

World Economic and Financial Surveys

Regional Economic Outlook

Europe

Addressing the Crisis

.....

MAY 09



World Economic and Financial Surveys

Regional Economic Outlook

Europe

Addressing the Crisis



MAY 09

©2009 International Monetary Fund

Cataloging-in-Publication Data

Regional economic outlook : Europe. – Washington, D.C. : International Monetary Fund, 2009. –
(World economic and financial surveys, 0258-7440) p. ; cm.

“Addressing the crisis.”

“May 09.”

ISBN 978-1-58906-841-4

Includes bibliographical references.

1. Economic forecasting – Europe. 2. Economic indicators – Europe. 3. Financial crises – Europe. 4. Crisis management – Europe. 5. Recessions – Europe. 6. Fiscal policy – Europe. 7. Financial services industry – Europe. 8. Banks and banking – Europe. I. International Monetary Fund. II. Series: World economic and financial surveys.

HC240.R445 2009

Please send orders to:

International Monetary Fund, Publication Services
700 19th St. N.W., Washington, D.C. 20431, U.S.A.

Tel.: (202) 623-7430 Fax: (202) 623-7201

E-mail: publications@imf.org

Internet: www.imf.org

Contents

Executive Summary	vii
1. Outlook: Galvanizing Recovery	1
Synchronized Recession	1
Impromptu Policy Reaction	6
Uncertain Outlook	13
Calling for a Well-Articulated and Effectively Coordinated Policy Response	20
2. Fiscal Policy in Advanced Countries: Effectiveness, Coordination, and Solvency Issues	27
Overview	27
Fiscal Costs of the Crisis	28
Making the Most Out of Fiscal Interventions	29
Treasuring Fiscal Solvency	34
Ensuring Fiscal Sustainability: Policy Options	41
Conclusions and Policy Implications	44
3. European Emerging Economies in the Crisis: Impact and Recovery	45
Who Got Hurt More? Stylized Facts	45
What Explains the Widened Spreads: Known Vulnerabilities or the Convergence Criteria Checklist?	47
Banking Sector Holds a Key to the Recovery from the Crisis	51
Policy Implications	57
References	59
Boxes	
1. Has the Financial Crisis Impaired Monetary Transmission in the Euro Area?	9
2. Growth Prospects in Emerging Europe After the Global Crisis	18
3. A Case Study in Coordination: Deposit Guarantee	22
4. Redesigning Financial Supervision in the European Union	24
5. Sovereign Financing Needs of Advanced Economies and the Rollover Risk	38
6. Is the Stability and Growth Pact an Obstacle to Adequate Fiscal Stabilization?	43
7. Crisis Duration Across Emerging Market	52
Tables	
1. European Countries: Real GDP Growth and CPI Inflation, 2006–10	2
2. European Countries: External and Fiscal Balances, 2006–10	8
3. IMF Support for European Countries Affected by the Global Crisis	14
4. Headline Support for the Financial Sector and Up-Front Financing Need	28
5. Advanced European Economies: Estimated Cost of Discretionary Measures, 2008–10	30
6. Ranges of Fiscal Multipliers Used by IMF Country Teams	31
7. The Case for Fiscal Stimulus: Effects of Fiscal Stimulus Under Distressed Financial Markets	33

CONTENTS

8. Coordination Gains: Cumulated Effects of Fiscal Stimulus on a Large Euro Area Country	34
9. Sovereign Spreads: Estimated Panel Regression	40
10. Solvency Concerns Increases Risk Premiums Thereby Reducing the Effectiveness of Fiscal Stimulus	41
11. A Snapshot of Emerging Markets	46
12. Did the Convergence Criteria Matter?	50
13. Correlation with Loan Loss Provisions	54
14. Banks in Emerging Europe Were Imprudent in the Past	54
15. Consumption Growth Is Correlated with Credit Growth	56
16. Consumption Growth Depends upon Credit Growth	56

Figures

1. Euro Area: Contribution to Growth, 2006–08	1
2. Selected European Countries: Headline and Core Inflation, January 2006–February 2009	3
3. iTraxx Credit Default Swap Europe Financials' Index, March 2007–April 2009	3
4. Generalized Impulse Response Functions: Rate of Growth of Real GDP in Response to Negative Standard Error Shock to U.S. Equity Price Growth Rate	4
5. Estimating Shifts in the Global Price of Risk, 2007–March 2009	4
6. Selected European Countries: Growth of Real Credit to Private Sector, 2006–January 2009	4
7. Europe, Asia, and United States: Value of Trade, 1995–2007	5
8. Trade and Financial Integration Within Europe	5
9. Euro Area and United Kingdom: Liquidity Premium, 2007–April 2009	6
10. Government Support, Including Guarantees, to Banks, 2008–09	12
11. New Member States: Country-Specific Components of Sovereign Spreads, September 2008–January 2009	13
12. Key Short-Term Indicators	16
13. Selected Advanced Economies: Break-Even Inflation, 2007–April 2009	20
14. Germany, France, and Italy: Trade and GDP, 1991–2008	20
15. Advanced European Economies: Estimated Impact of Automatic Stabilizers on Fiscal Balances, 2008–09	29
16. Advanced European Economies: Fiscal Revenues During Episodes of House and Equity Price Busts	30
17. Projected Changes in Public Debt	34
18. Selected Euro Area Countries: Sovereign Spreads and Financial Institutions' Expected Default Probabilities, 2008–January 2009	36
19. Estimated Common Component in Sovereign Spreads, 2001–January 2009	40
20. Contributions to the Change in Spreads	40
21. EMBIG Spreads, 2005–November 2008	47
22. Spreads and Banking System Characteristics	48
23. Residuals from the Fixed Effects Regression for Sovereign Spreads, January 2001–October 2008	48

This *Regional Economic Outlook: Europe—Addressing the Crisis* was written by Martin Čihák, Srobona Mitra, Silvia Sgherri, and Edda Zoli under the guidance of Helge Berger, Luc Everaert, Ajai Chopra, and Marek Belka, with contributions from Ruben Atoyán, Xavier Debrun, Eugenio Cerutti, Wim Fonteyne, Jean-Jacques Hallaert, Jiri Jonáš, Philippe Karam, Uma Ramakrishnan, Romain Rancière, Emil Stavrev, and Athanasios Vamvakidis. This *Regional Economic Outlook: Europe* was coordinated by the EU Policies and Regional Studies Division of the IMF’s European Department. Xiangming Fang and Pavel Lukyantsau, Amara Myaing and Dominique Raelison, and Esha Ray 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 April 14, 2009. 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

Following a collapse in confidence and global demand, Europe has entered a deep recession. Further amplification of the downturn through adverse feedback effects between the financial system and the real economy is a key risk. Inflation has fallen sharply against the background of a broad-based and rapid decline in consumption, investment, and exports. The downturn is being felt across Europe's advanced and emerging economies, owing to similarities in their exposure to global financial and real shocks, and strong regional trade and financial integration. Country-specific factors matter too, however, with some countries facing more extreme financing difficulties implementing adjustment programs supported by the IMF and other sources, including the European Union (EU).

Even assuming more forceful policy actions, the downturn is likely to last until early 2010, and the subsequent recovery is expected to be gradual. Restoring confidence, adjusting to a lower level of wealth, and reducing leverage in the financial sector will take time. And with a globally synchronized downturn, the scope for Europe to benefit from an export-led recovery is limited. Following the jarring global repricing of risk and the diminishing of risk appetite, the cost of capital will remain high for some time, and several emerging economies are facing a sudden retrenchment of capital inflows. With the reversal of commodity prices and the widening of the output gap, deflationary pressures have increased, but inflation expectations so far remain anchored in positive territory. Economies adjusting under fixed exchange rate regimes are particularly likely to see their price levels decline, while nominal exchange rate depreciations elsewhere could lessen downward pressure on inflation.

Building on ongoing progress, further policy action, especially in the financial sector, is required to restore market trust and confidence in all countries. In addition to continued liquidity provision, credible loss recognition must be undertaken, taking fully into account prospective losses from the economic downturn. Viable institutions need to be recapitalized, with public support as needed, while others should be resolved. Equally important is the ring-fencing of impaired assets in order to reduce uncertainty.

With the downturn likely to be protracted, macroeconomic policies will need to continue to support demand, while keeping an eye on the medium and longer run. Further room to reduce interest rates should be exploited swiftly, and additional unconventional easing will have to be considered, with appropriate safeguards to limit market distortions, ensure reversibility, and preserve the integrity of central banks. Fiscal policies to soften the downturn should continue into 2010, with an emphasis on effectiveness and sustainability. The pursuit of growth-enhancing structural reforms to tackle the aging-related increases in public costs looming on the horizon will be particularly important.

For Europe, addressing the current economic and financial crisis coherently and comprehensively across advanced and emerging economies provides an opportunity to

emerge from the crisis with stronger policy institutions and substantial progress made toward its goals of integration and convergence. The benefits of coordination are particularly large in the financial area and in mitigating regional downside risks. Agreeing on basic methodologies to determine capital needs and the approach to deal with impaired assets will avoid distortions and policy arbitrage, and minimize collective costs. Similarly, full home-host coordination on loss recognition and recapitalization of cross-border banks is an important element in this approach. Potential debt-servicing difficulties and disruptive exchange rate movements should be preempted with the involvement of EU institutions, and of the IMF where needed, by extending currency swap lines for emerging markets and clarifying the road maps for euro adoption.

Beyond the immediate crisis, improving the EU's financial stability framework will be essential. Implementing the recommendations of the de Larosière report deserves strong support. Nonetheless, reforms will eventually need to go further to ensure a cross-sectoral integration of supervisory arrangements and establish an effective framework for cross-border crisis management and resolution.

With active fiscal policy firmly back on the agenda, it is important to address questions of its effectiveness and coordination (Chapter 2). Especially in a tightly integrated region under a common currency, such as the euro area, the benefits of fiscal expansion spill across borders while costs—namely increasing debt levels and potentially higher financing expenditure—amass locally. This creates significant room for a coordinated fiscal expansion, as a simultaneous areawide stimulus would yield much stronger growth effects than a stimulus in just one country. As for the content of the fiscal package, in current circumstances, spending on infrastructure and targeted transfers are likely to have the largest multipliers. General tax cuts or subsidies, either for consumers or firms, are likely to be less effective.

Effective fiscal policies will need to take into account the sustainability of public finances. While global developments have played a role in the recent increase in euro area sovereign interest rate differentials, country-specific factors—in particular rapidly rising projected debt levels, as well as concerns about the solvency of national banking systems and their budgetary consequences—have increasingly become important. One implication is that the impact of expansionary fiscal action will be larger in countries with lower public debt and relatively healthy banking sectors; this adds to the call to tailor fiscal action to the fiscal room available. Another implication is that, to maintain fiscal space, countries need to focus on reversible fiscal measures, formulate a plausible medium-term strategy, strengthen their fiscal frameworks at the national level, and make full use of the medium-term framework tied to the Stability and Growth Pact (SGP) where applicable.

Some of these concerns also feature in emerging market economies, although with substantial variation within the region (Chapter 3). In emerging Europe, too, the crisis has put a premium on sound policies at the country level. A large part of the differences in the

way the crisis affected individual countries can be explained by diverging macroeconomic performance and external vulnerabilities, such as current account deficits. At the same time, the apparent ability of new EU member countries to attract cheaper funding because of their EU membership, the so-called EU halo effect, has disappeared. Gone as well is the notion that bank-based financing of external capital needs will guarantee stable capital inflows during a crisis. With western European parent banks in need of government support themselves, markets are taking a less sanguine view of extensive foreign ownership in the financial sector. Increasingly, recapitalization of banks is becoming a regional issue, merely underscoring the advantages of a coordinated European approach.

The banking sector could also hold a key to the speed of the recovery in emerging Europe. Measures to support credit, for instance through bank recapitalizations, can hold off a tightening of credit conditions, support consumption, and prevent recessions from becoming overly protracted in some countries. This mechanism is emphasized in recent IMF-supported programs, which have provided funds especially for meeting bank recapitalization needs. To reduce the procyclical volatility of bank profits and lending in the future, prudential rules on provisioning need to be strengthened once the crisis has dissipated. Also on the policy agenda should be the need for enhanced cross-border coordination among home and host central banks, supervisors, and governments.

1. Outlook: Galvanizing Recovery

Europe is going through a deep recession, driven by a collapse in confidence and global demand, and by adverse feedback effects between its financial system and the real economy. Unprecedented policy actions have brought about a measure of stability and cushioned the downturn. However, establishing a solid economic recovery will require additional and effectively coordinated policy interventions. The crisis provides an opportunity to strengthen economic and financial integration in Europe, including by strongly supporting emerging economies, that should not be missed.

Synchronized Recession

Activity and Inflation Have Fallen Sharply

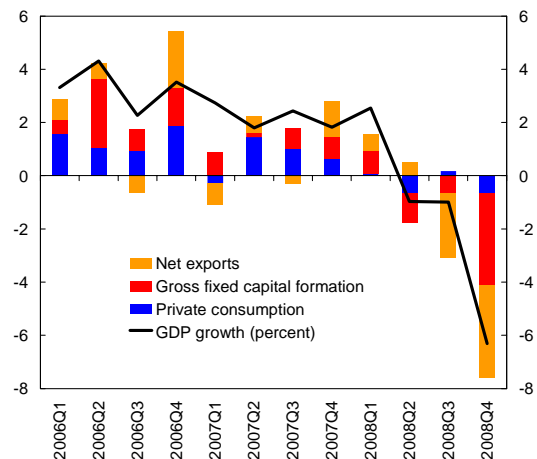
The economic downturn has become a global, synchronized recession.¹ What started as a retrenchment by consumers in response to deflating real estate markets and commodity price hikes, broadened to encompass all components of demand (Figure 1). Tighter financial conditions and greater uncertainty about the outlook triggered a sharp fall in capital spending. The intensification of the financial crisis in September 2008 caused an abrupt increase in uncertainty and led to a downward reassessment of wealth and income prospects. In turn, these developments prompted households to raise savings rates and to postpone spending on most durables, even though falling commodity prices helped boost real disposable income. This drop in demand and dearth of credit set off an unprecedented collapse in trade volumes—with euro area exports falling at an annual rate of 26 percent in the last quarter of 2008. Tight global trade links synchronized this shock, while cross-border capital flows dwindled, engulfing previously resilient emerging economies in the crisis. Comparatively

Note: The main author of this chapter is Luc Everaert.

¹ See IMF (2009d) for an in-depth discussion of the global nature of the economic downturn.

Figure 1. Euro Area: Contribution to Growth, 2006–08

(Quarter-on-quarter annualized percentage points)



Source: Eurostat.

stronger trade and financial integration within Europe added a crucial intraregional dimension. As a result, average growth in 2008 slowed by similar amounts in advanced and emerging economies, with some differentiation because of country-specific circumstances (Table 1).

Against this background, inflation has fallen sharply. The reversal of the commodity price increases has pushed headline inflation to very low levels in advanced economies and diminished concerns about inflation in many emerging economies (Figure 2). Core inflation, though holding up at higher levels, has nonetheless been falling in several countries, indicating that the sharp weakening of activity is perhaps reducing pricing power earlier than usual. Even so, downward price pressures are less pronounced in countries that are experiencing nominal exchange rate depreciations beyond levels required to bring real effective rates in line with fundamentals.

Spillovers Hold Sway in an Interconnected World . . .

The financial crisis originating in the United States was propagated through direct exposure to

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

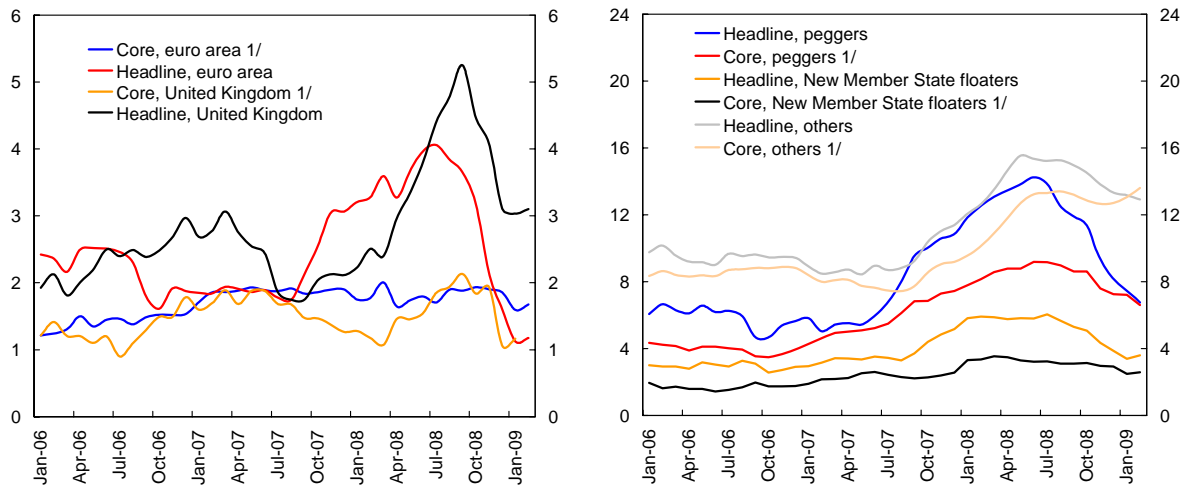
	Real GDP Growth					CPI Inflation				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Europe 1/ 2/	4.1	3.9	1.8	-4.2	-0.1	3.6	3.6	5.7	2.9	2.5
Advanced European economies 1/	3.1	2.9	0.9	-4.0	-0.4	2.2	2.1	3.4	0.5	0.7
Emerging European economies 1/ 2/	7.2	6.8	4.3	-4.9	0.7	7.8	7.8	12.0	9.2	7.1
European Union 1/	3.4	3.1	1.1	-4.0	-0.3	2.3	2.4	3.7	0.8	0.8
Euro area	2.9	2.7	0.9	-4.2	-0.4	2.2	2.1	3.3	0.4	0.6
Austria	3.4	3.1	1.8	-3.0	0.2	1.7	2.2	3.2	0.5	1.3
Belgium	3.0	2.6	1.1	-3.8	0.3	2.3	1.8	4.5	0.5	1.0
Cyprus	4.1	4.4	3.7	0.3	2.1	2.2	2.2	4.4	0.9	2.4
Finland	4.9	4.2	0.9	-5.2	-1.2	1.3	1.6	3.9	1.0	1.1
France	2.4	2.1	0.7	-3.0	0.4	1.9	1.6	3.2	0.5	1.0
Germany	3.0	2.5	1.3	-5.6	-1.0	1.8	2.3	2.8	0.1	-0.4
Greece	4.5	4.0	2.9	-0.2	-0.6	3.3	3.0	4.2	1.6	2.1
Ireland	5.7	6.0	-2.3	-8.0	-3.0	2.7	2.9	3.1	-0.6	1.0
Italy	2.0	1.6	-1.0	-4.4	-0.4	2.2	2.0	3.5	0.7	0.6
Luxembourg	6.4	5.2	0.7	-4.8	-0.2	2.7	2.3	3.4	0.2	1.8
Malta	3.2	3.6	1.6	-1.5	1.1	2.6	0.7	4.7	1.8	1.7
Netherlands	3.4	3.5	2.0	-4.8	-0.7	1.7	1.6	2.2	0.3	1.1
Portugal	1.4	1.9	0.0	-4.1	-0.5	3.0	2.4	2.6	0.3	1.0
Slovak Republic	8.5	10.4	6.4	-2.1	1.9	4.3	1.9	3.9	1.7	2.3
Slovenia	5.9	6.8	3.5	-2.7	1.4	2.5	3.6	5.7	0.5	1.5
Spain	3.9	3.7	1.2	-3.0	-0.7	3.6	2.8	4.1	0.0	0.9
Other EU advanced economies										
Denmark	3.3	1.6	-1.1	-4.0	0.4	1.9	1.7	3.4	-0.3	0.0
Sweden	4.2	2.6	-0.2	-4.3	0.2	1.5	1.7	3.3	-0.2	0.0
United Kingdom	2.8	3.0	0.7	-4.1	-0.4	2.3	2.3	3.6	1.5	0.8
New EU countries 1/	6.6	5.9	4.0	-2.9	0.2	3.2	4.3	6.5	3.0	2.3
Bulgaria	6.3	6.2	6.0	-2.0	-1.0	7.4	7.6	12.0	3.7	1.3
Czech Republic	6.8	6.0	3.2	-3.5	0.1	2.5	2.9	6.3	1.0	1.6
Hungary	4.0	1.1	0.6	-3.3	-0.4	3.9	7.9	6.1	3.8	2.8
Poland	6.2	6.7	4.8	-0.7	1.3	1.0	2.5	4.2	2.1	2.6
Romania	7.9	6.2	7.1	-4.1	0.0	6.6	4.8	7.8	5.9	3.9
Estonia	10.4	6.3	-3.6	-10.0	-1.0	4.4	6.6	10.4	0.8	-1.3
Latvia	12.2	10.0	-4.6	-12.0	-2.0	6.6	10.1	15.3	3.3	-3.5
Lithuania	7.8	8.9	3.0	-10.0	-3.0	3.8	5.8	11.1	5.1	0.6
Non-EU advanced economies										
Iceland	4.5	5.5	0.3	-10.6	-0.2	6.8	5.0	12.4	10.6	2.4
Israel	5.2	5.4	3.9	-1.7	0.3	2.1	0.5	4.7	1.4	0.8
Norway	2.3	3.1	2.0	-1.7	0.3	2.3	0.7	3.8	1.5	1.9
Switzerland	3.4	3.3	1.6	-3.0	-0.3	1.0	0.7	2.4	-0.6	-0.3
Other emerging economies										
Albania	5.5	6.3	6.8	0.4	2.0	2.4	2.9	3.4	1.5	2.2
Belarus	10.0	8.6	10.0	-4.3	1.6	7.0	8.4	14.8	12.6	6.0
Bosnia and Herzegovina	6.9	6.8	5.5	-3.0	0.5	6.1	1.5	7.4	2.1	2.3
Croatia	4.7	5.5	2.4	-3.5	0.3	3.2	2.9	6.1	2.5	2.8
Macedonia, FYR	4.0	5.9	5.0	-2.0	1.0	3.2	2.3	8.3	1.0	3.0
Moldova	4.8	4.0	7.2	-3.4	0.0	12.7	12.4	12.7	2.6	4.7
Montenegro	8.6	10.7	7.5	-2.7	-2.0	2.1	3.5	9.0	1.7	-0.2
Russia	7.7	8.1	5.6	-6.0	0.5	9.7	9.0	14.1	12.9	9.9
Serbia	5.2	6.9	5.4	-2.0	0.0	12.7	6.5	11.7	10.0	8.2
Turkey	6.9	4.7	1.1	-5.1	1.5	9.6	8.8	10.4	6.9	6.8
Ukraine	7.3	7.9	2.1	-8.0	1.0	9.0	12.8	25.2	16.8	10.0

Source: IMF, *World Economic Outlook*.

1/ Average weighted by PPP GDP.

2/ Montenegro is excluded from the aggregate calculations.

Figure 2. Selected European Countries: Headline and Core Inflation, January 2006–February 2009
(Percent)

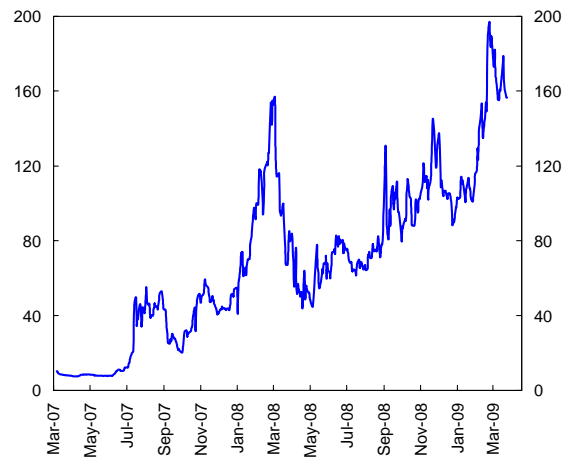


Sources: Eurostat; Haver Analytics; national authorities; and IMF staff calculations.
 Notes: Peggers: Bulgaria, Estonia, Latvia, and Lithuania; New Member State floaters: the Czech Republic, Hungary, Poland, Romania, and the Slovak Republic; Others: Russia, Turkey, and Ukraine.
 1/ Harmonized index of consumer price inflation (excluding energy, food, alcohol, and tobacco) excluding Russia and Ukraine, for which national definition was used.

toxic assets and a reassessment of the viability of existing banking models. Wholesale liquidity evaporated, complex assets proved to be difficult to value, lack of transparency about counterparty risk undermined trust, and markets took a dim view of leverage. Hence, many banks came under severe pressure (Figure 3) and several had to be bailed out or resolved, a process that is still ongoing.

Model-based analysis suggests that the initial financial shock was transmitted to the real economy, primarily through the equity price channel and in a more differentiated fashion through the credit channel (Galesi and Sgherri, 2009). In addition to confidence and wealth effects adversely affecting demand, the fall in equity prices—which often amounted to more than 50 percent—raised the cost of capital and dampened investment. Such a shock is estimated to have had its strongest impact on the advanced economies of Europe, but the Baltic economies would seem similarly sensitive (Figure 4). Central European economies appear more moderately susceptible, while southeastern Europe is more insulated. These model findings are consistent with the view that banks operating in emerging Europe, which relied more on traditional

Figure 3. iTraxx Credit Default Swap Europe Financials' Index, March 2007–April 2009
(Basis points)

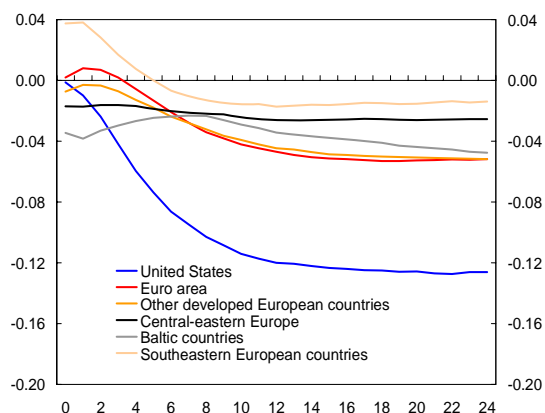


Source: Bloomberg L.P.

business models, were often not affected by direct exposure to toxic assets.

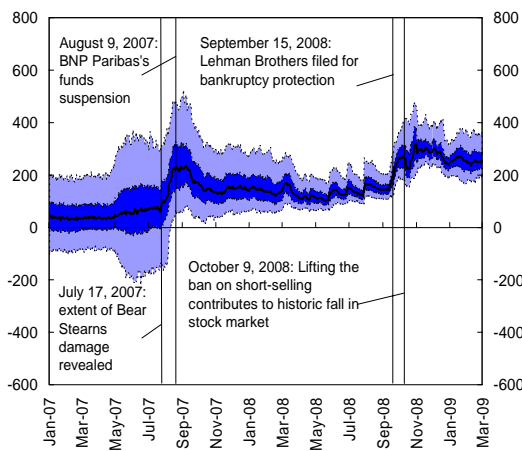
However, the flight to safety associated with the intensification of the financial crisis in late 2008 rapidly put paid to the notion that emerging economies would decouple in a meaningful way. Indeed, one of the key features of the ongoing financial crisis is a jarring global repricing of risk (Figure 5). Thus far, important new crisis events

Figure 4. Generalized Impulse Response Functions: Rate of Growth of Real GDP in Response to Negative Standard Error Shock to U.S. Equity Price Growth Rate (Percent)



Source: Galesi and Sgherri (2009).
 Note: Euro area = Austria, Belgium, Greece, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Slovenia, and Spain; other developed European countries = Denmark, Norway, Sweden, Switzerland, and the United Kingdom; Central-eastern Europe = the Czech Republic, Hungary, Poland, and the Slovak Republic; Baltic countries = Estonia, Latvia, and Lithuania; southeastern European countries = Albania, Bosnia and Herzegovina, Bulgaria, Croatia, FYR Macedonia, Moldova, Romania, and Serbia.

Figure 5. Estimating Shifts in the Global Price of Risk, 2007–March 2009 1/ (Basis points)



Sources: Bloomberg L.P.; and IMF staff calculations.
 1/ As of March 1, 2009. See Lombardi and Sgherri (forthcoming) for analytical underpinnings.

