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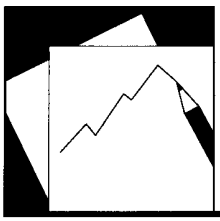

IMF Working Paper

Five Years After: European Union Membership and Macro-Financial Stability in the New Member States

Martin Čihák and Wim Fonteyne

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Five Years After: European Union Membership and Macro-Financial Stability in the New Member States

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March 2009

Abstract

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The proximity of the European Union, the prospect of membership, and actual entry by the New Member States (NMS) increased economic and financial integration in the region, leading to fast economic growth based on sizeable capital inflows. EU membership helped in developing sound macroeconomic and financial stability frameworks in the NMS. However, these frameworks remain work in progress and as such could not safeguard against private sector exuberance or risky policies, especially in the face of an unprecedented global financial crisis. Hence, more prudent policies and further strengthening of policy frameworks, especially with respect to financial stability, seem warranted.

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I. INTRODUCTION

In May 2004, eight Central and Eastern European countries—the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia—joined the European Union (EU). The entry of these "new member states" (NMS) was the biggest enlargement of the EU in terms of population and area (by 19 percent and 22 percent, respectively), although it was a relatively smaller increase in terms of economic output (about 9 percent).[2] It was a major milestone in the NMS' transformation from centrally-planned to market-based economies.

This study uses the five-year anniversary of the EU enlargement as an opportunity to analyze the impact of the EU membership on the economies of the NMS and the fifteen "old" member states (OMS).[3] Specifically, the study focuses on macroeconomic and financial stability issues, and attempts to isolate the impact of EU-level frameworks, such as the Maastricht criteria, the Stability and Growth Pact (SGP), the Lisbon agenda, and the financial integration and prudential policies. This analysis is useful not only for an ex-post assessment of past developments, but also for a forward-looking discussion on the opportunities and challenges ahead. Also, this analysis may be useful for gauging the potential impact of possible future enlargements of the EU. It is only a preliminary analysis, because the period of 5 years may be too short to pass a definitive judgment. Importantly, this timeframe covers two very distinct sub-periods: one of historically strong global growth (2004–07) and the onset of an at least equally historic financial crisis (2007–09) that undoubtedly represents the greatest economic test the region has faced since EU accession. The challenge facing the NMS now is to preserve and further build on the achievements of the recent years in a much more adverse global context.

To preview the main findings, the paper finds evidence of increased economic and financial integration between "old" and "new" Europe, a process that started well before May 2004. This has been reflected in rapid economic growth in the NMS, faster than what could be expected given the economic fundamentals. There is also some evidence of improved macro-financial performance, although there have been substantial cross-country differences, and challenges remain in terms of inflation control, fiscal adjustment, structural reform, and financial stability. The study provides some econometric evidence on links between EU membership and domestic economic outcomes, even though the impact of the EU membership is not easy to separate from other factors (it is difficult to construct a plausible counterfactual).

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[2] The Mediterranean islands of Malta and Cyprus joined the EU on the same date as the NMS. Given their different economic characteristics, they are not included in the analysis, unless explicitly mentioned. Bulgaria and Romania, which joined the EU only in 2007, are included in some of the comparisons for illustration.

[3] The OMS comprise Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

The increased economic and financial integration, while generally beneficial, may have made the NMS more vulnerable to the cross-country transmission of shocks. The global financial crisis that hit with full force in 2008 and is still ongoing has been a major real-life "stress test" of the enlarged EU. It has already had an impact on advanced economies as well as emerging markets, outside as well as inside the EU. A global examination of the crisis highlights a number of policy issues to be addressed, including: (i) managing the ongoing financial and economic fallouts of the crisis, as well as the exit strategy from current exceptional actions; (ii) preventing future recurrences of financial market upheaval; and (iii) designing a better international financial architecture to prevent adverse spillovers and enhance financial markets' functioning (IMF, 2009a).

EU membership had some benefits for the NMS during the crisis. This included the EU's balance of payments facility and reverse purchase (repo) arrangements by the ECB with some NMS central banks, which have provided useful safety cushions. At the same time, the fact that the crisis hit some NMS so hard serves as a reminder that EU membership, while useful, is not a panacea.

The empirical analysis in this paper suggests that markets may have been under-pricing the risks in the NMS prior to the crisis. During the crisis, this under-pricing has disappeared. Market pricing has started to reflect more closely the quality of macroeconomic policies, as countries with lower inflation and lower deficits have faced substantially lower spreads.

The financial sector has played a key role in the transmission of the crisis. Given the high integration of NMS banking systems in the rest of the EU, the NMS authorities need to make the best of the cross-border and EU-level arrangements, and be proactive in the EU-wide debate on improving these arrangements. At the same time, the NMS should make full use of their domestic policy tools, including sound prudential policies, consumer protection arrangements, and financial education.

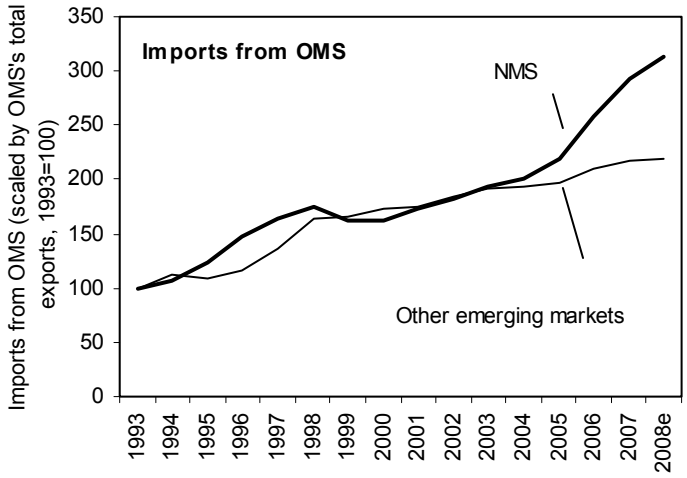
The structure of the paper is as follows. Section II reviews the macroeconomic performance of the NMS countries, highlighting the increasing economic and financial integration between the NMS and the rest of the EU, as well as the increased vulnerabilities. Section III analyzes the impact of EU membership and EU-level policy frameworks on domestic policies and economic outcomes. Section IV concludes.

II. Macro-Financial Performance and Vulnerabilities

A. Economic and Financial Integration

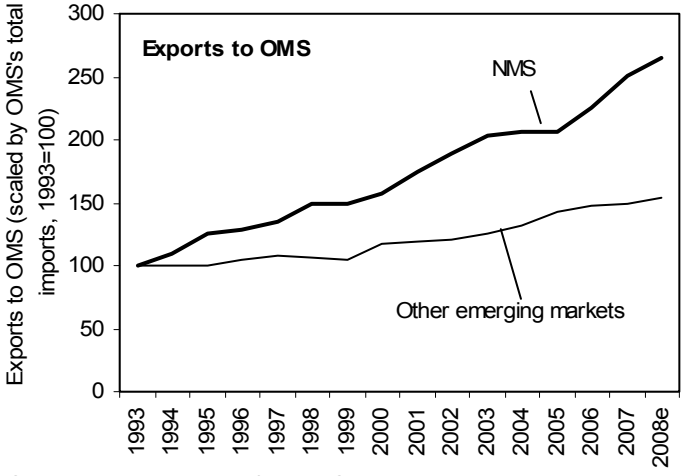
The NMS' EU entry has been a major step in the political integration within Europe. It has also contributed to further deepening of the economic and financial linkages between the NMS and the OMS. Economic and financial integration has been an ongoing process that started in the early 1990s and continues even after the EU accession. The emerging economies of Central and Eastern Europe have gone through a successful period of reform

that has resulted in unprecedented progress. Compared to the early 1990s, standards of living have improved dramatically, life expectancy has gone up, and access to higher education has multiplied (see, e.g., http://hdr.undp.org/en/statistics). The variety of goods and services (both financial and non-financial) available to NMS consumers has become more similar to that in the OMS. The foreign capital entering the NMS economies (including the financial sector) brought with it know-how and support from resourceful foreign parents with a long-run perspective. The improved access to western markets has been reflected in rapid growth of exports and NMS' increased shares in the world market (Figure 4). The increased financial integration of NMS with OMS facilitated consumption smoothing, because of the improved access to cross-border finance (indeed, the NMS have also been major recipients of cross-border capital flows, both foreign direct investment and portfolio investment, which are likely to have contributed to a decline in consumption volatility in recent years). Also, financial integration has contributed to greater shock absorption capacity, as the foreign-owned banks could potentially tap into the larger pool of capital available to their foreign parents.



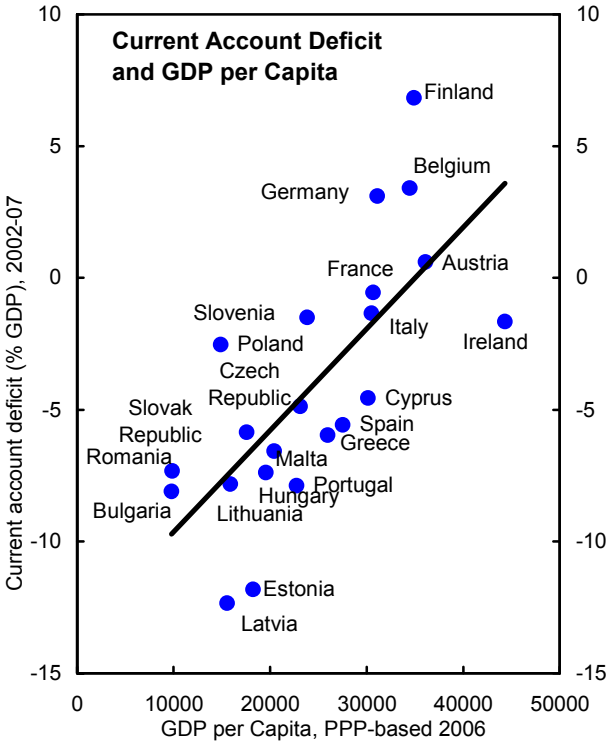
Source: IMF's *Direction of Trade* Statistics, authors' calculations.

One piece of evidence for the increased economic integration between the NMS and the rest of Europe is the growth of trade linkages. For example, the share of the NMS' exports in EU imports, has increased about 2.5 times between 1993 and 2008. This included a doubling of the NMS' market share already before EU accession. However, the rapid increase in the export market share continued, and even slightly accelerated, after accession. In the same time period, the share of other emerging markets also increased, but at a much slower rate (text chart). The growth of NMS exports to the OMS has been mirrored by NMS imports from the OMS, which has also been increasing at a rapid pace.



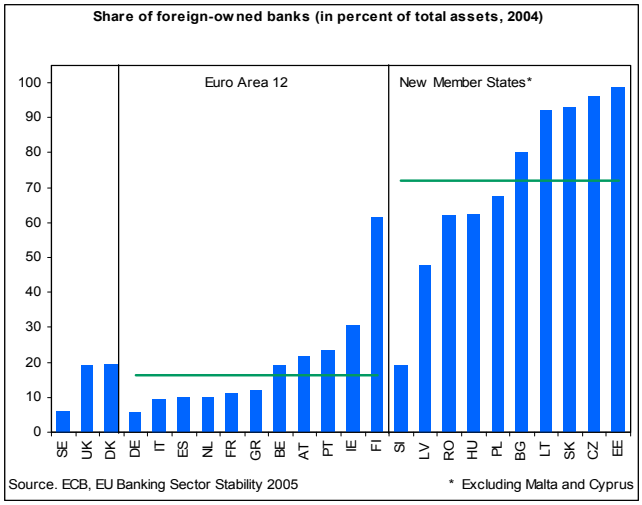
Source: IMF's *Direction of Trade* Statistics, authors' calculations.

The growing interlinkages are also illustrated by the increasing degree of business cycle synchronization between the NMS and the euro area. Business cycle correlations between various NMS economies and the euro area now exceed those for Greece and Portugal (IMF, 2007b). Production structures in the NMS are characterized by a higher share of agriculture and a lower share of services, but are gradually converging to those in the euro area. Inflation correlations and variance shares explained by common euro-area shocks are lower than for the OMS, but the transmission of common euro-area shocks to the NMS does not differ significantly from those to the OMS (Eickmeier and Breitung, 2005). About two thirds of NMS trade is with the euro area.



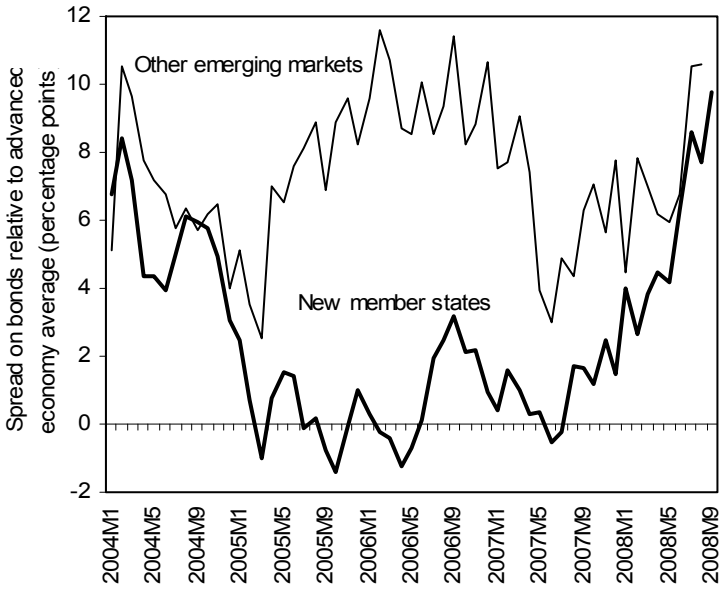
Sources: Eurostat; IFS, National Statistical Offices; and authors' estimates.

An important factor in the economic integration between the NMS and the OMS has been financial integration, which has been associated with a rapid transformation of the NMS financial systems. Foreign banks, mostly from the OMS countries, have entered the NMS markets, mostly by acquiring recently privatized NMS banks. At present, OMS-headquartered banks control a major part of the NMS banking assets. The share of foreign ownership in NMS banking systems has increased substantially, and is higher than in Western Europe and in emerging markets in other regions of the world. This also applies to other segments of the financial sector, albeit to a lesser degree.



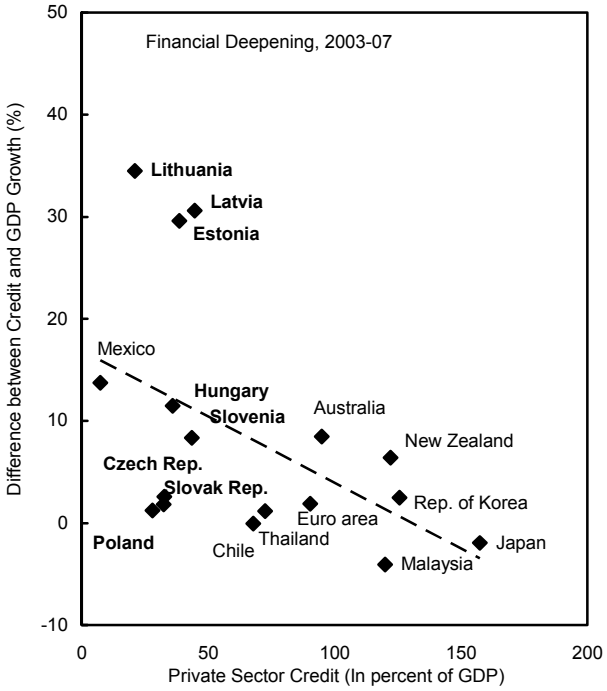
One measure of the degree of financial integration is the convergence in nominal interest rates. This was in part driven by declining risk premia relative to the OMS, a trend that proceeded until the onset of the global crisis (text chart). The crisis has led to a reappraisal and repricing of risks in the individual countries. This has renewed the cross-country differentiation in interest rates, not only between the NMS and the OMS, but also within each of these groups (the within-group differentiation among the OMS has been lower than among the NMS, but it has still been sizeable compared to previous years).

Government bond spreads: NMS and other emerging markets



Financial integration has been accompanied by rapid credit growth in the NMS states. The speed of the credit growth differed across the NMS countries. While the Baltic NMS have seen credit growth rates significantly above comparable countries, the credit growth rates in the other NMS were broadly in line with their levels of financial development (text chart). The rapid credit growth led to substantial financial deepening in the NMS; however, the developments during the 2008– crisis suggest that some of this deepening may not have been sustainable.

The NMS have also made some progress in developing their local capital markets. There is some evidence that the degree of integration of the NMS' equity markets has increased in recent years (Cappiello and others, 2006) and that the NMS' bond prices now exhibit fairly high co-movement vis-à-vis the OMS (Germany). However, the rate of development has been widely disparate across countries and market segments, underpinned by the varying degrees of progress made in key areas such as establishing pricing benchmarks; adopting, implementing and enforcing securities laws and regulations; encouraging the growth of an

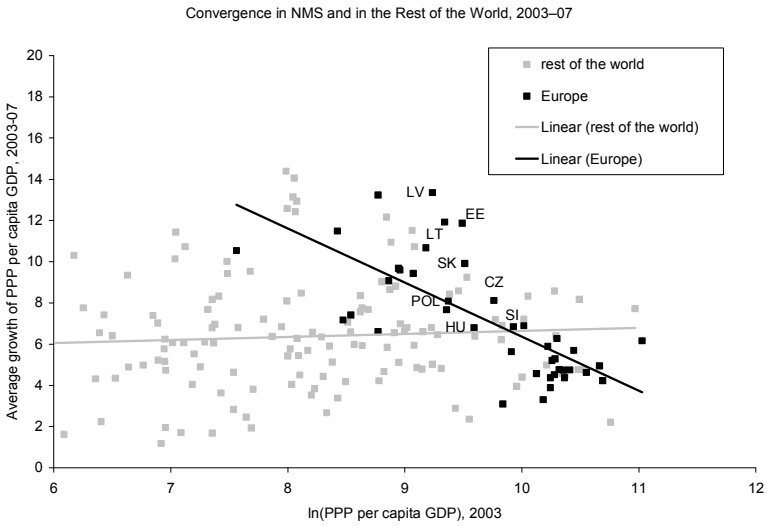


Sources: National Banks, International Financial Statistics, and IMF staff estimates.

institutional investor base; and providing adequate trading infrastructure. Iorgova and Ong (2008) provide an overview of the trends in the region's local capital markets, and examine the main factors that have contributed to their growth and effectiveness to date.

