system to resume its intermediation role:

- Turning crisis into opportunity, policymakers in the EU have agreed to attempt an ambitious overhaul of the EU's financial stability arrangements.⁴ While many details of the reforms are still under discussion, the European System of Financial Supervisors (ESFS) will bring together national supervisors with independent European Supervisory Authorities (ESAs) to coordinate rulebooks and supervision of cross-border institutions. The European Systemic Risk Board (ESRB) is to bridge the gap between macro- and microprudential oversight and could support monetary policy by initiating the use of macroprudential regulation to mitigate unwanted trends in asset prices, while taking

⁴ For a detailed discussion, see IMF (2009b).

Box 1. Employment and Productivity Dynamics Around Recessions: Germany, Spain, and the United Kingdom

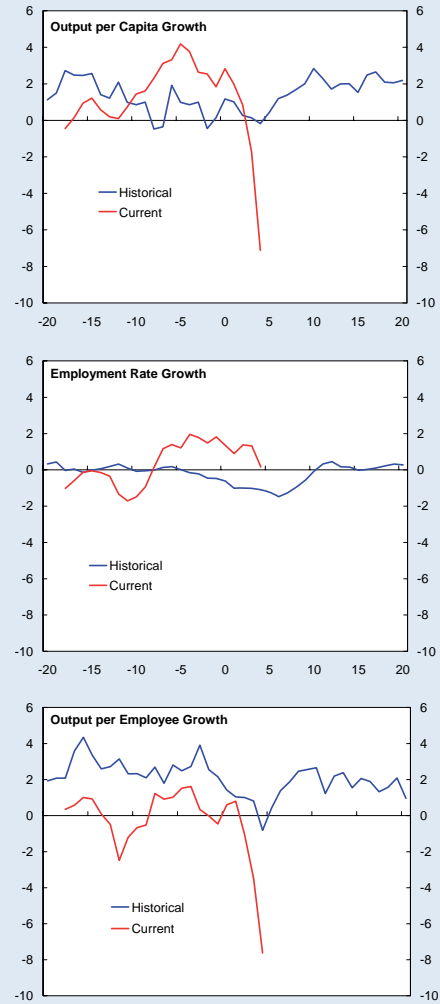
While the global financial crisis and recession have hit all of Europe’s economies, the impact has varied considerably across countries. Output and employment, for instance, have moved quite differently in Germany, Spain, and the United Kingdom, three of the larger European economies. Institutions, policies, and additional idiosyncratic shocks are possible explanations for this heterogeneity. How these factors play out will affect the type of recovery ahead.

To separate the roles of policies, institutions, and shocks in the reaction to the crisis, it is useful to compare the output and labor dynamics during the current cycle with the stylized historical behavior suggested by previous cycles. To that end, the time path of the change in per capita output can be broken down into changes in the employment rate, labor productivity, and labor force participation.¹ By definition, these series are interrelated: if employment moves in line with output, but with little change in the labor force, labor productivity would hold steady; in contrast, if employment changed little as output dropped, labor hoarding would take place, leading to an adjustment in hours worked per employee.

The fact that Germany, Spain, and the United Kingdom have all seen a significantly larger fall in output per capita than they have in the past illustrates the singularity of the current recession in Europe.² The contrast between previous cycles and the current recession is most striking in Germany (see first figure), with its massive drop in output in the current downturn. But perhaps equally striking is the degree to which the dynamics of employment and productivity vary among countries.

As in past downturns, Spain had the steepest reduction in the employment rate, followed by the United Kingdom and Germany. However, current employment losses in Spain (see second figure)—where the global crisis has coincided with the end of an extraordinary but unsustainable housing and construction boom—have been substantially higher than in previous cycles. For the United Kingdom, while employment losses are also higher than is typical at this point in the cycle, they are moderate compared to Spain. In contrast, Germany has seen fewer employment losses than in previous recessions.

Germany: Labor Market Dynamics Around Recessions



Sources: OECD, *Economic Outlook*; and IMF staff calculations. Note: All data are logarithmic change times 100. Time-axis shows quarters around the peak of the business cycle.

... continued

Note: The authors of this box are Ravi Balakrishnan and Helge Berger.

¹ Formally, $\Delta \log (Y/P) = \Delta \log (Y/E) + \Delta \log (E/LF) + \Delta \log (LF/P)$, where Y is real GDP, P is population, E is employment, LF is the labor force, and $\Delta \log$ indicates the change in the logarithm (see IMF 2009e, Box 1.3).

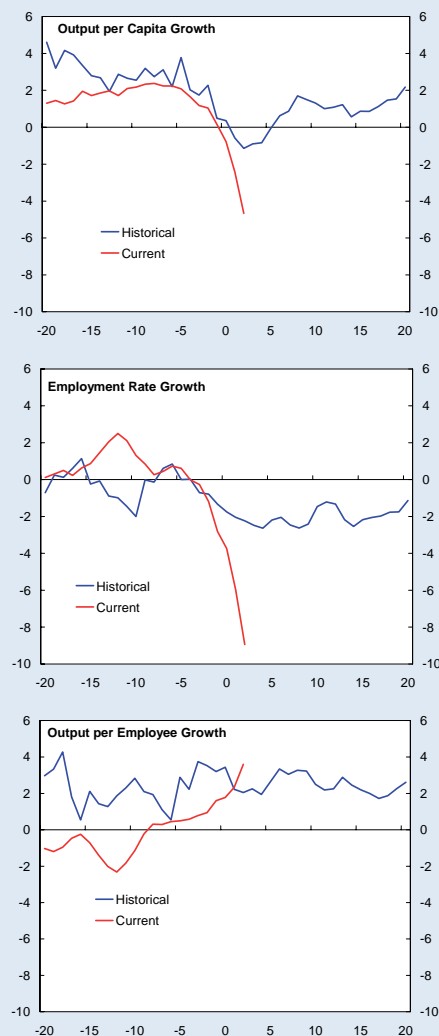
² The historical data are at a quarterly frequency and include recessions going back to the 1970s. The historical patterns are identified using the median response over past cycles. In the figures below, results are presented along a centered time axis, with $T=0$ indicating a peak in real GDP growth.

Box 1 (continued)

The stark differences in employment responses are mirrored in pronounced differences in productivity dynamics. With little or no labor hoarding, Spanish productivity tends to grow more steadily and at positive rates during recessions, including the current one. In the United Kingdom (see third figure), productivity usually falls during a recession, but the decline has been somewhat steeper this time around.³ The very sharp drop in productivity in the current recession in Germany deviates substantially from its historical pattern of smooth productivity declines.

Institutional labor market flexibility—employment protection in particular—is often seen as highly relevant in explaining variations in labor adjustments to shocks.⁴ Higher levels of employment protection tend to reduce both inflows and outflows into employment and can slow down labor reallocation after major shocks. In addition to the legislated rules, such as dismissal protection for regular employees or restrictions on temporary work agencies, their interpretation and implementation also play a role (OECD, 2004). In Germany, for instance, labor court decisions and collective bargaining agreements have tended to reinforce the legal restrictions.⁵ And indeed, based on the OECD's summary indicator of employment protection, countries with less employment protection have generally greater job destruction during a downturn but greater job creation during the recovery than countries with more protection (although other adjustment costs and their possible asymmetry will also influence the cyclical pattern of job destruction and creation). At nearly 2 percent during a typical recession, the peak year-over-year decline in the employment rate for countries with lower employment protection is well outside the interquartile range for countries with higher protection. And, so far, job destruction in the current recession seems to follow the same pattern (IMF, 2009e, Box 1.3).⁶

However, the case of Spain—which has large employment losses despite high employment protection—illustrates that labor market flexibility is a multifaceted concept. One factor at play is the dual nature of the

Spain: Labor Market Dynamics Around Recessions

Sources: OECD, *Economic Outlook*; and IMF staff calculations.
Note: All data are logarithmic change times 100. Time-axis shows quarters around the peak of the business cycle.

³ The median historical pattern for the United Kingdom masks a trend toward a more pronounced employment and a smaller productivity response to recessions since the 1980s. However, by some measures the employment adjustment during the current recession looks small compared with other recent downturns. See Felices (2003) and Bank of England (2009) for a more detailed discussion.

⁴ Other factors include the coverage of collective bargaining agreements. See Nickell, Nunziata, and Ochel (2005) for a recent analysis of the role of institutions for labor market performance in Europe.

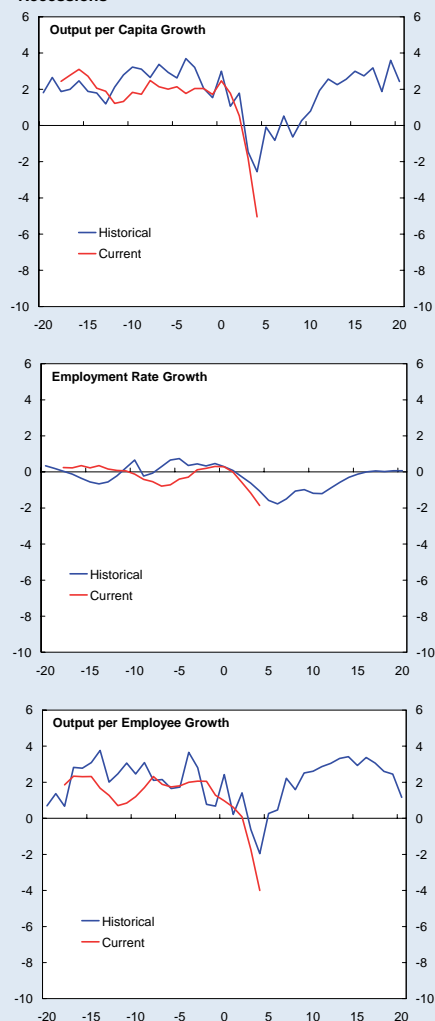
⁵ Grund (2006) and Berger (1998), among others, discuss labor court behavior in Germany.

⁶ The indicator weighs more than 18 dimensions of legislated and actual employment protection, including notification requirements, severance pay, difficulties of dismissal, minimum wage requirements for temporary workers, and any additional costs attached to collective dismissals.

Spanish labor market, which is characterized by a very high share of employees with fixed-term contracts. At currently about 25 percent (down from about 30 percent one year ago) overall and about 40 percent in the construction sector, the share of fixed-term workers is much higher than the EU average (table). As a result, employment adjusts relatively faster in Spain, as firms let fixed-term contracts expire or fire workers on such contracts, given lower and more predictable firing costs.⁷ In the current recession, shocks such as the strong decline in construction activity and the steep increase in bankruptcies (see Figure 8) have amplified that trend. Given the high level of protection for permanent employees and very limited wage flexibility overall (reflecting, among other things, the role of labor unions, collective wage bargaining outcomes, and wage indexation), many small and medium-sized enterprises face bankruptcy, given the size of the adverse shock. Still, so far, fixed-term workers have been bearing the brunt of the overall employment adjustment.

During the current cycle, the slower employment adjustment and stronger drop in productivity in Germany compared with the United Kingdom support the idea that labor market flexibility matters but that other factors are also at play. On the policy front, the United Kingdom has recently introduced measures to support employment, and Germany's active labor market policies in the form of subsidies to support reductions in working hours while avoiding dismissals are particularly relevant. In addition, Germany's production structure, which is geared toward high skill intensive capital goods, provides a strong incentive for firms to retain their employees; and a prolonged phase of wage moderation (supported by collective wage agreements that sometimes trade wage concessions for employment guarantees) has made such behavior less costly.

United Kingdom: Labor Market Dynamics Around Recessions



Sources: OECD, *Economic Outlook*; and IMF staff calculations.
 Note: All data are logarithmic change times 100. Time-axis shows quarters around the peak of the business cycle.

Selected Indicators of Labor Market Flexibility, 2008

	Strictness of employment protection (index) 1/			Fixed term employees (percent of total) 2/	
	Overall	Regular employment	Temporary employment	Collective dismissals	
Spain	3.0	2.5	3.5	3.1	25.4
Germany	2.4	3.0	1.2	3.8	14.4
United Kingdom	1.1	2.1	0.4	2.9	5.4

Sources: OECD, *Employment Outlook*; Eurostat; and IMF staff calculations.
 1/ Index ranges from 0 to 6.
 2/ 2009Q1 data.

... continued

⁷ Fixed-term contracts also have limited possibilities for labor court recourse. See Ayuso i Casals (2004) for a more detailed discussion of the dual labor market in Spain. The European Union's average fixed-term employment share is 14 percent.

Box 1 (concluded)

These findings have a number of implications for employment during the recovery:

- For Germany, job creation is likely to be low by historical standards as substantial labor hoarding will have to be unwound. Worse, job reductions are probably unavoidable unless global demand picks up more rapidly than envisioned.
- A jobless recovery could also be in the cards for the United Kingdom. While lack of labor market flexibility is not an issue in the sense that employment protection is low, the financial crisis has hit the banking sector particularly hard in the United Kingdom, which typically is associated with a slow recovery (see IMF, 2009e, Chapter 4), and some labor hoarding will need to be worked off.
- In Spain, although labor hoarding is less of a problem, it is unclear whether the expiration of fixed-term contracts will be sufficient to absorb the impact of a major housing and construction bust in the near term.

into account the diversity of European markets (see Box 2).

- In addition, numerous regulatory initiatives are in the pipeline. Among other things, the EU has introduced a set of proposals to standardize regulation of the financial industry, including a legal framework for credit-rating agencies and hedge funds, a directive updating capital requirements for banks, and regulation of cross-border payments, some of which (such as the treatment of non-EU entities in hedge fund regulation) are being intensively debated both within the EU and internationally. There is also a discussion about the usefulness of forbearance in accounting, where some have argued for greater leeway in the evaluation of crisis-impaired assets, while others point to the advantages of transparency in financial accounting.⁵

Macroeconomic Policies Have Been Supportive

In response to disinflationary pressures, monetary policy has made full use of its conventional instruments. Since the beginning of the crisis, the ECB has lowered its policy rate by 3.25 percentage

points to 1 percent, adjusted its refinancing operations to fixed-rate tenders with full allotment, and, in a widely observed move in June 2009, offered extended refinancing operations with a one-year maturity. The liquidity operation in June was remarkable not only because of its size but also because it strongly conveyed the message that interest rates would stay low for a lengthy period. Sweden's Riksbank, too, has explicitly communicated its expectation that policy rates would remain low as long as necessary to steer the economy out of the crisis. And despite the fact that monetary policy had to tread more carefully in emerging Europe, collectively Europe's central banks have contributed significantly to mitigating the risks of an economic meltdown.

Monetary policymakers have also expanded their arsenal where needed to bolster the effectiveness of their stance. Policy rate changes have continued to affect markets, but weaker and slower transmission compared to the precrisis period prompted a search for means to enhance policy effectiveness (Čihák, Harjes, and Stavrev, 2009). While the Bank of England, similar to the Federal Reserve, has moved to support sovereign as well as corporate bond markets directly, the ECB so far has focused its open-market interventions on covered bonds and on a relatively limited scale (Meier, 2009). It has,

⁵ The Financial Crisis Advisory Group (2009), reporting to international accounting boards IASB and FASB, has advised against ad hoc measures to increase the flexibility in loss accounting.

Box 2. Asset Price Swings, Monetary Policy, and Prudential Policy: A European View

As turmoil in the global financial markets has demonstrated, financial systems are inherently subject to cycles: growth in lending, leverage, and asset prices often magnify underlying economic dynamics and lead, at times, to a buildup of financial imbalances followed by sharp corrections. Financial cycles can, in turn, have an impact on the economy, both by affecting the capital adequacy of lenders and their ability to extend loans and by altering asset prices and collateral values and thereby impinging on the creditworthiness of borrowers. Indeed, by reinforcing the role of financial assets as collateral, the financial sector has the potential to amplify fluctuations in the business cycle and increase the impact of monetary policy shocks and movements of asset prices on real activity.¹ Moreover, cross-border ownership of financial assets exposes financial institutions to macroeconomic, financial, and asset price fluctuations in other countries where they hold positions. Within Europe, although macrofinancial links appear particularly complex and are increasingly integrated across borders, country-specific characteristics, preconditions, and developments in housing and corporate finance systems account for a wide dispersion of responses to swings in asset prices and financial conditions in different economies.² What can European policymakers do to lessen the undesirable macroeconomic volatility associated with the dynamics of asset prices in the face of highly integrated and converging, but still heterogeneous national financial systems?

Monetary Policy and Fluctuations in Asset Prices

Many now consider that monetary policy should bear some responsibility for avoiding excessive volatility in asset prices. Recent empirical studies posit that monetary policy should be relatively more aggressive in economies whose financial markets are more developed, allowing agents to borrow more easily against financial wealth and build up higher stocks of private debt.³ In a risk-management framework, such an approach would also need to accommodate the uncertainty about what factors are driving asset prices—in particular, whether they reflect speculative forces or changes in fundamentals—and their impact on the economy. It would also be important to apply such an approach symmetrically: while easing monetary policy may be justified when asset prices fall rapidly, “leaning against the wind” by tightening during asset price booms may also prove useful in limiting the risk of a buildup of financial imbalances. Paying attention to developments in asset prices need not require a change in the formal mandates of major central banks, but could be achieved by interpreting existing mandates more flexibly: for instance, central banks could extend the horizon for inflation and output targets and pay greater attention to financial indicators and their interaction with those targets.

... continued

Note: The main authors of this box are Wim Fonteyne and Silvia Sgherri.

¹ The observation that credit-fueled booms in asset prices were particularly likely to end in financial crises is hardly new (Charles Kindleberger, 1978). The role of balance sheet effects and collateral in credit cycles was first singled out by Bernanke and Gertler (1989) and later developed by Kiyotaki and Moore (1997) and Bernanke, Gertler, and Gilchrist (1999). A well-known exposition of the procyclical feature of financial systems is Minsky’s financial instability hypothesis (Minsky, 1992).

² For an in-depth cross-country study on differences in financing conditions in European economies and their crucial role in accounting for a dispersion of responses to a “credit squeeze” across Europe, see IMF (2008).

³ See, for instance, the recent contribution by Christiano and others (2009) for a DSGE model of the euro area embedding a financial accelerator mechanism and the studies by Calza, Monacelli, and Stracca (2007) and Iacoviello and Neri (2008) for estimated models allowing for housing financing.

Box 2 (concluded)**Curbing the Buildup of Financial Imbalances**

Monetary policy, however, cannot do the job alone.⁴ Within a currency area, the effectiveness of a single monetary authority in curbing the risk of a buildup of financial imbalances is necessarily limited because its response can focus only on area-wide aggregates and not on financial developments in each national market. Fiscal space permitting, countercyclical national fiscal policies that reduce the intensity of boom-and-bust cycles could be important in this regard. But prudential policies should play a critical role in guarding against a national or regional buildup of financial risk. At the same time, though, the objective of a single financial market and its prerequisite of establishing a level playing field argue against variations in financial regulation within the European Union (EU).

How can the tensions between these different objectives be resolved? The key is giving prudential policies (regulation and supervision) a greater macroeconomic focus and increasing their effectiveness but to do so in ways that minimize distortions and are consistent with the objective of a single financial market. In the present set-up, national supervisors have struggled to keep pace with increasingly complex cross-border links within the EU. Many supervisors, each with its own practices and rules, can be involved in the supervision of a single cross-border financial conglomerate or in the supervision of a national financial market with an extensive foreign presence. This criss-crossing of responsibilities creates a coordination problem in two dimensions: the effective supervision of cross-border groups and effective prudential action to avoid a national or regional buildup of risk. Given the growth of cross-border activity and the increasing number of cross-border mergers of financial institutions, these coordination challenges have become all but insurmountable within a system consisting of a large number of independent national supervisors.

Reforms of Cross-Border Arrangements for Financial Stability

Against this background, in June 2009 the EU adopted an ambitious reform program of its cross-border arrangements for financial stability, comprising the establishment of two new structures: the European Systemic Risk Board (ESRB) and the European System of Financial Supervisors (ESFS). While the ESRB will be tasked with identifying systemic risks and recommending ways to address them, the ESFS will seek to harmonize prudential rules and supervisory practices and oversee the national supervisors. On the basis of its assessments, the ESRB will be able to issue risk warnings and specific recommendations to the ESFS and other policymakers. This set-up could potentially deliver the right combination of a centralized monitoring and assessment of risks and a targeted and effective implementation of measures, by leveraging the advantages of close contact with financial firms, extensive experience, and detailed information that the national supervisors possess. To realize this potential, the ESRB will need to monitor developments in individual member states or groups of member states, respond to concerns of authorities in individual countries, and recommend tailored responses using the most appropriate policy tools. The ESFS will need to ensure an effective follow-up to ESRB advice, close cooperation so that national supervisors act together as an integrated system, and

⁴ For a more detailed discussion, see IMF (2009e, Chapter 3).

high-quality supervision of all parts of the financial system. To do so, it will need effective powers over national supervisors, as well as adequate tools for overseeing the work of the colleges of national supervisors that will organize the supervision of cross-border groups.

Dealing with Boom-and-Bust Cycles

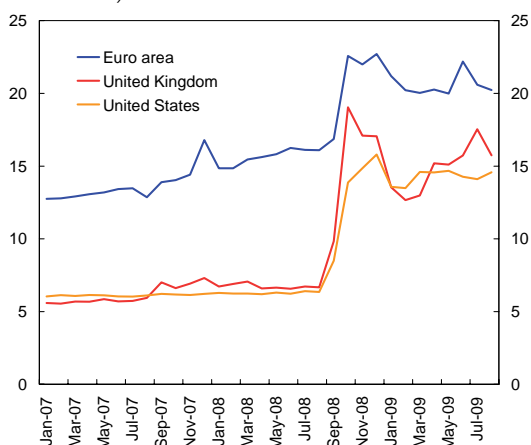
How should this system deal with boom-and-bust cycles? An important part of the answer should be to correct the procyclical bias in bank capital requirements that conventional risk management and regulatory tools tend to exhibit.⁵ In a system where loan loss provisions are tied to loan delinquency, cyclical variations in loan delinquencies affect both the capital and the capital needs of financial institutions. This feedback loop reinforces the magnitude of boom-bust cycles, and risks credit squeezes that turn downswings into financial and economic crises.⁶ To mitigate these cyclical effects, some European supervisors (for example, in Spain) have advocated (and implemented) the use of countercyclical provisioning methodologies (sometimes referred to as “dynamic” or “statistical”), which require banks to provision more than evidenced by losses in good times, when the identified need for provisioning is smaller, and draw against these reserves in bad times, when the need for provisions is larger.⁷ A harmonized system of countercyclical capital requirements could be an important element in resolving the EU’s financial stability conundrum. To counter potentially divergent national and regional developments within the EU, such a system should tie capital requirements to the riskiness and cyclicity of the exposures, applying equally to any EU institution that holds these exposures. Concretely, concerns about developments in asset prices in one or more specific countries should lead to increased capital requirements for all EU banks that hold related exposures, regardless of where these banks are headquartered. This approach would serve both the objective of financial integration, by allowing a single rule book and a “level playing field,” and that of financial stability, by greatly reducing the scope for circumvention and regulatory arbitrage.