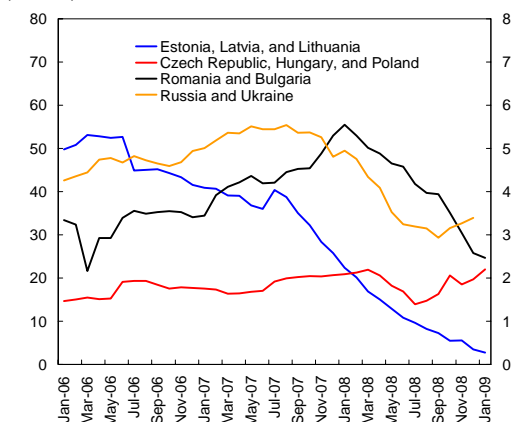
have ratcheted up risk aversion. The ensuing international portfolio reallocation led to a decline in the relative price of domestic assets in emerging economies. The pressure to reduce leverage in parent banks in advanced countries and higher perceived risks drove up credit yields and led to a reduction in inflows to most emerging economies. As a result, credit growth in these economies has

been declining precipitously, albeit from high levels (Figure 6). Some countries are already experiencing a credit crunch, with real credit stagnating, and domestic demand is being adversely affected everywhere.

The trade channel proved equally important in propagating the crisis. During the past decade, trade links increased globally and very rapidly between Europe and Asia (Figure 7). When demand in advanced countries began to falter, Europe was not just affected through its ties with other advanced economies such as the United States, but also directly and indirectly through its Asian connection. With Europe relatively specialized in consumer durables and capital goods, it was hard hit by the sharp cutback in orders for such goods. This explains, for example, why Germany—an economy without significant private sector liabilities or an asset boom but specialized in capital goods production and an emphasis on export demand—is experiencing a comparatively sharp decline in activity. Demand from oil-exporting countries—another important destination for European producers—has also been weakening in response to the drop in oil revenues.

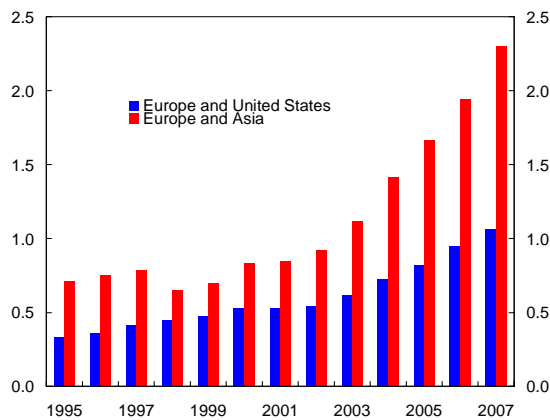
Within Europe, the unfavorable feedback loop across borders through both trade and finance channels appears to be in full swing. Europe is one

Figure 6. Selected European Countries: Growth of Real Credit to Private Sector, 2006–January 2009 1/ (Percent)



Source: IMF, *International Financial Statistics*.
 1/ Unweighted averages of annual growth rates.

Figure 7. Europe, Asia, and United States: Value of Trade, 1995–2007
(Trillions of U.S. dollars)



Source: IMF, *Direction of Trade Statistics*.

of the most financially and economically integrated regions in the world (Figure 8). Increased intrafirm outsourcing with firms located in emerging countries and foreign ownership of their financial systems have strengthened the interdependencies between advanced and emerging economies in Europe. Indeed, unlike in other parts of the world, these links have set in motion a process of rapid convergence, from which advanced economies have profited.² While generally beneficial, such integration also implies that adverse shocks are transmitted more swiftly across borders.³

... with Homegrown Risks Leading to Cross-Country Differentiation

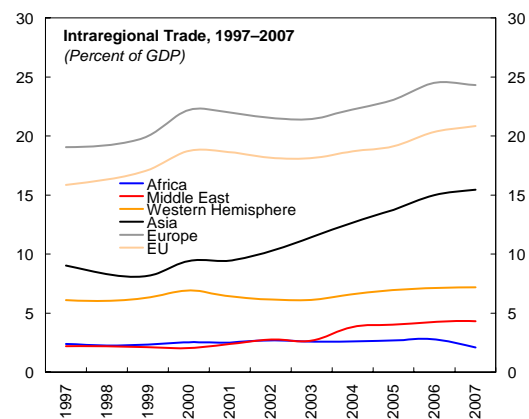
Not all countries are equally affected by the ongoing economic and financial crisis. In particular, the crisis has underscored that risky policies yield poor returns when fault lines appear in the global economy. Vulnerabilities are overlooked when global conditions are benign but ultimately lead to differentiation across countries (IMF, 2008c). The Baltic economies, Ireland, Spain, and the United

² By some estimates, growth in advanced economies was higher by 0.2 to 0.4 percent a year during 2002–06 as a result of the rapid convergence by emerging economies (IMF, 2007).

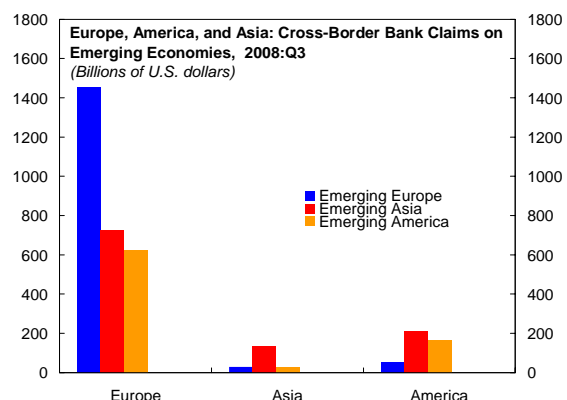
³ Empirical analysis shows that, since 1999, risk sharing has begun to emerge across Europe, but exposure to shocks has also risen (IMF, 2008d).

Kingdom have been disproportionately affected as a result of the deflation of homegrown real estate booms. Mismatches in the financial system—be it in terms of funding models, maturities, or currencies—and high leverage have turned sour in a number of countries (e.g., Iceland, Ireland, Latvia, and the United Kingdom). Insufficiently prudent macroeconomic policies, reflected in large fiscal and/or current account deficits or high public debt have also created difficulties (e.g., Greece and Hungary). And commodity exporters are having to adjust policies rapidly to deal with large adverse terms of trade shocks (e.g., Russia and Ukraine).

Figure 8. Trade and Financial Integration Within Europe



Source: IMF, *Direction of Trade Statistics*.



Source: Bank for International Settlements.

Impromptu Policy Reaction

Unprecedented Policy Actions Are Under Way . . .

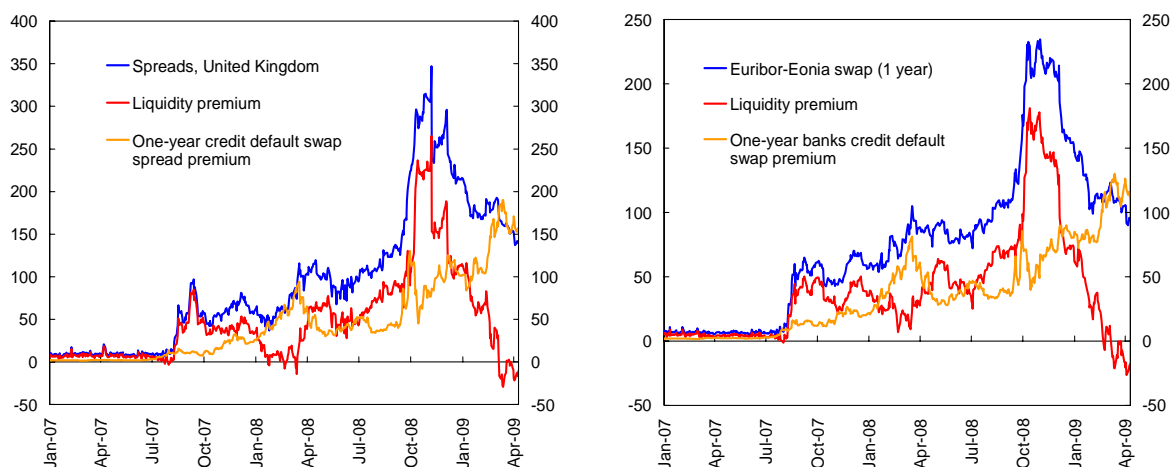
Policymakers have taken extraordinary actions in response to the deepening financial and economic crisis. In broad terms, central banks have been providing liquidity support and easing monetary policy; governments have committed large resources to guarantee, recapitalize, and resolve financial institutions, as well as support certain asset markets; and fiscal policy is being used to shore up demand. Within these contours, the response has differed across countries to take into account features of the financial system (e.g., the extent of securitization), the health of the banking systems (e.g., legacy of toxic assets), changes in size and direction of cross-border capital flows, and fiscal sustainability considerations.

What has been the effect of these policy actions so far? Their aim has been to restore confidence, stabilize the banking system, and support demand to avoid an adverse downward spiral. A key issue is the interaction of policies, with the effectiveness of monetary and fiscal policies dependent on a

restoration of normal functioning to financial markets. While progress is noteworthy in several areas, policy actions have not yet yielded a decisive breakthrough:

- Progress is most visible regarding liquidity concerns, which have been adequately dealt with in advanced economies and mitigated in most emerging economies. Stresses in money markets peaked in October 2008, as reflected in very high liquidity premiums (Figure 9). Widening of collateral, unlimited provision of liquidity at fixed rates, and currency swap lines among the major currencies, accompanied by the rapid expansion of central banks' balance sheets, appear to have removed these premiums for advanced economies.⁴
- However, financial crisis measures have not yet restored normal functioning to the financial system. Volatility remains very high, transaction volumes are small in several market segments, and insurance against counterparty risk, including sovereigns, is very costly. Moreover, tightening of lending standards persists. Guarantees extended on bank liabilities have preempted runs, while recapitalization and resolution of

Figure 9. Euro Area and United Kingdom: Liquidity Premium, 2007–April 2009
(Basis points)



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

⁴ No good measures of the liquidity premium are readily available for emerging economies, thus preventing an assessment for these countries.

troubled institutions have curbed, though not fully eliminated, systemic risks. For some advanced and several emerging economies, the financial crisis has turned into a credit crunch, while for others demand and supply factors remain difficult to disentangle. In the euro area, credit to households has been falling for some time, but credit to the corporate sector has only recently stopped expanding.

- Monetary policy easing has helped financial institutions, at least through a lowering of funding costs. Most European central banks have reduced policy rates substantially since the onset of the crisis. For some emerging economies, this process was complicated by the need to stem capital outflows. Some central banks, primarily the Bank of England, have also taken measures to support nonbank sectors directly, while in other cases (e.g., Spain) fiscal resources are being deployed to restart segments of the financial markets.
- The effectiveness of monetary policy transmission to the economy seems to have been somewhat, though not excessively, impaired. In the euro area, policy rates continue to be transmitted to market rates and the credit channel remains functional; however, this channel is adversely affected by the tightening of lending standards and pressure on banks' capital (Box 1). So far, inflation expectations, which are key for monetary policy transmission, remain anchored close to policy objectives.
- Fiscal policy is supporting activity through automatic stabilizers and discretionary stimulus where fiscal space is available. The general government deficit is set to increase from 1.3 percent of GDP in 2008 to 5.8 percent of GDP by 2010 (Table 2). The operation of social safety nets and increased spending on infrastructure are cushioning the downturn, while measures specifically targeted to households affected by the mortgage crisis are helping as well. Even so, overall uncertainty and a poorly functioning financial system are holding back private spending, while concerns about

fiscal sustainability are raising yields, forcing some countries to curb deficits (see Chapter 2 for a detailed analysis of fiscal policy in advanced economies). Some emerging economies (e.g., Russia) have provided fiscal stimulus, but most of them have to tighten in light of financing constraints and exchange rate pressure.

... with Cross-Border Implications

In an interconnected world, policy actions have consequences beyond national borders, thus bringing policy coordination into play. Reflecting the difficulty of gauging the scope of a brewing crisis and its systemic linkages, it was no surprise that policymakers reacted in the first instance on a national scale in the current crisis. But its global and regional dimensions soon became apparent, fostering efforts at policy coordination within the European Union (EU):

- In the area of monetary policy and liquidity provision, coordination proved to be relatively straightforward among advanced economies, but more difficult with respect to emerging economies, which have diverse exchange rate regimes and often face a different set of problems. Advanced economies in Europe coordinated monetary easing in October 2008 and established currency swap lines, leaving emerging economies on their own, except for some repurchase facilities.
- Fiscal policy coordination took more time, but in late 2008 the EU committed itself to a stimulus of about 1½ percent of GDP under a menu approach in terms of both size and type of measures. As a result, fiscal policy differs appreciably across countries.
- Achieving coordination of financial crisis management measures has been challenging, in part because financial systems differ substantially from one country to another and also because of the initial beliefs that Europe's financial system would escape a meltdown and emerging Europe would remain resilient. Here, too, a menu approach was adopted while efforts were made

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

	Current Account Balance to GDP					General Government Balance to GDP				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Europe 1/	0.6	0.1	-0.3	-0.8	-0.6	-0.1	0.1	-1.3	-5.5	-5.8
Advanced European economies 1/	0.7	0.5	0.1	-0.5	-0.4	-0.9	-0.4	-1.8	-5.6	-6.4
Emerging European economies 1/ 2/	0.2	-2.0	-1.8	-2.2	-1.3	2.4	1.8	0.3	-5.2	-4.3
European Union 1/	-0.4	-0.6	-1.1	-1.3	-1.2	-1.5	-0.9	-2.3	-5.8	-6.5
Euro area	0.3	0.2	-0.7	-1.1	-1.1	-1.3	-0.7	-1.8	-5.4	-6.1
Austria	2.4	3.2	2.9	1.3	1.3	-1.7	-0.5	-0.4	-3.5	-4.2
Belgium	2.6	1.7	-2.5	-2.4	-3.0	0.2	-0.3	-1.2	-4.7	-5.6
Cyprus	-7.5	-11.6	-18.3	-10.3	-10.1	-1.2	3.4	1.0	-1.0	-1.8
Finland	4.5	4.1	2.5	1.0	0.6	3.9	5.2	4.1	-1.6	-3.4
France	-0.6	-1.0	-1.6	-0.4	-0.9	-2.4	-2.7	-3.4	-6.2	-6.5
Germany	6.1	7.5	6.4	2.3	2.4	-1.5	-0.5	-0.1	-4.7	-6.1
Greece	-11.1	-14.1	-14.4	-13.5	-12.6	-2.8	-3.5	-3.7	-4.5	-5.2
Ireland	-3.6	-5.4	-4.5	-2.7	-1.8	2.9	0.2	-6.4	-14.2	-17.2
Italy	-2.6	-2.4	-3.2	-3.0	-3.1	-3.3	-1.5	-2.7	-5.4	-5.9
Luxembourg	10.4	9.8	9.1	7.6	7.0	1.3	3.2	1.4	-3.4	-4.4
Malta	-9.2	-6.1	-6.3	-5.1	-5.2	-2.3	-1.8	-4.1	-3.6	-2.5
Netherlands	8.2	6.1	4.4	2.4	2.1	0.6	0.3	0.8	-3.2	-4.0
Portugal	-10.1	-9.5	-12.0	-9.1	-8.8	-3.9	-2.6	-2.6	-5.9	-6.1
Slovak Republic	-7.1	-5.4	-6.3	-5.7	-5.0	-3.5	-1.9	-2.2	-2.9	-2.9
Slovenia	-2.5	-4.2	-5.9	-4.0	-5.0	-0.8	0.3	-0.3	-4.2	-3.7
Spain	-8.9	-10.1	-9.6	-5.4	-4.4	2.0	2.2	-3.8	-7.5	-7.5
Other EU advanced economies										
Denmark	2.9	0.7	0.5	-1.2	-1.1	5.0	4.5	3.0	-2.0	-4.8
Sweden	8.6	8.6	8.3	6.9	7.4	2.4	3.8	2.5	-3.0	-3.8
United Kingdom	-3.4	-2.9	-1.7	-2.0	-1.5	-2.6	-2.6	-5.4	-9.8	-10.9
New EU countries 1/	-6.2	-8.1	-7.8	-5.1	-4.2	-3.1	-1.9	-2.9	-3.9	-3.8
Bulgaria	-18.4	-25.1	-24.4	-12.3	-3.6	3.5	3.5	3.0	0.9	-1.7
Czech Republic	-2.6	-3.2	-3.1	-2.7	-3.0	-2.7	-1.0	-1.5	-4.1	-4.2
Hungary	-7.5	-6.4	-7.8	-3.9	-3.4	-9.3	-4.9	-3.3	-2.9	-2.6
Poland	-2.7	-4.7	-5.5	-4.5	-3.9	-3.9	-2.0	-3.2	-4.3	-4.1
Romania	-10.4	-13.9	-12.6	-7.5	-6.5	-0.6	-3.1	-4.9	-4.6	-3.6
Estonia	-16.7	-18.1	-9.2	-6.5	-5.4	3.3	3.0	-2.4	-7.1	-7.2
Latvia	-22.5	-22.6	-13.2	-6.7	-5.5	-0.9	0.7	-3.3	-5.0	-4.9
Lithuania	-10.7	-14.6	-11.6	-4.0	-5.3	-0.4	-1.2	-3.2	-5.0	-3.7
Non-EU advanced economies										
Iceland	-25.3	-15.4	-34.7	0.6	-2.1	6.3	5.4	-1.2	-13.0	-10.4
Israel	5.6	2.8	1.2	1.1	0.3	-1.4	-0.8	-2.8	-6.2	-6.6
Norway	17.2	15.9	18.4	11.0	12.6	18.5	17.7	18.8	9.8	11.0
Switzerland	14.5	10.1	9.1	7.6	8.1	1.7	2.2	0.9	-1.6	-1.6
Other emerging economies										
Albania	-5.6	-9.1	-13.5	-11.3	-7.4	-3.2	-3.8	-5.5	-6.3	-4.4
Belarus	-3.9	-6.8	-8.4	-8.1	-5.6	1.4	0.4	0.5	0.3	-0.7
Bosnia and Herzegovina	-8.4	-12.7	-15.0	-9.3	-9.2	2.2	-0.1	-4.0	-3.7	-2.5
Croatia	-6.7	-7.6	-9.4	-6.5	-4.1	-1.8	-1.2	-0.8	-2.1	-2.4
Macedonia, FYR	-0.9	-7.2	-13.1	-14.1	-12.6	-0.5	0.6	-1.0	-5.9	-5.9
Moldova	-11.8	-17.0	-19.4	-19.4	-16.6	0.2	-0.2	-0.8	-4.9	-3.7
Montenegro	-24.1	-29.3	-31.3	-23.2	-16.7	2.2	6.2	1.7	-5.5	-8.8
Russia	9.5	5.9	6.1	0.5	1.4	8.3	6.8	4.3	-6.2	-5.0
Serbia	-10.1	-15.3	-17.3	-12.2	-11.3	-1.6	-1.9	-2.5	-3.0	-2.0
Turkey	-6.0	-5.8	-5.7	-1.2	-1.6	-0.7	-2.1	-2.7	-5.9	-5.1
Ukraine	-1.5	-3.7	-7.2	0.6	1.4	-1.4	-2.0	-3.2	-4.5	-2.8

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.

Box 1. Has the Financial Crisis Impaired Monetary Transmission in the Euro Area?

In the face of the worst financial crisis in decades, the European Central Bank (ECB) has eased monetary policy significantly since October 2008, bringing its policy rate down (by 300 basis points) to 1.25 percent (as of end-April, 2009). The cost of credit to both businesses and households also declined, but by much less, as credit spreads initially increased and eased only recently. These developments, as well as the tightening of credit standards, raise the question of whether the effectiveness of monetary policy has been weakened during the recent financial crisis.

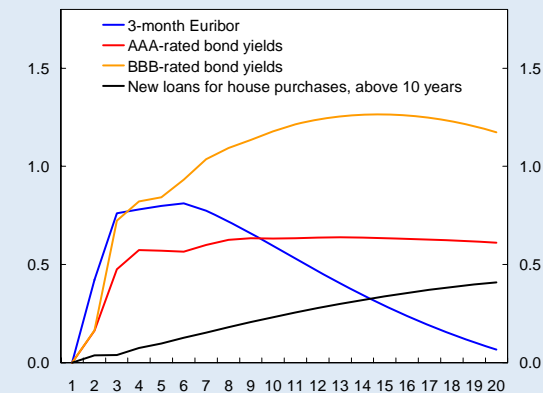
Main Transmission Channels

Monetary policy affects the economy through several channels. The main ones are the interest rate channel, the bank-lending channel, and the broad credit channel. In the *interest rate channel*, expansionary monetary policy lowers short nominal interest rates, which under sticky prices affect long nominal and real interest rates; these, in turn, affect the user cost of capital and the relative price of future versus present consumption and, hence, aggregate demand. In the *bank-lending channel*, the central bank can affect the supply of credit provided by financial intermediaries, and thus the cost of capital to bank-dependent borrowers, not only by changing interest rates but also by changing the quantity of base money. In the *broad credit channel*, given financial frictions, monetary policy affects not only interest rates, but also the financial position of borrowers and the relative cost of external and internal funds. In addition, *expectations* play an important role. Expectations influence significantly the effectiveness of all other channels of monetary transmission to the extent that central bank policy is anticipated by the market and priced into the yield curve.

Empirical Approach and Results

To gauge the extent to which ECB action can influence interest rates across the financial market, several bivariate vector autoregression (VAR) models are used. The VAR impulse responses show that policy rate changes have been transmitted to market rates, although the degree and the speed of pass-through varies.¹ The impact on the three-month euro interbank offered rate (Euribor) is close to one-for-one, and the speed of adjustment is fast, with the maximum impact transmitted within a month (first figure). The initial impact on corporate bond yields and new loans to nonfinancial corporations is similarly quick, although the full adjustment is more protracted and the impact on higher-grade bond yields is smaller than on lower-grade bond yields (0.6 to 0.7 percentage point for AA- and AAA-rated bonds versus 1.2 percentage points

Euro Area: Pass-Through of ECB Policy Rate to Market Rates
(Response to nonfactorized one-unit innovations)



Sources: ECB; Haver Analytics; and IMF staff estimates.

Note: The main author of this box is Emil Stavrev.

¹ The sample period is January 1999–December 2008 for interbank rates and corporate bond yields, and January 2003–December 2008 for loans to nonfinancial corporations and households.

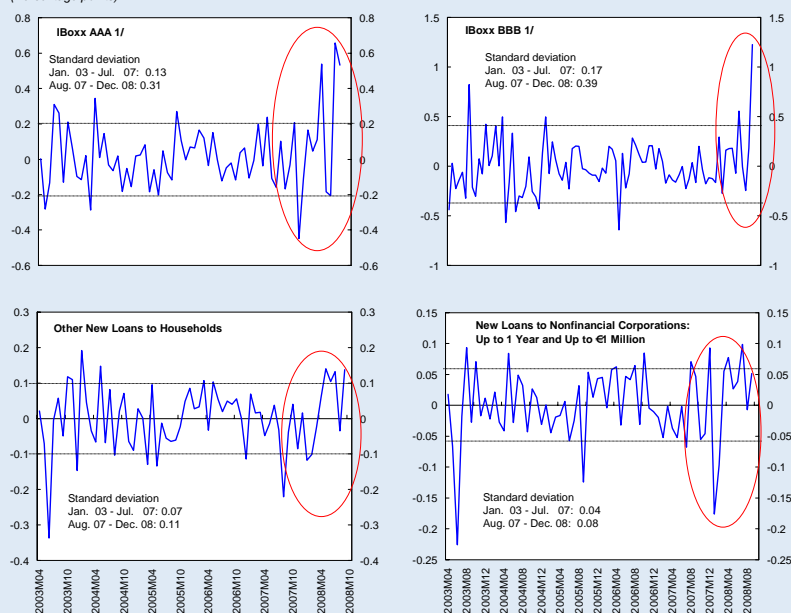
...continued

Box 1 (concluded)

for BBB-rated bonds). The pass-through of the policy rates to loans for house purchases is somewhat smaller and the speed of adjustment slower.²

The VAR residuals suggest that the pass-through from the policy rates to market rates has become somewhat less reliable since the beginning of the financial crisis (second figure). In particular, the residuals of the vast majority of the market rates have increased since the beginning of 2008, and in most cases significantly. IMF (2008e) also provides empirical support for the less efficient pass-through over the past year, pointing to the dislocation of the markets for short-term bank financing as the most likely cause.

Euro Area: VAR Residuals of Market Rates
(Percentage points)



Source: IMF staff estimates.

1/ Iboxx AAA and Iboxx BBB are indexes of yields on AAA- and BBB-rated corporate bonds, respectively.

An alternative approach to gauge the effectiveness of monetary transmission is with the help of a theory-based framework that has an aggregate supply-demand block and features the above channels.³ The effects of the bank-lending and credit channels are captured by including in the aggregate demand either a spread between loan and short rates or a spread between corporate bond yields and short rates. The model is closed with a standard monetary policy reaction function. As in Rudebusch and Wu (2003), the inflation expectations are modeled as an unobserved component, but instead of using a combination of a macro model and a yields-only finance model, they are estimated within the macro model.

Variance decomposition from the models suggest that the interest rate channel dominates monetary transmission. Specifically, it accounts for over 30 percent of inflation variation and close to 50 percent of output variation. Importantly, the results imply a major role for expectations, which account for around 40 percent of inflation variation and about 30 percent of output variation. The results suggest some role for the bank-lending and credit channels, which explain about 15 percent and 10 percent of output variation, respectively.

² These results are in line with findings of other studies: IMF (2008e) notes that the three-month Euribor rates have a more stable and reliable relation with the policy rate than other lender rates, and Sørensen and Werner (2006) find that bank rates on corporate loans appear to adjust most completely, followed by mortgage loan rates.

³ The models are estimated with monthly seasonally adjusted data over the period from January 1995 to December 2008 for the bank-lending channel and from January 1999 to December 2008 for the credit channel, using Bayesian methods.

Regarding the impact of the financial crisis, the results suggest that the effectiveness of the channels declined somewhat but was not significantly impaired (third figure). Indeed, the variability of the residuals has increased since mid-2008, but

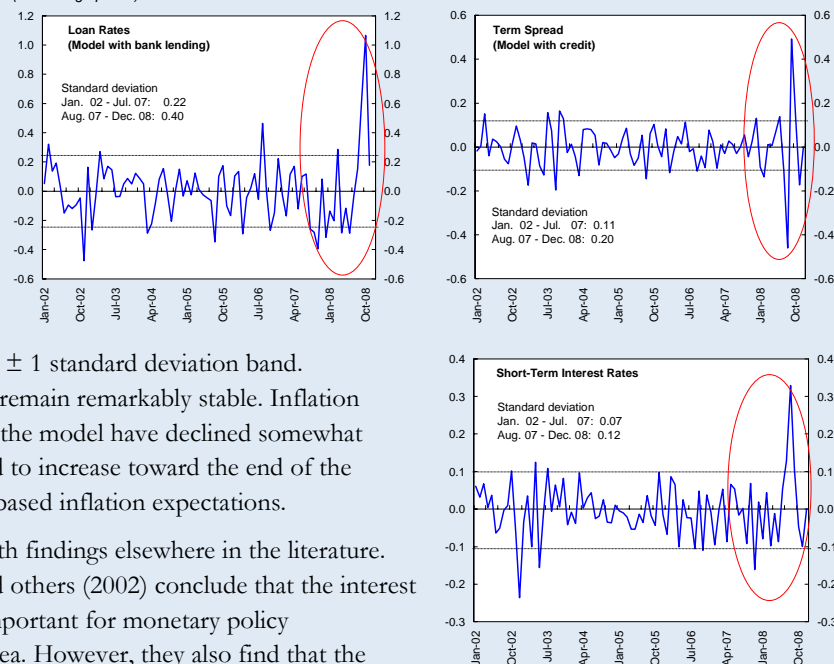
remains broadly within the ± 1 standard deviation band.

Interestingly, expectations remain remarkably stable. Inflation expectations derived from the model have declined somewhat since mid-2008, but started to increase toward the end of the year—in line with market-based inflation expectations.

The above results agree with findings elsewhere in the literature. For example, Angeloni and others (2002) conclude that the interest rate channel is the most important for monetary policy transmission in the euro area. However, they also find that the bank-lending channel plays a role, although its importance varies among euro area countries. And Beechey, Johansson, and Levin (2008) find that inflation expectations in the euro area are less variable than in other advanced countries.

