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Regional Economic Outlook

Europe

Reassessing Risks

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Contents

Figures

This *Regional Economic Outlook: Europe—Reassessing Risks* was written by Dora Iakova, Philip Schellekens, Silvia Sgherri, Athanasios Vamvakidis, and Edda Zoli under the guidance of Michael Deppler, Ajai Chopra, Alessandro Leipold, and Luc Everaert, with contributions from Zsofia Arvai, Elie Canetti, Martin Čihák, Karl Driessen, Dale Gray, Daniel Hardy, Andrea Maechler, Srobona Mitra, Li Lian Ong , Elina Ribakova, Geoffrey Oestreicher, İnci Ötker-Robe, Alex Pivovarsky, Mustafa Saiyid, Alexander Tieman, and David Vávra. This *Regional Economic Outlook: Europe* was coordinated by the Regional Studies Division of the IMF's European Department in close cooperation with the Europe Division of the IMF's Monetary and Capital Markets Department. Pavel Lukyantsau, Dominique Raelison-Rajaobelina, and Thomas Walter provided research, administrative, and editorial assistance, respectively. Marina Primorac of the External Relations Department oversaw the production. The report is based on data available as of March 24, 2008. The views expressed in this report are those of the IMF staff and should not be attributed to Executive Directors or their national authorities.

Executive Summary

Outlook: Navigating Turbulent Waters

The spread of the crisis in financial markets has significantly dampened the outlook for the European economy. Even though Europe faced the financial turbulence from a position of strong fundamentals, spillovers from the expected mild recession in the United States, the global reassessment of risks, and the strains in the financial system are sapping its economy's strength. The appreciation of the euro and the sharp increase in inflation, driven by food and energy prices, are adding to these troubles. Growth in Europe is expected to decline sharply, by 1¼ percentage points in 2008, with growth rates in the advanced economies projected to fall well below potential for some time.

The risks to the growth outlook are substantial. On the downside, spillovers from weaker global growth could be even larger than expected; global imbalances could unwind suddenly, accompanied by a further appreciation of the euro; and the credit squeeze could turn into a full-blown credit crunch. Risks are greater in countries that are going through a correction in housing prices, though this factor is mitigated in Europe by the limited reliance of households on borrowing against home equity collateral. Emerging economies with large current account deficits or high external debt ratios would be especially vulnerable to shifts in investor confidence. On the upside, domestic demand could be stronger than projected, especially in the short run, as labor markets are still strong.

The challenges facing policymakers in advanced economies are to restore confidence in the financial system and minimize the impact of the financial sector crisis on the real economy, while maintaining hard-won inflation credibility and long-term fiscal sustainability. The immediate priorities are to rebuild counterparty confidence and reinforce the soundness of financial institutions. Liquidity should continue to be provided as needed. Central banks will have to strike the right balance between supporting the real economy and preventing second-round effects from the recent rise in inflation. In the euro area, while current inflation is uncomfortably high, prospects point to its falling back below 2 percent during 2009 in the context of an increasingly negative outlook for activity. Accordingly, the European Central Bank (ECB) can afford some easing of the policy stance. For countries with fiscal room, automatic stabilizers should be allowed to operate fully to cushion the downturn. In the event of a more severe contraction in growth, timely, temporary, and well-targeted fiscal stimuli could be effective in supporting the economy for a few countries.

The economies of emerging Europe continue to grow rapidly, but their dynamism is being challenged by the slowdown in advanced economies, the repricing of risk, and the rise in commodity prices. The financial turbulence is starting to affect the cost and availability of financing: sovereign and private bond spreads have risen, short-term cross-border financial flows have moderated, and credit growth is starting to slow in some countries. For most

countries, growth is expected to weaken only moderately, adjusting toward potential rates and limiting the risks of overheating. However, the growing risks of a hard landing in countries with large external imbalances call for a continued focus on reducing vulnerabilities and managing demand pressures.

Financial Turbulence: Testing Resilience and Dampening Growth

Financial turmoil has spread quickly through Europe's financial systems (see Chapter 2). Direct valuation and income losses on subprime-related securities dented the capital and profitability of European financial institutions. With uncertainty about exposures and counterparty risk becoming pervasive, credit risk has been reappraised, but asymmetrically across the various asset classes. The erosion of risk appetite has generated unprecedented pressures in the commercial paper and interbank money markets.

Despite the depth and width of the turmoil, Europe's financial systems have held up relatively well so far. The soundness of the major systemic players has been maintained, as shareholders and outside investors have injected fresh capital where needed. Partly as a result of this and partly because "plain vanilla" debt instruments have been less affected, bank lending in advanced economies in Europe has held up, and spillovers to emerging Europe have been limited.

But the test of Europe's financial systems is not over. A range of estimates suggest that loss recognition in many financial institutions still needs to catch up with reality. Meanwhile, until U.S. housing market conditions stabilize, the values of subprime mortgage products will likely fall further. The continuing financial distress is spreading to other forms of debt and debt default insurance and, through its impact on parent banks in advanced economies, may spill over into emerging Europe. Moreover, liquidity remains seriously impaired despite aggressive responses by major central banks.

An overarching concern is the toll of the unfolding crisis on the real economy. Analytical work suggests that the effects on growth—from the rising cost of finance and the credit supply squeeze, as well as from knock-on effects through equity and housing price corrections—are likely to be significant. A more severe credit crunch remains a distinct possibility and would amplify the slowdown.

Emerging Europe: Sustaining Convergence and Addressing Vulnerabilities

Analysis of the prospects and vulnerabilities of emerging Europe (see Chapter 3) suggests that the convergence trend of the region is based on strong fundamentals and will therefore continue, albeit at a slower pace. Structural reforms have progressed in most countries, thanks to which growth has been driven primarily by productivity improvements. However,

growth rates in recent years have been above estimates of potential for most countries and an adjustment is already under way.

Fast growth has been associated with rising external imbalances in several economies, including large current account deficits and high levels of external debt, raising risks of a hard landing. Although fundamentals justify relatively large current account deficits in the region, deficits in some countries may be excessive, suggesting the need for adjustment in the medium term. High external debt levels and balance sheet exposures in some countries are an additional source of vulnerability.

Macroeconomic policies and structural reforms will need to do more to address emerging Europe's imbalances. Monetary conditions tend to be on the loose side in most of the region and should be tightened where possible. Fiscal consolidation has not always taken full advantage of the strong cycle and needs to play a more prominent role in managing domestic demand, particularly in countries where monetary policy focuses on exchange rate stability. Our analysis also reveals a strong link between structural reforms and potential growth, suggesting that further progress in these reforms may be essential to ensure a smooth convergence in emerging Europe. Moreover, structural reforms will facilitate the gearing of resources toward the tradable sector, thereby helping to reduce external imbalances.

1. Outlook: Navigating Turbulent Waters

Growth in Europe is expected to slow significantly in 2008–09, reflecting spillovers from weaker global growth, rising commodity prices, and the strains in financial markets. Meanwhile, inflation has picked up, driven by a surge in food and energy prices. The challenges for policymakers in advanced economies are to restore confidence in the financial system and support real activity while maintaining inflation credibility and safeguarding long-term fiscal sustainability. In emerging Europe, policies need to focus on reducing vulnerabilities and strengthening the resilience of the financial system.

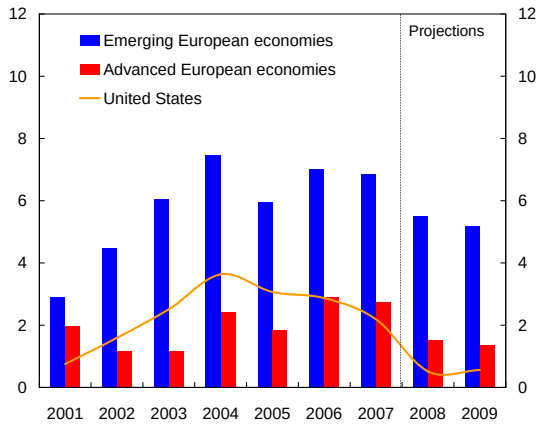
Advanced Economies

Headwinds to Growth

Growth momentum in advanced economies decelerated toward the end of 2007 as concerns about the health of the U.S. subprime mortgage market prompted a reappraisal of risks across a broad range of financial markets. Growth in the United States slowed sharply, reflecting the continuing housing sector correction and financial market dislocations.[1] In Europe, growth deceleration in the fourth quarter was relatively mild; however, business confidence and indicators of economic activity suggest continuing weakness in early 2008 (Figures 1 and 2).[2]

At the same time, headline inflation picked up, boosted by a surge in global commodity prices

Figure 1. Europe and the United States: Real GDP Growth, 2001–09
(*Percent*)



Source: IMF, *World Economic Outlook*.

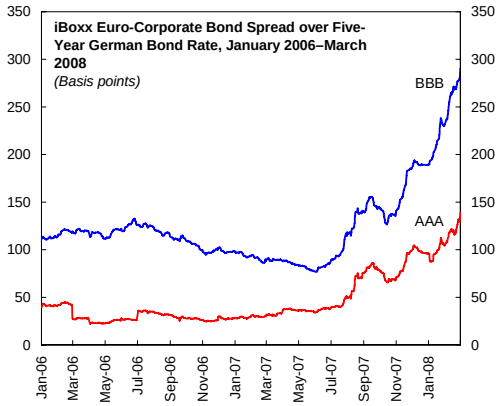
(Figure 3). Energy prices rose by 70 percent in the year ending February 2008, while food prices increased by nearly 40 percent. This rise in food and energy prices was driven by a combination of strong demand growth from emerging economies and the biofuel industry and tight supply constraints (including adverse weather and disruptions in oil production). The higher commodity prices are depressing consumers' purchasing power and pushing up production costs.

Growth in the advanced European economies is expected to decline by 1¼ percentage points to 1.5 percent in 2008—well below potential growth—and to weaken further in 2009 (Figure 1 and Table 1). The projection reflects the current IMF staff assessment of the economic impact of the financial turbulence (from higher funding costs and tightening credit conditions), the likely spillovers to Europe from weaker U.S. and global growth, and the effects of higher commodity prices. Inflation is expected to remain elevated in the near term but should come down gradually later in the year as commodity price growth moderates and economic activity eases.

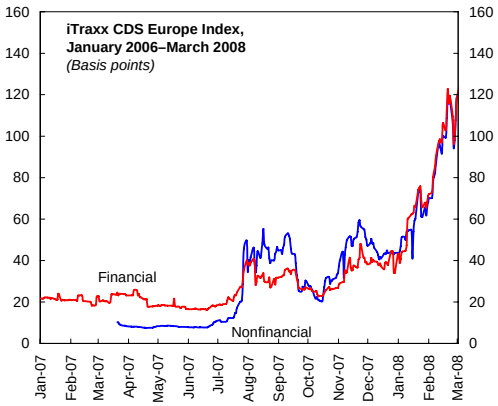
Note: The main author of this chapter is Dora Iakova.
[1] See the IMF's *World Economic Outlook* (2008a) and the *Global Financial Stability Report* (2008b) for a detailed discussion of global developments and the outlook for the United States.
[2] In what follows, the group of emerging European economies comprises Albania; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; the Czech Republic; Estonia; Hungary; Latvia; Lithuania; Macedonia, FYR; Malta; Moldova; Montenegro; Poland; Romania; Russia; Serbia; the Slovak Republic; Slovenia; Turkey; and Ukraine. All other European economies are included in the group of advanced economies.

Figure 2. Key Short-Term Indicators

Rising financial strains in Europe...

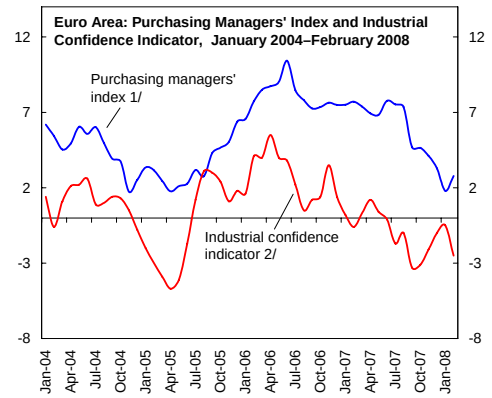


Source: Datastream.



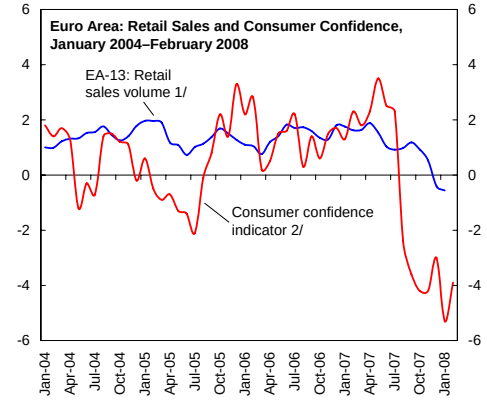
Source: Datastream.

...affected business...



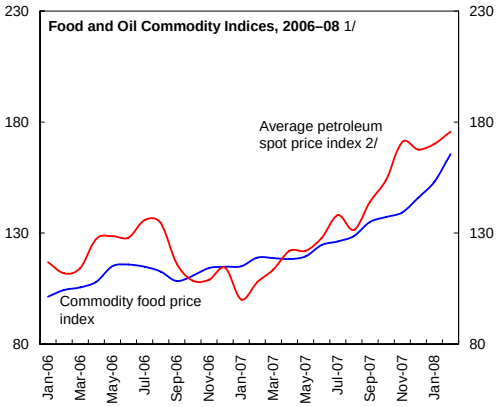
Sources: Eurostat, European Commission Business and Consumer Surveys; Haver Analytics; and IMF staff calculations.
1/ Seasonally adjusted. Deviations from an index value of 50.
2/ Percentage balance; difference from the value three months earlier.

…and consumer confidence.



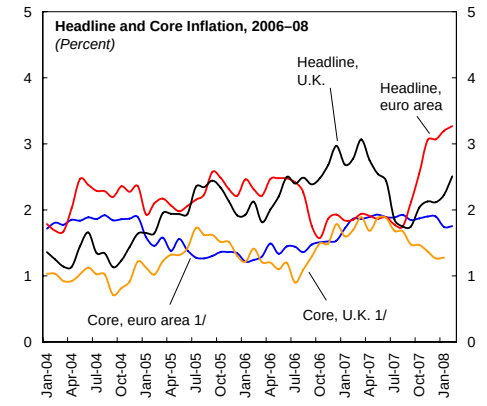
Sources: Eurostat; European Commission Business and Consumer Surveys; and IMF staff calculations.
1/ Three-month moving average of annual percentage changes.
2/ Percentage balance; difference from the value three months earlier.

Meanwhile the surge in commodity prices...



Source: IMF staff calculations.
1/ In terms of U.S. dollars, 2005 = 100.
2/ Average of U.K. Brent, Dubai, and West Texas Intermediate, equally weighted.

...pushed up headline inflation.



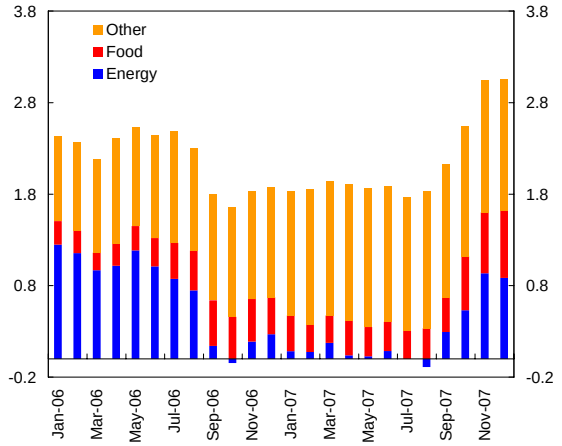
Source: Eurostat.
1/ Harmonized index of consumer price inflation (excluding energy, food, alchohol, and tobacco).

Table 1. European Countries: Real GDP Growth and CPI Inflation, 2006–09
(Percent)

	Real GDP Growth				CPI Inflation			
	2006	2007	2008	2009	2006	2007	2008	2009
Europe 1/ 2/	**4.0**	**3.9**	**2.6**	**2.5**	**3.6**	**3.6**	**4.6**	**3.4**
Advanced European economies 1/	2.9	2.8	1.5	1.4	2.2	2.1	2.7	2.0
Emerging European economies 1/ 2/	7.0	6.9	5.5	5.2	7.5	7.5	9.5	6.8
European Union 1/	3.3	3.1	1.8	1.7	2.3	2.4	3.1	2.2
Euro area	2.8	2.6	1.4	1.2	2.2	2.1	2.8	1.9
Austria	3.3	3.4	1.9	1.7	1.7	2.2	2.8	1.9
Belgium	2.9	2.7	1.4	1.2	2.3	1.8	3.1	1.9
Finland	4.9	4.4	2.4	2.1	1.3	1.6	2.8	1.9
France	2.0	1.9	1.4	1.2	1.9	1.6	2.5	1.7
Germany	2.9	2.5	1.4	1.0	1.8	2.3	2.5	1.6
Greece	4.2	4.0	3.5	3.3	3.3	3.0	3.5	2.7
Ireland	5.7	5.3	1.8	3.0	2.7	3.0	3.2	2.1
Italy	1.8	1.5	0.3	0.3	2.2	2.0	2.5	1.9
Luxembourg	6.1	5.4	3.1	3.2	2.7	2.3	2.9	2.1
Netherlands	3.0	3.5	2.1	1.6	1.7	1.6	2.4	1.8
Portugal	1.3	1.9	1.3	1.4	3.0	2.4	2.4	2.0
Slovenia	5.7	6.1	4.1	3.5	2.5	3.6	4.0	2.4
Spain	3.9	3.8	1.8	1.7	3.6	2.8	4.0	3.0
Other EU advanced economies								
Denmark	3.9	1.8	1.2	0.5	1.9	1.7	2.3	2.0
Sweden	4.1	2.6	2.0	1.7	1.5	1.7	2.8	2.1
United Kingdom	2.9	3.1	1.6	1.6	2.3	2.3	2.5	2.1
New EU countries 1/	6.6	6.2	4.6	4.3	3.3	4.2	5.8	4.2
Bulgaria	6.3	6.2	5.5	4.8	7.4	7.6	9.7	6.0
Cyprus	4.0	4.4	3.4	3.5	2.2	2.2	4.0	2.9
Czech Republic	6.4	6.5	4.2	4.6	2.5	2.8	6.0	3.5
Hungary	3.9	1.3	1.8	2.5	3.9	7.9	5.9	3.5
Malta	3.4	3.8	2.2	2.0	2.6	0.7	3.4	2.5
Poland	6.2	6.5	4.9	4.5	1.0	2.5	4.1	3.8
Romania	7.9	6.0	5.4	4.7	6.6	4.8	7.0	5.1
Slovak Republic	8.5	10.4	6.6	5.6	4.3	1.9	3.3	3.1
Estonia	11.2	7.1	3.0	3.7	4.4	6.6	9.8	4.7
Latvia	11.9	10.2	3.6	0.5	6.5	10.1	15.3	9.2
Lithuania	7.7	8.8	6.5	5.5	3.8	5.8	8.3	6.1
Non-EU advanced economies								
Iceland	4.4	3.8	0.4	0.1	6.8	5.0	5.5	2.7
Israel	5.2	5.3	3.0	3.4	2.1	0.5	2.6	2.0
Norway	2.5	3.5	3.1	2.3	2.3	0.8	3.1	2.6
Switzerland	3.2	3.1	1.3	0.9	1.0	0.9	2.0	1.4
Other emerging economies								
Albania	5.0	6.0	6.0	6.1	2.4	2.9	4.2	2.9
Belarus	10.0	8.2	7.1	6.8	7.0	8.4	11.2	8.8
Bosnia and Herzegovina	6.2	5.8	5.5	5.5	7.5	1.3	4.8	2.7
Croatia	4.8	5.8	4.3	4.0	3.2	2.9	5.5	3.5
Macedonia, FYR	3.7	5.0	4.5	5.0	3.2	2.2	7.0	2.5
Moldova	4.0	5.0	7.0	8.0	12.7	12.6	11.4	7.9
Montenegro	6.5	7.5	7.2	5.4	2.1	3.4	4.8	4.1
Russia	7.4	8.1	6.8	6.3	9.7	9.0	11.4	8.4
Serbia	5.7	7.3	4.0	6.0	12.7	6.8	11.3	8.9
Turkey	6.9	5.0	4.0	4.3	9.6	8.8	7.5	4.5
Ukraine	7.1	7.3	5.6	4.2	9.0	12.8	21.9	15.7

Source: IMF, *World Economic Outlook*.
1/ Average weighted by PPP GDP.
2/ Montenegro is excluded from the aggregate calculations.

Figure 3. Euro Area: Contribution of Food and Energy to Headline Inflation, January 2006–December 2007
(Percent)

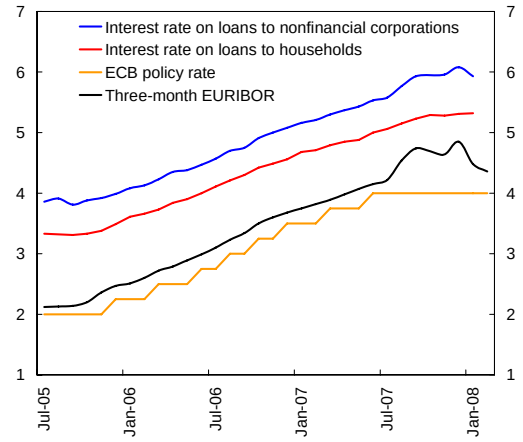


Sources: Eurostat; and IMF staff calculations.

Repricing of Risks Led to Higher Lending Rates . . .

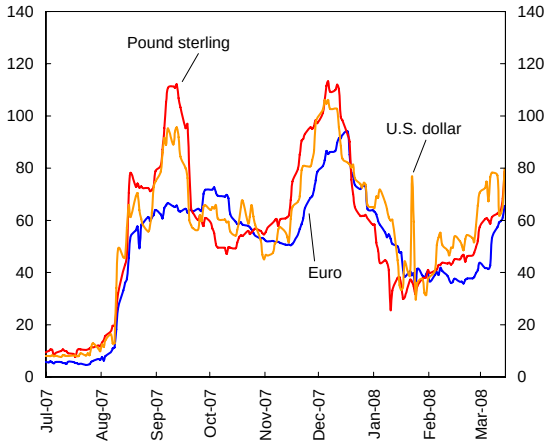
The financial turmoil in advanced economies has intensified in recent months (see Chapter 2). What started as a liquidity squeeze, sparked by strains in a small section of the U.S. household lending market, quickly developed into a generalized repricing of credit risks, affecting a wide range of financial markets. The drying up of the asset-backed securities market and liquidity strains in the interbank market raised the cost of bank financing relative to policy rates. With banks passing on the rise in their funding costs to borrowers, lending rates have increased (Figure 4). The cost of bond and equity financing has also gone up. All major European central banks have acted aggressively to mitigate the rise in the cost of wholesale funds by increasing liquidity provision in the interbank market. Some central banks have also introduced new intervention instruments and broadened the range of securities that can be used as collateral. Despite these efforts, liquidity remains seriously impaired as concerns about credit risks have intensified—the spreads between short-term interbank and policy rates are well above historical averages (Figure 5).

Figure 4. Euro Area: Cost of Financing, 2005–08
(Percent)



Source: European Central Bank.

Figure 5. Spreads of Three-Month Interbank Rates over Expected Policy Rates, 2007–08
(Basis points)

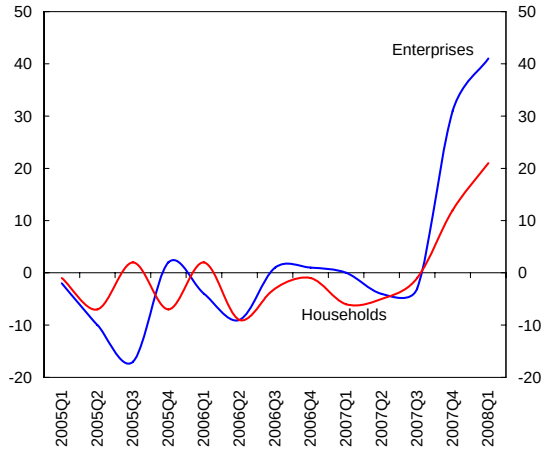


Source: Bloomberg L.P.