⁵ There is a growing literature on the potential procyclicality of the new risk-sensitive bank capital regulation—known as Basel II—mirroring the concern that the increase in capital requirements during downturns might severely contract the supply of credit. On this point, see, among others, Jokipii and Milne (2006), Taylor and Goodhart (2006), Saurina and Trucharte (2007), and Repullo and Suarez (2008). For recent policy discussions, see also Caruana and Narain (2008) and Goodhart and Persaud (2008).

⁶ Borio, Furfine, and Lowe (2001) review the factors contributing to swings in credit conditions that may amplify macroeconomic cycles. They stress the role played by the inappropriate response of financial market participants to shifts in the level of risk—especially in its systematic component—as an important source of this amplification. Incorrect responses appear to be due not only to a misassessment of risk over time but also to distortive incentives likely to make financial market participants react in a socially suboptimal way.

⁷ Model simulations of a decrease in procyclicality of banks’ lending—following, for example, the introduction of a countercyclical element into prudential regulation of banks’ capital—suggest substantial reductions in the volatility of investment in financially integrated economies with high stocks of private debt (see, for instance, Gruss and Sgherri, 2009).

Figure 10. Selected Countries: Central Banks' Total Assets, January 2007–August 2009
(Percent of GDP)



Sources: National central banks; Haver Analytics; and IMF staff calculations.

however, broadened its already very wide collateral list for more traditional refinancing operations to support security markets, including mortgage-backed securities. While these approaches differ, owing, in part, to the differences in financial systems, the resulting increase in central bank balance sheets has been broadly similar, and the levels reached are equally remarkable (Figure 10). The associated buildup of risk in the aggregated public sector balance sheet—which comes in addition to the contingent liabilities from government interventions in the financial sector—has raised new questions for fiscal management.

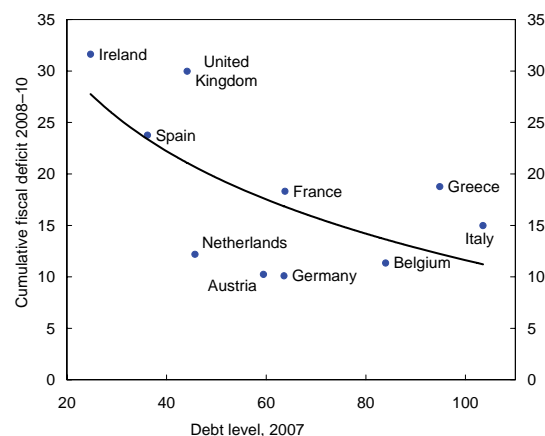
Fiscal policy played an important role in supporting the economy and forestalling a downward spiral in demand. The euro area-wide discretionary stimulus amounts to about 1 percent per year in 2009 and 2010. The brunt of the fiscal reaction, however, is provided by automatic stabilizers.⁶ In addition, governments have made extensive use of the public balance sheet, committing to guarantee, recapitalize, and resolve financial institutions. Together, these measures add

⁶ The size of automatic stabilizers varies with the size of the budget and its elasticity with regard to the business cycle. See European Commission (2009a); Horton, Kumar, and Mauro (2009); and IMF (2009d) for a more detailed discussion of the fiscal reaction to the crisis.

up to an expected accumulated deficit of almost 16 percent of GDP over the 2008–10 period (Table 2). With an estimated overall level of financial sector guarantees of about 25 percent of GDP for the advanced economies, however, there is also a nonnegligible increase in contingent liabilities in the fiscal balance sheets. The implied challenge for fiscal sustainability is quite substantial, not least because the increase in actual and contingent public debt comes at a time when medium-term growth potential is severely weakened (see Chapter 3). In emerging Europe, deficits have started to increase more recently, but that increase is mostly an echo of the somewhat delayed impact of the crisis and less an attempt to stabilize the economy with the discretionary stimulus. Still, at about 10 percent, the expected accumulated deficit in Europe's emerging economies is sizable.

Beyond the aggregate, the fiscal reaction across Europe has been quite diverse even among advanced economies. One source of diversity has been the size of financial sector interventions, where countries like the United Kingdom and Ireland have up to now provided significantly more up-front financing than, for instance, France or Italy. Another has been the fiscal room for maneuver. In general, among the larger EU economies, those having lower debt levels going into the crisis—and thus more fiscal space—also show a larger increase in their fiscal deficit (Figure 11).

Figure 11. Selected EU Countries: Debt Level and Cumulative Fiscal Deficit 1/
(Percent of GDP)



Sources: IMF, *World Economic Outlook*; and IMF staff estimates.
1/ Data as of August 10, 2009.

Table 2. European Countries: External and Fiscal Balances, 2006–10
(Percent)

	Current Account Balance to GDP					General Government Balance to GDP				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Europe 1/	0.7	0.2	-0.4	-0.1	0.2	-0.1	0.1	-1.3	-6.5	-6.3
Advanced European economies 1/	0.8	0.6	-0.1	-0.1	0.3	-0.9	-0.4	-1.8	-6.6	-7.2
Emerging European economies 1/ 2/	0.2	-2.0	-1.8	-0.2	-0.1	2.4	1.8	0.3	-6.3	-4.2
European Union 1/	-0.3	-0.5	-1.1	-0.8	-0.5	-1.5	-0.9	-2.3	-6.9	-7.5
Euro area	0.4	0.3	-0.7	-0.7	-0.3	-1.2	-0.6	-1.8	-6.2	-6.6
Austria	2.8	3.1	3.5	2.1	2.0	-1.7	-0.7	-0.5	-4.2	-5.6
Belgium	2.6	1.7	-2.5	-1.0	-0.9	0.2	-0.3	-1.2	-5.9	-6.3
Cyprus	-7.0	-11.7	-18.3	-10.0	-9.8	-1.2	3.4	0.9	-4.1	-6.3
Finland	4.5	4.1	2.4	0.5	2.0	3.9	5.2	4.4	-2.9	-4.2
France	-0.5	-1.0	-2.3	-1.2	-1.4	-2.3	-2.7	-3.4	-7.0	-7.1
Germany	6.1	7.5	6.4	2.9	3.6	-1.5	-0.5	-0.1	-4.2	-4.6
Greece	-11.1	-14.2	-14.4	-10.0	-9.0	-2.8	-3.6	-5.0	-6.4	-7.1
Ireland	-3.6	-5.3	-5.2	-1.7	0.6	2.9	0.1	-7.3	-12.1	-13.3
Italy	-2.6	-2.4	-3.4	-2.5	-2.3	-3.3	-1.5	-2.7	-5.6	-5.6
Luxembourg	10.4	9.8	9.1	7.6	7.0	1.3	3.2	1.4	-3.4	-4.4
Malta	-9.2	-7.0	-5.6	-6.1	-6.1	-2.6	-2.2	-4.7	-4.5	-4.4
Netherlands	9.3	7.6	7.5	7.0	6.8	0.6	0.5	0.9	-3.8	-5.7
Portugal	-10.0	-9.4	-12.1	-9.9	-9.7	-3.9	-2.6	-2.6	-6.9	-7.3
Slovak Republic	-7.0	-5.3	-6.5	-8.0	-7.8	-3.5	-1.9	-2.5	-5.3	-4.4
Slovenia	-2.5	-4.2	-5.5	-3.0	-4.7	-0.8	0.3	-0.3	-5.9	-5.6
Spain	-9.0	-10.0	-9.6	-6.0	-4.7	2.0	2.2	-3.8	-12.3	-12.5
Other EU advanced economies										
Denmark	2.9	0.7	1.0	1.1	1.5	5.0	4.5	3.4	-1.3	-3.5
Sweden	8.6	8.6	7.8	6.4	5.4	2.4	3.8	2.5	-3.5	-3.9
United Kingdom	-3.3	-2.7	-1.7	-2.0	-1.9	-2.6	-2.6	-5.1	-11.6	-13.2
New EU countries 1/	-6.2	-8.0	-7.8	-2.9	-3.2	-3.2	-1.8	-2.8	-5.9	-6.0
Bulgaria	-18.5	-25.2	-25.5	-11.4	-8.3	3.5	3.5	3.0	-0.8	-1.8
Czech Republic	-2.6	-3.1	-3.1	-2.1	-2.2	-2.6	-0.6	-1.4	-6.0	-7.0
Estonia	-16.9	-17.8	-9.3	1.9	2.0	3.3	2.9	-2.3	-3.6	-3.0
Hungary	-7.5	-6.5	-8.4	-2.9	-3.3	-9.3	-4.9	-3.4	-3.9	-3.8
Latvia	-22.7	-21.6	-12.6	4.5	6.4	-0.9	0.7	-3.4	-13.0	-12.0
Lithuania	-10.7	-14.6	-11.6	1.0	0.5	-0.4	-1.0	-3.3	-10.3	-7.6
Poland	-2.7	-4.7	-5.5	-2.2	-3.1	-3.9	-2.0	-3.1	-5.8	-6.5
Romania	-10.4	-13.5	-12.4	-5.5	-5.6	-1.4	-3.1	-4.9	-7.3	-5.9
Non-EU advanced economies										
Iceland	-25.3	-19.9	-40.6	-5.3	0.7	6.3	5.4	-0.5	-13.9	-10.0
Israel	5.0	2.8	1.0	3.2	2.4	-1.4	-0.8	-2.8	-6.7	-6.2
Norway	17.2	15.9	19.5	13.9	15.6	18.5	17.7	18.8	7.1	11.8
Switzerland	14.4	9.9	2.4	6.1	7.1	1.7	2.2	0.9	-1.5	-1.5
Other emerging economies										
Albania	-5.6	-9.1	-14.1	-11.5	-8.0	-3.2	-3.8	-5.5	-6.3	-4.0
Belarus	-3.9	-6.8	-8.4	-9.6	-7.1	1.4	0.4	1.4	-1.7	-1.7
Bosnia and Herzegovina	-8.4	-12.7	-14.7	-8.8	-9.1	2.2	-0.1	-4.0	-4.7	-4.0
Croatia	-6.7	-7.6	-9.4	-6.1	-5.4	-1.8	-1.2	-0.9	-3.5	-3.8
Macedonia, FYR	-0.9	-7.2	-13.1	-10.6	-9.7	-0.5	0.6	-1.0	-2.8	-2.8
Moldova	-11.3	-17.0	-17.7	-11.8	-11.9	0.0	-0.2	-1.0	-8.0	-6.0
Montenegro	-24.1	-29.4	-29.6	-16.0	-11.0	2.1	6.4	-0.3	-6.7	-9.2
Russia	9.5	5.9	6.1	3.6	4.5	8.3	6.8	4.3	-6.6	-3.2
Serbia	-10.1	-15.6	-17.3	-9.1	-10.6	-1.6	-1.9	-2.5	-4.5	-3.5
Turkey	-6.0	-5.8	-5.7	-1.9	-3.7	-0.7	-2.1	-2.8	-7.0	-5.3
Ukraine	-1.5	-3.7	-7.2	0.4	0.2	-1.4	-2.0	-3.2	-6.0	-3.0

Source: IMF, *World Economic Outlook*.

1/ Weighted average. Government balance weighted by PPP GDP; external account balance, by U.S. dollar-weighted GDP.

2/ Montenegro is excluded from the aggregate calculations.

And Multilateral Help Continues to Facilitate Adjustment

Emerging Europe has not decoupled from the rest of Europe, with the trade and financial links

that brought growth and prosperity also importing the downswing through falling export demand and capital inflows. Countries that relied on unprecedented capital inflows, as reflected in large

external current account deficits, and experienced very fast credit growth before the crisis are facing the need for significant adjustment.

To help close some external financing gaps created by the crisis and ease the burden of adjustment, the IMF, working with the EU and other multilateral institutions, has continued to play a major role in providing multilateral help. Since April 2009, assistance has been stepped up along three dimensions:

- First, with the addition of Romania and Bosnia and Herzegovina, the number of countries in Europe covered by standby arrangements has been increased to eight (Table 3).
- Second, the extension of the Flexible Credit Line to Poland has bolstered confidence with positive spillover effects throughout the region.
- Third, financial assistance has been augmented and rephased to take account of downward revisions in growth and somewhat better-than- envisaged developments in foreign exchange reserves.

While there is heterogeneity across countries, adjustment efforts are broadly paying off, with some countries making good progress in normalizing access to private sources of financing. Strengthening the banking sectors was and continues to be a priority in most cases. Continued engagement by cross-border banks and coordination of efforts with European institutions, the ECB, and banking supervisors from relevant home and host countries remain essential for successful adjustment. With a few exceptions linked to the preferences of the authorities, the provision of multilateral financing has allowed fiscal deficits to increase and social spending to be largely protected. Full operation of automatic stabilizers, however, was not always possible because of concerns about constraints on flow financing and sustainability. As the global recovery takes hold, financing constraints are likely to ease, and attention will need to turn to structural reforms to strengthen competitiveness.

Further Policy Action Required

While the worst of the recession may be past, the recovery is far from solid, and policymakers cannot afford to drop their guard. To prevent a lengthy spell of below-potential growth, the financial system needs to be restored to health as soon as possible. Most of all, this effort requires an identification of capital needs and commensurate recapitalization or resolution and a further clarification of the postcrisis environment in which financial institutions are expected to operate. For emerging Europe, dealing with debt overhangs and currency mismatches constitutes an additional dimension. Macroeconomic support needs to be sustained within a credible framework of well-timed and well-communicated disengagement from extraordinary interventions, while for several emerging economies adjustment efforts need to continue, facilitated by multilateral assistance. Further structural reforms to raise potential growth are essential.

More Needs to Be Done for the Financial Sector . . .

Underlying the shorter-run risks threatening the European recovery are the continuing troubles of the banking sector. While decisive policy actions have largely dissipated fears of a systemic breakdown and many banks have added to their capital from private and public sources, the banking sector is still facing substantial unrecognized losses stemming from toxic assets and, increasingly, from bad loans tied to the recession (IMF, 2009c). Continuing doubts about the banks' ability to absorb these losses perpetuates problems in market-based funding for banks. And important financing tools such as asset- and mortgage-backed securities and covered bonds remain impaired. If unaddressed, the need to repair balance sheets and problems on the financing side will constitute a formidable obstacle to the recovery as financing will remain scarce.

Effectively purging this residual uncertainty from the system—uncertainty that affects both advanced and emerging economies—requires a more resolute and proactive approach to assessing the financial

Table 3. IMF Support for European Countries Affected by the Global Crisis (As of September 4, 2009)

Country	IMF Loan Size, Approval Date	Key Objectives and Policy Actions	Additional Information 1/
Hungary	\$15.7 billion, November 2008	<p>Address the main pressure points in public finances and the banking sector:</p> <ul style="list-style-type: none"> • Substantial fiscal adjustment, to provide confidence that the government's financing need can be met in the short- and medium-run. • Up-front bank capital enhancement, to ensure that banks are sufficiently strong to weather the imminent economic downturn, both in Hungary and in the region. • Large external financing assistance, to minimize the risk of a run on Hungary's debt and currency markets. 	<p>In addition to financial assistance from the IMF, the program is also supported by \$8.4 billion from the European Union, and \$1.3 billion from the World Bank.</p> <p>The second review of the program was completed in June 2009.</p> <p>Available via the Internet: http://www.imf.org/external/country/HUN/index.htm</p>
Ukraine	\$16.9 billion, November 2008	<ul style="list-style-type: none"> • Help the economy adjust to the new economic environment by allowing the exchange rate to float, aiming to achieve a balanced budget in 2009, phasing in increases in energy tariffs, and pursuing an incomes policy that protects the population while slowing price increases. • Restore confidence and financial stability (recapitalizing viable banks and dealing promptly with banks with difficulties). • Protect vulnerable groups in society (an increase in targeted social spending to shield vulnerable groups). 	<p>Since the program's adoption, the global economic environment has deteriorated markedly, hitting Ukraine harder than expected. This has required a recalibration of economic policies.</p> <p>The second review of the program was completed in July 2009.</p> <p>Available via the Internet: http://www.imf.org/external/country/UKR/index.htm</p>
Iceland	\$2.1 billion, November 2008	<ul style="list-style-type: none"> • Prevent further sharp króna depreciation by maintaining an appropriately tight monetary policy and temporary restrictions on capital outflows. • Develop a comprehensive and collaborative strategy for bank restructuring by (1) putting in place an efficient organizational structure to facilitate the restructuring process, (2) proceeding promptly with the valuation of banks' assets, (3) maximizing asset recovery in the old banks, (4) ensuring the fair and equitable treatment of depositors and creditors of the intervened banks, and (5) strengthening supervisory practices and the insolvency framework. 	<p>The first review of the program, initially scheduled for the first quarter of 2009, was delayed, to allow the authorities to fully articulate their policy plans. The government of Iceland and IMF staff reached agreement in early-August on policies to underpin the first review. The agreement is being reviewed by IMF management and will need to be presented to the IMF's Executive Board for its consideration and approval. A Board meeting could be held in September 2009.</p> <p>Available via the Internet: http://www.imf.org/external/country/ISL/index.htm</p>
Latvia	\$2.35 billion, December 2008	<ul style="list-style-type: none"> • Take immediate measures to stem the loss of bank deposits and international reserves. • Take steps to restore confidence in the banking system in the medium-term and to support private debt restructuring. • Fiscal measures to limit the substantial widening in the budget deficit and prepare for early fulfillment of the Maastricht criteria. • Implement incomes policies and structural reforms that will rebuild competitiveness under the fixed exchange rate regime. 	<p>The first review of the program was completed in August 2009.</p> <p>Available via the Internet: http://www.imf.org/external/country/LVA/index.htm</p>
Belarus	\$2.5 billion, January 2009; augmented to \$3.5 billion in June 2009	<ul style="list-style-type: none"> • Facilitate an orderly adjustment to external shocks and address pressing vulnerabilities. • Adopt a new exchange rate regime—a step devaluation of the rubel against the dollar of 20 percent and a simultaneous switch to a currency basket with a trading band of ± 5 percent—to improve external competitiveness. • Support policies to strengthen monetary framework, balanced budget, and impose strict public sector wage restraint. 	<p>The first review and an augmentation of the program was completed in June 2009.</p> <p>Available via the Internet: http://www.imf.org/external/country/BLR/index.htm</p>

Table 3 (concluded)

Country	IMF Loan Size, Approval Date	Key Objectives and Policy Actions	Additional Information
Serbia	\$0.5 billion, January 2009; augmented to \$4.0 billion in May 2009	<ul style="list-style-type: none"> • Tighten the fiscal stance in 2009–10, with the 2009 general government deficit limited to 1¼ percent of GDP, followed by further fiscal consolidation in 2010. This involves strict incomes policies for containing public sector wage and pension growth and a streamlining of nonpriority recurrent spending, which helps create fiscal space to expand infrastructure investment. • Strengthen the inflation-targeting framework while maintaining a managed floating exchange rate regime. 	Since the program was designed, Serbia's external and financial environment has deteriorated substantially. In response, the authorities have (1) raised fiscal deficit targets for 2009–10, while taking additional fiscal measures; (2) received commitments from main foreign parent banks that they would roll over their commitments to Serbia, and keep their subsidiaries capitalized; and (3) requested additional financial support from international financial institutions and the EU. The first review was completed in May 2009. Available via the Internet: http://www.imf.org/external/country/SRB/index.htm
Romania	\$17.1 billion, May 2009	<p>Cushion the effects of the sharp drop in private capital inflows while implementing policy measures to address the external and fiscal imbalances and to strengthen the financial sector:</p> <ul style="list-style-type: none"> • Strengthen fiscal policy to reduce the government's financing needs and improve long-term fiscal sustainability. • Maintain adequate capitalization of banks and liquidity in domestic financial markets. • Bring inflation within the central bank's target. 	Allocations for social programs will be increased, as well as protection for the most vulnerable pensioners and public sector employees at the lower end of the wage scale. IMF support is coordinated with that of the EU and the World Bank. Available via the Internet: http://www.imf.org/external/country/ROU/index.htm
Poland	\$20.6 billion Flexible Credit Line, May 2009	The Flexible Credit Line (FCL) is an instrument established for Fund member countries with very strong fundamentals, policies, and track records of their implementation. Access to the FCL is not conditional on further performance criteria.	The arrangement for Poland was the second commitment, after Mexico, under the IMF's FCL, created in the context of a major overhaul of the Fund's lending framework. Available via the Internet: http://www.imf.org/external/country/POL/index.htm
Bosnia and Herzegovina	\$1.57 billion, July 2009	Safeguarding the currency board arrangement by a determined implementation of the fiscal, income, and financial sector policies.	Available via the Internet: http://www.imf.org/external/country/BIH/index.htm

1/ More detailed information available at indicated internet links.

positions of banks to be followed up with actions to recapitalize and restructure viable institutions and resolve others. Further progress in removing problem assets from bank balance sheets will also be highly beneficial. While aggregate stress testing is useful and can help identify cross-border risks, including those between emerging and advanced Europe, it will not be sufficient to restore confidence on its own and is no substitute for additional action on a bank-by-bank basis as needed. With respect to cross-border banks, such action should be coordinated in the context of agreements to safeguard adequate cross-border funding, subject to preserving the stability of financial institutions in both home and host countries (IMF, 2009c).

In several emerging economies in Europe, vulnerabilities associated with foreign currency–denominated debt overhangs in corporations (as in the Baltics, Hungary, Bulgaria, and Romania) and households (as in the Baltics, Romania, Hungary, and Poland) need to be addressed (see Box 3). While much household foreign currency debt is longer term, most has to be serviced out of domestic currency earnings, threatening households' ability to pay in the face of pressures on real activity and exchange rates. Moreover, the lack of mechanisms for individual debt workouts and weak bankruptcy procedures in some countries could also add to bank losses as firms that could gainfully continue as going concerns are broken up and households choose

Box 3. Currency Mismatches in Emerging Europe

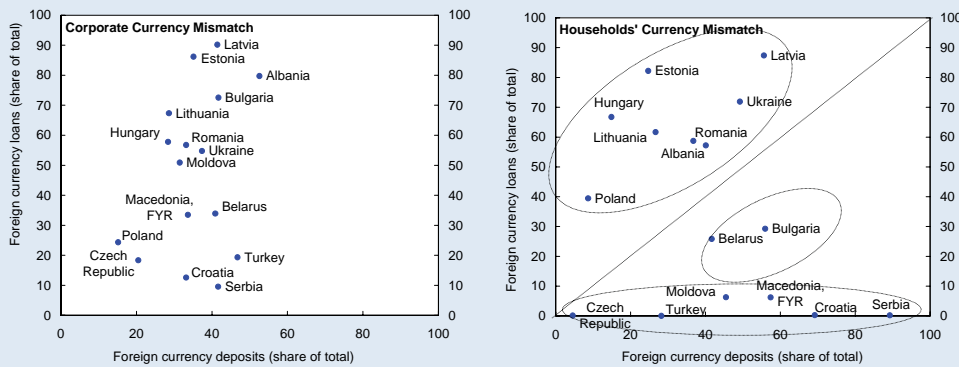
Currency mismatches constrain policy responses and will influence the speed of recovery in many economies in emerging Europe. The patterns of foreign currency saving and borrowing are far from uniform across sectors and countries in the region. The analysis presented here shows that the resulting currency mismatches (that is, the difference between foreign currency borrowing and foreign currency assets as a share of total assets and liabilities) can be attributed mostly to cross-country differences in interest rates, exchange rate volatility, foreign funding of banks, institutional quality, and other country-specific variables. Policies to mitigate the impact of the crisis and jump-start recovery will therefore depend on country-specific circumstances.