To summarize, while interest rate transmission is clearly not insulated from the financial turmoil, ECB policy rate changes are still transmitted to market rates. Second, while there are also signs that the credit channel has been affected by the crisis, it remains functional. Third, owing to the ECB's credibility, inflation expectations, which play an important role for monetary policy transmission, remain anchored.

Euro Area: Residuals from the Structural Models, 2002–November 2008
(Percentage points)



Source: IMF staff estimates.

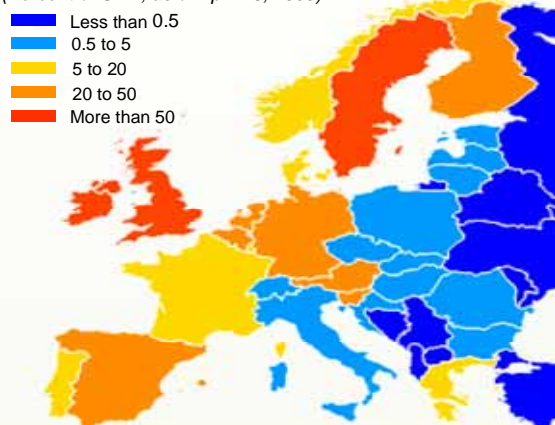
to harmonize key parameters of policy interventions.

Despite these efforts, coordination remains insufficient in the area of financial crisis management. Measures taken by EU governments to resolve strains in the financial system have differed in scale (Figure 10) and scope. Deposit guarantees were increased nearly everywhere, but efforts to harmonize their level yielded only an agreement to raise their minimum, while most countries adopted higher levels and some extended unlimited guarantees. Even though the European Central Bank argued against guaranteeing interbank lending, a number of countries extended such

guarantees either to all or to selected financial institutions. Conditions for guaranteeing debt securities by financial institutions were harmonized across the EU, but only after some countries had already provided such a guarantee with different parameters. The pricing of public capital provided to financial institutions was harmonized, but other parameters, such as the type of instrument used, the commitment to extend credit, conditions on remuneration of management, and dividend policy, continue to differ. Finally, schemes to support assets vary a great deal, ranging from the Swiss “bad” bank model to the United Kingdom’s insurance scheme for troubled assets, with Belgian and Dutch hybrids

Figure 10. Government Support, Including Guarantees, to Banks, 2008–09

(Percent of GDP; as of April 15, 2009)



Source: IMF staff calculations based on data from national authorities.
Note: The volume of government support is the sum of actual and guaranteed amounts. Because the IMF is not the author of this map, the country borders do not necessarily reflect the IMF's position.

staking out the middle ground, and a Spanish scheme providing liquidity for high-quality assets.

These discrepancies in policy actions have generated some tensions across borders and reduced their effectiveness as a lack of coordination has undermined confidence. While monetary and fiscal measures to promote demand have generally positive spillover effects across borders, differences in the timing and nature of measures adopted to deal with the financial crisis initially had adverse consequences. The unilateral increases in deposit guarantees by some countries forced others to follow suit, leaving those countries with large financial systems relative to their fiscal resources, including most emerging economies, at a disadvantage. Resolution of troubled cross-border institutions failed to adhere to agreed principles, leading to a breakup along national lines. Extension of sovereign guarantees to bank debt changed the competitive landscape as sovereign spreads began to determine funding costs, which, together with two countries setting up national interbank schemes threatened a segmentation of the euro area interbank market. Attempts to revive credit as quid pro quo for recapitalization focused on national markets, with uncertain consequences for the behavior of foreign branches and subsidiaries.

The financial crisis in advanced economies has affected emerging economies mainly through a retrenchment of investors, associated with the global increase in risk aversion and the flight to safety. Even so, the country-specific components of sovereign spreads of the New Member States (NMS) of the EU showed a significant increase after the announcement of the broad financial sector support measures at the October 12, 2008 EU summit, and another spike one to two weeks later when several advanced economies put in place specific support measures (Figure 11). Hence, there is some evidence that crisis management measures in advanced economies had adverse consequences on emerging economies, perhaps because investors saw their relative stability diminished. However, for most of the NMS the impact on spreads dissipated over the next several months. The return of these spread components to levels observed before the announcements may be partly due to public commitments by parent banks to stand by their subsidiaries, the adoption by emerging economies of their own measures to support their financial system, and official support provided to countries facing difficulties, including through IMF-supported programs containing financial sector support measures.

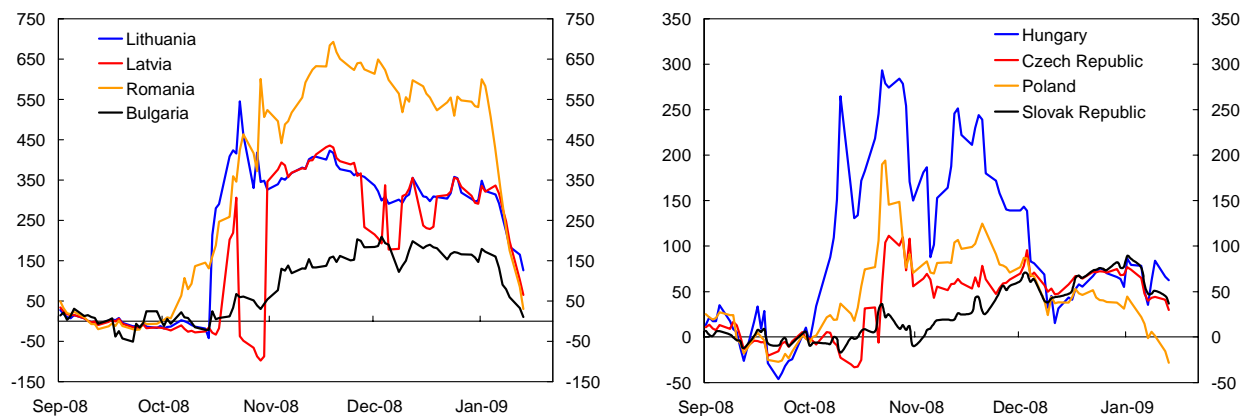
Multilateral Help Is Being Extended

Facing financing difficulties, a number of countries have undertaken adjustment programs supported by financial assistance from the IMF (Belarus, Hungary, Iceland, Latvia, Romania, Serbia, and Ukraine, as of April 14, 2009) and other bilateral and multilateral sources, including the EU through its balance of payments facility for non-euro-area EU members (see Table 3 for details). Poland has requested access to the IMF's new Financial Credit Line (FCL) to bolster international confidence.⁵

⁵ The FCL, which comes without ex post performance criteria, is accessible to IMF member countries with very strong fundamentals, policies, and track records of their implementation.

Figure 11. New Member States: Country-Specific Components of Sovereign Spreads, September 2008–January 2009 1/

(Deviations from September 2008 average; basis points)



Sources: Datastream; and IMF staff calculations.

1/ The spillover effects of the financial policy measures announced at the October 12, 2008 EU summit are estimated as the residuals (country-specific component) of a regression of sovereign spreads of each New Member State on the common component of the sovereign spreads of the euro area countries (see Chapter 2 for details about the common component).

While the global financial crisis was a common trigger, country-specific factors proved to be a key catalyst (see Chapter 3 for details on why crises happened where they did). Thus, the design of adjustment programs had to focus on country-specific circumstances. To varying degrees, measures to shore up the financial system were a crucial element of all programs. Similarly, constraints on available financing and the need to establish confidence in policies made fiscal adjustment essential. In some cases it also helped curb demand to underpin competitiveness-enhancing relative price changes. Advice on monetary and exchange rate policy differed, reflecting authorities' preferences and the need to mitigate contagion. Responding to pressure on capital flows, interest rates rose in most countries with fixed exchange rates. Countries with flexible exchange rates initially tightened monetary policy but with the intent to unwind such tightening as conditions improved (as, e.g., in Hungary and Iceland). Even so, interest rate differentials widened following the sharp reduction in policy rates in most advanced economies. Belarus devalued its currency and switched the peg to a basket of currencies to improve competitiveness and reduce its vulnerability to external shocks; Latvia, meanwhile, kept its peg in line with its preference for retaining an exchange rate anchor, while

improving competitiveness through adjustments in wages and productivity instead.

Uncertain Outlook

The Road to Recovery May Be Long . . .

Typically, recessions associated with a financial crisis take time to recover from, and globally synchronized recessions are deeper than others (IMF, 2009d, Chapter 3). Inventories accumulated in the last half of 2008 and high-frequency indicators suggest a further sharp fall in activity in the first part of 2009 (Figure 12). Financial conditions remain tight, as reflected for example, in wide corporate bond spreads, which are indicative of a rising tide of corporate bankruptcies. The crisis has also hit emerging economies hard, with sovereigns facing a sharp increase in the cost of funding and private borrowers even more adversely affected. Confidence, which was already on a weakening trend before the intensification of the financial crisis, has been in free fall through early 2009, leading a similar decline in industrial production. And equity values, despite a rebound in late March, remain 50 percent or more below their level of 18 months ago, depressing sentiment. Unemployment, typically a lagging indicator, has

Table 3. IMF Support for European Countries Affected by the Global Crisis (As of April 14, 2009)

Country	IMF Loan Size, Approval Date	Key Objectives and Policy Actions	Additional Information 1/
Hungary	\$15.7 billion, November 2008	<p>Address the main pressure points in public finances and the banking sector:</p> <ul style="list-style-type: none"> • Substantial fiscal adjustment, to provide confidence that the government's financing need can be met in the short and medium run. • Up-front bank capital enhancement, to ensure that banks are sufficiently strong to weather the imminent economic downturn, both in Hungary and in the region. • Large external financing assistance, to minimize the risk of a run on Hungary's debt and currency markets. 	<p>In addition to the financial assistance from the IMF, the program is also supported by \$8.4 billion from the European Union, and \$1.3 billion from the World Bank.</p> <p>The first review of the program was completed in March 2009.</p> <p>Available via the Internet: www.imf.org/external/country/HUN/index.htm.</p>
Ukraine	\$16.4 billion, November 2008	<ul style="list-style-type: none"> • Help the economy adjust to the new economic environment by allowing the exchange rate to float, aiming to achieve a balanced budget in 2009, phasing in increases in energy tariffs, and pursuing an incomes policy that protects the population while slowing price increases. • Restore confidence and financial stability (recapitalizing viable banks, and dealing promptly with banks with difficulties). • Protect vulnerable groups in society (an increase in targeted social spending to shield vulnerable groups). 	<p>Since the program adoption, the global economic environment has deteriorated markedly hitting Ukraine harder than expected. This has required a recalibration of economic policies. The IMF team and the authorities have been discussing revisions to the program's balanced budget target for 2009, taking into account the availability of financing.</p> <p>Available via the Internet: www.imf.org/external/country/UKR/index.htm.</p>
Iceland	\$2.1 billion, December 2008	<ul style="list-style-type: none"> • Prevent further sharp króna depreciation by maintaining an appropriately tight monetary policy and temporary restrictions on capital outflows. • Develop a comprehensive and collaborative strategy for bank restructuring by (1) putting in place an efficient organizational structure to facilitate the restructuring process, (2) proceeding promptly with the valuation of banks' assets, (3) maximizing asset recovery in the old banks, (4) ensuring the fair and equitable treatment of depositors and creditors of the intervened banks, and (5) strengthening supervisory practices and the insolvency framework. 	<p>The program includes the development of a strong medium-term fiscal consolidation plan to deal with the very substantial increase in public sector debt that is likely as a result of the budgetary cost of recapitalizing the banking system and fulfilling the deposit insurance obligations to depositors in foreign branches of Icelandic banks.</p> <p>Available via the Internet: www.imf.org/external/country/ISL/index.htm.</p>
Latvia	\$2.35 billion, December 2008	<ul style="list-style-type: none"> • Take immediate measures to stem the loss of bank deposits and international reserves. • Take steps to restore confidence in the banking system in the medium term and to support private debt restructuring. • Fiscal measures to limit the substantial widening in the budget deficit, and prepare for early fulfillment of the Maastricht criteria. • Implement incomes policies and structural reforms that will rebuild competitiveness under the fixed exchange rate regime. 	<p>Coordinated international package, involving the European Commission, Nordic countries and other bilateral donors, the World Bank, and the European Bank for Reconstruction and Development. As part of the program, foreign parent banks operating in Latvia have affirmed their commitment to provide their subsidiaries with adequate financing.</p> <p>Available via the Internet: www.imf.org/external/country/LVA/index.htm.</p>
Belarus	\$2.5 billion, January 2009	<ul style="list-style-type: none"> • Facilitate an orderly adjustment to external shocks and address pressing vulnerabilities. • Adopt a new exchange rate regime—a step devaluation of the rubel against the dollar of 20 percent and a simultaneous switch to a currency basket with a trading band of ± 5 percent—to improve external competitiveness. • Support policies to strengthen monetary framework, balanced budget, and impose strict public sector wage restraint. 	<p>In addition to the strong macroeconomic adjustment measures, the program addresses a number of structural issues that are critical to adjustment and the mitigation of vulnerabilities.</p> <p>Available via the Internet: www.imf.org/external/country/BLR/index.htm.</p>

Country	IMF Loan Size, Approval Date	Key Objectives and Policy Actions	Additional Information 1/
Serbia	\$0.5 billion, January 2009	<ul style="list-style-type: none"> • Tighten the fiscal stance in 2009-10, with the 2009 general government deficit limited to 1¼ percent of GDP, followed by further fiscal consolidation in 2010. This involves strict incomes policies for containing public sector wage and pension growth and a streamlining of nonpriority recurrent spending, which helps create fiscal space to expand infrastructure investment. • Strengthen the inflation-targeting framework while maintaining a managed floating exchange rate regime. 	<p>The program includes measures to make good use of the accumulated financial sector buffers, while enhancing financial crisis preparedness and implementing structural reforms to address the roots of the economy's low capacity to produce, save, and export.</p> <p>In March 2009, a staff-level agreement was reached on a strengthened economic program that could be supported by an extension and augmentation of the existing arrangement (with the envisaged loan size of around \$3.9 billion)</p> <p>Available via the Internet: www.imf.org/external/country/SRB/index.htm.</p>
Romania	\$17.5 billion, March 2009 (staff-level agreement)	<p>Cushion the effects of the sharp drop in private capital inflows while implementing policy measures to address the external and fiscal imbalances and to strengthen the financial sector:</p> <ul style="list-style-type: none"> • Strengthen fiscal policy to reduce the government's financing needs and improve long-term fiscal sustainability, preparing Romania for eventual entry into the euro zone. • Maintain adequate capitalization of banks and liquidity in domestic financial markets. • Bring inflation within the central bank's target. • Secure adequate external financing and improve confidence. Allocations for social programs will be increased, as well as protection for the most vulnerable pensioners and public sector employees at the lower end of the wage scale. 	<p>The IMF support is coordinated with that by the EU (\$6.76 billion) and the World Bank (\$1.35 billion), subject to the relevant approvals. The European Bank for Reconstruction and Development and other multilaterals provide an additional \$1.35 billion.</p> <p>Available via the Internet: www.imf.org/external/country/ROU/index.htm.</p>
Poland	\$20.5 billion, FCL request April 2009 (Board approval pending)	A precautionary credit line to bolster international confidence, the Financial Credit Line (FCL) is an instrument established for Fund member countries with very strong fundamentals, policies, and track records of their implementation. Access to the FCL is not conditional on further performance criteria.	The decision to approve the request rests with the IMF's Executive Board.

1/ More detailed information available at indicated Internet links.

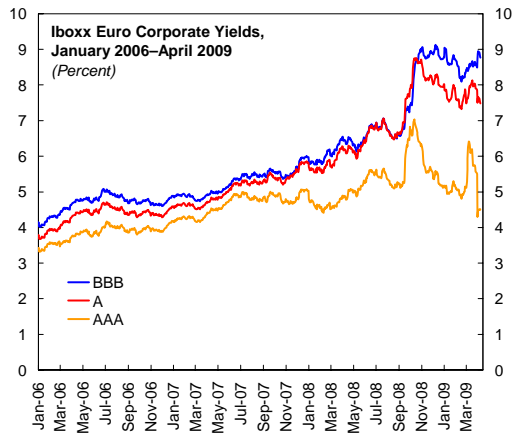
begun to rise, a development that will likely persist well into 2010.

The financial sector will continue to constitute a drag on both advanced and emerging economies. Having pushed risk taking and leverage to unsustainable heights, the financial system is now focusing, perhaps equally excessively, on scaling back risk and leverage.⁶ At the same time, economic fundamentals have been deteriorating sharply, leading to rising nonperforming loans and adding to the tightening of lending standards. Taking into

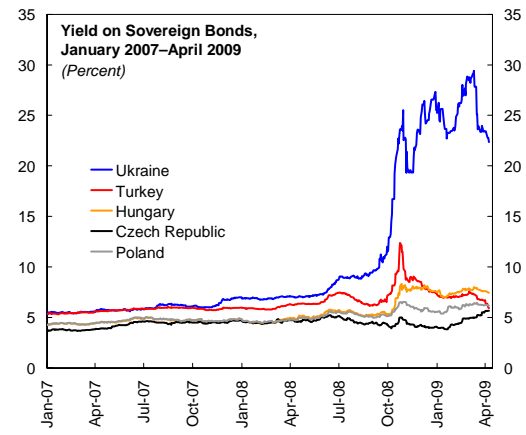
⁶ See IMF (2009a) for a detailed description of global financial developments.

account past and prospective losses for the next two years, recapitalization needs of Europe's banking system were—subject to a considerable margin of uncertainty—estimated in April 2009 to be \$1.3 trillion (IMF, 2009a). These recapitalization requirements differ considerably across countries, and their estimates will need to be refined by national authorities. Until the uncertainty surrounding loss recognition is resolved and resulting capital needs are met—which might well take another year—the financial system will be able to only partially fulfill its vital intermediation role. For advanced economies, counterparty risk and lack of transparency hamper the restoration of the normal functioning of markets, while for emerging

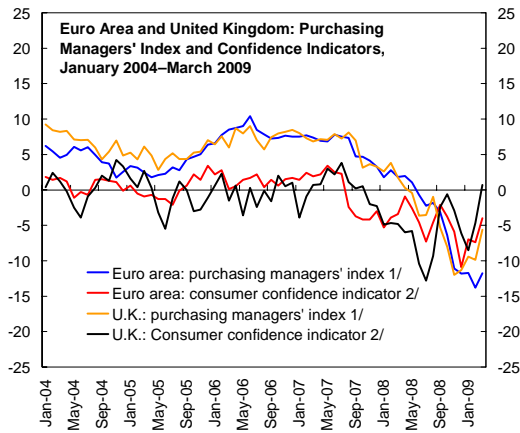
Figure 12. Key Short-Term Indicators



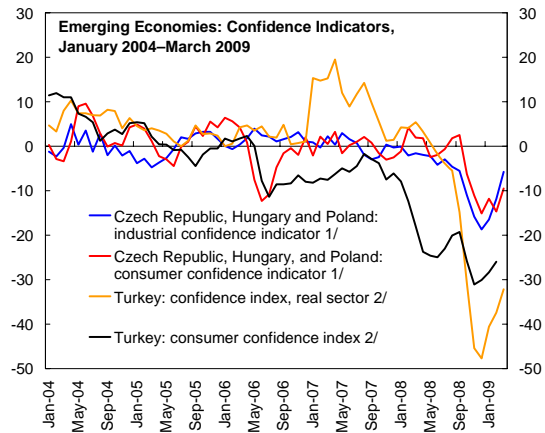
Source: Datastream.



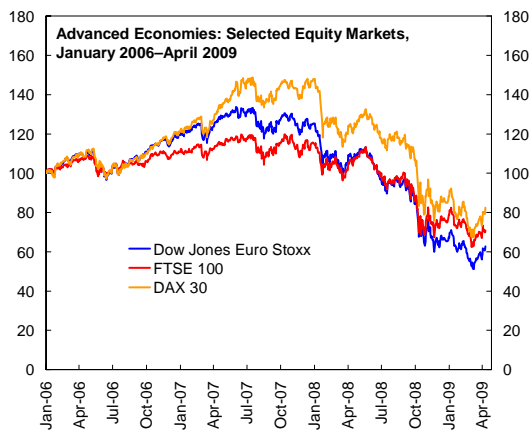
Source: J.P. Morgan.



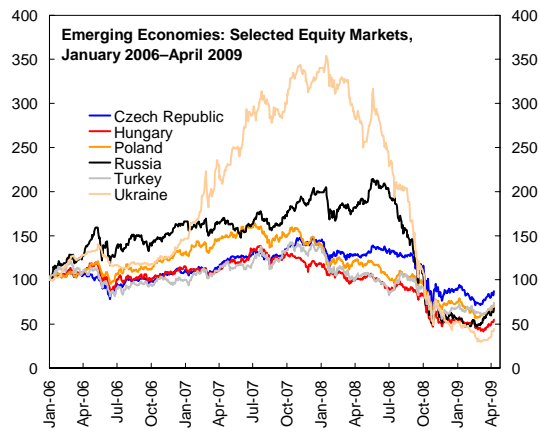
Sources: Eurostat, European Commission Business and Consumer Surveys; Haver Analytics; and IMF staff calculations.
 1/ Seasonally adjusted; deviations from an index value of 50.
 2/ Percentage balance; difference from the value three months earlier.



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



Source: Datastream.



Source: Datastream.

economies access to foreign currency liquidity plays a key role as well. All economies have to contend with the expected deterioration in asset quality as a result of the recession.

As the retrenchment of cross-border capital positions continues, large external imbalances will need to be corrected. All types of capital flows, including foreign direct investment, are likely to diminish sharply, causing serious adjustment problems for countries that had been running large current account deficits. For members of a currency union (e.g., Ireland or Spain) or countries with pegged exchange rates (e.g., the Baltic economies and Bulgaria) the adjustment will be more arduous than for countries with more flexible exchange rates. However, even in these latter cases, the task ahead will be difficult as exchange rate volatility may prevent use of monetary easing to support demand, while adverse balance sheet effects—households and businesses in many emerging economies hold sizable foreign currency liabilities—will dampen spending and raise levels of nonperforming loans.

What will break the adverse feedback loop between sectors and across countries? While lower commodity prices and a deceleration in the rate of decline of equity and house prices will help, extensive policy support will be crucial. The measures undertaken so far have provided a good foundation, but further action is required, especially in the financial sector and as regards support for domestic demand into next year. These additional actions—well coordinated for increased effectiveness—should lead to a normalization of conditions in the course of 2009, laying the foundations for a recovery to take hold during 2010.

Our baseline projection assumes that these additional policy actions are undertaken and that no more systemic shocks occur, so that a floor is established under the decline in output by the second quarter of 2010. A very gradual recovery is expected to take hold thereafter, with growth momentum not returning until 2011. Commodity prices are expected to remain stable for the next two years, and modest credit growth would resume in

the second half of 2010. As a result, advanced economies should see activity fall by about 4 percent in 2009 and ½ percent on average in 2010, though growth should pick up to slightly more than 1 percent by end-2010 (Table 1). Output in emerging economies is projected to fall by 5 percent in 2009 and recover by ¾ percent in 2010. While activity in advanced economies will be similar across countries, growth in emerging economies is anticipated to show a wider dispersion.

Potential growth is also projected to be appreciably lower, especially in the near term. With overcapacity being worked off in some sectors and the sharp drop in capital spending, productive capacity is expected to grow very little in 2009–10. Lengthy unemployment spells are likely to erode skills, while higher risk premiums will slow capital accumulation, dampening future trend growth. On the other hand, well-chosen investment in infrastructure and a heightened emphasis on training and education could provide a boost. For emerging economies in Europe, potential growth is also unlikely to return to precrisis trends, though it could well return to rates higher than in other emerging economies (other than East Asia), especially if structural reforms are undertaken (Box 2).

Inflation is projected to fall to very low levels in many countries, but outright deflation is likely to be avoided, helped by more rigid wages (Table 1). In the course of 2009, several advanced economies, primarily in the euro area, but possibly also Switzerland and Sweden, may experience negative 12-month inflation rates. Nonetheless, inflation expectations remain anchored in positive territory in most countries (Figure 13). Inflation performance in emerging economies will show a more mixed picture, with deflation likely in countries with pegged exchange rates undergoing adjustment, and less downward pressure on inflation in countries experiencing nominal exchange rate depreciation.

. . . and Bumpy

Risks around this baseline remain tilted to the downside. With low inflation and terms of trade

Box 2. Growth Prospects in Emerging Europe After the Global Crisis

The emerging European economies were the fastest-growing emerging economies before the current global crisis, apart from emerging Asia; however, they have been affected the most by the crisis (first figure). This box discusses the implications of recent staff research on the region's recovery and long-term growth prospects. The results suggest that emerging Europe will recover in the medium term, although to growth rates that will be lower, in some cases substantially, than before the crisis.¹ These results are consistent with the latest *World Economic Outlook* projections. The results also suggest that structural reforms will strengthen the region's growth prospects.

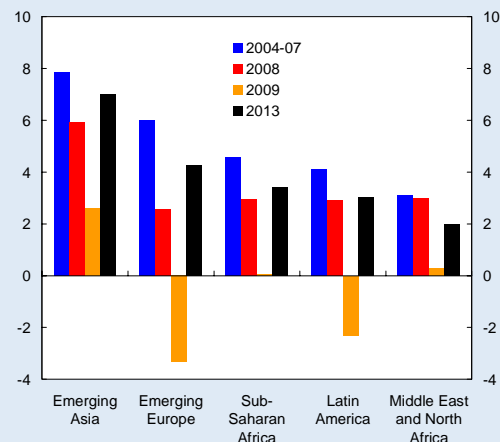
Theoretical Background

Financial liberalizations, as occurred in most emerging European economies before the recent boom, can lead to excessive risk taking associated with currency mismatches, which, in turn, can lead to high growth but at the price of occasional self-fulfilling crises.² The conceptual framework yielding this result consists of a two-sector economy, with traded and nontraded goods, and with two credit market imperfections: contract enforceability problems that generate domestic financing constraints, and systemic bailout guarantees (lenders are insured against systemic crises, but not against idiosyncratic defaults). This conceptual economy has a noncrisis equilibrium, in which the nontradable sector, which is also an input for the tradable sector, is constrained by its cash flow and a bottleneck to growth. However, there is also an unconstrained equilibrium, in which endogenous real exchange rate risk arises and firms find it optimal to take on credit risk in the form of a currency mismatch. This mismatch eases borrowing constraints, increases investment, alleviates the bottleneck in the nontradable sector, and allows the economy to grow faster. However, it also generates financial fragility, as a shift in expectations can cause a sharp real depreciation and a hard landing, particularly for the nontradable sector, which is growing much faster than the rest of the economy during the boom.

The results suggest that, if crises remain rare events and are not too costly, economies in the unconstrained equilibrium have the potential to grow faster than other economies. The first best can be attained by reducing the agency problems that generate the financing constraints—which would call for structural reforms, including in the financial sector. However, if progress in structural reforms is slow, society is faced with a trade-off between faster growth and the associated credit risk. Depending on social preferences, tolerating financial fragility might (or might not) be a second-best solution.

The model is highly stylized, but it would seem that most emerging European economies have been closer to the unconstrained equilibrium of this model. During recent years, they have experienced fast credit growth and

Emerging Economies: Real Per Capita GDP Growth, 2004–13 (Percent)



Source: IMF, *World Economic Outlook*.

Note: The main authors of this box are Romain Rancière and Athanasios Vamvakidis.

¹ Rancière, Tornell, and Vamvakidis (forthcoming).

² Many emerging economies that have experienced lending booms and financial crises have been among the fastest-growing economies (see Rancière, Tornell, and Westermann, 2008).

convergence through primarily a rapid expansion of the nontradable sector, which was broadly financed by foreign currency borrowing. Structural and legal reforms have progressed, in many cases during the EU harmonization process, but contract enforcement remains more difficult than in most advanced European economies.³ And anecdotal evidence seems to suggest that markets, for right or wrong, were operating under the expectation of a systemic bailout guarantee. Assuming that this characterization is indeed correct, what does the model imply for emerging Europe?