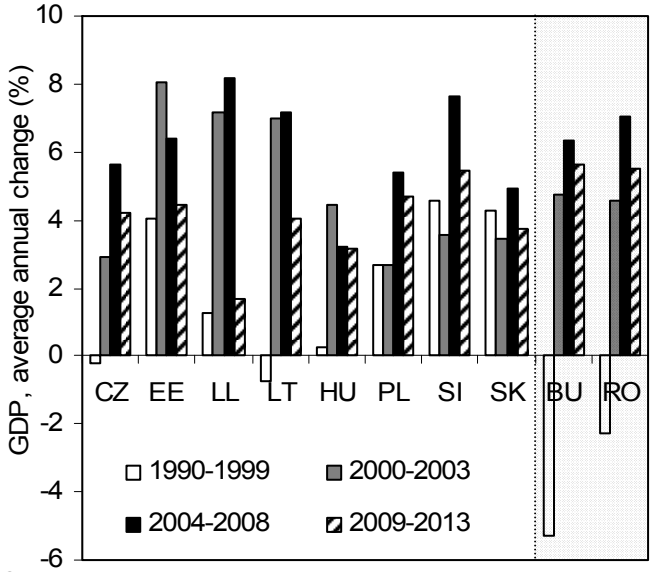
B. Rapid Economic Growth

After the volatile 1990s, growth accelerated substantially across the emerging markets in the early 2000s, with emerging Europe (including the NMS) growing at rates second only to those achieved in emerging Asia. Tighter integration with advanced economies has allowed emerging European countries, including the NMS, to grow considerably faster than economies in other regions with similar income levels, allowing them to display real convergence (text chart). Convergence has also been taking place within the NMS country group: economies with lower starting per-capita GDP have tended to grow faster (Figure 1)[4]



A comparison of the GDP growth rates in individual NMS countries (text chart) shows relatively high growth rates in the NMS, both in the run-up to accession and in the years since (with only Estonia and Hungary showing a slowdown in 2004–08 relative to 2000–03).

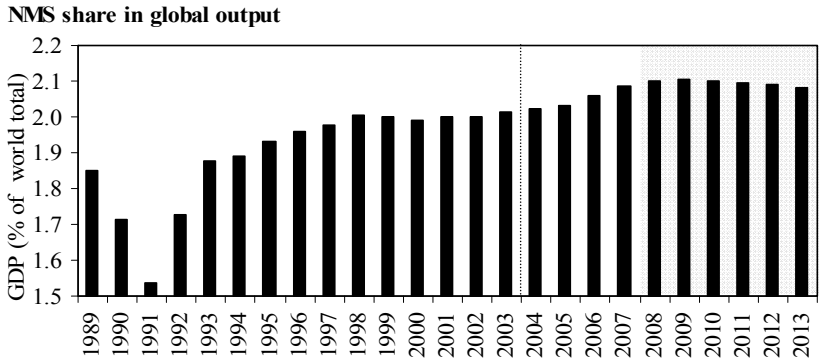
GDP growth before and after accession



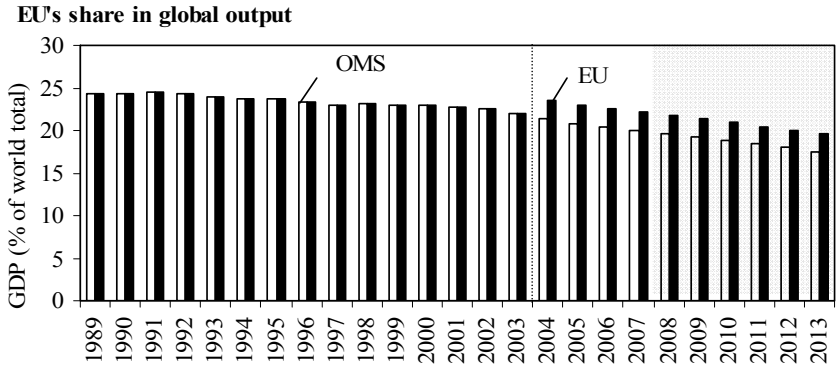
Source: authors' calculations based on the IMF's World Economic Outlook (2008-13 are estimates)

[4] This summary focuses on developments in the last 5 years. For the pre-accession period, see Burgess, Fabrizio, and Xiao (2004) for the Baltics, and Schadler and others (2005) for the Central European economies.

This rapid economic growth allowed the NMS economies to increase their share in the world's economic output.[5] The share of the NMS has been increasing consistently, from about 1.5 percent in the early 1990s, to an estimated 2.1 percent in 2008. Despite the impact of the global financial crisis, the share is projected to remain broadly stable throughout 2013, in the IMF's latest (October 2008) World Economic Outlook (text chart). To put the NMS's share in perspective, the share of the OMS has been as high as 24 percent in 1989, but it has fallen to 20 percent in 2008. EU enlargement has therefore been able to slow down the slide in EU's share in the world's output, even though it has not stopped sliding down completely (text chart).



Source: World Economic Outlook (2008-13 are projections); authors' calculations.



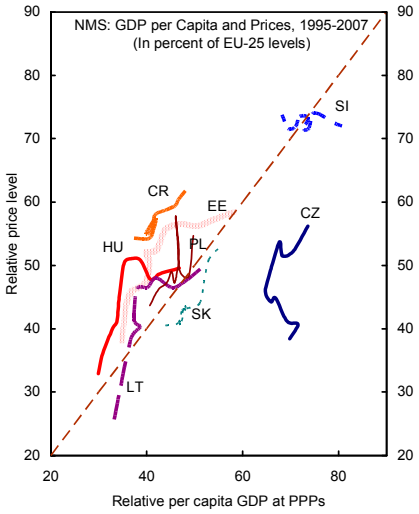
Source: World Economic Outlook (2008-13 are projections); authors' calculations.

C. Exchange Rates and Prices

The NMS' real convergence (in incomes) towards the OMS has been accompanied by nominal convergence, as price levels (substantially lower in the NMS than in the OMS) have been converging to the OMS levels. This took place to some extent via higher inflation, but mostly through nominal exchange rate appreciation relative to the euro (Figure 2) and other OMS currencies. Both adjustments imply an increase in the relative price level of the NMS countries (text chart).

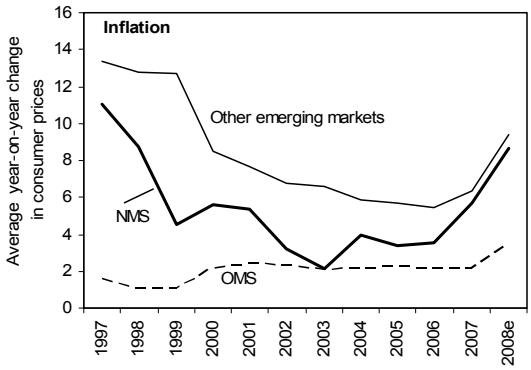
[5] Analyzing economies' shares in the world economic output is useful, because—unlike the GDP growth rates—these shares are not affected by the global economic cycle.

IMF staff's multilateral and bilateral exchange rate assessments for the NMS have generally suggested that real exchange rate appreciation—which exceeded 1½ percent per year in most NMS in the last decade—has been of an equilibrium nature (text chart), even though exchange rates are considered to be overvalued in one or two NMS.[6] Thus, other factors may have been at play, probably relating to the rapid structural transformation of NMS economies that followed their opening up to the world economy (see IMF, 2007b for a discussion of these factors). During the crisis, most of the NMS currencies have been depreciating fast.



Source: World Economic Outlook, authors' calculations.

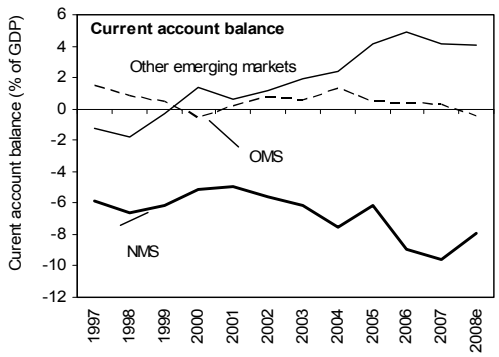
The NMS have been relatively successful in bringing inflation down and keeping it under control. The average consumer inflation rate in the NMS has been below the average of other emerging markets (text chart). However, some of the NMS countries experienced credit-driven booms accompanied by accelerating price increases.



Source: IMF's *World Economic Outlook* , authors' calculations.

D. Risks and Vulnerabilities

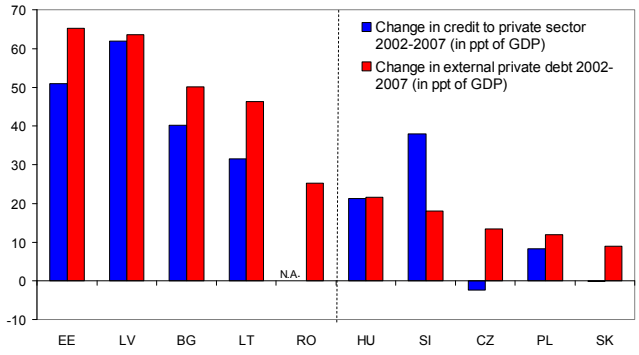
The benefits associated with rapid economic and financial growth have, however, come with risks and vulnerabilities. The fast economic and financial growth has been associated with large imbalances in several NMS economies, raising questions about sustainability. Against the backdrop of EU membership, domestic credit and demand booms have been unfolding in most of the NMS prior to the global crisis. Expectations of fast convergence have generated large capital inflows in search of high returns in the region. Capital inflows have contributed to very high levels of external debt in some countries. Although converging economies are expected to attract foreign savings to help finance investment and smooth consumption, current account deficits in several NMS economies have been too large in comparison with the rest of the world (Table 1), even after taking into account their income levels (text chart).



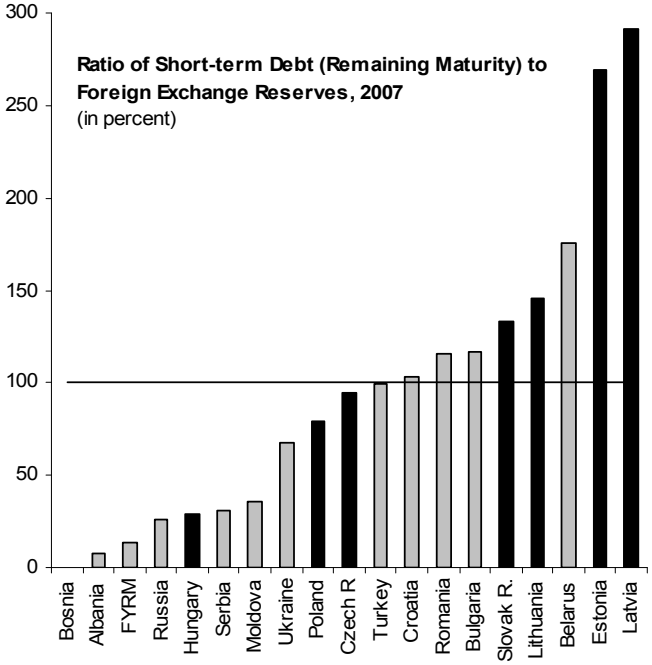
Source: IMF's *World Economic Outlook* , authors' calculations.

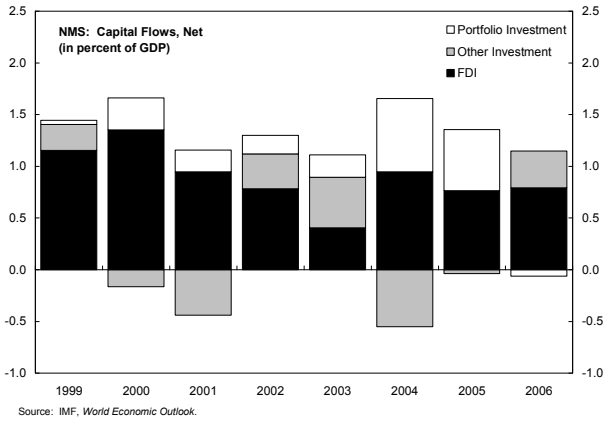
[6] For exchange rate assessments, see staff reports for individual NMS countries, available at www.imf.org.

The favorable market assessment of the NMS economies has proved to be somewhat of a mixed blessing. Country risk premia in the NMS seem to have declined earlier than they did in the catching up OMS prior to their EU entry. Financial markets have viewed the NMS favorably, at least before the recent global crisis, pricing their sovereign assets some 50–100 basis points below the levels that would be expected based on standard policy fundamentals (Luengnaruemitchai and Schadler, 2007). The NMS' relative success in macroeconomic stabilization and structural reforms and the EU accession seem to have contributed to rapid interest rate convergence, even though global factors (low interest rates, ample liquidity, and a widening of the investor base for emerging markets) have played a significant role as well. This contributed to massive capital inflows to the NMS (text chart), in the form of direct investment (especially in the Central European NMS), bank loans (especially in the Baltic countries), and portfolio investment.



The large capital inflows implied vulnerabilities. Convergence-driven booms in the NMS were associated with rapid credit and domestic demand growth, appreciating real exchange rates, and inflationary pressures. This was not dissimilar to developments in the catching up OMS. Rapid credit expansions have raised concerns about overheating, widening external imbalances, and rising balance sheet risks in some NMS, especially those where domestic borrowers have been contracting loans in euros and other foreign currencies (mostly the Swiss franc and Japanese yen), leading to a build-up of currency mismatches in the private sector balance sheets. The share of foreign currency lending in most of the NMS exceeded the levels of Western European, Latin American and East Asian emerging markets. Currency mismatches made the private sector vulnerable to exchange rate depreciation, and through credit risk, the NMS banking sector might also be affected (IMF, 2007b).





Source: IMF, *World Economic Outlook*.

Many of the same factors that led to improvements in the economic performance of NMSs also figure prominently as possible risks. Enlargement may have led to inflated expectations, and financial integration may have allowed these to result in sizeable financial risks in some NMS. Integration has also increased the NMS' exposure to risks and shocks originating elsewhere. Tighter linkages, which contributed to higher growth in the past, could also presage a slowdown due to coupling.[7] In particular, cross-border exposures by international banks, mostly from advanced European countries, helped in increasing financial intermediation, but also created new channels of contagion. The reverse of linkages leading to growth could be spillover effects causing a slowdown in the OMS.

The global financial crisis of 2008 has put into spotlight the dependence of the NMS financial systems on foreign funding (text chart). In late 2008, the crisis spread virulently through emerging Europe, triggering a sharp slowdown in capital flows to the region. In any case the cost of funding for all sovereign borrowers rose significantly, in some cases to near prohibitively expensive levels and access was severely curbed.

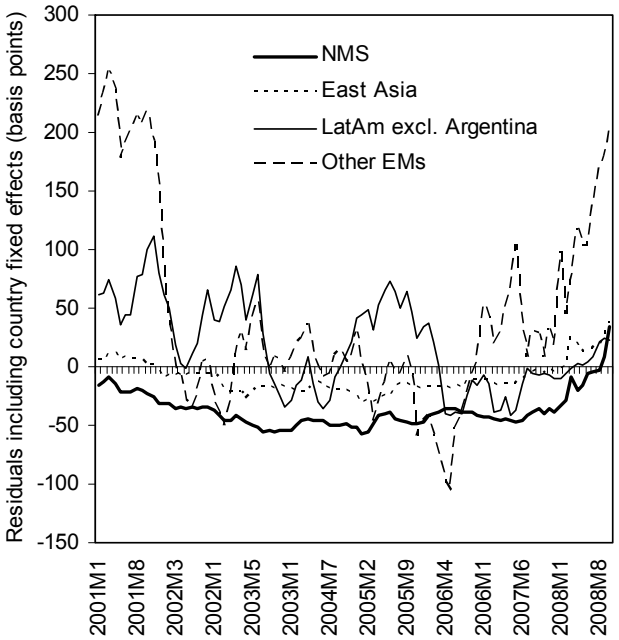
The increase in the NMS spreads in 2007–08 can be viewed in part as a dissipation of the so-called "halo effect." Analyzing spreads on NMS sovereign bonds in early 2000s, one could find that while a fundamental (economic) analysis pointed to rising vulnerabilities in some of the NMS economies, markets remained optimistic, compressing sovereign bond yields. Hauner, Jonas, and Kumar (2007) and Luengnaruemitchai and Schadler (2007) find a presence of the "halo effect" for 2001–06 and 1995–2005 data, respectively.[8]

[7] On the issue of the synchronization of business cycles in the euro area and NMS, see in particular Eickmeier and Breitung (2006) and Várpalotai (2005). See also Kose, Otrok, and Whiteman (2007) for a general discussion of international business cycle synchronization.

[8] The interpretations of the "halo effect" in the literature differ. Hauner, Jonas, and Kumar (2007) posit that the EU halo effect is linked to the EU membership. Better institutions and processes, such as fiscal rules, that have been put in place since EU accession may also have had the effect of reducing sovereign risk (thus bringing countries closer to meeting the Maastricht criterion on government bond rates). This would suggest that the "halo effect" may be lasting. Luengnaruemitchai and Schadler (2007) argue that the "halo effect" is essentially an unexplained residual that may turn out to be temporary.

To analyze the presence of the halo effect, an econometric analysis is used to identify the role of fundamentals and global liquidity conditions in determining the level of spreads on foreign currency denominated bonds—sovereign spreads—issued by emerging market countries (Appendix I). The estimation results are encouraging in that the underlying specification is robust and consistent with previous estimates in the literature. In particular, better fundamentals (lower economic, financial and political risks) are associated with lower sovereign spreads. The residuals from the regression (text chart) suggest that after controlling for global liquidity conditions and fundamentals, the level of spreads of the NMS, which has been low and stable by emerging markets standards up to 2006, has returned to the "fundamental" levels (and even slightly above) in 2007–08. In other words, the NMS-wide halo effect seems to have disappeared during the global financial crisis. At the same time, it still holds that those countries that adhere more closely to the Maastricht criteria tend to have lower spreads and face less strong market pressures (Figure 5). This is consistent with the findings of Debrun and Joshi (2008), who, using data for 1990–2005, do not find an EU-wide "halo effect;" instead, they find that countries adhering more closely to the EU's fiscal rules tended to have lower bond spreads (which is likely to be a fiscal soundness effect rather than an EU effect).