Background

Some economies in emerging Europe have a history of de facto financial “dollarization.”¹ Overall, the use of foreign currency in emerging Europe as a region has not been as high as, for instance, in Latin America. But some countries in the region are relying heavily on foreign currency, in particular for deposits, and the use of foreign currency in lending has increased somewhat in recent years. In line with the historical experience, use of foreign currency tends to be very persistent once established. Following a number of crisis episodes where de facto dollarization played an important role, most notably in Asia and Latin America, the view of the phenomenon as a mostly benign or even positive development has given way to the view that it can be a major source of financial fragility (see, for example, Armas, Ize, and Levy-Yeyati, 2006).

There is a striking cross-country variation of currency mismatches in emerging Europe (first figure). For the corporate sector, the share of foreign currency deposits in most countries is between 20 and 50 percent of total deposits, while the fraction of foreign currency lending varies widely, from 10 percent to 90 percent of total loans. About one-third of the countries have negligible levels of foreign currency lending to households but have substantial differences with regard to the importance of foreign currency deposits. There is an intermediate group of countries where the share of foreign currency deposits has modestly outweighed foreign currency borrowing. The composition of credit to households in the Baltic countries, Hungary, Romania, and Ukraine is highly biased toward foreign currency.

Emerging Europe: Corporate and Household Currency Mismatches, December 2008



Source: IMF, *Balance Sheet Approach*.
 Notes: The data are referring to foreign currency denominated loans and deposits; including loans and deposits that are indexed to foreign currency would increase the ratios in some of the countries. The Czech Republic, included here among emerging Europe, was reclassified as an advanced economy in the Spring 2009 *World Economic Outlook*.

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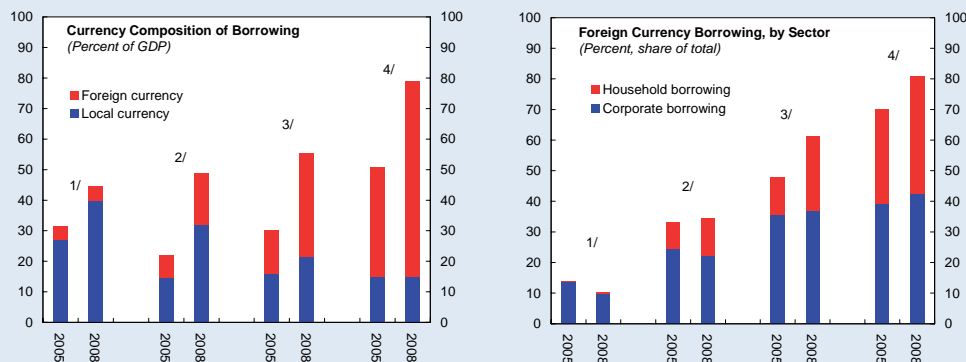
Note: The main author of this box is Johan Mathisen.

¹ The literature tends to use the term *dollarization* to describe denomination or indexation of loans and deposits (and other contracts) in currencies other than the domestic legal tender. In the region, the euro is the most commonly used foreign currency, although Swiss franc-denominated loans are also popular in some countries (Hungary and Poland, for example).

Box 3 (continued)

Recent trends in foreign currency borrowing have varied greatly (second figure). The Baltic countries have had the largest increase in foreign currency borrowing, with an equal distribution between households and the corporate sector. Another set of countries—Albania, Bulgaria, Hungary, Romania, and Ukraine—has had most of the credit growth denominated in foreign currency, and it has gone increasingly to the household sectors. Most of the increase has been in the form of long-term foreign exchange loans, as more than 80 percent of total household credit is long term (and more than half is mortgage credit). Such credit growth in the remaining countries has been substantially less, with moderate or negligible household borrowing in foreign currency.

Emerging Europe: Trends in Foreign Currency Borrowing, 2005 and 2008



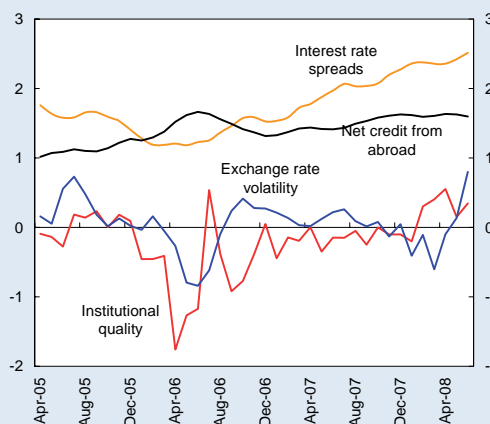
Source: IMF, *Balance Sheet Approach*.
 Notes: The data are referring to foreign currency denominated loans and deposits; including loans and deposits that are indexed to foreign currency would increase the ratios in some of the countries. The Czech Republic, included here among emerging Europe, was reclassified as an advanced economy in the Spring 2009 *World Economic Outlook*.
 1/ Croatia; Czech Republic; Macedonia, FYR; Serbia; and Turkey.
 2/ Belarus, Moldova, and Poland.
 3/ Albania, Bulgaria, Hungary, Romania, and Ukraine
 4/ Estonia, Latvia, and Lithuania.

Recent trends in currency mismatches seem affected partly by demand-side factors. Although there has clearly been an increase in banks' borrowing from nonresidents, which has been passed onto clients, the period from mid-2007 to mid-2008 was marked by widening interest rate spreads and lower exchange rate volatility (third figure) and a modest shift toward denomination of savings in domestic currency. Among the possible explanations for some of the currency mismatches could be a positive income effect: as long as the local currency is stable (or appreciating), borrowing in foreign currency has generally been less expensive than in local currency, and savings in local currency have ensured higher returns. Demand-side factors, however, seem insufficient to explain the wide (and persistent) variety in currency mismatches among countries.

Determinants of Currency Mismatches

To better understand how currency mismatches develop, it is useful to consider the motivation of savers, borrowers, and intermediaries. For savers, foreign currency deposits promise safety, especially in the context of (potentially) high inflation. For borrowers, foreign currency loans offer a lower cash flow burden conditional

Emerging Europe: Trends in Key Factors, 2005–08



Source: IMF staff calculations.

on their exchange rate expectations. For intermediaries, there is a need to balance return, credit risk, and funding risk. Along these lines, the literature of foreign currency savings and borrowing (Rosenberg and Tírpák, 2008; and Scheiber and Stix, 2008, for example) points to several possible factors explaining the currency mismatches, including:

- *Interest rate differentials.* The relatively lower interest rate on foreign currency is typically considered a driver of credit growth in foreign currency in emerging economies. At the same time, interest rate differentials could make domestic savings more attractive. Both effects, however, depend on the presumed persistence of high domestic interest rates and the expectation of a stable or appreciating domestic currency (or the hope for a government bailout in the case of a large depreciation). For instance, fears of exchange rate depreciation would drive depositors toward foreign currency alternatives.
- *Exchange rate volatility.* Consequently, some argue that credible pegged exchange rates increase foreign currency borrowing (Backé and Wójcik, 2007). Others (Ize and Levy Yeyati, 2003) stress that, more broadly, macroeconomic uncertainty (or its absence) determines the degree of de facto dollarization of an economy.
- *Funding of banks in foreign currency.* Banks in many emerging countries have had large inflows of foreign currency funding (often from their foreign parents), which they have passed onto their clients, possibly adding to interest rate differentials.
- *Institutional quality.* High levels of institutional quality (in the form of general trust in the legal system, for example, or, more specifically, in the reliability of the banking system) could foster the use of domestic currency deposits and, at the same time, motivate foreign currency borrowing. Foreign currency borrowing could also increase as part of the European Union integration process (Rosenberg and Tírpák, 2008).
- *Other country-specific variables.* A number of other country-specific variables—such as country size, income, openness to trade, various regulatory policies, or the availability of banking services—could also influence the use of foreign currency by the private sector.

Empirical analysis confirms that these factors are among the main determinants of currency mismatches in emerging Europe—and the role of institutional quality is particularly intriguing. On the supply side, as institutional quality improves, so does the availability of foreign currency loans. The availability of such credit also increases as banks borrow from nonresidents and channel those funds into household and corporate foreign currency loans. From the demand side, improvements in institutional quality seem to increase depositors' willingness to keep savings in local currency and borrowing in foreign currency. In addition, higher interest rate spreads tend to increase currency mismatches as savings in local currency are more profitable relative to foreign currency deposits and make foreign currency loans less expensive. Moreover, as exchange rate volatility falls, currency mismatches increase, probably as currency risks seem smaller.

It could be that institutional quality acts as a catalyst for the other factors driving currency mismatches. Better institutions might have, in particular for new EU member states, improved access to funding that has been channeled into foreign currency loans, and especially long-term loans.² Higher institutional quality might also promote a shift to domestic currency savings if the interest rate spread increases. The impact of both these factors might be magnified by low exchange rate volatility. The correlation between institutional quality and currency mismatches and the resulting income effect (lower interest on borrowing and higher returns on savings), in particular for households, seem partly to explain the substantial variation across countries (fourth figure).

... continued

² See Scheiber and Stix (2008) for an in-depth discussion of the importance of institutional factors.

Box 3 (concluded)

However, even in countries with better institutional quality, depreciation could cause a sharp increase in bankruptcies and defaults. Problems with foreign currency loans and deposit outflows could potentially trigger a downward spiral for the economy as a whole. That scenario has often been the justification for heavy interventions in the foreign exchange markets, even in the large group of countries in which the currency mismatches are negative (savings mainly in foreign currency or borrowing in local currency) or the imbalances negligible.

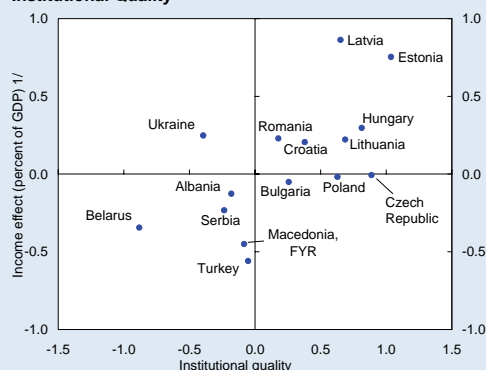
Policy Implications

Given that currency mismatches reflect (mis)management of currency risk in corporations (including banks) and households, losses resulting from adverse exchange rate shocks should be absorbed by the shareholders and households that entered into these exposures. The policy challenge is how to ensure that this loss absorption does not threaten the stability of the financial system and the economy as a whole. In particular, if many borrowers failed at the same time because of an exchange rate movement, the shock could be transmitted through banks to the broader economy. Other concerns relate to the risk of sudden stops (especially when currency mismatches are driven by capital inflows), the risk that savers are vulnerable to wealth effects, and the risk that macroeconomic volatility will lead to massive deposit outflows. Finally, high levels of dollarization (especially of loans) make monetary policy more difficult, as aggregates become more volatile and reactions to policy instruments less predictable.

The policy options include the following (for a fuller discussion, see, in particular, Armas, Ize, and Levy-Yeyati, 2006):

- *Improving resolution regimes, including for banks.* Key to reducing the cost of the crisis or recession are sufficiently effective procedures for loan workouts and insolvencies. Revising the whole resolution framework may be challenging, particularly in the aftermath of a major financial crisis or a deep recession. What may be feasible in the short term, however, is strengthening or introducing special resolution regimes for financial institutions (for example, Čihák and Nier, 2009).
- *Facilitating debt workout mechanisms.* If insolvencies are widespread and threaten to swamp the judicial system, consideration could be given to regulatory measures that facilitate creditor coordination or (Pareto improving) debt write-downs and, in extreme cases, to government-supported out-of-court mechanisms (Djankov, 2008).
- *Limiting future currency risks.* Prudential measures, such as tighter limits on (unhedged) foreign currency exposures and higher risk-weights, could be used to discourage new dollar lending. This measure should be complemented by stronger disclosure requirements for banks vis-à-vis their clients regarding foreign exchange risks and by more rigorous stress testing for foreign exchange risk (including credit risk induced by exchange rates) by banks. Dollarization can also be discouraged by tax or reserve requirement differentials and by promoting inflation-indexed products. In the medium term, the best way of limiting the use of foreign currency may be through achieving and maintaining domestic macroeconomic stability.

Emerging Europe: Income Effects and Institutional Quality



Sources: World Bank: The Worldwide Governance Indicators, composite score for 2008; and IMF staff calculations.

Notes: The income effect captures the impact of interest rate differentials on interest income on loans and deposits. A more positive (or less negative) income effect means that foreign currency deposits and loans appear relatively more attractive. Other things being constant, this occurs with low foreign currency lending rates, high local currency lending rates, high foreign currency deposit rates, and low local currency deposit rates.

1/ Income effect = $TL \cdot LCLR - (FCL \cdot FCLR + LCL \cdot LCLR) - TD \cdot LCDR + (FCD \cdot FC DR + LCD \cdot LCDR)$; T is total, D is deposit, L is lending, R is interest rate, FC is foreign currency, and LC is local currency.

default over debt consolidation or restructuring.⁷ This situation could also spell trouble for parent banks in advanced countries as ripple effects move across the tightly integrated region, again underscoring the importance of cross-border coordination.

To clarify the operational environment for financial institutions and allow them to develop a sustainable business model, regulatory and supervisory reforms need to be implemented urgently and coordinated internationally (IMF, 2009c). Among other things, effective coordination of financial supervision under the new framework in Europe will require adequate resources for the new institutions, unrestricted information flow across borders and between the ESAs and the ESRB, and well-functioning decision-making mechanisms. And there is further need for improvement. With the ESRB having only the power of voice, it will be important to ensure that its warnings are not ignored during good times, when macroprudential regulation would be most useful. Moreover, a solution needs to be found to the “too big to save” or “too big to fail” problems without stymieing progress toward establishing a single financial market. Thus fundamental progress on a comprehensive cross-border crisis management framework will be vital and should include tools for early intervention and cost-sharing rules, as well as loss-allocation rules for private stakeholders and a private first line of funding to limit moral hazard and fiscal exposure.⁸

Monetary Policy Will Have to Plot a Careful Course . . .

As long as the timing and strength of the recovery are uncertain and inflation remains subdued, monetary policymakers will need to support the economy and keep all options open. Should further support for the fragile recovery be

required, some central banks (including the ECB and a number of emerging market central banks) still have additional room for maneuver. In addition, even more forceful signals that interest rates will be kept at very low levels for some time and further extension of nonstandard measures may be called for.⁹

When the recovery takes hold, monetary policymakers will have to turn their attention to exiting from an unprecedented array of interventions, an exit necessary to prevent permanent market dislocations and entrenchment of central banks as market substitutes. Moral hazard also looms large as banks have little incentive to act cautiously when liquidity is available cheaply in practically unlimited quantities or will be tempted to “game” the various types of market interventions. Finally, though a remote prospect at this point, the vast amount of liquidity created by the expanding central bank balance sheets could be the harbinger of future inflationary pressures.

At the technical level, engineering a smooth exit once conditions are right will be feasible but needs to be handled with care. For instance, some of the unconventional measures implemented by the ECB will unwind automatically when economic conditions improve, while others have built-in sunset clauses or parameters that can be adjusted, such as the price of the extended refinancing operations or the eligibility and haircuts associated with certain collateral. Withdrawing from open-market purchasing programs could be potentially more disruptive, especially in the case of the larger interventions as conducted by the Bank of England. One solution would be to hold these papers to maturity or sell them only very gradually, a method that would work slowly; another would be reverse-repurchase agreements, which might run into the capacity constraints of available counterparties. The Bank of England and ECB, for example, also have the options of issuing central bank paper and offering additional interest-paying deposit facilities

⁷ See Ghosh and others (2009).

⁸ See IMF (2009a and 2009b) for a more detailed discussion of the need for special resolution regimes for international financial institutions.

⁹ An example would be the Bank of England’s expansion of its asset purchasing plan in August 2009.

to drain excess liquidity. The most successful strategy, however, could be a pragmatic combination of these approaches.

... Clearly Communicating the Exit

As central banks prepare to let unconventional measures run out and consider raising interest rates again, they will benefit from transparent communication about their underlying views. An important aspect is the uncertainty about the drop in potential output caused by the crisis, which might drive a wedge between the inflationary pressures anticipated by policymakers and the public's expectations and could complicate monetary policy (see Chapter 3). For instance, if the public were less pessimistic about the time path of potential output than the central bank, an increase in interest rates intended to safeguard price stability could trigger deflationary expectations. To avoid this type of problem and anchor inflation expectations, central banks should transparently and explicitly explain their views on the development of potential output and confirm their willingness to reverse course should relevant new information arrive. This approach will help limit the risk that the exit will sap confidence at the wrong moment.

Fiscal Policy Has to Be Sustainable As It Bolsters the Upswing

Fiscal policy needs to balance carefully its macroeconomic and financial sector responsibilities with the need to exit from the current accumulation of debt. While the fragility of the recovery requires fiscal policy to maintain its support for aggregate demand—which will mean following through with planned stimuli and letting automatic stabilizers work for now—the concerns about fiscal sustainability created by the crisis need to be addressed sooner rather than later. The problem is particularly urgent in Europe, because the fiscal fallout from the crisis comes on top of the fiscal costs of an aging population (European Commission, 2009a). Stressing these concerns, the current Swedish EU presidency has made fiscal

consolidation one of its priorities for the second half of 2009.

Several strategies can help make this balancing act work:

- Policymakers should shift focus from the level to the composition of the fiscal stimulus. Public investment projects, while taking longer to implement, typically hold greater promise for longer-term benefits than tax cuts or transfer increases. This factor argues for completing projects in the pipeline and concentrating any additional effort, if necessary, in this area.
- Coordination of fiscal policy measures across Europe, both in terms of the aggregate effect and with respect to tax policy, will make support for the economy more effective and minimize exit distortions. Any additional expansionary measures should be implemented simultaneously and with an eye to cross-country differences in the remaining fiscal space; countries with less fiscal space should embark on fiscal consolidation with greater urgency.
- Perhaps the most crucial element in the fiscal strategy will be to anchor the short-term support for the economy firmly in a credible consolidation strategy. For all countries, that strategy could mean implementing stronger fiscal rules for supporting fiscal sustainability over the medium term.¹⁰ For EU members, strengthening the preventive arm of the Stability and Growth Pact (SGP) by linking it more closely to medium-term objectives would be helpful, as would a more transparent procedure for setting these targets and a more public commitment to fulfilling them. In addition to halting a deteriorating fiscal position, such a consolidation strategy would also establish the principle that any additional fiscal stimulus would require credible offsetting measures later on.

¹⁰ A recent example of such an initiative is the new fiscal rule recently introduced in Germany. Anchored in the constitution, the rule sets an upper limit for the structural fiscal deficit but allows operations of countercyclical automatic stabilizers (Mody and Stehn, 2009).

In this regard, the management of contingent liabilities also deserves attention. Among possible measures, governments should complete a thorough and transparent assessment of the impact of financial sector measures on the aggregate sovereign balance sheet to inform fiscal analysis and the budget process and to bolster public confidence in fiscal sustainability (see Box 4).

Strengthening Potential Growth Is a Must

Recessions associated with deep financial turmoil tend to depress potential output significantly (IMF, 2009e, Chapter 4). Indeed, in addition to the likely need to scrap excess capacity, gross capital formation has been weak or negative since late 2007 (Figure 1), threatening to dent productive capacity. This effect is bound to be particularly strong in emerging Europe, as the reduction in capital inflows and higher and more volatile risk premiums are dampening investment (see Chapter 4). In addition, the persistence of the expected decline in employment could lead to an increase in structural unemployment if, for instance, a longer duration of individual unemployment spells eroded labor skills or if wage negotiations ignored the unemployed.¹¹ Finally, some economies that showed exceptionally rapid precrisis growth—for instance, because of a larger role of the financial sector as an engine of growth (as in the United Kingdom), real estate and construction booms (as in Ireland, Spain, and the Baltics), or a very strong global demand for exports (as in Germany)—might be facing less favorable growth conditions now. As a consequence, most observers expect potential growth to slow considerably over the medium term in advanced and emerging Europe (see Chapter 2).

While some of these factors may correct themselves over the longer term, others tie into Europe's long-standing structural rigidities. There are indications, for instance, that the persistence in employment dynamics is related to more permanent

labor market features, such as the presence of active labor market policies, collective bargaining systems, and legislative or labor-court based employment protection rules. These factors are likely to impede the longer-term growth potential in Europe. Strong employment protection also interacts with restrictions to market entry and other product and service market regulation to limit employment and growth in the longer run compared to the United States, for example.¹² While some of the advances in productivity and growth in the United States and the United Kingdom over continental Europe might have reflected temporary gains in the financial services industry, there nonetheless seems to be room for improvement in Europe. For instance, according to the EU's Klems database, Germany and France posted negative total factor productivity contributions to growth in the financial and business services sector during the 1995–2005 period (see Chapter 2).

Against this background, moving quickly to repair the damage caused by the crisis to potential output is crucial. The higher the medium-term growth potential, the more dynamic and robust the recovery can be, which should make the tasks of stabilizing the European banking sector, exiting from nonstandard monetary policies, and securing fiscal sustainability considerably easier. Some of the initial policy responses to the crisis, however, have made this policy gap particularly challenging to close. For instance, there is a risk that the ring-fencing of national banks will limit gains from financial market integration. Protecting certain national industries—such as cars, tourism, or construction—could hinder necessary structural adjustment. And allowing temporary social and labor market measures to become permanent might foster structural unemployment in the future by discouraging mobility or efforts to seek reemployment.

To support potential growth in the longer run, European policymakers will have to safeguard the achievements of the Lisbon Agenda and create an

¹¹ See, for instance, Blanchard and Summers (1986) and Acemoglu (1995).

¹² See, for example, Estevão (2005) and Berger and Danninger (2007).

Box 4. Managing Fiscal Risks Stemming from Public Interventions to Support Financial Systems

While they have been instrumental in stabilizing financial systems, public interventions have contributed to an expansion of sovereign balance sheets and a substantial increase in exposure of governments to risk.¹ Guarantees have exposed governments to large losses in the event that the financial sector's situation deteriorates further. Liquidity provisions by central banks have altered the size and structure of their balance sheet in terms of liquidity, maturities, currencies, and asset price volatility and have thereby exposed them, and eventually the governments themselves, to significant risks. Lending operations entail counterparty/default risks and, if they create mismatches in duration and currency composition, to interest and exchange rate risk. In the case of capital injections, risks relate to the uncertainty surrounding the value of the government's residual claims on the institutions at the time of the capital injection, which may be smaller than what the government paid, and to possible future changes in the value of these claims. Last, asset purchases have exposed public sectors to valuation risks.

Some features of these interventions have rendered the assessment of their fiscal impact and related risks difficult. As some operations have been conducted by non-government public institutions, such as central banks, public financial and nonfinancial institutions, many off-balance sheet operations are not directly reflected on the government accounts but, sooner or later, may end up on the government's books. In addition, the design of support operations has often been carried out in ways that avoid affecting governments' "headline" fiscal deficits, either by extending guarantees or maintaining residual claims on financial institutions. Estimating the value of some of the assets taken onto the public sector's balance sheet is often very difficult. Although the terms of individual operations have often been reported transparently, the ensuing risks have rarely been made public in a systematic and integrated way.