Model Calibration for Emerging Europe

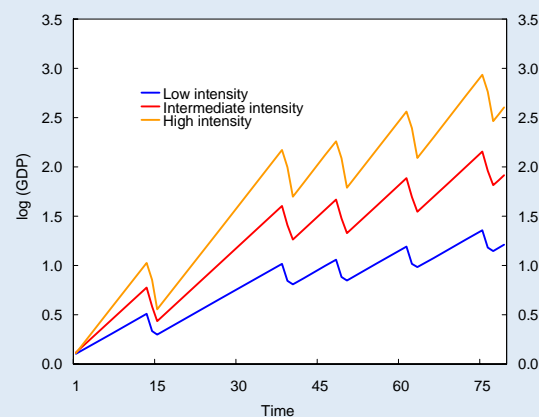
Calibrating the model for emerging Europe yields the following results:⁴

- Economies in the unconstrained equilibrium do have the potential to grow faster than other economies, but only if crises do not occur often.⁵ An important implication is that to the extent that precrisis policies in some countries in the region were overexposing the economy to shocks, they were hurting long-term growth prospects (second figure).
- Focusing on the unconstrained growth path, countries with good institutions, leading to better contract enforceability, seem to benefit more from taking on risk in terms of average growth rates. However, crises will also be more severe because of higher leverage.
- A high intensity of nontradable inputs in the production of tradables is associated with faster growth.

Conclusions and Policy Implications

These results suggest that emerging Europe could resume relatively fast growth rates in the aftermath of the current crisis, although not as fast as in the precrisis period. However, this assumes that crises in the region remain rare, which will require the absence of policies leading to excessive vulnerabilities and significant progress in structural reforms.

Risky Growth Paths and the Intensity of Nontradables in the Production of Tradables



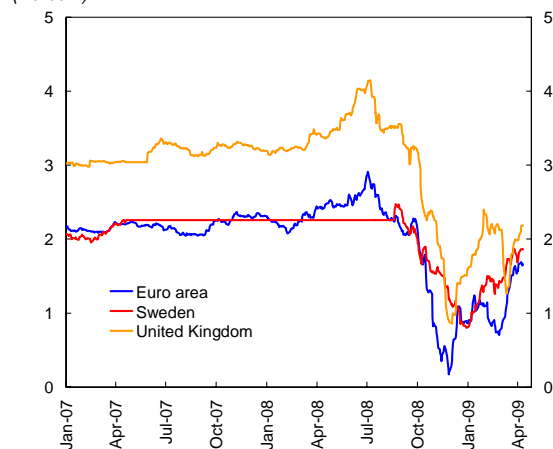
Source: IMF staff simulations.

³ For a detailed discussion and empirical evidence about emerging Europe's recent growth performance, progress in reforms, and the vulnerabilities that led to the current crisis, see Vamvakidis (forthcoming).

⁴ The definition of emerging Europe is consistent with the one used throughout this report. The key parameters of the model include the probability of a crisis, the degree of contract enforcement, the intensity of nontraded inputs in the production of traded goods, and the severity of financial distress costs (the fall in the cash flows of distressed firms during a crisis). The existence of a risky equilibrium requires that the probability of a crisis be low enough for risk taking to be profitable ex ante, and the severity of contract enforceability be in some intermediate range, so that, although borrowing constraints exist, the additional leverage associated with risk taking is relatively large. With risk-averse agents, the growth gains from risk taking would have to be large enough to compensate for the welfare costs of financial crises.

⁵ These simulations include a business cycle random disturbance (drawn from a uniform distribution of ± 2 percent around the mean) and stochastic financial distress costs (drawn out of a uniform distribution of between 90 and 70 percent).

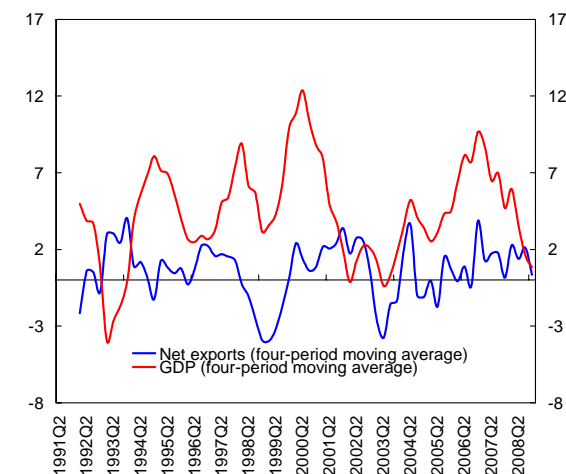
Figure 13. Selected Advanced Economies: Break-Even Inflation, 2007–April 2009 1/
(Percent)



Sources: Bloomberg L.P.; and IMF staff calculations.
1/ Derived from 10-year inflation-linked government bonds.

gains, consumers could regain confidence earlier, especially as policy actions—some of which have hardly had time to work, such as increased infrastructure spending—show signs of increasing effectiveness. On the other hand, continued weak global demand could lengthen and deepen the recession. Indeed, past recoveries in advanced economies of Europe have often been preceded or accompanied by a revival of exports (Figure 14); however, this option may not be available this time. Dynamics within Europe are also not very promising, especially as a few advanced economies and many emerging economies face the challenge of exporting their way out of excessive current account deficits. And with bank exposure to emerging Europe very large, a possible adverse feedback spiral between advanced and emerging economies through the financial system could take the downturn into uncharted territory. Moreover, large and simultaneous debt issuance by advanced economies may entail rollover difficulties and could hamper emerging economies' ability to cover their external financing needs. And a key concern is a deficient policy response.

Figure 14. Germany, France, and Italy: Trade and GDP, 1991–2008
(Change in constant millions of euros)



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

Calling for a Well-Articulated and Effectively Coordinated Policy Response

Recessions accompanied by a severe financial crisis and a persistent lack of confidence require a comprehensive policy response consisting of a coherent set of monetary, fiscal, and financial sector interventions. Moreover, with possibly severe downside risks predominating, policies need to be preemptive. The global nature of the crisis and Europe's tight economic and financial integration put a premium on strong policy coordination. Such coordination does not imply adopting uniform policies, but taking commonalities and spillovers into account in policy design. For Europe, the crisis should be used as an opportunity to strengthen its institutions, improve its fundamentals, and make substantial progress toward its goals of economic and financial integration and regional cohesion and income convergence.

Building on ongoing progress, more forceful policy actions are required to restore market trust and confidence.⁷ In the financial sector, these actions—which apply to all economies of Europe—

⁷ See also IMF (2009a and 2009d).

comprise the following: continued provision of liquidity and engagement in credit easing where necessary; credible loss recognition in the financial system based on stress tests that take into account the expected deterioration in asset quality from the economic downturn; recapitalization of viable institutions, ideally by the private sector but with public support if needed, and orderly resolution of other institutions; and ring-fencing of impaired assets where they constitute a significant part of balance sheets.

Macroeconomic policies need to continue to support demand to cushion the downturn and forestall a downward spiral. Monetary policy can do this by anchoring inflation expectations solidly in positive territory, thus preempting deflationary risks. Room for interest rate reductions needs to be fully and swiftly utilized, especially in advanced economies. In addition, further unconventional measures, especially to help specific, distressed segments of the financial system, are necessary. However, to avert adverse market reactions and improve their chances of success, these measures will have to be used in ways that are easily reversible; also, clear agreements will have to be reached with fiscal authorities to shield the central banks from capital losses. Volatility of capital flows and pressures on exchange rates make for a more challenging environment for monetary authorities in most emerging economies, which will need to take a cautious approach to interest rate cuts.

With the downturn now expected to last longer and more time needed to repair the financial system and restore full effectiveness of monetary policy, fiscal policy needs to continue to support demand. First and foremost, this requires rapid and decisive implementation of the announced fiscal stimulus packages and maximization of their effectiveness by good targeting, focusing on productivity-enhancing infrastructure, and committing to future fiscal consolidation (see Chapter 2). This last requirement is particularly important to underpin trust in social safety nets, which would help mitigate an excessive increase in precautionary savings by households. For the EU aggregate, a supportive fiscal stance will

need to be maintained into 2010, broadly in line with current plans. The recession may yet turn out to be deeper or more protracted than envisaged. Clearly, in this case automatic fiscal stabilizers will need to continue to operate, but additional fiscal stimulus, which may be badly needed, should only be adopted when accompanied by actual measures addressing sustainability concerns. The Netherlands set an example of such an approach when it accompanied fiscal support for the economy with pension and health care reforms.

What about the regional dimension? Europe's institutions put it in a unique position to strengthen the policy response across countries through effective coordination. The benefits and needs of such an approach are most acute in the areas of financial crisis management, fiscal policy, and the mitigation of downside risks:

- Restoring market trust will be greatly helped if further financial crisis management measures were coordinated *ex ante*. For recapitalization, agreeing on the common basic methodologies for the stress tests to determine capital needs will avoid distortions, especially for banks that compete internationally. Similarly, as impaired assets are widely held, agreeing on the valuation principles in the context of ring-fencing efforts is necessary to ward off inefficient arbitrage and minimize collective costs. Dealing with cross-border banks, especially for emerging Europe, requires full home-host coordination on the principles for loss recognition and agreed burden sharing in recapitalization between home and host countries, along the approach followed by the Nordic-Baltic countries and other similar initiatives.⁸ In the context of resolution, adherence to the ECOFIN crisis management principles, also beyond the EU, would be

⁸ The general idea is to establish a forum for home-host coordination of policies and interventions related to financial institutions and involve participants from supervisors, central banks, national authorities, and private cross-border commercial banks, with some proposals also including multilateral financial institutions.

Box 3. A Case Study in Coordination: Deposit Guarantees

The global financial crisis has demonstrated an important side-effect of the close economic and financial linkages within Europe: destabilizing spillover effects can occur when response measures are not coordinated. The need for better coordination can be illustrated by the financial policy reaction to the crisis.

As the financial turmoil intensified after the Lehman Brothers bankruptcy, some EU member states unilaterally (i.e., without sufficient consultation with their EU partners) introduced crisis management measures, notably guarantees for deposits and other forms of bank debt. To prevent deposit outflows, other European governments then came under pressure to match the increases in deposit guarantees. Moreover, when state backing became more important, the resources and credit ratings of governments became a major factor in determining the soundness of banks. Thus, locally owned banks in smaller (or poorer) EU countries were put at a significant disadvantage, and, while these measures helped stabilize some banks, others suffered.

The coordination of crisis management measures has improved as time passed and as the EU institutions sought to limit competitive distortions; however, further improvements are needed. In October 2008, European finance ministers agreed that it would be desirable to harmonize deposit protection to the €50,000–100,000 range, with a €50,000 minimum. However, a number of countries remain above this range (table). These differences create incentives for potentially destabilizing outflows. Combined with the existing topping-up option, it allows banks with branches in several countries to offer better deposit guarantees in some countries than in others (or than their competitors). Improved coordination would require establishing not only a minimum, but also a clearer agreement on a maximum level of deposit guarantee coverage, defined to include both official schemes and de facto protection of creditors. A uniform coverage level might in principle be even better. However, this may not be optimal if policymakers in individual countries

Note: The main authors of this box are Martin Čihák and Wim Fonteyne.

beneficial.⁹ Removing the existing distortions through coordination (see Box 3 for the case of deposit guarantees) and devising exit strategies from government interventions will be crucial as well to prevent a dislocation of assets.

- Demands on fiscal policy vary a great deal across the region, while room for fiscal maneuver is equally unevenly curbed due to financing constraints. Coordination in this area implies that countries with more fiscal space provide a larger share of the aggregate stimulus, that fiscal

support for specific sectors and industries avoids beggar-thy-neighbor outcomes, and that some of the key measures, such as infrastructure development, be designed in a regional context. Increased provision of structural funds by the EU to emerging economies and continued participation in meeting their financing needs in the context of adjustment programs will be particularly helpful.

- With unsettled financial markets, risk mitigation strategies can benefit from a regional dimension. Potential debt-servicing difficulties, for both advanced and emerging economies, are best addressed preemptively, involving EU institutions as well as the IMF. To deal with

⁹ See Annex I of the October 2007 ECOFIN Council Conclusions—available via the Internet: www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ecofin/96375.pdf.

have different preferences regarding the profitability and stability of the banking sector (Hardy and Nieto, 2008). In addition, individual countries' deposit guarantee schemes are still very diverse with respect to other basic parameters, such as the type of financing and the determination of premiums, and no clear consensus is in sight.

Deposit Protection Schemes in the European Union

Country	Deposits Covered up to (Thousands of euros)		Note
	Before the crisis	After recent changes	
Austria	20	Unlimited	For private customers
Belgium	20	100	
Bulgaria	20	50	
Cyprus	20	100	
Czech Republic	25	50	
Denmark	40	Unlimited	October 2008 to September 2010
Estonia	20	50	
Finland	25	50	Until end of 2009
France	70	70	
Germany	20	Unlimited	All retail deposits in German banks
Greece	20	100	For three years; political guarantee of all bank deposits
Hungary	20	42	Ft 13 million—political guarantee of all bank deposits
Ireland	20	Unlimited	All retail and corporate deposits; valid for two years
Italy	103	103	
Latvia	20	50	
Lithuania	22	100	Valid for one year
Luxembourg	20	100	
Malta	20	100	
Netherlands	20	100	
Poland	23	50	
Portugal	25	100	Domestic nationals' deposits in domestic banks
Romania	20	50	
Slovak Rep.	20	Unlimited	Physical persons; some categories of legal persons
Slovenia	25	Unlimited	Temporary (until end of crisis)
Spain	20	100	
Sweden	28	46	SKr 500,000
Switzerland	20	66	SWF 100,000
United Kingdom	45	54	£50,000

Sources: IMF staff, based on data from the European Commission and country authorities.

disruptive exchange rate movements and shore up market confidence, currency swap lines should be extended to emerging economies. For new EU member states not yet part of the euro area, adoption of strong policies and confirmation by the EU that they constitute credible road maps to swift euro adoption would improve stability and help reanchor expectations of continued convergence.

Beyond the immediate policy response, improvements in the EU's financial stability framework will be essential to prevent future financial crises and minimize the costs associated with such crises. The current framework has proved to be suboptimal in anticipating the

systemic risks of the global crisis for Europe and in resolving cross-border institutions in an orderly manner. Home-host coordination with respect to risk taking and procyclicality of bank behavior in emerging economies was also lacking. As a first step, implementing the improvements suggested in the de Larosière report¹⁰ will constitute important progress, though the ultimate response will need to go further (Box 4).

¹⁰ Available via the Internet: http://ec.europa.eu/ireland/press_office/news_of_the_day/cross-border-financial-supervision-report_en.htm.

Box 4. Redesigning Financial Supervision in the European Union

The financial crisis, the challenges in coordinating crisis management actions in the European Union, and concerns about consequent setbacks to financial integration have intensified calls for a more integrated approach to financial stability in the EU. In response, at the request of the European Commission, a high-level expert group (de Larosière Group; the DLG) delivered a review of the EU's supervisory arrangements in February 2009.

The group proposes to establish a European System of Financial Supervisors (ESFS), bringing together the national supervisors with three independent supranational “Authorities” (for banking, insurance, and securities markets) accountable to the EU institutions. These Authorities would oversee the work of and resolve disputes among national supervisors, who would retain responsibility for the conduct of supervision. Cross-border institutions would be supervised by colleges of home and host supervisors. To bridge the gap between macro- and microprudential oversight, the group proposes creating a European Systemic Risk Council (ESRC) linked to the European Central Bank. This council would comprise the Governors of the European System of Central Banks, the heads of the Authorities, and the European Commission. The group advocates establishment of “a truly harmonized set of core rules,” harmonized and prefunded deposit insurance schemes, and more detailed criteria for burden sharing.

The U.K. Financial Services Authority (the “Turner review”) has proposed a similar way forward, recommending the establishment of a single European regulator. This would be an independent authority to regulate all sectors of the financial system, oversee and set standards for supervision, and be significantly involved in macroprudential analysis. However, unlike the DLG Authorities, it would not have binding powers over national supervisors, instead relying on peer review.

If implemented, either approach would constitute a historic step forward, putting in place important building blocks of an EU financial stability framework that is consistent with the objective of creating an integrated financial market. The DLG proposals would likely yield better results in terms of supervising on a day-to-day basis cross-border financial institutions, reconciling the interests of home and host countries, and strengthening macroprudential oversight. However, important aspects still need to be clarified, including accountability within the ESFS, the functioning of the ESRC and the organization of operational work to support it, and provisions for data sharing. The strong linkages among banks, insurance companies, and securities markets argue for an early cross-sectoral integration of supervisory arrangements along the lines of the Turner proposals rather than considering this only as a desirable long-term option. The Turner approach would also likely bring greater progress toward harmonized regulation. However, the focus on cross-border financial stability risks will need to be complemented with efforts to ensure that home country authorities accept joint responsibility with host country authorities for domestic financial stability in host countries.

Neither set of proposals addresses the crucial question of cross-border crisis management and resolution. Yet fundamental progress in this area is essential to limit the incentive problems that tend to undermine cooperation and coordination in crisis situations (IMF, 2008a). What is needed are binding and institutionalized mechanisms to ensure adherence to the crisis management principles adopted by ECOFIN in October 2007, notably collective cost minimization and the sharing of fiscal crisis management costs. Recent experience has shown that policymakers find it difficult to adhere to these principles in the heat of the moment. This situation, in turn, makes it difficult for countries to accept the interdependencies that are inherent in an integrated financial market. The crisis has also shown the limitations of home country stability

Note: The main authors of this box are Martin Čihák and Wim Fonteyne.

arrangements to back the cross-border operations of their banks. Because the DLG and Turner proposals do not offer solutions to these unresolved cross-border crisis management and resolution issues, they open the door for increased host country control over cross-border branches. This would essentially scrap the single passport, which has been a key driver of financial integration.

The pragmatic approach of the DLG has increased the chances of its proposals being implemented, but addressing these contentious issues will be necessary to ensure that Europe's financial system delivers its full potential in terms of integration, efficiency, and stability. Indeed, the March 2009 European Council endorsed the DLG proposals as a basis for action and asked the European Commission to work out detailed proposals in time for the June 2009 European Council, taking into account the results of a round of public consultations. Separately, the European Commission is working out proposals on tools for early intervention and on deposit insurance, which offer prospects of some progress on crisis management and resolution. However, the scope of this progress is likely to fall well short of the comprehensive overhaul that is needed and being called for by several stakeholders to clear the road toward a single financial market.

Accelerating and broadening structural reforms have taken on heightened importance against the background of the economic and financial crisis. Structural reforms are necessary to alleviate pressures in at least three areas: potential growth, fiscal sustainability, and external imbalances. With the crisis dampening potential growth and raising unemployment, increased emphasis on training and education will be essential to keep people attached to the labor market. In this context, measures taken to support income in the short run, such as increases in the level and duration of social benefits, will need to be reversed when conditions improve to avoid adverse consequences on long-term labor supply. Pension and health care reforms are now more necessary than ever, especially as policy actions have

generally pushed public debt to a level well beyond the trajectory consistent with addressing the intertemporal aspects of the aging problem. For many emerging and some advanced economies, the immediate challenge is to facilitate the reallocation of productive resources from the nontraded to the traded goods and services sectors, a process that can be assisted by reforms to increase labor market flexibility and improvements in the business environment. Liberalization of services sectors and, for the EU, the establishment of a true internal market in services should be a boon. Meanwhile, care must be taken that government interventions in the context of the crisis do not undermine progress, or worse, introduce barriers to economic and financial integration in Europe.

2. Fiscal Policy in Advanced Countries: Effectiveness, Coordination, and Solvency Issues

On the heels of the global financial crisis, active fiscal policy is back on the agenda of the advanced European economies. Indeed, a fiscal expansion could be particularly effective in the near-term economic environment: the recent tightening of credit constraints could make spending more sensitive to current income and, thus, taxes and subsidies. Given the increased integration of European economies, policy coordination is nonetheless key to magnifying the effects of national fiscal expansions. While it is important for countries to support their economies in the face of this unprecedented slowdown, a clear and credible commitment to long-run fiscal discipline is now more essential than ever: any loss of market confidence may raise long-term real interest rates and debt-service costs, partly offsetting the stimulus effects of measures taken to deal with the crisis and further adding to financing pressures. Hence, it is particularly crucial that any short-term fiscal action be cast within a credible medium-term fiscal framework and envisage a fiscal correction as the crisis abates.

Overview

Policy actions taken to address the global crisis have been increasingly broad in scope as financial problems have spread and activity has deteriorated. Overall, policies have aimed at restoring confidence in global financial markets and institutions, supporting aggregate demand, and, ultimately, breaking the corrosive feedback loop between the financial and real sectors of the global economy. In particular, fiscal policy is providing important support through direct stimulus, automatic stabilizers, and the use of public balance sheets to shore up the financial system.

While such support is critical to bolster aggregate demand and to limit the impact of the financial crisis on the real economy, it implies a significant deterioration in the fiscal positions of advanced European economies.¹¹ In fact, public deficits and debt are projected to rise dramatically in the coming year, exacerbating existing long-run fiscal challenges and raising questions about sustainability. Financial markets seem to have responded to these developments by requiring higher sovereign default risk premiums for most countries, and differentiating across sovereign issuers much more than before.

Against this background, it is important to assess the fiscal implications of the crisis so far, including for the sustainability of public finance, and to explore how governments can maximize the effectiveness of fiscal support while minimizing the impact of this support on their solvency. This entails gauging the fiscal costs of the measures taken to address the financial crisis and sustain aggregate demand, and assessing the impact of automatic stabilizers on government balances. Other questions of relevance include the fiscal policy mix that is likely to enhance effectiveness, the benefits of policy coordination, and the impact of the crisis on fiscal sustainability. It is also important to review the role of budgetary frameworks, and the Stability and Growth Pact in particular, as an essential device of commitment to long-term fiscal sustainability.

Note: The main authors of this chapter are Silvia Sgherri and Edda Zoli.

¹¹ It has to be stressed, though, that—given the severity of the crisis and the potential risks of an economic meltdown—public finances would worsen significantly even in the absence of government intervention.

Table 4. Headline Support for the Financial Sector and Upfront Financing Need
(As of April 15, 2009; percent of 2008 GDP)

	Capital Injection	Purchase of Assets and Lending by Treasury	Central Bank Support Provided with Treasury Backing (C)	Guarantees 1/	Up-front Government Financing 2/
	(A)	(B)	(C)	(D)	(E)
Austria	5.3	0.0	0.0	30.0	5.3
Belgium	4.7	0.0	0.0	26.2	4.7
France	1.2	1.3	0.0	16.4	1.5 3/
Germany	3.8	0.4	0.0	18.0	3.7
Greece	2.1	3.3	0.0	6.2	5.4
Ireland	5.3	0.0	0.0	257.0	5.3
Italy	1.3	0.0	0.0	0.0	1.3
Netherlands	3.4	2.8	0.0	33.7	6.2
Norway	2.0	15.8	0.0	0.0	15.8
Portugal	2.4	0.0	0.0	12.0	2.4
Spain	0.0	4.6	0.0	18.3	4.6
Sweden	2.1	5.3	0.0	47.3	5.8 4/
Switzerland	1.1	0.0	0.0	0.0	1.1
United Kingdom	3.9	13.8	12.9	51.2	20.2 5/
Average 6/	2.5	3.7	2.1	25.0	6.3

Source: IMF, Update on Fiscal Stimulus and Financial Sector Measures (published April 26, 2009), available via the Internet: www.imf.org/external/np/fad/2009/042609.htm.

1/ Excludes deposit insurance provided by deposit insurance agencies.

2/ Includes components of (A), (B), and (C) that require up-front government outlays.

3/ Support to the country's strategic companies is recorded under (B), of which 14bn euro will be financed by a state-owned bank, not requiring upfront Treasury financing.

4/ Part of the capital injection will be undertaken by the Stabilization Fund.

5/ Cost to nationalize Northern Rock and Bradford & Bingley recorded under (B), entailing no up-front financing.

6/ PPP GDP weights.

Fiscal Costs of the Crisis

Financial Sector Support

Government support to the financial sector has taken various forms, with different implications for debt and fiscal balances. Almost all advanced European economies have provided capital injections and guarantees for financial sector liabilities. Some have purchased illiquid assets from financial institutions or extended direct loans (Table 4).¹² Altogether, the immediate impact of these measures to support government financing has reached 6.3 percent of 2008 GDP on average, ranging widely from 1.1 percent of GDP in Switzerland to 20.2 percent of GDP in the United Kingdom.

Part of the up-front costs, though, is expected to be recovered. In previous episodes of banking crises around the world, recovery rates varied considerably

¹² In several countries, central banks have extended assistance to financial institutions through credit lines, purchase of assets, asset swap, and liquidity provisions without direct treasury funding. While such operations do not require up-front treasury funding, they could eventually generate fiscal costs.

(Laeven and Valencia, 2008). In the Nordic countries in the early 1990s—the most recent episodes of banking crises in advanced European economies—recovery rates ranged from around 15 percent in Finland to more than 90 percent in Sweden. Empirical analysis based on a large sample of financial crises indicates that recovery rates are positively correlated with per capita income and the fiscal balance at the beginning of the crisis—probably an indicator of sounder public financial management (IMF, 2009b and 2009c). Country-specific projected recovery rates based on this analysis suggest that the medium-term impact on public debt could be substantially smaller than the up-front cost in most cases.

Explicit guarantees provided so far are quite large, especially in Ireland (Table 4, column D). Nevertheless, the ultimate costs are likely to be lower. Indicative estimates based on financial derivative pricing models suggest that outlays from contingent liabilities could be on average around 1–3 percent of GDP, cumulative for 2009–13 for the advanced European economies (IMF, 2009b and

2009c).¹³ However, governments may need to extend additional support to the financial sector if the crisis persists. De facto, governments are also providing implicit guarantees to financial institutions that could potentially entail significant additional fiscal costs.¹⁴

Downturns, Asset Price Reversals, and Stimulus Plans

Fiscal deficits will increase, owing to the operation of the automatic stabilizers during the economic downturn. In most countries, the estimated effect of automatic stabilizers is expected to increase significantly in 2009 (Figure 15).

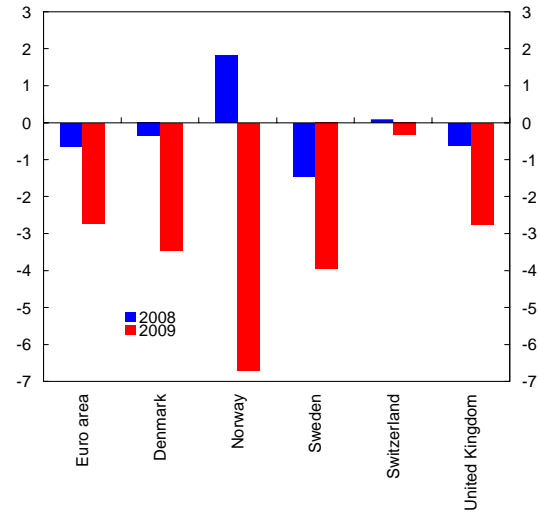
On top of that, there might be a further negative impact on revenues because of the ongoing reversal in house and equity prices, which is not fully reflected in the conventional estimates of cyclical balances. Fluctuations in asset prices affect the taxation of capital, financial transactions and capital gains, and corporate and personal income tax proceeds—as well as indirect tax revenues—through their impact on wealth and consumption. Even though asset values and business cycles are correlated, dramatic declines in asset prices may reduce revenues even more than currently anticipated. Indeed, during previous episodes of house and equity price busts in advanced European economies, even cyclically adjusted revenues fell in the aftermath of asset price reversals and, in the case of house price reversals, they bottomed out with a long lag (Figure 16).

Most countries have also adopted fiscal stimulus plans, amounting to, on average, 1 and 0.8 percent of GDP in 2009 and 2010, respectively (Table 5).

¹³ These estimates are obtained by applying the expected default frequency implied credit default swap spreads—which are indicators of the “insurance” premium for providing the guarantee—to the guaranteed amounts. For details, see IMF (2009b and 2009c).

¹⁴ Some estimates, based on the assumption that governments will provide implicit guarantees to all systemic institutions, suggest that the potential fiscal costs could be on average around 3–10 percent of GDP, cumulative for 2009–13 for the advanced European economies (IMF, 2009b and 2009c).

Figure 15. Advanced European Economies: Estimated Impact of Automatic Stabilizers on Fiscal Balances, 2008–09 1/
(Percent of GDP)



Source: IMF, *World Economic Outlook*.

1/ The impact on fiscal balance from automatic stabilizers is computed as the change in the cyclical balance between two consecutive years.

Most of the announced measures are temporary, but some are permanent, implying a lasting effect on deficits and a cumulative impact on public debt (IMF, 2009b and 2009c).¹⁵ Overall, fiscal accounts will be severely affected by the crisis, with potential implications for fiscal sustainability (see section on fiscal solvency).