. . . and Prompted a Tightening of Credit Standards

Credit growth remained relatively strong through the end of 2007, although there are signs that lending is starting to cool off. Mortgage credit growth is slowing in many countries; however, in a number of cases the slowdown was already in train before the onset of the crisis. Business lending growth has also moderated in the United Kingdom. Corporate lending in the euro area has continued apace so far, although that could be due, at least in part, to a switch from market to bank financing. Only a few sectors, such as

Figure 6. Changes in Credit Standards for Loans to Enterprises and Households, 2005–08 1/



Sources: Haver Analytics; and European Central Bank.
1/ Net percentage of banks reporting tightening of credit standards. Household loans refer to mortgage loans only.

leveraged buyouts, are experiencing a notable drop in access to credit.

Surveys of lending conditions in Europe suggest that lenders are tightening credit standards and nonprice lending terms, particularly for loans to enterprises (Figure 6). The main factor explaining this tightening of standards is the deterioration of the macroeconomic outlook. Additional factors for some lenders are the need to rebuild capital and halt the expansion of balance sheets resulting from reduced securitization of loans, activation of credit lines, and assumptions of off-balance-sheet liabilities.

A particular concern is that the expected tightening of bank credit is not likely to be offset by increased availability of bond and equity financing. In past episodes of financial market turbulence, different parts of the financial system were able to compensate partially for the difficulties experienced in one segment. This may not be possible at present because the crisis has affected both banks and capital markets, the twin engines of the financial system.

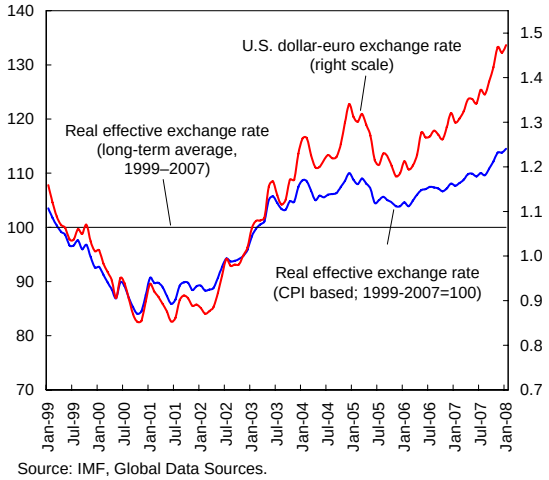
IMF staff analysis suggests that the turbulence in financial markets is likely to reduce real growth in Europe by about ¾ percentage point in both 2008 and 2009 relative to a baseline without financial shocks (see Chapter 2). This reduction reflects the combined impact of rising lending rates, reduced access to funds, and the likely declines in asset prices. Since the crisis is still unfolding, estimates of its impact are subject to significant uncertainty.

Spillovers from Weaker Global Growth Could Be Large

The deflation of the house price bubble and the dislocations in financial markets have brought the U.S. economy to the brink of recession (IMF, 2008a). The United States is a major trading partner for many European countries (e.g., Ireland and the United Kingdom) and accounts for about 15 percent of export demand for the euro area. Historically, the spillovers from a slowdown in the United States to Europe have been substantial, with financial linkages an even more important channel of transmission than trade (Bayoumi and Swiston, 2007). The IMF staff estimates that a 1 percentage point decline in U.S. growth reduces growth in Europe by about ½ percentage point (Box 1).

The recent appreciation of the real effective exchange rate of the euro may strengthen the negative trade effects for the euro area (Figure 7).

Figure 7. Measures of the Euro Exchange Rate, 1999–2008

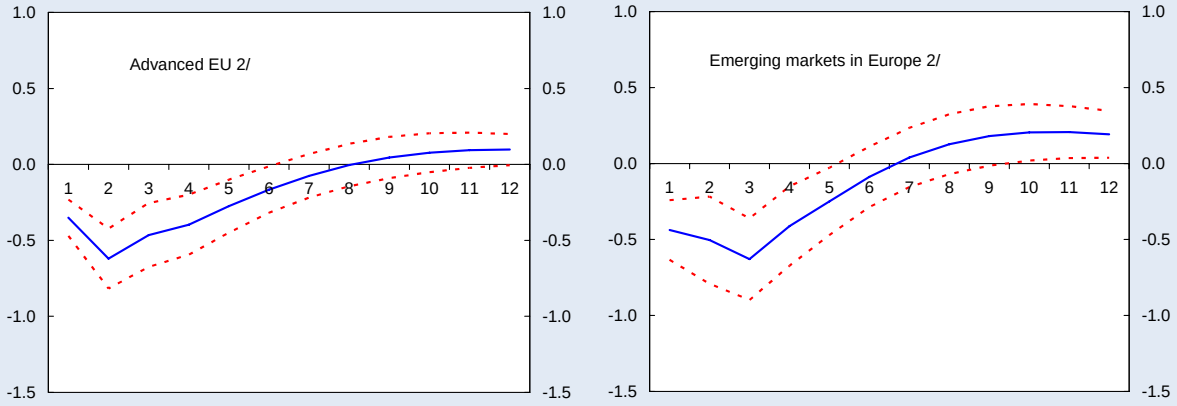


Source: IMF, Global Data Sources.

Box 1. Spillovers from Weaker U.S. Growth

Changes in U.S. growth have a clear impact on growth in both advanced and emerging European economies. A vector autoregression (VAR) analysis based on quarterly data from 2001 to 2007 suggests that a 1 percentage point temporary slowdown in U.S. growth directly reduces growth in advanced and emerging Europe by about ½ percentage point within two quarters. Furthermore, indirect spillovers from weaker growth in advanced economies in Europe could weaken growth in the emerging economies by a further ¼ percentage point. Previous IMF staff work suggests that the spillovers may be even greater in the event of a U.S. recession (IMF, 2007).

Response of European Countries to a 1 Percentage Point Decline in the U.S. Growth Rate 1/
(Percent)



Source: IMF staff estimations.
1/ The impulse responses are derived from a VAR of U.S. growth, advanced EU growth, and emerging Europe growth with two lags. ± 2 standard errors shown by dotted lines.
2/ The advanced EU group in this analysis includes the United Kingdom and the euro area countries, excluding Ireland and Slovenia. The emerging Europe group comprises Bulgaria, Croatia, the Czech Republic, Hungary, Poland, and the Slovak Republic. The countries in each group are aggregated using purchasing-power-parity-adjusted GDP weights.

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

IMF staff estimates suggest that the euro is on the strong side of its medium-term equilibrium value. Specifically, the euro is overvalued, as is the U.S. dollar, vis-à-vis the currencies of countries with current account surpluses, such as the oil producers and some Asian economies.

Uncertainties around the Outlook Are Unusually High

The risks around the current growth projection are substantial. The turbulence in financial markets is still unfolding, and assessments of its potential impact on growth are fraught with uncertainty. If growth and employment in Europe decline sharply, structural rigidities in the advanced economies' labor and product markets could make for a prolonged slowdown. First, the slowdown in the United States may be deeper and more protracted than currently projected, causing greater spillovers to the rest of the world. Such developments would depress further growth in Europe. Second, as events unfold, banks' losses could turn out to be larger than currently assessed. In this case, the credit squeeze could become more severe, with corresponding consequences for activity. Third, a significant further appreciation of the euro may affect competitiveness, especially if it is driven mainly by a decline in the relative risk premium on euro assets. Other risks to growth include further gains in commodity prices, a rise in protectionist pressures, and the possibility of disorderly developments related to global imbalances.

Risks may be magnified in countries going through an adjustment of house prices. Many European countries, including Ireland, Spain, and the United Kingdom, have experienced house price booms over the past decade. In recent months, house prices have started to decline in Ireland and the United Kingdom, while in other countries growth rates have come down substantially. It is difficult to predict the magnitude of the correction, but simple indicators of sustainability, such as the ratios of prices to rents and of prices to income, remain significantly above their historical averages. Commercial real estate prices are also declining in the United Kingdom. Although some asset price corrections are already built into the outlook, a more abrupt or sizable adjustment would depress economic activity further and could trigger financial decelerator effects.

On the positive side, households in many advanced European countries have lower debt-to-income ratios than their U.S. counterparts, making them less sensitive to changes in credit conditions. A number of studies suggest that the effects of changes in house prices on consumption are relatively small in Europe, because equity withdrawal is less prevalent than in the United States. In addition, there is very limited or no domestic subprime lending in most countries, which should limit the extent of homegrown credit problems. Even in the few countries that do have a subprime mortgage market—such as the United Kingdom—the share of subprime loans in total loans is much smaller than in the United States. Finally, the historically high rate of employment should support domestic demand in the near term.

Upside risks to the inflation outlook include further increases in oil and agricultural prices and the possibility of an acceleration of wage growth, given the high capacity utilization and tight labor conditions throughout Europe. Downside risks are a deepening of the financial turmoil, further euro appreciation, and a reversal of commodity prices.

Policy Challenges

The immediate task facing policymakers in Europe's advanced economies is to minimize the impact of the financial market turmoil on the real economy, while maintaining hard-won inflation credibility and long-term fiscal sustainability. Parallel efforts to restore confidence in the financial system and improve the financial regulation and supervision framework should help safeguard financial stability. Meeting these challenges will also help emerging economies, which are vulnerable to further disruptions of the global financial system.

Monetary policymakers face a delicate balancing act

The combination of rising inflationary pressures, increasing downside risks to growth, and high volatility in financial markets creates a particularly challenging environment for monetary policy authorities. Inflation is set to move higher in the near term, although it should come down later as slower demand growth tempers pressures on capacity and commodity price growth moderates. However, with labor markets still tight, wage and price pressures ("second-round effects") may intensify. Because the appropriate monetary policy response in the current circumstances depends on the likelihood of such effects materializing, policymakers are closely monitoring the outcome of ongoing private and public sector wage negotiations in several European countries.[3] If real wages adjust flexibly and inflation expectations remain anchored, monetary policy authorities can accommodate the commodity price rise, thereby minimizing the impact on growth.

[3] To ensure that the rise in inflation remains temporary, real wage growth needs to slow temporarily relative to productivity. Resisting the adjustment of real wages would exert further upward pressure on prices and lead companies to scale back employment. The agreements that have been completed so far suggest that wage pressures are likely to be contained.

The challenge for individual central banks is to find the right policy balance for their economies. The European Central Bank (ECB) has appropriately kept interest rates on hold through the end of March. However, policymakers should stand ready to respond flexibly to changes in the economic environment. While current inflation is uncomfortably high, prospects point to its falling back below 2 percent during 2009 in the context of an increasingly negative outlook for activity. Accordingly, the ECB can afford some easing of the policy stance. The Bank of England has reduced its policy rate by a cumulative ½ percentage point since last summer. There may be room for some further monetary policy easing as downside risks to growth have increased, and inflation may undershoot the target at the two-year policy horizon. At the other end of the spectrum, the decision of the Swedish central bank to increase its policy rate by ¼ percentage point in February was justified by strong demand pressures, high capacity utilization, and rising costs. Future policy moves by individual central banks will depend on shifts in the balance of risks to inflation.

Fiscal policy: allow automatic stabilizers to operate

Under the baseline forecast, policymakers should allow automatic stabilizers to cushion the downturn. Most advanced European economies have larger automatic stabilizers and more extensive social safety nets than the United States. A number of countries have reined in their fiscal deficits during the recent economic upswing, freeing space for stabilizers to operate fully in the downturn (Table 2). However, in economies that are close to the boundaries set by their fiscal rules (France, Italy, and Portugal), stabilizers should be allowed to operate only as long as adjustment toward medium-term objectives continues. It will be important not to jeopardize the process of improving public balance sheets in preparation for the coming rise in population aging-related expenditure.

If downside risks materialize and growth contracts to near-recession levels, discretionary fiscal stimuli would be warranted in countries where medium-term objectives are well in hand. Normally, monetary policy should be the first line of defense in case of a global slowdown. However, if financial dislocations weaken the normal monetary transmission mechanism, a timely, temporary, and well-targeted fiscal stimulus could be effective in supporting the economy. An example of a specific measure is a one-off tax rebate to low-income households. Most fiscal rules (including the Stability and Growth Pact, or SGP) allow for temporary deviations from targets in cases of a sharp economic downturn. The stimulus should be unwound once the economy has stabilized: if fiscal sustainability becomes a concern, long-term interest rates may rise, reducing the effectiveness of the stimulus.

Confidence in the financial system needs to be restored

Financial sector policies in the short term should aim to improve transparency and restore confidence in financial markets. As long as uncertainty about asset valuations and concerns about the health of financial institutions persist, banks will remain overly cautious in their lending behavior, and the effectiveness of a monetary stimulus of the economy will be limited.[4] Policymakers also need to put in place reforms to

[4] So far, there have been no failures of major financial institutions in Europe because capital has been injected promptly. The U.K. authorities had to nationalize a medium-sized mortgage lender that relied heavily on wholesale funding and mortgage securitization. Germany salvaged two small banks that were heavily exposed to products related to the U.S. subprime market. A few large European financial institutions have received capital injections from shareholders or other sources, strengthening their capital positions. Nonetheless, uncertainty about the magnitude of potential losses in the financial system and concerns about counterparty risk remain (Chapter 2).

Table 2. European Countries: External and Fiscal Balances, Government Debt, 2006–08
(Percent)

	Current Account Balance to GDP			General Government Balance to GDP			Gross Government Debt to GDP
	2006	2007	2008	2006	2007	2008	2006
Europe 1/	**0.3**	**-0.3**	**-0.5**	**-0.2**	**0.1**	**-0.4**	
Advanced European economies 1/	0.4	0.1	-0.2	-0.9	-0.4	-0.8	
Emerging European economies 1/ 2/	-0.2	-1.9	-2.0	1.8	1.4	0.9	
European Union 1/	-0.8	-1.2	-1.6	-1.6	-1.0	-1.4	60.2
Euro area	-0.1	-0.2	-0.7	-1.4	-0.6	-1.1	68.6
Austria	2.4	2.7	2.9	-1.5	-0.8	-0.8	61.7
Belgium	2.7	3.2	2.9	0.4	-0.1	-0.3	88.1
Finland	4.6	4.6	3.8	4.1	5.3	5.0	39.2
France	-1.3	-1.3	-2.4	-2.5	-2.4	-2.8	64.1
Germany	5.0	5.6	5.2	-1.6	0.0	-0.7	66.0
Greece	-11.0	-13.9	-13.9	-2.5	-2.7	-1.6	95.3
Ireland	-4.2	-4.5	-3.2	2.9	0.5	-1.3	25.0
Italy	-2.6	-2.2	-2.4	-3.4	-1.9	-2.5	106.5
Luxembourg	10.3	9.5	8.2	0.7	1.1	0.0	4.6
Netherlands	8.3	6.6	5.9	0.6	0.6	1.1	48.0
Portugal	-9.4	-9.4	-9.5	-3.9	-3.0	-2.4	64.7
Slovenia	-2.8	-4.8	-4.8	-0.8	-0.1	-0.6	27.5
Spain	-8.6	-10.1	-10.5	1.8	2.2	0.5	39.8
Other EU advanced economies							
Denmark	2.7	1.1	0.7	4.9	4.5	3.6	30.3
Sweden	8.5	8.3	6.4	2.3	3.2	2.1	45.9
United Kingdom	-3.9	-4.9	-4.8	-2.6	-3.0	-3.1	43.0
New EU members 1/	-6.3	-7.1	-7.5	-3.3	-2.3	-2.1	
Bulgaria	-15.6	-21.4	-21.9	3.5	3.7	3.7	24.6
Cyprus	-5.9	-7.1	-7.7	-1.2	1.4	0.3	64.8
Czech Republic	-3.1	-2.5	-3.0	-2.9	-2.8	-2.2	30.1
Hungary	-6.5	-5.6	-5.5	-9.2	-5.8	-4.0	65.6
Malta	-6.7	-6.2	-6.1	-2.5	-2.7	-2.7	64.3
Poland	-3.2	-3.7	-5.0	-4.0	-2.6	-2.9	47.6
Romania	-10.4	-13.9	-14.5	-1.5	-2.3	-1.7	12.4
Slovak Republic	-7.1	-5.3	-5.0	-3.7	-2.2	-2.0	30.4
Estonia	-15.5	-16.0	-11.2	3.3	2.9	0.0	4.0
Latvia	-22.3	-23.3	-15.0	-0.4	0.7	0.3	9.9
Lithuania	-10.8	-13.0	-10.5	-1.5	-1.9	-1.2	18.2
Non-EU advanced economies							
Iceland	-25.4	-15.6	-8.0	6.3	5.2	3.1	30.2
Israel	6.0	3.1	1.8	-1.8	-0.8	-1.1	86.8
Norway	17.3	16.3	20.0	18.4	16.9	19.6	54.7
Switzerland	15.1	17.2	15.4	1.9	2.2	0.8	45.9
Other emerging economies							
Albania	-5.9	-8.3	-8.3	-3.9	-4.2	-5.2	56.0
Belarus	-4.1	-6.6	-7.5	1.4	0.6	-0.1	…
Bosnia and Herzegovina	-8.4	-13.0	-14.0	2.5	1.0	-0.8	23.0
Croatia	-7.9	-8.5	-9.0	-3.0	-2.3	-2.3	41.0
Macedonia, FYR	-0.4	-2.7	-6.8	-0.5	0.6	-1.5	…
Moldova	-12.0	-9.7	-10.3	0.2	-0.3	-0.5	34.6
Montenegro	-30.4	-37.0	-32.7	2.4	5.5	2.7	…
Russia	9.5	5.9	5.8	8.3	7.2	5.2	…
Serbia	-12.5	-16.5	-16.1	-1.5	-1.8	-2.2	39.6
Turkey	-6.1	-5.7	-6.7	-1.6	-2.9	-2.1	46.0
Ukraine	-1.5	-4.2	-7.6	-1.4	-2.0	-2.0	15.7

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.

safeguard the stability of the financial system (see Box 2 for specific policy recommendations).

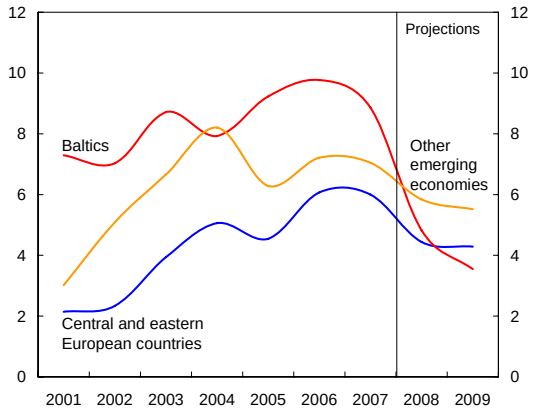
Emerging Economies

Growth to Decrease from High Levels; Inflation Remains a Concern

Growth in the emerging economies substantially outpaced growth in the rest of Europe in 2007, continuing the process of convergence (Table 1 and Figure 8). Activity was supported by strong domestic demand, including buoyant residential investment. Fiscal stimulus added to demand pressures in a number of countries, including the Baltics, Romania, and Serbia. Concerns that some economies may be overheating intensified as current account deficits continued to widen, inflation picked up sharply, and, in some cases, wage growth significantly outpaced productivity.

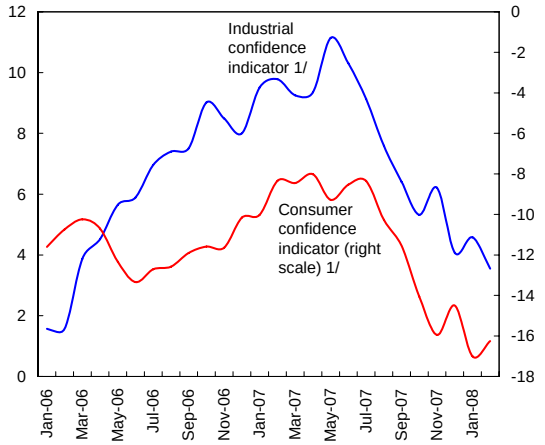
The rapid rise in headline inflation was driven mostly by food and energy prices, but core inflation pressures also intensified. Food price increases have had a particularly large effect on headline inflation in emerging Europe—especially in southeastern Europe, the Baltics, and Ukraine—owing to the large share of food in the consumption baskets, local supply shocks, and convergence pressures (see Box 3).

Figure 8. Growth in Emerging Europe, 2001–09
(Percent)



Source: IMF, *World Economic Outlook*.

Figure 9. Emerging Europe: Confidence Indicators, January 2006–February 2008
(Percentage balance)



Sources: Haver Analytics; European Commision; and IMF staff calculations.
1/ Average of individual indexes for Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, the Slovak Republic, Slovenia, Poland, and Romania.

Economic activity moderated in a few countries in the early part of 2007 for idiosyncratic reasons. Hungary's tightening of public finances to achieve fiscal sustainability depressed private consumption and investment. Activity also weakened in Turkey, reflecting a sharp, drought-related drop in agricultural production, the lagged effect of earlier monetary tightening, and the renewed strength of the lira. Growth in Latvia and Estonia slowed and house prices started to decline as foreign banks lowered the rates of credit expansion.

Emerging Europe will be affected by the turbulence in financial markets and the slowdown in advanced economies. Growth momentum from continuing integration into the European economy and the benefits from past structural reforms should strengthen the resilience of the region. However, the economies' greater openness to trade and financial flows leaves them vulnerable to spillovers from global developments. Based on the latest available data for imports, retail sales, and credit growth, some softening of activity is becoming apparent in several economies, including the Baltics and Slovenia. Confidence indicators have also turned down since last summer (Figure 9).

Box 2. Financial Turbulence: Policy Lessons

Against the backdrop of growing concerns about counterparty credit risks, a range of financial policies may be required to rebuild counterparty confidence—which is an immediate priority to reduce systemic threats and spillovers—and set the stage for more medium-term reforms, aimed at reinforcing the financial soundness of institutions.

In the short term, continued efforts will be needed in the following areas:

- *Providing liquidity*. Central banks should continue to provide liquidity in the interbank market to mitigate the rise in the cost of wholesale funds.
- *Improving transparency*. Lack of reliable information about exposures and risks leads to possible misperceptions and heightened risk aversion. While loss recognition on the side of financial institutions remains essential (Chapter 2), supervisory authorities should seek to fill information gaps about the vulnerabilities of national financial institutions and markets, highlighting plans to restore financial soundness.
- *Raising bank capital.* To strengthen confidence and prevent capital reductions from constraining lending, banks with weak capital positions should be strongly encouraged to raise capital. In some instances, supervisors may need to direct banks to suspend dividend payments and share buybacks in order to preserve capital ratios.

Over the medium term, more fundamental changes are needed to ensure institutions manage risks well:

- *Enhancing supervisory oversight of risk management*. Regulators should provide incentives for financial institutions to review and improve their internal risk management.
- *Building capital buffers.* Banks must maintain sufficient capital to absorb shocks from the reduction in mark-to-market valuations or losses on asset sales. This would reassure counterparties that access to funding can be sustained, including during periods of severe turbulence. Indeed, whenever the supervisors identify deficiencies, the second pillar of the Basel II capital accord should be used to ensure that banks hold additional capital beyond the minimum requirement identified by risk weights or by internal models under the first pillar.
- *Monitoring balance sheet leverage*. Bank supervisors need to consider balance sheet leverage more carefully when assessing capital adequacy. In line with the Basel II framework, market and liquidity risks accompanying balance sheet growth need to be properly considered for capital adequacy purposes. Particular vigilance is needed toward banks that are characterized by an asset base that (1) is mostly subject to mark-to-market valuations, (2) is highly dependent on markets for funding, or (3) has a high degree of leverage.
- *Managing liquidity risks.* Banks need to improve their management of liquidity risk. This may include improving the assessment of backup contingency lines and conducting regular, well-calibrated stress test exercises. Supervisors also need to be more proactive in identifying cases of underinsurance against liquidity risks.
- *Strengthening regulation of off-balance-sheet entities.* Incentives to set up off-balance-sheet entities should be reduced, while stricter rules are needed on their use by banks. Disclosure should be improved so that investors can assess the sponsor's risk to the entity. Supervisors may also need to strengthen guidelines regarding the circumstances under which risk transfers to off-balance-sheet entities warrant capital relief.

Note: The main author of this box is Silvia Sgherri. This box draws from the policy recommendations contained in Chapter 1 of the IMF's *Global Financial Stability Report* (IMF, 2008a) and from recent IMF Financial Sector Assessments (FSAPs) conducted in emerging Europe.