In this context, the following principles should guide the management of these fiscal risks:

- *Governments should conduct exhaustive assessments of the impact of measures on the sovereign balance sheet and of resulting fiscal risks.* The balance sheet assessment should be conducted using an integrated framework (IMF, 2001), take a whole-of-government perspective, and focus particularly on the estimation of the fair value of assets and liabilities. Risk assessments require elaboration of alternative scenarios that encompass short- and long-term costs, stress test for various macroeconomic shocks, demonstrate the consequences of different assumptions about prices and asset recovery rates, and make a range of assumptions about the materialization of contingent liabilities.
- *Information about the risks associated with public interventions should be published.* Transparency and accountability will be key to maintaining confidence in fiscal solvency. A useful venue would be a comprehensive statement of fiscal risks, to be submitted to the legislature as part of the annual budget, the statement would report on the valuation of acquired assets and explicit guarantees, including any difference between the purchase and the market value and estimates of potential losses.
- *Fiscal risks should be mitigated.* In particular, risks and liabilities related to guarantees should be gradually transferred to the private sector, including by eliminating any subsidy component (that is, by increasing fees) and shifting to partial coverage or gradually reducing the coverage.

Note: The main author of this box is Edouard Martin.

¹ See Everaert, Fouad, Martin, and Velloso (2009) and Cheasty and Das (2009) for a more detailed discussion.

- *Fiscal risks should be systematically incorporated into fiscal analysis and the budget process.* In the determination of fiscal targets, allowance needs to be made for the possibility that some risks will materialize (budgets, for example, should include reserve provisions for guarantees commensurate with expected losses). A close integration of fiscal risk management and the budget process calls for analyzing the fiscal sustainability implications of the medium- or long-term nature of many contingent liabilities. In addition, quasi-fiscal activities should be transferred to the government budget.

environment that fosters structural change. Before the crisis, the Lisbon Agenda had brought tangible successes in the areas of job creation and labor market participation using a variety of measures, including more flexible labor contracts, policies to keep workers active in the labor market, a reduction in tax-based disincentives, and the provision of better labor matching services. Rejuvenating these efforts will be critical now to bolstering longer-term growth. In addition, there is a strong case for a simultaneous effort to increase labor market flexibility and deregulate service and product markets further. An added benefit of these reforms is that they will accelerate some of the structural

changes necessitated by the crisis. For example, in emerging European economies struggling to adjust to stalled capital inflows, sufficiently flexible employment protection rules should help smooth the reallocation of labor to export-oriented sectors, while further improvements in the business environment could raise their attractiveness for foreign investment. In Germany, looking for additional reform opportunities in the services sector could help grow domestic demand. While some of these measures can cause near-term costs, the combination of enhanced structural flexibility and higher potential growth will be a key element in Europe's answer to the crisis beyond the short run.

2. The Crisis and Potential Output

Few doubt that the crisis will have a negative effect on economic growth in Europe beyond the short term, but considerable uncertainty prevails over its magnitude. For countries where the financial sector contributed heavily to economic growth before the crisis, a continuation of historical levels of trend growth may be difficult, while economies relying on strong capital inflows could suffer a dent in their long-term growth or convergence process. In the medium term, the time-varying component of potential growth could be negative in almost all advanced European countries. Emerging economies could see lower medium-term growth because of dwindling capital inflows and higher government debt levels. Hence, intensified structural reforms are crucial to alleviate some of these adverse effects on potential growth and, in many emerging economies, need to be complemented by a further strengthening of policy frameworks.

Worrying About an Unobservable

Recessions associated with a financial crisis, such as the severe contraction in output that many European economies are currently experiencing, often involve large and highly persistent—sometimes permanent—output losses (Cerra and Saxena, 2008; and IMF, 2009e). Financial crises that include credit crunches and housing busts tend to be particularly severe (Claessens, Kose, and Terrones, 2008) and, on average, last for two years with deep and persistent effects on asset prices, output, and employment, accompanied by massive increases in government debt (Reinhart and Rogoff, 2009). The severity of a recession described by changes in actual output, however, is often insufficient for guiding the response of policymakers. More information is needed about those changes in output—their nature, sources, and long-term consequences—which are often expressed collectively as “potential output” or

the “output gap” (that is, the percentage difference between potential and actual output).

Because potential output cannot be observed directly, using it as a basis for policymaking is inherently difficult and forces policymakers to rely on imperfect estimates that can cause serious policy errors. Several years of strong growth, for example, may be mistakenly interpreted as a new long-term, sustainable trend, which could subsequently turn out to be unsustainable. Emerging economies are particularly prone to this type of uncertainty because the process of catching up with the output levels of advanced economies is rarely a steady process but often involves much variation. Fiscal policymakers in advanced and emerging economies alike run the risk of interpreting short-lived booms as a new steady state and then fail to adjust policies quickly enough. For instance, some believe that uncertainty about potential output in the euro area and its economies contributed to insufficient fiscal consolidation and structural reform during relatively good times and put both the Stability and Growth Pact (SGP) and the Lisbon Strategy under great strain in the early 2000s (Cotis, Elmeskov, and Mourougane, 2004). Similarly, monetary policy errors occurred when policymakers falsely believed that the large recessions during the 1970s and 1980s had little effect on potential output and thus on the underlying price pressures; that miscalculation is another example of uncertainty about potential output that led to relatively high inflation in many economies and proved costly to correct.

The questions the current crisis poses for policymakers are not different from those raised during past contractions: what precisely is the effect of the crisis on potential output and how long will the effect last? Further, how uncertain are the answers to these questions? Over the past decades, new methods for estimating potential output have developed and broadened the underlying concepts of potential output. But even today, measurement of

Note: The main authors of this chapter are Thomas Harjes and Srobona Mitra.

potential output is often as much art as science, involving strong assumptions and conceptual choices, especially in times of severe economic crisis.

Long-Term Effects

Will the current crisis affect Europe's growth potential in the long run? The long-term effects on growth are often assessed by using the concept of trend growth or "steady-state growth." In the theoretical literature, the assessment and forecasting of steady-state growth are based on a production function that brings together the contributions from its main inputs—labor, capital, and productivity—to determine the time path of output. Measurement of labor productivity—enhancing technological change, embodied in new capital goods, as well as the evolution of labor skills that affect productivity, is very difficult; and, together with other inputs (public sector capital, for example) that are hard to measure, they are usually summarized by the term *total factor productivity* (TFP), or the "residual" in explaining longer-run growth. TFP is thus a key component in the assessment of an economy's growth potential but is also the central source of uncertainty in such estimates, since little is known about its deep structural sources.

Nevertheless, applying the concept of growth accounting to European countries yields interesting insights into the long-term drivers of growth (Table 4). Three stylized facts come out of the growth-accounting exercise:

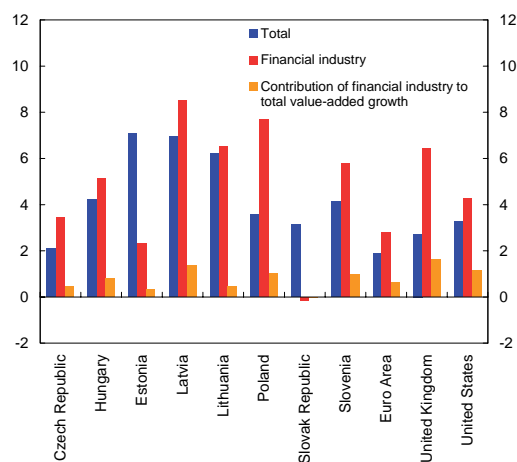
- First, gross value added (GVA) in the euro area was increasing at 2 percent per year, a much lower rate than in the United States or the United Kingdom during 1980–95. The differences arose from hours worked with respect to the United States and from TFP growth with respect to the United Kingdom.
- Second, the differences between the euro area and the United States and the United Kingdom became larger in the next decade. The euro area continued to grow at 2 percent, while the United

States and the United Kingdom registered even higher growth rates. During this time, the United States outperformed in TFP growth, whereas the United Kingdom accumulated capital—and both showed relatively strong growth in financial sector GVA.

- Third, growth in European emerging economies far outpaced growth in the euro area. For the handful of emerging economies for which growth accounting is available, TFP growth and capital accumulation held the key to the differences with the euro area.

Sectoral growth accounting reveals large differences in the sources of growth among the advanced countries. The effect of the crisis, therefore, on steady-state growth is likely to vary among them, especially between the euro area and the United Kingdom. The large differences stem from the contribution of finance and business services to overall GVA growth (Table 4 and Figure 12). The contribution of the financial industry to GVA growth for the euro area (0.6 percentage point) was much lower than that for the United Kingdom (1.6 percentage points) or for the United States (1.2 percentage points) in the decade preceding the crisis. In fact, TFP growth in the financial industry in the euro area was negative,

Figure 12. Selected Countries: Average Gross Value-Added Growth, 1995–2005
(Percent)



Sources: EU Klems database; and IMF staff calculations.

Table 4. Gross Value-Added Growth and Contributions, 1980–95 and 1995–2005

(Annual average volume growth rates, percent)

	VA	L	H	LC	K	KIT	KNIT	TFP	LP
	(1)=(2)+(5)+(8)	(2)=(3)+(4)	(3)	(4)	(5)=(6)+(7)	(6)	(7)	(8)	(9)=(1)-(2)
1980–1995									
MARKET ECONOMY									
Euro area 1/	1.9	0.0	-0.2	0.3	1.0	0.3	0.7	0.9	1.9
France	1.8	-0.1	-0.5	0.4	0.7	0.2	0.4	1.2	1.9
Germany	1.9	-0.2	-0.4	0.2	1.2	0.3	0.9	0.8	2.1
Italy	1.9	0.3	0.2	0.1	0.8	0.3	0.6	0.8	1.6
United Kingdom	2.5	-0.3	-0.6	0.3	1.2	0.6	0.7	1.5	2.7
United States	3.0	1.2	1.0	0.2	1.1	0.5	0.6	0.7	1.8
1995–2005									
MARKET ECONOMY									
Euro area 1/	1.9	0.6	0.4	0.1	1.1	0.5	0.6	0.2	1.3
France	2.4	0.7	0.3	0.4	0.9	0.4	0.5	0.8	1.7
Germany	1.0	-0.4	-0.5	0.1	1.0	0.5	0.5	0.4	1.4
Italy	1.2	0.8	0.7	0.2	1.0	0.3	0.8	-0.7	0.4
United Kingdom	3.2	0.8	0.4	0.5	1.5	0.9	0.6	0.9	2.4
New Member States									
Czech Republic	2.7	-0.1	-0.3	0.2	2.3	0.7	1.6	0.6	2.9
Hungary	4.4	1.0	0.6	0.4	0.8	0.3	0.5	2.6	3.4
Poland	3.6								4.1
Estonia	7.1								7.5
Latvia	6.9								6.6
Lithuania	6.2								6.0
Slovak Republic	3.1								3.8
Slovenia	4.1	0.4	0.0	0.4	2.3	0.5	1.8	1.4	3.7
United States	3.7	0.7	0.4	0.3	1.3	0.8	0.6	1.7	3.0
FINANCE AND BUSINESS SERVICES									
Euro area 1/	2.8	2.1	1.8	0.2	2.0	1.1	0.9	-1.3	0.7
France	2.8	1.9	1.6	0.4	1.7	0.8	0.9	-0.8	
Germany	1.4	1.4	1.4	0.0	3.2	1.6	1.6	-3.3	-0.1
Italy	2.9	2.6	2.4	0.2	0.7	0.6	0.2	-0.4	
United Kingdom	6.4	2.6	2.0	0.5	2.7	1.7	1.0	1.1	3.8
New Member States									
Czech Republic	3.5	1.4	1.1	0.3	1.9	1.3	0.6	0.2	2.1
Estonia	2.3								0.1
Hungary	5.1	3.9	3.3	0.6	0.7	0.5	0.2	0.5	1.2
Latvia	8.5								3.9
Lithuania	6.5								10.5
Poland	7.7								0.1
Slovak Republic	-0.2								-0.2
Slovenia	5.8	2.5	2.0	0.6	3.4	1.3	2.0	-0.1	3.2
United States	4.3	1.9	1.5	0.4	1.9	1.2	0.7	0.4	2.4

Source: EU Klems database (<http://www.euklems.net/>).

Note: VA= Gross Value Added growth; L= contribution of Labor input growth; H= contribution of Total hours worked; LC= contribution of Labor composition; K= contribution of capital input growth; KIT= contribution of ICT capital; KNIT= contribution of non-ICT capital; TFP= contribution of multi-factor productivity growth; and LP= labor productivity.

1/ Due to data limitations, the euro area only includes the following countries: Austria, Belgium, Finland, France, Germany, Italy, Netherlands, and Spain. Slovenia and Slovak Republic have been added to New Member States since they are very recent entrants to the euro area.

led by Germany, France, and Italy, in contrast to the relatively large contribution of TFP in the financial industry to total productivity growth in the United Kingdom and the United States.

While the differences indicate some unused growth potential in the euro area financial industry, they are also likely to signal a certain unsustainability of financial sector growth in the Anglo-Saxon countries: large and extraordinary profits might have distorted TFP growth in the United States and the United Kingdom. With the disappearance of these exaggerated profits in the financial sector, long-term growth in the United Kingdom will probably suffer more than that in the euro area. Most likely, the euro area will return to its steady-state growth of about 2 percent in the long term following the crisis, with some upside potential—for instance, if financial sector TFP growth returns to positive levels in the long run.

In general, applying the concept of steady-state growth to emerging economies is far from straightforward. Clearly, TFP growth tends to be higher in emerging than in advanced Europe, where investment in new technologies and capital equipment can still significantly accelerate the convergence process. That very process, however, complicates the analysis, and, unlike in the advanced countries, past growth in overall GVA is not easily interpreted as steady-state growth. Indeed, countries with lower incomes at the beginning of the transition tended to grow faster. For instance, the Czech Republic, which has recently been reclassified as an advanced country, grew at an average of 2.7 percent per year before the current crisis, whereas Estonia, which had a much lower initial income than the Czech Republic, was growing at close to 7 percent (Table 4).

Growth in GVA in the financial sector in the decade preceding the crisis stands out in the emerging economies. In general, a higher growth contribution from the services sector is not surprising during a period still influenced by the transition from a planned to a market economy. However, there are also notable differences among

countries. In Latvia, for instance, the contribution of GVA in the finance and business services to overall GVA growth is relatively large. The financial industry in Estonia, though, grew less than overall industry, while in the Slovak Republic it did not grow at all. In other emerging markets for which data are available, the contribution of this sector was moderate. As in the advanced countries, the emerging economies in which the role of the financial sector in overall growth is relatively larger are likely to suffer more from the crisis. It is now clear, through hindsight, that growth in this sector was unsustainable and largely dependent on rapid growth in real estate services and other nontradable sectors.

The crisis, however, could slow the catching-up process in emerging Europe and lower its growth potential in the future, especially if capital inflows dwindle (Box 5). The slowdown will be more intense in poorer countries, which, over the past decade have been profiting from “downhill” capital flows—that is, from rich to poor countries—reinforcing the process of income convergence (Abiad, Leigh, and Mody, 2009). Relatively higher degrees of financial integration seem to have attracted capital from richer countries in particular in the financial and real estate sectors.¹³

Medium-Term Effects

For several reasons, the short- and medium-term effects of the current crisis might well exceed their longer-term impact. All components of the production function are subject to medium-term swings around their steady-state levels, because investment declines and structural unemployment often increases as recessions hit, with a temporary yet persistent effect on potential output. Recessions associated with financial crises have especially severe impacts on medium-term growth, if accompanied by

¹³ Mirroring the argument for advanced European economies, not all of these inflows will have been translated into sustainable productivity increases. In many emerging European countries, the value added in the finance and business services area far outpaced overall value added (Figure 12).

Box 5. Risks to Medium-Term Growth and Convergence in Emerging Europe

It is well established that greater financial integration helped European countries converge to higher income levels faster than the rest of the world (Abiad, Leigh, and Mody, 2009). Greater financial linkages within Europe and prevalence of foreign-owned banks in emerging Europe are reasons behind the larger volumes of bank-intermediated flows in Europe compared to the rest of the world. Thus, medium-term risks to potential growth from the financial crisis in the region mainly arise from reduced capital inflows. Both FDI and bank-related inflows are instrumental in helping these countries converge to higher income levels of their Western European neighbors, facilitated by higher financial and trade integration. The medium-term growth effects of capital inflows and other factors can be gauged by estimating a growth model with the usual determinants found in the literature (Vamvakidis, 2008; Abiad, Leigh, and Mody, 2009; and Schadler and others, 2006). Although growth regressions of this type have a number of well-known shortcomings, they provide a useful simple framework for analyzing the effects of the crisis. Applying the coefficients of the estimated model, a scenario analysis focuses on the variables most likely to be adversely affected in this crisis, based on the *World Economic Outlook* (WEO) forecasts of these variables over 2008–14 for the emerging economies.

Gross fixed investment, inflows of foreign direct investment (FDI) and other bank-related capital inflows are among the growth determinants most likely to be adversely affected in this crisis (see table), for instance if foreign investors readjust their risk perception or domestic demand declines, including due to credit constraints. The large increases in government debt due to cyclical factors and public-intervention policies during the crisis will also weigh on overall growth via crowding-out effects. The growth regression is based on 4-year average panel data (1996–99, 2000–03, 2004–07) for 98 countries and a number of additional standard growth determinants unlikely to have been affected by the crisis. The “European” effects are captured by level and interactions of the dummy for Europe (EUROPE).

In particular, the following model is estimated:

$$Y_{it} = \alpha_0 + \alpha_1 \text{Initial income}_{it} + \beta \text{EUROPE} + \gamma_0 \text{FDI}_{it} + \gamma_1 \text{FDI}_{it} * \text{Initial income}_{it} + \gamma_2 \text{FDI}_{it} * \text{Initial income}_{it} * \text{EUROPE} + \eta_0 \text{Bankflows}_{it} + \eta_1 \text{Bankflows}_{it} * \text{Initial income}_{it} + \eta_2 \text{Bankflows}_{it} * \text{Initial income}_{it} * \text{EUROPE} + \delta_0 \text{GDebt}_{it} + \delta_1 \text{GDebt}_{it} * \text{EUROPE} + \Psi_0 X_{it} + \varepsilon_{it}$$

Y_{it} is annual growth of (PPP-adjusted) real GDP per capita. Poorer countries grow faster by virtue of a lower starting level of income (α_1). The effect of capital inflows on growth works through two channels in Europe: the direct level effect (γ_0 and η_0) and the convergence effects ($\gamma_1 + \gamma_2$ for FDI in percent of GDP, and $\eta_1 + \eta_2$ for bank-related capital inflows in percent of GDP) based on the interaction of FDI and bankflows with initial per capita income and the EUROPE dummy. The results suggest that capital inflows have helped poorer countries grow faster, with a higher-than-average effect in Europe. Government debt has weighed down on growth,

... continued

Note: The main author of this box is Srobona Mitra.

Growth Regression 1/

(Dependent variable = annual growth of PPP adjusted per capita income (4-year averages) 1996–99 to 2004–07)

	Coefficient	Std error
Constant	7.951	2.824 ***
Dummy for Europe (EUROPE)	3.711	2.188 *
Initial income	-0.691	0.187 ***
Age dependency rate	-0.056	0.015 ***
Primary school enrollment ratio	0.016	0.011
Institutional development (Index of Economic Freedom 2006)	0.156	0.296
Gross fixed investment/GDP	0.028	0.030
Gross fixed investment/GDP * EUROPE	-0.084	0.083
FDI/GDP	0.435	0.190 **
FDI/GDP * Initial income	-0.033	0.026
FDI/GDP * Initial income * EUROPE	-0.003	0.009
Bank-related inflows	0.478	0.208 **
Bank-related inflows * Initial income	-0.048	0.021 **
Bank-related inflows * Initial income * EUROPE	-0.003	0.003
Government debt/GDP	-0.011	0.004 **
Government debt/GDP * EUROPE	-0.024	0.012 *
Number of observations	273	
Number of countries	98	
R-square	0.28	

Source: IMF staff calculations.

1/ The equation is estimated by generalized least squares with random effects and time dummies for 2000–03 and 2004–07. A ***, **, and * represent significance at 1, 5, and 10 percent respectively. Initial income is log (real per capita PPP-adjusted GDP) at the beginning of the 4-year periods. Bank-related inflows comprise non-FDI, nonportfolio inflows into the banking and corporate sectors. Wald tests show that the three FDI-related coefficients are jointly significant at 2 percent, and the three bank-related flow coefficients are significant at 3 percent.

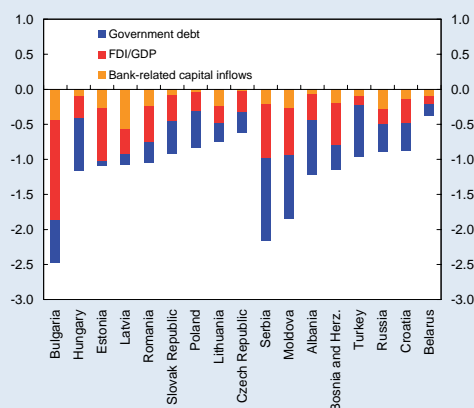
Box 5 (concluded)

again with a larger European effect. Other growth determinants captured in the vector X_{it} include gross fixed investment in percent of GDP, which is highly correlated with FDI and bank flows and does not have a significant additional effect.

The regression can be used for scenario analysis. Based on the estimated model, the effect on average growth is computed by calculating the average fall in FDI and the average increase in government debt/GDP from WEO projections for 2008–14. For instance, the drop in average FDI between 2004–2007 and 2008–14 is 49 percent, and the increase in government debt/GDP is 35 percent. In the absence of WEO projections on bank-related capital inflows, the percentage for FDI drop is applied to bank-flows as well. These ratios are then applied to the 2004–07 average ratios of the three variables for each of the countries, and the effect on average growth for 2008–14 is computed.

Based on this simulation, the crisis could reduce medium-term growth by 0.6–2.5 percentage points in the NMS and by 0.4–2.2 percentage points in the other emerging economies (figure). By design, countries in which capital inflows had a larger role in GDP and are relatively poor are likely to experience a stronger adverse effect on average growth in 2008–14, a result consistent with the finding that countries with high precrisis investment-to-GDP ratios tend to have large output losses (IMF, 2009e).

Impact of the Crisis on Changes to Medium-Run Growth Estimates in Europe (WEO Average Scenario) 1/



Source: IMF staff calculations.

1/ Based on growth regression (table). Scenario: 49 percent fall in FDI/GDP (FDI) and bank-related inflows and a 35 percent rise in government debt/GDP (DEBT) from the average in 2004–07 over 2008–14. These numbers were chosen by taking the average percent fall in FDI (WEO) projections, and applying the same percent to bank-flows and the average increase in DEBT over the same period and applying them to the other countries.

credit crunches and real estate bubble busts, and have a persistently adverse effect on output (Cerra and Saxena, 2008; Claessens, Kose and Terrones, 2008; and IMF, 2009e). Thus, the next five to seven years are likely to see large drops in growth rates followed by a recovery driven by time-varying potential growth around its long-run steady state. The medium term is also the relevant horizon for monetary policymakers, and most of the fiscal costs of the crisis (from financial sector intervention, stimulus expenditure, and cyclical adjustments) will be determined during this time.