Making the Most Out of Fiscal Interventions

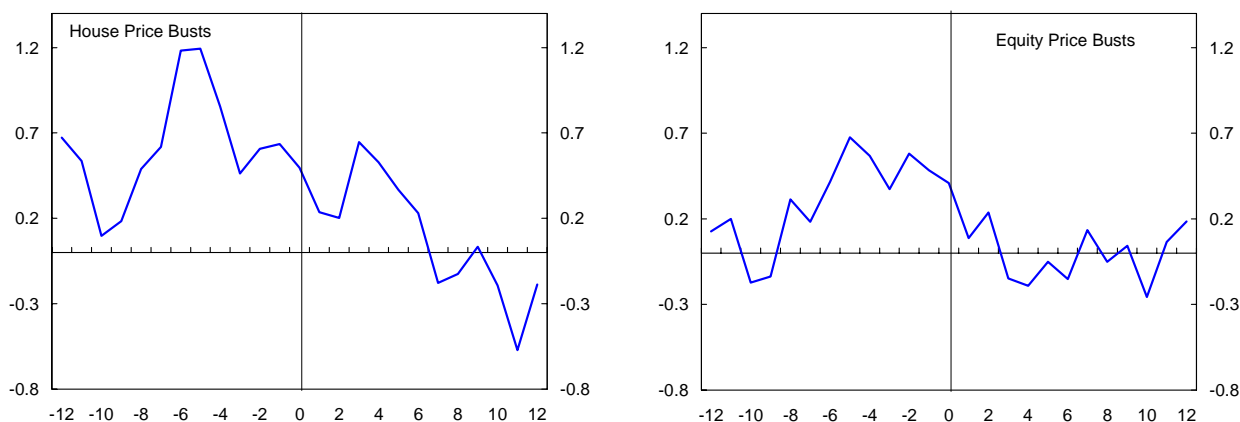
Targeting the Response in Times of Financial Distress

The current crisis has acquired the hallmarks of a full-fledged recession driven by a strong contraction in aggregate demand. The fall in aggregate demand is due to a large decrease in financial wealth, an increase in precautionary saving on the part of households, increasing difficulties in obtaining credit, and a wait-and-see attitude on the part of consumers and firms in the face of uncertainty. A further fall in demand will increase the risk of setting

¹⁵ For example, France, Germany, and Italy introduced measures that entail permanent reductions in personal income tax or in indirect taxation (IMF, 2009c, Table 13).

Figure 16. Advanced European Economies: Fiscal Revenues During Episodes of House and Equity Price Busts

(Percentage change from a year earlier in cyclically adjusted revenues as a share of potential GDP; X-axis in quarters)



Sources: Organization for Economic Cooperation and Development; Bank for International Settlements; Claessens, Kose, and Terrones (2008); and IMF staff calculations.

Note: The solid blue line denotes the median of all observations. Zero is the quarter when a bust begins.

Table 5. Advanced European Economies: Estimated Cost of Discretionary Measures, 2008–10 1/

(Percent of GDP, relative to 2007 baseline)

	2008	2009	2010
Austria	0.3	1.5	1.7
Belgium	0.0	0.8	0.4
Cyprus	0.3	1.7	0.0
Denmark	0.0	0.0	0.0
Finland	0.0	1.7	0.5
France	0.0	0.7	0.8
Germany	0.0	1.6	2.0
Greece	0.0	0.1	0.0
Ireland	0.0	0.0	0.0
Italy	0.0	0.2	0.1
Luxembourg	0.0	3.7	3.6
Malta	0.0	0.6	0.4
Netherlands	0.0	0.8	0.7
Norway	0.0	1.8	1.8
Portugal	0.3	1.0	0.0
Spain	1.9	2.3	0.3
Switzerland	0.0	0.7	0.0
United Kingdom	0.2	1.4	-0.1
Average 2/	0.4	1.0	0.8
Discretionary impulse 3/	0.4	0.6	-0.3

Source: IMF staff estimates.

1/ Figures reflect the budgetary cost of crisis-related discretionary measures in each year compared with 2007, based on measures announced through early March 2009. They do not include (1) "below-the-line" operations that involve acquisition of assets, (2) discretionary measures that were already planned for, and (3) automatic stabilizers. Some figures reflect staff's preliminary analysis.

2/ PPP GDP weights.

3/ Change from previous year.

in motion a perverse dynamic of deflation, rising debt, and associated feedback loops to the financial sector.

These factors—together with the unavailability of any export-led recovery strategy due to the global nature of the recession—call for an expansionary fiscal response and, at the same time, shape its design. In practice, the crisis may affect the impact of fiscal measures, including the speed of their transmission through the economy.¹⁶ The ongoing financial turmoil is part of an adjustment toward more sustainable macroeconomic conditions around the globe, and the behavior of economic agents may change as a result of this process and the policy actions it entails. As a result, fiscal policies that contribute to lowering existing uncertainties, bolster confidence, and promote the expectation of sustainable public finances over the medium and long term will be most effective in fighting the current downturn.

In the current circumstances, assessing the effectiveness of fiscal policy—namely, the likely

¹⁶ Monetary policy effectiveness is also somewhat impaired (see Box 1 in Chapter 1) and policy rates are very low almost everywhere, leaving limited scope for further easing.

impact of the discretionary fiscal stimulus on activity—is even more difficult than normal. Generally, researchers have used a variety of econometric techniques and model specifications to get reliable estimates of fiscal multipliers, reaching a wide range of outcomes. This broad range of results mostly reflects country conditions, the persistence of the stimulus, and policy mix—including the type of instruments used, the response of monetary policy, constraints on borrowing, trade openness, and long-term sustainability.¹⁷

With regard to the type of instruments featured in the policy mix, both the fiscal multipliers used by IMF country teams (Table 6) and model-based empirical research on multipliers for the various components of countries' fiscal packages (revenue measures, infrastructure spending, and other spending) seem to suggest that infrastructure spending is likely to have the largest impact on growth, although it also has the longest implementation lags.¹⁸ In contrast, tax cuts are likely to have a more modest growth impact—particularly if they are not targeted to credit-constrained consumers—as they rely entirely on propensities to spend out of wealth or income, and have no direct effect on the demand for goods and services.

In general, econometric analysis tends to back skepticism regarding the effectiveness of discretionary fiscal actions by documenting a trend of small and declining consumption multipliers since the 1980s, as greater financial deregulation, larger wealth accumulation, and better policies that might have helped lower uncertainty about future income, relax credit constraints on households and firms, and lengthen private sectors planning horizons.¹⁹ Because of the enhanced opportunities to smooth consumption vis-à-vis temporary fluctuations in income and diversify income risks, household

¹⁷ For recent studies on fiscal policy effectiveness as a countercyclical tool, see Blanchard and Perotti (2002), Christiansen (2008), IMF (2008b), and Freedman and others (forthcoming).

¹⁸ For an analysis of the stimulating impact of different fiscal instruments, see Freedman and others (2009).

¹⁹ On this point, see, for example, Perotti (2002).

Table 6. Ranges of Fiscal Multipliers Used by IMF Country Teams

	Lower Bound	Upper Bound
Tax cuts	0.3	0.6
Infrastructure investment	0.5	1.8
Other 1/	0.3	1.0

Source: IMF staff estimates.

Note: Includes additional spending on safety nets, transfers to state and local governments, assistance to small and medium-sized enterprises, and support for housing markets.

demand is likely to have become—over time—less and less dependent on current income, thereby shaking the foundations of fiscal multipliers.²⁰

In the current slowdown, however, it seems that this argument can be run in reverse. As the financial turmoil is spreading across borders and across asset classes, the share of credit-constrained households is likely to rise and the planning horizon of credit-unconstrained consumers to shorten. Similarly, the correction of housing prices is bound to lower the value of the collateral that households in many European economies can count on to borrow. For all these reasons, spending patterns would become much more dependent on current income, thus boosting the effectiveness of any tax cut and/or transfer increase. Thus, while in normal circumstances a discretionary fiscal stimulus might have limited impact, in the current economic conditions the case for fiscal action seems to have become stronger, giving reasons to believe that the multipliers would be closer to the upper bound of the range of estimates provided above.

The same argument also speaks in favor of targeted fiscal measures. Specifically, as the problem of financial distress is not uniform across groups in the economy, the effect of income support may differ vastly across groups of households, depending on their initial debt level and their equity losses in the crisis. Fiscal support should be targeted consistently to specific groups of households and firms that are most vulnerable to the economic

²⁰ In a recent empirical study, Bayoumi and Sgherri (2009) explore the relationship between changes over time in policy effectiveness and time variation in both households' planning horizons and the degree of persistence of policy shocks.

downturn. Concentrating income support may maximize its insurance value for the population, while guaranteeing a relative strong stimulus to the economy—thereby creating more output for a given deterioration of the budget.

The anticipated depth and length of the downturn should also shape the fiscal reaction. With a significant risk of a prolonged downturn, the stimulus should be designed to support demand over a long period and rely, more than in the past, on spending measures that directly boost final demand. One advantage of direct spending—for instance, on government investment—over tax cuts or increase in transfers, which operate by raising the purchasing power of households and firms, is that the impact of direct spending will be less mitigated by a possible increase in the saving rate of the private sector.

The potential effectiveness gain of carrying out fiscal stimuli in circumstances where uncertainty is higher and financial markets are disrupted—hence causing households and firms to be more “myopic” and risk averse—can be illustrated via simulations of the IMF’s Global Integrated Monetary and Fiscal (GIMF) Model.²¹ The version of the model used here features two (asymmetric) economic areas within a monetary union—a large euro area advanced economy (which has been calibrated using German data) and the rest of the euro area. The model has a number of features that make it especially suitable for assessing the effectiveness of fiscal measures: as a new-Keynesian, intertemporal model based on household- and firm-optimizing behavior, GIMF allows for non-Ricardian responses to fiscal actions by allowing for overlapping generations with finite economic lifetimes, life cycle incomes, and liquidity-constrained households. In the model, taxes on labor income have distortionary effects and changes in these taxes cause agents in the model to adjust their behavior. GIMF also features a number of nominal and real rigidities that capture well the characteristics of labor and product

²¹ See Kumhof and Laxton (2007) for a more detailed discussion of GIMF’s structure and properties.

markets in Europe, and allow for monetary policy to have real effects in the short to medium run.²²

Under selected scenarios, simulation outcomes focus on the effects on GDP, private consumption, public debt, and the real interest rate of a temporary fiscal stimulus. The fiscal measures considered here involve taking expansive actions equal to 1.0 percent of GDP in the first year and 0.5 percent of GDP in the second year, either by cutting labor income taxes or by increasing public investment. In addition, lump-sum transfers are used to offset the resulting endogenous changes in the budget deficit, so that the working of automatic stabilizers is suppressed.²³ There is no monetary accommodation, so the Taylor-type rule in the GIMF model continues to operate in both years of the fiscal expansion.

It is important to stress that the purpose here is to present a “likely range” regarding the effectiveness of a given fiscal stimulus under different—and necessarily stylized—scenarios. In other words, by focusing on a temporary tax cut, each simulation attempts to give an idea of the “smallest possible” multiplier, as tax cuts that are perceived to be temporary have only a limited effect on the behavior of households that are not liquidity constrained. In contrast, at the other end of the spectrum, the same targeted stimulus engineered through government investment expenditures would provide “the upper bound” of the multiplier effect, given the existence of direct effects on aggregate demand and secondary effects on household spending, as incomes and wealth would also increase due to the higher productivity of the economy.

With respect to the large euro area country, Table 7 shows the cumulative fiscal multipliers—

²² At the same time, though, the fact that GIMF is a rational expectations dynamic stochastic general equilibrium model rules out—a priori—any meltdown scenario over the medium term: expectations are, indeed, well anchored, and policy actions are assumed to be fully credible and anticipated by (rational) economic agents.

²³ In the period following the temporary fiscal action, lump-sum transfers adjust to return government debt back to its baseline value over time. They are assumed to do so very gradually to minimize the effects of fiscal consolidation on postcrisis GDP.

**Table 7. The Case for Fiscal Stimulus:
Effects of Fiscal Stimulus Under Distressed Financial
Markets 1/***(Percentage point deviation from control, unless otherwise stated)*

	First Year	Second Year	Third Year
GDP 2/			
"Normal" circumstances	0.2–1.5	0.3–1.6	0.3–1.8
Distressed financial markets	0.7–1.7	0.8–1.7	0.8–1.8
Consumption 2/			
"Normal" circumstances	0.5–0.9	0.5–1.0	0.6–1.2
Distressed financial markets	0.7–1.2	0.7–1.2	0.7–1.4
Public debt-to-GDP ratio			
"Normal" circumstances	-0.2–0.9	0.3–1.4	0.3–1.4
Distressed financial markets	-0.4–0.8	0.2–1.3	0.2–1.3
Real interest rate			
"Normal" circumstances	0.1–0.4	0.0–0.3	0.0–0.1
Distressed financial markets	-0.1–0.4	-0.1–0.3	-0.1–0.1

Source: IMF staff calculations.

1/ The fiscal impulse corresponds to a reduction in the fiscal balance of 1 percent in the first year and 0.5 percent in the second year, engineered either by a reduction in tax rates on labor income (lower bound of the range of multipliers) or by an increase in government investment (upper bound of the range of multipliers).

2/ Cumulative effect divided by the cumulative deficit over the same period as a summary measure of the fiscal multiplier.

defined as the cumulative impact on real GDP and consumption over the two years divided by the cumulative deficit over the same period—for a simultaneous euro area stimulus. Two cases are distinguished: (1) “normal” circumstances, defined by a planning horizon for forward-looking households of 20 years, a share of credit-constrained households of 25 percent, and a risk aversion coefficient equal to 4; and (2) distressed financial markets, characterized by a shorter planning horizon for the optimizing consumers (10 years), a larger share of liquidity-constrained consumers (50 percent),²⁴ and greater uncertainty, thereby raising the degree of risk aversion coefficient to 6.

The cumulative multipliers on GDP and consumption appear to be larger in times of financial distress—despite the increase in risk aversion—and accompanied by lower fiscal costs and slower debt accumulation over the short term. This is particularly true for the tax stimulus because—with distressed financial markets—all agents in this model become more myopic with respect to future tax liabilities. Even the least

²⁴ Following the seminal work of Campbell and Mankiw (1989), several papers have estimated of the share of liquidity-constrained consumers. Available estimates for euro area countries over the 1960–early 1980s period range around 50 percent (Jappelli and Pagano, 1989).

constrained group of households is assumed to halve its planning horizon and its remaining working life. This means that such households perceive the temporary tax cut as an increase in wealth, which, in turn, leads them to spend more. This effect is even stronger for the group of liquidity-constrained agents, who are assumed to consume their after-tax income in every period, without any possibility for borrowing or saving. Changes in taxes directly affect the disposable income and, therefore, spending of these agents. Doubling the size of this group—which is assumed to be the same in the two economic regions—is therefore critical to increase the multipliers of tax stimulus measures.

Coordinating the Response in Integrated Economies

Another reason for fiscal skepticism is the belief that—in highly integrated economies—an increasing share of a given fiscal stimulus benefits employment and output abroad, rather than in the country sustaining the cost of the fiscal expansion. In the traditional jargon, the problem consists of the “leakages” that reduce the additional output one can stimulate with a given amount of government spending or tax cuts, as a large share of domestic consumption and investment falls on imported goods or on imported inputs.²⁵

However, even in the presence of trade and financial linkages, fiscal policy may still be powerful at the aggregate level, if all governments expand at the same time. More specifically, a fiscal expansion in a large country affects net exports in trading partners through different channels. Part of the public spending rise in the expanding country falls directly on imports. Also, the fiscal stimulus boosts domestic demand in the expanding country, leading to more imports. Finally, the prices of the expanding country’s products rise faster than those of its trading partners, inducing consumers in those countries to substitute imports for locally produced

²⁵ For an analysis and empirical investigation of fiscal policy spillovers in Europe, see Beetsma, Giuliodori, and Klaassen (2006), and references therein.

goods. Overall, trading partners benefit from the boost in net exports and GDP, although in the expanding country part of the stimulus “leaks” abroad. But, if a fiscal stimulus is also adopted simultaneously by the trading partners, all countries mutually benefit from each other’s expansion. Hence, the broader the multicountry participation in the fiscal expansion, the larger the multiplier of a given stimulus.

The gains of a coordinated fiscal expansion can also be evaluated by simulation of the IMF’s GIMF model. Table 8 summarizes the effects of a temporary fiscal expansion through either lower taxes or higher investment in GDP and private consumption in the large euro area economy under two scenarios: (1) the fiscal expansion is undertaken by the large euro area country alone; and (2) the fiscal expansion is undertaken jointly by all euro area countries.

Coordination gains in the stylized large economy appear to be nonnegligible, amounting to 0.1–0.4 percentage point of the cumulated effects of the simultaneous fiscal stimulus on output—depending on the composition of the fiscal package. This is due simply to existence of very large trade effects within the euro area, which have been reproduced in the calibration of the two-region model. The lesson here is that the potential for intra-EU externalities in fiscal policy, makes policy coordination more essential than ever.²⁶

Treasuring Fiscal Solvency

The Crisis Is Putting Fiscal Solvency at Risk . . .

The benefits of fiscal expansions do not come for free. Current gains should be assessed against the future costs of a larger stock of public liabilities. Indeed, in most countries, government debt is expected to rise sharply as a share of GDP over the next year, reflecting support for the financial sector,

²⁶ On this point, see also Krugman (2008).

Table 8. Coordination Gains: Cumulated Effects of Fiscal Stimulus on a Large Euro Area Country 1/

(Percentage point deviation from control, unless otherwise stated)

	First Year	Second Year	Third Year
GDP 2/			
Own stimulus effect	0.1–1.1	0.2–1.2	0.2–1.4
Coordinated stimulus effect	0.2–1.5	0.3–1.6	0.3–1.8
Consumption 2/			
Own stimulus effect	0.3–0.7	0.3–0.9	0.4–1.1
Coordinated stimulus effect	0.5–0.9	0.5–1.0	0.6–1.2

Source: IMF staff calculations.

1/ The fiscal impulse corresponds to a reduction in the fiscal balance of 1 percent in the first year and 0.5 percent in the second year, engineered either by a reduction in tax rates on labor income (lower bound of the range of multipliers) or by an increase in government investment (upper bound of the range of multipliers).

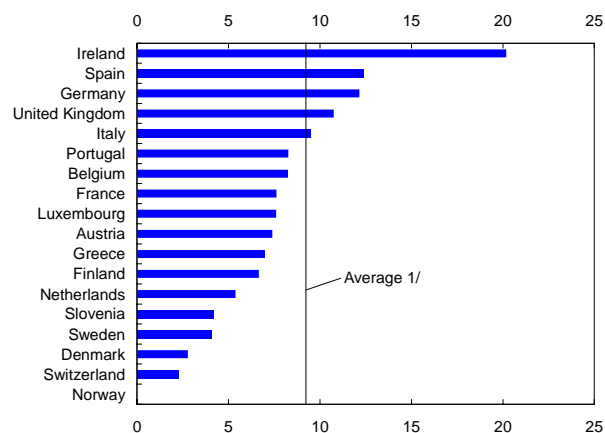
2/ Cumulative effect divided by the cumulative deficit over the same period as a summary measure of the fiscal multiplier.

fiscal stimulus packages, and revenue losses caused by the economic downturn and declining asset prices (Figure 17). The debt-to-GDP ratio is expected to increase, on average, by 9.4 percentage points—the largest jump since the early 1980s. This deterioration exacerbates existing long-run fiscal challenges related to population aging, thereby raising concerns about fiscal solvency.

As debt dynamics depend on the initial debt stock, the real growth rate of the economy, the real interest rate, and the size of future primary balances, the current crisis creates risks to fiscal sustainability in different ways. Growth rates will be negative in 2009, while the time and extent of the recovery remain highly uncertain. Even beyond the short term, potential growth is expected to be lower than in the precrisis period. While average nominal yields

Figure 17. Projected Changes in Public Debt

(Percent of GDP; change end-2009–end-2008)



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

1/ Weighted by PPP GDP.

(weighted by maturity) have fallen in most countries, sovereign spreads have risen sharply in some of them (see next section), signaling that governments' marginal funding costs may increase. At the same time, inflation is expected to ease significantly in the near term, thus boosting real interest rates. Primary balances are projected to remain weak in the immediate future and, in many cases, are expected to achieve levels insufficient to ensure debt stabilization (IMF, 2009b). Another reason for concern is that rollover risks are likely to increase in the short run, given both the limited availability of credit and the dramatic and simultaneous increase in debt issuance across the world (Box 5).

... Markets Are Concerned²⁷ ...

In the last few years, credit spreads have been extremely narrow. Countries with vastly different ratios of debt and deficits to their GDP have been able to borrow at essentially the same interest rate. But it seems increasingly unlikely that countries undertaking substantial fiscal expansion in the current circumstances will be granted the same treatment going forward. To be sure, in recent months financial markets have been requiring higher default risk premiums across a variety of bond instruments and across most issuers. Sovereign spreads and credit default swap premiums have widened since September 2008 and are now very large by historical standards.

In the euro area, in particular, spread variance across common currency members has risen dramatically, suggesting that markets are differentiating more and more among government issuers. From a range of 0–25 basis points in 2007, 10-year spreads versus the German bund by the end of January 2009 had reached close to 300 basis points in the case of Greece and over 100 basis points for Ireland, Italy, Portugal, and Spain (Figure 18).²⁸ Increasing sovereign spreads could have a major impact on governments' marginal

funding costs in the euro area, possibly undoing the benefits of declining risk-free interest rates.

Behind these developments are, among other things, growing concerns about the fiscal solvency of some euro area member states in the face of the expected increase in public debt associated with the fiscal costs of the financial crisis. The medium-term net budgetary cost of financial support operations will also depend on the extent to which the assets acquired by government or the central bank will hold their value, on future losses from explicit guarantees, and on additional costs from implicit guarantees to the banking sector. The high correlation between the expected default frequency (EDF) of financial institutions and market concerns about the fiscal implications of the government support, as indicated by wider sovereign spreads, points in this direction (Figure 18).

Considerations about the relative liquidity of different government bond markets may be yet another factor. The financial turmoil could lead to a flight to safety and liquidity, resulting in a decline in the yields of the most liquid sovereign bond markets.

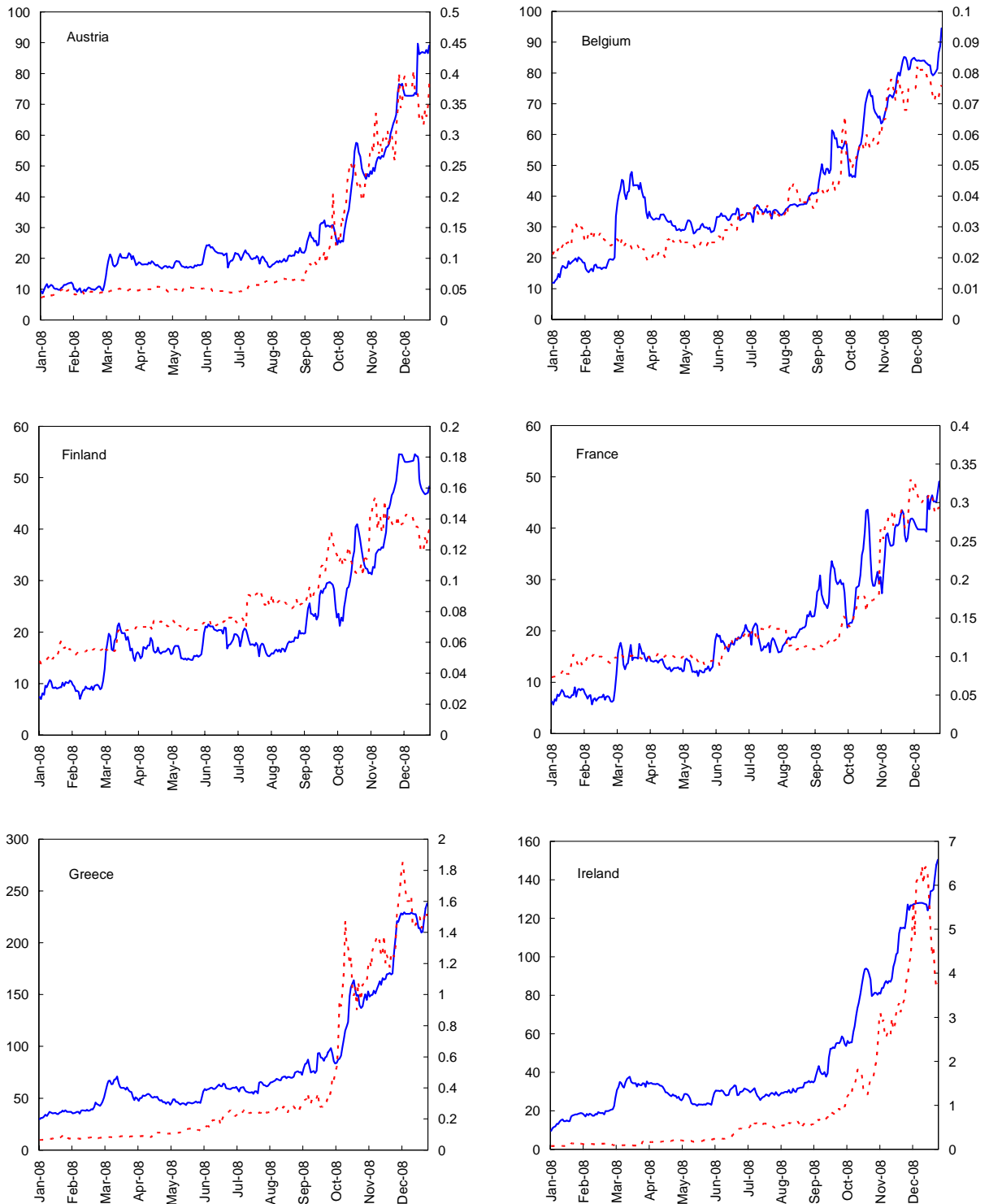
But global discrimination among different classes of default risk may have also contributed to the widening of the sovereign risk premium differentials. Assuming that risk premiums embedded in country-specific sovereign yields are determined jointly in the market and influenced by the riskiness of the specific asset as well as common risk factors—such as the willingness and the ability of investors to bear that risk—a common component in sovereign spreads has been estimated (Figure 19).²⁹ This common component seems able to capture the general downward trend in sovereign spreads due to the Economic and Monetary Union

²⁷ The underpinning analytical work for this section is presented in Sgherri and Zoli (forthcoming).

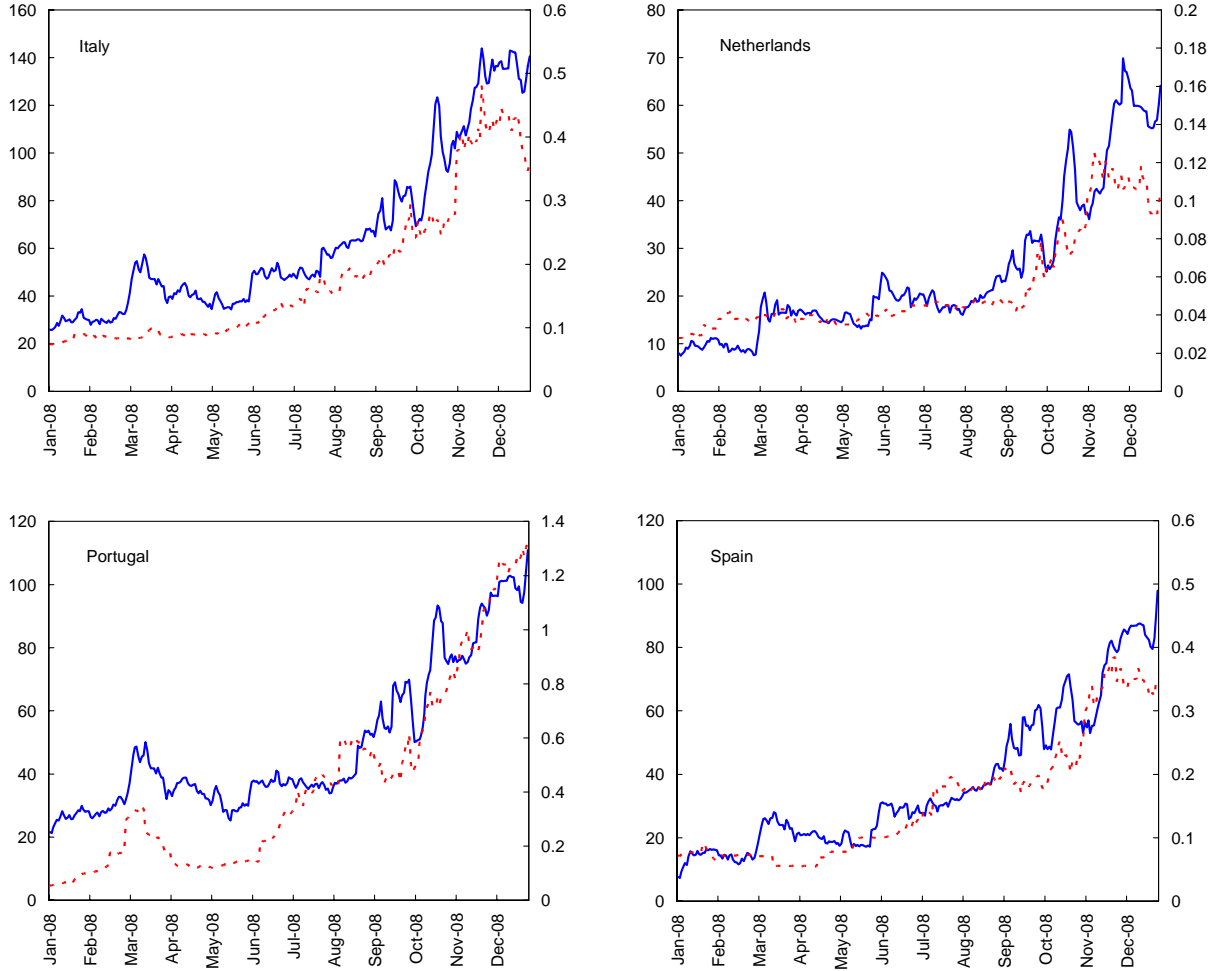
²⁸ Sovereign debt ratings for Greece, Ireland, Portugal, and Spain have been downgraded by Standard & Poor's in recent months.