Residuals from the FE regression for sovereign spreads



The ongoing financial crisis has increased the risk of a sharp slowdown or sudden stop in emerging markets in general, including the NMS. The vulnerabilities are worsened by macro-financial linkages: real economic developments, such as risks of slowdown in (nominal) income growth, interest rate and exchange rate instability, asset price corrections, can feed back into the financial sector. In view of these risks, the NMS country authorities have taken a range of steps (Appendix II illustrates the range of approaches). Two NMS countries, Hungary and Latvia, have asked the EU and the IMF for financial support (Box 4).

III. Impact of EU Membership: Preliminary Evidence

The adoption of the EU's "acquis communautaire" has had a major impact on the legal, regulatory, and policy frameworks of the NMS. In the macro-financial area, the main EU-level frameworks include the Maastricht criteria, the SGP, the Lisbon agenda, and the financial integration and prudential policies (notably the Financial Services Action Plan and the Lamfalussy process). The EU-level frameworks aim to increase policy harmonization,

and have numerous effects on countries' macroeconomic and structural policies. Importantly, the frameworks impose constraints on discretionary policy making, presumably making the member country policies more predictable and their economies more stable than they would have been otherwise.

This section addresses the question how EU membership has affected macroeconomic performance and vulnerabilities in the NMS. It aims to identify the impact of EU membership as such, and of key EU-level frameworks, on macroeconomic policies and outcomes in the NMS countries. To answer this question, it tries to separate the impact of EU entry and EU-level frameworks from other effects, such as global shocks and shocks that are specific to individual NMS economies. The following subsections examine, in turn, the impact of EU membership on economic convergence, market perceptions, macroeconomic stability, structural reforms, financial stability, and crisis management in the NMS.

The evidence provided here can only be preliminary. Measuring the impact of EU membership rigorously is challenging, for several reasons. First, the impact of EU entry did not materialize in one go. The 2004 entry date, while a natural cut-off point, is only a step in a process of economic integration and policy convergence that started well before 2004 and has continued since. Second, the benefits of being in the EU may come to fruition only over a longer period of time, perhaps decades. So, 5 years may provide only very preliminary evidence. Third, it is rather difficult to construct a plausible counterfactual, because there are underlying factors (institutional and other) that influenced both the NMS countries' macroeconomic performance and the fact that they have been accepted to the EU. Notably, economic and policy developments related to EU entry are intimately interwoven with those related to the transition from centrally-planned to market economies. (In other words, it is not trivial to find an economy that would be the same as the NMS except for the fact of EU membership.) Finally, the past five years have been shaped significantly by unusual global cyclical developments (a global boom-bust cycle), which may have obscured countries' underlying long-term structural performance. To overcome these challenges, this study seeks to isolate the impact of EU membership using an econometric analysis that includes a broader group of countries and controls for various factors influencing their macroeconomic performance.

To give a preview of the main results, an econometric analysis of GDP growth provides evidence of a "bonus" associated with EU membership, i.e. higher growth rates in the NMS than could be explained by fundamentals. Another key finding is that until the global crisis, there was some evidence for an "EU halo effect," i.e. relatively lower sovereign bond spreads in NMS than could be explained by the fundamentals; however, this halo effect disappeared in 2007–08, as spreads returned to (or even overshot) fundamentals.

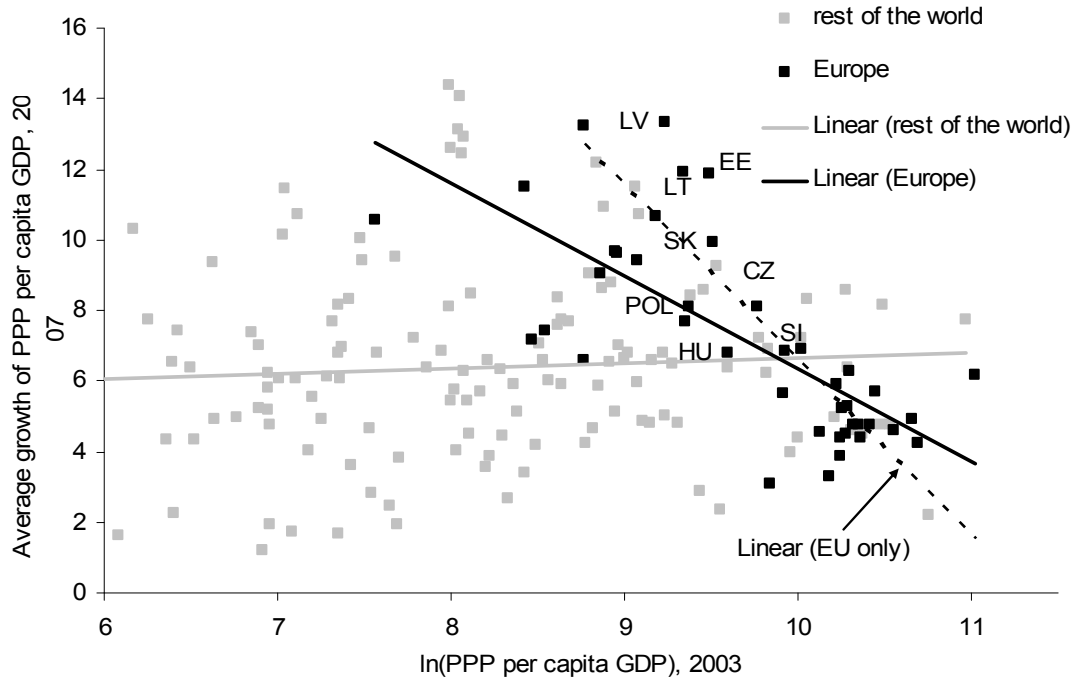
In the more detailed analysis, this paper attempts to isolate the impacts of the EU-level institutional frameworks, namely the Maastricht criteria, the SGP, and the Lisbon agenda.

The conclusion is that those frameworks played a useful role by putting emphasis on rules-based policies. The Maastricht criteria provided the basic macroeconomic objectives, the SGP fleshed out the fiscal details, and the Lisbon Agenda is the strategy for structural reforms, with a focus on growth and jobs. However, adherence to these frameworks has been uneven, which helps explain the differentiation in outcomes. Domestic governance frameworks and consistency between those frameworks and the EU rules matter.

A. EU Membership and Economic Growth

To what extent can the rapid output growth that the NMS have experienced in recent years be attributed to EU enlargement? One piece of evidence is the relationship between countries' GDP per capita and their growth rates, which has been significantly negative for EU countries, suggesting strong convergence (text chart). This contrasts with the global picture, which does not indicate significant world-wide convergence during the same period.[9]

Convergence in NMS and in the Rest of the World, 2003–07



The rates of growth recorded by the NMS economies were higher than what would be predicted by the Europe-wide regression (text chart), suggesting a possible "growth bonus" related to EU membership. Specifically, the GDP growth rate in the NMS countries was on average 2.5 percentage points higher than would be predicted by the Europe-wide regression.[10]

[9] The regression line in the text chart illustrates an unweighted regression. When observations are weighted by country size (approximated e.g. by population), convergence is observed also in the world-wide sample.

[10] The GDP growth rate in the NMS countries was also higher than would be predicted by the world-wide regression (by 3.2 and 3.0 percentage points for the unweighted and weighted regressions, respectively).

The difference in growth dynamics between the new and old member states is even more striking when overall output growth is decomposed into changes in production factors (labor and capital) versus changes in technology.[11] The results suggest that most NMS are benefiting from a structural transformation: growth in the NMS (and elsewhere in emerging Europe) has been driven primarily by total factor productivity (TFP). Moreover, countries with higher TFP growth have been growing faster and the list of EU countries with the highest technological growth coincides perfectly with the NMS list. Capital accumulation has also been important in most countries. Labor, in contrast, has added less and has even registered a negative contribution in some countries, with emigration a key factor. The analysis also indicates that there are substantial differences among individual NMS countries, with average annual TFP growth rates in a wide range, from 2 percent to 6 percent. Such a variation goes beyond the differences among previous EU entrants (where the variation of average TFP growth rate is roughly from 0.6 percent to 2.9 percent).

It is illustrative to compare developments in the NMS with those that took place in earlier entrants during previous waves of EU enlargement. Just like the NMS, these earlier entrants saw strong growth following accession, aided by capital inflows (and structural funds). But there was also substantial variation. In some of the earlier entrants, large FDI inflows raised productivity. In others, credit boosted consumption and housing, while productivity growth slowed sharply and competitiveness failed to keep up with the core EU member states. Which way the NMS will go remains an open question. On the positive side, most NMS have been able to keep their real unit labor costs relatively well in check. In addition, productivity growth in the NMS has been relatively high in recent years. However, low FDI and slow technological upgrading of production present risks to the continuation of the productivity catch-up. It is therefore important to pursue structural policies that foster investment in high-productivity projects. Such policies encompass, among other things, reforms that encourage economic flexibility, public investment in education and infrastructure, and well-functioning financial markets.

To identify the sources of growth in the NMS more rigorously and distinguish more clearly the part that is due to EU membership, a detailed growth regression was estimated, with EU membership as an additional explanatory variable ("factor of production"). The results (Box 1) suggest that about 1.5 percentage points in the relatively higher growth rates in the NMS can be traced back to factors such as their progress in liberalization and their success in

[11] Specifically, following Vamvakidis (2008), a Cobb-Douglas production function was estimated with two factors, capital and labor, and constant returns to scale, $Y(t) = A(t)\, F[K(t), L(t)]$, where Y is real GDP, A is the level of technology, K is capital, and L is employment. Contributions to growth are computed according to $y(t) = a(t) + \alpha\, k(t) + (1-\alpha)l(t)$, where α is the share of rental payments to capital in total income and $(1-\alpha)$ is the share of wage payments to labor in total income, assuming competitive product markets, and lowercase letters indicate growth rates. $a(t)$ is a residual that measures productivity improvements (but also captures possible measurement errors).

Box 1. Estimating the Impact of EU Membership on Output Growth

Following a methodology used by Schadler and others (2005) and Vamvakidis (2008), an econometric growth model was estimated on a sample of 106 developed and developing economies in 1996–2007. The estimated specification is

*Real GDP per capita growth = 11.14 (2.95)** –1.43(4.51)*** initial real GDP per capita – 7.03 (-3.89)*** age dependency rate + 0.12(3.89)*** investment/GDP +0.02(1.78)* university enrollment ratio – 0.014(- 2.32)** inflation rate +0.62(3.01)** index of economic freedom in 1995 +0.85(3.98)*** change in the index of economic freedom during 1995–2005 +0.98(1.82)* dummy variable for NMS + 0.67(1.69)* dummy variable for Africa.*

***, **, and * denote statistical significance at the 1, 5, and 10 percent level, respectively; the number of observations is 106; the adjusted R2 is 0.62; heteroscedasticity-consistent t-statistics are in parentheses.

The results suggest that a country with a relatively low income level, a low dependency ratio, a large investment share, a low inflation rate, and a relatively educated population grows faster, other things being equal. The index of economic freedom (www.freetheworld.com), which measures a number of different aspects of macroeconomic and structural policies and reforms, has a positive and statistically significant estimate. The NMS's income levels have been significantly lower than those of the OMS, and they have scored relatively well on most of the other explanatory variables, which explains a major part of their relatively high GDP growth rates in 1996–2007. In addition, the dummy variable for the NMS has a positive slope coefficient (as does the dummy variable for African countries). This suggests that the NMS's per capita GDP has been growing faster, by about 1 percent per annum, than can be explained by the growth determinants identified above. This may reflect a "growth dividend" related to the transition that the NMS have gone through after the initial economic collapse in the early 1990s. However, this growth dividend may not carry over to the future, or at least not to the same extent. (Similarly, the positive sign of the dummy variable for African countries is a reflection of the fact that the GDP growth rates in Africa were much higher in 1996–2007 than in the previous decades, an effect that may or may not continue in the future.)

stabilizing inflation (progress on these fronts may in turn be influenced by EU-level frameworks, such as the Maastricht criteria, even though it is difficult to establish a causal relationship—more on this in the next section). Even after adjusting for these identifiable factors, there still seems to be a "growth bonus" associated with EU membership, estimated at about 1 percentage point of the GDP growth rate.[12]

[12] The economic integration of the NMS into the EU had a range of other impacts that are not studied here in detail, such as those on trade and investment flows, cross-border production chains, know-how, and migration (IMF, 2008a). For example, as regards the migration impact Bems and Schellekens (2008) examine the macroeconomic impact of migration on income convergence in the NMS, using a general equilibrium model, finding that cross-border labor mobility provides benefits in terms of faster and smoother convergence.

There has been increasing evidence that the integration has growth benefits not only for new, but also for old Europe. One factor in this are positive spillover effects. Econometric estimates by IMF staff suggest that the accelerated growth in emerging Europe in the past 5 years has contributed 0.2–0.4 percent to the annual growth in advanced Europe (IMF, 2007a). Another factor is the integration of production chains across East and West, often among different plants of the same group. This has helped many Western European companies to maintain their competitiveness on global markets despite mounting competition.

B. EU Membership and Macroeconomic Stability

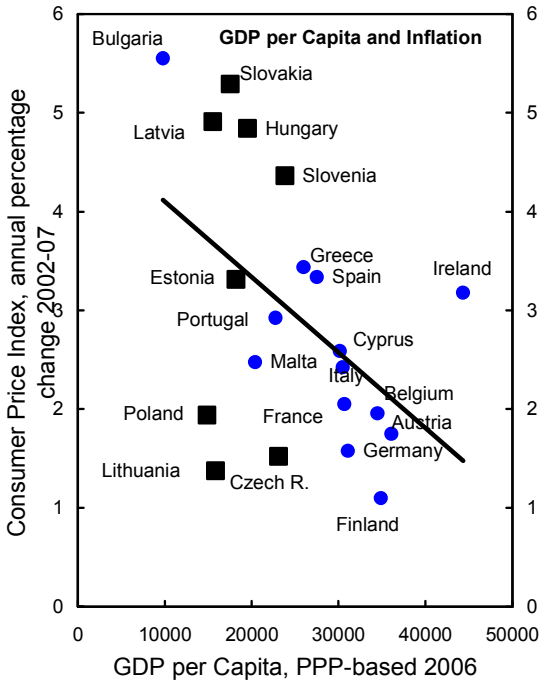
Maastricht Criteria

One way of measuring NMS performance in the area of macroeconomic stability is to assess their performance vis-à-vis the Maastricht criteria.[13] The criteria provide a relatively narrow assessment, focused on nominal convergence. Nonetheless, the NMS are expected to gear their policies toward fulfilling these criteria, as preconditions for joining the European Monetary Union (EMU). Even though there are no legal limits on how long an NMS can stay outside the euro area (and except for the excessive deficit procedure under the fiscal criterion, there are no sanctions for not satisfying the criteria), the NMS have committed to joining EMU if and when they satisfy the entry preconditions (unlike Denmark and the U.K.). Despite its limitations, it is therefore a useful yardstick for assessing performance in the area of macroeconomic stability.

Overall, on each of the five numerical Maastricht criteria, the NMS have performed better than the non-EU emerging market countries (Figure 3). The percentage of observations in which the respective criterion was missed was lower in the NMS than in other emerging market countries (OEM). The OEM countries are of course included only to put the NMS performance in a broader perspective, as the Maastricht criteria do not apply to them. While proving a causal relationship is very difficult, this supports the hypothesis that being in the EU is associated with better policy outcomes in terms of macroeconomic stability.

[13] The criteria cover: *price stability* (the average annual inflation rate should not exceed by more than 1½ percentage points that of the three EU countries with the lowest non-negative inflation), *exchange rate stability* (the exchange rate should remain within the ±15 percent fluctuation margins provided for by the ERM-II exchange rate mechanism without severe tensions for at least two years), *convergence of long-term interest rates* (the nominal long-term interest rate should not exceed the average of the rates in the three EU countries with the lowest non-negative inflation by more than 2 percentage points on average over the latest 12 months), and *fiscal sustainability* (the fiscal deficit and gross government debt should not exceed 3 and 60 percent of GDP, respectively).

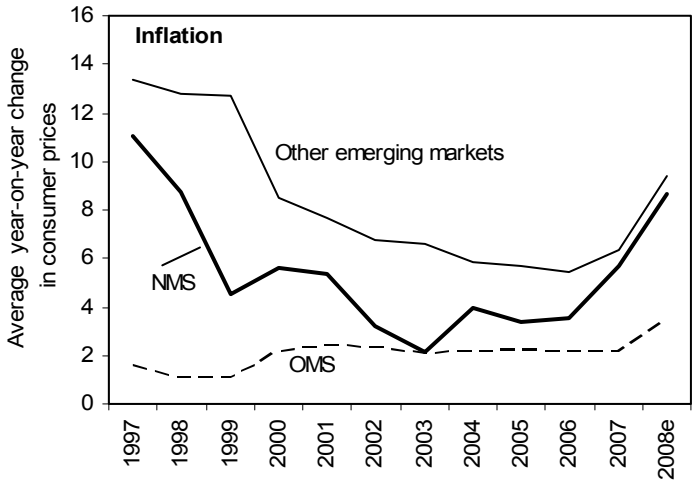
Most NMS already comply with at least some of the Maastricht criteria, but meeting all of them consistently has proven to be a challenge (bottom part of Figure 3). Nonetheless, two NMS countries, Slovenia and Slovakia, have been able to satisfy the criteria and enter the euro area (Box 2).[14]



Sources: Eurostat; National Statistical Offices; and IMF staff estimates.

Price Stability

The period of EU accession and EU entry has been marked by improved price stability in the NMS. The NMS have been relatively successful in bringing inflation down and keeping it under control, with consumer inflation being lower, on average, than in other emerging markets (text chart). However, some of the NMS experienced credit-driven booms accompanied by accelerating price increases in the mid-2000s. Reflecting the difficulties in controlling inflation in these countries, the NMS have met the inflation criterion only about 40 percent of the time (Figure 3).