Although European experts and policymakers agree that potential output in advanced countries is likely to fall as a result of the financial crisis and the consequent deep global recession, the degree of its decline is far from certain. A recent study published

by the OECD (Furceri and Mourougane, 2009), for instance, estimates that the permanent reduction in potential output due to typical financial crises is between 1.5 percent and 2.5 percent, with even higher losses for particularly deep crises. While these estimates are high, they also indicate substantial variation among countries, a point also stressed in IMF (2009e). According to the forecasts by the European Commission (2009c), the growth of potential output in the euro area could decline to 0.7 percent during 2009–10, from 1.8 percent during 2000–06, indicating a loss of more than 1 percent per year relative to the precrisis developments. Recent estimates based on a European Commission simulation model put the estimated loss at anywhere from 0.5 percent to about 4.5 percent, depending on the scenario (Koopman and Székely, 2009). One

reason for such divergence is that the current economic and financial crisis is a unique event. Another is that it is not easy to distinguish medium-term movements in potential from other, shorter-term fluctuations in output.

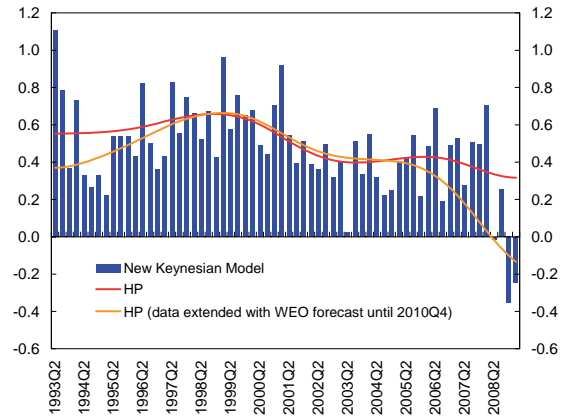
With a focus on the euro area as an example, standard statistical methodologies for calculating medium-term potential output, such as the HP filter, generally confirm that potential growth turned negative in 2008:Q4–2009:Q1, but the extent of the drop varies widely (Figure 13). Despite falling potential growth, the euro area output gap (that is, the percentage difference between estimated potential and observed output) opened widely in early 2009 with the continued sharp drop in actual output (Table 5). The HP filter, however, renders real-time estimates of potential output at the end of the sample period imprecise if a persistent shock has recently occurred. A simple method for avoiding such end-of-sample problems is to extend the sample using forecasts of GDP. The forecast-adjusted HP filter tracks the sharply falling potential growth since 2007, taking into account the expected persistence of the dramatic fall of output growth in 2009 and the sluggish recovery from 2010.

Monetary policymakers are primarily interested in the level of output that avoids pressure for inflation to either increase or decrease. Conceptually, this calculation requires an approach to potential output different from that captured by simple statistical trends (see also Chapter 3). For example, following a standard methodology derived from New Keynesian Models (NKM), potential output is defined as the hypothetical, flexible-price equilibrium output that would be produced in the absence of price and wage rigidities. NKM potential output is more volatile than an HP-filtered trend because it also reflects the reaction of potential output to short-term, transitory aggregate supply shocks, depending, among other things, on the elasticity of labor supply (Basu and Fernald, 2009).¹⁴ Estimating potential growth for the

¹⁴ For discussions of the NKM, see, for instance, Coenen, Smets, and Vetlov (2009); Woodford (2003); Justiniano and Primiceri (2008); and Weidner and Williams (2009). Kuttner

(continued)

Figure 13. Euro Area: Potential (Medium-Term) Growth with Different Methodologies, 1993:Q2–2009:Q1 (Percent)



Sources: IMF, *World Economic Outlook*; and IMF staff estimates.

euro area using these different methods illustrates this point (Figure 13).¹⁵

Although the output gap in 2009:Q1 (the most recent reading) from all estimates is large and negative, its size varies widely (Table 5). For instance, the simple HP-filtered estimates point to a rapidly widening output gap at the end of the sample. In contrast, the 2009:Q1 gap for the forecast-adjusted HP filter is much smaller, reflecting the sharp drop in potential growth (Figure 13). The latter is picking up the drastic fall in GDP forecast for 2009, followed by a very modest recovery in 2010. The NKM-based output gap for 2009:Q1 is large compared to the forecast-based HP-filtered estimate, which reflects the smaller and less persistent drop in the estimate of potential growth.

Differences in country-specific and sometimes in methodological factors lead to large variations in estimates of how the crisis will affect potential

(1994) and Laubach and Williams (2003) discuss the volatility of NKM potential output. In the long run, flexible-price potential output should converge to the long-term trend or steady-state output, but over shorter horizons they could be very different, even if the latter included some time-varying component captured, for instance, by statistical filters.

¹⁵ The estimates are based on a simple NKM model for the euro area estimated using Bayesian methods and the Kalman filter. The model allows for persistent shocks to output, inflation, and exchange rates.

Table 5. Potential Output and Output Gaps in the Euro Area

Methodology	Output Gap		Potential Growth			
	2009:Q1	Change since 2007:Q4 1/	2009:Q1	Change in the level of potential output since 2007:Q4, percent	Persistence 2/	Variance
HP filter	-4.38	-5.87	0.32	-0.04	1.00	0.01
HP filter with WEO forecast	-1.24	-4.66	-0.13	-0.21	1.05	0.03
New Keynesian Model	-3.25	-4.57	-0.25	-0.74	0.37	0.06

Source: IMF staff calculations.

1/ Percentage points of potential output.

2/ AR(1) coefficient.

growth for individual countries. As for the aggregate euro area, however, potential growth is projected to fall over the medium term in most of the large, advanced European countries as well (Box 6). The projected potential losses in output vary between ½ percent and 5½ percent in 2009, with larger drops in countries suffering from deflated booms in the financial or construction industry (or in both)—for instance, Ireland, Portugal, Spain, and the United Kingdom.

For Europe's emerging economies that are still converging toward some steady state, risks to potential growth mainly stems from reduced capital inflows that the region has, so far, depended upon (Box 5). The relevant question here is: what could go wrong in the crisis that could also affect medium-term growth and convergence in emerging Europe? Simulations from an econometric growth model suggest that lower foreign direct investment (FDI) and bank-related inflows (for example, those from foreign parent banks to eastern European subsidiaries) and higher government debt stemming from the crisis could shave medium-term growth by 0.6–2.5 percentage points in the New Member States and by 0.4–2.2 in the other emerging economies. Countries in which capital inflows had a larger role in GDP and are relatively poor are likely to experience a stronger adverse effect on average growth in 2008–14. Still, average growth in the emerging economies is likely to be higher than in the advanced economies, mainly because convergence will probably continue at some level.

Policy Implications

Further structural reforms remain a priority, particularly in the euro area. Beyond the medium term, the large advanced economies in the euro area should return to their historical levels of potential (or steady-state) growth of about 2 percent on average, with some variation reflecting country-specific demographics. The historical difference between TFP growth in the euro area and in the United States, however, suggests that there are incentives and scope for structural reform, even though some TFP growth in the United States during 1995–2005 could have been distorted by exaggerated profits in the financial and the information and technology sectors.

The EU's Lisbon Agenda is a useful template for such reforms (European Commission, 2005, 2007), with policy implications for all countries. A number of important items are on the broader reform agenda:

- promoting education and training of the labor force;
- modernizing social protection systems, including pensions and health care, to ensure their social adequacy, financial sustainability, and responsiveness to changing needs and to support labor force participation and better retention in employment;
- strengthening private incentives for research and development;

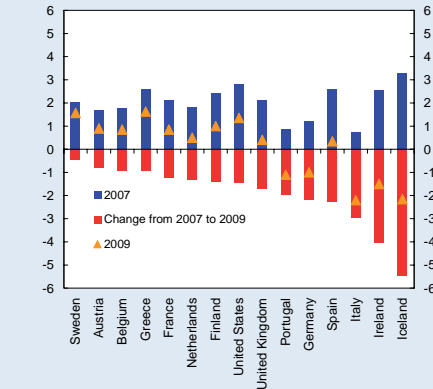
Box 6. Effect of the Financial Crisis on Potential Growth in Western Europe

While there is little doubt that the financial crisis will adversely affect the growth potential of Europe, it is difficult to estimate its impact precisely. Nor will applying standardized or uniform methodologies (for example, HP filters) likely be able to capture the differing elements that weigh on the growth potential of individual countries. Hence, IMF staff uses an approach that allows level and growth rate effects on potential output estimates to reflect country-specific circumstances. In addition, the extent to which potential output losses will be recovered in the longer term is quite uncertain. With that caveat in mind, illustrating the diverse impact of the financial crisis on the near-term growth potential of countries in Western Europe nonetheless provides insight.

IMF staff currently projects a slowdown in the growth of potential output across the region, including some contractions in the level of potential output (first figure). The extent of the slowdown varies widely, ranging from 1/2 percent to 5 1/2 percent between 2007 and 2009. The sharpest slowdowns are expected in countries where the crisis is likely to require large structural adjustment, for instance, when precrisis growth reflected unsustainable contributions from certain sectors. In other countries, continued weakness in investment and in the labor market is expected to reduce potential output.

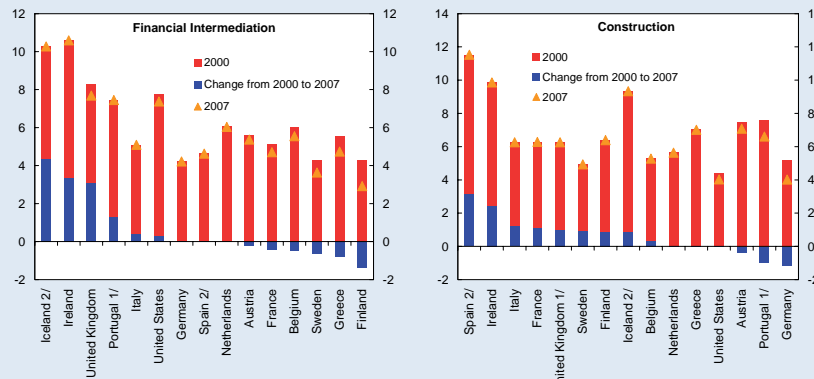
Extreme expansions of the financial and construction sectors will partly unwind, subtracting from potential output (second figure). In Ireland, in particular, both the financial and the construction sectors expanded rapidly going into the crisis. Growth in Iceland, the United Kingdom, and Portugal was founded on a booming financial sector; growth in Spain, on a construction boom. These sectors are unlikely to recover to their precrisis strength in the medium term.

Selected European Countries and the United States: Potential Output Growth, 2007–09
(Percent)



Sources: IMF, *World Economic Outlook*; and IMF staff estimates.

Selected European Countries and the United States: Financial Intermediation and Construction, 2000–07
(Share of Gross Value Added)



Sources: Eurostat; Haver Analytics; and IMF staff calculations.
1/ 2000–06.
2/ 2000–05.

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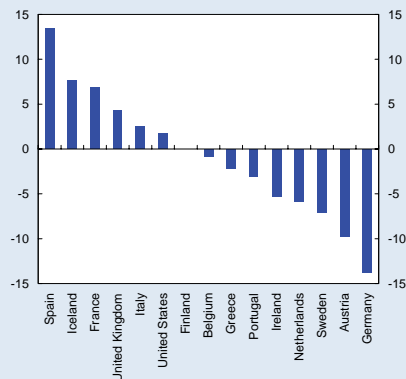
Note: The main author of this box is Franziska Ohnsorge.

Box 6 (concluded)

A structural adjustment to a more balanced growth path might also reduce potential output. For example, heavy reliance on export-driven growth has expanded the German export sector, including car production, at the expense of the nontradables sector. With global imbalances unwinding, a downward correction in world trade—and, with it, German exports—is likely for the medium term (third figure). Potential output will fall while resources are reallocated.

**Selected European Countries and the United States:
Change in Balance of Real Growth**

(Foreign balance minus total domestic demand, percent of real GDP)



Sources: IMF, *World Economic Outlook*; and IMF staff calculations.

- improving productivity-enhancing infrastructure;
- far-reaching and timely implementation of the Services Directive;¹⁶ and
- unwinding the state aids and job subsidies implemented to boost demand-side policies during this crisis.

Next to their longer-term effects, some of these measures will also favorably affect the medium term. For instance, labor force training would prevent the loss of skills that usually accompanies people who leave the labor force during a recession. Job training is particularly welcome, as it can foster labor mobility and prevent skill erosion during a period where longer unemployment spells threaten to turn cyclical into

structural unemployment, with negative repercussions for potential output.

In addition, sound policies that maintain the momentum toward convergence are essential for emerging economies. To secure the capital inflows required for a smooth continuation of the convergence process, governments will need to ensure a business-friendly environment, strengthen policy frameworks that reduce political uncertainty, further support integration of financial markets and provide macroeconomic stability (Abiad, Leigh, and Mody, 2009). In many emerging economies, policymakers will face the additional burden of very volatile exchange rates and financing costs against the backdrop of high government debt and fiscal deficits. Improving frameworks for fiscal policy and boosting their transparency could help reduce the volatility of the business cycle and improve growth prospects (see Chapter 4).

¹⁶ Available via the Internet:

http://ec.europa.eu/internal_market/services/services-dir/index_en.htm.

3. Implications of the Fall in Potential Output for Macroeconomic Policies

Potential output is falling in the aftermath of the crisis, although the extent of the drop is uncertain. Monetary policymakers should take into account the reduction in potential output and the surrounding uncertainty by clearly communicating their views on potential output and their intent to adjust as new information becomes available. This approach will help anchor expectations for inflation and limit the costs of policy mistakes. Fiscal policy has to absorb the double blow dealt by the crisis to potential growth and debt levels. Even under very benign assumptions about the path of potential output, the required fiscal adjustment will be large, suggesting that policymakers should err on the side of caution and start the necessary consolidation as soon as the state of the cycle allows.

The fall in potential output and the uncertainty around the degree of its decline (see Chapter 2) add to an already challenging policy environment, even though the concept of potential output varies slightly with the policy goal. For monetary policy, the relevant concept is the economy's output at full capacity, taking into account fluctuations in productivity.¹⁷ In the medium and longer term, these fluctuations play a smaller role, and the relevant concept becomes full capacity output in the long run. The impact of the crisis, however, is likely to be large enough to dominate in either case and will thus create decision problems for monetary and fiscal policymakers alike. On the one hand, for instance, if fiscal policy neglects or underestimates the decline, it could put the sustainability of public finances at risk.

Note: The main authors of this chapters are Helge Berger and Emil Stavrev.

¹⁷ This is the so-called flexible price potential output rooted in the standard macroeconomic literature but often difficult to identify empirically. Coenen, Smets, and Vetlov (2009)—using a large-scale model developed by ECB staff—find that the flexible price output gap (that is, the percentage difference between actual and flexible price potential output) for the euro area displays larger fluctuations than some conventional statistical or longer-term measures of the output gap.

On the other hand, overestimating the drop in potential might mean withholding needed fiscal support from the economy. Similarly, if monetary policy overestimates the decline in potential output in the short run, it risks being overly restrictive, while underestimating the drop in potential might lead to an overly permissive policy stance and open the door to inflationary pressures (OECD, 2008). In addition, these uncertainties could allow policymakers and the public to draw different conclusions about the direction of potential output, further complicating policy choices.

The uncertainty surrounding potential output has important implications for macroeconomic policy as well. In dealing with this uncertainty, central banks will profit from reinforcing their commitment to price stability to anchor expectations as well as to limit the costs of possible policy mistakes as they maneuver past the trough of the crisis. Fiscal policy will be well advised to err on the side of caution and plan for a sizable and early adjustment to regain the fiscal space lost to the crisis. And both fiscal and monetary policymakers will benefit from being transparent in communicating their views about the potential output and the output gap and the way these views inform their policy decisions.

Crisis Impact on Monetary Policy

While information on potential output is an important ingredient in monetary policy decisions, it is also notoriously hard to pin down with great accuracy. Most conventional macroeconomic models associate an increase in actual output relative to potential output (that is, an increase in the output gap, the percentage deviation of the actual level of output from its potential) with higher inflation and

vice versa.¹⁸ The underlying argument is that price-setting firms tend to increase prices in line with marginal costs and, by extension, the output gap. Because many firms operate in a forward-looking manner, inflation reflects their current and future beliefs about the output gap. Consequently, central banks spend considerable time trying to produce reliable estimates and forecasts of the output gap to inform their monetary policy decisions. By accounts of monetary policy practitioners and academics alike, though, this task has proved difficult.¹⁹ Estimates of present or future output gaps are bedeviled by limits to data availability in real time, large data revisions, the general imponderability of forecasting, and conceptual problems, including the fact that the output gap at the same time influences the economy and is influenced by it.

Dealing with Uncertainty

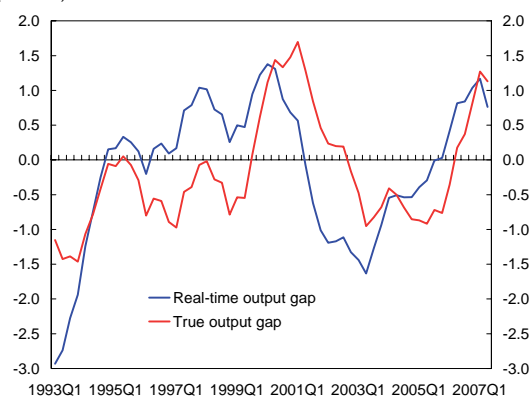
The uncertainty around estimates of the real-time output gap is high and has likely increased significantly as a result of the crisis.²⁰ A comparison of simple filter-based quasi “real-time” estimates of the output gap in the euro area to the actual or “true” gap computed with the advantage of hindsight over a longer period provides a clear

¹⁸ See Woodford (2003) and Galí (2008), among others, for a discussion.

¹⁹ See, among others, Orphanides and others (2000); Orphanides (2001); Orphanides and van Norden (2002); Orphanides and Williams (2003); Musso and Westermann (2005); Proietti, Musso, and Westermann (2007); and Weidner and Williams (2009).

²⁰ The uncertainty around output gap estimates is further exacerbated by the difficulty in disentangling in real time the type of shocks hitting the economy (permanent supply shocks versus cyclical demand fluctuations). For example, potential growth may be lower for a protracted period of time following the crisis, as resources from sectors that were affected by the crisis get allocated to other productive spheres. Indeed, given structural rigidities in the euro area, most analysts anticipate a prolonged impact of the crisis on the economy working mostly through the supply channel. Nevertheless, the long-run growth potential of the euro area is not expected to be significantly altered. In addition, the financial crisis may have affected monetary policymaking in other ways, for instance, by changing the effectiveness of transmission channels (see, for example, Čihák, Harjes, and Stavrev, 2009).

Figure 14. Euro Area: “Real-Time” and “True” Output Gaps, 1993:Q1–2007:Q2
(Percent)



Source: IMF staff estimates.

illustration (Figure 14).²¹ The real-time estimate is based only on data that could have been available to policymakers at the time, ignoring data revisions. By construction, the estimated real-time gaps will be less accurate, especially around turning points of the true series, which the real-time approach will often miss.²²

This example shows that the real-time judgment includes a sizable and quite persistent error (for example, the unconditional standard deviation of the error is almost 1 percentage point and its autoregressive coefficient is about 0.9). Moreover, because at times the real-time output gap takes the opposite sign of the true gap, it could potentially lead policymakers to mistake the direction of price pressures. Against this background, especially given the ambiguity about the impact of the crisis on

²¹ The quasi “real-time” output gap is calculated in the following way. In a first step, the full sample of real GDP (1970:Q1 to 2009:Q1) is split in two parts, with 1993:Q1 assumed to be the last observation from the point of view of policymakers. Policymakers then compute the real-time output gap for that quarter as the log difference between the actual output and its Hodrick-Prescott filtered value over the period 1970:Q1–1993:Q1. When new real GDP data arrives the following quarter, the exercise is repeated until, eventually, 2007:Q2 is reached. The true output gap is estimated over the full sample (1970:Q1–2009:Q1), but the comparison of the real-time output gap and the true gap ends with 2007:Q2 to alleviate end-of-sample problems in estimating the true output gap.

²² Extending the data used for the real-time filtering exercise with available forecasts mitigates but does not solve the problem in practice—see, for instance, the discussion in Cotis, Elmeskov, and Mourougane (2004).

financial intermediation, the heightened uncertainty over recent estimates of the output gap and forecasts is hardly surprising (see Chapter 2).

Policymakers thus face a difficult task—separating the information contained in measures of potential output from the noise surrounding it. In practice, a central bank looks at a wide array of economic and monetary indicators, cross-checking the information where possible (see, for example, ECB, 2004; and Fischer and others, 2008). Including measures of the output gap could add crucial information on existing and future threats to price stability; at the same time, the information can be imprecise or misleading. In addition, that uncertainty can lead to diverging views on the state of the economy. For instance, if the views of the central bank and those of the general public are not in accord, such differences could drive an informational wedge between price setters and policymakers (Gorodnichenko and Shapiro, 2007).²³ Although this discussion is ongoing, many observers agree that the output gap should inform monetary policymaking even in the presence of exceptional uncertainty. For example, Orphanides and others (2000) using data on historical revisions to real-time estimates of the output gap in the United States, show that it is usually optimal to place some weight on the output gap when decisions on the course of monetary policy are being made, even in the presence of measurement error. Ehrmann and Smets (2003) come to a similar conclusion based on a calibrated model of the euro area with incomplete information about potential output.²⁴

²³ Heterogeneity in beliefs is a very practical concern. For instance, Berger, Ehrmann, and Fratzscher (forthcoming) identify persistent heterogeneity in interest rate forecasting accuracy of ECB watchers, which, in part, can be traced back to locational factors, including regional economic conditions and differences in forecasting models. Beck, Hubrich, and Marcellino (2009) show that inflation differences in the euro area remain sizable and that only about half the variation in inflation rates in a selected sample of euro area countries is accounted for by area-wide factors.

²⁴ Ehrmann and Smets (2003) also show that, while it may be optimal to reduce the weight put on the output gap in the presence of informational problems, conventional Taylor-type approaches continue to perform relatively well.

Table 6. Macroeconomic Performance Under Output Gap Uncertainty
(Standard deviation, percentage points)

	50 Basis Points Shock to:					
	Interest rates		Inflation		Output gap	
	Policymakers:					
	React to output gap	Ignore output gap	React to output gap	Ignore output gap	React to output gap	Ignore output gap
Inflation	0.09	0.12	0.10	0.11	0.29	0.33
Output	0.14	0.17	0.05	0.06	0.41	0.43

Source: IMF staff estimates.

Simulations with a standard macroeconomic model fitted to euro area data illustrate that it is costly for policymakers to ignore the output gap, even in the face of uncertainty.²⁵ In the simulation, monetary policy is assumed to set interest rates conditional on inflation and the output gap, but owing to potential uncertainty over output, the perception of the private sector of the actual size of the output gap can temporarily deviate from that of the central bank (Table 6).²⁶ Reinforcing the findings discussed above, the economy appears to be better off if monetary policy reacts to the output gap than if it does not—judged by the higher volatility of inflation and the output gap to shocks to interest rates, inflation, or the output gap, when the output gap is not taken into account.