²⁹ The common risk factor—which is not directly observable—is assumed to be represented by a dynamic stochastic process. It is also assumed that sovereign spreads are simultaneously determined within a multivariate generalized autoregressive conditional heteroscedasticity framework, capturing fat-tail noise. The model is estimated using a nonlinear Bayesian estimation technique based on the model's likelihood function.

Figure 18. Selected Euro Area Countries: Sovereign Spreads and Financial Institutions' Expected Default Probabilities, 2008–January 2009 1/



2. FISCAL POLICY IN ADVANCED COUNTRIES: EFFECTIVENESS, COORDINATION, AND SOLVENCY ISSUES



Sources: Datastream; Moody's Creditege; and IMF staff calculations.
 1/ Solid blue line denotes the country's 10-year sovereign bond spread vis-à-vis Germany (basis points, left scale). Dotted red line denotes expected default frequencies of the country's median financial institution (percent, right scale).

convergence over 2001–02. It also reflects high liquidity and falling market volatility over 2003–07, and the jarring risk repricing since 2008—proxied in Figure 19 by the implied volatility of the German stock market index.

Shedding additional light on the role played by common and country-specific factors, a panel estimate shows that the sensitivity of sovereign spreads to projected debt changes has significantly increased after September 2008 (Table 9). This model suggests that the markets are concerned about fiscal sustainability more than in the early

years of the common currency. In a few countries, markets also appear to be progressively more concerned about the solvency of national banking systems. The liquidity of sovereign bond markets—proxied by traded volume—seems also to be a relevant factor in explaining spread behavior.

Similarly, seemingly unrelated regression estimates highlight the importance of country-specific issues alongside the common component (Figure 20). Decomposing the contributions to the actual change in the country-specific sovereign

Box 5. Sovereign Financing Needs of Advanced Economies and the Rollover Risk

In 2009, advanced economies around the world are planning to issue a large amount of new public debt to finance fiscal deficits and financial sector support. This issuance, together with the need to refinance a large amount of maturing debt, raises concerns about rollover risk.¹

The currently growing rollover risk looks different from the past, even though that experience is limited in advanced economies. The largest increases in public debt occurred during the First and Second World Wars, when extensive government control over the economy and moral suasion facilitated sovereign borrowing (IMF, 2009b). During the 1970s and 1980s, many advanced economies accumulated sizable government debt, but problems with placing debt were few. The only notable exceptions were Italy and the United Kingdom in the 1980s. Both countries responded to the difficulties by adjusting their debt-management strategy to attract a wider class of investors. However, today's circumstances differ in several respects: a number of countries are planning to issue large amounts of sovereign debt simultaneously, thus compounding rollover risk; new debt is projected to be issued within a relatively short period of time; and a large accumulation of contingent liabilities related to guarantees of financial sector obligations could require additional debt financing.

What are the global funding needs?

- The gross financing need—calculated as the sum of fiscal deficits plus financial sector support measures, maturing medium- and long-term debt, and the inherited stock of short-term debt—is particularly sizable in the United States and Japan. In Europe, Ireland and Belgium are the countries with the largest financing needs (in percent of GDP), followed by the Netherlands, Italy, and Portugal. Among European countries, the average annual debt rollover—defined as the stock of outstanding debt (as percent of GDP) divided by its average maturity—is highest in Belgium, Italy, Greece, and Portugal (figure). In total, gross fiscal funding needs of the 20 advanced countries in 2009 (including new borrowing and refinancing) could reach almost \$10 trillion, representing about 23 percent of the aggregate GDP—an increase of over 50 percent relative to 2008, and even more compared with previous years.
- Emerging economies' new sovereign borrowing needs in 2009 are likely to be much less, given the limited intervention support of governments in their financial sector, less aggressive use of fiscal stimuli and weaker automatic stabilizers.² However, they will still add to the global supply of new debt. Moreover, their refinancing needs will be large.
- Corporate borrowing needs also will be large. By some estimates, corporate bond issuance (mainly high grade) reached a record \$373 billion in January 2009, and there could be an additional \$450 billion in

Note: The main authors of this box are Jiri Jonáš and Philippe Karam.

¹ Rollover risk is defined as “the risk that debt will have to be rolled over at an unusually high cost or, in extreme cases, cannot be rolled over at all.” See IMF and World Bank (2001).

² IMF (2009b) estimates for the G-20 emerging economies a fiscal deficit of 3.2 percent of GDP, and very low up-front financial sector intervention financing.

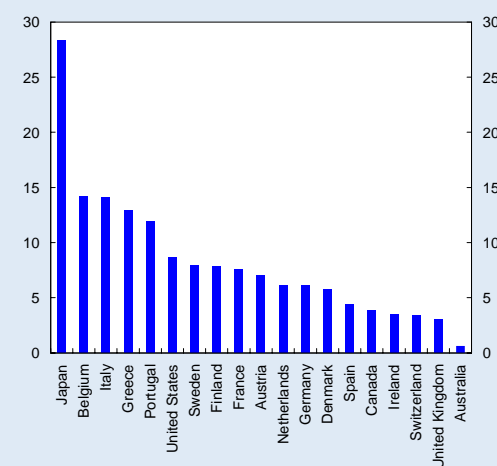
corporate debt issuance during the year, as companies are forced to look for alternative funding while banks cut back lending. In addition, in a number of countries, government-guaranteed bonds will be issued by private corporations or banks.³ These bonds typically offer somewhat higher yields than the corresponding sovereign bonds, but they are also highly rated, and, therefore, enter into direct competition with other sovereign bonds.

While the demand for funds is escalating quickly, it is unclear whether the supply of funds will grow correspondingly. On the one hand, the private sector's increasing savings could provide additional funds to sovereign borrowers. On the other hand, slower reserve accumulation in China and oil-exporting countries could reduce the amount invested in sovereign bonds. Also, elevated risk aversion could curtail appetite for less creditworthy sovereign bonds.

What could governments do to limit rollover risks and ensure that sovereign bonds will be absorbed without pushing up financing costs? First, governments could adjust borrowing strategies to adapt to market needs and better match investors' preferences, even if this would imply a temporary departure from their long-standing debt-management strategy. They could also take measures to improve the functioning of the treasury debt market, for example, by increasing the number of primary dealers or allowing direct access of final investors to auctions, and seek to diversify the investor base. Third, and very important, governments need to assure markets that measures taken to mitigate the current downturn are consistent with medium- to long-term fiscal sustainability (IMF, 2009b).

³ According to Fitch Ratings (2009), European governments have guaranteed about €1.5 trillion new issues of banks over the next three years.

Advanced Countries: Average Annual Government Debt Rollover 1/
(Percent of GDP)



Sources: Organization for Economic Cooperation and Development; and IMF staff estimates.
1/ Central government debt in 2007 divided by its average maturity.

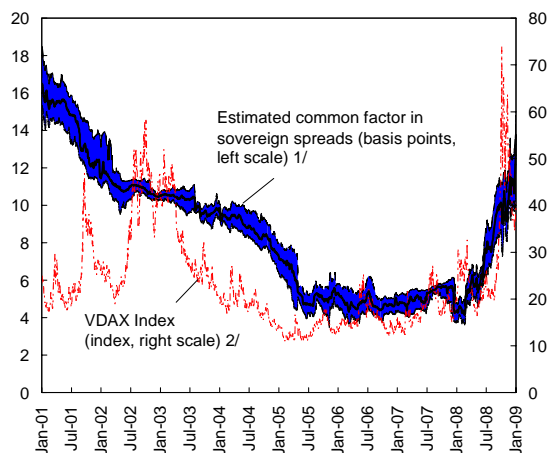
spread between end-January 2009 and end-September 2008 indicates that concerns about fiscal sustainability are significant for countries such as Greece and Ireland and—to a lesser extent—Austria, Italy, and Portugal. For Ireland, the main contributing factor to the widening in sovereign spreads is the deterioration in the solvency of the country's financial sector, mirroring market concerns about the potential fiscal implications of financial sector fragility. The extent to which rising EDFs in the financial sector translate into increases in government spreads is found to be large and significant also in Austria. Finally, *ceteris paribus*,

the liquidity of the sovereign bond market appears to lessen the Italian government's financing costs.

... Curbing the Effectiveness of Fiscal Stimulus

While it is important for countries to support their economies in the face of the current unprecedented slowdown, it is key that the entailed short-term fiscal costs not be seen by markets as undermining long-run fiscal sustainability. In fact, the empirical link between country spreads and sustainability concerns suggests that the impact of higher current expenditure is strengthened when complemented

Figure 19. Estimated Common Component in Sovereign Spreads, 2001–January 2009



Sources: Datastream; Bloomberg L.P.; and IMF staff calculations.
 1/ The fan chart plots, at each point in time, the 5th, the 50th, and the 95th percentile of the estimated probability distribution for the expected common component across euro area sovereign spreads. Hence, there is a 90 percent chance that the common spread will be inside the blue-shaded range. The central thick black line denotes the estimated median common spread.
 2/ Implied volatility of German stock market.

Table 9. Sovereign Spreads: Estimated Panel Regression 1/

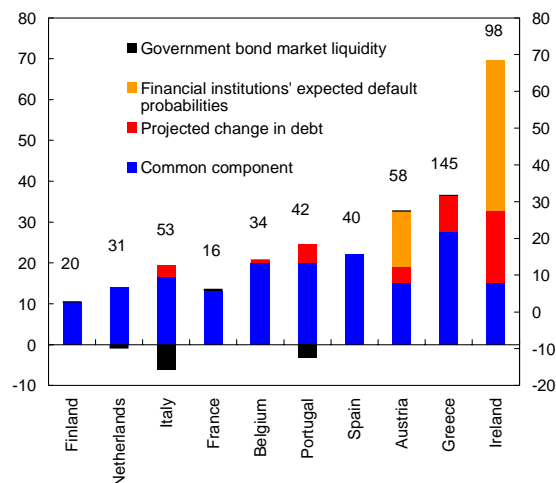
Dependent Variable: D(Spreads)		
	Coefficient	t-Statistic
Constant _{preOct08}	1.37	[2.64]
Constant _{postOct09}	7.68	[0.91]
D(Common component)	4.49	[3.40]
D(Projected debt) _{preOct08}	0.05	[0.64]
D(Projected debt) _{postOct08}	0.29	[2.09]
D(Financial EDF) _{preOct08}	0.37	[0.90]
D(Financial EDF) _{postOct08}	8.38	[3.24]
Traded volume _{preOct08}	-0.07	[-2.70]
Traded volume _{postOct08}	-0.59	[-1.96]
R-squared	0.43	
Adjusted R-squared	0.42	
Durbin-Watson statistic	2.29	
Mean dependent variance	1.35	
S.D. dependent variance	6.65	
S.E. of regression	5.06	

Sources: Datastream; Moody's Creditedge; and IMF staff calculations.

1/ Method: pooled least squares. Sample (adjusted): January 2003–January 2009. Included observations: 73. Cross-sections included: 10. Total pool observations: 726. White cross-section standard errors (d.f. corrected).

with a credible plan that ensures it is financed at least in part by future spending cuts. This is because future spending cuts tend to raise current private consumption and investment via their effects on the long-term interest rate.

Figure 20. Contributions to the Change in Spreads 1/ 2/
 (Basis points, change January 2009 over September 2008)



Sources: Economist Intelligence Unit; Datastream; Moody's Creditedge; and IMF staff calculations.

1/ For each country, the explanatory variables included in the model are the changes in the common factor, the expected default frequency of the median financial institution (except for Greece, for which the 25th percentile of the distribution is used), the projected debt-to-GDP ratio over the next year, and the traded volume of government debt.

2/ For each country, the actual change in spread over the period is reported above the corresponding histogram.

Simulations with the GIMF model illustrate this point: in countries where fiscal sustainability is perceived to be in jeopardy, expansionary fiscal measures lead to an increase in risk premiums and long-term real interest rates, which would tend to offset part of the fiscal stimulus effects on spending. To highlight the impact of government borrowing levels on domestic interest rates, the GIMF model has been modified to make the domestic risk premium dependent on the government debt-to-GDP ratio in an asymmetric way, hence allowing for a steeply increasing risk premium at large debt-to-GDP ratios.³⁰

Table 10 provides quantitative ranges to highlight the effects of the temporary fiscal stimulus described above on GDP, private consumption, public debt,

³⁰ The empirical literature finds that larger government deficits tend to increase long-term interest rates. Typical estimates show that a persistent increase in debt equal to 1 percent of GDP increases long-term real interest rates by between 1 and 6 basis points. The effect of a persistent increase in deficits of the same magnitude is associated with a 10- to 60-basis point increase in long-term real interest rates (Engen and Hubbard, 2004; Gale and Orszag, 2004; and Ardagna, Caselli, and Lane, 2004).

and the real interest rate in an euro area economy in two cases: (1) the fiscal expansion is undertaken by a member state featuring a low government debt-to-GDP ratio (60 percent); and (2) the fiscal expansion is undertaken by an euro area member state featuring a high government debt-to-GDP ratio (120 percent).

Consistent with the findings in the previous section, the simulation results show that the fiscal stimulus is more effective in countries with low debt—and hence with more fiscal room—than it is in high-debt countries. Although the fiscal expansion is assumed to be temporary, the low-debt economy is still found to enjoy real interest rates that are approximately 20 basis points below the high-debt economy. This finding could have implications in the context of international policy coordination. It seems to suggest that the effectiveness of a joint fiscal expansion would be maximized if countries where fiscal sustainability is less at risk—and hence that are enjoying more fiscal space and lower risk premiums—were able to help finance the fiscal packages announced by countries with less fiscal room.

Ensuring Fiscal Sustainability: Policy Options

For the fiscal response to the current crisis to be the best possible, it will have to be coordinated regionally, focus on the most effective measures, and take into account the sustainability of public finances. This requires both a credible medium-term strategy and the fiscal framework to support it.

Credible Medium-Term Strategy³¹

To improve the trade-off between the needed fiscal expansion and the risk of a loss of market confidence, governments should supplement their support packages with a clear and credible strategy to ensure fiscal solvency and improve confidence. Such a strategy should comprise the following:

³¹ Prepared with the help of Manal Fouad and Edouard Martin drawing on IMF (2009b).

Table 10. Solvency Concerns Increase Risk Premiums Thereby Reducing the Effectiveness of Fiscal Stimulus 1/
(Percentage point deviation from control, unless otherwise stated)

	First Year	Second Year	Third Year
GDP 2/			
Low-debt scenario	0.2–1.4	0.2–1.4	0.2–1.5
High-debt scenario	0.1–1.3	0.1–1.3	0.1–1.4
Consumption 2/			
Low-debt scenario	0.2–0.6	0.3–0.8	0.4–1.0
High-debt scenario	0.1–0.5	0.1–0.7	0.1–0.8
Debt			
Low-debt scenario	-0.2–0.9	0.2–1.4	0.2–1.4
High-debt scenario	0.3–1.0	0.3–1.6	0.3–1.7
Real interest rate			
Low-debt scenario	0.1–0.3	0.0–0.2	0.0–0.1
High-debt scenario	0.3–0.4	0.2–0.2	0.1–0.1

Source: IMF staff calculations.

1/ The fiscal impulse corresponds to a reduction in the fiscal balance by 1 percent in the first year and 0.5 percent in the second year, engineered either by a reduction in tax rates on labor income (lower bound of the range of multipliers) or by an increase in government investment (upper bound of the range of multipliers).

2/ Cumulative effect divided by the cumulative deficit over the same period as a summary measure of the fiscal multiplier.

- *A clear plan for fiscal consolidation in the aftermath of the crisis*, including fiscal stimulus packages that rely as much as possible on temporary or self-reversing measures; announcement at an early stage of how the deficit will be reduced in the medium term; and a firm commitment and a clear strategy to contain the trend increase in aging-related spending.
- *Growth-enhancing structural reforms*. As growth is a key factor in restoring debt sustainability, directing expenditures toward productive areas—such as government investment in transportation, infrastructure, and education—would be beneficial. This also holds for tax reforms that reduce distortions.
- *Transparency*. The cost of government interventions to safeguard the financial sector and cushion the downturn should be recorded transparently to avoid adding to current uncertainties. Where reliable market information is not available to estimate asset prices, contingent liabilities, and other information pertaining to fiscal costs, alternative scenarios should be considered. In general, countries should improve their capacity to identify, disclose, and manage fiscal risks.

- *A clear communications strategy.* Government plans should be communicated to the public and markets in a clear and consistent manner.

Strengthening Fiscal Frameworks: Role of the Stability and Growth Pact³²

Given the demands on fiscal policy, fiscal frameworks can make an important contribution to implementing such a medium-term strategy, in particular by adding to its credibility. In advanced European economies, a wide range of fiscal rules is in force at both the national and subnational levels. Their role could be usefully strengthened to foster fiscal discipline once growth has resumed.³³ Arguably, though, the most binding and visible fiscal constraint in the European Union (EU) is the Stability and Growth Pact (SGP). So, a crucial question is, what role can the SGP play in anchoring expectations of sustainability while allowing an adequate crisis response?

Although the SGP was not set up to facilitate an EU-wide fiscal stimulus in response to a large recession, a closer look at it suggests that the fiscal framework's provisions are likely to be flexible enough to accommodate the currently envisaged fiscal responses to the crisis (Box 6). At the same time, the SGP's excessive deficit procedure (EDP) is likely to provide a useful anchor for fiscal adjustment, at least in the short run, by mandating reductions in the structural deficit once the recovery has set in.

Looking beyond the short term, however, there is room to strengthen the SGP's role in ensuring the longer-term health of public finances. Under the current framework, countries are required to steer fiscal policy in line with medium-term objectives (MTOs) (the so-called preventive arm).³⁴

Nevertheless, the SGP so far has failed to provide sufficiently strong reasons for EU members to adhere to their targets. Observance of MTOs is subject only to regular budgetary surveillance by the European Commission (EC), which is lacking the political "teeth" the EDP provides, and analyses of the SGP have consistently emphasized this as a major flaw in the anchoring role of the framework.³⁵ As a result, many countries have fallen short of their MTOs even in good economic times.³⁶

There are various options to enhance the anchoring role of the preventive arm:

- *Encourage reforms putting national institutions and rules in tune with the SGP.* In particular, MTOs could be better integrated into medium-term fiscal frameworks at the national level, providing the SGP with a suitable institutional interface in each country. The EC has emphasized such governance reforms in its surveillance exercises, but pressure on member states remains minimal.
- *Strengthen the preventive arm.* One possibility would be linking the EDP and the MTOs, for instance by abrogating the EDP only after the MTO has been reached. Alternatively, MTOs could be treated as the reference value under the EDP for those countries deemed to have unsatisfactory debt dynamics. Both options would require an amendment to the EU Treaty, however.
- *Enhance the commitment value of MTOs.* The process leading to the definition of MTOs is rather opaque, reducing their public visibility and, correspondingly, their signaling value and political relevance. Establishing a simpler link between MTOs and public debt could help put them at the core of EU budgetary surveillance and, more generally, public scrutiny.

³² This section was prepared by Xavier Debrun, Jean-Jacques Hallaert, and Helge Berger.

³³ For an analysis and empirical evidence on national fiscal rules in EU members, see Debrun and others (2008).

³⁴ MTOs are country specific and reflect the requirement to (1) keep a sufficient safety margin with respect to the 3 percent limit (depending on the size of automatic stabilizers); (2) ensure stable debt dynamics around prudent levels (or rapidly declining
(continued)

debt toward these levels); and (3) also take into account public investment needs.

³⁵ See, for instance, the discussion in Beetsma and Debrun (2007).

³⁶ See European Commission (2006, 2007, and 2008).

Box 6. Is the Stability and Growth Pact an Obstacle to Adequate Fiscal Stabilization?

In principle, the Stability and Growth Pact (SGP) allows for considerable leeway in using fiscal policy for macroeconomic stabilization:

- *Escape clause (definition of excessive deficit)*. A deficit above the reference value of 3 percent of GDP may not be considered “excessive” if (1) the deficit is exceptional (i.e., due to unusual events outside the control of the member state); (2) temporary; and (3) close to the reference value. Negative GDP growth qualifies as an exceptional event.
- *Excessive deficit and enforcement procedure (EDP)*. If the deficit of year t has been deemed excessive, the initial deadline for correction (normally $t + 2$) can be extended by one year (to $t + 3$) in case of “special circumstances,” including negative GDP growth, and “all other relevant factors.” Moreover, the EDP can be put in abeyance, effectively leading to one-year extensions of the initial deadline. There are two conditions for abeyance: (1) the member state complied with the previous Council’s recommendations or notices; and (2) “unexpected adverse economic events” with major budgetary effects occurred after the recommendation or notice was issued. Again, “all other relevant factors” can be taken into account by the European Commission (EC) and the Council in extending the deadline for correcting the excessive deficit.

However, once a country operates under the EDP, there are limits to this flexibility, as an improvement in the structural balance is required. As a rule, any country under the EDP will face recommendations (or notices—which are more specific and legally binding) requiring an improvement in the country’s structural balance (cyclically adjusted and net of one-offs) by at least 0.5 percent of GDP. In practice, this rule applies from $t + 2$ onward (the first year after the excessive deficit has been identified), and it precludes the possibility of *discretionary* fiscal stimuli in countries that are under the EDP in the preceding year (automatic stabilizers would still be allowed). In practice, it is reasonable to expect that a continuation of financial sector stress and anemic or negative growth into 2010 would lead to the extension of deadlines under the EDP. In this case, a country experiencing an excessive deficit in 2009 would not be expected to correct it before 2013 at the earliest; however structural adjustment would be expected to begin in 2011 at the latest.

The EC has clearly indicated that the EDP should not be an obstacle to an adequate fiscal response to the downturn. In December 2008, the EC proposed the European Economic Recovery Plan, subsequently endorsed by the European Council, calling for a discretionary stimulus of about 1.5 percent of European Union GDP. In presenting the plan, the EC stated that “for Member States considered to be in excessive deficit, corrective action will have to be taken in time frames consistent with the recovery of the economy.”¹

Note: The main authors of this box are Xavier Debrun and Jean-Jacques Hallaert.

¹ In a similar vein, in considering the continued breach of the 3 percent target by the United Kingdom already operating under an EDP, the EC invited the British authorities to “proceed in financial year 2009/10 with the stimulus measures consistent with the European Recovery Plan while avoiding any further deterioration of public finances.”

Conclusions and Policy Implications

In the face of a crisis of historic proportions, countries need to continue to support financial systems and the economy. Failure to do so would result in a prolonged recession, additional financial losses, and a further worsening of fiscal accounts. With limited scope for further stimulus through monetary policy, fiscal policy remains the main option available for policymakers to preempt such a downward spiral. It is crucial, though, for governments to try to maximize the effectiveness of fiscal support, while limiting the impact of such support on sustainability.

In this respect, the analysis presented in the chapter suggests the following:

- With regard to the policy instruments mix, spending on infrastructure is likely to exhibit a larger growth impact than tax cuts and transfers increases, despite having the longest implementation lags.
- That said, under the present tight credit conditions and low collateral values, tax cuts and transfer increases can be more effective than in the precrisis period in fueling aggregate demand, as the share of credit-constrained agents—whose consumption pattern is highly sensitive to current disposable income—is rising.
- By the same argument, targeting fiscal support to specific groups of consumers and firms that are mostly credit constrained would enhance the effectiveness of the stimulus.
- Given the importance of intraregional trade in Europe, coordination of expansionary measures would greatly amplify the size of fiscal multipliers.
- If fiscal sustainability is perceived to be in jeopardy, market interest rate increases could partly offset the expansionary effects of stimulus packages. Therefore, support measures should be accompanied by a clear and credible strategy to ensure fiscal sustainability, including a plan to withdraw the stimulus as the crisis abates.
- Fiscal frameworks, including national and subnational fiscal rule as well as the SGP, can and should be strengthened to anchor expectations of fiscal sustainability and foster the implementation of medium-term strategies.

3. European Emerging Economies in the Crisis: Impact and Recovery

A short period of apparent resilience to the global financial turmoil has given way to a deep crisis in several European emerging markets, though with substantial differentiation across the region. The crisis has put an increased premium on sound macroeconomic and macroprudential policies: countries with lower inflation, smaller current account deficits, and lower dependence on bank-related capital inflows in recent years have so far fared better. While the external environment and structural reform efforts will matter, the banking sector, which has played a central role in the run-up to the crisis, holds a key to the speed of recovery from the crisis. In the short term, bank recapitalizations seem unavoidable to prevent recessions from becoming protracted. In the medium term, recovery efforts need to be supported by a strengthening of financial stability arrangements, including for cross-border activities, and the introduction of more forward-looking provisioning policies.

What determines the impact of the global financial crisis on European emerging economies? An analysis of cross-country differences of sovereign bond spreads during the crisis suggests that the soundness of precrisis macroeconomic policies, as reflected particularly in inflation and current account deficits, is very important in explaining the severity of the impact. This is true for both the emerging European economies that remain outside the European Union (EU) as well as those that became EU members; for the latter group, adherence to EU rules and institutions has helped to mitigate the impact of the crisis but has not shielded them completely.

What could determine the speed of recovery from the crisis? Aside from external factors and reform effects, it is likely that the banking sector, which played a central role in the run-up to the crisis, will be critical to determining the speed of

Note: The main authors of this chapter are Martin Čihák and Srobona Mitra.

recovery as well. Indeed, evidence of procyclicality in banks' operations suggests a negative impact on banks' capitalization from the crisis, and likely a credit crunch. There is evidence that even households—which have traditionally been relatively debt free—have become dependent on credit for their consumption. This suggests that cuts in lending could slow the recovery from the financial crisis. Hence, policies that, in the short term, help support bank capitalization are likely to be beneficial. These policies need to be calibrated with a view to the longer term, namely, to allow sustainable development and financial deepening in the European emerging markets.

Who Got Hurt More? Stylized Facts

Developments in emerging European economies in the run-up to and during the global crisis had several common characteristics. In most of these economies, large declines in stock prices and increases in sovereign bond spreads during the crisis were associated with large external and internal imbalances and bank-related capital inflows prior to the crisis (Table 11).³⁷ Many of the emerging markets had large current account deficits, financed largely by borrowing of subsidiaries of foreign banks from their parents. The banks used the relatively cheap foreign funding to extend credit to

³⁷ Emerging European economies are defined to include (1) countries that joined the EU in 2004 or thereafter and had not joined the euro area by end-2008 (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, and the Slovak Republic), and (2) the non-EU countries of Albania, Belarus, Bosnia and Herzegovina, Croatia, FYR Macedonia, Moldova, Montenegro, Russia, Serbia, Turkey, and Ukraine. In the subsequent econometric analyses, some countries were dropped due to lack of data.