…*continued*

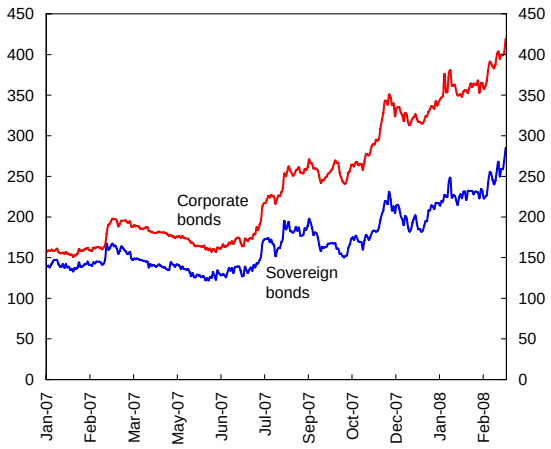
Box 2 *(concluded)*

Addressing underlying vulnerabilities in the financial system architecture should also become an essential part of broader public policy actions aimed at reducing future risks:

- *Improving crisis resolution frameworks.* When the failure of an institution poses a systemic threat, public assistance may need to be considered, but the institution's shareholders must bear the full brunt, and clear mechanisms must be implemented to ensure that operations will continue on a commercial basis, with an unambiguous plan for exit by the public sector. Resolution should avoid adding to pressures of distressed debt sales, as this may force banks to become undercapitalized, leading to costly strains on insured depository institutions.
- *Reinforcing cross-border supervisory cooperation*. Rapidly increasing cross-border integration in advanced Europe, as well as stronger reliance of emerging European economies on concentrated foreign funding, underscores the need for greater cross-border supervisory cooperation in the European Union (see also Boxes 4 and 5 in Chapter 2). The expansion abroad of local banks also raises new challenges. The ongoing implementation of the Basel II capital accord has called for more effective cross-border coordination among bank supervisors.

The baseline outlook is for a relatively soft landing, with projected growth rates for most of the region remaining close to IMF staff estimates of potential growth. More specifically, growth is expected to slow from 6.9 percent in 2007 to 5.5 percent in 2008, and soften somewhat further in 2009 (Figure 1 and Table 1). Headline inflation is expected to come down in the second half of 2008 as food and commodity prices moderate. The projection assumes that domestic demand will continue to provide impetus to growth as external demand weakens and that the disruption of financial flows to the region will be contained. However, the downside risks are substantial, especially for countries with large external imbalances. The highest potential risk is a significant retrenchment in foreign investors' exposure to the region.

Figure 10. Emerging Europe: Sovereign and Corporate Bond Spreads, January 2007–March 2008 1/
(Basis points)



Source: Bloomberg L.P.
Note: EMBI+ is the JPMorgan Emerging Markets Bond Index Plus.
1/ JPMorgan EMEA EMBI+ spreads over treasury bonds.

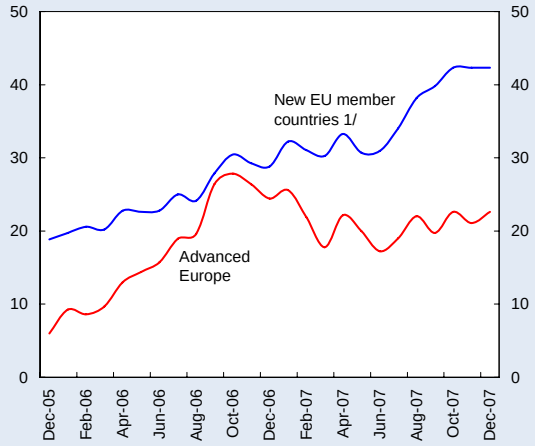
The impact of the turmoil in financial markets so far has been greater in emerging Europe than in other emerging markets, reflecting the region's high dependence on external financing. With foreign banks—which dominate the banking system in most of the region—starting to pass on the increase in their cost of funds, lending rates are rising, although real lending rates still remain low. The cost of market financing has also gone up (Figure 10), and access to market funds has become more difficult. External debt spreads have widened substantially, and equity markets have sold off. Bond issuance by the private sector has contracted sharply since mid-2007 (Figure 11). As a result, credit growth rates have started to fall—from very high levels—in several countries, including the Baltics and Croatia. In Turkey, funding to domestic banks from securitized loans has contracted, and there are concerns that syndicated loans may also be slowing and that

Box 3. Understanding Food Price Inflation in Emerging Europe

Headline inflation in Europe has increased sharply since the summer of 2007, driven mostly by a rise in global commodity prices. World food prices rose by 40 percent (in U.S. dollars) since May 2007 as demand for biofuel production surged, while poor wheat harvests in Europe, North America, and Australia restricted supply. The steady rise in oil prices also fueled the inflation pressures.

The impact of food price increases on headline inflation has been larger in Europe's emerging economies than in the advanced economies (first figure). What are the factors that can explain this difference?

Europe: Contribution of Food to Headline Inflation (Headline inflation = 100), December 2005–December 2007
(Percent)



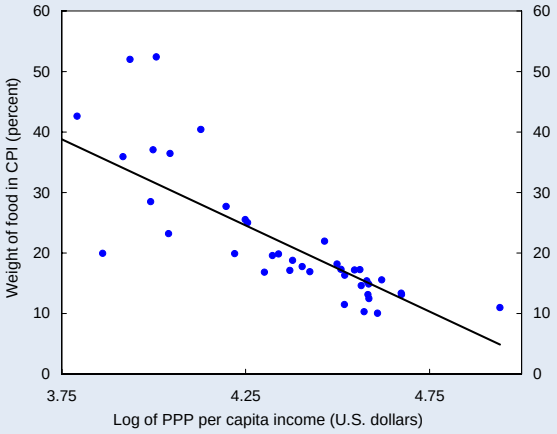
Sources: Eurostat; and IMF staff calculations.
1/ Excluding Cyprus and Malta.

- Food prices have a much larger weight in the consumption baskets of emerging market economies due to these countries' lower average income levels (second figure). In 2007, the share of food in the consumer price index averaged 14 percent in the advanced European economies, 22 percent in the new EU members, and above 40 percent in Albania, Belarus, and Ukraine.

- Because the price levels of most agricultural commodities in emerging economies are lower than in the advanced economies, a similar absolute price increase across Europe would lead to a greater increase in percentage terms in emerging Europe.

- The upward trajectory of food prices in emerging Europe was exacerbated by local supply shocks (poor weather conditions). In Bulgaria, agricultural value added plummeted by 30 percent in 2007, in Romania it fell by 17 percent, and in Hungary and Turkey by 13 and 6 percent, respectively. These effects are expected to be transitory.

Share of Food Expenditures and Per Capita Income in European Countries, 2007



Sources: Eurostat; and IMF staff calculations.

- Growing trade integration and the gradual convergence of wages also contributed to the faster pace of food price inflation in the emerging economies. In recent years, trade in food products increased rapidly, especially for the new EU member countries (third figure), putting pressure on local prices. Rising wages and transportation costs added to this pressure. Finally, income convergence is increasing local demand, especially for higher-value-added food items. These trends are likely to continue until full integration has been achieved.

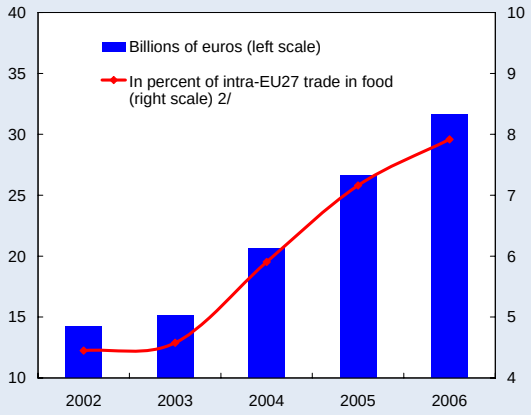
Note: The main authors of this box are Geoffrey Oestreicher and Alex Pivovarsky.

...continued

Box 3 *(concluded)*

In terms of policy response, containing the second-round effects of the sharp increase in inflation will be essential. Monetary policy may need to be tightened to prevent a wage-price spiral in countries with floating exchange rates. Good communication with the public may help—policymakers should make it clear that most factors driving the increase in inflation are temporary and that inflation is expected to return to target in the medium term. Price controls should be avoided since they would introduce distortions and inefficiencies into the market. Instead, there may be a case for providing targeted temporary subsidies to the most vulnerable social groups. Competition in the retail and distribution sectors should be encouraged to reduce markups and ease price pressures.

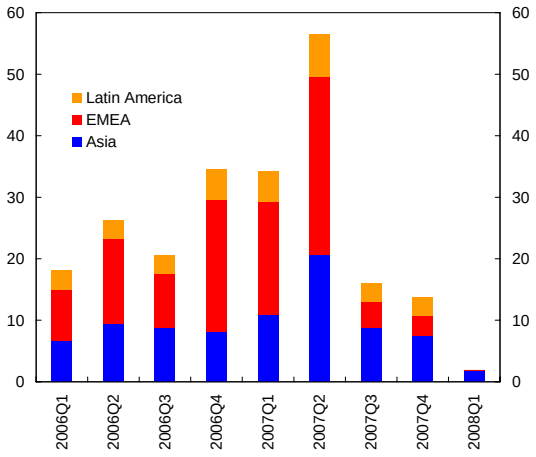
New EU Member Countries: Measures of Agricultural Trade Integration, 2002–06 1/
(Exports plus imports of food)



Sources: Eurostat; and IMF staff calculations.
1/ Excluding Cyprus and Malta.
2/ EU-27 = Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Slovak Republic, Spain, Sweden, and United Kingdom.

liquidity in the currency swap markets, which domestic banks use to transform foreign currency funding into local currency, may be drying up.

Figure 11. Emerging Markets: Private Sector External Bond Issuance, 2006–08
(Billions of U.S. dollars)



Sources: Dealogic; and IMF staff calculations.

Uncertainty around the Outlook Is Substantial; Risks Are Skewed to the Downside

First, there is significant uncertainty about the duration and depth of the global downturn and the magnitude of spillovers to emerging Europe. IMF staff analysis (Box 1) suggests that emerging European economies may be more vulnerable to a global slowdown than the advanced economies in Europe. The direct trade effect from a sharp downturn abroad is likely to be significant because countries in the region are highly open, with exports accounting for 30 to 80 percent of GDP. Most exports are going to other European economies. The share of exports going to oil-producing countries and the dynamic emerging economies in Asia—which are likely to be less affected by the current downturn—is very small. A sharper-than-expected global slowdown would also increase the severity of financial contagion.

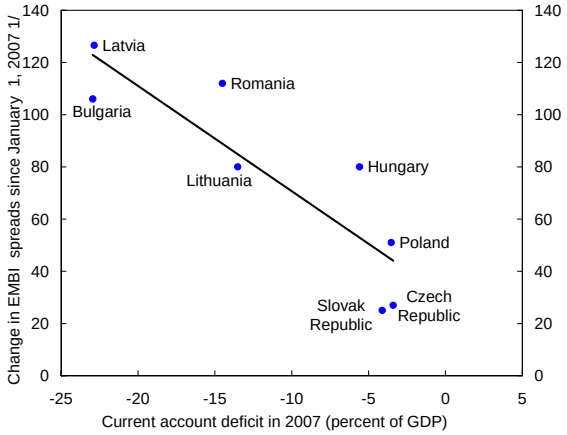
Second, the extent of moderation of food price inflation in 2008 is difficult to predict. While the effect of domestic supply shocks is likely to wear off, convergence factors and heightened global demand for biofuel products could continue to exert upward pressure. Also, oil prices may rise further amid tight supply. The impact of rising energy prices would be especially large in Ukraine and Moldova, where gas prices still need to converge to world levels.

Third, the heavy dependence on foreign capital leaves the region exposed to an abrupt retrenchment of capital inflows. Emerging Europe relies more heavily than other emerging economies on foreign inflows intermediated by the banking system. In the Baltics, Romania, Serbia, and Ukraine, more than 25 percent of domestic lending is financed by borrowing abroad, and the share has been rising (see Box 5 in Chapter 2). Rapid credit growth, fueled by capital inflows, has boosted economic activity in recent years. A sharp decline would dampen both consumption and investment.

The extent to which foreign banks will curtail lending in response to the financial turmoil in mature markets is highly uncertain. It is likely to depend on the health of parent banks, their access to funding, and the size and concentration of their exposures to emerging markets. The foreign banks with the greatest involvement in emerging Europe have little (known) direct exposure to U.S. subprime mortgages; however, the heavy reliance of some of them on interbank loans for financing increases the risks of indirect contagion. Scandinavian banks are attempting to gradually reduce credit growth to the region to avoid triggering sharp asset price declines that would weaken their balance sheets.

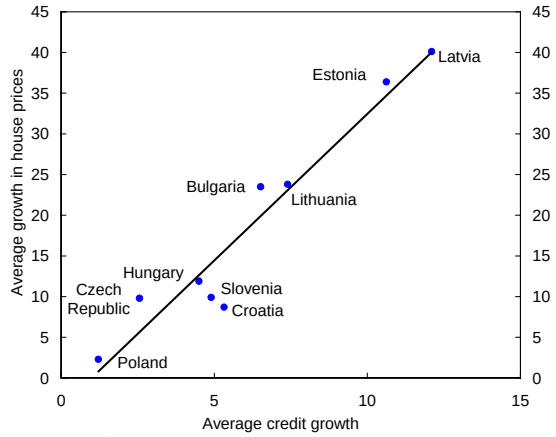
If downside risks materialize, countries with greater imbalances will be more susceptible to shifts in confidence. Economies with large current account deficits or high external debt ratios would be especially vulnerable if foreign financing dried up (Figure 12). A number of countries

Figure 12. Emerging Europe: Bond Spreads and Current Account Deficits



Sources: Bloomberg L.P.; IMF, *World Economic Outlook;* and IMF staff calculations.
1/ Basis points. Emerging Markets Bond Index (EMBI) euro difference in spreads between January 1, 2008, and March 17, 2008.

Figure 13. Central and Eastern Europe: Credit Growth and House Prices, 2002–06
(Percent)



Sources: Égert and Mihaljek (2007); and IMF staff estimates.
Note: The speed of credit growth is defined as the annual percentage point increase in the private credit-to-GDP ratio, averaged over 2002–06.

experienced stock market and house price booms in recent years, raising concerns about potential asset price bubbles (Figure 13). Since mid-2007, stock prices have fallen sharply and house prices are starting to come down in some countries. Large, abrupt asset price adjustments would weaken banks' balance sheets and consumer confidence, and might trigger financial decelerator effects (see Chapter 3 for a detailed discussion of vulnerabilities).

Policy Focus: Reducing Imbalances and Ensuring a Soft Landing

In those emerging economies still experiencing overheating pressures, policies should remain focused on dampening domestic demand, reducing domestic and external imbalances, and preventing second-round effects from the sharp increase in inflation:

- In countries with flexible exchange rate regimes, monetary policy needs to bring down the rate of inflation. With wages rising faster than productivity in some countries and little slack in the labor markets, preventing the temporary wave of inflation from feeding into wage growth will be important to avoid a further loss of competitiveness. The central banks in Poland, the Czech Republic, Romania, and Serbia appropriately raised their policy rates in early 2008 to ensure that the temporary rise in commodities inflation does not trigger a wage-price spiral. Further policy tightening may be needed in several countries, especially Russia, to achieve a reduction in inflation. In some economies, an appreciation of the exchange rate has helped contain inflation pressures. Fiscal tightening should complement monetary policy in cooling off economic activity.
- In countries with fixed or heavily managed exchange rates, fiscal restraint remains the key tool for controlling overheating.
- Restraining the growth of public sector wages will help moderate private sector wage demands (especially in Bulgaria, Estonia, Latvia, and Romania).

However, with the cycle already turning in a number of countries, concerns about overheating are giving way to worries about the imbalances that have built up during the cyclical upswing. The risks of a hard landing have increased, and countries with greater imbalances may be especially vulnerable. Policymakers need to be ready to adapt policies flexibly to the changing circumstances:

- Under the baseline forecast, overheating pressures will dissipate, as demand falls in line with potential output. In this scenario, policies will need to focus less on demand management. However, reducing vulnerabilities and implementing reforms that raise potential output should remain top policy priorities.
- In the case of a greater-than-expected slowdown, automatic fiscal stabilizers should be allowed to play fully. There would be relatively little room for discretionary fiscal policy, especially in the new member states that are either close to the deficit limit of 3 percent of GDP under the SGP or have sizable current account deficits and external debt levels. For countries with floating exchange rates, monetary easing could also be an option once inflation pressures dissipate.[5]

Continued emphasis on strengthening the resilience of the financial system and implementing structural reforms would help reduce vulnerabilities and mitigate the risks of a sharp growth slowdown. As demonstrated by the Russian crisis in 1998, investors do differentiate among countries on the basis of fundamentals, even in times of a generalized increase in risk aversion. To minimize the possibility of disruptions in the functioning of the domestic financial systems, policymakers should step up oversight (including nonbank financial sector supervision), bring regulations in line with best practices, and strengthen cross-border supervisory cooperation. The introduction and enforcement of prudential measures, such as limits on loan-to-value ratios and higher reserve requirements for foreign borrowing, would create buffers that could

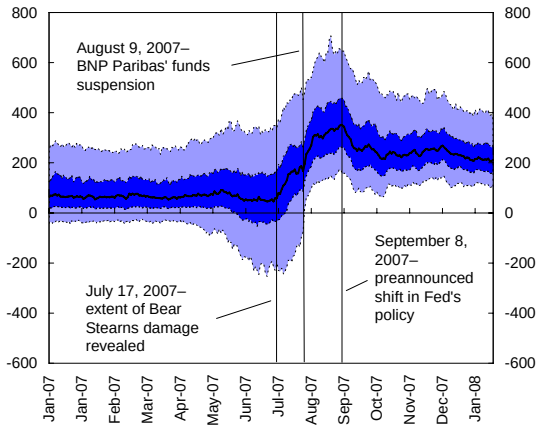
[5] The scope for easing policies would depend on the triggers and the severity of the slowdown. In the event of an abrupt loss of investor confidence, policymakers might have little choice but to tighten policies until confidence is regained.

improve adjustment to shocks. Tightening the disclosure requirements for risk management and internal control would encourage better risk control and enhance transparency. At the same time, structural reforms that help reduce vulnerabilities and raise potential output—such as increasing labor market flexibility, fostering competition, strengthening the quality of institutions, enforcing the rule of law, and improving the business climate—should continue.

2. Financial Turbulence: Testing Resilience and Dampening Growth

A global reappraisal of credit risk and a repricing of financial assets commenced in the summer of 2007 against the background of mounting tensions in the U.S. subprime mortgage market. Reflecting the pervasive uncertainty about the magnitude of the risks faced by financial institutions, frictions spread across asset classes and throughout Europe. Despite the severity of the crisis, Europe's financial systems have remained relatively resilient thus far. Yet financial system resilience is likely to be tested further, as loss recognition catches up and additional risks remain on the horizon. Although quantification is subject to considerable uncertainty and evidence so far is limited, financial turbulence is likely to take a significant toll on real activity.

Figure 14. Estimating Shifts in the Global Price of Risk, 2007–08 1/
(Basis points)



Sources: Bloomberg L.P.; and IMF staff calculations.
1/ The fan chart plots, at each point in time, selected percentiles of the estimated probability distribution for the expected unit price of risk that is common across assets. There is a 50 percent chance that the global price of risk will be inside the blue-shaded range and 90 percent chance that the outturn will be inside either the blue- or the purple-shaded area. The central thick black line denotes the estimated median price of risk. See Lombardi and Sgherri (2008) for analytical underpinnings.

How Financial Turbulence Spread to Europe

A reappraisal of credit risk and a repricing of financial assets began in the summer of 2007, stemming from mounting creditworthiness problems in the U.S. subprime mortgage market. After a period of high liquidity, aggressive credit expansion, growing complexity in mortgage securitization, and loosening in underwriting standards, credit markets abruptly changed direction. The pervasive uncertainty about the valuation of structured finance products—and the lack of clarity surrounding the extent of bank on- and off-balance-sheet exposures to these instruments—triggered a reversal in market sentiment and set the stage for a severe liquidity squeeze. The turmoil quickly spread to Europe, prompting bank rescues and capital injections. Despite the width and depth of the crisis, European mortgage markets have remained largely unscathed so far, owing to sounder household balance sheet positions, more cautious credit risk management, and stricter regulation.

Global Risk Repricing and Spillovers

Since end-July 2007, global financial markets have been witnessing a jarring repricing of risk from low historical standards, as investors are demanding more compensation for the credit risk they bear (Figure 14).[6] While the correction has

Note: The main authors of this chapter are Philip Schellekens, Silvia Sgherri, and Edda Zoli. The underpinning analytical work is presented in Lombardi and Sgherri (2008).

[6] The price of risk—i.e., the expected return that, in equilibrium, international investors require to hold an extra unit of risk—is not directly observable. The approach adopted in this chapter—to estimate shifts in the international price of risk—relies on the notion that risk premiums embedded in different asset prices are determined jointly in the market and are influenced by the riskiness of the specific asset in question and global risk factors, such as the willingness and the ability of international investors to bear that risk. To account for more realistic data-generating

not, so far, been particularly notable with regard to the absolute level reached by risk premiums, the speed of the reversal in market sentiment has been remarkable. Besides, the complexity of financing structures and risk transfer strategies in the financial sector are prolonging the repricing process, causing risks to propagate in pervasive and unexpected ways.

With the increased presence of international investors—reacting to any given shock by rebalancing their portfolios in assets and markets that would otherwise seem to be unrelated—the abrupt shift in risk-taking attitude turned out to be the key channel through which financial turbulence spread from the U.S. mortgage market to other assets and countries, including advanced and emerging Europe.[7]

In advanced Europe, the rise in uncertainty and the drop in confidence among major banks have severely disrupted the interbank market, with money center banks becoming unable to finance large securities portfolios in wholesale markets (Table 3).[8] Spreads between the three-month euro London interbank offered rate (LIBOR) and the overnight index swap (OIS) rate have remained wide, indicating some combination of greater preference for liquidity over unsecured lending to banks and widening counterparty risk premiums

Table 3. Measuring the Impact of Risk Repricing on Selected Markets 1/

	Impact on Spread 2/	Impact on Volatility 3/
U.S. asset-backed commercial paper	69	65
U.S. interbank	31	75
EU interbank	29	52
EU corporate bonds	28	99
Emerging Europe EMBI+ 4/	22	85
U.S. corporate bonds	20	46
EU financial corporate bonds	17	10
Selected intra-euro-area sovereign bonds	10	70

Sources: Bloomberg L.P.; and IMF staff calculations.
1/ Estimation details are provided in Lombardi and Sgherri (2008).
2/ Increase in spread (basis points) following a 100-basis-point increase in risk premium.
3/ Percent of total volatility due to shifts in the global price of risk.
4/ EMBI+ is the JPMorgan Emerging Markets Bond Index Plus.

(Figure 15, panel 1).[9] Owing to cash hoarding by international investors, sovereign bond markets have also come under strain (Figure 15, panel 2), with underbidding in some auctions for Italian notes and liquidity tightening in the Greek government debt market. Global risk repricing has also contributed more than 50 percent to the rise in volatility in corporate bond markets; the notable exception to this has been the financial sector, where uncertainty has been related mainly to institution-specific factors (Table 3). In a sign of discrimination among different classes of credit risk, the correction has primarily halted activity and widened the spreads of the high-yield segment of the European corporate bond market (Figure 15, panel 3).[10]

Emerging markets remained initially unaffected by the financial turmoil, bolstered by improved fundamentals and financial buffers built up over recent years. Nonetheless, European emerging markets' bond spreads rose significantly in the first quarter of 2008 (Figure 15, panel 4). Higher

processes, estimates are conducted within a multivariate generalized autoregressive conditional heteroscedasticity framework, featuring fat-tail shock distributions. For further details, see Lombardi and Sgherri (2008).

[7] Recent work analyzing the role of risk repricing as a channel of transmission during periods of financial distress includes, for example, Kumar and Persaud (2002), Gai and Vause (2006), Coudert and Gex (2007), and Gonzalez-Hermosillo (2008).