That said, reacting to an uncertain drop in potential output under current circumstances remains risky, and the likelihood of a costly policy mistake is significant. If, for some reason, monetary policymakers were overly optimistic about potential output, they would tend to overestimate the output gap (that is, to see actual output further below potential than it actually would be) and set interest rates too low compared to what they would do if they knew the path of potential output with certainty. Conversely, interest rates would be set too

²⁵ The exercise is based on a standard dynamic stochastic general equilibrium model. It comprises forward-looking but persistent Phillips curve and aggregate demand equations and a Taylor-type reaction function conditioning the nominal interest rate on deviations of inflation from its target and the output gap. Potential output estimates are model consistent. The model is estimated using Bayesian techniques on euro area quarterly data from 1993:Q1 to 2007:Q2, avoiding the current crisis period.

²⁶ A zero-mean autoregressive term is added to the output gap term in the Phillips curve equation, allowing prices to evolve temporarily according to the public's beliefs about the output gap, while policymakers react to their own estimates of the output gap. The difference in beliefs is common knowledge.

high if potential output were viewed too pessimistically and the output gap underestimated. A simulation with the model for the euro area is illustrative: when the central bank underestimates the output gap by 0.5 percentage point relative to the public's view, monetary policy is tighter, and interest rates are higher by about 150 basis points over a year, while inflation is lower by 0.7 percentage point.

Anchoring Expectations

If reacting to the available information on potential output remains optimal even under uncertainty and policy mistakes cannot be avoided per se, the key question becomes how to minimize their costs.

One way is for central banks to communicate forcefully their commitment to maintaining price stability in the context of the current uncertainty. Indeed, “price stability” is the primary goal of most European monetary policymakers, including, for example, the European Central Bank (ECB), the Bank of England (BoE), Sweden’s Riksbank (RB), and Narodowy Bank Polski (NBP), the Polish central bank. For policy purposes, while all interpret price stability as maintaining a specific rate of inflation, they differ in the degree to which they are ready to tolerate deviations from the target. The NBP and the RB allow inflation fluctuations within a +1/–1 percentage point band around their target values. In the case of the BoE, if the target is missed by more than 1 percentage point on either side, the governor must write an open letter to the chancellor explaining the reasons for the deviation and how the bank will ensure that inflation returns to the target within a reasonable time period without creating undue instability in the economy. And the ECB, while not having a formal band, is committed to keeping inflation “just below but close to 2 percent” over the medium term.

Under the present circumstances, reinforcing the central bank’s commitment to price stability (focusing specifically on the repercussions of uncertainty about the output gap on inflation) would

help anchor inflation expectations more firmly and more closely align the beliefs of the central bank and those of the public about the actual output gap (Gorodnichenko and Shapiro, 2007).

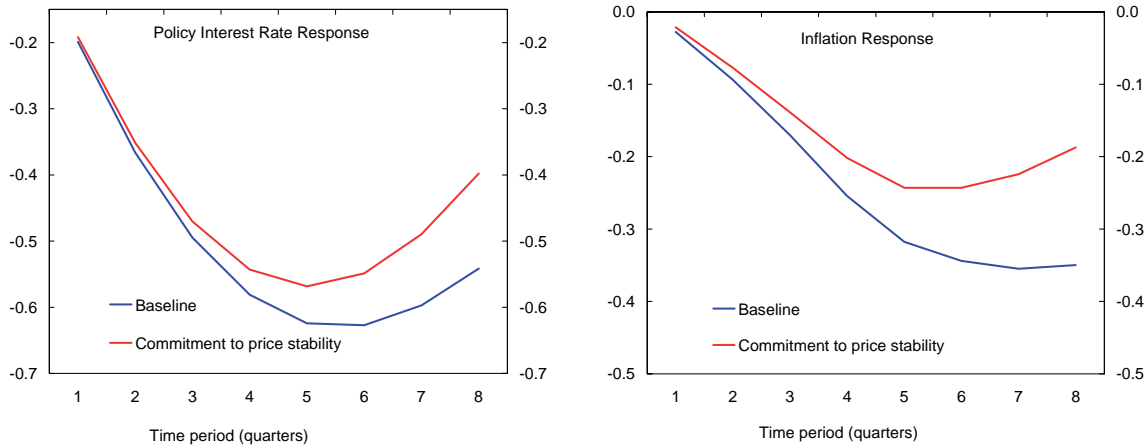
In practice, this approach would require a specific communication effort, implying, in particular, that the central bank make transparent its views on the development of potential output upon which it is basing current monetary policy decisions and announce clearly its willingness to adjust these views in light of new information and to act upon it to ensure price stability.²⁷ An effort along these lines would seem especially helpful in transitioning from the current policy stance of very low interest rates while avoiding unwittingly creating deflationary expectations.²⁸

A simulation exercise for the euro area illustrates the argument (Figure 15). Following an adverse shock to the output gap, the public is assumed to believe that the gap has declined by more than the central bank does. The simulation results show that the central bank will need to decrease interest rates by less while securing lower rates of disinflation and can reverse its course sooner when it is more strongly committed to maintaining price stability by explicitly signaling its willingness to adjust course as new information accrues. The reason for this outcome is that forward-looking price setters will

²⁷ Note that given the sizable increase in the central banks’ balance sheets as a result of the implementation of various unconventional measures, a reversal of the monetary policy stance before their expiration could be costly. Nevertheless, policymakers would need to be ready to bear such costs in order not to compromise the primary goal of monetary policy to maintain price stability.

²⁸ For instance, the ECB’s regular “economic analysis” provides a useful avenue for such a specific communication. In particular, at the time of the exit, the ECB would need to explain in its “economic analysis” that the decision to raise interest rates was based, among other things, on strong indications for inflationary pressures over the policy horizon due to an exceptionally steep decline in potential output compared to its precrisis trend, while, at the same time, emphasizing the uncertainty around these indications and its readiness to avoid any excessive tightening should the incoming data point to an overestimation of the fall in potential.

Figure 15. The Benefits of a Price Stability Commitment Under Output Gap Uncertainty
 (50 basis points output gap shock; deviation from baseline; percentage points)



Source: IMF staff calculations.

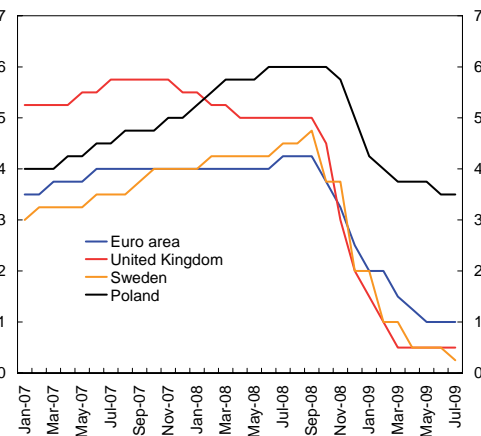
limit any downward price revisions anticipating that differences in views on the development of the output gap will eventually be resolved and price stability achieved.

Implications for Monetary Policy

Most of Europe’s monetary policymakers have reacted to the financial turmoil and the ensuing recession by bringing the policy rates to record lows (Figure 16) and by deploying various unconventional measures (see Chapter 1). This reaction reflects, in part, the conviction that, while the crisis has diminished potential output across the region, actual output has declined even faster, opening up a sizeable and lasting output gap and resulting in strong disinflationary pressures. As conditions in the financial system normalize and recovery takes hold, monetary policy will need to gradually turn less expansionary and eventually become restrictive to safeguard price stability.

The speed of this adjustment will, among other considerations, depend on central banks’ views on the—uncertain—path of potential output. Other things being equal, interest rates should increase faster if there is reason to believe that the crisis has significantly reduced potential output. Monetary policymakers thus face the problem illustrated above: gauging the impact of the crisis remains difficult, but ignoring the possibility of changes to potential output could be costly.

Figure 16. Selected European Countries: Policy Rates, 2007–09
 (Percent)



Sources: Haver Analytics; European Central Bank; Bank of England; Sveriges Riksbank; and National Bank of Poland.

To mitigate the problem of dealing with the increased uncertainty around potential output, policymakers should put a higher premium on two important aspects of monetary policy:

- (1) understanding the true nature of the fall in potential output that the crisis is likely to have caused; and
- (2) strongly communicating their views on potential output on which they are basing their policy rate decisions and emphasizing their commitment to adjust as new information becomes available.

Impact of the Crisis on Fiscal Policy

Just like monetary policymakers, governments across Europe have reasons to worry about the impact of a decline in potential growth on fiscal policy. In fact, the crisis has dealt a double blow to fiscal policy: it will have to adjust to a weakening growth outlook at least in the short and medium run and, at the same time, deal with the fiscal ramifications of the crisis, including large-scale government interventions in the financial sector.

A negative shock to potential growth, even if only temporary, will lead to budget shortfalls because structural (that is, noncyclical) revenues will fall and structural expenditures increase. And while policymakers are rightfully willing to let automatic stabilizers work, they have reason to limit the structural deterioration of the fiscal balance during the crisis period. In the longer run, the European fiscal horizon is dominated by mounting pressures stemming from a quickly aging population. Expectations of age-related increases in pension, health care, and transfer spending generate strong incentives for policymakers to keep debt levels low to safeguard the fiscal space needed to deal with this challenge.²⁹ Given the fiscal adjustment necessary to meet such challenges, any deterioration in the structural fiscal position caused by a drop in potential GDP growth would make that goal harder to achieve.

In addition, however, the crisis has forced policymakers to use fiscal resources for interventions in the financial system, both directly and indirectly through guarantees. The available estimates of the direct crisis-related costs and the indirect costs associated with government guarantees suggest that financial sector interventions will add considerably to public debt. This debt effect will heighten the urgency of any fiscal adjustment caused by the impact of the crisis on growth.

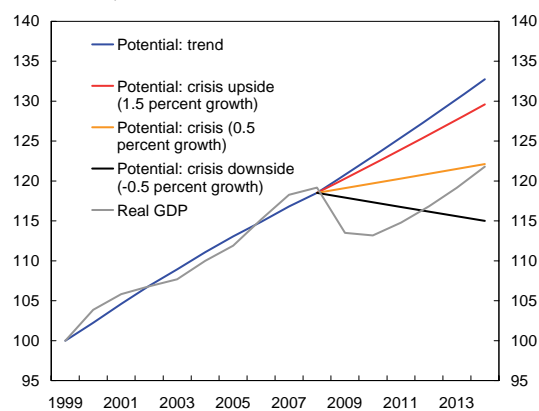
²⁹ The European Commission (2009a) predicts that, on average, the euro area will see its age-related spending increase by more than 3 percentage points of GDP between 2007 and 2035—an estimate with considerable upside risks (IMF, 2009a).

Fiscal Impact of Lower Potential Growth

The decline in potential growth in the short to medium term is subject to considerable uncertainty (see Chapter 2). How would different potential growth paths influence the fiscal position over this time horizon? One way to illustrate the impact of the crisis is to look at the implied deterioration of the structural fiscal balance compared to the “trend” benchmark of continued precrisis potential growth. The structural balance is a conceptual interpretation of the fiscal budget based on an estimate of the noncyclical share of expenditures and revenues. For a given level of GDP and fiscal budget, standard methods for computing the structural balance suggest that a reduction in potential growth will lead to a reduction in the structural balance for a given fiscal policy (Girouard and André, 2005; and OECD, 2006).

Indeed, the structural balance for the euro area can be shown to deteriorate significantly under alternative scenarios for the shortfall in potential output over the period 2009–14 (Figure 17).³⁰

Figure 17. Euro Area: Potential Output Scenarios, 1999–2014
(Index, 1999=100)



Source: IMF staff calculations.

Note: Trend growth matches the average potential growth 2000–08 of about 1.9 percent.

³⁰ The point can be illustrated by a simple “rule-of-thumb” calculation, in which structural revenues are assumed to be 45 percent of potential output (around the historical average for the euro area over the past decade), while structural expenditures remain unchanged. Under this assumptions, a

(continued)

Taking the time path of the GDP growth over the period as given, the annual structural deficit will be on average about 0.6 percentage points higher under the “crisis” scenario (average potential growth of 0.5 percent per year) than under the “trend” benchmark of continued potential growth at precrisis levels (average 1.9 percent per year). The accumulated difference reaches more than 3 percentage points over the full five-year period. The deterioration would be lower under the “upside” scenario (average potential growth of 1.5 percent per year) but obviously considerably higher under the “downside” scenario (average potential growth of -0.5 percent per year), with accumulated differences of about 1 and 5½ percentage points over the full period, respectively. Thus, while errors in the structural balance due to potential output revisions tend to be small for any given year (OECD, 2008), changes in potential as the result of the current financial crisis are likely to become large enough to influence estimates of an economy’s longer-term fiscal position—causing a prolonged deterioration of the structural balance in the absence of corrective action.

The growth effects of the crisis on the structural fiscal balance are likely to be large enough to trigger adjustments from policymakers committed to a certain time path for the structural balance due to national commitments or linked to the medium-term objectives of an EU stability program or to the excessive deficit procedure (EDP) under the Stability and Growth Pact (SGP).³¹ For instance, for most euro area countries and many other EU members that are entering or have already entered the EDP, standard practice would imply that they eventually be asked to reduce their structural deficits to the tune of at least 0.5 percentage point of GDP

1 percent deterioration of the potential output results in 0.45 percentage point deterioration of the structural balance.

³¹ See IMF (2009d) for a more detailed discussion of medium-term objectives and the mechanics of the EDP in the current crisis. Increasingly, national fiscal frameworks also define structural fiscal targets. For instance, Germany has recently put into place a fiscal framework setting a specific goal for the structural balance (see Chapter 1).

per year until a balanced structural budget is reached. Gauging the required adjustment effort, however, will need to take into account both the potential growth and the debt effects of the crisis.

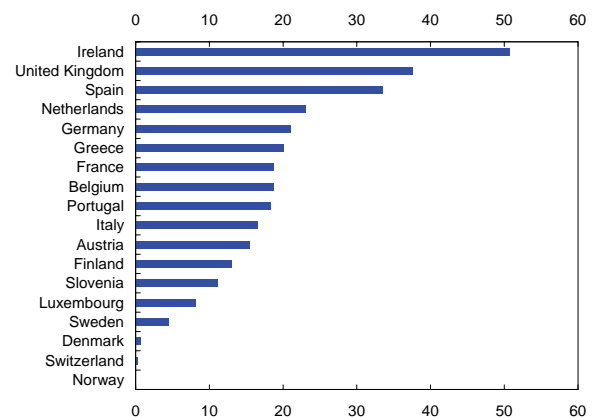
The One-Two Punch of the Crisis in the Longer Run

A simple simulation exercise can shed light simultaneously on the growth and the debt effects of the crisis in the longer run, as well as their interaction, while allowing the introduction of a simple sustainability anchor for fiscal policy. To establish a counterfactual, consider a benchmark case without a crisis in which policymakers have resolved to steer fiscal policy to debt levels compatible with the EU-set SGP target of 60 percent by 2020 or 2030. The question is, how will the required primary fiscal balance have to change compared to this benchmark to reach the SGP target once the crisis is taken into account?

Just how sizable the impact of the crisis will be on longer-run fiscal policy depends on its growth effects (see above) and on its impact on public debt. The crisis will lift the debt level through two channels. One is the cyclical deterioration of the budget, which for the 2008–10 period the *World Economic Outlook* estimates at a cumulative 16 percent of GDP for advanced and 10 percent of GDP for emerging European countries (Figure 18), though with considerable cross-country variation. The other is the extensive use of the public balance

Figure 18. Selected European Countries: Projected Changes in Public Debt

(Percent of GDP; change end-2007–end-2010)



Sources: IMF, *World Economic Outlook*; and IMF staff calculations.

sheet to shore up the financial system, including direct support measures such as capital injections and asset purchases and guarantees. As of June 2009, the estimated fiscal impact of up-front financial sector help varies between 0.7 percent of GDP in Italy and 13.6 percent in the Netherlands, with an average for euro area countries of about 5 percent (Horton, Kumar, and Mauro, 2009). The net fiscal costs of these measures, which exclude central bank support, could be lower should the actual demand for support continue to fall short of what governments have offered. In principle, the possible impact of fiscal guarantees is higher, with many countries having extended guarantees between approximately 10 and 30 percent and reaching about 200 percent of GDP in Ireland. Although the fiscal implications of guarantees are particularly difficult to evaluate, they have been estimated to fall between 2 and 5 percent of GDP (IMF, 2009d). Either way, however, the debt impact of the crisis is likely to create a sizable need for fiscal adjustment. In addition, it is also likely to influence the size of the adjustment necessitated by the growth effects of the crisis.

To gauge the broad impact of the crisis on the longer-term health of public finance, policymakers can compare the fiscal adjustment needed under different assumptions to the benchmark case (Table 7).³² The simulation has two dimensions capturing the already familiar growth scenarios and alternative assumptions on the debt effect.³³

³² See Horton, Kumar, and Mauro (2009) for a comparable comparison of the consolidation needs across a larger number of advanced and emerging economies.

³³ The calculation is quite standard. The benchmark assumes a starting debt level in line with historical euro area data for end-2007, a constant real interest rate of 2 percent, inflation of 2 percent, and real GDP growth at 1.9 percent, implying nominal GDP growth (y) of about 3.9 and nominal interest rates (i) of 4 percent. The debt-to-GDP level evolves according to $d(D/Y)_t = (B/Y)_t + (i - y)/(1 + y)(D/Y)_{t-1}$, where D is the nominal debt level, Y the level of nominal GDP, and d indicates the change of the debt ratio over time. The calculations underlying Table 7 assume that the starting debt level is increased by the amount stated compared to its benchmark level and that the growth path of potential output 2009–14 is as described in the scenarios illustrated in Figure 16 and indicated

(continued)

Table 7. Fiscal Adjustment Required in Response to Various Crisis Scenarios
(Increase in primary balance, percentage points of GDP)

Growth shock	Debt shock							
	SGP target by 2030				SGP target by 2020			
	5	10	20	30	5	10	20	30
Crisis upside	0.3	0.5	1	1.5	0.6	1	1.8	2.7
Crisis	0.5	0.8	1.2	1.7	0.9	1.4	2.3	3.2
Crisis downside	0.7	1	1.5	2	1.3	1.8	2.7	3.6

Source: IMF staff calculations.

Notes: Short- to medium-run growth assumptions defined as in Figure 17, long-run growth at historical average. The calculations are illustrative only and not meant to be forecasts.

A first insight is that the impact on fiscal policy is sizable. Even under the most benign set of assumptions, if the debt increase related to the crisis were only 5 percentage points of GDP and its impact on potential growth during the crisis were limited to the “upside” scenario (see Figure 17), the average annual primary fiscal surplus required to bring debt back to the SGP target by 2030 would increase by about 0.3 percentage point of GDP, compared to the benchmark (Table 7, left panel), or by 0.6 percentage point if the same target were to be reached by 2020 (right panel). Moving toward less benign growth assumptions considerably darkens the picture. For instance, the “crisis” growth scenarios cause the primary balance required to reach the debt target by 2030 or 2020 to rise to 0.5 or 0.9 percentage point of GDP, respectively.

The effect of higher debt on the required fiscal adjustment may be even larger. For example, keeping with the optimistic “upside” growth scenario but changing the assumptions about the debt increase to a more realistic 10 or 20 percentage points of GDP, the increase in the debt level will move the required fiscal adjustment relative to the benchmark to 0.8 and 1.2 percentage points of GDP, respectively, and nearly twice as much under the accelerated consolidation schedule.

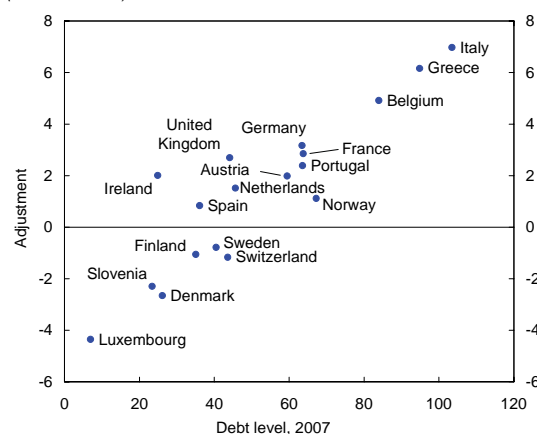
Finally, the simulation illustrates how the impact of the crisis on public finances works through both the growth and the debt effect. The most plausible combination of assumptions of what Europe’s fiscal

by the table columns. Beyond 2014, growth is assumed to return to its historical level (1.9 percent). By construction, the results are very robust to changes in the starting debt level assumed for the benchmark case.

policymakers will be facing in the aftermath of the crisis is a combination of the “crisis” growth scenario and an increase in debt of 10–20 percentage points of GDP. Depending on how ambitious the timeline for consolidation is, this estimate translates into a very sizable necessary fiscal adjustment, ranging between 0.8 and 2.3 percentage points of GDP. And, clearly, both effects are responsible for some of the more extreme possible outcomes. This joint responsibility is underscored by the fact that the growth effect is not independent of the debt level at which it occurs: the drop in growth in output will weigh more on fiscal policy and will require a (somewhat) larger fiscal adjustment if it occurs under higher debt.³⁴

Where does this leave individual European countries? For a selection of advanced EU economies, the estimated fiscal consolidation required to reach the SGP debt target by 2020 will depend on the precrisis debt level and the expected debt increase during 2009–10.³⁵ The results are quite diverse (Figure 19), ranging from drastic required improvements in the average primary balance of 5 percentage points of GDP or more for Belgium, Greece, and Italy to still exacting requirements in the range of 2–3 percentage points for Austria, France, Germany, and Portugal.³⁶ In most cases, starting debt levels seem to be the key driver of country dispersion, with the notable exceptions of Ireland and the United Kingdom; these two countries experienced particularly large increases in crisis-related debt. Generally, the results confirm the

Figure 19. Selected European Countries: Required Improvement of Primary Balance 1/
 (Percent of GDP)



Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
 1/ To reach a debt level of 60 percent of GDP in the year 2020 based on the “crisis” scenario (see Table 7).

urgency of fiscal consolidation in the aftermath of the crisis.

Implications for Fiscal Policy

The one-two punch delivered by the crisis to Europe’s public finances is likely to generate a sizable fiscal challenge. The uncertainty surrounding the anticipated change to potential output puts a question mark beside the precise dimension of its growth effects, while the debt effects could vary greatly depending on the net costs of financial sector interventions and, in particular, the take-up of government guarantees. There is little doubt, however, that fiscal balances will have to improve significantly to meet targets for structural balances and ensure that longer-term sustainability needs are met. The fact that these problems come on top of an already difficult fiscal agenda—the high expected spending needs related to aging, revenue losses across Europe, and, in some cases, already elevated levels of debt—will exacerbate the challenges of a crisis-forced fiscal adjustment.

Meeting that challenge has various policy implications. One obvious consequence for policy more generally is the pressing need to boost potential growth to limit the fiscal damage threatened by the growth effect of the crisis (see also Chapter 2). In addition, the combination of already

³⁴ This is simply because the debt level “weighs” the growth effect in the evolution of the debt-to-GDP level (see the description above). For example, moving from the “upside” to the “downside” growth scenario requires about 0.2 percentage point of GDP higher fiscal adjustment if the assumed debt impact is 30 rather than only 5 percentage points in the case that the SGP target is to be reached by 2020 (Table 7).