Table 11. A Snapshot of Emerging Markets

Country groups	Intensity of the Crisis Aug 07–Nov 08		Macroeconomic Indicators				EU Convergence Criteria		
	Change in stock prices (percent)	Change in spreads (basis points)	Bank-related capital inflow 2007:Q2–2008:Q1 (sum, percent of 2008 GDP) ^{1/}	Current account balance, 2008 (percent of GDP) ^{2/}	Fiscal balance, 2007 (percent of GDP)	Government debt in 2007 (percent of GDP)	Deviation of inflation from (notional) convergence criterion, 2008 (percentage points) ^{3/}	Is the exchange rate criterion satisfied? ^{4/}	Is the long-term bond yield criterion satisfied? ^{5/}
Emerging Europe	-61.4	612	9.7	-11.4	-0.2	26.8	4.9	...	...
Emerging European countries receiving IMF support	-59.4	788	12.9	-11.1	-1.8	25.2	6.9	...	...
EU New Member States 6/	-58.3	359	12.1	-10.4	-0.8	26.3	4.5	...	...
Non-EU emerging Europe	-64.4	865	7.4	-12.2	0.2	27.2	5.2	...	...
Flexible exchange rate emerging	-57.6	394	7.0	-6.9	-2.6	39.8	2.7	...	...
Nonflexible exchange rate emerging	-61.8	485	12.9	-9.4	0.9	16.3	6.3	...	...
Euro area	-51.2	60	...	-0.7	-0.7	65.8	-0.4	...	...
Non-euro area advanced	-51.5	121	11.4	6.9	5.1	44.5	-0.7	...	...
Non-European emerging (except China)	...	...	1.4	...	-1.3	...	...	...	...
<i>Memorandum items:</i>									
Emerging Europe 7/	-61.4	612	9.7	-11.4	-0.2	26.8	4.9	...	...
Albania	...	...	1.4	-13.5	-3.8	52.7	-0.9	...	...
Belarus	...	...	5.9	-8.4	0.4	11.5	...	...	...
Bosnia and Herzegovina	...	...	5.1	-15.0	-0.1	29.8	...	...	...
Bulgaria	-76.9	355	14.2	-24.4	3.5	19.8	8.0	No	Yes
Croatia	-68.1	404	6.9	-9.4	-1.2	33.2	2.0	...	...
Czech Republic	-51.8	125	4.7	-3.1	-1.0	28.9	2.2	No	Yes
Estonia	-71.9	...	19.0	-9.2	3.0	3.5	6.2	Yes	Yes
Hungary	-56.6	431	10.7	-7.8	-4.9	65.9	1.9	No	No
Latvia	-56.1	326	25.8	-13.2	0.7	7.8	11.3	Yes	No
Lithuania	-66.6	488	12.5	-11.6	-1.2	17.0	6.8	Yes	No
Macedonia	...	...	...	-13.1	0.6	23.4	3.0	...	...
Moldova	...	...	7.7	-19.4	-0.2	27.7	8.7	...	...
Montenegro	...	...	...	-31.3	6.2	27.5	...	...	...
Poland	-57.4	199	8.0	-5.5	-2.0	44.9	0.1	No	Yes
Romania	-70.8	823	7.7	-12.6	-3.1	19.8	3.6	No	No
Russia	-64.7	662	7.4	6.1	6.8	7.3	9.3	...	No
Serbia	...	...	16.0	-17.3	-1.9	33.7	8.8	...	...
Slovak Republic	-16.8	127	6.2	-6.3	-1.9	29.3	0.4	Yes	Yes
Turkey	-51.3	392	4.1	-5.7	-2.1	39.4	5.8	...	No
Ukraine	-73.5	2003	11.5	-7.2	-2.0	12.8	...	...	No

Sources: Bloomberg L.P.; IMF, *International Financial Statistics and World Economic Outlook*; European Central Bank; European Commission; and IMF staff calculations.

1/ Balance of payments, Financial Account: Other investment, net liabilities. The data are the sum of "Currencies and Deposits," which includes all foreign parent bank loans to subsidiaries, and "Loans," which includes cross-border loans to corporates and banks.

2/ IMF, *World Economic Outlook*.

3/ Deviation from 4.17 percent–1.5+average inflation in the three lowest inflation EU members. Thus the inflation benchmark is based on recent data for 2008, rather than the EC and the ECB's benchmark for the 2008 reports, 3.2 percent.

4/ Based on DG ECFIN's May 2008 and ECB's May 2008 convergence reports.

5/ Based on DG ECFIN's May 2008 and ECB's May 2008 convergence reports. The benchmark was 6.5 percent in 2008.

6/ New Member States or countries that joined the EU in 2004 and 2007 and had not joined the euro area as of end-2008. In the subsequent analyses, some countries are excluded owing to lack of data; Cyprus, Malta, and Slovenia are included in one analysis.

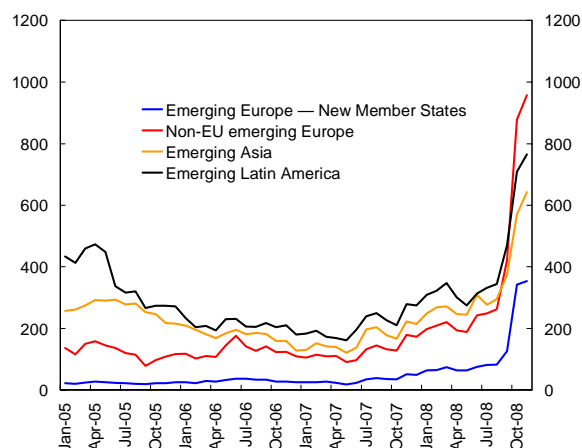
7/ Definition of emerging Europe as of end-2008; in early 2009, the Czech Republic and the Slovak Republic were reclassified as advanced economies for the purposes of the *World Economic Outlook*. Bold indicates countries that have requested IMF financial support as of March 20, 2009.

households and nonfinancial firms. This resulted in rapid growth of domestic credit, denominated mostly in foreign currency in almost all the countries. Credit went largely into financing nontradables and imports of consumer durables, spilling into current account deficits, and, in most cases, into inflation. Despite these remarkable common characteristics, cross-country variation among the emerging European economies remained substantial, in particular in the response of stock prices and bond spreads in the countries that receive IMF support (Table 11).

Three stylized facts emerge from this analysis:

- *Differentiation in sovereign spreads.* Non-EU emerging European economies have been among the worst hit. The new EU member states (emerging economies that joined the EU in 2004 and thereafter; NMS), which had smaller spreads to begin with, have suffered the least (Figure 21). Bond spreads in some emerging economies have widened several times more than in the euro

Figure 21. EMBIG Spreads, 2005–November 2008 1/
(Basis points)



Sources: Bloomberg L.P.; and IMF staff calculations.
1/ Spreads in euros for New Member States and non-EU emerging Europe; in U.S. dollars for all others.

area, and in a few cases spreads have remained wider than in the most affected euro area countries. With the exception of Hungary, the reason has not been primarily fiscal: the spreads have in most cases widened despite relatively healthy fiscal balances and low government debt.³⁸ The widenings have rather reflected market participants' concerns about the governments' contingent liabilities in case of major banking and other corporate defaults.

- *Strong role for bank-related capital inflows.* The ratio of bank-related capital inflows to GDP in emerging European economies has been a multiple of the ratios for emerging non-European economies (Table 11).³⁹ In general, emerging European economies have strong banking linkages to advanced economies—for

³⁸ In fact, the average ratio of government debt to GDP in countries that had to resort to official financial assistance has been less than half of the euro area average.

³⁹ Bank-related capital inflows are defined as the balance of payments item "other investment, liabilities," aggregating the subitems "loans" and "currency and deposits." These two items capture loans comprising inflows from parent banks into emerging market subsidiaries and cross-border loans to banks and corporates, excluding portfolio and foreign direct investment inflows. The breakdown of this category into bank and nonbank flows is not available consistently across countries, but available data and anecdotal evidence suggest that the bank-related portion is large, reflecting the central roles of the banking sector and the high degree of foreign ownership in most emerging European banking systems.

instance, emerging Europe's stock of bank liabilities to advanced countries exceeded 50 percent of its GDP, about three times the ratio for other emerging markets (IMF, 2009a). But even within emerging Europe, the size of these cross-border banking flows has varied. At about 13 percent of GDP in the run-up to the crisis, bank-related capital inflows were especially strong in the countries that eventually received multilateral financial support.

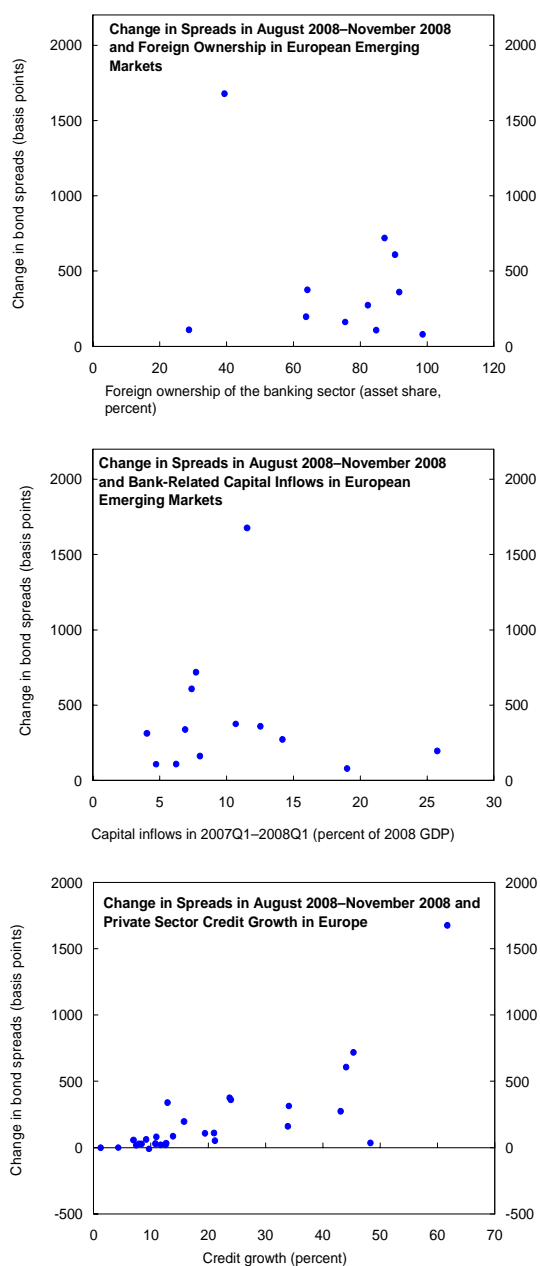
- *Macroeconomic vulnerabilities.* Indicators of overheating, such as large current account deficits, fast credit growth, and accelerating inflation, were flashing red in these countries subsequently most affected by the crisis. The massive capital inflows helped to finance high current account deficits, averaging about 11 ½ percent of GDP in emerging European economies in 2008. Moreover, countries with higher bank credit growth to the private sector seem to have been worse hit (Figure 22). The same holds true for emerging markets with inflexible exchange rate regimes (Table 11).

What Explains the Widened Spreads: Known Vulnerabilities or the Convergence Criteria Checklist?

What factors explain the differentiated sovereign bond spreads? Specifically, to what extent do the changes in spreads reflect investors' views on emerging economies' prospects for meeting the convergence criteria and adopting the euro?⁴⁰ And to what extent do the spreads reflect macroeconomic vulnerabilities in each country?

⁴⁰ The European Central Bank and the European Commission provide assessments for the NMS on their progress toward meeting the criteria for convergence to euro adoption (the "convergence criteria"). The five criteria are the fiscal deficit (less than 3 percent of GDP), government debt (less than 60 percent of GDP), inflation (less than 3.2 percent for 2008), the long-term interest rate (less than 6.5 percent for 2008), and the exchange rate (participation in the Exchange Rate Mechanism (ERM) II).

Figure 22. Spreads and Banking System Characteristics

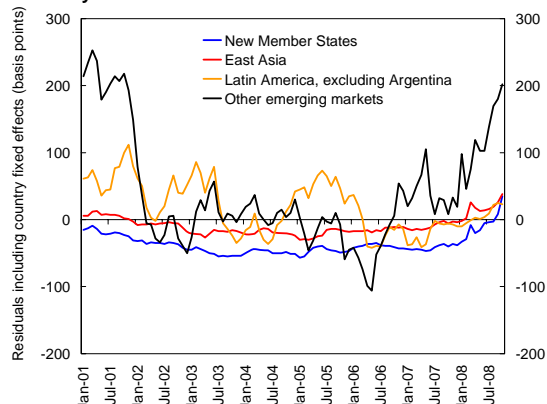


Sources: European Bank for Reconstruction and Development; IMF, *International Financial Statistics*; Bloomberg L.P.; and IMF staff calculations.

The EU Halo Effect Seems to Have Disappeared . . .

Empirical analyses of spreads on NMS sovereign bonds during the early 2000s often found that, while a fundamental (economic) analysis pointed to rising vulnerabilities in some of the NMS economies, markets remained optimistic because of the EU halo effect, compressing sovereign bond yields to below

Figure 23. Residuals from the Fixed Effects Regression for Sovereign Spreads, January 2001–October 2008



Sources: Bloomberg L.P.; IMF, *International Financial Statistics*; national authorities; and IMF staff estimates.

levels seen in other emerging economies (Hauner, Jonas, and Kumar, 2007; and Luengnaruemitchai and Schadler, 2007).⁴¹ However, this effect seems to have disappeared during the global financial crisis. Using data through early 2009, Čihák and Fonteyne (2009) find that, after controlling for global liquidity conditions and fundamentals, the NMS sovereign spreads, which had been low and stable by emerging markets standards up to 2006, returned to “fundamental” levels (and even slightly above) in 2007–08 (Figure 23). At the same time, countries implementing more prudent macroeconomic policies (in particular, those that keep inflation low) still tend to have smaller spreads and face weaker market pressures—a conclusion that is consistent with earlier findings by Debrun and Joshi (2008).

. . . and the Convergence Criteria Have Been Less Important Than Domestic Policies and External Vulnerabilities

Among the NMS, an important measure of countries’ macroeconomic stability has been the degree of compliance with the convergence criteria

⁴¹ Different authors have interpreted the halo effect differently. Hauner, Jonas, and Kumar (2007) posit that it is linked to EU membership, in particular the effect of better institutions and processes, such as fiscal rules, that have been put in place since EU accession. This would suggest that the halo effect may be lasting. Luengnaruemitchai and Schadler (2007) point out that the halo effect is essentially an unexplained residual that may turn out to be temporary.

for euro adoption. The individual states have differed substantially on their ability to meet the convergence criteria. Slovenia and the Slovak Republic have already entered the euro area. The other EU emerging economies have been able to satisfy some of the criteria, but have had difficulties meeting all of them at the same time.

Against this background, can a country's performance relative to the convergence criteria explain movements in bond spreads during the crisis? The answer is a qualified "yes," based on an analysis of cross-country differences in bond spreads in European countries during three recent episodes of increased financial market stress: (1) the minicrisis period from January 2006 to September 2006 (marked by a negative ratings report on Iceland, and revelations about worse-than-expected fiscal outcomes in Hungary); (2) the first phase of the financial crisis, from August 2007 to August 2008 (before the fall of Lehman Brothers); and (3) the most recent phase, from September 2008 to November 2008 (Table 12).⁴²

The spreads are influenced by global factors to a large extent (the episode fixed effects are strong) but beyond these, country-specific differentiation took place. The main findings of the empirical analyses suggest the following:

First, the immediate impact of the crisis was clearly differentiated among country groups. The NMS were hit significantly harder than the euro area.⁴³ And the widening of bond spreads in emerging non-EU European countries was on average almost double the increase of that in the NMS.

⁴² The econometric analysis involves robust ordinary least squares (OLS) estimates on pooled data of 43 European countries, covering three main subgroups: euro area members, NMS, and other emerging Europe. Episode fixed effects were used to control for common factors that affected all countries. Country-specific variables were used to explain cross-country differences in performance.

⁴³ Each convergence criterion (see footnote 40) is assigned one point. If the country meets a criterion, it gets 0; otherwise, 1. Therefore, the variable used in the regression takes values from 0 (for a country fulfilling all criteria) to 5 (for a country meeting none of the criteria).

Second, inflation performance matters. Countries that had greater compliance with the convergence criteria saw smaller increases in bond spreads. A more detailed analysis suggests that this overall result was driven by inflation performance, which seems to matter more in explaining cross-country differences in the crisis impact on spreads, as well as in explaining the evolution of bond spreads, than the other items on the convergence criteria checklist.

Third, financial markets reacted adversely to external vulnerability indicators, over and above their reaction to the convergence criteria.

- *High current account deficit.* Even when controlling for the fulfillment of the convergence criteria, the spreads increased with current account deficits. This effect is significantly stronger in the NMS and other emerging European economies than in advanced economies in Europe. This puts renewed emphasis on the importance of known vulnerabilities.
- *Bank-related capital inflows.* Reflecting some of the stylized facts discussed above, countries with larger bank-related capital inflows in percent of GDP were hit harder. In this respect, the impact on NMS did not substantially differ from that of other emerging European economies, possibly due to the similarity of structure of ownership of the banking systems in almost all countries in emerging Europe. One interpretation would be that financial markets reacted adversely to bank subsidiaries' borrowing overseas from parent banks in an environment where the parent banks were experiencing increasing liquidity tightness themselves. A "sudden stop" in loans from foreign parent banks to subsidiaries, or cross-border loans to corporates, would have far-reaching adverse effects on credit and GDP growth, apart from pressures that it would put on the exchange rate or reserves. Large-scale foreign currency mismatches in the private sector in most of emerging Europe make credit quality

Table 12. Did the Convergence Criteria Matter?

Explanatory variables	Dependent Variable: Crisis Impact--Log of Change in Bond Spreads 1/					
	Focus of each regression:					
	Regional Differences	Only the Convergence Criteria (CC)	Actual performance	Current account balance	Capital inflow	Capital inflow and credit growth
(1) Euro area dummy	-0.04 (0.09)					
(2) New Member States (NMS) dummy	0.19 (0.1)+					
(3) Other emerging European countries dummy	0.39 (0.15)*					
(4) Nonfulfillment of the CC (index 0-5) 2/		0.11 (0.03)**	0.03 (0.03)	0.06 (0.03)**	0.07 (0.03)**	0.06 (0.02)**
(5) Nonfulfillment of the CC*Euro area dummy			-0.04 (0.03)			
(6) Nonfulfillment of the CC*NMS dummy			-0.02 (0.02)			
(7) Inflation rate			0.05 (0.02)*			
(8) Real GDP growth in previous year			0.01 (0.01)			
(9) Fiscal deficit in previous year			-0.01 (0.01)			
(10) Government debt/GDP in previous year			0.00 (0.00)			
(11) Current account balance/GDP				-0.004 (0.01)		
(12) Current account balance/GDP (European emerging) 3/				-0.003 (0.01)		
(13) Bank-related capital inflow/GDP					0.000 (0.00)	0.000 (0.00)
(14) Bank-related capital inflow/GDP (European emerging) 3/					0.014 (0.01)*	0.01 (0.00)*
(15) Bank credit growth						0.001 (0.00)
(16) Bank credit growth (European emerging) 3/						0.005 (0.004)
(17) Episode "pre-Lehman"	0.13 (0.03)**	0.17 (0.04)**	0.12 (0.04)**	0.15 (0.04)**	0.14 (0.03)**	0.12 (0.04)**
(18) Episode "post-Lehman"	0.37 (0.07)**	0.37 (0.07)**	0.23 (0.06)**	0.36 (0.07)**	0.35 (0.07)**	0.36 (0.07)**
(19) European emerging dummy 3/				0.17 (0.07)*	0.11 (0.06)+	-0.06 (0.13)
(20) Constant	-0.06 (0.08)	-0.17 (0.05)	-0.19 (0.08)	-0.15 (0.05)	-0.17 (0.05)**	-0.2 (0.07)**
Test				H0: (12) + (19)=0	H0: (14) + (19)=0	H0: (13) + (14)=0
P-value of test				0.02	0.00	0.02
R-squared	0.46	0.37	0.57	0.44	0.48	0.58
Observations	97	97	94	97	97	88

Sources: Bloomberg L.P.; IMF, *International Financial Statistics* and *World Economic Outlook*; European Central Bank; European Commission; and IMF staff estimates.

1/ Standard errors in parentheses; **, *, + indicate significance at 1 percent, 5 percent, and 10 percent levels, respectively.

2/ Each convergence criteria is assigned one point. If the country fulfills a criterion, it gets 0; otherwise, 1. Therefore, a country that fulfills all criteria gets 0; if none of the criteria, it gets 5. The variable used in the regression takes values from 0 to 5.

3/ "European emerging" refers to the dummy variable for all emerging--NMS and Other emerging European--countries.

very sensitive to sudden exchange rate movements.

- *Credit growth.* By itself, credit growth was a source of concern for financial markets, but not independently of that of the capital inflow from parent banks. Indeed, such inflows appear to dominate the effect of credit growth on bond

spreads. In other words, the funding of credit growth and the adverse implications that a drop in such funding would have on GDP growth—given the dependence of economic activity on rapid credit growth so far—seems to be a source of concern for foreign investors in emerging Europe.

The fact that crisis resilience varied so widely across emerging markets has its deeper roots in differing policies and vulnerabilities. For instance, among NMS economies, Hungary with its large fiscal deficit, high inflation, and external debt was an early victim of the crisis; the Slovak Republic, which adopted the euro in January 2009 after satisfying all the convergence criteria, has mostly been riding a wave of investor optimism on its spreads and stock prices; the Czech Republic, with small fiscal and current account deficits, moderate bank-related capital inflows, and lower foreign currency bank lending, has fared better than its neighbors so far. Across these countries worries about contingent government liabilities from the financial turmoil (e.g., in the event parent bank financing dries up and nonperforming loans escalate in the banking system) have been at least as important as the actual policy performance on the fiscal deficit and government debt.

Another factor affecting country performance was the quality of domestic policies in the face of the massive private sector capital inflows prior to the crisis. Loans from parent banks to eastern European subsidiaries and direct cross-border loans from foreign banks to corporates created large debt-rollover needs in the private sector (IMF, 2009a). These flows have largely financed activities in the nontradable sectors and contributed to overheating of the economies: the larger the capital inflows, the stronger the demand boom, the greater the overheating of the domestic economy, and the larger the widening of the current account deficit. While this surge in private capital flows was an overwhelming force for all, some emerging European economies were more able than others to limit this overheating pressure; this explains why inflation and current account deficits are good predictors of the current problems.

There are also some indications that countries operating under flexible exchange rate arrangements have so far seen, on average, a smaller fallout from the crisis in terms of bond spreads. The flexibility of the exchange rate provided a welcome policy tool to control inflation in the run-up to the crisis, while

most hard-peg countries have ultimately been unable to prevent overheating despite generally prudent fiscal policies—Bulgaria, for instance, managed to create a substantial fiscal reserve account. This experience reinforces the policy lesson that, especially (but not only) under fixed exchange rates, strong financial regulation and, in particular, macroprudential policies are needed to deal with surging capital inflows and the risk they entail. Examples of such policies are regulations that make banks hold more capital for short-term cross-border funds, including those from parent banks, and for risky loans, including those in foreign currency, that banks extend using such funds.

Not surprisingly, the policies and vulnerabilities underlying the country differences in resilience also seem likely to matter for the duration of the crisis. Econometric analysis of emerging economies (Box 7) shows that larger external debt and current account deficit at the outset of a crisis tend to extend its duration. As a consequence, European economies as a group are, on average, likely to face a longer crisis than the rest of the world. But again, the substantial cross-country variation within emerging Europe are likely to influence the likelihood of an early escape from current troubles.

Banking Sector Holds a Key to the Recovery from the Crisis

The banking sector in most of the emerging European economies played a central role in the run-up to the financial crisis, and it holds a key to the speed of recovery from the crisis. In recent years, high growth in bank credit, increasingly funded by foreign parent banks, enabled the rapid growth of incomes in emerging Europe, thereby helping the convergence process. At the same time, the speed of convergence may have been unsustainable, with imprudent banks engaged in reckless lending. Risks have, therefore, accumulated in the banking sector. However, the rapid reassessment of these risks—by both domestic and cross-border lenders—threatens to do more than correct excessive precrisis growth: it could lead to a

Box 7. Crisis Duration Across Emerging Markets

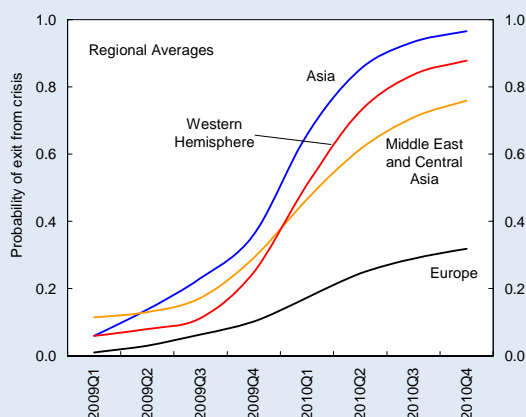
The current period of financial distress in emerging economies is likely to be prolonged, given the protracted nature of the global credit freeze. Even though there are differences across regions and countries, the current crisis could result in a large deterioration in external emerging market conditions, owing to greater risk aversion and smaller expected capital flows to emerging markets. Therefore, emerging market countries, especially those with weaker underlying economic fundamentals and policy frameworks, are likely to face pressures that could extend beyond the average of past crises.

External Debt and Deficits Are Key

Looking at the empirical link between crisis duration and its possible determinants,¹ emerging European economies are likely to experience, on average, longer periods of financial distress than other regions (first figure).² While Asian and Latin American countries could exit the distress period in about one year, the average probability of exiting at the end of the second year in eastern Europe is only about 30 percent.

The large variation among regions' probability of exiting from the distressed state is mostly driven by stark differences in initial conditions. Countries with higher levels of initial external debt are likely to endure more extended periods of financial stress because the probability of exiting the crisis state remains low for longer (second figure). Similarly, there is a negative relationship between the length of the crisis period and the initial current account balance of countries. In sum, while many emerging markets are confronting the turmoil from a relative position of strength, given their stronger initial conditions, European countries—on average—are less likely to fare well. That said, there is substantial variability in the probability of exiting from the distressed state among the European countries in general, and the crisis countries in particular. Moreover, global financial conditions play an important role as well and could help to shorten crisis duration for all countries. An important caveat to these results is that the underlying model only indirectly takes into account financial sector and banking sector conditions.

Emerging Markets: Estimated Probability of Exit from Crisis 1/



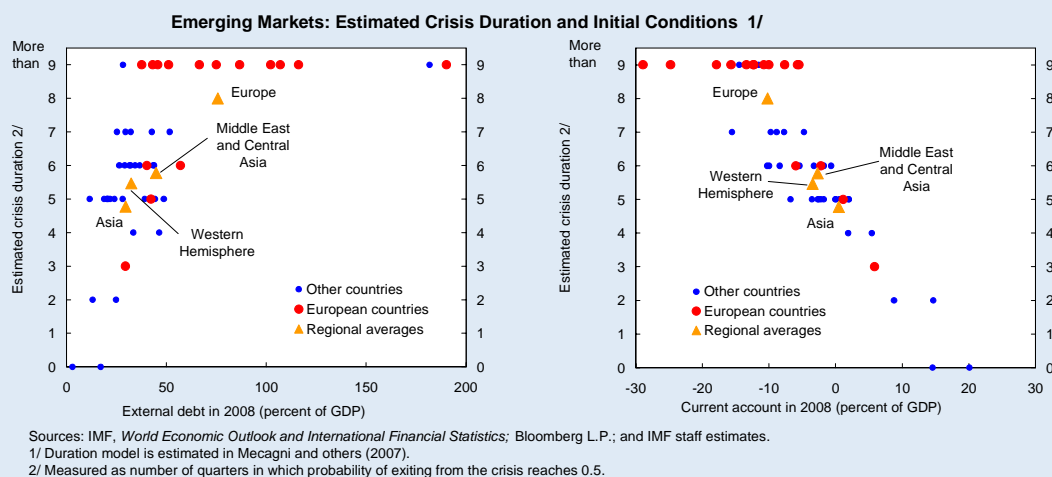
Sources: IMF, *World Economic Outlook and International Financial Statistics*; Bloomberg L.P.; and IMF staff estimates.