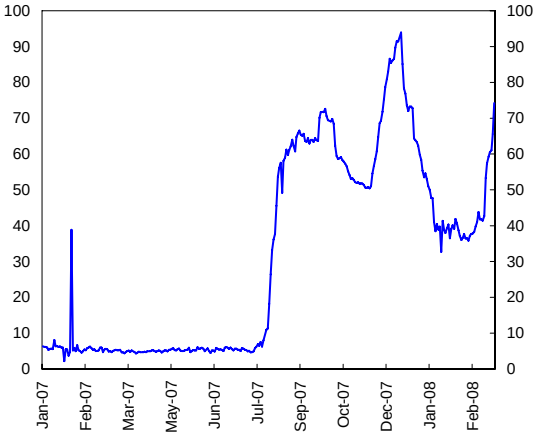
[8] Theoretically, a number of recent studies have explained that an asset's market liquidity—the ease with which an asset is traded—and traders' funding liquidity—the ease with which traders can obtain funding—(1) are inherently related to uncertainty, (2) comove with the market, and (3) have commonalities across securities. In particular, see Brunnermeier and Pedersen (2007), Caballero and Krishnamurthy (2007), and Adrian and Shin (2008).

[9] Interbank lending involves payment up front, whereas OIS contracts are settled on a net basis at maturity. The LIBOR spread, hence, reflects both a credit and a liquidity premium. For a decomposition of LIBOR spreads, see Bank of England (2007).

[10] On this point, see also the IMF's *World Economic Outlook* (2008b).

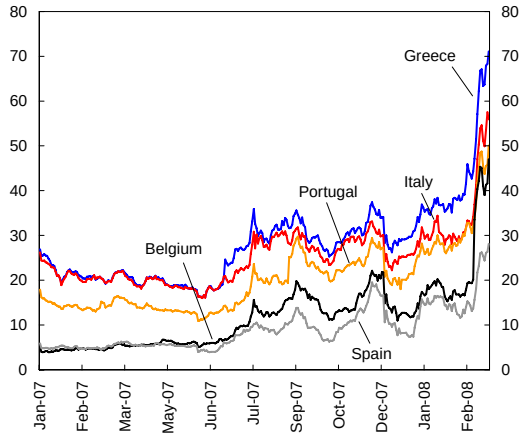
Figure 15. Reassessing Risks across Asset Classes and Borders

1. EU LIBOR Rate Minus Overnight Indexed Swaps, January 2007–March 2008
(Basis points)



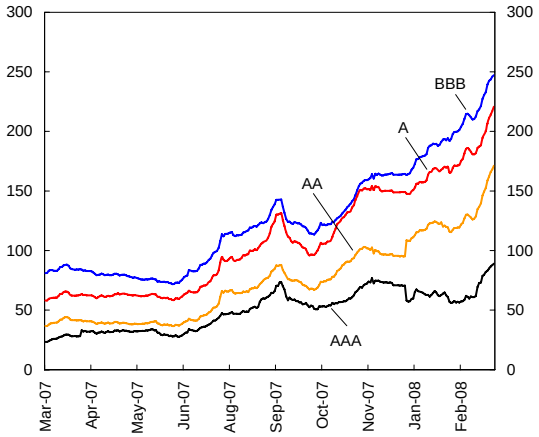
Source: Bloomberg L.P.

2. Selected Intra-Euro-Area 10-Year Government Bond Markets—Spread vis-à-vis Germany, January 2007–March 2008
(Basis points)



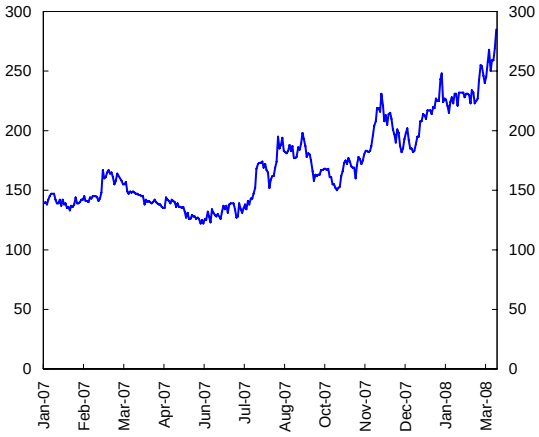
Source: Datastream.

3. iBoxx Euro-Corporate Bond Spread over 10-Year German Bond Rate, January 2007–March 2008
(Basis points)



Source: Datastream.

4. Emerging Europe EMBI+, January 2007–March 2008 1/
(Basis points)



Source: Bloomberg L.P.
1/ EMBI+ is the JPMorgan Emerging Markets Bond Index Plus.

borrowing costs and more limited liquidity have delayed new member states' issuance of Eurobonds originally scheduled for January. Since March, though, fixed-income markets in the region have also come under pressure (e.g., Hungary). Over the same period, syndicated and securitized bank lending—the main source of financing for companies in other emerging European markets—has also been slowing, raising concerns about prospective external borrowing in these economies.

Safer Homegrown Mortgages

Notwithstanding the troubles in U.S. credit markets, advanced Europe's mortgage markets have remained relatively unscathed so far, showing no sign of a homegrown subprime crisis. Several features of the European housing finance system have contributed to an improved functioning of

domestic loan markets, while enhancing financial stability in the region. Subprime loans—which account for about one-tenth of total mortgage lending in the United States—are virtually nonexistent in continental Europe and represent a limited share of the total mortgage stock in the United Kingdom.[11] The adequate debt-servicing capacity of European borrowers provides a buffer during volatile periods in the real estate market. Most important, though, national boundaries, more cautious risk management, and stricter regulation make banks in most of Europe slow to adopt those risky financial innovations in secondary mortgage markets that have proved problematic in the United States. Despite their recent decline, retail deposits still constitute more than half of the funding source for housing finance in European Union (EU) member states. Securitization characterizes less than one-third of total mortgage financing and relies mainly on covered bonds—plain vanilla debt instruments regulated by EU legislation and secured against a pool of mortgages that remains on the balance sheet of the issuer. Loan-to-value ratios, prudent property valuation rules, and special investor protection reinforce the relative safety of European mortgage-covered bond markets, while allowing lenders to obtain comparatively cheap funds in capital markets and benefit from relatively low regulatory risk weightings.[12]

Emerging Europe's mortgage market deserves, nonetheless, a note of caution. Housing loans have contributed significantly to the rapid credit growth experienced by the region, as well as to sustained increases in real asset prices. Given the importance of these assets as loan collateral, a downward adjustment in house prices might lead to increased provisioning requirements for banks and ultimately larger losses if delinquencies rise, adding to concerns about regional financial vulnerabilities. Moreover, the overall net asset position of emerging European households remains relatively low—both in absolute terms and compared with the euro area—contributing to the risks of a slowdown in the housing market.

Impact on Financial System Resilience

Resilient So Far . . .

Europe's financial systems have thus far held up relatively well. With the subprime fallout translating into direct investment losses, higher funding costs, heightened uncertainty about funding availability, widespread reassessments of credit and counterparty risk, and large unanticipated assumptions of off-balance-sheet assets, financial systems have been tested. Yet, based on the information available through end-March 2008, the soundness of the major systemic players has been preserved, as shareholders and outside investors have injected fresh capital where needed. As a result, while capital ratios have been affected, those of the large and complex banking groups in the euro area have continued to exceed the regulatory minimums. However, liquidity remains seriously impaired despite aggressive responses by major central banks.

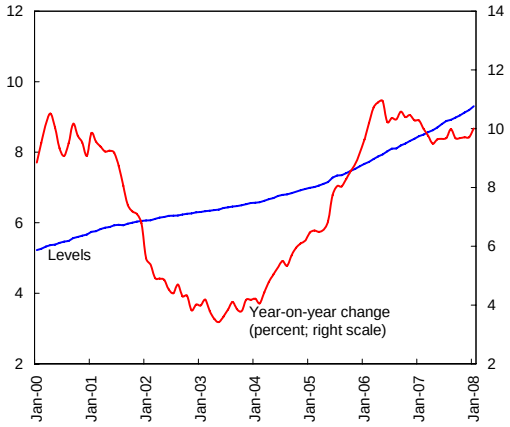
The continuing growth in lending in Europe thus far has also been suggestive of a relatively resilient banking system, even though this could be partly due to reintermediation (Figure 16).[13] In advanced economies, where corporate lending has remained robust, household lending has continued its deceleration, which had begun well before the crisis broke out last summer. Credit standards have tightened across the board, but not as sharply as in the United States—in part because they had not been loosened by as much to begin with. Meanwhile, many emerging economies have continued to register rapid credit growth. While a cooling of credit growth has become apparent in some countries, this development has mostly

[11] Bank for International Settlements (2006); and European Commission (2006).

[12] Avesani, García Pascual, and Ribakova (2007).

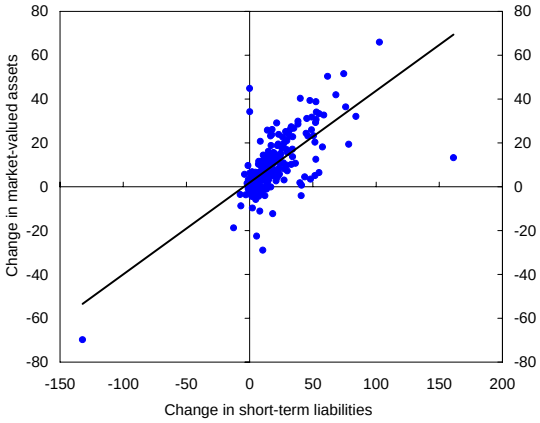
[13] European Central Bank (2008).

Figure 16. Euro Area Lending to Nonfinancial Corporations and Households, 2000–08
(Trillions of euros)



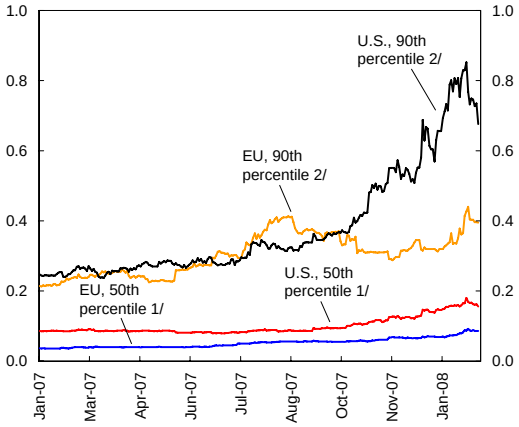
Sources: European Central Bank; and IMF staff calculations.

Figure 17. Changes in the Balance Sheet of the European Banking System 1/



Source: Moody's KMV.
1/ Percentage changes in total assets versus changes in short-term liabilities, 1/31/08 over 1/31/07.

Figure 18. Expected Default Frequencies, 2007–08
(Percent)



Source: Moody's KMV.
1/ Median of sample at each point in time.
2/ Worst 10 percent of banks at each point in time.

preceded the onset of the current episode of financial turmoil and has in most cases also been considered helpful in dealing with overheating pressures.

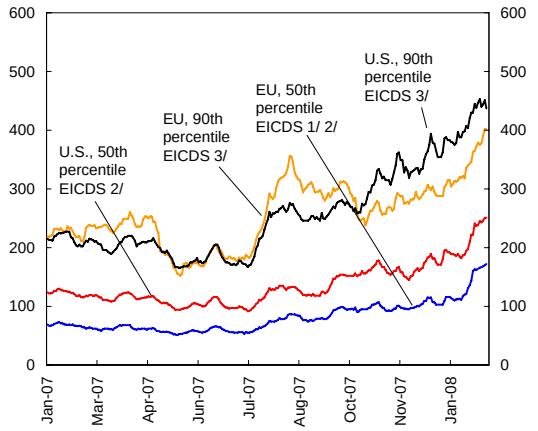
Individual financial institutions, however, have reported substantial write-offs. As markets reassessed risks, large money-center banks and major financial institutions booked extensive write-downs of structured securities, prompting credit downgrades and increases in default risk premiums. As the reassessment continued, European banks in several countries were forced to reintegrate into their balance sheets exposures to special investment conduits and structured investment vehicles. This resulted in significant changes in the market value of assets and the book value of short-term liabilities over the period January 2007–January 2008 (Figure 17).

. . . But Markets Remain Concerned

Market-based estimates of default frequencies have risen, but from a low base and to a lesser extent than in the United States (Figure 18). Considering a sample of 226 European and 666 U.S. banks, the time pattern of expected default frequencies (EDFs) derived using Moody's KMV CreditEdge methodology suggests that, while the risk of bank default within the next year has risen since the onset of the subprime crisis, it remains relatively small.[14] The resilience of European banks has also been less affected than that of the U.S. banks in the sample, particularly for the worst 10th percentile.

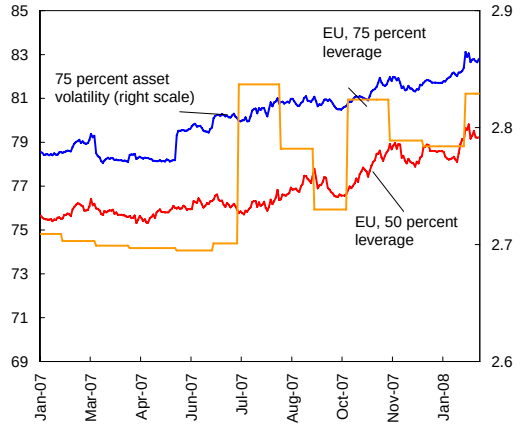
[14] Moody's KMV CreditEdge provides daily updates and changes in the probability of default on publicly listed firms.

Figure 19. Implied Spreads, 2007–08
(Basis points)



Source: Moody's KMV.
1/ EICDS = expected-default-frequency-implied (EDF-implied) credit default swap spread.
2/ Median of sample at each point in time.
3/ Worst 10 percent of banks at each point in time.

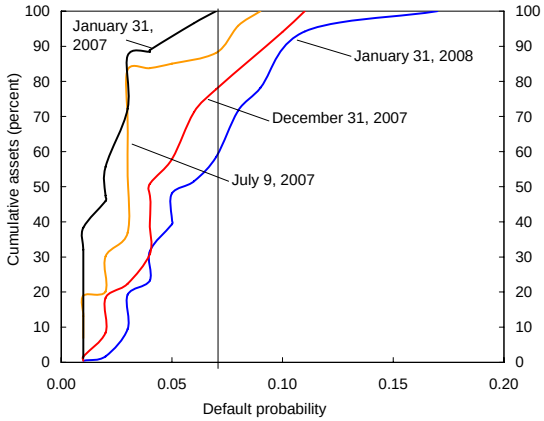
Figure 20. Market Leverage versus Asset Volatility of Exposed EU Banks, 2007–08
(Percent)



Source: Moody's KMV.
Note: Market leverage refers to the bank's barrier relative to the market value of assets, where the distress barrier is an intermediate point between total and current liabilities.

Implied spreads on credit default swaps suggest a similar picture (Figures 19 and 20). Banks have seen their credit default swap spreads widen significantly, suggesting a sharp rise in their risk profiles. The higher price for market risk (i.e., a higher Sharpe ratio) is one factor that has contributed to the widening of spreads. But, particularly for exposed banks, the market appears to have priced in a generalized increase in asset volatility due to concerns about asset quality, worsening liquidity conditions, and associated fire sales. Rising market leverage has been a further contributing factor, particularly for institutions

Figure 21. European Banks: Market Evaluation of Assets in Distress



Source: Moody's KMV.

that have had to expand their balance sheets unexpectedly due to exposures to special investment conduits and structured investment vehicles.

The market's evaluation of assets under distress suggests that the quality of system assets has deteriorated to below investment grade. As shown in Figure 21, this deterioration in asset quality has produced a progressive shift in the curve linking an increasing share of total assets to higher expected default frequencies. At the beginning of 2007, market prices implied that, for banks with an investment grade, none of the assets were under distress, whereas by the end of January 2008 as much as 40 percent of these assets were below investment grade.[15]

Loss Recognition Needs to Catch Up

Direct exposures to the U.S. subprime mortgage markets have been a main driver of write-downs by European banks. With direct net exposures of global banks to U.S. subprime mortgage markets estimated at about $700 billion, European banks hold about 40 percent of this amount. Compared with U.S. banks, European banks are relatively less exposed to unsecuritized

[15] Investment grade (BBB– or higher) corresponds to a mean expected default frequency of approximately 0.07 percent in the year ahead.

Table 4. Net Bank Exposure to U.S. Subprime Mortgage Markets 1/
(Billions of U.S. dollars)

	European Banks		U.S. Banks	
	Level	Share 2/	Level	Share 2/
Subprime mortgage loans	106	38	190	50
Subprime mortgage-related ABSs 3/	85	30	40	10
Subprime mortgage-related CDOs 4/	88	32	151	40
Total exposure	279	100	381	100

Sources: Goldman Sachs; UBS; and IMF staff calculations.
1/ Calculations as of March 2008.
2/ Percent.
3/ ABSs = asset-backed securities.
4/ CDOs = collateralized debt obligations.

subprime mortgage loans and subprime mortgage-related collateralized debt obligations (CDOs); however, they are relatively more exposed to subprime mortgage-related asset-backed securities (ABS) (Table 4).

The losses incurred by banks on these exposures are estimated to be significant. As of March 2008, expected losses on subprime mortgage-related exposures are estimated at $123 billion in Europe and $144 billion in the United States (Table 5). These estimates reflect the following scenario on a large sample of banks: average losses of 15 percent on unsecuritized mortgage loans, 30 percent on ABSs, 60 percent on CDOs, and 5 percent on liquidity lines to off-balance-sheet conduits and special investment vehicles (SIVs). For Europe, CDOs account for the largest share of these losses, followed by losses incurred on ABSs and off-balance-sheet liquidity lines. These estimates remain subject to a margin of uncertainty, as they are sensitive to assumptions and their underlying determinants continue to evolve.[16]

These findings suggest that loss recognition will need to catch up. While several European banks have disclosed large losses, the aggregate number so far (roughly $80 billion as of March 2008) still falls short of the total estimate. The concern, therefore, is that financial institutions in Europe still need to own up to larger losses of approximately $43 billion.

[16] For precise details on the calculation of expected losses, see IMF (2008a).

The Test Is Not Over

Financial system resilience in advanced Europe is likely to be tested further.

- As the crisis in U.S. subprime mortgage products deepens, this will inevitably negatively affect the direct exposures held by Europe's financial institutions. With U.S. housing market conditions yet to stabilize, additional bouts of distress remain highly plausible in the mortgage markets. Such episodes would further lower the value of securitized and structured products and exacerbate existing losses.

- The continuing financial distress is likely to accelerate the spread of the crisis to other forms of debt and debt default insurance. Asset quality is already deteriorating, or expected to deteriorate, for other forms of debt, such as other types of consumer debt (credit card, auto, and prime mortgage loans), commercial property loans, and corporate leveraged loans. Changes in the credit ratings of bond insurers could also translate into more credit losses for banks and investors. More generally, the market for debt default insurance, which has not yet been tested in a downturn, is also at risk. At this point, however, it is difficult to predict how an additional failure in one segment of the financial system would spread to other

Table 5. Estimated Losses on Mortgage-Related Subprime Bank Exposures 1/
(Billions of U.S. dollars)

	Europe	United States
Expected losses	123	144
U.S. subprime loans	16	29
Asset-backed securities	27	12
Collateralized debt obligations	53	90
Conduits and SIVs 2/	27	13
Reported losses	80	95
Remaining losses expected	43	49

Sources: Goldman Sachs; UBS; and IMF staff estimates.
1/ Calculations as of March 2008.
2/ SIV = structured investment vehicle.

segments, and how this would play out precisely for Europe's financial systems.

- Equally significant, however, the slowing of global growth is likely to add to existing challenges. First, the deteriorating economic outlook could weaken European household and corporate balance sheets appreciably, even though they have from the outset generally been stronger than in the United States. Second, financial institutions' attempts to preserve profitability, solvency, and liquidity are bound to off-load some of these evolving pressures to the real economy, an outcome that could not only amplify the growth slowdown but also feed back into the performance of financial systems. Third, if the crisis spilled over into emerging Europe, the profits of foreign banks that are significantly exposed to the region would be reduced, thereby weakening the banks' soundness.

The impact of these risks on financial system resilience would manifest itself in several ways. First, deteriorating asset quality would amplify existing investment losses and reduce profitability and retained earnings. Second, if additional assets needed to be taken onto the balance sheet as a result of contingent credit lines, this would compound existing problems through an increase in leverage and a deterioration in asset quality. Third, as the need for additional capital injections intensifies, the availability of outside capital may decline. Fourth, liquidity risk could create further trouble if price discovery in previously well-established markets continues to be hampered and institutions are forced to sell at fire-sale prices to meet unexpected liquidity demands. Finally, the potential for extreme events to spill over from one bank to another—both domestically and across borders—has increased over time and represents an additional source of stress (Box 4).

Although emerging Europe's financial systems have generally fared well thus far, they face increasing risks:

- While the impact of the credit turmoil was relatively muted until early 2008, signs of spillovers have started to emerge. Limited direct exposures to complex structured products are a mitigating factor. But downside risks have risen, as tighter global liquidity could significantly curtail credit growth and problems in parent banks could easily be transmitted across borders. Evidence of such spillovers has surfaced. For example, sovereign debt markets have begun to be affected. Also, private bond issuance has fallen sharply—though from a low base—which could matter for banks that have relied on external financing to support rapid domestic credit growth. More generally, however, if credit growth were to slow considerably and standards tighten, there is the risk that asset quality would deteriorate where lending standards had previously been lax.

- Foreign bank presence may be a boon, but foreign banks could also be a destabilizing factor by importing or exporting financial instability. While a strong foreign bank presence could help to contain domestic downturns, it would likely exacerbate financial instability in the case of more significant events, such as a parent bank's experiencing liquidity shortages in the home country. If parent banks remain well capitalized, their financial support might lower the sensitivity of affiliates to local conditions and provide a measure of stability to local financial systems. Yet the concentration of international players in a number of countries and the similarity of their activities expose emerging economies to common-lender contagion risks (Box 5).

Recent stress tests in emerging Europe suggest that these vulnerabilities could seriously affect financial system resilience. First, capital buffers were not always found to be sufficient to accommodate shocks that are severe but still plausible, a particular concern for the smaller banks. Yet, on the positive side, the results also suggest that, when consolidated with parent banks, capital buffers are generally substantial. Second, credit risk is usually the key risk, particularly when the indirect effects of currency and interest rate risk are included. Foreign

Box 4. Spillover Risks among Major EU Banks

The scope for cross-border spillovers among the major European banks can be examined using the extreme value theory framework. This framework analyzes comovements between extreme events ("co-exceedances"), specifically the comovement of extreme negative (left-tail) realizations of banks' soundness measures. The soundness measure chosen in this analysis is the distance to default (DD), defined as the difference between the expected value of assets at maturity and the default threshold, which is a function of the value of the liabilities. A higher DD is associated with a lower probability of the bank's default. It is generally a useful proxy for default risk if stocks are traded in liquid markets.

The DDs for 27 of the largest EU banking groups were computed for May 2000–April 2007 using daily stock prices and annual balance sheet data. A binomial logit model was used to estimate the probability of a bank experiencing a large negative DD change in response to large negative shocks to the DD changes of other banks. Large negative shocks were defined as those falling in the tenth percentile of the left tail of the common distribution of the changes in the DD across all banks. Four control variables—changes in the slope of the term structure, and the volatility of the domestic, regional, and world stock market indices—were also included in the model to account for common factors.

The results (table) suggest that, although spillovers within domestic banking systems generally remain more likely, the potential for extreme events to spill over from one bank to another appears to have increased, both among domestic banks and across borders. The number of significant cross-border links is already larger than the number of significant links among domestic banks, underscoring the need for greater cross-border supervisory cooperation in the European Union.

Significant Co-Exceedances among EU Banks, May 2000–April 2007

	May 2000–Apr 2007		May 2000–Nov 2003	
	Domestic	Cross-border	Domestic	Cross-border
Number of significant links 1/	19	57	14	50
Percent of all possible links 2/	39.6	8.7	28.6	7.6

Sources: IMF staff calculations, based on data from Bloomberg L.P.; and © Bureau van Dijk Electronic Publishing - BankScope.

1/ The number of bank pairs for which co-exceedances were found significant at the 5 percent level in the given period.

2/ The number of significant links (in the previous line), in percent of all possible contagion channels (i.e., as percent of all possible domestic and cross-border pairings of banks, respectively).