Source: IMF's *World Economic Outlook*, authors' calculations.

To some extent, the relatively higher inflation in the NMS can be explained by higher productivity growth. As productivity in the NMS converges with that in the OMS, wages and prices of non-traded goods and services rise (Balassa-Samuelson effect). This results in higher inflation, but without loss of competitiveness (text charts). Productivity differentials seem to explain from 0 to 3½ percentage points of annual inflation differentials in the NMS vis-à-vis the euro area, with most estimates clustered around 1–2 percent (IMF, 2007b).

The inflation performance of the NMS has also been affected by global price shocks. Inflation rates spiked up across the region (and around the world) in late 2007 and 2008,

[14] Cyprus and Malta, which also entered the EU in May 2004, joined the euro area in 2008.

driven by rapid growth in food, oil, and other commodity prices. As these and related products make up a comparatively large part of their consumption baskets, the NMS saw their inflation rates being affected to a greater extent. However, even in the euro area, year-on-year inflation went up and reached as high as 4 percent during 2008. The situation has since changed dramatically, though. Commodity prices started declining rapidly when the global financial crisis hit with full force in 2008, price pressures receded everywhere, and monetary policy has been loosened around the world, including in the NMS.

Another factor potentially influencing inflation performance may by the countries' choice of exchange rate regime: in 2004–08, the average annual consumer price inflation in NMS with hard pegs was 2.7 percentage points higher than in other NMS, as upward price pressures caused by capital inflows could not be absorbed through exchange rate appreciation.

To analyze the inflation performance of the NMS more formally, an econometric model was estimated on world-wide panel data for 1999–2008, trying to extract the impact of the country being a NMS (captured by a dummy variable equaling 1 for NMS and 0 for all other countries), adjusting for global factors (change in a commodity price index), and a range of country specific factors, capturing the choice of exchange rate regime (hard peg or other) and monetary policy regime (explicit inflation targeting or other), the degree of central bank independence, the country's income per capita, and its previous inflation performance. The results (Table 3(i)) show the NMS membership dummy having the expected negative sign (suggesting relatively lower inflation in the NMS), but the estimated parameter is insignificant. The exchange rate regime and monetary policy regime dummies and the central bank independence index also have the expected signs, but are insignificant. The significant explanatory variables are the global commodity price index, the past inflation values, and the country's level of GDP per capita. The bottom line from the estimate is that the relatively better performance of the NMS compared to the other emerging markets can be explained to a large extent by factors such as their relatively higher income per capita levels; their EU membership seems to be associated with somewhat lower inflation, but this is not significant.

As an alternative approach to analyzing inflation performance in the NMS, a logistic probability model was estimated, explaining the probability of satisfying the Maastricht inflation criterion as a function of a range of country characteristics and external shocks. Let Y_{it} denote a dummy variable that takes the value of 1 when country i meets the Maastricht criterion in t and 0 otherwise. The probability of Y_{it}=1 is estimated as a function of a range of explanatory variables X_{it}. Assuming that $F(\beta' X_{it})$ is the cumulative probability distribution function evaluated at $\beta' X_{it}$, where β is a vector of coefficients to be estimated, the likelihood function of the model is:[15]

[15] A heteroskedasticity robust variance-covariance matrix is employed, which allows for the possibility of correlated errors for individual countries. As an alternative approach, a random effects logit model was also estimated.

$$\log L = \sum_{t=1}^{T}\sum_{i=1}^{N} Y_{it} \log\left[F(\beta' X_{ij})\right] + (1 - Y_{it}) \log\left[1 - F(\beta' X_{ij})\right]. \qquad (1)$$

The resulting estimates (Table 3(ii)) suggest that the existence of the Maastricht inflation criterion had an impact on inflation in the NMS. Even after controlling for other potential explanatory factors, such as the country's level of economic development, degree of central bank independence, and its exchange rate regime, the NMS were more likely to meet the criterion than one could expect based on a broader sample of countries (the NMS dummy in the first two estimates is significantly positive). An interesting side result is that inflation targeting countries were more likely to meet the criterion (this result is highly significant, both for the broad sample and for the NMS sub-sample), while those with hard pegs were less likely to do so (this finding is stronger when the sample is constrained only to NMS countries). Countries with higher GDP per capita and higher degrees of central bank independence are more likely to satisfy the criterion, even though this result is significant only for the broader country sample (which has more substantial variation in these two variables). Among the NMS countries, interestingly, public support for the euro (European Commission, 2008) did not seem to have a significant direct impact on the fulfillment of this criterion. This could reflect some degree of reverse causality: higher inflation rates may tend to push public opinion toward favoring euro adoption.

The analysis summarized in Table 3(ii) focuses on factors explaining whether the criterion was satisfied or not; it does not analyze the cost of meeting the criterion. Product or labor market rigidities, for example, can contribute to high sacrifice ratio. To quantify the macroeconomic policy adjustment needed to prepare for participation in monetary union, Bulíř and Hurník (2006) have used a dynamic stochastic general equilibrium model that allows for a joint analysis of monetary and fiscal policies, finding that a decrease in inflation by 1 percentage point implies a loss in output that ranges from 0.5 percent in the Czech Republic and 0.8 percent in Poland and the Slovak Republic to 1.6 percent in the Baltic states and 4.0 percent in Hungary. Also, a 1 percent decrease in the fiscal deficit results in a ½ percent decrease in the level of GDP in 1 year and a 1/3 percent increase in the level of GDP over the 5-year horizon. The estimated sacrifice ratios for the NMS are broadly similar in other papers,[16] and not substantially different from estimates for non-NMS emerging markets.

There is some evidence that markets view compliance with the Maastricht inflation criterion positively. Specifically, when the "halo effect" regressions (Table 2) include a dummy variable for compliance with the Maastricht inflation criterion, the estimated coefficient is significant and has the expected negative sign. This is even after controlling for the fact that low inflation rates in general are associated with lower sovereign spreads (in all countries,

[16] See for example IMF (2007b). For the Czech Republic, Laxton and Pesenti (2003) and Allard and Muñoz (2008) report a higher sacrifice ratio, in the range of 1.1-1.5 percent.

not just the EU members), so this impact seems associated with the Maastricht criterion on inflation.

Box 2. Euro Area Accession: Experiences of Slovenia and Slovakia

In January 2007, **Slovenia** became the first NMS to adopt the euro. Favorable initial conditions and sound macroeconomic policies over the past decade have allowed Slovenia to sustain robust growth with small external imbalances and public debt while gradually lowering inflation and interest rates to euro area levels. PPP-based per capita income reached about 80 percent of the EU average in 2006, putting Slovenia on a par with Greece and above Portugal (IMF, 2007c).

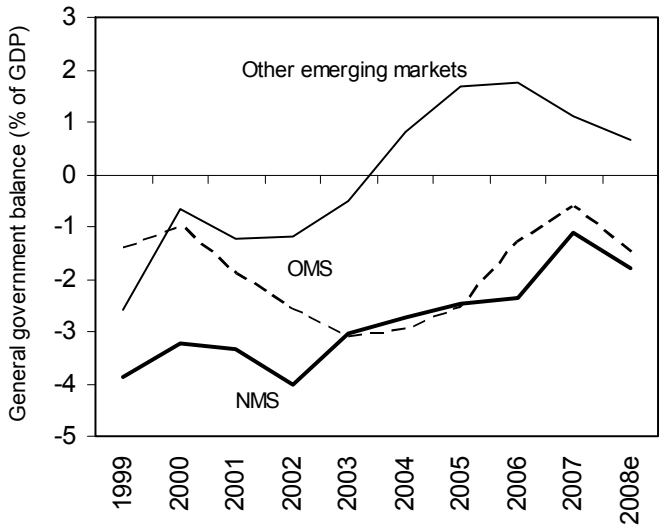
Slovakia has become one of the strongest economic performers among the NMS. Growth has shifted to a higher gear, driven by productivity gains and buoyant exports (Figure 4). Slovakia entered ERM2 in November 2005, and a coalition government formed following June 2006 elections committed to adopting the euro in January 2009. Notwithstanding the government's emphasis on higher social spending, the 2007–09 budget framework aimed at meeting the Maastricht fiscal deficit criterion in 2007 and achieving further fiscal consolidation thereafter (IMF, 2007d). Slovakia has met all the Maastricht criteria, and entered the euro area in January 2009.

Is there something that sets Slovenia and Slovakia apart from the rest of the NMS that can explain why these two countries were the first two euro adopters? It is difficult to boil this down to a single factor, since the two countries' initial economic conditions were different, and they went through different adjustment paths. What obviously sets them apart is their willingness and ability to satisfy all the Maastricht criteria at the same time. That is no mean feat, as illustrated by the output loss calculations in IMF (2007b) and Bulíř and Hurník (2006). One underlying factor that likely played a role has been the high degree of political commitment to euro adoption in these two countries, which in turn reflected broad support for the euro among their populations. This has been particularly the case in Slovenia, which has been recording the highest levels of support for the euro of all the EU countries (European Commission, 2008a). Slovakia has also been above the EU average in terms of public support for the euro, and its population has shown a remarkably high self-assessment of knowledge of the euro (European Commission, 2008b). This is not to say that high levels of public support or awareness automatically ensure euro adoption (in fact, the Eurobarometer survey appears only very weakly correlated with the likelihood of meeting the inflation criterion), but it can make the adjustments on the way to the euro more likely to succeed.

Fiscal Stability

General government balances in the NMS were generally worse than in other emerging markets, and also somewhat lower than in the OMS (text chart). Thus, the second most challenging Maastricht criterion for the NMS (after the inflation criterion) has been the fiscal deficit criterion, which the NMS have missed about 40 percent of the time (Figure 3).

There has been substantial cross-country variation, however, with the average 2004–08 general government balance varying from +1.6 to -6.5 percent of GDP in individual NMS.



Source: International Financial Statistics, authors' calculations.

In NMS with subpar fiscal performance, the EU institutions have provided a framework within which to address this issue. Empirical analyses for the "old Europe" suggest that the Maastricht fiscal criterion, and its implementation through the SGP[17] provides a rules-based framework that can be effective in combating politically-motivated fiscal policy distortions (Annett, 2006). These analyses suggest that the SGP has been successful in contributing to fiscal discipline in particular in smaller OMS with more volatile output (e.g., Austria, Belgium, Denmark, Finland, Ireland, the Netherlands, Spain, and Sweden). The 3 percent anchor appears crucial in anchoring expectations and monitoring (Schuknecht, 2004).

To examine the fiscal performance in more detail, the empirical estimate of Annett (2006) is replicated here for the NMS economies, for two periods (before and after the EU entry). Specifically, the following equation has been estimated:

$$b_{it} = \beta_0 + \beta_1 b_{it-1} + \beta_2 d_{it} + \beta_3 y_{it} + \beta_4 p_{it} + \beta_5 g_{it} + \beta_6 s_{it} + \beta_7 \sigma_{it} + \beta_8 n + \beta_9 n b_{it-1} + \beta_{10} n d_{it} + \beta_{11} n y_{it} + \beta_{12} n g_{it} + \beta_{13} n s_{it} + \beta_{14} n \sigma_{it} + \varepsilon_{it} \quad (2)$$

where b is the fiscal balance, d is debt, y is the output gap, p is a dummy for the election year, g is a dummy for the form of fiscal governance, s the economy's size, σ is its economic volatility, n is a dummy variable for new member states, ε is an error term, i and t denote country and year, respectively, and βs are the estimated coefficients.

The econometric estimates (Table 4) suggest that the SGP has more of an impact in the NMS countries, for several reasons. First, the economic size of these countries is far below the EU average, and the estimates (for both OMS and NMS) suggest that smaller size makes countries more amenable to external influences over fiscal policy. Second, economic growth

[17] The SGP is a rule-based framework for the coordination of national fiscal policies. The pact consists of a preventive arm (multilateral surveillance and the avoidance of excessive deficits) and a dissuasive arm (addressing gross policy mistakes through the "excessive deficit procedure"). The SGP has been criticized by various authors (e.g., Buti, Eijffinger, and Franco, 2003) for enforcement problems. After such problems had materialized, the SGP was revised in 2005.

in the NMS has been relatively more volatile (the standard deviation of growth over the past 10 years being twice that of the OMS, even though this may be biased upward by the structural adjustment in these countries), and the estimates suggest that countries with higher growth volatility are more likely to follow the fiscal rules. Third, most of the NMS rely predominantly on fiscal commitment, which, according to the estimates, makes them more amenable to comply with the SGP rules.[18]

Relatedly, countries that follow the fiscal rules more closely are likely to see lower bond spreads. This is consistent with the findings of Debrun and Joshi (2008), who analyze fiscal rules in EU countries, finding that introducing numerical fiscal rules (or tightening existing ones) tends to reduce yields on long-term government securities, either through a "pure" credibility effect, or through an induced improvement in fiscal indicators (cyclically adjusted primary balance and public debt). The credibility effect is more likely to be found in countries with a stronger record of good fiscal behavior and with budgetary procedures more conducive to an effective implementation of numerical fiscal rules.

C. EU Membership and Structural Policies[19]

In the area of structural policies, a key part of the EU framework is the Lisbon Agenda. Launched by the European Council in Lisbon in 2000, it set forward a broad set of structural reform objectives, notably increasing the employment rate from 61 percent to 70 percent by 2010 (20 million extra jobs), and raising growth to an average real rate of 3 percent. The agenda is based on an "open method of coordination," which eschews centralization of policy formulation, and initially focused on benchmarking based on quantitative and qualitative indicators and specific timetables. Important components of the agenda are annually updated National Reform Programs,[20] and an annual monitoring of progress by the EU Council.

The Lisbon agenda is a potentially useful vehicle for coordinating structural reforms, but so far the progress under the agenda has been uneven (e.g., IMF, 2008). For the EU as a whole, significant progress towards the Lisbon targets has been made, but these are now being threatened by the financial crisis and further efforts are needed. The employment rate, for example, has risen across the EU since 2000, but is turning now. All along, joblessness among the young has remained far too high. Access to secondary education has improved,

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[18] This relates to the so-called "common pool problem," i.e. that politicians who represent different groups and interests have no incentive to constrain their spending demands given that the costs are shared by the population as a whole. This can be limited for example by granting the finance minister a leading role in the budget process (delegation), by the various parties negotiating a "fiscal contract" with strict budget targets (commitment), or by a combination of the two (hybrid system).

[19] To save space, the impact of the EU's common trade policy, which contributed to some reorientation of trade, is not discussed here. For further information on this issue, see for instance http://ec.europa.eu/trade/issues/respectrules/tdi_enlarg/index_en.htm.

[20] The latest reports can be found on http://ec.europa.eu/growthandjobs/key/nrp2007_en.htm.

but too many children still do not complete secondary education. The effective retirement age has increased across the EU, but it is still below 60 in a third of EU countries. This slow progress has lead some to question whether the program has influenced national reform programs (Centre for European Reform, 2008)

Debrun and Annett (2004) found some evidence that within the EU, smaller countries are more reformist. They measure progress on structural reforms by an index built on data on regulatory restrictions collected by the OECD, and combining it with the Social reforms database compiled by the Fondazione Rodolfo DeBenedetti. Reviewing the Lisbon strategy's "open method of coordination," they conclude that the method has not lived up to expectations, but remains appropriate given the EU's overall governance architecture, especially in the area of labor market reforms that are largely in the realm of national decision-making. They propose improving the open method by focusing on labor participation; greater use of "naming and shaming"; further progress on product market reforms; and more leadership on structural reforms by large countries.

After a thorough evaluation led by former Dutch Prime Minister Wim Kok, the Lisbon Agenda was relaunched in 2005. The focus was shifted from quantitative targets to specific policy actions, labor market reforms were given priority, and "naming and shaming" was downplayed.[21]

To examine the impact of the re-launched Lisbon agenda on structural policies, including in the NMS, we have updated the analysis by Debrun and Annett (2004). The results suggest that the factors explaining the likelihood of reform in the NMS are not fundamentally different from those explaining the performance of the OMS and non-EU OECD countries (Table 5).[22] For example, even for the NMS one finds that smaller countries tend to be more reformist. Also, the countries with better fiscal performance tend to perform better on structural reforms.[23] This highlights the central role played by fiscal policy in these countries, and an additional possible beneficial effect of the EU framework acquired by accession.

As regards labor market developments in NMS, faster-reforming countries have had better unemployment records and have been best placed to experience job-creating growth (e.g.,

[21] See: http://europa.eu/scadplus/leg/en/cha/c11325.htm

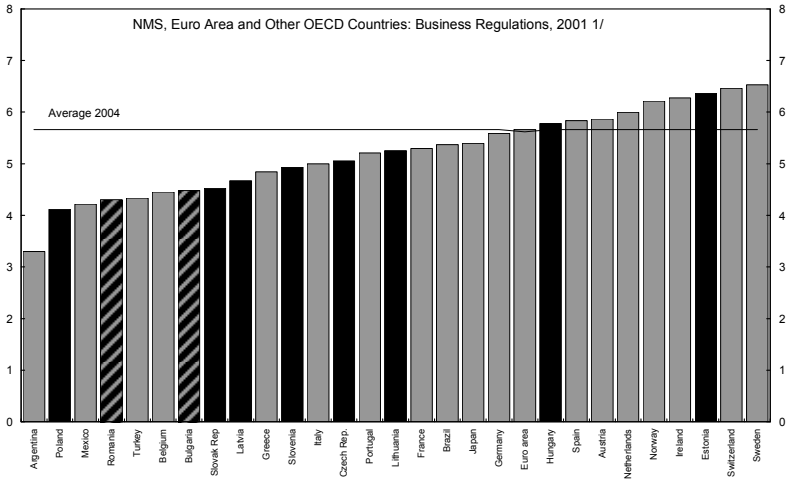
[22] The results are consistent with Tressel (2008), who investigates the effects of financial and trade reforms on manufacturing output performance in a large sample of developed and developing countries, finding that reforms of the financial sector improve the efficiency of intermediation by reallocating capital towards sectors that need it most, and contribute in improving countries' resilience to external shocks. Trade reforms foster output growth in export sectors that rely more intensively on imported intermediated goods. He also finds that trade and financial sector reforms are more effective in countries with a better protection of property rights.