³⁵ The exercise is otherwise similar to the one underlying Table 7. Growth rates are assumed to follow the “crisis” scenario.

³⁶ Some countries show “negative” required improvements, which reflects starting debt levels below the assumed target level of 60 percent of GDP; these include Luxembourg, the Nordic countries, Slovenia, and Switzerland.

looming age-related fiscal pressures in Europe and the expected size of the fiscal impact of the crisis makes fiscal adjustment urgent. Thus, while the exact amount of the damage to public finances will remain uncertain for some time, policymakers should exercise extreme caution and start the required consolidation as soon as the state of the cycle allows, focusing on areas that promise swift and lasting results.

Also, policymakers should anchor market expectations by clarifying the desired fiscal policy path and the accompanying measures. A reversal of crisis-related spending initiatives will reduce the deficit but will need to be complemented by further efforts to contain spending growth below nominal GDP growth. Indeed, successful fiscal adjustment is likely to place greater emphasis on spending cuts rather than tax increases, as the tax burden is already high in many European countries. Prioritization of spending should be undertaken through comprehensive expenditure reviews, which would help identify spending inefficiencies to be eliminated. Pension and health care reforms will be key elements in the adjustment—measures to contain aging-related spending would include increases in retirement age. Savings to the budget could also come from better targeting of welfare payments, which would also enhance incentives to work or from civil service reforms aimed at better aligning the public sector wage bill with performance and needs. The expected cyclical recovery of revenues could be complemented with a

review of tax policy, aimed at further simplifying the tax system to facilitate tax administration and make the system less distortionary while broadening the tax base.

Improving fiscal frameworks will also help mitigate fallout from the crisis and safeguard fiscal sustainability in the medium run (see also IMF, 2009d). Such mitigation could be achieved by introducing new national fiscal rules or strengthening existing ones and enhancing the preventive arm of the SGP—for instance, through giving greater commitment power to medium-term objectives and linking them to debt levels.

Finally, mirroring some of the implications for monetary policy, policymakers may find it advantageous to communicate clearly the reasons for the required fiscal belt-tightening, once the crisis has abated and the need for fiscal support to uphold aggregate demand becomes less urgent. While transparency is somewhat less an issue for fiscal policy in economic terms (to some extent, the increased public debt will speak for itself), shoring up the required public support might still be challenging—especially when it comes after a period of widespread economic hardship. Here, it could be helpful to lay out the various ways in which the crisis has contributed to fiscal shortfalls and stress the benefits of creating fiscal space for the tasks ahead, such as the ability to meet some of the aging-related pressures and sustaining the ability to use fiscal policy as an effective tool for macroeconomic stabilization.

4. Policies in Emerging Economies for Coping with Heightened Risk During Recovery

Emerging Europe is likely to face higher risk premiums and a more volatile environment in the aftermath of the financial crisis. While the global crisis might be receding, investors are paying increased attention to domestic factors and policies, creating significant cross-country differences in sovereign spreads. Higher and more volatile spreads increase the variability of inflation and output over the cycle, with further deleterious effects on investment, growth, and prospects for convergence. Restoring the normal functioning of the financial system where needed, and strengthening financial stability and fiscal sustainability frameworks will go a long way toward addressing these concerns. Such policies could yield a “double dividend” by lowering the volatility of the business cycle and improving prospects for long-term growth.

Facing a Riskier Environment

Even though the appetite for risk has moved away from its crisis-induced lows, emerging markets face a significantly more volatile external environment in the aftermath of the crisis. Interest rate spreads on sovereign bonds have increased, and interest rates and exchange rates have become more volatile (Figure 20).³⁷ Behind this dramatic shift in market risks lies a change in investor attitude. While global factors and market liquidity clearly play a role, investors are increasingly differentiating among countries according to their fundamentals and the soundness of their policies and in the process are dismissing the “European Union (EU) halo effect” (IMF, 2009d). Taking their cue from the crisis, investors have become more “conscious of tail risks” (Blanchard, 2009) and charge higher risk

premiums. Thus, even with the dissipation of the global financial shocks, interest rate spreads and volatilities related to country-specific vulnerabilities are likely to remain elevated in the medium term.³⁸

Among the country-specific factors financial markets are focusing on, the state of private balance sheets and the financial system, as well as the closely related issue of fiscal sustainability, play an important role.³⁹ The factors that make foreign investors wary include, for example, the uncertainty about filling gaps in the financing needs of banks and the government, the rollover of maturing corporate and government debt, the capacity for dealing with household indebtedness and associated foreign-currency mismatches (see Box 3, Chapter 1), and the eventual contingent liabilities of the government. Even though all countries coming out of the crisis are likely to face a higher risk premium, emerging economies dependent on capital inflows for growth and development are especially affected, since their ability to attract capital inflows at a reasonable and steady price is at stake.

The combination of a more volatile environment and the vulnerabilities created by the crisis puts policymakers in a bind. Under fixed exchange rates, stabilizing output and inflation in the face of external shocks is intrinsically difficult under the best of circumstances because monetary policy takes its cues from the country to which the currency is pegged. The traditional policy advice is for fiscal policy to step up. But under the heightened

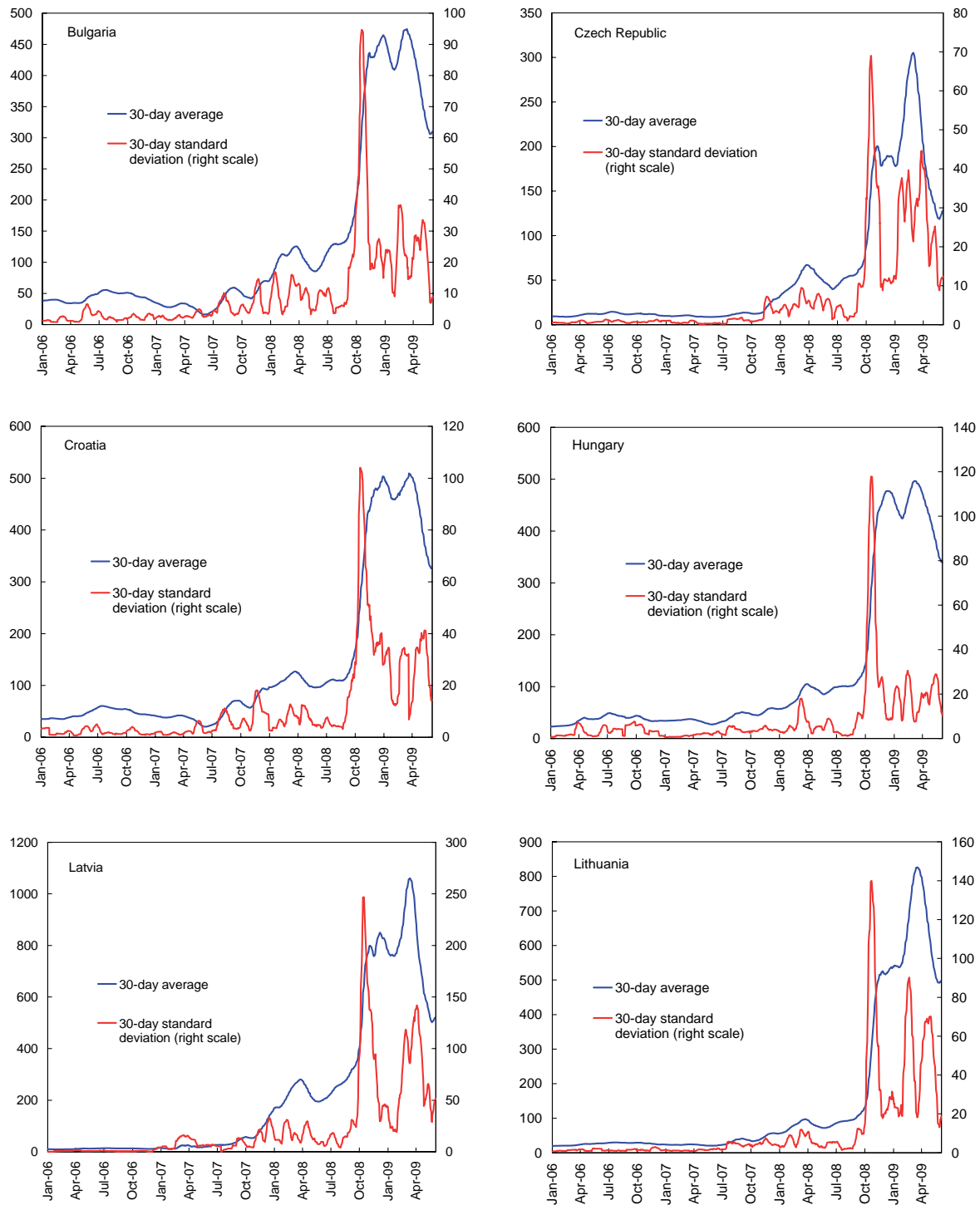
Note: The main author of this chapter is Srobona Mitra.

³⁷ High spreads and high volatility in interest rates are often observed together (Fernandez-Villaverde and others, 2009). The association works through investors seeking higher expected returns in case of higher risk. In turbulent times, news also arrives fast and frequently, inducing high volumes of trade in foreign debt and raising volatility when spreads are also higher.

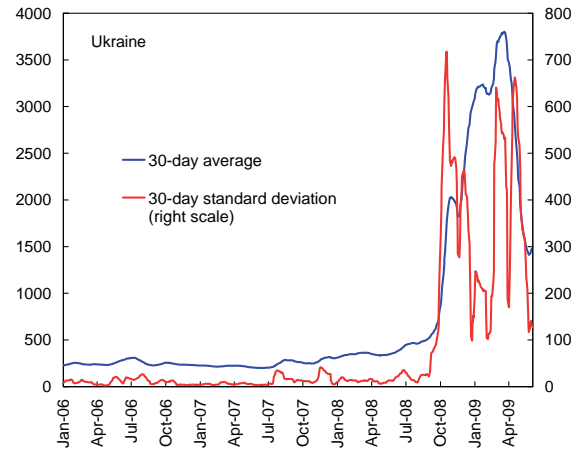
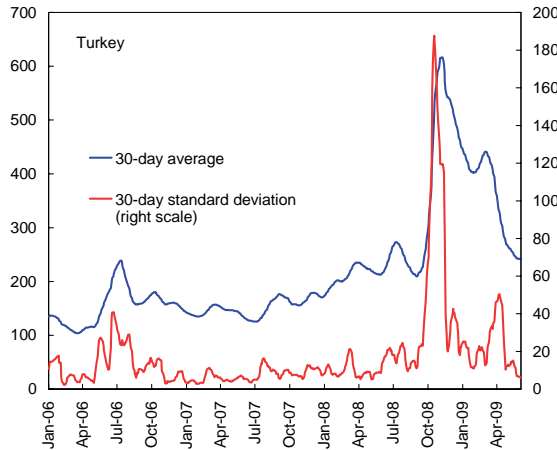
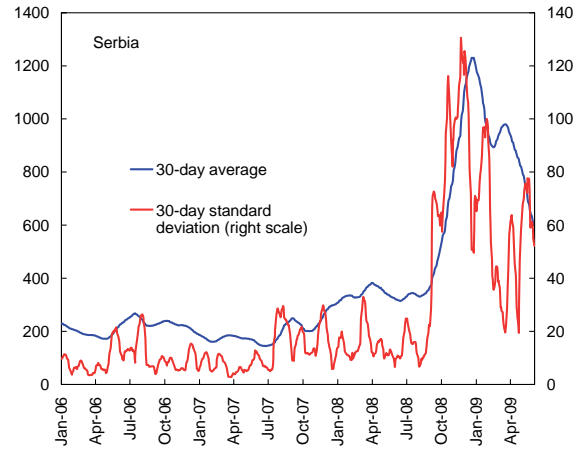
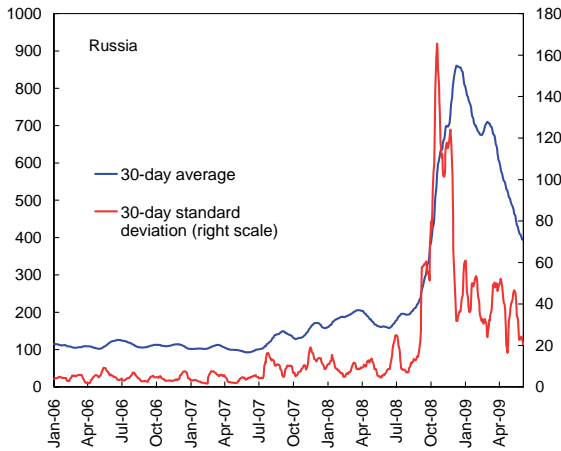
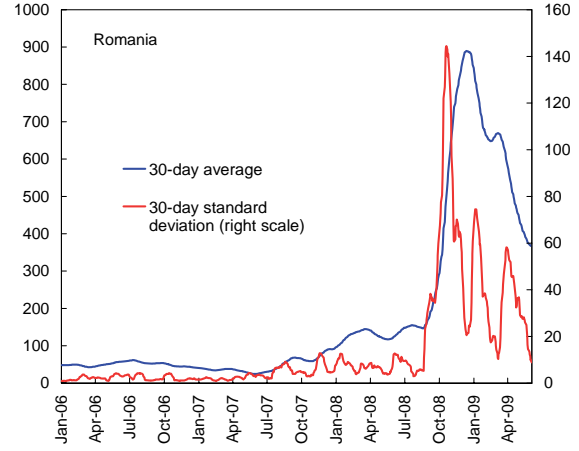
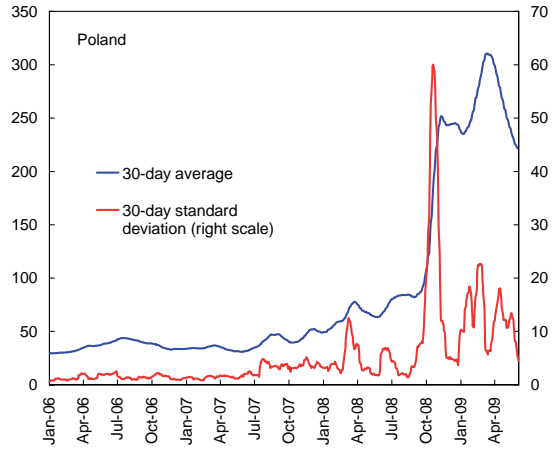
³⁸ Blanchard (2009) warns that the “higher risk perception may well be an enduring legacy of the crisis,” citing evidence from the Great Depression that led to a lasting increase in the risk premium on stocks.

³⁹ For links between fiscal policy, financial sector risks, and interest spreads, see, for instance, Blanchard (1984); IMF (2009d); Ardagna, Caselli, and Lane (2004); Debrun and Joshi (2008); and Horton, Kumar, and Mauro (2009).

Figure 20. Selected European Countries: Bond Spreads–Level and Volatility, January 2006–June 2009 1/



POLICIES IN EMERGING ECONOMIES FOR COPING WITH HEIGHTENED RISK DURING RECOVERY



Sources: Bloomberg L.P.; and IMF staff calculations.
1/ EMBI Euro spreads for most countries; CDS 10-year for the rest.

post-crisis scrutiny of international investors, a more activist use of fiscal policy tools may cast doubt on fiscal sustainability and backfire in the form of higher and more volatile interest rate spreads in the medium term. This could add to the volatility of the economy rather than countering it, and lower growth, especially in emerging economies depending on capital inflows for growth. The same mechanism also limits the ability of governments to intervene in the financial sector through direct interventions or guarantees, both of which can have large fiscal consequences. And even under flexible exchange rates, the possibilities for financial sector intervention or macroeconomic stabilization can be limited, for instance in the presence of large foreign currency debt overhangs that can make exchange rate depreciations costly or when exchange rate changes pass through quickly to inflation.

The solution to these policy dilemmas is to reduce uncertainties about fiscal policy and the financial sector. While reforming fiscal policy frameworks would ease concerns over fiscal sustainability and decrease the level and volatility of the risk premium, proper disclosure of financial sector risks that could burden public finances down the road would help lower fiscal risks as well. In addition, improving the supervisory and regulatory policies that prevent the buildup of credit and liquidity risks, as in the years leading up to the crisis, would directly help lower the volatility of the financial market in the medium term.

Adverse Effects on the Path to Recovery

Fiscal and Financial Sector Problems Are Linked to Higher and More Volatile Interest Rates . . .

While common global shocks have increasingly affected the volatility of interest rate spreads and other financial indicators, an important factor behind the turbulence are banking and fiscal developments. When the crisis intensified in late 2008, liquidity and capitalization strains in particular in the banking sector shook financial markets. This

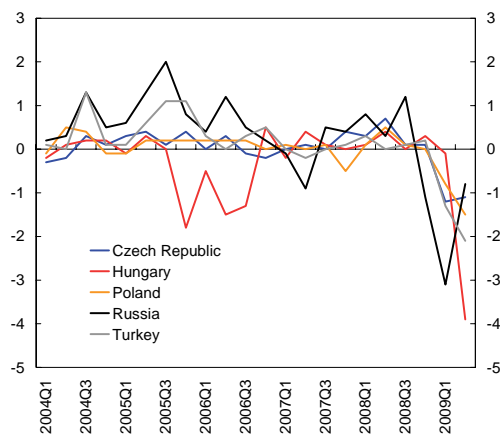
led to interventions by the central bank and fiscal authorities (sometimes with support from the international financial institutions), which added to interest rate volatility through their impact on the government budget. And concerns about the cyclical effects of the recession, continue to contribute to the unsteadiness of the fiscal situation. These developments are illustrated by unusually large and frequent revisions in the Consensus Forecasts of the budget balances of many emerging economies and new European Union (EU) member countries (Figure 21). For example, the average of the Consensus Forecasts of the 2009 fiscal balance for Hungary in July 2009 was almost 4 percentage points lower than the average forecast for March 2009.⁴⁰

The higher volatility in interest rates is tightly linked to the level of interest rate spreads. One reason is that investors demand higher returns to compensate for more volatile asset prices. Another is that the financial and fiscal developments associated with the higher interest volatility directly influence interest rate levels through the stock of public debt. While the use of fiscal stimuli in emerging Europe and new EU member states has not been as high as in advanced countries, some discretionary fiscal expansion occurred, automatic stabilizers were at work, and government interventions in the financial sector added to the increase in government debt (Figure 22). Empirically, higher projected debt tends to increase long-term borrowing costs (IMF, 2009d), with the strength of the effect reflecting, among other things, the elasticity of supply and the perception of risks stemming from the long-term sustainability of the public finances.⁴¹

⁴⁰ The structural deficit for Hungary was considerably tightened in 2009Q2, which helped lower spreads.

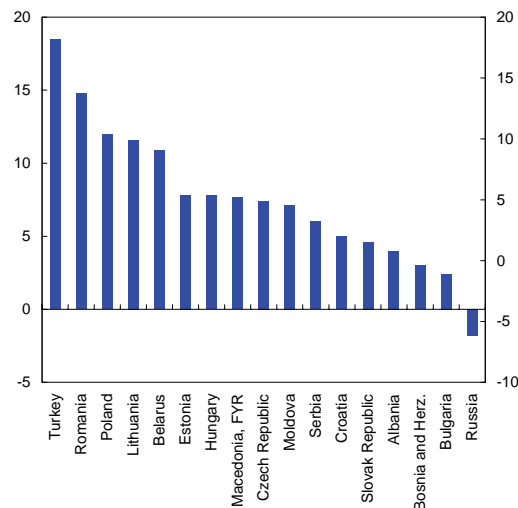
⁴¹ This is further amplified by the contingent costs of government guarantees for the financial sector. See Horton, Kumar, and Mauro (2009) and Chapter 3 for a discussion of the impact of the crisis on fiscal sustainability.

Figure 21. Selected European Countries: Quarterly Revisions in Fiscal Balance Forecast, 2004:Q1–2009:Q2 1/



Sources: Consensus Economics; and IMF staff calculations.
1/ Change (in percentage points) in the fiscal balance forecast for the year, average of the Consensus Forecasts.

Figure 22. Selected European Countries: WEO Revisions in Projected Government Debt for 2010 in April 2009 over September 2008 (Percentage points of GDP)

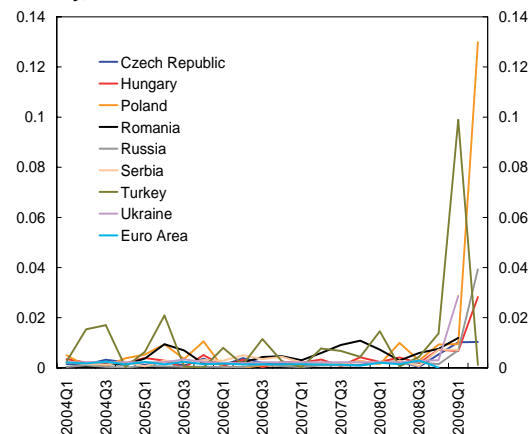


Sources: IMF, *World Economic Outlook*; and IMF staff estimates.

... And Are Associated with Exchange Rate Instability

Higher and more volatile interest rates—in particular changes in the sovereign risk premiums—are also associated with higher exchange rate volatility (Figure 23). While some of the exchange rate movements could be attributable to short-lived reactions of investors to news, the part of exchange rate changes associated with the upward shift in the risk premium and its volatility is likely to remain high, in particular if fiscal and financial sector worries linger. In fact, empirical observations of higher exchange rate volatility have often been associated with the downward revisions in the forecast of the fiscal balance in recent years.⁴² While it is difficult to infer causality among movements in exchange rate, interest spreads and fiscal projection revisions, especially during ongoing extreme events, they clearly could be mutually reinforcing. Higher volatility in exchange rates and spreads worsen economic performance, raise risk and contingent liabilities in the financial system, and heighten concerns about fiscal sustainability, which, in turn,

Figure 23. Selected European Countries: Exchange Rate Volatility, 2004:Q1–2009:Q1 1/



Sources: Bloomberg L.P.; and IMF staff calculations.
1/ GARCH estimates on log-changes of the national currency/USD (period average) exchange rate.

may lead to a further rise in spreads and volatility and so on.

In countries with sizable foreign currency mismatches in the private sector, large movements and higher volatility of exchange rates or pressure on pegs is putting banks and fiscal authorities on alert: inability to service the higher principal payments of the corporate and the household sector would lead to sharply higher nonperforming loans and adversely affect capitalization of banks. If banks need to be recapitalized but parent banks are unable

⁴² Downward revisions in the fiscal balance for the year and time-varying volatility of the exchange rate are highly correlated for some countries. For the countries shown in Figure 23, especially since the fall of Lehman Brothers, the coefficient of correlation is on average about 0.4.

to provide fresh capital to their subsidiaries, the ultimate burden could be on the fiscal authorities.⁴³ This also holds in the handful of countries that have systemically important domestic banks. In smaller and more open economies, a more volatile exchange rate could also impart this volatility to the inflation rate and to the output gap through the trade channel, if the economy is highly dependent on exports.