Note: The main authors of this box are Martin Čihák and Li Lian Ong. For details, see Čihák and Ong (2007).

currency lending is still substantial, and the majority of loans are made with flexible rates. Third, in most countries, individual name and industry concentration (particularly in real estate and construction) is important. Finally, the sustainability of liquidity positions depends critically on the level of commitment of the parent banks. This risk is mitigated when parent banks have ample liquidity and strong profit and capital buffers. At the same time, the growing access of domestic banks to nonparent financing requires careful monitoring of the maturity structure of such debt.

Impact on the Real Economy

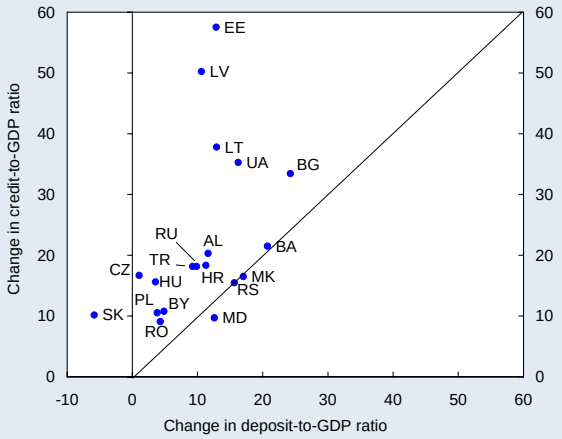
Empirically assessing the macroeconomic effects of the current financial turbulence is difficult. Indeed, existing macroeconomic models incorporate only a few elements of the many potential transmission channels through which the unfolding financial shocks may affect the real economy. Moreover, today's turmoil is quite unprecedented, making estimates based on historical data less than fully reliable.

Box 5. Regional Financial Interlinkages and Contagion Channels

With the pace of private sector credit growth remaining brisk in emerging Europe, dependence on nondeposit funding has increased in many countries. High and rising loan-to-deposit ratios (LTDs) mirror increasing reliance on foreign funding channeled primarily through the banking sector, given the relatively undeveloped domestic capital markets and easy access to cheap financing from the parent institutions of the mostly foreign-owned banks.[1]

LTDs have been rising in most countries in the region, particularly in the Baltic countries, where they have roughly doubled since the early 2000s, and in Ukraine, Hungary, and Russia, where they ranged from 120 to 150 percent in 2007. Except in a few cases (Moldova; Serbia; Macedonia, FYR; and Bosnia and Herzegovina), the changes in bank credit–to-GDP ratios significantly exceeded those in the ratio of bank deposits to GDP, suggesting that credit growth has significantly outpaced deposit growth in recent years (first figure).

Change in Deposit and Credit to GDP, 2003–07
(Percentage points)



Sources: IMF, *International Financial Statistics;* and IMF staff calculations.

The sizable cross-border financial linkages across Europe highlight the vulnerabilities arising from reliance on concentrated foreign funding. International banking statistics from the Bank for International Settlements provide consolidated foreign claims of reporting banks on individual countries (through both direct lending and local banking systems) and give a sense of the magnitude and distribution of exposures of emerging European countries to western European banking systems. Similarly, they provide exposures of western European countries to emerging European economies by the nationality of the reporting banks.

Data suggest that most emerging European economies are heavily exposed to—and dependent on—western European banks (either directly or through the local banking systems). Exposures are significant, in relation to both the recipient countries' GDP and the size of their banking system assets (second figure).

Outstanding foreign claims owed to reporting banks in all western European banks are larger for emerging European countries whose banking systems are largely foreign owned: although risks in these countries should not be exaggerated where local bank lending is financed mainly by local deposits, vulnerabilities could increase in the event of problems in parent banks. Exposures are also significant in terms of the host country's banking sector assets for many countries; however, there are several notable exceptions, such as Russia, Turkey, and Ukraine.

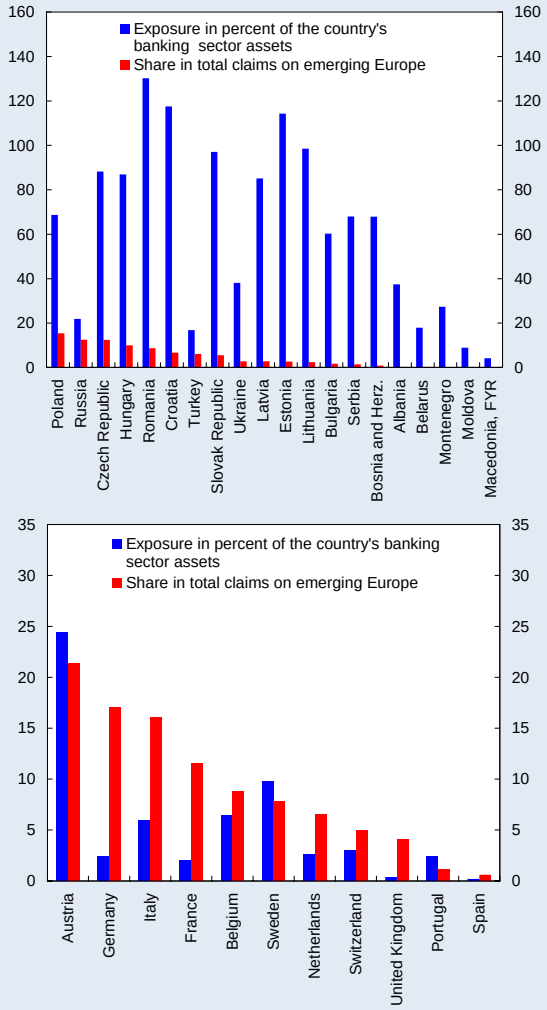
Note: The main authors of this box are Zsofia Arvai, Karl Driessen, Daniel Hardy, and İnci Ötker-Robe.

[1] In a few cases (e.g., Hungary, Latvia, and Lithuania), the relatively large volume of money market instruments and bond issuance by banks has provided some support for funding.

The concentration of funding exposure is contributing to the vulnerabilities associated with heavy reliance on foreign funding, particularly when it concerns the funding of banks.[2] Most countries in the region have concentrated exposures to banks in Austria, Italy, and Germany, and the Baltic countries have large exposures to Sweden (third figure). Among those most dependent on foreign funding, some are more diversified (e.g., the Czech Republic and Poland), while several depend on funding from a very few countries. Sweden provides 85 percent of the external funding for the Baltic countries, while Austria holds at least 40 percent of the claims on Bosnia and Herzegovina, Croatia, Serbia, and the Slovak Republic, and more than 30 percent on Romania. Similarly, Italy provides more than 30 percent of foreign funding for Bulgaria, Croatia, and Bosnia and Herzegovina.

Such concentration of funding renders emerging Europe vulnerable to a credit squeeze or crunch originating from advanced economies. Banking systems that are heavily dependent on foreign borrowing to support credit growth could face a sudden shortfall of funding or a sharp increase in its cost if there were a sudden reassessment of parent bank exposure to a host country (e.g., due to concerns about growing vulnerabilities in that country or region). While reputational risks could make it unlikely that parent banks would abandon their subsidiaries, unconditional support is unlikely. Liquidity or solvency problems in a parent bank could also be easily transmitted to local banks in a concentrated banking system.

Relative Magnitudes of Funding Exposure for Emerging and Western Europe, June 30, 2007 1/
(Percent)



Sources: Bank for International Settlements, *Quarterly Banking Statistics,* December 2007; and IMF staff calculations.
1/ Funding exposure concerns bank and nonbank sectors in recipient countries. In countries with foreign bank ownership, consolidated claims include claims by foreign-owned banks on residents; net claims are lower to the extent that banks hold domestic deposits.

[2] The vulnerabilities posed by nonbank borrowing are not of the same order as those posed by bank borrowing. If a corporate does not repay the foreign bank from which it borrowed directly, the credit risk is borne by the foreign bank and not the local bank.

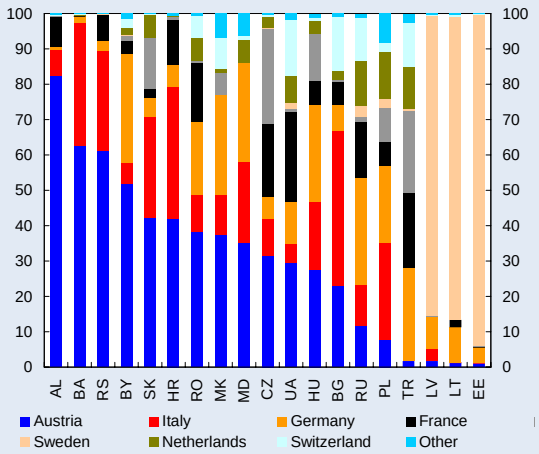
… *continued*

Box 5 *(concluded)*

The impact of a retrenchment of credit would be amplified if funding from other (nonbank) sources were also limited. Some emerging European economies that turned to international capital markets for funding in recent years have seen demand decline significantly since August 2007 (e.g., Eurobond issuance by the Russian and Ukrainian financial sectors), and some banks in central and eastern Europe reportedly postponed their planned bond issues as a result of wider spreads. International bond issuance has been a negligible source of funding for most other countries in the region.

The magnitude of western European bank exposures to emerging Europe is far smaller than the exposures of the latter, with the exception of Austria. For Austria, the claims of the reporting banks on emerging Europe amount to 23 percent of its banking system assets, though exposures seem well diversified across several countries and small with respect to each individual country. The exposures of banks in Belgium and Sweden to emerging Europe are also significant but remain below 10 percent of banking system assets. For the remaining countries, the exposures are negligible, including those of France, Germany, and Italy with the most active banks in central and southeastern Europe.

Concentration of Emerging Europe Exposure to Western Europe, June 30, 2007 1/
(Percent)



Source: Bank for International Settlements, *Quarterly Review*, December 2007.

Note: Country names are abbreviated according to the ISO standard codes.

1/ Emerging Europe exposure to western European banks is defined as the share of the reporting banks in each western European country in the total outstanding claims on a given emerging European country (both bank and nonbank sectors). For example, about 42 percent of Croatia's exposures to western European reporting banks is owed to Austrian banks, 38 percent to Italian banks, 13 percent to French banks, etc. For the Baltic countries, 85 percent or more of exposures to the reporting banks is owed to Swedish banks.

However, even where the exposures seem well diversified, the ultimate impact of possible adverse developments in one country may be much more significant, as troubles in one country may spill over to others. Such regional spillovers could make even Austria's exposures substantial.

Subject to these caveats, our analysis indicates that the macroeconomic impact of the turmoil is likely to be significant, especially in advanced economies in Europe, while uncertainty remains about the probability of a more severe credit squeeze that could result in further output losses. In Europe's emerging economies, the output slowdown stemming from the direct impact of financial shocks, as well as the spillover effects from lower demand from advanced economies, are expected to curb the robust growth rates experienced by these economies in recent years. The output loss would be bigger in the event of a significant credit squeeze, especially in countries where the recent expansion has been largely driven by foreign borrowing and very rapid credit growth.

Channels of Transmission to the Real Economy

The current financial turmoil will continue to affect the real economy through several channels. First, borrowing costs for firms and households are rising, in line with banks' increasing funding costs, thereby adversely affecting investment and consumption decisions. Second, firms also face higher costs in issuing bonds and stocks, as corporate spreads and equity premiums—the excess return of equity over the risk-free rate—increase to compensate investors in the face of declining risk appetite.

On top of the effect on the price of credit, the financial turmoil is expected to have an adverse impact on the supply of credit, which, in turn,

would dampen consumption and investment. First, banks' higher funding costs reduce their liquidity and ability to extend loans.[17] More important, subprime-market-related losses incurred by banks in Europe's advanced economies impair their capital adequacy and, hence, their lending capacity. Furthermore, the significant contraction in the issuance of structured products reduces financing opportunities for banks in these countries and their ability to extend credit.[18] While not directly exposed to the subprime market, banks in emerging Europe also face the risk of a credit squeeze, as parent banks in advanced Europe could cut back lending to their subsidiaries and branches.

The turnaround of the housing market cycle in a number of countries and the recent weakness of equity markets will also have macroeconomic consequences. Asset prices affect consumption through wealth effects. Property prices also have an impact on construction activity.[19] Furthermore, declining equity and house prices, as well as increasing borrowing rates, distress firms' and households' balance sheets and cash flows, thus reducing their creditworthiness and ability to borrow.[20]

Quantifying the Impact

The current financial turmoil is likely to have a significant impact on output in advanced European economies. Widening corporate spreads are expected to reduce euro area output by 0.3 and 0.4 percent in 2008 and in 2009, respectively, relative to a hypothetical scenario without financial shocks. The tightening of lending standards—associated with a rise in the spread between lending and deposit rates—together with the decline in equity and house prices, will contribute to a further output slowdown of at least 0.4 and 0.5 percent in 2008 and 2009, respectively, compared with a scenario without financial shocks (Table 6).[21] In the United Kingdom, the GDP loss stemming from the rise in corporate spreads is estimated to be 0.3 percent in 2008 and 0.4 percent in 2009, relative to a no-shock scenario. The assumed fall in house prices in the United Kingdom will, however, produce a larger output slowdown than in the euro area. In the other advanced European economies, financial shocks are expected to have a milder impact on GDP.

In all advanced economies, further output losses would materialize if banks were to reduce credit supply significantly. Our estimates indicate that European banks' current increased risk

[17] This is the so-called lending channel, first identified by Bernanke and Blinder (1988).

[18] Since 1999, securitization has contributed significantly to credit growth in the euro area (Altumbas, Gambacorta, and Marqués, 2007).

[19] Several studies have estimated the link between asset prices and the business cycle in advanced economies. See, for example, IMF (2000), Catte and others (2004), and IMF (2008b).

[20] The role of balance sheet effects and collateral in credit cycles was first pointed out by Bernanke and Gertler (1989), who developed the so-called financial accelerator theory. See also Kiyotaki and Moore (1997); and Bernanke, Gertler, and Gilchrist (1999).

[21] These estimates are based on simulations performed with the National Institute Global Economic Model (NiGEM). NiGEM is a multicountry model that allows an assessment of the impact of shocks hitting individual economies directly, as well as spillover effects from the slowdown in other countries. Specifically, the following scenarios were considered:
(1) a 100-basis-point (bp) increase in the spread between corporate and government bonds in all advanced economies (including non-European), lasting for two years, in line with the observed increase in spreads, and consistent with the assumption of a sustained repricing of risk;
(2) a 100 bp rise in the spread between lending and deposit rates sustained for two years, in advanced economies (including non-European), reflecting banks' attempt to maximize profitability to rebuild their capital, as well as the tightening of lending standards;
(3) a 15 percent decline in equity prices in advanced and emerging economies (including non-European), lasting for one year, in line with equity market developments since the beginning of 2008; and
(4) a decline in nominal house prices in the United States, United Kingdom, Spain, and Ireland of 10–16 percent over two years, consistent with expected developments in the respective housing market.

profile is likely to affect the supply of loans only moderately, and that the resulting impact on GDP growth will be limited (Box 6). Nevertheless, a sharper-than-expected credit squeeze cannot be ruled out. This could trigger a downward spiral, whereby lower credit expansion could result in a sharp economic slowdown, which, in turn, would curtail the demand for credit.

The financial turmoil is expected to have negative real effects also in emerging Europe. In the new member states,[22] declining equity prices, together with the total spillover effects from lower demand from advanced economies, are estimated to result in output losses of at least 0.8 and 0.5 percent in 2008 and 2009, respectively, relative to a hypothetical scenario without financial shocks (Table 6). Given the brisk rate of growth experienced by these economies in the past years, such estimates point to a relatively mild slowdown. However, rising domestic and foreign borrowing premiums could take a further toll on growth in emerging Europe. Specifically, the concurrent rise in foreign and domestic risk premiums by 100 basis points (bps), sustained for two years, could reduce output by 0.8–1 percent in 2008, and by 0.3–0.8 percent in 2009, compared with a scenario without shocks (Box 7).[23]

The output slowdown in emerging Europe would be sharper if a significant credit squeeze were to materialize. Estimates of vector autoregressions (VARs) for selected emerging economies suggest a considerable impact. If credit growth were to fall temporarily by 10 percentage points, real GDP growth would decline significantly in the first year in Estonia and Romania—two economies where credit growth has been among the strongest within emerging Europe since the mid-1990s—before rebounding in the second year (Table 7).[24] In the Czech Republic, the negative effect on output would be smaller on impact but more prolonged, while in Hungary the growth reduction would be more contained.

Table 6. Output Response to Financial Shocks: Simulation Results
(Real GDP percent deviations compared with a no-shock scenario)

	Euro Area 1/	United Kingdom	Other Advanced European Economies 2/	New EU Member States 3/	United States
100-basis-point increase in corporate spreads for two years in all advanced economies					
2008	-0.3	-0.3	-0.1	-0.1	-0.2
2009	-0.4	-0.4	-0.2	-0.2	-0.3
100-basis-point increase in the spread between lending and deposit rate for two years in all advanced economies					
2008	-0.1	-0.1	-0.1	-0.1	-0.1
2009	-0.1	-0.1	0.0	0.0	-0.1
15 percent decline in equity prices for one year in advanced and emerging economies					
2008	-0.2	-0.2	-0.2	-0.4	-0.4
2009	-0.1	0.0	0.0	-0.1	0.0
House prices decline in United States, United Kingdom, Spain, and Ireland					
2008	-0.1	-0.5	-0.1	-0.2	-0.5
2009	-0.3	-0.8	-0.2	-0.2	-1.1

Source: IMF staff estimates.
1/ Excluding Cyprus and Malta.
2/ Denmark, Norway, Sweden, and Switzerland.
3/ Bulgaria, Estonia, the Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, and the Slovak Republic.

Table 7. Response of GDP Growth to a 10 Percentage Point Decline in Credit Growth
(Percentage points, year-on-year)

	Czech Republic	Estonia	Hungary	Romania
Year 1	-0.7	-2.0	-0.7	-1.3
Year 2	-0.8	0.7	0.1	0.7

Source: IMF staff estimates.

[22] This group comprises the following countries: Bulgaria, Estonia, the Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, and the Slovak Republic.

[23] These estimates are based on simulations of a general equilibrium model for a stylized emerging economy, where GDP growth is largely driven by consumption and investment, which are financed by foreign borrowing and very rapid credit growth (see Box 7 for details). We resort to this alternative model because NiGEM does not capture the important relationship between foreign and domestic risk premiums, credit growth, and the real sector, which is a key part of the transmission of the current financial shocks to emerging Europe.

[24] The VAR includes the following variables: credit growth, real GDP growth, inflation (all annualized), the lending rate, and, as an exogenous variable, the LIBOR. Credit growth is expressed in nominal terms following Bernanke and Lown (1991), who argue that this measure is the most appropriate in proxying the real value of credit extensions in the context of bank-borrower relationships, where the effective maturity of loans is very long. The model is estimated on quarterly data between the mid-1990s and the third quarter of 2007. The number of lags is determined through standard information criteria. Shock responses are computed using the generalized impulse response function.

Box 6. Banks' Risk Profile, Credit Growth, and the Real Economy

To what extent is the current financial turmoil, and the associated increase in banks' risk profile, likely to affect banks' supply of credit? And what is the potential impact on output? To address these questions we estimate the relationships between banks' risk conditions, loan growth, and real GDP growth on a sample of 42 major banks from seven advanced European economies (France, Germany, Italy, Spain, Sweden, Switzerland, and the United Kingdom) over 1991–2007.

The model specification consists of two simultaneous equations. In the first, loan growth in 42 banks is regressed over a measure of banks' risk profile (lagged), real GDP growth, and a number of control variables (including the interbank rate, house and stock price indices, and a measure of banks' size). The second equation explores the relationship between loan growth and output growth.[1] Banks' risk profile is proxied by Merton-type credit risk indicators, including different versions of the distance-to-default (DD) and Moody's KMV expected default frequency (EDF).[2]

Our model estimates indicate that a rise in banks' risk profile results in (statistically significant) lower credit growth. Specifically, on average, a 1 percent increase in a bank's EDF can result in up to a 0.05 percentage point decrease in its annual loan growth, with some variations across countries.[3] Given the change in banks' risk profile observed since August 2007 (Figure 18 in main text), our model predicts a reduction in annual credit growth of up to 4 percentage points. In our model, such a slowdown in credit expansion implies a decline in GDP growth of less than 0.1 percentage point.[4] We obtained similar results when estimating the model on macroeconomic rather than individual bank data.

Note: The main authors of this box are Andrea M. Maechler and Alexander Tieman. The analytical underpinnings of this box are presented in Maechler and Tieman (forthcoming).

[1] The model is estimated at quarterly frequency.

[2] Both risk indicators are based on a Merton-type option pricing structural model. The DD represents the number of standard deviations a market-based estimate of a bank's equity is away from default. It has a negative relationship with financial risk (a lower DD means more risk). Moody's KMV EDFs, which measure probabilities of default, use a database of historic defaults to translate the model-implied risk-neutral probabilities to real-world (risk averse) expected default frequencies. EDFs exhibit a positive relationship to financial risk (a higher EDF means more risk).

[3] Relative to French banks, the top German, Spanish, and Swedish banks contract their credit expansion more sharply in response to a deterioration in their risk profiles.

[4] For longer-term estimates of the potential impact of the financial turmoil on credit expansion and output in the United States, see IMF (2008a).

Box 7. Real Sector Implications of Financial Turbulence for an Emerging Market Economy

To assess the potential macroeconomic consequences of the current financial turmoil on emerging Europe, we simulated a simple dynamic general equilibrium model for a stylized emerging market economy, characterized by (1) a high degree of openness; (2) a fixed/tightly managed exchange rate; (3) high levels of financial dollarization (with most loans and deposits linked to foreign currency); (4) rapid credit growth to the private sector, facilitated by banks' foreign borrowing; and (5) corporate sector direct access to international financial markets.[1]

We consider the following two-year shock: a 100-basis-point increase in the foreign risk premium, which affects the rate at which agents borrow from abroad, together with a 100-basis-point rise in the domestic risk premium, reflecting banks' smaller risk appetite. The shock results in an immediate rise in lending rates and a drop in bank foreign borrowing and corporate credits. Direct corporate foreign borrowing increases, however, as it is cheaper than bank borrowing, given the rise in the domestic risk premium. Bank household credits fall, but less than bank corporate credits, as households cannot resort to direct foreign borrowing (figure).