[23] This is consistent with the finding by Annett (2007) for advanced EU countries that in most successful labor market reforms, fiscal adjustment and labor supply reforms were complementary, especially when the adjustment was expenditure-based.

Schiff and others, 2006). This points to the need to complete the structural reform process and remove the remaining bottlenecks that have hindered faster reallocation of resources and reduced unemployment. Labor market policies have some, but not a dominant, influence over labor market outcomes. It appears that those countries with more flexible policies are better able to take advantage of positive macroeconomic shocks with higher employment and lower unemployment rates.

Labor markets in the NMS are more flexible than those in the OMS, but less flexible than those in non-EU emerging markets. Measures of labor market flexibility provide comfort that the NMS are in general relatively well positioned to adjust to shocks. Compared to the OMS, employment protection legislation in the NMS is less restrictive, minimum wages are lower, collective bargaining structures are less centralized, and unemployment benefits are less generous (Boeri and Garibaldi, 2006). However, the same is true in reverse when the NMS are compared with non-EU emerging markets. Also, there is variation in labor market flexibility across the NMS, with wages being more responsive to productivity and unemployment in the Baltic countries than in the Central European NMS (von Hagen and Traistaru-Siedschlag, 2006).

In the EU as a whole, goods markets are relatively well integrated, but the internal market in services remains rather fragmented. This has been reflected in particularly sluggish productivity growth in services (IMF, 2008). Competition in the network industries (such as telecoms and energy) is uneven, with incumbents continuing to dominate national markets. Progress at national level has been equally inconsistent. As a result, there are still marked variations between the best- and worst-performing countries. In the NMS, product markets are relatively tighter than in the OMS, and business regulations tend to be more onerous (text chart). For example, in many of the NMS, there is still virtually no competition in the telecom market. Many of the new members are further from the technological frontier than the major OMS economies. However, at their stage of development, they are still well-placed to adopt technologies developed elsewhere to drive productivity growth. In many of the new member-states, quasi-monopolies still import, transport and distribute all natural gas. This underscores the importance of the Services



Source: OECD.
1/ Sorted by 2004 values. The scale of indicators is 1-10 from most to least regulated; Euro area (simple average).

Directive. Judicious and, where possible, accelerated implementation of this Directive, which should be fully implemented by end-2009, should benefit the NMS and help them catch up with the OMS.

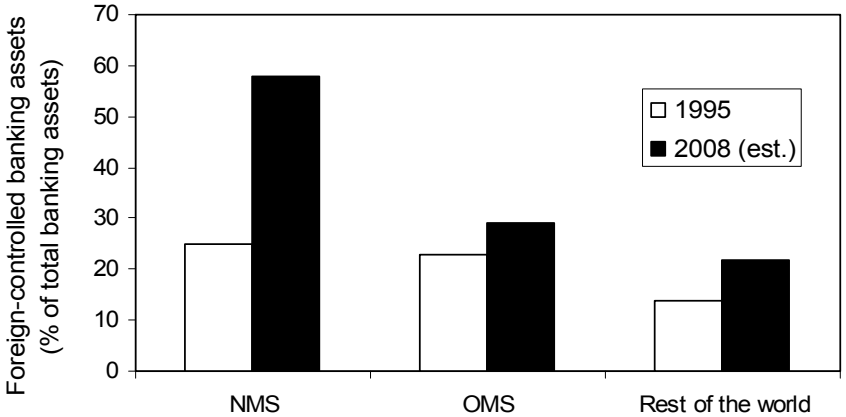
The bottom line from this analysis is that the Lisbon agenda seems to have had a relatively larger impact on structural policies in the NMS. In some of the "old" EU member states (especially the larger ones), the soft targets of the EU's reform agenda do not seem to have done much to spur governments into action. But in small countries and in many of the NMS, governments have discussed their Lisbon-related 'national reform programs (NRPs) in their respective parliaments, as well as with trade unions, business federations and other parts of civil society. Some of these countries only developed innovation and research policies as a result of the Lisbon process.

What has been the effect of structural policies on economic developments in individual NMS? There is an extensive literature on positive long-term effects of structural reforms (e.g., Tressel, 2008). An interesting, and more controversial, question is whether the reforms had an impact on economic developments in the NMS during the recent crisis. Interestingly, the NMS countries that have so far seen the largest increases in spreads during the crisis (e.g., some of the Baltics) scored highly on structural indicators, such as the World Bank's Ease of Doing Business Rank, while the countries that have so far been the least effected (in particular, Slovenia, Czech Republic, and Poland) had relatively lower scores on those rankings. This illustrates the fact that the size of the macroeconomic and financial imbalances prior to the crisis may be more important than the extent to which countries had pressed ahead with reforms. A full examination of this topic would go beyond the scope of this paper.

D. EU Membership, Financial Integration, and Financial Stability

The financial sector has played an important role in the NMS's rapid economic convergence. EU membership has had a major impact on financial sector policies in the NMS, along two main dimensions: financial integration policies and financial stability arrangements. These dimensions are intertwined, as closer cross-border financial integration necessitates closer cross-border integration of financial stability arrangements.

The integration process between new and old member states started well before the former's EU accession, as they



Source: Authors' calculations based on data from International Financial Statistics and ©2003 Bureau van Dijk Electronic Publishing-BankScope.

revamped their regulatory and supervisory systems in line with EU standards, removed capital account restrictions, and saw financial institutions from the old member states become major players in their home markets, partly in anticipation of EU membership. It has continued unabated since then, as accession further reduced the impediments to financial integration. One measure of the degree of integration is the share of foreign-controlled banking assets, which has increased substantially in the NMS, and is higher than in the rest of the world (text chart).[24]

While this process unfolded, the old member states went through a historic period of financial integration among themselves. The driving forces were monetary union (1999) and the Financial Services Action Plan (1999–2005).[25] This Plan aimed to modernize and harmonize the regulatory framework for the financial sector, in the realization that this was a necessary precondition for monetary union to result in a single financial market. Cornerstones of the Plan were the Capital Requirements Directive (CRD), the Solvency II Directive, and the Markets in Financial Instruments Directive (MiFID), which aimed to overhaul regulation for respectively the banking, insurance, and securities sectors. While the CRD and MiFID are now in effect, discussions continue with respect to Solvency II.

The challenges encountered in realizing the Financial Services Action Plan and ensuring consistency in implementation across countries gave birth to the Lamfalussy framework, which was proposed in 2001 by a group of wise men chaired by Alexandre Lamfalussy.[26] This framework aims to facilitate financial sector rule making at the EU level, allow for quicker adjustments in those rules when the need arises, and achieve a more consistent application of these rules at the national level. The so-called Level 3 Committees of the Lamfalussy framework[27] bring together the national supervisors, and have been tasked with much of the burden of achieving the desired convergence. The December 2007 ECOFIN launched a road map of reforms to reinforce these committees. [28]

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[24] See section II.B for a more detailed discussion of the financial integration and deepening.

[25] Since the Treaty of Rome in 1957, the EU has sought to create a single financial market. Despite major progress toward this objective, notably as a result of monetary union and the FSAP, gaps remain. Since the completion of the FSAP in 2005, integration policies to address these gaps have been guided by the White Paper on financial services policy 2005–10: http://eur-lex.europa.eu/LexUriServ/site/en/com/2005/com2005_0629en01.pdf .

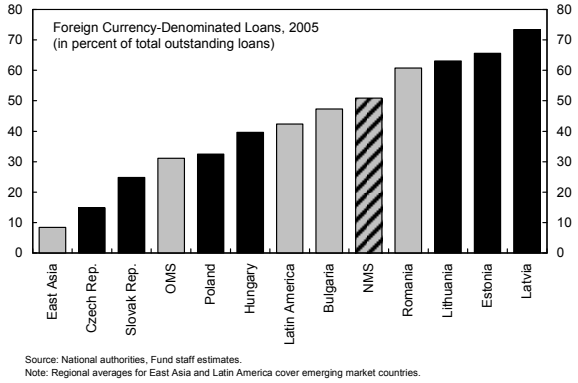
[26] http://ec.europa.eu/internal_market/securities/docs/lamfalussy/wisemen/final-report-wise-men_en.pdf

[27] These are, the Committee of European Banking Supervisors (CEBS), the Committee of European Securities Regulators (CESR), and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS).

[28] http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ecofin/97420.pdf

EU membership and financial sector soundness in the NMS

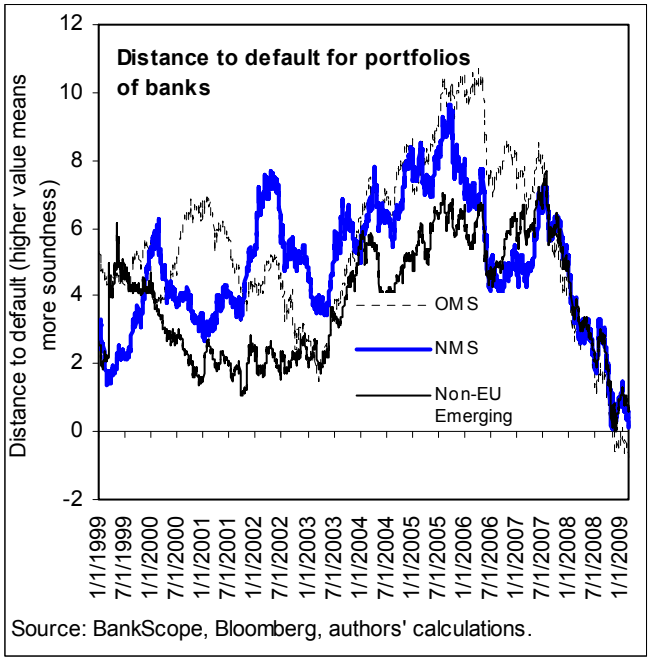
Five years after EU entry, the bottom line assessment of financial sector soundness in the NMS is mixed. In many respects, the banking systems of the NMS have held up relatively well so far in the global financial crisis. There have been no systemic failures, no generalized loss of depositor confidence, and no breakdown of essential financial functions. Nonetheless, the outlook is challenging. This reflects the considerable risks (with real and financial risks being interlinked) that have developed in the NMS in recent years. These risks are becoming more acute and are partially materializing due to the global financial crisis. Financial integration has contributed to the build-up of risks by loosening financial constraints, triggering capital inflows, credit growth, and asset price increases, which in turn allowed rapid growth in domestic demand. A particular source of risk in some of the NMS countries is that the rapid credit growth has been accompanied by a growing share of loans denominated in foreign currencies (text chart). The main underlying risk is that credit may have been extended too quickly, without sufficient risk assessment, and insufficiently taking into account the potential for risk correlation due to macroeconomic developments. Potential adverse outcomes of such a risk build-up at the macro level are overheating, loss of competitiveness, scenarios of prolonged sluggish growth, shocks to expectations and income growth, "sudden stops", interest rate and exchange rate instability, and asset price corrections. At the time of writing, some of these outcomes were materializing.



Source: National authorities, Fund staff estimates.
Note: Regional averages for East Asia and Latin America cover emerging market countries.

The basic financial soundness indicators paint a mixed picture of the financial health of the NMS banks over the last five years (Table 8). On the positive side, these banks have been highly profitable, booking returns on assets and equity that exceed not only those in advanced economies, but also in other emerging markets. Also, their nonperforming loan ratios have been below other emerging markets, and declining over time. However, both the profitability measures and the nonperforming loan ratios had been propped up by the rapid growth of loans and are bound to worsen substantially as the crisis affects loan performance and banks' revenues. Unfortunately, the NMS banks are on average less capitalized than their emerging market counterparts, and there is evidence that relatively weak banks have expanded fast (Tamirisa and Igan, 2008). An important issue in this context will be the willingness and ability of the banks' owners (mostly OMS banks) to inject additional capital when needed and sustain the intra-group credit lines on which many depend (Aydın, 2008).

Market-based indicators of financial sector soundness suggest that the health of NMS banks has become rather closely correlated to the health of the OMS banks.[29] This reflects the closer integration between the NMS and OMS banking systems, as well as the impact of tightening global conditions on both groups of banks.[30] They both appeared to have been doing relatively well around 2005, but the global financial crisis, combined with the uncertainties about some of the domestic risks, has brought their distance to default measures close to or even below zero in late 2008 and early 2009 (text chart).



Source: BankScope, Bloomberg, authors' calculations.

Underlying this aggregate assessment for the NMS as a whole are important cross-country differences in bank soundness. This can be seen in the financial soundness indicators (Table 8) and in the cross-country dispersion of market-based indicators such as the distance to default measures.

EU membership and prudential regulation in the NMS

Domestic financial stability arrangements in the NMS have been to a large extent influenced by EU policies and directives. EU membership has implied adoption of the EU's regulatory framework, including the Capital Requirements Directive and the other Directives adopted under the Financial Services Action Plan (see above).

This has led to improved regulation and supervision. An analysis of the IMF's assessments of regulatory and supervisory quality in individual EU countries (Box 3 and Table 7) suggests that regulatory and supervisory frameworks in the NMS countries were of higher quality than those in comparable non-EU emerging markets (especially in the areas of insurance and securities regulation), which can be attributed to the harmonization of the regulatory frameworks in the EU. Within the EU, regulation and supervision in the OMS countries were

[29] The correlation coefficient of OMS and NMS bank distance to default was 0.82 for May 2004–November 2008 (0.71 if the turbulent period since August 2007 is excluded), up from 0.26 in January 1999–April 2004. For comparison, the corresponding correlations were 0.62 and 0.42 for OMS and U.S. banks, and 0.65 and 0.37 for OMS and Asian banks, respectively.

[30] Čihák and Ong (2007) decompose the global impacts from spillovers, using a model based on extreme value theory, and find evidence of increasing cross-border spillovers among large EU banks. From the NMS, their paper includes one Hungarian bank. Extending their analysis to other NMS banks confirms that this finding holds even for the broader sample, with spillovers going mostly from OMS banks to their subsidiaries, but also (for the Baltics) with spillovers from the NMS to the OMS banks (results available upon request).

of significantly higher and more even quality than that in the NMS. (However, supervision in the OMS also faces more complex financial systems, and the global financial crisis that started in 2007 exposed significant inadequacies in the supervisory systems of at least some high-income countries relative to the complexity of their financial systems). The analysis suggests that financial supervisory systems in the NMS are generally of high quality but need to evolve further to close remaining gaps and meet new challenges.

Many of the above gaps were recognized by EU and national authorities, and are being addressed as part of the EU's Financial Services Action Plan and other initiatives (the assessments were undertaken while the implementation of the Plan was at various stages of completion). Among many things, the Plan comprised directives on the winding-up and liquidation of banks and insurance undertakings, an EC recommendation on disclosure of financial instruments, and substantial improvements to the Anti-Money Laundering framework by means of an amendment to the EU's money laundering directive. Moreover, as the Lamfalussy process is gaining traction, its impact on the quality of supervision is increasingly being felt. Also, prudential authorities have undertaken substantial improvements in their cross-border cooperation through formal memoranda of understanding (MoUs) and other efforts. Progress in regulatory frameworks was confirmed by recent FSAP updates and other IMF surveillance work.

Box 3. Quality of Regulatory and Supervisory Frameworks in NMS

This box updates of the work of Čihák and Tieman (2007), analyzing regulatory and supervisory frameworks in the EU member countries, using assessments carried out under the IMF–World Bank Financial Sector Assessment Program. The FSAP has so far covered about two-thirds of the IMF membership, including virtually the whole EU, and is therefore an important source of comparable information on the quality of supervisory frameworks. The published assessments and other relevant materials are available at http://www.imf.org/external/np/fsap/fsap.asp.

Methodology. Regulatory and supervisory quality in the EU countries is measured using information contained in countries' observance of internationally accepted standards in banking, insurance, and securities regulation ("standards"). The relevant standards are the Basel Core Principles for Effective Banking Supervision (BCP); the Insurance Core Principles (ICP) by the International Association of Insurance Supervisors (IAIS); and the International Association of Securities Commissions' (IOSCO's) Objectives and Principles of Securities Regulation. Following IMF (2004) and Čihák and Podpiera (2006), the extent to which each core principle is observed is measured on a scale from 0 (nonobserved) to 100 (fully observed). The compliance scores do not necessarily give the full picture of supervisory quality, but they do look at supervisory implementation (not only on "regulations on the books"), and have proven useful in previous research.

Results. The main result of the analysis (Table 7) is that the level of observance in the NMS countries was higher than in comparable non-EU emerging markets. The difference was insignificant in banking supervision and regulation, but it was significant in the areas of insurance and securities. This result (which is confirmed even when the compliance indices are regressed on GDP per capita and a dummy for EU membership) can be attributed to the harmonization of the regulatory frameworks within the EU, and the fact that banking regulation generally shows less cross-country variation than insurance and securities.