Hurting Long-Term Growth and Convergence

The higher risk premium and its volatility are likely to affect long-term growth directly. Particularly at risk are the European emerging economies heavily dependent on capital inflows, especially foreign direct investments, for growth and for convergence to higher-income countries. A higher risk premium and its volatility would increase the cost of capital and the variability of consumption and hurt the recovery of long-run growth (Fernandez-Villaverde and others, 2009). As foreign investors demand higher compensation for risk (while having difficulty in gauging its magnitude), domestic institutions, including banks, will not find it easy to attract foreign direct investment (FDI) and banking flows at reasonable rates. Because of higher volatility in risk premiums, domestic institutions will also find it difficult to plan for the future. A lower FDI inflow could hurt both medium-term growth and the convergence process for emerging Europe (see Chapter 2).

Higher volatility in the business cycle and the associated increase in the volatility of shocks (or higher uncertainty) during the crisis also have a

⁴³ IMF programs in some countries have led to letters of commitment from parent banks to the country authorities, committing to stand by their subsidiaries. The letter for Hungary can be found at <http://www.imf.org/external/np/cm/2009/052009.htm>; for Romania, at <http://www.imf.org/external/np/cm/2009/032609.htm>; for Bosnia and Herzegovina, at <http://www.imf.org/external/np/cm/2009/062209.htm>; and for Serbia, at <http://www.imf.org/external/np/cm/2009/032709.htm>.

direct effect on growth (Ramey and Ramey, 1994). A 1-percentage point higher standard deviation in growth of output is estimated to lower long-term growth by two-fifths of a percentage point in OECD countries. In particular, fiscal policy uncertainty that raises uncertainty about growth outcomes (through its higher volatility) lowers long-term growth, since such uncertainty makes it difficult for firms to plan for the future.⁴⁴ This particular channel operates in addition to any adverse effects from investment or FDI effects of higher volatility.

Moreover, higher government debt and deficits by themselves could have additional damaging effects on long-term growth through permanently higher borrowing costs and crowding out. For example, a 20-percentage point increase in the level of government debt as a share of GDP would lower annual long-term growth by 0.6 percentage point (see Chapter 2).

Challenging Policymakers

Emerging Economies Are Historically Subject to Relatively Large Shocks . . .

Even before the crisis, emerging economies (EM) were operating in a more volatile environment than the euro area. The EM faced less stable aggregate demand due to fickle world demand for the EM's exports or discretionary fiscal expansions and contractions. The supply side and the external environment has also been more volatile historically owing to the substantial structural changes associated with the transition from a centrally planned to a market economy, higher exposure to world trade and financial flows relative to GDP, and weaker policy transmission mechanisms. And, as already discussed, EMs that receive large capital inflows into the banking and the corporate sectors

⁴⁴ If firms have to commit to their technology in advance, then volatility can lead to lower mean output because firms find themselves producing at suboptimal levels ex post. If lower current output affects resource accumulation, then growth is adversely affected (Ramey and Ramey, 1995).

and run large current account deficits are vulnerable to the changes in investor sentiments leading to large changes in the exchange rate or in country risk spreads or both.

Indeed, based on an estimated macroeconomic model, the volatility of shocks are measurably higher in the EM than in the euro area.⁴⁵ With an estimated Global Projection Model (Carabenciov and others, 2008) of the euro area, Japan, the United States, and a medium-sized European emerging economy (EM) with a flexible exchange rate, the standard deviation of the shocks to aggregate demand, supply, the exchange rate, and the equilibrium risk premium were derived (Table 8).⁴⁶ Aggregate demand and aggregate supply shocks were historically more volatile in the EM than in the euro area. The largest difference, however, was in the volatility of exchange rate shocks, while the volatility of shocks to the risk premium was not very different from those faced by the euro area.⁴⁷

As a consequence, emerging economies have historically had more variability in inflation and output than the euro area. This point is illustrated by comparing “efficiency frontiers” for policy for the euro area and the EM (Figure 24). An efficiency frontier is a way of showing the lowest combination of output and inflation volatilities achievable by policymakers, given their preferences and the magnitude of shocks hitting the economy.⁴⁸ The

⁴⁵ This section and the next are written by Ioan Carabenciov, Roberto Garcia-Saltos, Michel Juillard, Douglas Laxton, Troy Matheson, Srobona Mitra, Susanna Mursula, and Kadir Tanyeri.

⁴⁶ The analytical details are elaborated in Carabenciov and others (forthcoming). The model is estimated with data from 2001:Q3 to 2009Q1, and the standard deviation of the residuals are computed for the precrisis (2001:Q3–2007:Q2) and the crisis (2007:Q3–2009:Q1) periods.

⁴⁷ Monetary policy shocks also tended to be more volatile in EM precrisis (not shown). In the GPM, the exchange rate shock is the shock to the uncovered interest parity equation. The expected change in the real exchange rate one quarter ahead equals the real interest rate difference between EM and the United States *minus* the difference between the equilibrium real interest rates (or the equilibrium risk premium) adjusted for changes in the equilibrium real exchange rate *plus* the exchange rate shock.

⁴⁸ Policymakers could be thought of as wanting to maximize society’s welfare by lowering variability in inflation and output

(continued)

Table 8. Volatility of Shocks in the Euro Area versus Shocks in the Emerging Economy, Precrisis and Crisis

Country/region	Standard Deviation of Shocks 1/					
	Aggregate demand		Exchange rate		Equilibrium risk premium	
	Precrisis	Crisis	Precrisis	Crisis	Precrisis	Crisis
EM	0.40	0.25	6.70	10.00	0.70	1.30
Euro Area	0.10	0.50	0.02	0.04	0.60	0.90

Source: IMF staff simulations.

1/ Structural shocks from the Global Projection Model of the Euro area, Japan, the United States, and the emerging economy (EM), Carabenciov and others, forthcoming. The precrisis period is 2001:Q3–2007:Q2; crisis is 2007:Q3–2009:Q1.

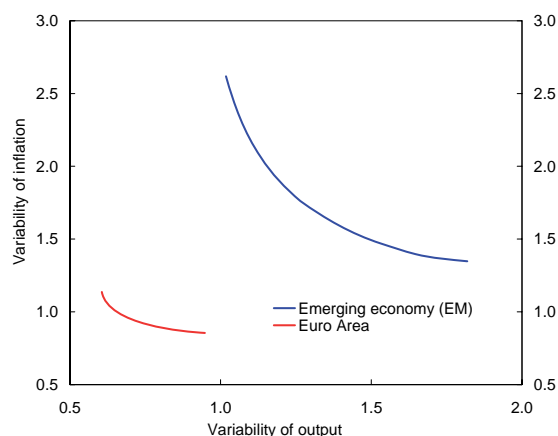
euro area’s frontier lies far to the southwest of the EM’s frontier. Roughly speaking, policymakers in the EM will generally have to accept twice the volatility in output and about 1½ times the volatility of inflation of the euro area.⁴⁹

... And the Crisis Has Increased the Magnitude and Volatility of Shocks

With the crisis, long-term credit default swaps (CDS) and bond interest spreads of European emerging economies have increased from a precrisis average of about 75 basis points to a crisis average of about 330 basis points. The new average was accompanied by higher volatility of the risk premium with the standard deviation of spreads going up from about 4 to 30 basis points. The higher variability in the exchange rate can be explained partly by changes in the real interest rate

changes, given existing trade-offs. Given their preference and shock volatilities, the lowest preferred combinations of output and inflation variability can be plotted in the “efficiency frontier.” The estimates from the GPM and the various shock variances are used to draw the frontier. To do so, a social loss function denoted by the weighted sum of variances of inflation, output gap, and changes in the real interest rate is minimized subject to the estimated equations and their shock variances. Because there can be infinite combinations of weights depending on social preferences, the weight on the output gap is varied, and the optimal interest rate rule is estimated for each weight. The standard deviation of inflation and the output gap resulting from applying the newly optimized rule is then computed, forming a point in the efficiency frontier for the EM. Other points are obtained by varying the degree of dislike for output variability compared to inflation variability and following the same procedure.

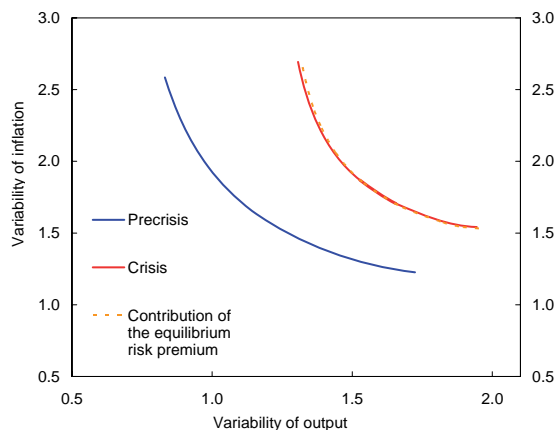
⁴⁹ For instance, if policymakers in both countries paid twice as much attention to the smoothness of inflation compared to output (for example, if the weight on the variance of the output gap in the loss function was 0.5 and that of inflation 1), then the best preferred lowest standard deviation of output would be 0.79 for the euro area, whereas the EM’s best achievement would be 1.62.

Figure 24. Emerging Economies Have Higher Volatility

Source: IMF staff simulations.

differentials between the emerging economy and the rest of the world and partly by changes in the risk premium, along with short-lived fluctuations. While movements of the real interest rate are due to, say, changes in monetary policy, there could be large and infrequent shifts in the risk premium itself accompanied by high volatility, resulting in a highly variable exchange rate. Shocks to the risk premium will have repercussions throughout the economy. Aggregate demand for output comprising both consumption and investment demand could be quite volatile as well, especially when these demand components rely on capital inflows, as they do in emerging economies. If the shocks to the level and the volatility of the risk premium are long lasting (as is shown for some Latin American countries by Fernandez-Villaverde and others, 2009), then they could have long-lasting and detrimental effects on the growth and volatility of output.

Against this background, model analysis shows that the efficiency frontier of the EM has indeed shifted further northeast in the aftermath of the crisis because of the larger incidence of shocks and their higher volatilities. Based on the extreme scenario in which all the increase in the average interest spreads translates into a shift in the equilibrium risk premium, then almost all the shift in the frontier can be accounted for by the higher risk premium and its volatility (Figure 25). Indeed, even though the precrisis volatility risk premium shocks

Figure 25. Effect of the Crisis in the Emerging Economy

Source: IMF staff simulations.

in the EM was almost the same as that in the euro area, the effects of the crisis were strongly differentiated among countries and regions (Table 8). If the policy regime and its preferences were the same as before the crisis, then the lowest achievable variability in output would be one and one-fifth times more than before the crisis.

The Policy Dilemma

Policymakers need to ensure that the recovery from the crisis is solid, sustainable, and smooth, but this change in environment greatly complicates their task. In terms of stabilizing the business cycle, trying to stimulate the economy by lowering interest rates while taking care to limit inflationary pressures triggers parallel movements in the risk premium, which could add to output volatility. In addition, the crisis will also cause pain along another dimension. The higher variability could shave about 0.1 percentage point from long-term growth (using findings from Ramey and Ramey, 1995, cited earlier). The adverse effect on growth operates mainly through the elevated uncertainty reflected in the risk premium. A higher government debt could (separately) erase about 0.3 percentage point from medium-term growth (using the growth regression in Box 5, Chapter 2) through crowding-out effects.

Monetary policymakers are limited in their options by the twin problems of low growth and high exchange rate volatility. Although policy rates

can be lowered, central banks fear excessive depreciation of the exchange rate. If policy rates are increased to stem capital outflows, growth could suffer. And once a recovery gets underway, inflation pressures could start building up when policymakers try to stimulate growth. In fact, the crisis forces the efficiency frontier to move further northeast of the precrisis one (Figure 25), even though monetary policy is doing the best job possible under the circumstances.⁵⁰ With policy preferences constant, if the central bank were to increase focus on the output gap to refuel growth, it would have to do so with a more volatile rate of inflation than would be acceptable.

Adjusting the frameworks for financial stability and fiscal sustainability to meet the challenges posed by the crisis could be the more promising course of action. As highlighted earlier, uncertainty about the course of fiscal policy with lingering uncertainties about the financial sector has been part of the problems triggered by the crisis; reversing this uncertainty should prove helpful now. For instance, good fiscal policy that underpins long-term sustainability can help reverse some of the upward shift in spreads and their volatility over time. In the new regime, even if there are short-term setbacks in fiscal balances, uncertainty about fiscal sustainability could be avoided by setting credible lower deficit and debt targets and implementing them so that investors can believe in them. The increase in credibility associated with good fiscal frameworks could lower long-term interest rates and their volatility (Debrun and Joshi, 2008). In addition, lowering volatility induced by government spending could significantly improve long-term growth (Ramey and Ramey, 1995).

In the financial sector, longer-term policies aimed at limiting credit booms—fueled by the debt-creating capital inflows at the heart of the crisis in emerging Europe—should fortify measures to restart credit in the short term. These vulnerabilities

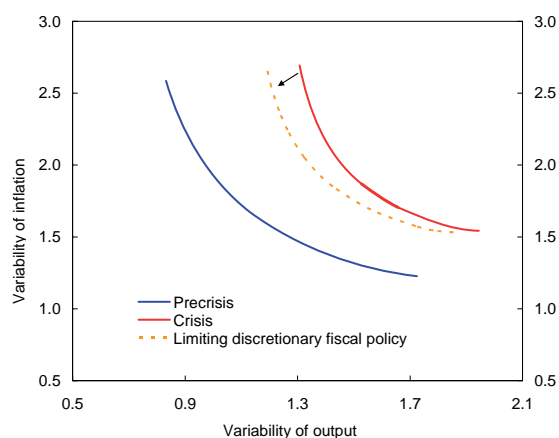
also led to differences among countries during the crisis. Moreover, disclosing the risks could reduce the uncertainty surrounding the strength of the financial sector. These policies will help lower the risk premium and its volatility.

Policy Options

Limiting Discretionary Fiscal Policy During the Recovery Could Help

The EM's volatility of aggregate demand shock remains high compared to the precrisis average of the euro area, a difference largely attributable to the behavior of fiscal policy (Table 8).⁵¹ This holds true, even though, unlike the euro area, the EM did not engage in substantial fiscal stimulus, and the volatility of the aggregate demand shock has changed little (or even declined somewhat) during the crisis. If it could lower the volatility of this shock to equal the euro area's precrisis volatility, then the efficiency frontier could start shifting away from its elevated crisis position (Figure 26). As a consequence, policymakers would be able to achieve both a lower variance of output and a lower variance of inflation than that during the crisis.

Figure 26. Limiting Discretionary Fiscal Policy Shocks in the Emerging Economy



Source: IMF staff simulations.

⁵⁰ By construction, the efficiency frontier assumes that the EM's central bank's policy rule is optimally adjusted to the more volatile environment.

⁵¹ See Clarida, Gali, and Gertler (1999), footnote 11, for an interpretation of the aggregate demand shock and its relation to government spending.

A rules-based, fiscal policy that limits changes in deficits to automatic stabilizers and thereby helps clarify expectations regarding the direction of the fiscal deficit while the economy is recovering would reduce the discretionary part of the aggregate demand shock.⁵² Such an approach would provide a framework for making policies credible and reducing long-term government debt and deficits without having to follow greatly contractionary or expansionary policies during crisis. According to previous research, “tightening” the fiscal rules framework would immediately reduce the long-term interest rate between 10 and 40 basis points, while in the long run, a permanent shift to stricter and more encompassing fiscal rules suggests a reduction in long-term government bond yields of up to 65 basis points (Debrun and Joshi, 2008). A downward shift in interest rates would also reduce the volatility of the long-term interest rate, given the close links between the two seen during this crisis and established in the empirical literature (Fernandez-Villaverde and others, 2009).

In addition, given the empirical links between spreads and financial sector vulnerabilities in emerging Europe (IMF, 2009d), implementing lasting improvements in supervision of the sector to avoid uncontrolled credit booms and unmanageable debt-creating inflows would reduce both spread and volatility in the future. Thus, the efficiency frontier would move further back with a permanent reduction in the risk premium and its volatility because of medium-term fixes in both the fiscal and the financial sectors. In addition, the lower long-term interest rate and the reduced volatility of business cycles would also promote long-run growth.

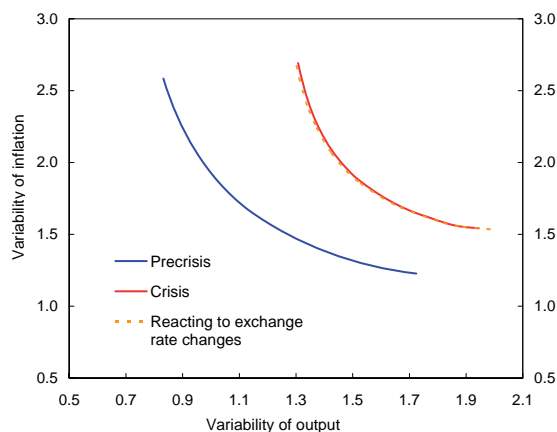
⁵² For instance, Honjo and Hunt (2006) show how fiscal policy rules designed to ensure a consistently countercyclical fiscal stance along with a public debt target can shift Iceland’s efficiency frontiers to the southwest.

Explicit Reaction to the Exchange Rate Is Unlikely to Help

Given the heightened role of exchange rate volatility during the crisis, monetary policymakers in the EM might be tempted to respond when exchange rates fluctuate along with changes in inflation and output. Could EM central banks lower volatility by doing so? Not always. If society still cares about variability in inflation and output, and if the shocks to the economy mainly affect the equilibrium risk premium, a central bank can do little by explicitly reacting to exchange rate changes.

Indeed, returning to the model simulation, if the central bank reacts to large increases (depreciations) in the exchange rate by increasing the policy rate neither inflation nor output volatility is reduced significantly (Figure 27). The efficiency frontier shifts very little from its crisis position because forward-looking agents have already incorporated information on exchange rates and formed expectations about the inflation rate and the output gap. Any extra reaction to movements in the exchange rate does not change outcomes in equilibrium. Where risk perceptions have become embedded in private sector expectations, nothing short of fundamental changes in the way fiscal and financial sector policies are made could shift the frontier back.

Figure 27. Reacting to the Exchange Rate in the Emerging Economy



Source: IMF staff simulations.

This point is all the more emphatic for countries in fixed exchange rate regimes. The reaction of “monetary” policy in such countries could be simplified so that the policy rate moves only to fight fluctuations in the exchange rate. Obviously, inflation and output volatility will remain unaffected by such exchange rate defenses, and the familiar conclusion holds that fiscal, financial, and other structural policies will need to bring about the necessary adjustment.

Conclusions and Policy Implications

Even though tensions in the global financial system have receded and the volatility of asset prices and interest rates appears to be past its peak, the low precrisis levels of risk premiums and volatility are not likely to be seen again. The counterpart of these price movements is that capital inflows and their reliability have diminished. And while global factors were initially the dominant driving forces, investors have begun to differentiate appreciably among countries on the basis of domestic factors and policies.

Policymakers in a typical emerging economy are thus confronted with a lower rate of potential growth (see Chapter 2), more fickle investors, and, consequently, a less favorable trade-off between inflation and output volatility. Further complicating matters are uncertainty about the potential for postcrisis output and the resilience of the financial system to higher interest rates and depreciated exchange rates, as well as the increased volatility of those variables. At the same time, policymakers are being called upon in several cases to use fiscal resources to repair financial systems and, more widely, to help support economic activity in the aftermath of the crisis.

Policymakers need to tailor their responses to country circumstances, particularly to the state of the financial system, the degree of access to financing, and the extent of the collapse in private demand. Yet, all countries are facing heightened risk and a more volatile environment, triggered, among

other things, by a substantial increase in the risk premium and its volatility. What can policies do to promote a smooth recovery, help reestablish sustainable convergence, and improve the trade-off between output and inflation volatility? A number of policy options are available:

- As in advanced economies with impaired financial systems, evaluating, and disclosing risks, and, more important, recapitalizing or resolving financial institutions are essential. The ongoing stress tests in the Central, Eastern, and Southern European countries, currently coordinated by the IMF, will recognize bank losses and recapitalization needs that, if properly disclosed, would help lower uncertainty about the banking sectors in those countries and indirectly address volatility in the risk premium. Where needed, a restructuring of the liabilities of overstretched households and corporations should accompany such actions. For emerging economies, the cross-border dimension is particularly relevant because it is important to keep parent banks engaged in the countries.
- Increasing the transparency of contingent fiscal liabilities that emanate from the stresses in the financial system or other sources and properly disclosing the risks surrounding those estimates will reduce the uncertainty about the fiscal outlook (Box 4, Chapter 1).
- A rules-based fiscal policy that limits deficits mostly to automatic stabilizers would help to anchor long-term fiscal sustainability and predictability. Some countries have already adopted such rules or credible medium-term targets (Hungary, Poland, and Romania).⁵³

⁵³ Sizable improvements in primary balances will be required in several emerging economies to halt or reverse the increase in debt-to-GDP ratios through 2014 (Horton, Kumar, and Mauro, 2009). Anchoring expectations about the fiscal policy path could be done by setting medium-term fiscal targets that are credibly set and supported by appropriate institutional frameworks. An example is a medium-term expenditure framework that sets multiyear limits at the aggregate, ministerial, or program level, to translate overall objectives into budget decisions. Also, see Horton, Kumar, and Mauro (2009) for a table on strategies to

(continued)

Avoiding the surprises inherent in discretionary fiscal policy would lower volatility of shocks to aggregate demand, and help reduce volatility in the business cycle. At the same time, such policies would help reduce the sovereign risk premium and its volatility.

- Reforms for improving financial sector supervision and regulation to reduce vulnerabilities and avoid boom-and-bust cycles would directly lower the risk premium and its uncertainty. Capital injections into banks in the short-term would help restart lending. But such capitalizations would be wasteful if not accompanied by a strengthening of the supervisory, regulatory, and macroprudential framework (IMF, 2009d). Some examples include the ability to impose stricter capital requirements for weaker banks under Basel II Pillar 2 while strengthening cross-border cooperation between home-host supervisory and financial stability authorities and implementing forward-looking (countercyclical) provisioning policies to reduce volatility of bank profits. A few countries have already received technical assistance from the IMF on new supervisory architectures.

Adopting such changes would help move the trade-off between inflation and output variability in emerging markets considerably closer to the position

of their advanced-economy peers, especially for the more open economies operating under flexible exchange rates. It would free monetary policy to focus on its primary role of providing price stability and smoothing fluctuations in the output gap. Model simulations further suggest that virtually nothing can be gained from attempting to stabilize fluctuations in the exchange rate, if the source of fluctuation is the risk premium. For countries with fixed exchange rate regimes, the well-known need for more flexible labor and product markets emphasizes the heightened importance of strengthening frameworks for fiscal sustainability and financial stability.

The adoption of robust frameworks not only yields benefits in cyclical trade-offs but is also helpful for long-term growth. The emerging economies are heavily reliant on capital inflows, both bank-related and FDI inflows, for convergence to the higher income levels of their Western European neighbors; stronger frameworks will enhance their prospects. In addition, lowering government debt and deficits through better fiscal frameworks would directly improve the outlook for growth. Thus, credible fiscal and financial frameworks that impart a sense of long-term fiscal sustainability and financial stability will yield a double-dividend in long-term growth.

ensure fiscal sustainability announced or discussed by G-20 country authorities.

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