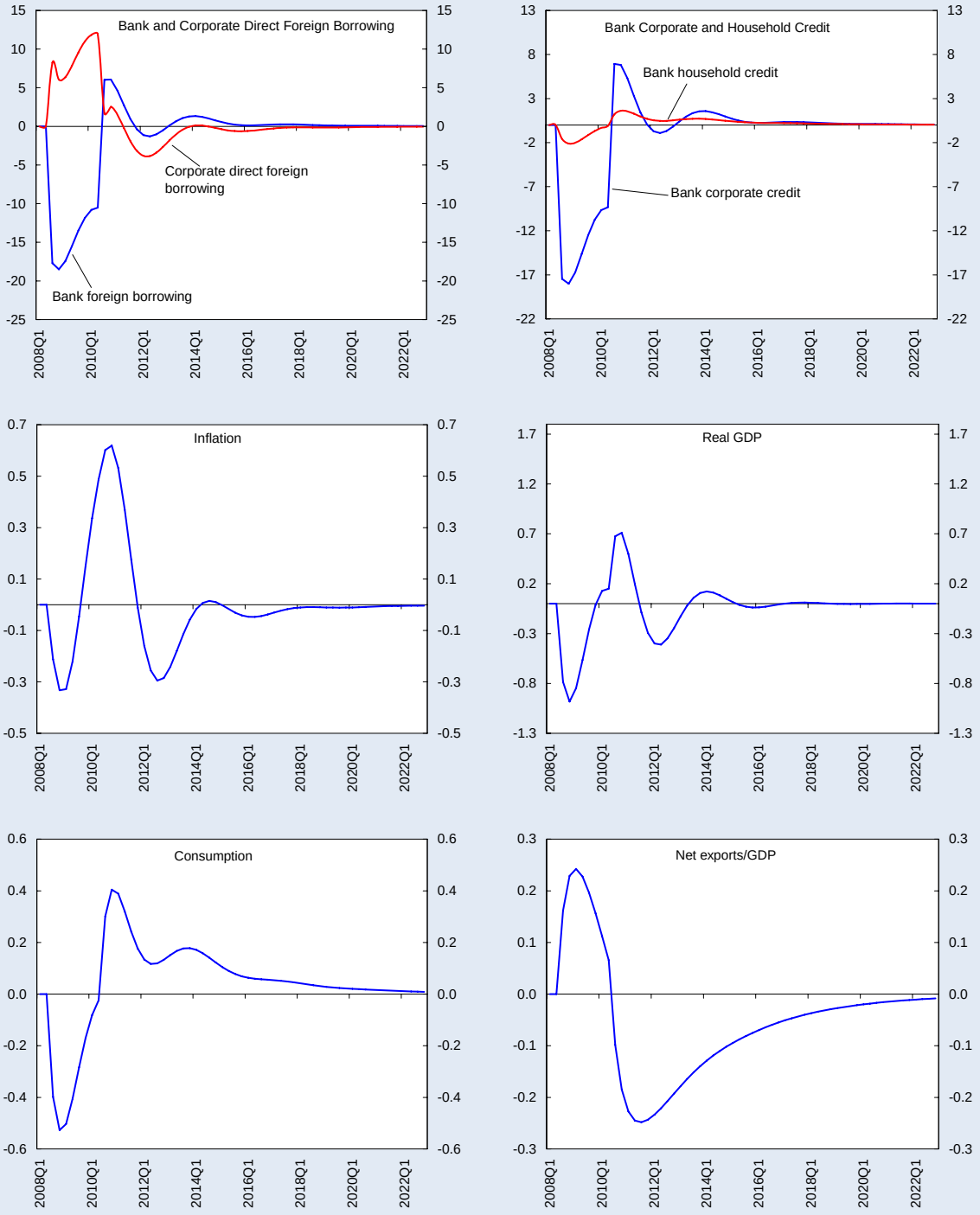
Real output declines by 0.8–1 percent in 2008, and by 0.3–0.8 percent in 2009, compared with a scenario without shocks (figure). Consumption also falls, although less than production, as households reduce their stock of deposits in smoothing consumption. The output slowdown reduces inflation in 2008 and 2009. As consumption and the relative price of domestic to imported goods both decline, imports fall and the trade balance improves. When the premium shocks have subsided, bank foreign borrowing and bank corporate credits rebound, contributing to output and consumption recovery, which is associated with inflationary pressure and trade balance deterioration.

Note: The main authors of this box are İnci Ötker-Robe and David Vávra.

[1] On the real side, the model has three sectors (nontradables, exports, and imports), and assumes nominal and real rigidities. In the fully dollarized financial sector, banks extend loans to finance consumption and production, and collect deposits from households. Interest rates move with the loan-deposit ratio. Firms have access to credit through an intermediary that bundles two imperfectly substitutable credit sources: bank loans and direct foreign borrowing. Imperfect substitution allows for a smooth reallocation between the two sources when their relative prices change. For a detailed description of the model, see Benes, Ötker-Robe, and Vávra (2008) and Benes, Castello-Branco, and Vávra (2007).

Response to an Increase in Domestic and Foreign Premiums

(Percent deviations compared with a no-shock scenario)



Source: IMF staff simulations.

3. Convergence in Emerging Europe: Sustainability and Vulnerabilities

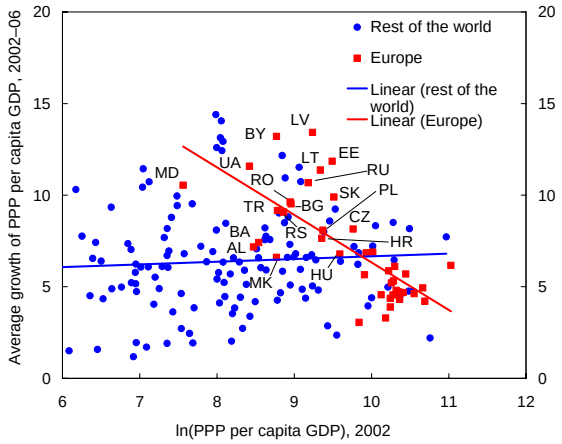
Emerging Europe's convergence trend is set to continue, based on good fundamentals, although its pace is likely to slow. Concerns about overheating are giving way to those about vulnerabilities. Imbalances in some countries could lead to a more volatile growth experience, with risks of a hard landing. For most emerging economies, macroeconomic and financial policies will need to be further tightened to reduce vulnerabilities, while progress in structural reforms will be essential to sustain smooth convergence over the medium term.

Overview

Convergence continues apace for most of the emerging economies in Europe. After the volatile 1990s, growth in emerging Europe accelerated sharply, reaching rates second only to the ones achieved in emerging Asia. Tighter integration with the more advanced economies of Europe has allowed emerging Europe to grow considerably faster than countries in other regions with similar income levels, allowing it to display real convergence (Figure 22).

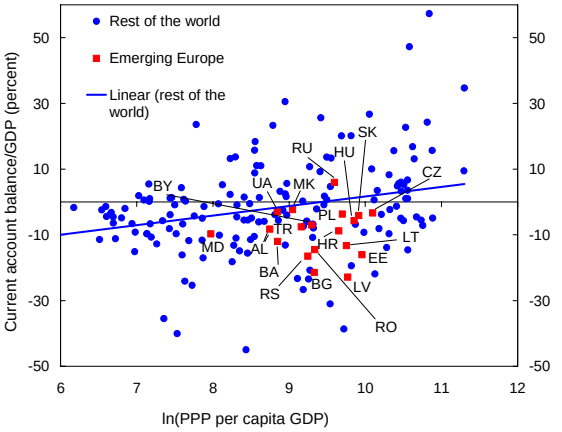
Fast growth has been associated with large imbalances in several emerging economies, raising questions about sustainability and concerns about vulnerabilities. Although converging economies are expected to attract foreign savings to help finance investment and smooth consumption, most emerging European economies have current account deficits that are larger for their income levels than the rest of the world's (Figure 23). Expectations of fast convergence have generated large capital inflows in search of high returns in the region. Capital inflows have contributed to very high levels of external debt in some countries and have increased vulnerabilities to external shocks, such as sharp changes in exchange rates and interest rates, increased risk aversion, and loss of investors' appetite for emerging markets—risks that have been rising considerably with the ongoing global financial turbulence (see Chapter 2).

Figure 22. Convergence in Emerging Europe and in the Rest of the World, 2002–06



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
Note: Country names are abbreviated according to the ISO standard codes.

Figure 23. GDP per Capita and Current Account Balances, 2007



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
Note: Country names are abbreviated according to the ISO standard codes.

Note: The main author of this chapter is Athanasios Vamvakidis.

Analysis of emerging Europe's fundamental growth prospects and vulnerabilities—the subject of this chapter—suggests the following.

The convergence trend of emerging Europe is based on strong fundamentals and is expected to continue.

- Potential growth, determined by existing fundamentals, is relatively high. Growth-enhancing reforms have progressed in most countries, recent growth has been driven primarily by productivity improvements, and investment has increased throughout the region.
- Large current account deficits are to some extent expected during regional convergence. Moreover, high levels of foreign direct investment and the absence of strong exchange rate appreciations in the region are reassuring.
- Financial intermediation has considerable scope to deepen and broaden.

However, the region's growth is likely to ease.

- Growth rates in recent years have been well above estimates of potential growth for most countries. Reforms in some parts of the region have not progressed enough to sustain current growth rates.
- Recent growth has been driven primarily by the production of nontradables while the necessary, gradual shift of capital and labor toward the production of tradables is likely to involve adjustment costs.
- The pace of financial deepening and capital inflows is expected to slow, in part as a result of the repricing of risk in the context of the global financial turbulence.

The convergence path may be volatile in countries with large external imbalances, with risks of a hard landing.

- Current account deficits are well above estimates justified by fundamentals and subject to risks of an abrupt adjustment in most cases.
- High levels of external debt are a source of vulnerability, and debt dynamics are particularly sensitive to exchange rate movements.
- Balance sheet analysis suggests that there are large exposures of the corporate and household sectors to exchange and interest rate risks, which imply vulnerabilities for the financial sector through credit risks and for the public sector.

Macroeconomic policies could do more to address the region's imbalances.

- Indicators suggest that, despite efforts to tighten, monetary conditions seem to have remained on the loose side in most of the region.
- Fiscal consolidation has not always taken full advantage of rapid growth, and in some countries fiscal balances have deteriorated in structural terms.

Structural reforms have been essential to raise potential growth, suggesting that, together with sound macroeconomic policies, further progress in this area will be key to ensure a smooth convergence in emerging Europe.

The extent to which these conclusions apply varies by region within emerging Europe. The Baltics have accumulated considerably larger external imbalances than the rest of the region. Although faster progress in structural reforms has increased their flexibility, adjustment to shocks may still be difficult, as their fixed exchange rate regimes preclude nominal exchange rate adjustment to cushion the impact of shocks. External imbalances in southeastern Europe, albeit smaller, are also sizable and have been deteriorating. Moreover, these economies lag behind in structural reforms and may lack the capacity to adjust swiftly to shocks. In contrast, most of the central-eastern European economies have smaller external imbalances and are relatively advanced in reforms, thus mitigating vulnerabilities.

Sustaining Growth

Growth Led by Domestic Demand

On the supply side, recent growth in emerging Europe has been driven primarily by services, followed by industrial production (Figure 24). The relative expansion of nontradable production (primarily services) is to be expected during the beginning of the convergence process, and is associated with an increase in the relative price of nontradables and wages.[25] However, successful convergence eventually requires a turnaround of this process and a shift of resources toward the production of tradables.

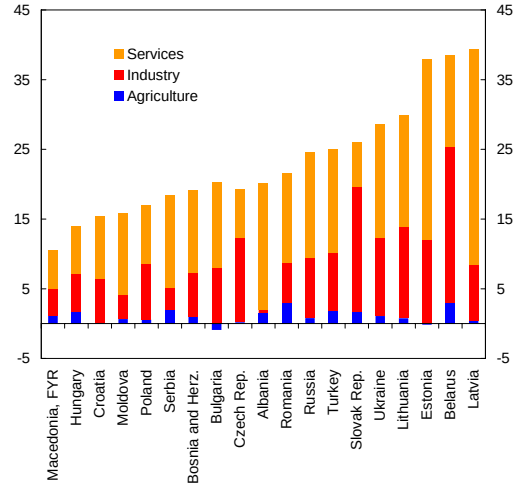
On the demand side, recent growth in emerging Europe has been driven by domestic demand, with a sharp jump in the investment-to-GDP ratios in many countries and rapid growth of consumption (Figure 25). Even though exports have been growing at a respectable pace, the contribution of net exports to growth has been negative in most countries. The large contribution to growth from consumption is mainly explained by its dominant share in GDP. Indeed, investment has been growing faster than consumption during recent years in most of the region.

Total Factor Productivity a Key Contributor

Production function estimates provide further insights into the factors that are driving growth in emerging Europe. Growth accounting links growth to the accumulation of capital, changes in the use of labor, and a residual factor, commonly known as total factor productivity (TFP). Growth that is primarily driven by factor accumulation without improving productivity may not prove to be sustainable because of diminishing returns to capital and labor. In contrast, growth driven by a structural transformation that improves the economy's efficiency would be reflected in faster TFP growth and would signal the capacity to grow faster than the constraints imposed by capital and labor.

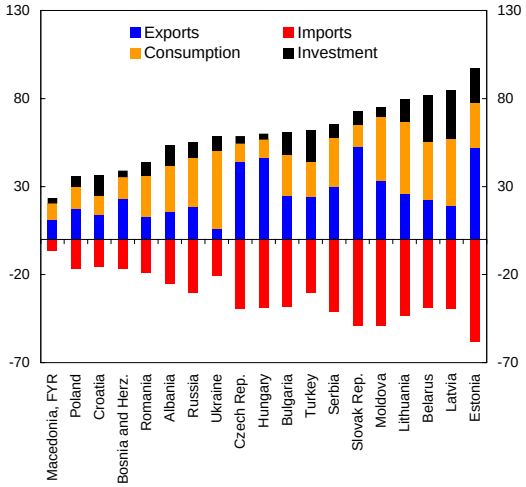
Estimates of TFP, using a traditional production function approach, suggest that most of emerging Europe is benefiting from a structural

Figure 24. Emerging Europe: Value Added by Sector, Contributions to Real GDP Growth, 2002–06
(Cumulative percentage points)



Sources: World Bank, *World Development Indicators;* and IMF staff calculations.

Figure 25. Emerging Europe: Domestic and External Demand, Contributions to Real GDP Growth, 2002–06
(Cumulative percentage points)



Sources: World Bank, *World Development Indicators;* and IMF staff calculations.

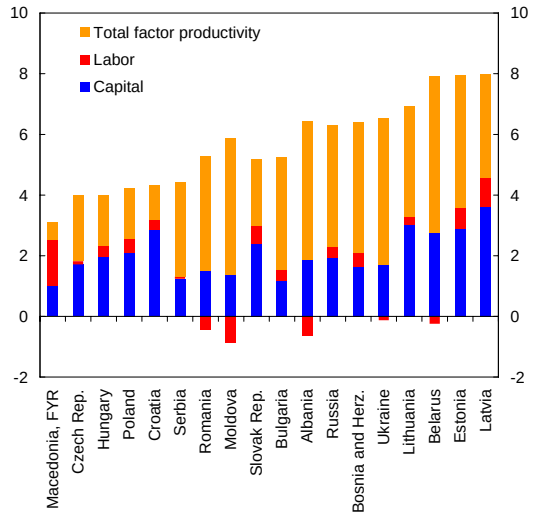
[25] See the November 2007 *Regional Economic Outlook: Europe*, Part II, Chapter 2. Although services include tourism, which is a tradable, this is relevant primarily for Croatia and, to a lesser extent, Turkey, which have large tourism sectors. Services also include outsourcing, which, although tradable, remains a relatively small share despite rapid expansion in recent years.

transformation, which bodes well for future growth prospects (Figure 26).[26] Growth in emerging Europe has been driven primarily by TFP, and countries with higher TFP growth have been growing faster. Capital accumulation has also been important in most countries; meanwhile, labor has added less and even registered a negative contribution in some countries, with emigration a key factor.[27]

Structural Reforms Are Essential Drivers of Economic Growth

Reforms that have been found to foster economic growth and productivity explain fast growth in the Baltics and in central-eastern Europe, while lower starting income positions and convergence arguments explain fast growth in southeastern Europe and in the Commonwealth

Figure 26. Emerging Europe: Growth Accounting, 2002–06
(Percent per year)



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

of Independent States (CIS) countries (Table 8).[28] The Baltics have progressed considerably faster in structural reforms, reducing the role of the state in the economy and creating a business-friendly environment that has led to larger investment shares. In some of these areas, the Baltics already compare well with the euro area.[29] Central-eastern Europe follows, with notable progress in most growth determinants. Both regions are also very open to international trade, are well advanced in the transition process, and have relatively good public infrastructure, a well-educated population, and labor markets that are more flexible than in the euro area. Southeastern Europe has fallen behind in structural reforms, while the CIS countries are lagging even more (these differences

[26] We assume a Cobb-Douglas technology with two factors, capital and labor, and with constant returns to scale: $Y(t) = A(t)\,F[K(t), L(t)]$. Y is real GDP; A is an index of the level of technology, or TFP; K is capital; and L is employment. Contributions to growth are then computed according to $y(t) = a(t) + \alpha\, k(t) + (1-\alpha) l(t)$, where α is the share of rental payments to capital in total income and $(1-\alpha)$ is the share of wage payments to labor in total income, assuming competitive product markets, and lowercase letters indicate growth rates. $a(t)$ is estimated as a residual, and although assumed to measure productivity improvements, it also captures production forces in addition to capital and labor, as well as possible measurement errors. For more details, see Barro and Sala-í-Martin (2004).

[27] This is consistent with Schadler and others (2006), who find that TFP growth in central-eastern Europe has been higher than in other emerging economies, including east Asia and Latin America. Some caution in interpreting these results is in order as it is difficult to estimate capital stocks for transition economies. Investment data are not reliably available before the 1990s so an ad hoc assumption needs to be made about the starting value of the capital stock. We assumed that the initial ratio of capital to GDP in the European transition economies is somewhere between the average level in the low- and middle-income economies in the world in 1995. This leads to a range of TFP estimates for each country that may be more plausible than estimates based on short investment time series. The data in Figure 26 show the middle of these ranges for TFP growth and the growth contribution of capital. The income shares were taken from previous IMF country studies, or assumed to be equal to the average in the region when country data were not available.

[28] Table 8 includes factors that the literature has found to determine potential economic growth and productivity. Although the statistical and relative economic significance of many of these determinants is still subject to discussion, these factors can indicate the growth prospects of a country or region and provide guidance to policy. For more details, see Barro and Sala-í-Martin (2004); George, Oxley, and Carlaw (2004); Helpman (2004); and Aghion and Durlauf (2005).

[29] Assuming the euro area is the region to which emerging Europe is converging, the convergence pace of the latter is conditional on its reform progress compared with that of the euro area.

Table 8. Determinants of Growth in Emerging Europe, 2003–07
(Unweighted averages; percent unless otherwise indicated)

	Emerging Europe	Baltics	SEE	CEE	CIS	Euro Area	Source
Convergence							
Real GDP growth, 2003-07	6.5	9.0	5.4	5.3	7.6	1.9	WEO
Real GDP per capita, PPP adjusted, in percent of euro area, 2006	39.2	55.0	29.1	60.9	25.5	100.0	WEO
Demographics							
Age-dependency ratio, 2006	0.4	0.5	0.4	0.4	0.4	0.5	WDI
Population growth, 2003-07	-0.1	-0.3	0.1	0.0	-0.7	0.6	WEO
Investment							
Gross fixed capital formation (percent of GDP), 2003-07	23.4	28.9	22.4	23.2	22.7	20.7	WEO
of which							
Private	18.9	24.7	17.7	21.7	17.3	.	WEO
Public	4.3	3.4	4.6	4.0	4.5	.	WEO
Foreign direct investment inflows (percent of GDP), 2003-07	4.8	5.3	6.6	3.9	2.9	.	WEO
Fiscal policy							
General government balance (percent of GDP), 2007	-0.6	0.4	-0.8	-3.4	1.9	-0.7	WEO
General government, total expenditure and net lending (percent of GDP), 2007	39.7	36.6	39.6	43.4	38.6	46.7	WEO
General government, gross debt (percent of GDP), 2007	27.1	9.2	32.3	34.7	16.0	66.3	WEO
Monetary policy							
CPI inflation, 2007	6.3	7.5	4.0	4.0	10.9	2.1	WEO
Sound money (index, increasing from 1 to 10), 2005	7.9	9.0	7.9	9.2	6.8	9.5	EFN
Transition							
Average transition (index, increasing from 1 to 5), 2007	3.3	3.8	3.1	3.8	2.8	.	EBRD
of which							
Large-scale privatization	3.3	3.9	3.3	3.8	2.7	.	EBRD
Small-scale privatization	3.9	4.3	3.8	4.3	3.4	.	EBRD
Enterprise restructuring	2.7	3.2	2.5	3.6	1.9	.	EBRD
Price liberalization	4.1	4.3	4.2	4.3	3.8	.	EBRD
Competition policy	2.6	3.3	2.3	3.2	2.3	.	EBRD
Economic freedom index (index, increasing from 1 to 10), 2005	6.7	7.7	6.3	7.2	6.3	7.3	EFN
Size of government (index, decreasing from 1 to 10), 2005	5.8	6.9	5.4	5.4	5.7	5.0	EFN
Financial sector development							
M2 (percent of GDP), 2006	46.1	44.5	48.6	57.9	33.4	.	WDI
Domestic credit to private sector (percent of GDP), 2006	42.1	78.1	38.3	45.2	31.0	122.0	WDI
Interest rate spread (lending rate minus deposit rate), 2006	5.3	3.0	7.5	3.0	5.4	4.0	WDI
Credit market regulation (index, decreasing from 1 to 10), 2005	8.5	9.5	8.4	9.1	7.8	8.2	WDI
Market capitalization of listed companies (percent of GDP), 2006	42.5	28.0	42.6	31.4	87.2	72.9	WDI
Stocks traded, turnover ratio, 2006	41.2	18.6	17.2	53.6	35.1	56.0	WDI
Finance (percent of managers surveyed ranking this as a constraint), 2005	28.7	11.3	34.1	28.8	33.1	20.1	WDI
Banking reform and interest rate liberalization (index, increasing from 1 to 5), 2007	3.3	3.9	3.0	3.8	2.8	.	EBRD
Securities markets and nonbank financial institutions (index, increasing from 1 to 5), 2007	2.7	3.3	2.2	3.6	2.3	.	EBRD
Business environment							
Business regulations (index, decreasing from 1 to 10), 2005	5.7	6.8	5.3	5.9	4.9	6.8	EFN
Time required to start a business (days), 2006	30.6	25.7	31.0	29.5	40.0	21.5	WDI
Time required to register property (days), 2006	111.1	36.0	165.0	103.8	106.0	53.8	WDI
Ease of doing business index (rank, 1=most-business-friendly regulations), 2006	75.5	19.0	86.0	57.3	114.0	40.3	WDI
Legal system and corruption							
Legal system and property rights (index, increasing from 1 to 10), 2005	5.9	7.2	5.0	6.5	5.6	7.8	EFN
Time required to enforce a contract (days), 2006	423.1	227.0	477.3	675.0	224.0	472.5	WDI
Time to resolve insolvency (years), 2006	3.8	2.6	3.5	4.6	3.8	1.3	WDI
Courts (percent of managers surveyed ranking this as a constraint), 2005	18.3	7.2	25.5	23.1	12.1	7.1	WDI
Corruption (percent of managers surveyed ranking this as a constraint), 2005	17.6	8.8	24.8	13.9	15.6	7.0	WDI
International trade							
Trade (percent of GDP), 2006	113.1	135.2	98.4	140.2	104.4	109.0	WDI
Freedom to trade internationally (index, increasing from 1 to 10), 2005	6.9	7.7	6.4	7.7	6.7	7.5	EFN
Trade and foreign exchange system (index, increasing from 1 to 5), 2007	4.0	4.3	4.1	4.3	3.7	.	EBRD
Infrastructure							
Overall infrastructure reform (index, increasing from 1 to 5), 2007	2.7	3.1	2.5	3.3	2.3	.	EBRD
Human capital							
Secondary school enrollment ratio (percent of relevant age group), 2005	92.5	98.5	90.9	96.6	89.4	106.8	WDI
Tertiary school enrollment ratio (percent of relevant age group), 2005	52.4	72.0	34.4	54.3	59.0	67.3	WDI
Labor skills (percent of managers surveyed ranking this as a constraint), 2005	11.0	13.3	8.7	12.0	12.8	10.4	WDI
Labor market							
Unemployment rate (percent), 2006	12.0	6.0	19.7	10.4	5.2	7.8	WEO
Labor market regulations (index, decreasing from 1 to 10), 2005	5.9	6.5	5.6	6.1	6.2	5.1	EFN
New economy							
Research and development expenditure (percent of GDP), 2004	0.8	0.7	0.6	0.8	1.0	1.9	WDI
Personal computers (per 1,000 people), 2004	136.8	277.1	82.4	218.7	53.6	421.3	WDI
Internet users (per 1,000 people), 2004	269.2	439.4	175.5	323.2	198.8	439.4	WDI

Sources: IMF, *World Economic Outlook* (WEO); World Bank, *World Development Indicators* (WDI); European Bank for Reconstruction and Development (EBRD); and Economic Freedom Network (EFN).

Notes: Southeastern European (SEE) countries: Albania; Bosnia and Herzegovina; Bulgaria; Macedonia, FYR; Romania; and Serbia. Central-eastern European (CEE) countries: the Czech Republic, Hungary, Poland, and the Slovak Republic. Baltics: Estonia, Latvia, and Lithuania. CIS: Belarus, Russia, Moldova, and Ukraine.

may be partly due to the EU harmonization, which drove reforms in the new EU member states in recent years). The lack of reform progress may explain why some countries in these areas have not been growing faster than the rest of emerging Europe, despite starting from a lower income position.[30]

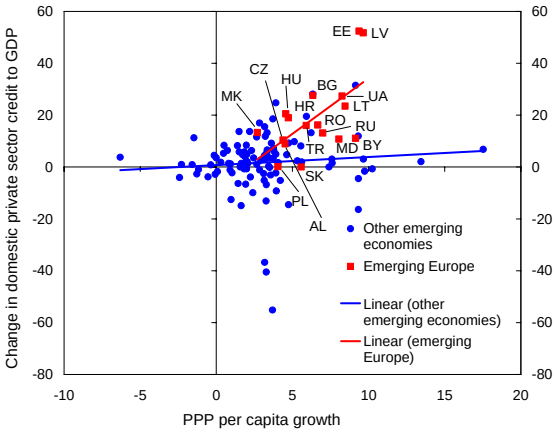
Other growth determinants in the region are conducive to convergence, or at least are not an obstacle. The financial sector has been developing at a fast pace across emerging Europe, although this process is far from complete. And the demographic characteristics in the region and human capital indicators are similar to the ones in the rest of Europe.