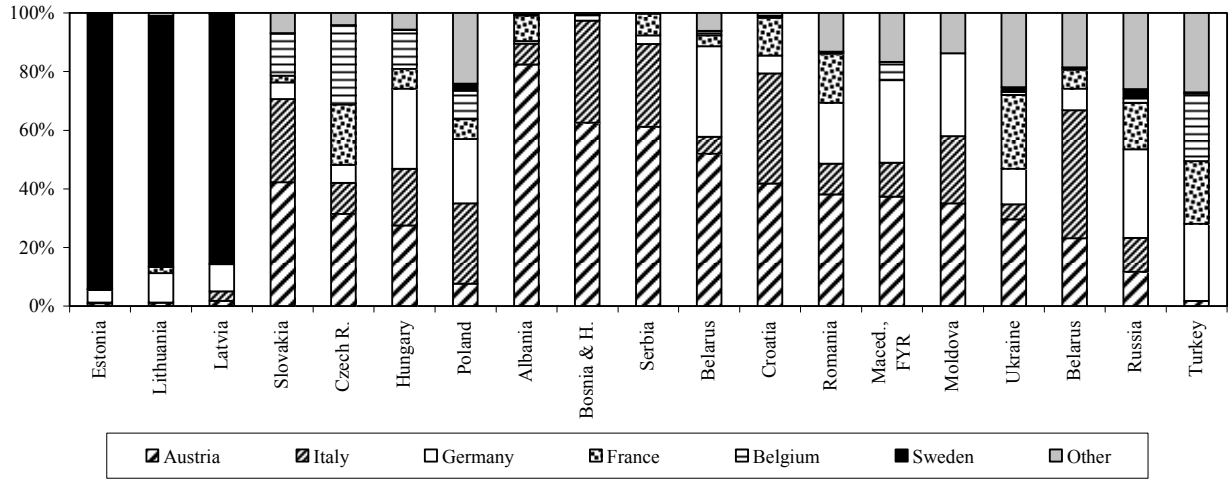
Within the EU, the level of observance in the OMS countries was significantly higher (by 13–18 percentage points on average), and less uneven than in the NMS (the standard deviation being 4–10 percentage points lower on average). This is consistent with the findings of Čihák and Tieman (2008) that financial supervisory systems in high-income economies are of higher quality than those in medium- or low-income economies. However, supervision in high-income countries (such as the OMS) also faces bigger challenges, as they are characterized by more complex financial systems. Indeed, the global financial crisis of 2007–08 suggested that the quality of supervisory systems in high-income countries may not have been sufficient given the complexity of their financial systems.

Areas for improvement. The analysis of compliance with international standards suggested several specific areas for attention. In banking, the areas most in need of improvement included supervision of other risks; connected lending; issues related to money laundering; supervisory objectives, autonomy, powers, and resources; remedial measures; and consolidated supervision. In insurance regulation, the number of areas with low observance was much higher than in banking, ranging from market conduct issues to internal controls, derivatives and off-balance-sheet items, organization of the supervisor, corporate governance, assets, onsite inspection, licensing, and cross-border business operations. In securities regulation, the number of low-compliance areas was relatively smaller than in banking and insurance. The main areas for improvement relate to enforcement powers, compliance program, capital and other prudential requirements, powers, resources, capacity, and operational independence and accountability.

At the same time, the financial environment changed substantially since the launch of the Financial Services Action Plan, and new challenges have emerged. Perhaps the main ones are those related to increased cross-border financial integration, which has brought not only important benefits, but also new risks. Given their dependence on foreign banks and cross-border financial flows, and their open economies, the NMS have limited control over their own financial stability. Moreover, the cross-border exposures have become rather concentrated—most of the foreign banks are branches or subsidiaries of a handful of banks from a subset of the OMS, especially Austria, Italy, and Sweden, but also Belgium and France (see text chart). The concentration is particularly strong in the three Baltic countries, where the system is dominated by affiliates of Swedish banks (Wajid and others, 2007).[31] This high concentration is associated with increased potential for contagion through financial interlinkages (e.g., Árvai, Driessen, and Ötker-Robe, 2009).

[31] The chart also shows that the issue is not limited only to the NMS banking systems, and it is faced by a number of other European emerging markets. Slovenia, an NMS country with an exceptionally low ratio of foreign-owned banks, is not included in this text chart.

Concentration of NMS and Other Emerging European Exposure to OMS Banks 1/



Source: BIS Quarterly Review, December 2007.
1/ Emerging Europe exposure to Western European banks is defined as the share of the reporting banks in each Western European country in the total outstanding claims on a given emerging European country (bank and nonbank sectors).
2/ Western European banks' exposure to emerging Europe is defined, for each Western European country, as the share of each emerging European country in the total outstanding claims of the reporting banks in that Western European country.

Financial sector policy challenges presented by the global financial crisis

The ongoing global financial crisis has challenged existing financial sector policy frameworks to the core. For the NMS, it raises the question whether the progress they have made on various fronts will prove sustainable. Safeguarding these achievements will require, in the short run, containing the crisis and limiting its adverse impact and, in the medium term, strengthening financial stability arrangements in ways that ensure that their economies continue to reap the benefits of financial integration. On both fronts, close cooperation between OMS and NMS will be essential. The crisis is in many ways an opportunity to build up mutual trust and cross-border cooperation, thus solidifying the financial links between the OMS and NMS to the benefit of all.

In managing the crisis, close cooperation between home and host countries will be needed with respect to the cross-border banking groups on which the region depends. It is in the best interest of both home and host countries that these groups continue to operate as cross-border entities. Even in case of a hypothetical insolvency, resolving such a group at the group level will be much more cost-efficient than dismantling it along national lines, cutting its cross-border operational integration, and resolving the national pieces separately. Most importantly, such a break-up approach would increase the risk of a disorderly cross-border bankruptcy along the lines of Lehman Brothers.

In the face of the current crisis, the general strategy toward the banking system ought to include realistic loss recognition; a forward-looking assessment of the soundness and viability of banks, taking into account the likely losses as a result of the ongoing deep recession; on the basis of this assessment, a triage of banks into sound institutions, viable institutions in need of recapitalization and/or restructuring, and unviable institutions; prompt

action to recapitalize and restructure the viable institutions in order to remove doubt about their soundness and restore their lending capacity (using private capital where possible); prompt action to resolve the unviable institutions, differentiating between non-systemic and systemic ones (closing or winding down the former, and nationalizing in whole or in part the latter, with a view to restructuring their systemic activities); and ring-fencing of impaired or difficult-to-value assets (see, among others, IMF, 2009a; 2009b).

Applying such a strategy to cross-border groups requires close cooperation and attention for the interests of all countries involved. Measures that could be considered to support these groups include joint recapitalizations, at the group level, in return for a commitment from these groups to use the capital to maintain their activities in all participating countries; home and host authorities sending a strong, joint signal to cross-border banks that they have responsibilities toward each of the countries in which they are active; asking banks to report periodically to a joint body of home and host country authorities (e.g., the supervisory college) on how they are fulfilling their commitments toward these countries and any problems they are experiencing. It is equally important that the authorities in home and host countries signal their determination to behave responsibly toward those banks, avoid seeking the nationalization of host country activities or the direction of credit flows toward specific national markets or industries, and refrain from obstructing the free flow of funds across borders within those groups. To underpin this commitment, home and host country authorities should engage in contingency planning to deal with solvency problems at the group level.

Even with bank support solidly in place, some form of debt restructuring might be needed for highly indebted households and firms. However, any such scheme should be targeted, tailored toward reducing the short-term debt servicing costs of temporarily distressed borrowers, reducing the overall debt levels of overindebted consumers, and restructuring or otherwise resolving overindebted companies. Blanket debt forgiveness should be avoided because this would not be cost-efficient, it would create moral hazard and undermine a sound credit culture (at a time when the region is still in the process of building up such a culture), and it would risk undermining the confidence of foreign banks in the viability of the NMS markets.

With respect to the medium-term challenge, the financial crisis has taught some highly relevant lessons regarding the kinds of reforms that financial stability frameworks need:

- *Financial risks have become cross-border in nature, notably within the EU's integrating financial market.* For most of the NMS, the crisis initially had an imported character. The crisis was sparked in the United States, and reached Central and Eastern Europe largely through real and financial linkages with the OMS. However, once the crisis took hold in the NMS, it was exacerbated by homegrown vulnerabilities. In turn, OMS banks that are active in the NMS were affected, thus completing a feedback loop to the OMS.

- *Under the present EU home-host arrangements, containing a build-up of financial risks can be difficult in countries with an extensive foreign bank presence.* In the years prior to the crisis, many national authorities and outside observers raised alarm bells over risks related to the rapid growth of credit in the NMS. Nonetheless, the national authorities generally found themselves lacking effective powers to contain those risks. A major factor was the fact that they only had partial prudential control over their financial systems. Subsidiaries and branches of foreign banks were de jure or de facto largely under the control of their home country supervisors. While improving over time, cooperation with these home country supervisors was not always flawless, and there was a general sense among regulators and supervisors in the NMS that they could not tighten prudential requirements without putting locally-owned institutions at a disadvantage. Moreover, the EU's efforts to harmonize regulations and achieve convergence of supervisory practices limited the scope for the new member states to adjust prudential requirements in function of local circumstances. The end result was a major buildup of risks that could not adequately be countered by a tailored prudential response. In this context, some NMS supervisors called for greater host country control.[32]

- *Bank failures are not a remote and abstract risk, and their handling remains a major challenge under existing legal and prudential systems.* The crisis has led to bank failures around the world, including in the old and new member states. Almost universally, authorities have found themselves wishing they had better tools and frameworks to handle these failures cost-effectively.[33] The US authorities' decision to allow Lehman to go bankrupt turned out to be much costlier than expected in terms of collateral damage. The UK authorities were faced with the country's first bank run since the 19th century and had to nationalize several of the country's biggest banks, including some with extensive European and global operations. The Belgian government had to revise and renegotiate its rescue strategy for the Belgian activities of Fortis because it needed to obtain shareholder approval. The German government had to vote special legislation to deal with troubled banks. And, in the NMS, Latvia found itself forced to nationalize its biggest domestic bank. A basic challenge common to these cases was the need to reach a balance between the public interest and the legal rights of specific parties, notably bank shareholders and creditors. Clearly, better mechanisms are needed to prevent, manage, and resolve bank failures cost-effectively.

- *Handling the failure of a cross-border financial group involves an additional layer of complexities and challenges. It can cause significant tensions between home and host countries that may stand in the way of cost-minimizing solutions.* None of the major

[32] See, for example, Bednarski and Bielicki (2006) and Carletti, Čihák, and Fonteyne (2008).

[33] See for example, "Paulson says U.S. lacked tools to tackle crisis: report" (Reuters, December 30, 2008).

cross-border banks active in the NMS has failed in the current crisis. To understand what could happen in such a case, one therefore has to look at other cases in the EEA. Cross-border banks with predominant home activities or with dispersed international activities (such as ING and RBS) have generally been supported by the home country when hitting trouble. However, this support has often been accompanied with increased financial protectionism, in the form of demands that banks prioritize domestic lending. More problematic cases have been those where the problems of banks exceeded their home country's capacity to offer support (the Icelandic banks) and truly multinational banks. In those cases, holding up the letter and spirit of existing arrangements has proven hard. In the case of Fortis, a burden-sharing agreement was reached between the three governments involved (Belgium, the Netherlands, and Luxembourg), but this agreement fell apart within two days. Markets and depositors continued to lose confidence and Fortis could not be saved as a going concern, resulting in a further loss of value as the operational integration of the group was undone in a split along national lines. Cross-border group Dexia, by contrast, was stabilized thanks to a cooperative effort, including a burden-sharing agreement, by the Belgian, French and Luxembourg authorities as well as private shareholders. For the NMS, the main challenge has been determining the extent to which foreign banks active within their borders could benefit from support put in place by their home countries or had to rely on their—usually less resourceful—hosts.

- *Destabilizing spillover effects can occur when financial crisis management approaches are not coordinated within the single EU market.* The NMS have also had to cope with spillover effects from crisis management measures taken in the OMS. As the crisis intensified after the Lehman bankruptcy, various EU member states unilaterally introduced crisis management measures, notably guarantees for deposits and other forms of bank debt, without prior consultation with or notification of their EU partners. In a single financial market, this tends to trigger the reallocation of funds toward such guaranteed forms of debt. Banks in other countries may have seen a tightening of their own funding constraints as a result, and hence have become more vulnerable themselves. Thus, while these measures helped to stabilize the banks that benefited from them, the lack of coordination created new problems and was generally perceived to have had a negative impact on market confidence.[34] Fortunately, the coordination of crisis management measures improved as time passed by and the EU institutions sought to limit competitive distortions. Nonetheless, when state backing becomes so important, the resources and credit ratings of governments become a major factor in determining the soundness of banks. Locally-owned banks in the NMS (as well as those in the poorer OMS) may have been put at a significant disadvantage as a result.

[34] See, for example, "European Crisis Deepens; Officials Vow to Save Banks" (Bloomberg, October 6, 2008).

- *Decision-making in financial crisis situations quickly moves to the political level, thereby being subjected to the incentive structures that politicians face.* This can make it difficult to follow through on non-binding ex-ante commitments, whether they are domestic (e.g., enforcing moral hazard avoidance) or international (MoUs and understandings on crisis management approaches and principles). While preparations for crisis management have largely been a matter of supervisors and central banks, until recently with limited involvement even of Ministries of Finance, governments quickly took charge as the crisis unfolded. Continuing a pattern seen already in the case of Northern Rock, when the electorate's savings are at risk, governments come under such political pressure that they cannot leave matters to technocrats (as can be expected in a democracy). Prime Ministers and Ministers of Finance have taken charge of managing the crisis, especially after it became clear that use of the public balance sheet would be needed. The side effect of this was that the understandings and experience built up among the technocrats prior to the crisis substantially lost relevance.

An overriding challenge demonstrated by the crisis is that, despite major improvements, the EU's cross-border financial stability arrangements still fall short of what is needed to maintain financial stability in ways that are consistent with continued progress toward an integrated market. The non-binding commitments that had been made prior to the crisis, notably the ECOFIN crisis management principles and the June 2008 crisis management MoU,[35] proved of limited value in managing the crisis. This was due not only to the political dynamics that focused the attention on the interests of the relevant electorate, there were also practical difficulties in coordinating through the elaborate network of cross-country coordination structures while being under the immediate and continuous pressure of a domestic crisis. Clearly, and despite the gradual improvement of crisis management coordination and cooperation over time, the fundamental problem was that relevant decision-makers had limited incentives to work toward the common EU objectives enshrined in the principles and the nonbinding network of MoUs. An added problem was that there was no neutral "arbiter" or "referee" that could help overcome differences of view and monitor adherence to the ex-ante commitments.

[35] In 2007, the EU adopted a set of cross-border crisis management principles and a supporting Memorandum of Understanding (MoU). These principles commit member states to act in crises to minimize the "potential harmful economic impacts at the lowest overall collective costs." If public resources are needed to achieve a cost-minimizing solution, then direct budgetary net costs are to be "shared among Member States on the basis of equitable and balanced criteria." The MoU seeks to implement these principles. It commits member states to putting in place national and cross-border arrangements to manage financial stability problems, a set of common guidelines for crisis management, and a common assessment framework to determine the systemic nature of a crisis. Meanwhile, work is ongoing to overhaul the legal framework to deal with solvency problems in cross-border banks. This work covers improvements to deposit guarantee schemes, a framework for early intervention and reorganization measures, and an assessment of obstacles to the transfer of assets across borders.

The intensification of the crisis came at a time when the EU's financial stability arrangements were a work in progress. The ECOFIN crisis management principles were only in place for a year, the MoU that underpinned them had only been adopted in June 2008 and its implementation was just getting underway, and the Capital Requirements Directive had only been fully effective since January 1, 2008. The harmonization of prudential regulations and supervisory practices was still far from complete, and many aspects remained under review or discussion.

The NMS have much to gain from further reforms of the EU's financial stability arrangements. Such reforms are now being debated, following the publication of the so-called "De Larosière Group" report in February 2009 (Appendix III). The NMS will need to be proactive in this debate, to ensure that their interests are adequately taken into account. Being predominantly smaller host countries with limited fiscal resources that benefit greatly from the single financial market, they have a particular interest in reforms that better reconcile the interests of home and host countries. The interdependencies exposed by the crisis and the fundamental nature of the incentive problems argue for some system of joint responsibility and accountability (Decressin, Faruqee, and Fonteyne, 2007) for financial stability. The ECOFIN crisis management principles go a long way toward this joint responsibility and accountability. In many respect, with their emphasis on safeguarding stability in all member states and collective cost minimization, they are exactly what the New Member States need. However, the challenge ahead is to build systems that will ensure consistent adherence to these principles.

Beyond adherence to the crisis management principles, the NMS need to seek greater coordination among the prudential agencies that have authority relevant to their national financial stability, including in non-crisis times. The financial stability challenge in an integrating market has two main dimensions: maintaining the stability of entities that straddle across countries and maintaining the stability of countries with financial systems consisting of a mixture of institutions of different nationalities. The EU's efforts have mainly focused on the first dimension, which it has sought to address through cooperation and coordination between home and host authorities. It is now seeking to enhance this cooperation even further through the systematic use of colleges of supervisors. The second dimension is explicitly recognized in the new crisis management principles, which state that "the objective of crisis management is to protect the stability of the financial system in all countries involved and in the EU as a whole." However, this recognition of shared responsibility for national financial stability has not been translated into firm mechanisms. One way to proceed would be to put in place something akin to the "colleges of supervisors," bringing together all supervisors that oversee significant parts of a national financial system. The (host) NMS would benefit (as would home country authorities, who could improve their understanding of the risks their institutions face in their operations in host markets).

There is a need for closer cooperation between central banks and supervisors, and a need to take financial stability into account in macroeconomic policies. The ongoing crisis has not

only shown that central banks need to be closely involved in financial stability so as to be ready to intervene during a crisis, it has also illustrated that supervisors often have difficulties appropriately taking the macrofinancial and systemic dimensions into account in their day-to-day oversight, which tends to be focused on individual institutions. Central banks have the right tools and capabilities to fill this gap. But to do so effectively, they need access to all relevant information.

Finally, regulation and supervision in the NMS still need to catch up with those in the OMS. This will be a moving target as prudential frameworks worldwide will undoubtedly be adapted significantly in the years ahead. The U.S. mortgage crisis has also shown the importance of consumer protection policies as a pillar of financial stability. It is a tool the NMS can use, given that consumer protection remains a national responsibility with only limited EU-wide harmonization. However, effective enforcement of consumer protection arrangements can be challenging, in particular when judicial and administrative systems have deficiencies. Efforts to boost financial education can also be an important complement to improvements in the prudential framework.

E. EU Membership and Macroeconomic Crisis Management

Has EU membership helped the NMS in managing the fallout from the current global financial crisis? It is too early for a full-fledged assessment, since the crisis is still ongoing, and since domestic policies play at least as important a role as EU-level policies. Nonetheless, some preliminary lessons are possible.

First, EU membership of course does not eliminate the possibility of a macro-financial crisis, as illustrated by the examples of Hungary and Latvia. The stabilization criteria and the associated policy frameworks can limit the likelihood of major distress, but they do not eliminate it, because of their limitations, because of the impact of global shocks, and because much depends on national policy implementation. The cross country differences in policies have been reflected in the sovereign spreads.