1/ Duration model is estimated in Mecagni and others (2007).

Note: The main authors of this box are Ruben Atoyan, Eugenio Cerutti, and Uma Ramakrishnan.

¹ More specifically, the probability of exiting a crisis is modeled as a function of time-varying and country-specific variables, including a country's initial external position (the level of external debt and current account balance in 2008); global emerging market financing conditions (net private capital flows to emerging markets, world interest rate, and trade-weighted partner country demand); domestic policies (changes in primary balance, real interest rate differential, and the exchange rate regime, which are all to be fixed at their 2008 levels); and IMF financing (if any). See Mecagni and others (2007).

² The duration analysis is probabilistic rather than deterministic and only illustrates how long the crisis duration might be; it is not meant to be an accurate predictor of the actual duration. Furthermore, the analysis is an out-of-sample prediction, which may or may not be well suited to predict the duration of the current spells of market pressures.



Policy Implications

Lessons from past crises suggest that a strong policy response during a crisis has a positive effect in shortening the crisis duration, but strong market pressures during crises severely limit actual policy options. As the probability of exiting from distress is highly sensitive to external conditions, crisis resolution efforts should focus on restoring investor confidence and improving global liquidity conditions, which, in turn, depend on a quick resolution of the crisis in advanced economies.

reversal of desirable financial deepening and economic convergence. If banks hit by the crisis respond drastically by cutting lending, this could have a major knock-on effect on the economy, in particular on consumption and investment, considerably slowing the recovery from the crisis. A drag on consumption and a general credit crunch would make the recovery in investment sluggish as well, hurting long-term growth.

Banks' Past Imprudence Can Hurt Their Capital, Leading to a Credit Crunch . . .

Many banks in emerging Europe, although still appearing to be well capitalized and profitable, did not build sufficient reserves for future loan losses during the good times. These banks were generally in compliance with basic microprudential regulations, but they should have gone well above the required minimums to maintain sufficient capital during the financial crisis. This is true for many banks globally, but it is especially valid for those in

emerging European markets that experienced credit booms, building up credit risks. Most of the emerging markets were dominated by subsidiaries of foreign (mostly western European) banks, meaning that many key decisions (such as those on reserves and capital) were largely taken outside emerging Europe. Host country supervisors have been reluctant to impose tougher prudential rules on provisioning and higher capital buffers, referring to possible inconsistencies with Basel II preparations, retaliation by parent banks, and the perceived high quality of home country supervision of these institutions. As a consequence, when borrowers fail to pay their dues, banks need to write off or reduce profits by the amount of such loans because existing reserves are not adequate. This situation makes bank earnings very volatile (and potentially negative), adding to bank risk.

Empirical evidence on eastern European banks shows that, as a rule, bank provisions (i.e., charges to profits that build loan loss reserves) have not been countercyclical, with important consequences

Table 13. Correlation with Loan Loss Provisions 1/
(Percent of total assets in previous year)

Real GDP growth	-0.15 **
Unemployment rate	0.14 **
Return on assets (ROA)	-0.14 **
Bank stability (z-index) 2/	-0.15 **
Real credit growth	-0.05

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

1/ ** indicates significance at 1 percent level.

2/ (ROA + equity/assets)/mean deviation of ROA. Higher z implies higher stability/lower risk.

for the time profile of bank profits. Pointing in this direction is the negative correlation between provisions and, respectively, real GDP, asset returns, and real credit growth (Table 13). More specifically, a panel data analysis on banks in emerging Europe for 2000–07 suggests the following (Table 14):⁴⁴

- *Banks have not been smoothing their earnings.* Instead, lower provisions have been associated with larger profits: a 1 percentage point increase in return on assets is associated with a 0.06 percentage point decrease in provisions to assets on average. In other words, banks have profited partly by

Table 14. Banks in Emerging Europe Were Imprudent in the Past
Testing procyclicality of bank provisions, 2000–07
Dependent variable: loan loss provisions 1/

	Emerging Europe	New Member States
Return on assets (ROA)	-0.06 (0.03)*	-0.09 (0.03)**
Real GDP growth	-0.07 (0.02)**	-0.05 (0.02)**
Unemployment rate	0.01 (0.01)*	0.00 (0.01)
Bank stability (z-index) 2/	-0.06 (0.03)*	-0.03 (0.03)
Total asset growth	-0.00 (0.00)	-0.00 (0.00)
Number of bank-year observations	850	651
Number of banks	138	126
R-square within	0.06	0.07
Mean of dependent variable	0.66	0.47
Standard deviation of dependent variable	1.24	0.87

Sources: Bankscope; IMF, *International Financial Statistics*; IMF staff estimates.

1/ Loan loss provisions in percent of one-year lagged assets. Generalized least squares, with bank-specific random effects and year dummies. Standard errors in parentheses; **, *, indicate significance at 1 percent and 5 percent levels, respectively.

2/ (ROA + equity/assets)/mean deviation of ROA. Higher z implies higher stability/lower risk.

⁴⁴ The estimates use an augmented version of the methodology by Laeven and Majnoni (2003). A limitation of the estimates is the shortness of the time series as well as the fact that eastern European banks have not yet been through many business cycles. The estimates therefore need to be treated only as illustrative.

provisioning less. This suggests that banks will be subject to higher profit volatility when borrowers actually default on their payments during the crisis.

- *Provisioning is procyclical.* This means that banks have not been saving for bad times. They are therefore likely to have to provision when economic downturn actually sets in: a 1 percentage point decline in real GDP growth is associated with a 0.07 percentage point increase in provisioning. In addition, there is a 0.01 percentage point increase in provisioning for every percentage point increase in the unemployment rate, indicating a need for additional provisioning later in a typical business cycle.
- *Riskier banks are provisioning more than other banks.* Using the z-index as a measure of bank stability, results show that banks provision more when stability goes down (lower z). This behavior exacerbates the problems of the banking sector by reducing capitalization when the risk goes up, rather than building enough capital in anticipation of the higher risk.⁴⁵

All the above three results hold when the sample is restricted to NMS.

Based on the estimates, bank provisions are likely to multiply manifold with the ongoing deepening of the economic downturn. Since profits might not be able to cushion such increases in provisions and loan losses, capital buffers would have to be tapped, thereby reducing banks' capitalization.⁴⁶

⁴⁵ See De Nicolò (2000); and Macchler, Mitra, and Worrell (forthcoming) for a discussion of the z-index and its various forms. Here, $z = (\text{return on assets} + \text{equity}/\text{assets})/\text{mean deviation of return on assets within a bank}$. Higher z should in general indicate greater stability or lower risk of insolvency.

⁴⁶ To give an example based on the empirical model, a decrease in Latvia's growth rate from 10.0 percent in 2007 to -4.6 percent in 2008—a decline of about 15 percentage points—would mean an increase in provisions by 1.05 percentage points—for a total of 1.26 (=0.21+1.05) percent of 2007 assets. For most countries, such an increase is beyond two standard errors of average provisions. The quantitative impact modeled in the regression is linear, and hence probably on the lower side. During a crisis, the effects could be nonlinear mainly for two

(continued)

Such losses are likely to decrease capitalization to a point where banks cut back on lending. To some extent, cuts in bank lending are exactly what some of the emerging European economies need, after a period of unsustainable growth and overheating. However, a sudden and widespread unavailability of loans could have a dramatic impact on the real economy, and in particular on private consumption. This second-round effect could prolong the recession considerably. In emerging Europe, where foreign banks dominate the banking system, a sharp cutback in cross-border funds and failure of private owners of parent banks to respond to the recapitalization needs of the emerging European subsidiaries could have a serious impact on the broader economy. Given that there is already some evidence of banks' reluctance to lend (as Senior Loan Officer's Lending Surveys in some countries indicate for the first quarter of 2009), recapitalizations done preemptively (before the actual shortfall is noticed) would help build confidence in the banking systems.

... and the Tightening Credit Could Have Severe Effects on the Many Households Whose Spending Is Constrained by Credit Availability

A major credit tightening could have a large impact on the real economy in emerging Europe. In particular, the sensitivity of consumption to bank credit would suggest large declines in consumption if a credit crunch were to take place. Indeed, the April 2009 *World Economic Outlook* shows that the key reason that recessions associated with financial crises are much worse than other recessions is the decline in private consumption.⁴⁷ Credit crunch and

reasons: first, second-round effects of reduced credit flows on output and employment would cause further distress on bank balance sheets, and, second, widespread balance sheet mismatches in foreign currency of the private sector could be exacerbated through large-scale exchange rate depreciations generating further credit risk for banks. These second-round effects have not been modeled here due to lack of data.

⁴⁷ In a bivariate vector autoregression of consumption growth and income growth in the United States, Blanchard (1993) shows that shocks to consumption could be long-lasting and could delay recovery from crises.

depressed consumer sentiment could play a role in delaying recoveries from the current crises, absent appropriate policy responses.

Recent analytical work (e.g., IMF, 2008d) stresses that borrowing constraints faced by households in the mortgage market play an important part in the transmission of monetary policy shocks and asset price fluctuations over the cycle. Specifically, private consumption tends to be more sensitive to financial shocks in countries where housing credit markets are more developed. Even where mortgage credit markets are not well developed, private consumption growth can be adversely affected if a large portion of households are dependent on credit. With the financial crisis, credit could dry up either due to a funding crunch, as unsettled markets make it prohibitively expensive for banks to raise funds from abroad, or due to a drying up of capital inflows from parents in advanced European countries to their emerging European subsidiaries. Also, with the onset of a crisis and a severe recession, any difficulties experienced by customers in repaying their lenders could threaten solvency in banks, leading to a credit crunch.

There are indications that, in emerging Europe, a credit decline is associated with a consumption decline. Taking retail sales (available at a monthly frequency) as a proxy for consumption (available only at a quarterly frequency), household credit growth is positively correlated with retail sales growth in a number of emerging European countries, even though the strength of the correlation differs across countries (Table 15).⁴⁸

A more in-depth analysis confirms the importance of credit constraints. Specifically, instrumental variable regressions of retail sales growth on current income growth, household credit growth, and consumers' expectations about job

⁴⁸ The correlation between consumption and retail sales growth is, on average, higher than 50 percent (and significant) for the emerging European economies.

Table 15. Consumption Growth Is Correlated with Credit Growth

Correlation between retail sales growth and real household credit growth

Bulgaria	0.56 **
Croatia	0.68 **
Czech Republic	0.09
Hungary	0.38 **
Latvia	0.36 **
Poland	0.60 **
Romania	0.25 *
Russia	-0.10
Slovak Republic	0.18
Ukraine	0.20 +

Sources: EMED Emerging EMEA; and IMF staff calculations.

Note: **, *, + indicates significance at 1 percent, 5 percent, and 10 percent levels, respectively.

prospects (Table 16) for selected countries in emerging Europe show the following:⁴⁹

- *Growth in household credit helps to explain growth in retail sales in almost all countries. A 1 percentage point increase in annual real credit growth raises*

Table 16. Consumption Growth Depends upon Credit Growth (Instrumental Variables Estimation), January 2002–November 2008
Dependent variable: Retail sales growth (year-on-year) 1/

	Real Wage Growth 2/	One-Month Lagged Real Household Credit Growth	Consumers' Expectations About Unemployment Prospects in the Next 12 Months 3/	R-Bar Square
Bulgaria	0.13	0.26 *	-0.12	0.63
Croatia	1.67**	0.13+		0.42
Czech Republic	0.80*	0.04	-0.10**	0.19
Hungary	1.23**	0.11**	-0.12**	0.78
Latvia	1.05**	0.16**	-0.26**	0.78
Poland 4/	2.22**	0.23**	-0.07	0.77
Romania 4/	0.61*	0.04+	-0.53*	0.08
Russia	0.67+	-0.09		0.70
Slovak Republic	1.44**	0.14**	-0.03	0.70
Ukraine	-0.16	0.13*		0.77

Sources: EMED Emerging EMEA; and IMF staff estimates.

1/ **, *, + indicate significance at 1 percent, 5 percent, and 10 percent, respectively. Constants and MA terms not shown.

2/ Instruments used are one through three-, six- and nine-month lagged real wage growth, real credit growth, and retail sales growth.

3/ European Central Bank survey on the percentage of consumers expecting unemployment to rise minus that expecting it to fall. An increase represents deteriorating prospects. Not available for non-EU countries.

4/ For Poland, May 2005 to November 2008, and, for Romania, January 2002 to December 2005, due in both cases to strong structural breaks.

⁴⁹ The methodology follows Bacchetta and Gerlach (1997) and Bayoumi and Melander (2008), who estimate the effect of predictable changes in credit on consumption growth. It augments these regressions with measures of consumer sentiment about unemployment expectations following Carroll and Dunn (1997). To address the shortness of the time series for emerging European markets, monthly series on retail sales

(continued)

annual retail sales growth by an average of 0.14 percentage point. The sensitivity of retail sales growth to credit growth is especially strong in Bulgaria, which has experienced rapid credit growth in recent years, but almost zero in the Czech Republic, where aggregate credit developments have been more subdued. This suggests that a severe credit crunch would have a much larger negative impact on consumption growth in Bulgaria than in the Czech Republic.

- *The above finding holds even after controlling for fluctuations in current real wages, a proxy for real disposable income.*⁵⁰ This suggests that consumers who depend upon current income are coexisting with liquidity-constrained consumers who depend upon credit for current consumption.
- *In addition, unemployment prospects shape consumption.* In most countries, unemployment expectations contain additional predictive power for retail sales growth, beyond the information contained in wage growth and credit growth. This implies that some households reduce consumption growth when unemployment prospects loom larger in the future. Following a financial crisis, private consumption growth is likely to be weak until households are comfortable that they are more financially secure (IMF, 2009d).⁵¹

and real wages are used, with the latter approximating movements in income.

⁵⁰ Because there could be reverse causality from retail sales to current income growth, instrumental variables were used to substitute for current real wages. Instruments included real wage growth and retail sales growth lagged by one through three, six, and nine months. Granger causality tests show that credit growth, on average, does a much worse job at predicting future wage growth than past wage growth or retail sales growth. This finding supports the interpretation that the significance of credit growth in the regression reflects its ability to explain retail sales growth beyond its role in explaining current income growth.

⁵¹ Carroll and Dunn (1997) show that, for the United States, when uncertainty about future labor income increases, consumers postpone purchases of durable goods until their balance sheet condition improves. Another result suggests that durables consumption was more sensitive to this uncertainty measure after financial liberalization. The sensitivity could have increased over time for emerging markets too as their financial systems were gradually liberalized over the last decade.

Policy Implications

The crisis has clearly put an increased premium on sound macroeconomic and macroprudential policies in individual emerging market countries, as financial market participants are paying less attention to group effects. This is illustrated by the disappearance of the EU halo effect (i.e., the return of the NMS bond spreads back to what can be explained by fundamentals). It is also illustrated by the increased country dispersion of sovereign spreads during the crisis, which can to a large part be explained by differences in the macroeconomic performance and external vulnerabilities of the countries, in particular by their success (or lack thereof) in keeping inflation low and the financing of the current account deficit at a sustainable level in the run-up to the crisis.

What policies should be implemented to get the emerging European countries out of the crisis? Given the important cross-country differences, the policies will necessarily differ across countries. Because of the high financing costs, fiscal stimuli cannot be implemented in most of the emerging European markets. Rather, further fiscal adjustment is required in these countries to restore confidence in policies. Financial market measures to revive credit and restructure household debt can shorten the recessionary span by relieving the borrowing constraints of households.

Given the central role of the banking sectors in emerging European economies, and reduced confidence in most of the banking sectors, bank recapitalization will be an important element in the policy packages in many countries in the short term. Even though most banks appear to be well capitalized and profitable for the time being, they remain vulnerable to loan losses as the economic downturn deepens. Capital injections into banks seem necessary to prevent recessions from becoming protracted in some of the emerging economies. Based on this line of reasoning, recent IMF-supported programs in crisis countries have indeed included substantial funds for meeting the recapitalization needs of banks. Such

recapitalizations could be done preemptively, rather than in response to actual insolvencies, to rebuild confidence in the banking systems. Stress tests that assume a worse-than-expected downturn in the next two years could be used to determine potential capital shortfalls, in coordination with parent bank owners and supervisory authorities.

Bank recapitalization would be wasteful if not accompanied by a strengthening of the supervisory, regulatory, and macroprudential framework. There is substantial scope for more effective supervision in individual countries under the existing financial supervisory frameworks. This includes for instance the possibility of imposing stricter capital requirements for weaker banks under Basel II Pillar 2.⁵² But given the strong cross-border linkages within Europe and given the major role of foreign-owned banks in emerging Europe, the stricter capital requirements need to be accompanied by much stronger cross-border cooperation between home-host central banks, supervisors, and ministries of finance. In addition to the microprudential improvements, more is also needed to address the macroprudential challenges. This should involve forward-looking (countercyclical) provisioning (IMF, 2008d), to reduce the macroprudential volatility in bank profits. Without such reforms, provisions are likely to continue to be procyclical, meaning that sharp economic downturns can adversely affect borrowers' ability to repay loans and drain capitalization of banks, ultimately leading to an unwanted credit crunch and lower consumption and investment.

Addressing the current crisis requires credible policies to restore confidence, including confidence about future job prospects. In conjunction with short-term countercyclical policies, structural reforms should be intensified to prevent declines in

⁵² Under Basel II Pillar 2, bank supervisors need to evaluate banks' internal capital adequacy calculations and compliance, and could require higher capitalization for individual banks if their risk profiles are higher. Supervisors need to determine this risk by conducting stress tests. But countries need to have the supervisory capacity to make the necessary assessments and the adequate legal framework to take action.

long-run productivity and growth. One such reform would be to reinforce policymaking institutions, for instance, fiscal frameworks for long-term fiscal sustainability (see Chapter 2 and Debrun and Joshi, 2008). Doubts about fiscal sustainability can slow the recovery by lowering consumer spending and raising long-term real interest rates, which could hurt investment growth (IMF, 2009d). Other

reforms, potentially important but not analyzed here in detail, include measures facilitating a structural shift in production from the nontraded toward the traded sector, for example, by making labor markets more flexible (IMF, 2008d). Finally, higher policy credibility would eventually help the NMS to satisfy the convergence criteria for euro adoption.

References

- Angeloni, Ignazio, Anil Kashyap, Benoît Mojon, and Daniele Terlizzese, 2002, “Monetary Transmission in the Euro Area: Where Do We Stand?” ECB Working Paper No. 114 (Frankfurt: European Central Bank).
- Ardagna, S., F. Caselli, and T. Lane, 2004, “Fiscal Discipline and the Cost of Public Debt Service: Some Estimates for OECD Countries,” ECB Working Paper No. 411 (Frankfurt: European Central Bank).
- Bacchetta, Philippe, and Stefan Gerlach, 1997, “Consumption and Credit Constraints: International Evidence,” *Journal of Monetary Economics*, Vol. 40 (October), pp. 207–38.
- Bayoumi, Tamim, and Ola Melander, 2008, “Credit Matters: Empirical Evidence on U.S. Macro-Financial Linkages,” IMF Working Paper 08/169 (Washington: International Monetary Fund).
- Bayoumi, Tamim, and Silvia Sgherri, 2009, “On Impatience and Policy Effectiveness,” IMF Working Paper 09/18 (Washington: International Monetary Fund).
- Beechey, Meredith J., Benjamin K. Johansson, and Andrew T. Levin, 2008, “Are Long-Run Inflation Expectations Anchored More Firmly in the Euro Area than in the United States?” Finance and Economics Discussion Series No. 2008-23 (Washington: Board of Governors of the Federal Reserve System).
- Beetsma, R., M. Giuliodori, and F. Klaassen, 2006, “Trade Spillovers of Fiscal Policy in the European Union: A Panel Analysis,” *Economic Policy*, Vol. 21 (October), pp. 639–87.
- Beetsma R., and X. Debrun, 2007, “The New Stability and Growth Pact: A First Assessment,” *European Economic Review*, Vol. 51 (February), pp. 453–77.
- Blanchard, Olivier, 1993, “Consumption and the Recession of 1990–1991,” *American Economic Review, Papers and Proceedings*, Vol. 83 (May), pp. 270–74.
- , and R. Perotti, 2002, “An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output,” *Quarterly Journal of Economics*, Vol. 117 (November), pp. 1329–68.
- Campbell, J.Y., and N. G. Mankiw, 1989, “Consumption, Income and Interest Rates: Reinterpreting the Time Series Evidence,” in *NBER Macroeconomics Annual 1989*, ed. by O. Blanchard and S. Fischer (Cambridge, Massachusetts: MIT Press), pp. 185–216.
- Carroll, Christopher, and Wendy Dunn, 1997, “Unemployment Expectations, Jumping (S,s) Triggers, and Household Balance Sheets,” in *NBER Macroeconomics Annual 1997*, ed. by B. Bernanke and J. Rotemberg (Cambridge, Massachusetts: MIT Press), pp. 165–217.
- Christiansen, L., 2008, “Fiscal Multipliers—A Review of the Literature,” Appendix II to IMF Staff Position Note 08/01 (Washington: International Monetary Fund).
- Čihák, Martin, and Wim Fonteyne, 2009, “Five Years After: European Union Membership and Macro-Financial Stability in the New Member States,” IMF Working Paper 09/68 (Washington: International Monetary Fund).
- Claessens S., M. A. Kose, and M. E. Terrones, 2008, “What Happens During Recessions, Crunches, and Busts?” IMF Working Paper 08/274 (Washington: International Monetary Fund).
- Debrun, Xavier, and Bikas Joshi, 2008, “Credibility Effects of Numerical Fiscal Rules: An Empirical Investigation,” in *Hungary: Selected Issues*, IMF

- Country Report No. 08/314, by X. Debrun, B. Joshi, and S. Mitra (Washington: International Monetary Fund).
- Debrun, X., L. Moulin, A. Turrini, J. Ayuso-i-Casals, and M. S. Kumar, 2008, “Tied to the Mast? National Fiscal Rules in the European Union,” *Economic Policy: A European Forum*, Vol. 23 (April), pp. 297–362.
- De Nicolò, Gianni, 2000, “Size, Charter Value and Risk in Banking: An International Perspective,” International Finance Discussion Paper No. 689 (Washington: Board of Governors of the Federal Reserve System).
- Engen, E., and G. Hubbard, 2004, “Federal Government Debt and Interest Rates,” in *NBER Macroeconomics Annual 2004*, ed. by M. Gertler and K. Rogoff (Cambridge, Massachusetts: MIT Press), pp. 83–138.
- European Commission, 2006, *Public Finances in EMU-2006* (Luxembourg: European Commission).
- , 2007, *Public Finances in EMU-2007* (Luxembourg: European Commission).
- , 2008, *Public Finances in EMU-2008* (Luxembourg: European Commission).
- Fitch Ratings, 2009, “European Government Borrowing,” January 26.
- Freedman C., M. Kumhof, D. Laxton, and J. Lee, 2009, “The Case for Global Fiscal Stimulus,” IMF Staff Position Note 09/03 (Washington: International Monetary Fund).
- Freedman, C., M. Kumhof, D. Laxton, D. Muir, and S. Mursula, forthcoming, “Fiscal Multipliers Galore,” IMF Working Paper (Washington: International Monetary Fund).
- Gale, W., and P. Orszag, 2004, “Budget Deficits, National Saving, and Interest Rates,” *Brookings Papers on Economic Activity*, 2, pp. 101–210.
- Galesi, Alessandro, and Silvia Sgherri, 2009, “Regional Financial Spillovers Across Europe: A Global VAR Analysis,” IMF Working Paper 09/23 (Washington: International Monetary Fund).
- Hardy, Daniel C.L., and Maria Nieto, 2008, “Cross-Border Coordination of Prudential Supervision and Deposit Guarantees,” IMF Working Paper 08/283 (Washington: International Monetary Fund).
- Hauner, David, Jiri Jonáš, and Manmohan S. Kumar, 2007, “Policy Credibility and Sovereign Credit—The Case of the New Member States,” IMF Working Paper 07/1 (Washington: International Monetary Fund).
- International Monetary Fund (IMF), 2007, *Regional Economic Outlook: Europe* (Washington, November).
- , 2008a, *Euro Area Policies: 2008 Article IV Consultation*, IMF Country Report No. 08/262 (Washington).
- , 2008b, “Fiscal Policy as a Countercyclical Tool,” Chapter 5 of *World Economic Outlook*, (Washington, October).
- , 2008c, *Regional Economic Outlook: Europe* (Washington, April).
- , 2008d, *Regional Economic Outlook: Europe* (Washington, October).
- , 2008e, “Stress in Bank Funding Markets and Implications for Monetary Policy,” in *Global Financial Stability Report* (Washington, October).
- , 2009a, *Global Financial Stability Report* (Washington, April).
- , 2009b, “The State of Public Finances: Outlook and Medium-Term Policies After the 2008 Crisis.” Available via the Internet: www.imf.org/external/np/pp/eng/2009/030609.pdf.
- , 2009c, “Companion Paper—The State of Public Finances—Outlook and Medium-Term

- Policies After the 2008 Crisis.” Available via the Internet: www.imf.org/external/np/pp/eng/2009/030609a.pdf.
- , 2009d, *World Economic Outlook* (Washington, April).
- International Monetary Fund, and World Bank, 2001, *Guidelines for Public Debt Management* (Washington).
- Jappelli, T., and M. Pagano, 1989, “Consumption and Capital Market Imperfections: An International Comparison,” *American Economic Review*, Vol. 79 (December), pp. 1088–1105.
- Krugman, Paul, 2008, “European Macro Algebra,” *New York Times*, December 14.
- Kumhof, M., and D. Laxton, 2007, “A Party without a Hangover? On the Effects of U.S. Government Deficits,” IMF Working Paper 07/202 (Washington: International Monetary Fund).
- Laeven, Luc, and Giovanni Majnoni, 2003, “Loan Loss Provisioning and Economic Slowdowns: Too Much, Too Late?” *Journal of Financial Intermediation*, Vol. 12 (April), pp. 178–97.
- Laeven, Luc, and F. Valencia, 2008, “Systemic Banking Crises: A New Database,” IMF Working Paper 08/224 (Washington: International Monetary Fund).
- Lombardi, Marco J., and Silvia Sgherri, forthcoming, “Risk Repricing and Spillovers Across Assets,” IMF Working Paper (Washington: International Monetary Fund).
- Luengnaruemitchai, Pipat, and Susan Schadler, 2007, “Do Economists’ and Financial Markets’ Perspectives on the New Members of the EU Differ?” IMF Working Paper 07/65 (Washington: International Monetary Fund).
- Maechler, Andrea, Srobona Mitra, and DeLisle Worrell, forthcoming, “Decomposing Financial Risks and Vulnerabilities in Emerging Europe,” *IMF Staff Papers*, and IMF Working Paper 07/248 (Washington: International Monetary Fund).
- Mecagni, Mauro, Ruben Atoyan, David Hofman, and Dimitri Tzanninis, 2007, “The Duration of Capital Account Crises—An Empirical Analysis,” IMF Working Paper 07/258 (Washington: International Monetary Fund).
- Perotti, Roberto, 2002, “Estimating the Effects of Fiscal Policy in OECD Countries,” ECB Working Paper No. 168 (Frankfurt: European Central Bank).
- Rancière, Romain, Aaron Tornell, and Frank Westermann, 2008, “Systemic Crises and Growth,” *Quarterly Journal of Economics*, Vol. 123, No. 1, pp. 359–406.
- Rancière, Romain, Aaron Tornell, and Athanasios Vamvakidis, forthcoming, “Currency Mismatch, Financial Crises and Growth: Theory and Evidence,” IMF Working Paper (Washington: International Monetary Fund).
- Rudebusch, Glen, and Tao Wu, 2003, “A Macro-Finance Model of the Term Structure, Monetary Policy, and the Economy,” FRBSF Working Paper No. 2003-17 (San Francisco: Federal Reserve Bank of San Francisco).
- Sgherri, Silvia, and Edda Zoli, forthcoming, “Rising Sovereign Spreads in the Euro Area: Are Markets Concerned About Fiscal Sustainability?” IMF Working Paper (Washington: International Monetary Fund).
- Sørensen, Christoffer Kok, and Thomas Werner, 2006, “Bank Interest Rate Pass-Through in the Euro Area: A Cross-Country Comparison,” ECB Working Paper No. 580 (Frankfurt: European Central Bank).
- Vamvakidis, Athanasios, forthcoming, “Convergence in Emerging Europe: Sustainability and Vulnerabilities,” *Eastern European Economics*.