Financial Deepening May Lose Steam

IMF staff research suggests that, despite recent progress, the financial sectors in emerging European economies still have a long way to go to converge with the more advanced financial sectors in the rest of Europe.[31] The stock of domestic bank private sector credit as a share of GDP is still small in most economies in the region relative to income levels. Estimates in Schadler and others (2005), in IMF Country Report 06/169 (for Romania and other new EU member states), and data for 2006 suggest that the credit ratios in the new EU member countries are considerably below their long-run equilibrium, with the exceptions of Latvia and Estonia, which are slightly above equilibrium. Moreover, debt and equity markets have considerable room to develop. Therefore, financial deepening in emerging Europe is part of an equilibrium convergence process that is likely to continue in the medium term.

Figure 27. Growth and Private Sector Credit Growth, 2002–06

(Percent)



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
Note: Country names are abbreviated according to the ISO standard codes.

However, the recent speed of financial deepening in the region may have been extreme. The pace of credit expansion relative to economic growth in emerging Europe has exceeded that in other emerging economies (Figure 27). Also, including loans taken by the nonfinancial sector directly from abroad, the credit-to-GDP ratio is considerably higher (see, for example, evidence for southeastern Europe in Sorsa and others, 2007). Therefore, although the trend of financial deepening is likely to continue in emerging Europe, its pace may slow in the near term, even in the absence of shocks.[32] This, in turn, is expected to contribute to a slowing of output growth.

[30] Southeastern Europe (SEE) comprises Albania, Bosnia and Herzegovina, Bulgaria, Macedonia, FYR, Romania, and Serbia; central-eastern Europe (CEE) comprises the Czech Republic, Hungary, Poland, and the Slovak Republic; the Baltics comprises Estonia, Latvia, and Lithuania; and the CIS area comprises Belarus, Russia, Moldova, and Ukraine.

[31] See the November 2007 *Regional Economic Outlook: Europe*, Part II, Chapter 3.

[32] For a detailed discussion of the state of the financial sector in emerging Europe, its health and development prospects, the implications and sustainability of fast credit growth, and the sector's resilience to shocks, see Duenwald, Gueorguiev, and Schaechter (2005) for Bulgaria, Romania, and Ukraine; Hilbers and others (2005) for central-eastern Europe; Sorsa and others (2007) for southeastern Europe; and IMF Country Reports 06/392 for Poland, 06/285 for Albania, 07/269 for Bosnia and Herzegovina, 07/390 for Bulgaria, 07/82 for Croatia, 06/354 for Latvia, 06/169 for Romania, 08/55 for Serbia, and 06/414 for new EU members.

Growth Is Likely to Slow in Line with Potential

Although good fundamentals justify high potential growth rates in emerging Europe, actual growth rates seem to have been even higher, suggestive of overheating pressures.[33] Estimates based on a growth model show that potential growth is high throughout the region (Box 8). However, comparisons of the growth model estimates with actual growth rates reveal that all emerging European economies have been growing at above-potential rates in the past five years, except Hungary, which has remained below potential. The difference is the largest for Latvia, Russia, and Ukraine. On average, the region is estimated to have grown faster than potential by 2 percent during 2003–07 (1.8 percent excluding Russia). Therefore, although convergence is expected to continue, its pace may slow. Moreover, the road back to potential may be bumpy in economies where excess demand pressures have led to vulnerabilities.

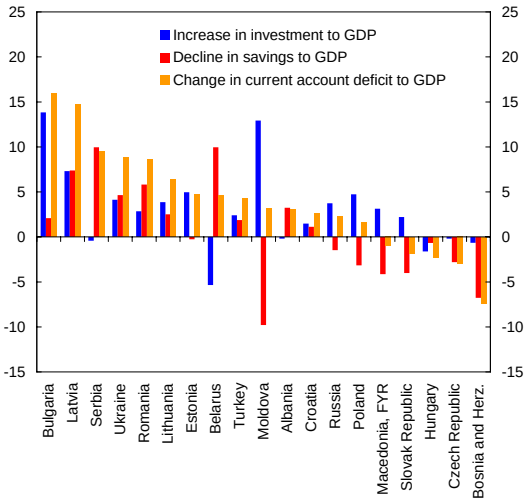
The estimates also suggest that further structural reforms could substantially increase potential growth rates in emerging Europe, in some cases to even above current growth rates. Continuing with reforms at the same pace as in recent years is estimated to increase potential growth by an average of 1.6 percent annually.

Addressing Vulnerabilities

Some Trends Are Reassuring . . .

As noted, most emerging European economies have current account deficits that are considerably larger than in similar economies in the rest of the world. Although this makes the region vulnerable to external shocks (see below), other trends are more reassuring.

Figure 28. Emerging Europe: Contributions to Current Account Deficit, 2003–07
(Percent)



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

- Most of the recent deterioration of current account balances in emerging Europe seems to be driven by an increase in investment (Figure 28). And in almost half of the countries, savings actually rose. In most countries with large deficits, such as the Baltics and Bulgaria, investment increased the most, although in many cases savings also declined. High investment is expected to improve the region's growth prospects and eventually help reduce the current account deficits.

- Foreign direct investment (FDI) has financed most of the current account deficits in emerging Europe in recent years (Figure 29). FDI is less volatile than other capital flows as it cannot leave the country on short notice. One of its key features is that it fully shares in the economic risks and often signals approval of a country's economic policies and positive expectations about its prospects. Therefore, FDI-financed current account deficits are generally more sustainable and tend to adjust more gradually than deficits financed by debt

[33] Firm conclusions on the degree of overheating are difficult to draw as the level of potential output is hard to pin down.

Box 8. Potential Growth Estimates in Emerging Europe Based on a Growth Model

For transition economies, there are several obstacles to estimating potential growth, including short time series, the unavailability of some key variables, measurement issues, and frequent changes in statistical methods. Furthermore, using historical data to estimate potential growth and recent trends to gauge future prospects may lead to false conclusions during structural transformation. However, estimates of potential output growth are still useful in determining to what extent actual growth is driven by temporary factors.

With these caveats in mind, we estimate an econometric growth model based on a large cross-country sample of 107 developed and developing economies, during 1996–2006. The estimated coefficients are used to forecast potential growth in emerging Europe based on the current values of the independent variables in each country.[1] Focusing on the past 10 years has a number of advantages: the sample includes transition economies; some cross-country indices are not available for earlier years; and overall data quality has improved since previous years.

The empirical specification is the following:

$$(\text{Real GDP per capita growth})i = \alpha + \beta Xi + u, \qquad \text{for country } i = 1,\ldots, n.$$

The dependent variable is the average per capita purchasing power parity (PPP) real GDP growth rate for each country i; α is the constant term; β is the matrix of parameters to be estimated; Xi is the matrix of independent variables; and u is the error term (see Table 8 in the main text for data sources). Each country has one observation, which is either the average over 10 years or the initial value in 1996, depending on the variable.

The preferred, estimated specification is

> Real GDP per capita growth = 11.00(2.93)** –1.38(4.52)*** initial real GDP per capita –7.05(-3.86)*** age dependency rate +0.13(3.93)*** investment/GDP +0.02(1.80)* university enrollment ratio –0.015(-2.34)** inflation rate +0.07(1.50) foreign direct investment/GDP +0.59(3.00)** index of economic freedom in 1995 +0.86(3.97)*** change in the index of economic freedom during 1995–2005 +0.90(1.73)* dummy variable for transition +0.67(1.69)* dummy variable for Africa.

***, **, and * denote statistical significance at the 1, 5, and 10 percent level, respectively; the number of observations is 107; the adjusted R^2 is 0.59; heteroscedasticity-consistent t-statistics are in parentheses.

The results suggest that, keeping everything else constant, a country with a relatively low income level, a low dependency ratio, a large investment share, a low inflation rate, and a relatively educated population grows faster. The index of economic freedom, which measures a number of different aspects of macroeconomic and structural policies and reforms, has a positive and statistically significant estimate.[2] The FDI-to-GDP ratio has a positive coefficient but is statistically significant at only the 15 percent level. Separate constants for transition economies and for African countries have positive estimates.

The estimate of the dummy variable for transition economies suggests that these economies have been growing faster during the past 10 years than would be justified by the growth determinants in this specification—by about 0.9 percent annually in terms of per capita GDP, with most of these economies having collapsed at the beginning of their transition. However, this "growth bonus" may not continue in the future, or at least not to the same extent.

[1] A similar methodology was used in Schadler and others (2005) for central-eastern Europe, in Moore and Vamvakidis (forthcoming) for Croatia, and in IMF Country Report 06/345 for Macedonia, FYR.

[2] For more information on the index of economic freedom, see www.freetheworld.com.

Using these estimates and the latest values of the independent variables for each emerging European economy gives a range of potential growth estimates and the growth impact of economic reforms (see table; some countries are dropped from the sample because of missing values for some of the growth determinants). The lower end of the range assumes that the transition growth bonus will not continue in the medium term, while the upper end assumes that it will. The range with no reforms assumes no further progress in structural reforms (the index of economic freedom remains at its 2005 level), which may be an extreme assumption, while the range with reforms assumes that structural reforms continue at the same pace, which may also be an extreme assumption because past reforms started from a very low level. In the main text, the average of all these estimates is used as the potential growth rate for each economy.

Potential and Actual Growth of Real GDP in Emerging Europe
(Percent)

	Growth Model Estimates						
	Potential growth without further reforms		Potential growth with reforms				
	Lower	Higher	Lower	Higher	Average	Average Growth in 2003–07	Growth in 2007 (Actual or preliminary estimates)
Transition economies	2.4	3.2	4.1	5.0	3.7	6.5	7.1
of which							
Southeastern Europe	3.2	4.1	5.2	6.1	4.6	6.6	6.3
Baltics	5.3	6.3	7.5	8.4	6.9	8.9	8.9
Central-eastern Europe	3.0	3.9	4.3	5.2	4.1	5.1	6.0
Albania	3.5	4.4	4.9	5.8	4.6	5.6	6.0
Bulgaria	3.2	4.1	5.2	6.1	4.7	6.1	6.2
Croatia	3.2	4.1	4.9	5.8	4.5	4.9	5.8
Czech Republic	3.1	4.0	4.1	5.1	4.1	5.5	6.5
Estonia	5.3	6.2	7.4	8.3	6.8	8.8	7.1
Hungary	3.0	3.9	4.0	4.9	4.0	3.7	1.3
Latvia	4.3	5.2	6.3	7.2	5.7	9.7	10.2
Lithuania	5.8	6.7	8.1	9.0	7.4	8.4	8.8
Poland	2.8	3.7	4.3	5.2	4.0	5.1	6.5
Romania	3.1	4.0	5.3	6.2	4.7	6.3	6.0
Russia	2.1	3.0	3.6	4.5	3.3	7.3	8.1
Slovak Republic	3.6	4.5	5.2	6.1	4.8	7.1	10.4
Turkey 1/	3.0	4.7	3.4	5.1	3.2	7.0	5.0
Ukraine	2.5	3.4	4.5	5.4	4.0	7.7	7.3

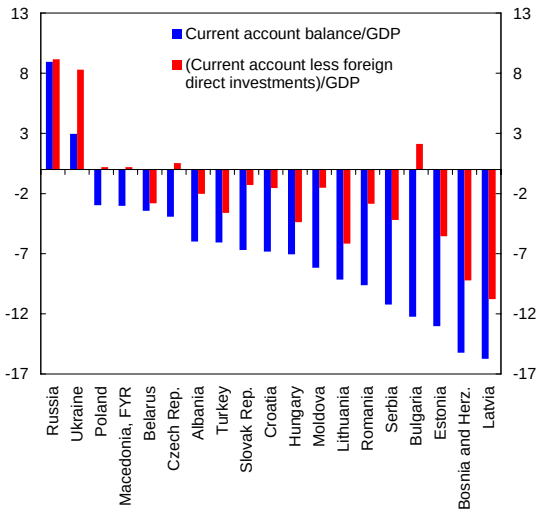
Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
1/ A dummy variable for Turkey has a statistically significant estimate of 1.7, which is taken into account in the range of potential growth in the table.

or portfolio flows (although a sudden stop of FDI inflows cannot be excluded). However, an important caveat is that some of the recent FDI into emerging Europe was linked to privatization and, therefore, may not be repeated. Furthermore, foreign bank borrowing from parent banks has been financing an increasing share of the current account deficits in most countries, primarily in the Baltics and in southeastern Europe.

- Exchange rate appreciation does not seem to explain the accumulation of external imbalances in emerging Europe (Figure 30). There is no significant correlation between the changes in current account balances in emerging Europe and the changes in real effective exchange rates in recent years (the latter are also not correlated with the levels of the current account deficits).

- Emerging Europe has been gaining market share. As a share of world imports, exports of goods and services (excluding oil) have risen in all countries in the region since 2002—in some considerably so (Figure 31). Therefore, competitiveness problems do not seem to

Figure 29. Emerging Europe: FDI Coverage of Current Account Deficit, 2002–06
(Percent)



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

explain the large current account deficits in the region.

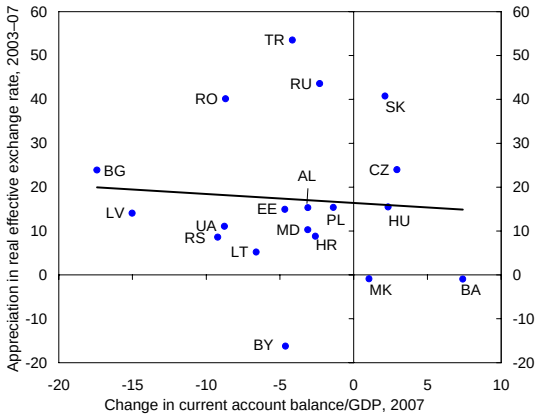
. . . But Current Account Deficits Are Well Above Estimates Based on Fundamentals

Estimates of expected current account deficits based on fundamentals suggest that some countries in emerging Europe have excessive external imbalances. Although such estimates are subject to uncertainty and very sensitive to empirical specification, their gaps from actual deficits in most countries in the region are substantial and suggest the need for an adjustment in the medium term, signs of which are beginning to appear.[34]

Multiple methodologies are used to estimate equilibrium current account deficits; the so-called CGER approach is the standard at the IMF.[35] Recent IMF staff reports for emerging European countries have published such estimates.[36] In this section, we discuss new results from three alternative methodologies.

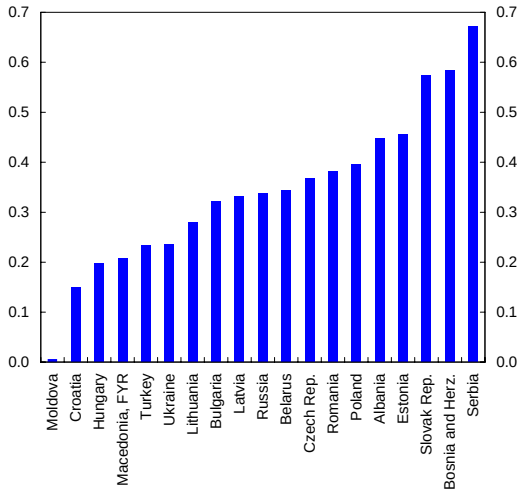
First, results from the simulation of an empirical model on the determinants of current account balances in Europe in Abiad, Leigh, and Mody (2007) give mixed results for selected new EU members. This model takes financial integration explicitly into account and, therefore, is particularly relevant for emerging Europe.[37] The results suggest that current account deficits in the past five years have been considerably larger than

Figure 30. Emerging Europe: Change in Current Account Balance and Real Effective Exchange Rate Appreciation, 2003–07
(Percent)



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
Note: Country names are abbreviated according to the ISO standard codes.

Figure 31. Emerging Europe: Percentage Change in Export Market Shares in the World Economy, 2002–06 1/



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
1/ Goods and services excluding oil.

[34] The results are based on a common methodology for all emerging European countries. Although this is useful for cross-country comparisons, it leaves out some country-specific aspects. However, IMF country reports, some of which are referenced in this chapter, address country-specific issues in more detail.

[35] CGER stands for the Consultative Group on Exchange Rate Issues, which was established in the IMF in 1995 to strengthen its capacity to assess current account positions and exchange rate levels. The CGER assessments are based on three complementary approaches: the macroeconomic balance approach, the reduced-form equilibrium real exchange rate approach, and the external sustainability approach. For more details, see Isard and Faruqee (1998); Isard and others (2001); and IMF (2006).

[36] For example, IMF Country Report 07/255 for Estonia.

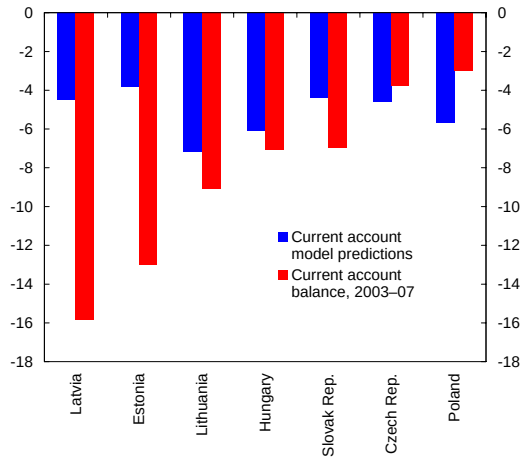
[37] The CGER approach may underestimate the equilibrium current account deficit in a setting of EU convergence and rapid financial integration. Abiad, Leigh, and Mody (2007) take this into account in their empirical model and find financial integration to be the main determinant of the current account balances in Europe.

would be justified by fundamentals in Latvia and Estonia, somewhat larger in Lithuania, Hungary, and the Slovak Republic, and smaller in the Czech Republic and Poland (Figure 32).[38]

Second, estimates of current account balances for new EU member states based on the macroeconomic balance approach show that fundamentals justify larger deficits in the region than in other emerging market economies, but not to the extent seen in some countries (Box 9). The Baltics and, more recently, Bulgaria and Romania have diverged from the model predictions. This divergence seems to be mainly driven by cyclical and structural factors, but also by economic policies. Although deviations from model predictions are not conclusive evidence of disequilibrium, particularly given the sensitivity of such estimates to the empirical specification, an adjustment would require the shift of resources to the tradable sectors and a slowing of domestic demand.

Third, estimation of a model of intertemporal optimization during regional convergence in emerging Europe leads to similar conclusions. In this model, based on Blanchard and Giavazzi (2002), emerging economies converge toward the more advanced economies in the region by borrowing in international capital markets.[39] The current account balances of emerging economies depend on a time effect, relative per capita income, demographic factors, and the business cycle. Foreign borrowing finances relatively high consumption and investment in the present, based on expectations that living standards will improve in the future. Therefore, fast growth in emerging economies is associated with large current account deficits, which would describe what one has seen in emerging Europe in recent years. The model can be used to forecast the levels of the current account balances that are consistent with regional convergence in emerging Europe.

Figure 32. Current Account Model Predictions and Actual Balances in Selected New EU Members
(Percent of GDP)



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

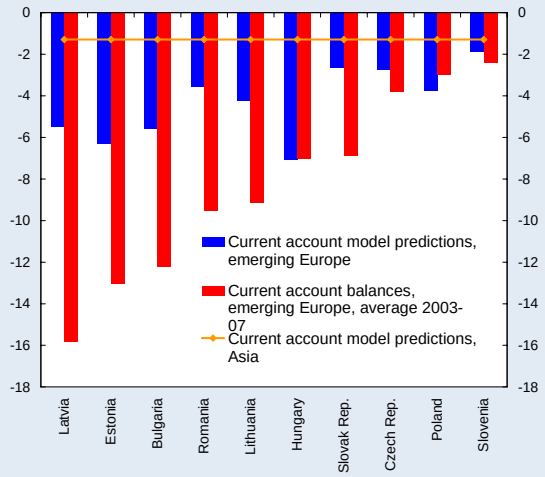
[38] The differences between predicted and actual current account deficits are largely explained by cyclical factors. For a detailed discussion of these simulations for Lithuania, see Ohnsorge (forthcoming).

[39] The regression equation is $ca_{it} = \alpha_t + \beta_t(y_{it} - y_t) + \gamma' X_{it} + \varepsilon_{it}$, where ca_{it} is the current account balance of country i at time t, α_t is a common time effect, y_{it} is the log per capita GDP of country i at time t, y_t is the log of the average per capita GDP in the euro area, and X_{it} is a set of other control variables for country i at time t, including the age dependency ratio and real GDP growth. We would expect that the larger the income gap of an emerging European economy from the advanced European economies, the higher the age dependency ratio, and the stronger the current growth cycle, the larger its current account deficit. The coefficient of relative income varies over time. As argued in Blanchard and Giavazzi (2002), financial integration in Europe has increased substantially in recent years, allowing emerging economies to borrow more, invest more, and save less during convergence, and leading to larger current account deficits over time. The sample includes all European economies, for the period 1976–2006 (beginning in the mid-1990s for most transition economies). For earlier applications of this model to Latvia, Lithuania, and Hungary, see IMF Country Reports 06/354, 05/122, and 05/215, respectively.

Box 9. Current Account Sustainability in the EU-10[1]

The fact that most new members of the European Union have been running current account deficits that are, on average, larger than those experienced by other emerging market economies appears to be justified by fundamentals (figure). Using the so-called macroeconomic balance approach, an equilibrium relationship between the current account balance and a set of fundamentals that determines a country's saving and investment positions was estimated on a sample of 59 industrial and developing countries. The resulting larger predicted current account deficits in the EU-10 are driven by two factors: a larger share of dependent population and a much lower net foreign assets position (first table).

Current Account Balances and Model Predictions
(Percent of GDP)



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

The demographic profile of the EU-10 is closer to the one in industrial Europe than that in other emerging market countries outside Europe. Having a larger share of old-age dependent population lowers national saving, implying a larger current account deficit. In addition, foreign investors' greater confidence in the growth prospects of the EU-10 and the higher dependence of the latter on foreign capital for growth are reflected in a lower net foreign assets position. Unlike emerging Asia, where growth has mostly been self-financed, emerging Europe's convergence is financed from abroad. Robustness checks also point to the desirability of excluding non-European emerging market countries from the sample. Doing so produces slightly larger current account model predictions for the EU-10.

Current Account Regression

		Contribution to the Current Account Norm Coefficient x Medium-Term Value of the Variable 1/			
	Coefficients	EU-10	Asia	Middle East	Latin America
Variables					
Constant	0.02	2.0	2.0	2.0	2.0
Fiscal balance/GDP	0.39***	-0.4	-0.6	-0.9	-0.1
Relative per capita GDP in purchasing power parity	0.03**	1.5	0.6	0.5	0.8
Old age dependent population	-0.14**	-3.2	-1.4	-1.0	-1.5
Population growth	-0.79**	0.0	-1.2	-1.2	-1.0
Oil trade balance/GDP	0.15***	-0.5	-0.6	-0.4	0.0
Initial NFA/GDP	0.04***	-3.2	0.0	-2.1	-1.7
FDI/GDP	-0.13**	-0.5	-0.3	-0.4	-0.3
Real per capita output growth	-0.05				
Remittance dummy 2/	0.02***			2.0	
Financial center dummy	0.01				
Asian crisis dummy	0.028***				
Banking crisis dummy	0.015***				
R^2	0.42				
Average CA norm		-4.4	-1.4	-1.9	-1.8

Note: ***, **, and * denote significance at the 1, 5, and 10 percent level, respectively.
1/ Medium-term values of the variables are obtained from the WEO database.
2/ Takes the value of 1 if total receipts of remittances and workers' compensation equal 5 percentage points of GDP or higher.