Second, EU membership has had some advantages for the NMS during the crisis. One specific element is the EU's balance of payments facility, which has provided a safety cushion in a situation of distress, although the capacity of this facility has fallen short of the needs. Another element is the establishment of repo arrangements by the ECB with some NMS central banks, which has been helpful.

Third, the crisis has illustrated one important side effect of the close economic and financial linkages between the NMS and the rest of the EU: measures taken in one or more of the OMS can have relatively strong consequences in the NMS. For example, an increase in the deposit insurance coverage in one of the OMS can bolster the confidence of depositors in that country's banks, but it can trigger deposit withdrawals from elsewhere in the EU, including

some of the NMS. This argues for close policy coordination between the NMS and OMS, especially in crisis situations.

Could more be done within the EU if the impact of the global crisis on the NMS worsened? The answer depends on the nature of the impact. If it had the form of balance of payments problems, the EU has a balance of payments support facility that has been tested in the cases of Hungary and Poland, in cooperation with the IMF (Box 4). If the impact had the form of temporary shortages of euro liquidity in (non-euro area) NMS, it might be helpful for these NMS to have in place temporary reciprocal currency arrangements (swap lines) with the ECB. For the NMS central banks, the obvious benefit of such arrangements would be a greater capacity to provide euro funding for both term and overnight liquidity operations. For the ECB, establishing such swap lines would necessarily involve careful weighing of the risks involved in such operations with potential benefits (such as the reduction in the potential for negative spillover effects from the NMS into the euro area).

Box 4. EU and Balance of Payments Support to Hungary and Latvia

One of the first emerging markets to suffer from the fallout of the global financial crisis was Hungary. As financial difficulties in advanced economies led to a decline in global liquidity and an increase in risk aversion, investors increasingly started differentiating among emerging markets. Hungary's high debt levels and significant balance sheet mismatches negatively affected investor appetite for Hungarian assets. While there was an earlier short episode of financial stress in March 2008, Hungary's financing conditions deteriorated sharply in mid-October 2008.

Article 119 of the Treaty Establishing the European Community requires that a non-euro area member country consult with the European Commission and the European Union's economic and financial committee on its balance of payments needs before seeking assistance from other sources. Prior to the recent events in Hungary, no operating procedures had been developed for such interaction between the EU and the IMF. The process as developed in the case of Hungary (see IMF, 2008b) could, however, become a reference on how to proceed should further cases of a similar nature arise—i.e., EU member states that are not participating in the ERM II mechanism.

The next NMS country in difficulties was Latvia, which had started to experience a sharp downturn in output growth and external funding pressures in 2008. Against this background, the Latvian authorities have asked the IMF, together with the EU, to provide technical and financial support. It has become clear that exceptionally strong domestic adjustment policies, sizeable external financing, as well as broad political consensus in Latvia would be needed to maintain the country's exchange rate parity and band.

IV. CONCLUSIONS

The entry of the NMS into the EU was a historic event, bringing under one roof countries that were separated by the "iron curtain" for four decades. The implications were far-

reaching, including on macro-financial developments in the NMS. Although it is still early days for a full assessment, it is clear that a significant degree of economic and financial integration between NMS and OMS has materialized, continuing a process that started more than a decade before the 2004 accession date. Trade linkages have become extensive and financial integration has been reflected in the domination of NMS financial systems by a handful of OMS-headquartered financial institutions, while also allowing rapid financial deepening.

The empirical analyses in this paper show that this increased economic and financial integration has been accompanied by rapid economic growth in the NMS, faster than what could be expected given their economies' fundamentals. This rapid economic growth has been accompanied by price convergence towards OMS levels. As a result of the integration and the rapid real and nominal growth, the distinction between NMS and OMS has become increasingly obsolete, with some NMS countries for instance already exceeding per-capita GDP in some OMS countries.

The increased economic and financial integration also carries some risks, including greater transmission of external shocks into the NMS, highlighted by the global financial crisis. The fallout from the crisis has been a major real-life "stress test" of the enlarged EU, a test that is ongoing. EU membership has given the NMS access to some facilities that proved useful during the crisis. One example is the EU's balance of payments facility, which has provided a safety cushion in a situation of distress. Another one is the establishment by the ECB of repo arrangements with some NMS, which has been helpful.

There is some evidence that the markets have been underestimating the risks in the NMS. For most of the period under observation, the NMS's sovereign bond spreads have been lower than what could be expected given the economies' fundamentals. This "EU halo effect," however, disappeared during the global financial crisis. The crisis has also amplified market perception of the differences across the NMS, which is illustrated for instance in the increased dispersion of sovereign spreads in the individual NMS countries.

The crisis has put an increased premium on sound policies, and the empirical analysis in this paper offers some, even though only preliminary, evidence that the adoption of EU-level frameworks has contributed to sound macroeconomic and structural policies in the NMS. This evidence is stronger in the area of macroeconomic policies, where the Maastricht criteria have played a useful role as simple and transparent anchors for macroeconomic policies. The same holds for the SGP, which implements the Maastricht criteria for fiscal policies. The impact appears to have been larger in small NMS economies and in those with more volatile output (which is similar to findings for OMS countries). As regards structural reforms, the Lisbon agenda seems to have had some, albeit relatively limited, impact on structural reforms in the NMS. This impact appears to have been larger in smaller NMS.

That being said, the diversity in outcomes in the NMS (and, for that matter, the diversity of outcomes in the OMS) underlines the fact that domestic policy frameworks remain the crucial driver of economic performance. For the NMS to continue to prosper within the EU and as current or future members of the euro area, they need to gear their domestic economic governance systems toward delivering sound fiscal policies, high productivity growth, and flexible labor and product markets. The EU's policy frameworks can support EU member states, but national policies determine the extent to which a country avails itself of these frameworks to achieve better performance.

The global financial crisis presents what is probably the greatest economic policy challenge since accession for the NMS. In the short run, the main challenge for them is to contain the crisis as it unfolds and limit its adverse impact. In the medium run, the challenge is to strengthen the financial stability framework while safeguarding the benefits of financial integration. Important improvements can be achieved through the NMS' domestic policy tools, which include not only prudential policies, but also financial education and consumer protection arrangements, the importance of which has been illustrated by the U.S. mortgage crisis. Given the high integration between the banking systems of the NMS and the OMS, the NMS authorities need to seek close cooperation with the OMS, make the best of the current cross-border and EU-level arrangements, and be proactive in the debate on improving these arrangements.

Table 1. Macroeconomic Performance in the NMS and Other Emerging Market Economies
(growth rates in percent, unless noted otherwise)

	1999-2003	2004-2008e	2009-2013f 1/
Gross domestic product, constant prices			
New Member States	3.0	6.0	4.7
Euro Area	2.1	2.1	1.6
Emerging Markets	5.0	5.2	4.5
Gross national savings (% of GDP)			
New Member States	18.1	18.2	19.3
Euro Area	21.2	21.9	21.4
Emerging Markets	31.2	31.9	31.3
Investment (% of GDP)			
New Member States	21.8	23.9	25.9
Euro Area	20.9	21.4	21.8
Emerging Markets	26.0	26.3	27.1
Inflation, average consumer prices			
New Member States	19.8	6.0	4.2
Euro Area	2.0	2.4	1.9
Emerging Markets	1.1	2.6	2.7
Current account balance (% of GDP)			
New Member States	-3.7	-5.9	-7.0
Euro Area	0.3	0.4	-0.3
Emerging Markets	5.2	5.5	4.0
Import volume of goods and services			
New Member States	6.6	12.6	6.7
Euro Area	4.9	5.7	0.5
Emerging Markets	7.9	9.6	5.3
Terms of trade of goods and services			
New Member States	0.3	0.4	0.5
Euro Area	-0.1	-0.8	0.1
Emerging Markets	-1.5	-1.8	0.1
Terms of trade of goods			
New Member States	0.1	-0.1	0.5
Euro Area	-0.1	-1.1	0.0
Emerging Markets	-2.1	-2.6	0.2
Export volume of goods and services			
New Member States	7.2	11.2	6.2
Euro Area	5.0	5.9	0.9
Emerging Markets	9.2	10.5	4.9

Source: Authors' calculations based on data, estimates, and forecasts from the IMF's World Economic Outlook.
1/ The forecasts are surrounded by substantial uncertainty given the global financial crisis.

Table 2. Explaining Spreads on Sovereign Bonds

	OLS	RE	FE
Economic Risk	-0.03	-0.03	-0.04
	(5.91)**	(9.58)**	(9.86)**
Financial Risk	-0.12	-0.07	-0.06
	(25.70)**	(13.80)**	(13.81)**
Political Risk	-0.05	-0.02	-0.01
	(30.25)**	(6.54)**	(4.82)**
VIX Index	0.06	0.05	0.05
	(23.58)**	(30.25)**	(33.25)**
Fed Fund Futures	0.04	0.02	0.02
	(4.95)**	(4.52)**	(4.89)**
Vol of Fed Fund Futures	0.96	1.56	1.58
	(3.12)**	(7.91)**	(7.86)**
Constant	10.94	8.72	8.69
	(54.23)**	(43.53)**	(47.57)**
Observations	3,171	3,171	3,171
Number of Countries	25	25	25
r2-overall	0.60	0.51	0.49
r2-within	0.61	0.60	
r2-between	0.61	0.58	
LM Test for Random Effects		21,548	
Hausmann Test			20.51
Prob > Chi2		0.00	0.00

Absolute value of t statistics in parenthesis.

* significant at 5%, ** significant at 1%

Table 3. Explaining Inflation Performance

(i) Dependent Variable: Average Annual Inflation (OLS estimate)

	(I)	(II)
NMS dummy (1=NMS, 0=otherwise)	-0.23	
Past inflation (average y/y change in consumer prices in the previous year)	0.38***	0.37***
Global commodity price index (year-on-year change, fuel and nonfuel)	0.42**	0.41**
Log (GDP per capita in PPP)	-1.80***	-1.76***
Inflation targeting dummy (1=explicit IT, 0=otherwise)	-1.10	
Hard peg dummy (1=hard peg, 0=otherwise)	-0.44	
Central bank independence index 1/	0.02	
Intercept	23.07***	22.26***
Number of observations	832	832
R-squared	0.93	0.91

* significant at 10 %, ** significant at 5 %, *** significant at 1 %

1/ On a scale from 0 (no independence) to 100 (full independence). Based on Arnone and others (2006).

2/ On a scale from 0 (no support) to 100 (full support). Based on European Commission (2008).

(ii) Dependent Variable: Compliance with the Maastricht Inflation Criterion (Logit estimate)

	(I)	(II)	(III)	(IV)
	All countries	All countries	NMS only	NMS only
Inflation targeting dummy (1=explicit IT, 0=otherwise)	2.63***	2.87***	2.60***	2.61***
Hard peg dummy (1=hard peg, 0=otherwise)	-0.90*	-0.95*	-1.04**	-0.98**
NMS dummy (1=NMS, 0=otherwise)	0.45**	0.30**		
Log (GDP per capita in PPP)	1.46*		1.45	
Central bank independence index 1/	0.02	0.03*	0.02	
Eurobarometer score 2/			0.20	
Intercept	-15.97	-3.98	-1.61	-1.55
Number of observations	415	415	40	40
Pseudo R-squared	0.480	0.470	0.442	0.437

* significant at 10 %, ** significant at 5 %, *** significant at 1 %

1/ On a scale from 0 (no independence) to 100 (full independence). Based on Arnone and others (2006).

2/ On a scale from 0 (no support) to 100 (full support). Based on European Commission (2008).

Table 4. Fiscal Policy Behavior in NMS and OMS Before and After SGP
(Dependent variable: cyclically-adjusted primary balance 1/)

		(1) NMS	(2) NMS	(3) NMS	(4) OMS	(5) OMS	(6) OMS
Lagged CAPB	Pre-SGP	0.72***	0.80***	0.71***	0.75***	0.81***	0.69***
		(0.04)	(0.04)	(0.05)	(0.04)	(0.03)	(0.05)
	Post-SGP	0.68***	0.76***	0.62***	0.70***	0.77***	0.65***
		(0.07)	(0.07)	(0.08)	(0.06)	(0.06)	(0.08)
Output gap	Pre-SGP	-0.09**	-0.08*	-0.07	-0.04	-0.04	-0.01
		(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
	Post-SGP	-0.23*	-0.19	-0.16	-0.20	-0.18	-0.11
		(0.13)	(0.14)	(0.12)	(0.13)	(0.13)	(0.11)
Lagged debt	Pre-SGP	0.02***	0.01***	0.03***	0.02***	0.01***	0.03***
		-0.002	(0.003)	(0.01)	(0.003)	(0.003)	(0.01)
	Post-SGP	0.01**	0.01	0.02***	0.01**	0.01	0.02***
		(0.005)	(0.005)	(0.01)	(0.005)	(0.007)	(0.01)
Commitment	Pre-SGP	0.56**		0.47	0.63**		0.40
		(0.26)		(0.30)	(0.25)		(0.30)
	Post-SGP	0.74**		1.22**	0.72**		1.04**
		(0.35)		(0.53)	(0.35)		(0.49)
Delegation	Pre-SGP	0.98**		1.21**	0.84**		0.92*
		(0.41)		(0.56)	(0.36)		(0.53)
	Post-SGP	0.14		0.44	0.16		0.42
		(0.47)		(0.59)	(0.45)		(0.57)
Relative economic size	Pre-SGP	-0.02	0.002	-0.11	-0.02	0.002	-0.05
		(0.02)	(0.01)	(0.13)	(0.02)	(0.01)	(0.15)
	Post-SGP	-0.02	-0.02*	-0.11	-0.02	-0.03**	-0.06
		(0.02)	(0.01)	(0.14)	(0.02)	(0.02)	(0.15)
Growth volatility	Pre-SGP	-0.004	-0.04	0.0002	0.03	0.001	0.04
		(0.09)	(0.09)	(0.13)	(0.09)	(0.09)	(0.12)
	Post-SGP	0.33**	0.31**	0.22	0.32**	0.35**	0.23
		(0.16)	(0.16)	(0.18)	(0.15)	(0.15)	(0.17)
Election year	Pre-SGP	-0.73***	-0.78***	-0.74***	-0.67***	-0.74***	-0.64***
		(0.23)	(0.22)	(0.23)	(0.20)	(0.20)	(0.20)
	Post-SGP	-0.51**	-0.46**	-0.57**	-0.49**	-0.49**	-0.53**
		(0.23)	(0.23)	(0.23)	(0.24)	(0.23)	(0.24)
R2		0.81	0.79	0.81	0.79	0.78	0.80
Number of obs.		198	198	198	346	346	346
Country dummies?		No	No	Yes	No	No	Yes

Source: authors' calculations.
1/ Robust standard errors in parentheses; 2SLS estimation. OMS estimates are an update of Annett (2006).
***= t-statistic significant at 1 percent level; **= t-statistic significant at 5 percent level; *= t-statistic significant at 10 percent level.

Table 5. Explaining Structural Reforms

(Dependent variable: change in the relevant structural index times 100)

	Labor Market			Product Markets		
Explanatory variables	All Countries	EU Effect	Total EU	All Countries	EU Effect	Total EU
Cross-border spillovers	5.560 *	-1.619	3.940 **	18.520 ***	-1.091	17.429 ***
Lagged product market reforms	-0.924	5.003 ***	4.079 ***	...	...	...
Lagged labor market reforms	...	...	...	8.119	-3.506	4.613
Cyclically adjusted primary surplus	0.017	-0.105 ***	-0.089 ***	…	…	…
Change in the cyclically adjusted primary surplus	-0.094 ***	0.114 ***	0.020	0.202 ***	-0.225 ***	-0.023
Net government debt	0.011 ***	0.011 **	0.022 ***	…	…	…
"Bad" year	-0.320 ***	0.545 ***	0.226 ***	0.329 *	0.743 ***	1.072 ***
Number of bad years over the 3 preceding years	0.062 *	-0.172 ***	-0.110 **	0.209 **	0.101	0.311 **
Trade openness	-2.958 ***	4.202 ***	1.244 **	-2.484	0.909	-1.575
Conservative government	-0.143 *	0.381 ***	0.238 **	1.054 ***	-1.230 ***	-0.176
Size of government majority in Parliament	-0.421	0.907	0.486	0.263	-4.864 ***	-4.601 ***
Number of years government is in office	-0.024 *	0.041 **	0.017	…	…	…
Share of seniors (>65 years old) in total population	-0.050 **	-0.184 **	-0.234 ***	…	…	…
Union density	3.442 ***	1.216	4.658 ***	-4.305 **	6.144 ***	1.839
Country size	-5.219	5.514 ***	0.296	…	…	…
Popular support for the euro (Eurobarometer)	-0.003 *	...	-0.003 *	…	…	…
EU membership	5.174 ***	...	5.174 ***	-0.894	…	-0.894
Single European Act (dummy=1 from 1987 onwards)	0.525 ***	...	0.525 ***	1.056 ***	…	1.056 ***
Single market (dummy=1 from 1992 onwards)	0.258 **	...	0.258 **	0.587	…	…
ERM "hard-core" member (excl. Germany)	-1.437 ***	...	-1.437 ***	…	…	…
Adjusted R-squared		0.356			0.252	
Number of observations		346			377	

Note: Both equations were estimated using a feasible GLS estimator allowing for cross-section heteroskedastic and contemporaneously correlated errors (SUR). Significance levels are based on robust standard errors. Superscripts *, **, and *** indicate that the estimated coefficient is significantly different from zero at the 10, 5, and 1 percent level, respectively. The labor equation includes two lags of the dependent variable while the product market equation includes one lag of the dependent variable (not reported). All equations include country fixed effects (not reported).

1/ Coefficients of the EU membership dummy interacted with the corresponding explanatory variable.

2/ Significance levels based on Wald test that the sum of both coefficients is equal to zero.