To what extent have actual current account balances in the EU-10 diverged from the model predictions? There is a wide cross-country variation, with Slovenia and Poland, on one end, showing mostly positive deviations, and the Baltic countries and the Slovak Republic, on the other end, showing persistently negative deviations. Within this latter group, the Slovak Republic has reduced its divergence over time, whereas the Baltics have been moving in the opposite direction, joined recently by Bulgaria and Romania.

Note: The main author of this box is Jesmin Rahman (based on Rahman, forthcoming).

[1] The EU-10 comprises the following new members of the European Union: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia.

The divergence of actual current account balances from their "annual" model predictions, which are calculated using coefficients from the current account balance regression and annual values of the fundamental variables, can be explained by three kinds of factors: cyclical or temporary (the output gap and capital inflows brought in by EU accession), structural (export composition and cost competitiveness in the manufacturing sector), and policy-related (the exchange rate regime and financial sector policies) factors.[2] Because structural and policy variables are also statistically significant, in addition to cyclical and temporary variables, in explaining the variation in divergence in the EU-10, the results suggest that the elimination of large deficits is likely to require an improvement in export performance (second table).

In fact, the experience of countries where large deficits were absent (Poland and Slovenia) or have been brought down over time (the Czech Republic, the Slovak Republic, and Hungary) demonstrates the importance of exports. While imports increased rapidly in all of the EU-10, exports took off in a determined fashion only in this subgroup. This takeoff, in turn, was facilitated not just by strong growth and increasing market shares, but also by a composition that became increasingly diversified in favor of products with higher technological content and productivity growth that favored the tradable sector.

The question is whether the rest of the EU-10 countries, all of which are running double-digit current account deficits, can follow the same script. Concerns about external stability have mounted in these countries, given their sizable external debt, blistering pace of credit growth, rising domestic wage pressures, and limited policy flexibility. High and increasingly negative net foreign asset positions imply that the deterioration in the income balance in coming years is likely to offset the expected improvement in the transfer balance. Hence, a turnaround in the trade and services balance will be essential to obtain the needed adjustment and will require a very strong export performance in addition to a slowdown in domestic demand.

Divergence from Current Account Balance Regression
Dependent variable = actual current account balance/GDP – annual norm current account balance/GDP

Variables	Coefficients
Constant	-0.10***
Output gap	-0.43***
Relative cost competitiveness in manufacturing 1/	0.11***
Share of labor-intensive products in total exports	-0.05*
EU accession dummy (=1 for two years following the closing of EU accession negotiation)	-0.02**
Exchange rate regime dummy (=0 for fixed regime)	0.02***
Financial sector efficiency 2/	-0.32*
R^2	0.48

Note: ***, **, and * denote significance at the 1 percent, 5 percent, and 10 percent level, respectively.
1/ The ratio of unit labor costs in the overall economy and manufacturing sector relative to trading partners. An increase implies a more competitive manufacturing sector.
2/ Overhead costs in the financial sector.

[2] For this analysis, the regression coefficients are obtained from the estimation results using industrial and European emerging market countries only.

The results show that large current account deficits in emerging Europe are only partly driven by regional convergence. Most of these deficits are at levels within equilibrium ranges (determined by a 95 percent confidence band) during regional convergence (Table 9). However, these ranges are wide, and the deficits of most emerging European economies are well above the central estimates within these ranges. Moreover, three economies have deficits above the estimated ranges: Latvia, Bulgaria, and Estonia.[40]

[40] According to the latest IMF *World Economic Outlook* projections, Estonia is expected to be within this band by 2008, Latvia by 2009, and Bulgaria by 2010 (IMF, 2008b).

Table 9. Sustainability of Current Account Deficits Based on a Model of Regional Convergence, 2007
(Percent)

	Current Account/GDP			
	Actual balance in 2007 (preliminary)	Central model prediction	Difference between actual balance in 2007 and central model prediction	Current account balance in 2007 relative to the 95 percent confidence band
Albania	-8.3	-7.9	-0.4	Within
Belarus	-6.6	-7.1	0.1	Within
Bosnia and Herzegovina	-13.0	-6.8	-5.2	Within
Bulgaria	-21.4	-6.6	-16.3	Lower, by 5.1 percent
Croatia	-8.5	-5.6	-3.2	Within
Czech Republic	-2.5	-3.2	-0.2	Within
Estonia	-16.0	-4.9	-11.1	Lower, by 1.3 percent
Hungary	-5.6	-4.0	-1.6	Within
Latvia	-23.3	-5.6	-17.6	Lower, by 7.9 percent
Lithuania	-13.0	-5.2	-8.3	Within
Macedonia, FYR	-2.7	-7.0	4.7	Within
Moldova	-9.7	-8.3	-1.4	Within
Poland	-3.7	-5.1	1.6	Within
Romania	-13.9	-6.7	-7.8	Within
Russia	5.9	-6.1	12.0	Within
Serbia, Republic of	-16.5	-7.6	-8.6	Within
Slovak Republic	-5.3	-4.6	0.8	Within
Turkey	-5.7	-7.1	-0.4	Within
Ukraine	-4.2	-7.3	4.3	Within

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

High External Debt Causes Concerns

A number of emerging European economies have levels of external debt that, as a share of GDP, are considerably higher than in most other emerging economies. High levels of external indebtedness, as well as of domestic debt in foreign exchange, could expose parts of the region to shocks, including rollover difficulties, sharp interest rate and exchange rate movements, changes in investors' sentiments, and changes in the expansion plans of foreign banks, which own the lion's share of banking assets in most countries. Repayment would require that indebted economies either export their way out or reduce their domestic demand. The first path is obviously preferable, but achieving it will depend on progress with reforms.[41]

While most debt is of medium- and long-term maturities, reserve coverage of short-term debt is low in a number of countries. A ratio of short-term debt to central bank foreign reserves higher than 100 is not usually considered to provide a sufficient buffer during shocks. About half of emerging European economies are well below this limit, about one-fourth are very close to or somewhat above it, and the rest (the Baltics and Belarus) are well above it (Figure 33).[42]

Based on a methodology described in Milesi-Ferretti and Razin (1997), a standard debt-accounting framework can be used to determine the dynamics of external debt in response to a number of adverse shocks (Table 10).[43] Three shocks are considered: a 20 percent depreciation

[41] See the November 2007 *Regional Economic Outlook: Europe*, Part II, Chapter 2.

[42] Net external debt, which adjusts for private sector foreign assets, is considerably lower in most countries. In Latvia, for example, where external debt is the highest in emerging Europe, net debt was estimated at about 52 percent of GDP in 2007—the ratio of net short-term debt to foreign reserves was estimated at 98 percent. Although a large share of foreign assets could provide some buffer during external shocks, possible mismatches between asset owners and debtors suggest that there is no immunity.

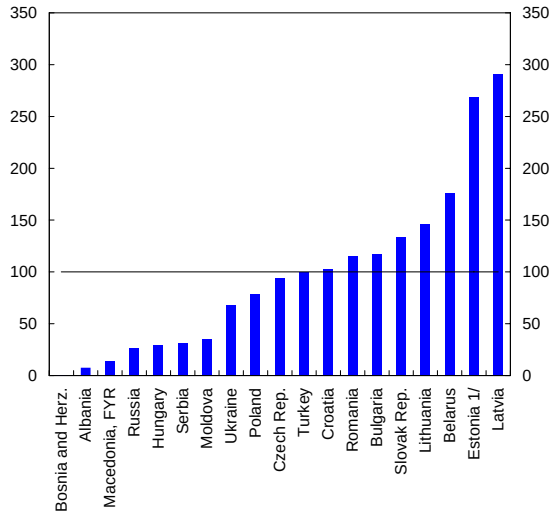
[43] The path of external debt as a share of GDP is determined by the following process:
$d_{t+1}-d_t = (1/(1+g_t+\varrho_t+g_t\,\varrho_t)*[r_t-g_t-\varrho_t(1+g_t)]d_t-tb_{t+1}$,
where d is the ratio of external debt to GDP, r is the effective nominal interest rate on external debt, g is the rate of real GDP growth, tb is the noninterest current account balance in percent of GDP, and ϱ is the change in the domestic GDP deflator in euros: $(1+\varrho_t) = (1+\pi_t)\,(1+\varepsilon_t)$, where π_t is domestic GDP deflator inflation and ε_t is the rate of nominal appreciation. This methodology assumes no further accumulation of foreign reserves. For an application of this framework to Lithuania, see IMF Country Report 05/122.

Table 10. Responses of External Debt–to-GDP Ratio to Adverse Shocks, 2007–11

	Baseline Model Projections 1/			Shocks in 2008, Deviations from Baseline Projections					
				20 percent depreciation 2/		Interest rate increase of 2 percent		Growth lower by 2 percent	
	2007	2008	2011	2008	2011	2008	2011	2008	2011
Albania	19.4	26.1	33.5	4.7	4.1	0.4	1.9	0.4	1.9
Belarus	26.6	28.3	41.7	5.8	3.9	0.4	1.8	0.4	1.8
Bosnia and Herzegovina	50.6	60.3	88.9	…	…	0.9	4.7	0.9	4.8
Bulgaria	93.1	102.6	113.9	…	…	1.6	6.9	1.6	6.9
Croatia	85.7	86.3	88.4	20.5	18.5	1.6	6.3	1.6	6.4
Czech Republic	38.1	38.2	38.4	9.1	8.4	0.7	2.8	0.7	2.8
Estonia	106.0	97.1	91.9	…	…	1.7	5.9	1.7	6.0
Hungary	92.6	89.5	86.2	22.1	20.9	1.7	6.6	1.8	6.9
Latvia	129.0	127.2	121.0	…	…	2.2	8.8	2.1	9.0
Lithuania	65.8	66.1	68.7	…	…	1.1	4.2	1.1	4.2
Macedonia, FYR	35.8	38.6	42.5	…	…	0.7	2.8	0.7	2.8
Moldova	58.8	60.4	69.2	13.2	10.3	1.0	4.0	1.0	4.0
Poland	51.3	51.4	55.6	12.2	11.3	0.9	3.8	0.9	3.9
Romania	42.7	51.4	66.3	9.8	8.0	0.8	3.6	0.8	3.6
Russia	34.4	22.9	13.0	7.3	5.2	0.6	1.2	0.6	1.2
Serbia, Republic of	63.1	71.9	90.5	14.5	11.3	1.1	4.8	1.1	4.9
Slovak Republic	54.9	52.1	45.6	12.9	11.2	1.0	3.6	1.0	3.6
Turkey	33.0	37.6	48.8	7.7	6.6	0.6	2.7	0.6	2.8
Ukraine	53.4	45.2	48.1	10.7	7.1	0.8	2.6	0.8	2.7

Sources: IMF, *World Economic Outlook;* and IMF staff simulations.
1/ Assuming no further accumulation of reserves.
2/ With respect to the euro. The table does not report results for an exchange rate shock in countries with a currency board arrangement or a fixed euro exchange rate.

Figure 33. Emerging Europe: Ratio of Short-Term Debt (Remaining Maturity) to Foreign Exchange Reserves, 2007
(Percent)



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
1/ Original maturity.

of the exchange rate (only for countries with floating exchange rates), an increase in lending interest rates of 2 percentage points, and a fall of real GDP growth by 2 percent from the baseline of the IMF's *World Economic Outlook*.

All three shocks are projected to lead to higher debt levels in the medium term than in the baseline projections. The exchange rate shock has a considerably stronger impact on debt than the other two shocks, which have almost the same impact. The exchange rate shock has the most severe impact on Hungary and Croatia. The growth and interest rate shocks have the most severe impact on Latvia, Bulgaria, Hungary, Croatia, and Estonia.

Balance Sheet Analysis Indicates Vulnerabilities

Recent IMF staff work has emphasized balance sheet vulnerabilities in a number of emerging European economies. The balance sheet approach analyzes the economy as a system of interlinked sectoral balance sheets (public, private financial, corporates, and households), focusing on stocks, in contrast to traditional macroeconomic analysis, which is typically concerned with aggregate flow variables. The balance sheet approach clarifies intersectoral linkages and provides useful insights into balance sheet maturity, currency, and capital structure mismatches, which may exacerbate a country's vulnerability to shocks.

This approach is particularly relevant for emerging European countries with high levels of foreign currency debt. A balance sheet analysis may show sectoral exposures that are netted out in a country's aggregate balance sheet. Problems in servicing foreign currency debt in one sector may quickly spread to other sectors, with broader economic implications.

Although this research is at an early stage and requires building extensive sectoral data sets, which are not always available even for advanced economies, some early conclusions can be drawn based on the recent IMF studies for selected emerging European economies.[44]

- Banks have a net liability position with the nonresident sector and a net asset position with the domestic nonfinancial private sector. These positions reflect intermediation of funds from the former sector—primarily parent foreign banks—to the latter, in the form of bank loans, and could make these banks vulnerable to sudden stops.
- Although domestic lending in foreign currencies provides banks with hedging from exchange rate risks, the banks remain indirectly exposed to such risks through credit risks, as most of their debtors (domestic private nonfinancial sector) are not hedged.[45]
- The banking sector is exposed to interest rate risk. Floating interest rates in most mortgages provide a cushion, but even in these cases banks remain indirectly exposed to interest rate risks through credit risks.
- With a large share of mortgages in their loan portfolios, banks could also be vulnerable to developments in the real estate market.
- The balance sheets of the domestic private nonfinancial sector (corporates and households) are subject to exchange rate risks from large and rising foreign currency exposures and to domestic and foreign interest rate risks from debt in variable interest rates. Although households also have large foreign currency deposits, borrowers may be distinct from savers and thus subject to these risks.
- Public sector balance sheets are generally strong (with the exception of Hungary). Moreover, some governments have been refinancing external debt in the domestic market. However, the large foreign currency exposures of the nonfinancial private sector imply fiscal risks in case of a severe downturn.

In sum, a balance sheet analysis for selected emerging European economies suggests that large exposures to exchange rate and interest rate risks on the part of the corporate and household sectors imply some vulnerabilities for the financial sector through credit risks, and indirectly for the public sector in case of a severe shock.

Running Sound Macroeconomic Policies

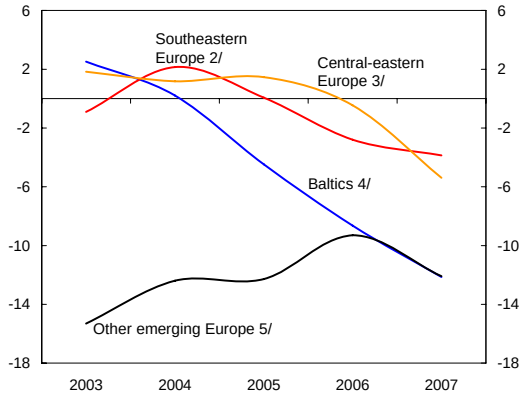
In many cases, macroeconomic policies in emerging Europe have not been tightened sufficiently in response to overheating pressures. In some countries, instead of "leaning against the wind," policies may have added fuel to the fire. Fiscal policy, in particular, has not always stepped in to manage domestic demand in the absence of monetary policy in fixed exchange regimes.

Monetary Conditions Seem Loose

Fast credit growth and overheating pressures in a number of emerging European countries are driven partly by low borrowing costs. Real lending interest rates fell during recent years in most countries in the region. Moreover, corporates, and increasingly households, in emerging Europe are able to borrow directly from abroad and take advantage of even lower interest rates, albeit at the expense of incurring exchange rate risk.

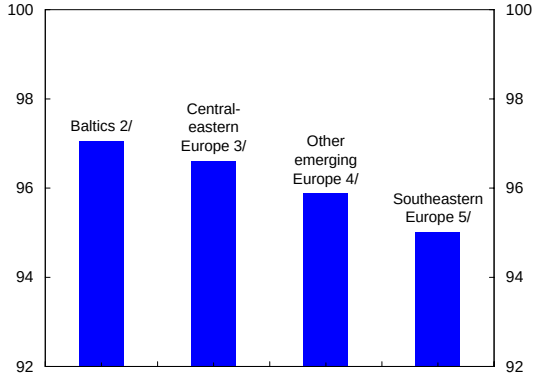
[44] See IMF Country Reports 07/82 for Croatia, 06/419 for Estonia, 05/277, 06/354 for Latvia, and 06/379 for Hungary.
[45] For example, an estimated 80 percent of loans in foreign currencies are made to unhedged borrowers in Croatia.

Figure 34. Emerging Europe: Lending Interest Rate minus Taylor Rule Interest Rate, 2003–07 1/



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
1/ Positive if monetary conditions are tight.
2/ Albania; Bosnia and Herzegovina; Bulgaria; Croatia; Macedonia, FYR; Romania; Republic of Serbia.
3/ The Czech Republic, Hungary, Poland, and the Slovak Republic.
4/ Estonia, Latvia, and Lithuania.
5/ Belarus, Moldova, Russia, Turkey, and Ukraine.

Figure 35. Emerging Europe: Monetary Conditions Index, 2007 1/



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
1/ Loosening when falling below 100; 2003 = 100.
2/ Estonia, Latvia, and Lithuania.
3/ The Czech Republic, Hungary, Poland, and the Slovak Republic.
4/ Belarus, Moldova, Russia, Turkey, and Ukraine.
5/ Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, FYR, Romania, Republic of Serbia.

Monetary policy has not always managed to tighten monetary conditions as needed. Open capital accounts, high euroization (in some cases), financial deepening and integration, and fear of floating of exchange rates (in some cases) have weakened the effectiveness of monetary policy. Tightening measures in some countries, such as higher reserve requirements and credit controls, have not been effective in slowing foreign borrowing and credit growth as desired, and have been often circumvented by lenders and borrowers.[46] Indeed, monetary conditions seem to be loose throughout emerging Europe.

According to the Taylor rule, monetary conditions have loosened in emerging Europe during recent years (Figure 34), particularly in the Baltics after 2003.[47] Loosening in central and southeastern Europe followed, but at a much slower pace. Monetary conditions in the rest of the region started from a very loose position in 2003, were tightened up until 2006, but started loosening again in 2007.[48]

The monetary conditions index shows a similar trend (Figure 35).[49] The index suggests a loosening of monetary conditions throughout the region in recent years. However, in contrast with what is suggested by the Taylor rule, monetary conditions seem to have been relaxed the most in southeastern Europe and the least in the Baltics.

[46] For more details, see Hilbers and others (2005).

[47] The Taylor rule is defined as the sum of the output gap, the equilibrium interest rate (assumed to be equal to potential growth estimated using the Hodrick-Prescott filter), expected inflation (assumed to be equal to actual inflation in the past three years), and the inflation gap (assumed to be equal to actual inflation minus an inflation target, which is taken to be the 2 percent ECB target plus 1.5 percent from Balassa-Samuelson effects).

[48] The result that monetary conditions are loose does not suggest that monetary policy is loose (this conclusion would be particularly wrong for emerging European economies with fixed exchange rates, where there is no independent monetary policy). It suggests, rather, that tightening policies in emerging Europe have not been effective in tightening monetary conditions (which can be loose even in a country with a currency board arrangement). This interpretation of the result is derived from the fact that the Taylor rule calculations in this chapter include the lending interest rate, instead of the policy interest rate. The latter is relevant for determining whether monetary policy is loose, while the former is relevant for determining whether monetary (lending) conditions are loose.

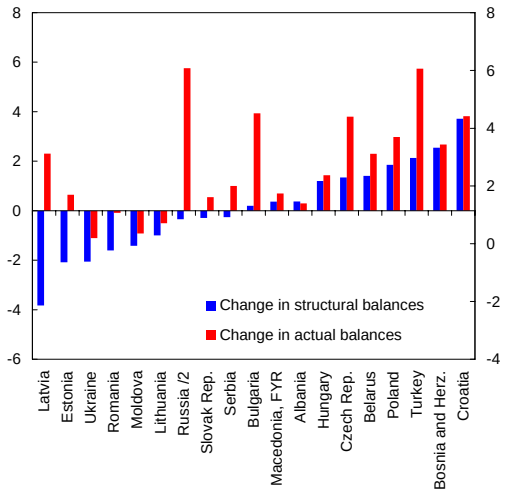
[49] The monetary conditions index is equal to 100 in 2003 and is the weighted sum of the changes in the real lending interest rates and in the real effective exchange rates, with weights equal to 0.75 and 0.25, respectively.

Fiscal Consolidation Is Insufficiently Ambitious

Most emerging European economies have taken advantage of the strong cycle to improve their fiscal balances. Strong, growth-driven revenue performance in recent years has fostered fiscal consolidation just by allowing the automatic stabilizers to operate. Overheating and vulnerability concerns in some economies prompted calls for even tighter policies to offset strong private sector demand and create room to support the economy in case of a severe downturn.

However, adjusting for the cycle, progress in fiscal consolidation in the region has been mixed (Figure 36).[50] During the past five years, fiscal balances improved by less in structural terms than actual balances in all countries in the region except Albania. In nine economies, fiscal balances deteriorated in structural terms, despite the improvement of actual balances in five of them. Structural balances improved by an annual average of more than ½ percentage point of GDP only in Croatia, Bosnia and Herzegovina, Turkey, and Poland in this sequence. In structural terms, only Belarus, Bosnia and Herzegovina, Macedonia, FYR, Estonia, and Bulgaria had fiscal surpluses in 2007. This outcome ran counter to a well-accepted rule (consistent with a long-run objective of the EU's Stability and Growth Pact) for a balanced budget over the cycle.[51]

Figure 36. Change in Actual and Structural Fiscal Balances, 2003–07 1/
(Percent of GDP)



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.
1/ The structural balances do not take into account spending related to pension reform and spending related to EU transfers.
2/ Russia's structural balance is assumed to be equal to the non-oil balance.

Policy Agenda

The analysis in this chapter suggests that, although emerging economies in Europe are set to continue converging toward their more advanced European peers, the recent pace of convergence may not be sustainable and, in some cases, may have increased vulnerabilities to shocks and risks of a hard landing. Addressing these vulnerabilities is crucial to ensure smooth convergence in the medium term and, in some countries, a soft landing.

The IMF's recent policy recommendations for the region, which are also supported by the empirical results in this chapter, can be summarized as follows:

- Enact structural reforms to increase potential growth by ensuring fair market competition, reducing the role of the state in the economy, improving the business environment, cutting red tape, reforming the judiciary, and progressing in the EU harmonization process in EU-candidate countries.

[50] Potential output and the output gap are measured using the Hodrick-Prescott filter or IMF staff estimates based on alternative methodologies for each country. Potential growth estimates based on the growth model in the earlier section cannot be used because they cannot determine the level of potential output. The potential output estimates based on the Hodrick-Prescott filter may be overestimated, as growth has been well above potential based on the growth model estimates in the period considered.

[51] Although infrastructure needs would justify structural deficits in parts of emerging Europe, projections for rising health and pension spending due to aging populations would call for structural surpluses.

- Implement policies to ensure macroeconomic stability, address external imbalances, and reduce vulnerabilities, including tightening monetary policies where available, and advancing in fiscal consolidation well beyond what is driven by the operation of automatic stabilizers during the expansion stage, particularly in countries with limitations in conducting monetary policy. Wage increases should be in line with productivity improvements. Fiscal distortions that might create incentives for excessive private sector borrowing should also be reconsidered and in some cases eliminated.[52]
- Implement policies to strengthen the financial sector and create buffers to help adjust to shocks, including prudential measures, such as larger risk weights for foreign currency lending to unhedged borrowers and limits on loan-to-value and debt service–to-income ratios. Establishing credit registries and strengthening nonbank financial sector supervision would substantially increase the effectiveness of these measures.

These policies will ensure that convergence continues in emerging Europe. As discussed in Chapter 1, a gradual slowing of growth, which seems to be already under way in parts of the region, is the most likely scenario. However, a more abrupt adjustment cannot be excluded, given the considerable vulnerabilities in some countries. High levels of external debt in some cases suggest that these vulnerabilities will continue well into the medium term, making progress in implementing the recommended policies and reforms essential to prepare the region for unexpected shocks and to reduce external imbalances and the resulting vulnerabilities over time.

[52] These incentives include mortgage interest deductibility of varying generosity (Croatia, the Czech Republic, Estonia, Hungary, Lithuania, and Poland); housing subsidies, including interest rate subsidies and saving bonuses (Hungary, Croatia, the Czech Republic, and Poland); and exemption of primary residences from property tax and capital gains tax (in all countries).

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