Table 6. Lisbon Scorecards
(Ranking; 1=best performer, 27=worst performer)

	2004	2005	2006	2007
Austria	4	3	5	3
Belgium	13	13	13	13
Bulgaria	26	24	24	25
Cyprus	15	14	14	15
Czech Republic	7	12	10	14
Denmark	1	1	1	1
Estonia	18	16	15	11
Finland	6	6	6	5
France	11	8	11	9
Germany	9	10	9	8
Greece	20	17	22	19
Hungary	14	15	19	22
Ireland	10	7	8	6
Italy	24	23	21	23
Latvia	19	19	18	17
Lithuania	21	20	20	18
Luxembourg	8	9	7	12
Malta	27	27	26	27
Netherlands	3	5	3	4
Poland	22	26	27	26
Portugal	16	18	16	21
Romania	25	25	25	24
Slovakia	17	22	23	20
Slovenia	12	11	12	10
Spain	23	21	17	16
Sweden	2	2	2	2
United Kingdom	5	4	4	7
NMS average	16	18	18	17
NMS best	7	11	10	10
NMS worst	22	26	27	26

Source: Centre for European Reform. http://www.cer.org.uk/lisbon_comp_new/index_lisbon_comp_new.html.

Table 7. Prudential Supervision in NMS and Other Countries [1/]

	Average 2/			Standard deviation 2/			Maximum 2/		Minimum 2/	
	EU	Non-EU	Diff. 3/	EU	Non-EU	Diff. 3/	EU	Non-EU	EU	Non-EU
All Economies										
Banking (summary)	84.2	63.4	20.9 *	14.1	17.9	-3.8	100.0	98.7	50.9	17.6
Reg. governance	85.0	70.7	14.3 *	18.4	19.5	-1.2	100.0	100.0	36.1	16.7
Prud. framework	85.7	66.2	19.5 *	14.5	18.4	-3.9	100.0	100.0	50.0	24.2
Reg. practices	82.5	55.7	26.8 *	15.3	22.2	-6.9	100.0	100.0	46.7	0.0
Fin. integrity, safety nets	83.3	58.5	24.8 *	15.2	27.4	-12.2 *	100.0	100.0	50.0	0.0
Insurance (summary)	76.6	63.1	13.5 *	15.2	19.1	-4.0	96.1	100.0	33.3	29.2
Reg. governance	77.1	52.3	24.8 *	20.9	25.5	-4.6	100.0	100.0	33.3	0.0
Prud. framework	72.1	64.2	8.0	21.9	20.1	1.8	100.0	100.0	6.7	20.0
Reg. practices	79.2	64.2	15.1 *	15.3	22.1	-6.8	100.0	100.0	33.3	20.0
Fin. integrity, safety nets	65.7	58.3	7.4	30.1	32.7	-2.5	100.0	100.0	0.0	0.0
Securities (summary)	85.6	65.1	20.5 *	13.7	18.1	-4.5	100.0	94.4	52.2	27.8
Reg. governance	85.7	68.7	17.0 *	15.4	18.9	-3.5	100.0	100.0	33.3	9.5
Prud. framework	85.5	58.2	27.3 *	17.6	21.7	-4.2	100.0	100.0	28.6	19.0
Reg. practices	89.9	69.2	20.7 *	13.0	22.4	-9.4	100.0	100.0	37.5	22.2
Fin. integrity, safety nets	81.5	63.8	17.7 *	17.5	22.8	-5.4	100.0	100.0	37.5	11.1
Advanced Economies										
Banking (summary)	91.6	83.3	8.3	6.7	11.9	-5.1	100.0	98.7	75.6	64.5
Reg. governance	91.9	89.3	2.6	12.5	12.6	-0.1	100.0	100.0	66.7	66.7
Prud. framework	93.3	85.2	8.1	6.9	11.4	-4.6	100.0	100.0	77.8	60.6
Reg. practices	90.2	79.8	10.4 *	9.4	17.7	-8.3	100.0	100.0	66.7	43.3
Fin. integrity, safety nets	90.0	80.0	10.0	8.5	18.0	-9.6	100.0	100.0	83.3	50.0
Insurance (summary)	79.1	79.2	-0.2	16.8	10.4	6.4	96.1	97.6	33.3	64.7
Reg. governance	79.2	66.7	12.5 *	19.5	18.2	1.4	100.0	91.7	33.3	33.3
Prud. framework	72.2	77.2	-5.0	25.6	14.1	11.6 *	100.0	95.8	6.7	55.6
Reg. practices	82.3	80.9	1.4	17.2	10.7	6.4	100.0	94.4	33.3	66.7
Fin. integrity, safety nets	72.4	83.7	-11.3 *	22.9	22.1	0.8	100.0	100.0	33.3	33.3
Securities (summary)	91.2	77.4	13.8 *	10.3	18.7	-8.3	100.0	94.4	62.2	27.8
Reg. governance	91.4	76.7	14.7 *	8.7	23.2	-14.5 *	100.0	100.0	71.4	9.5
Prud. framework	90.8	72.2	18.6 *	11.3	19.8	-8.5	100.0	95.2	71.4	33.3
Reg. practices	94.0	78.5	15.6 *	12.3	22.1	-9.8	100.0	100.0	58.3	33.3
Fin. integrity, safety nets	88.6	81.3	7.3	14.7	20.2	-5.4	100.0	100.0	50.0	33.3
Emerging Markets										
Banking (summary)	73.1	67.1	6.0	15.2	13.1	2.1	93.3	82.2	50.9	32.3
Reg. governance	74.7	70.6	4.1	21.4	19.0	2.4	100.0	93.3	36.1	16.7
Prud. framework	74.3	70.3	4.0	15.6	14.6	1.0	94.4	93.9	50.0	30.6
Reg. practices	71.0	61.3	9.7	15.6	15.5	0.0	93.3	86.7	46.7	20.0
Fin. integrity, safety nets	73.3	69.2	4.2	17.9	26.1	-8.2	100.0	100.0	50.0	0.0
Insurance (summary)	72.2	59.4	12.8 *	11.5	19.4	-7.9	86.3	100.0	54.2	39.5
Reg. governance	72.2	45.0	27.2 *	25.1	27.3	-2.2	100.0	100.0	33.3	0.0
Prud. framework	71.9	60.1	11.9 *	14.6	23.3	-8.7	88.9	100.0	51.9	20.0
Reg. practices	73.8	58.9	14.8 *	10.2	22.1	-11.9 *	83.3	100.0	55.6	25.0
Fin. integrity, safety nets	50.0	57.8	-7.8	40.8	27.7	13.1 *	100.0	100.0	0.0	33.3
Securities (summary)	76.9	55.0	21.9 *	14.1	17.3	-3.2	90.0	86.7	52.2	34.4
Reg. governance	76.8	60.6	16.2 *	19.6	17.2	2.4	100.0	90.5	33.3	33.3
Prud. framework	77.2	43.3	33.9 *	22.7	13.9	8.8	100.0	66.7	28.6	28.6
Reg. practices	83.3	58.8	24.6 *	11.8	25.5	-13.7 *	100.0	100.0	58.3	29.2
Fin. integrity, safety nets	70.4	56.6	13.8 *	16.1	15.8	0.3	91.7	91.7	37.5	41.7

Source: Financial sector standards and codes assessments under the FSAP.

Notes:

1/ For each country, the summary grading of a standard (BCP, ICP, and IOSCO) is calculated as the average grading of the principles in the standard. For each principle, 100 is the maximum grading (observance), and 0 is the minimum grading (no observance). For the definitions of the four components of each summary grading, see Table 6.

2/ Calculated across the countries in the sample.

3/ The value for the EU countries minus the value for the non-EU countries.

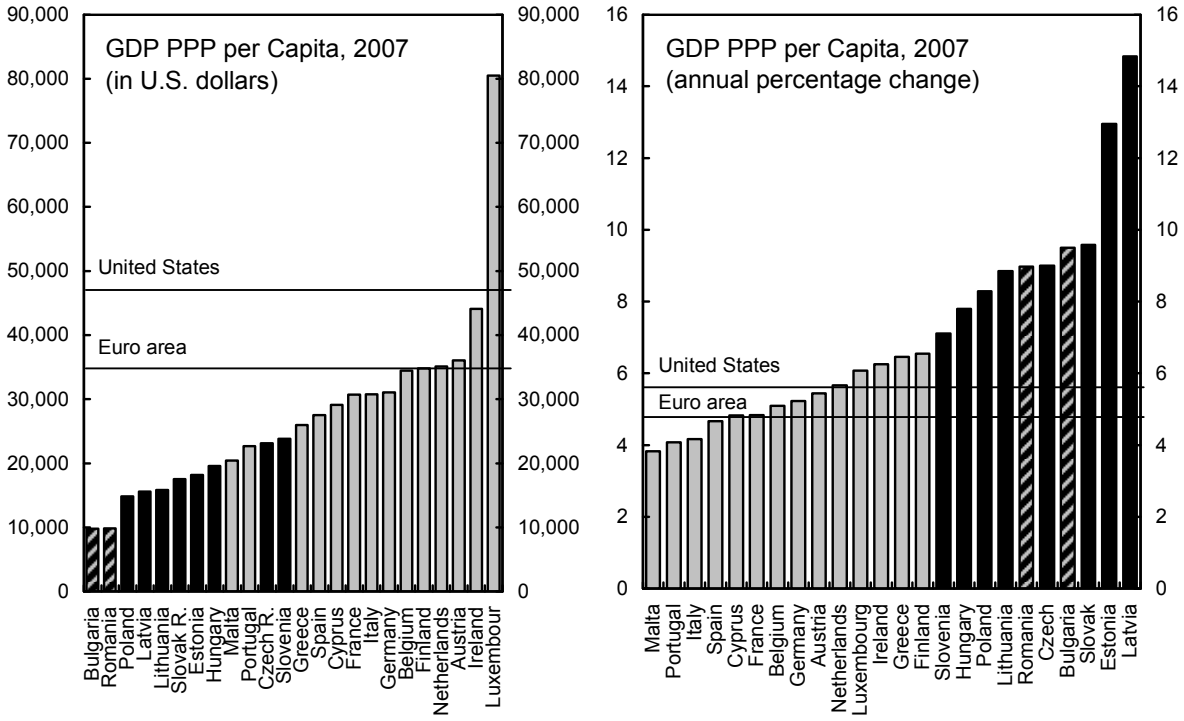
* Indicates that the difference is significant at a 10 percent level in tests of equality of means and variance, respectively.

Table 8. Financial Soundness Indicators in NMS and Other Countries
(In percent)

	2003	2004	2005	2006	2007	2008	Latest
Bank Regulatory Capital to Risk-Weighted Assets							
Czech Republic	14.5	12.6	11.9	11.4	11.5	12.9	September
Estonia	14.5	13.4	11.7	13.1	14.8	...	December
Hungary	11.8	12.4	11.6	11.0	10.8	...	December
Latvia	11.7	11.7	10.1	10.2	11.1	12.6	March
Lithuania	13.3	12.4	10.3	10.7	10.9	...	December
Poland	13.7	15.5	14.5	13.2	11.8	...	September
Slovak Republic	22.4	18.7	14.8	13.0	12.4	...	December
Slovenia	11.5	11.8	10.6	11.8	...	...	December
NMS average	14.2	13.6	11.9	11.8	11.9	12.7	
Emerging market average	16.9	16.6	15.7	15.2	14.8	15.6	
Bank Capital to Assets							
Czech Republic	5.7	5.6	5.7	6.2	5.6	6.1	September
Estonia	11.3	9.8	8.6	8.4	8.6	...	December
Hungary	8.3	8.5	8.2	8.3	8.3	...	December
Latvia	8.4	8.0	7.6	7.6	7.9	8.4	March
Lithuania	9.8	8.7	7.2	7.1	7.4	...	December
Poland	8.3	8.0	7.8	7.6	7.4	...	September
Slovak Republic	8.9	7.7	9.7	8.0	10.6	...	December
Slovenia	8.3	8.1	8.4	8.4	...	...	December
NMS average	8.6	8.1	7.9	7.7	8.0	7.3	
Emerging market average	10.4	10.3	9.9	9.8	10.0	10.1	
Bank Nonperforming Loans to Total Loans							
Czech Republic	4.9	4.1	4.3	3.7	2.8	3.1	September
Estonia	0.4	0.3	0.2	0.2	0.5	...	December
Hungary	2.6	2.7	2.5	2.5	2.4	...	December
Latvia	1.4	1.1	0.7	0.4	0.4	0.5	March
Lithuania	2.4	2.2	0.6	1.0	1.0	...	December
Poland	10.4	9.2	7.7	3.6	3.1	...	September
Slovak Republic	3.7	2.6	5.0	3.7	2.5	...	December
Slovenia	3.7	3.0	2.5	2.5	...	...	December
NMS average	3.7	3.2	2.9	2.2	1.8	1.8	
Emerging market average	8.9	6.9	5.6	4.2	3.7	3.6	
Bank Return on Assets							
Czech Republic	1.2	1.3	1.4	1.2	1.3	1.3	September
Estonia1	1.7	2.1	2.0	1.7	2.6	...	December
Hungary	1.5	2.0	2.0	1.8	1.4	...	December
Latvia	1.4	1.7	2.1	2.1	2.0	1.6	March
Lithuania	1.2	1.3	1.1	1.5	2.0	...	December
Poland	0.5	1.4	1.6	1.7	1.8	...	September
Slovak Republic	1.2	1.2	1.2	1.3	1.1	...	December
Slovenia	1.0	1.1	1.0	1.3	...	...	December
NMS average	1.2	1.5	1.6	1.6	1.7	1.4	
Emerging market average	1.3	1.5	1.6	1.7	1.8	1.9	
Bank Return on Equity							
Czech Republic	23.8	23.3	25.2	22.5	24.5	23.7	September
Estonia	14.1	20.0	21.0	19.8	30.0	...	December
Hungary	19.3	25.3	24.7	24.0	18.1	...	December
Latvia	16.7	21.4	27.1	25.6	24.2	19.5	March
Lithuania	11.8	13.5	13.8	21.4	27.2	...	December
Poland	5.8	17.1	20.7	21.9	23.7	...	September
Slovak Republic	10.8	11.9	16.9	16.6	16.6	...	December
Slovenia	11.9	12.5	13.8	15.1	...	...	December
NMS average	14.3	18.1	20.4	20.9	23.5	21.6	
Emerging market average	12.4	15.0	16.6	17.7	18.9	19.3	

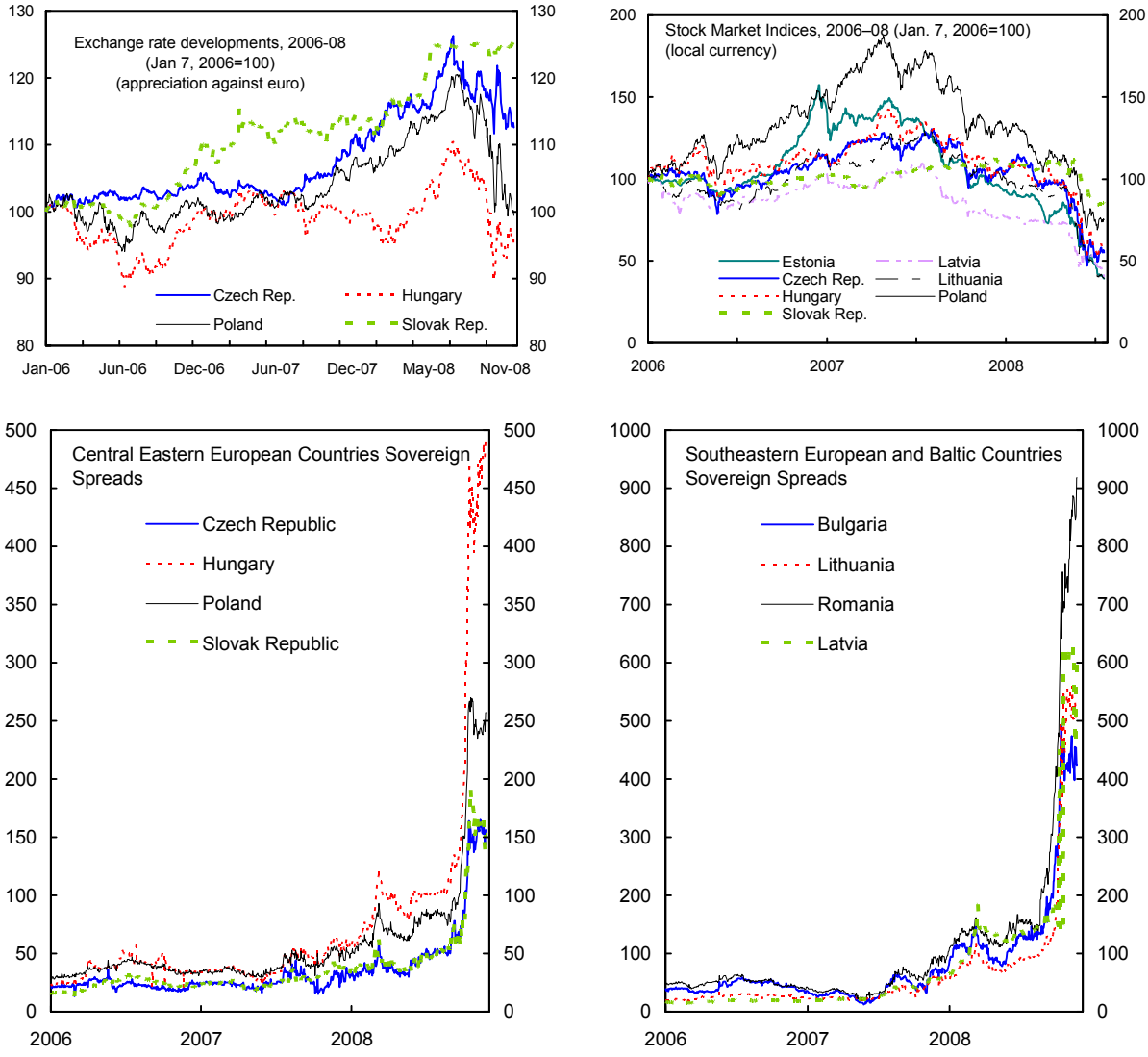
Sources: National authorities; and IMF staff estimates (Global Financial Stability Report October 2008).
Note: Due to differences in national accounting, taxation, and supervisory regimes, FSI data are not strictly comparable across countries.

Figure 1. Growth Performance in the NMS and Other Economies



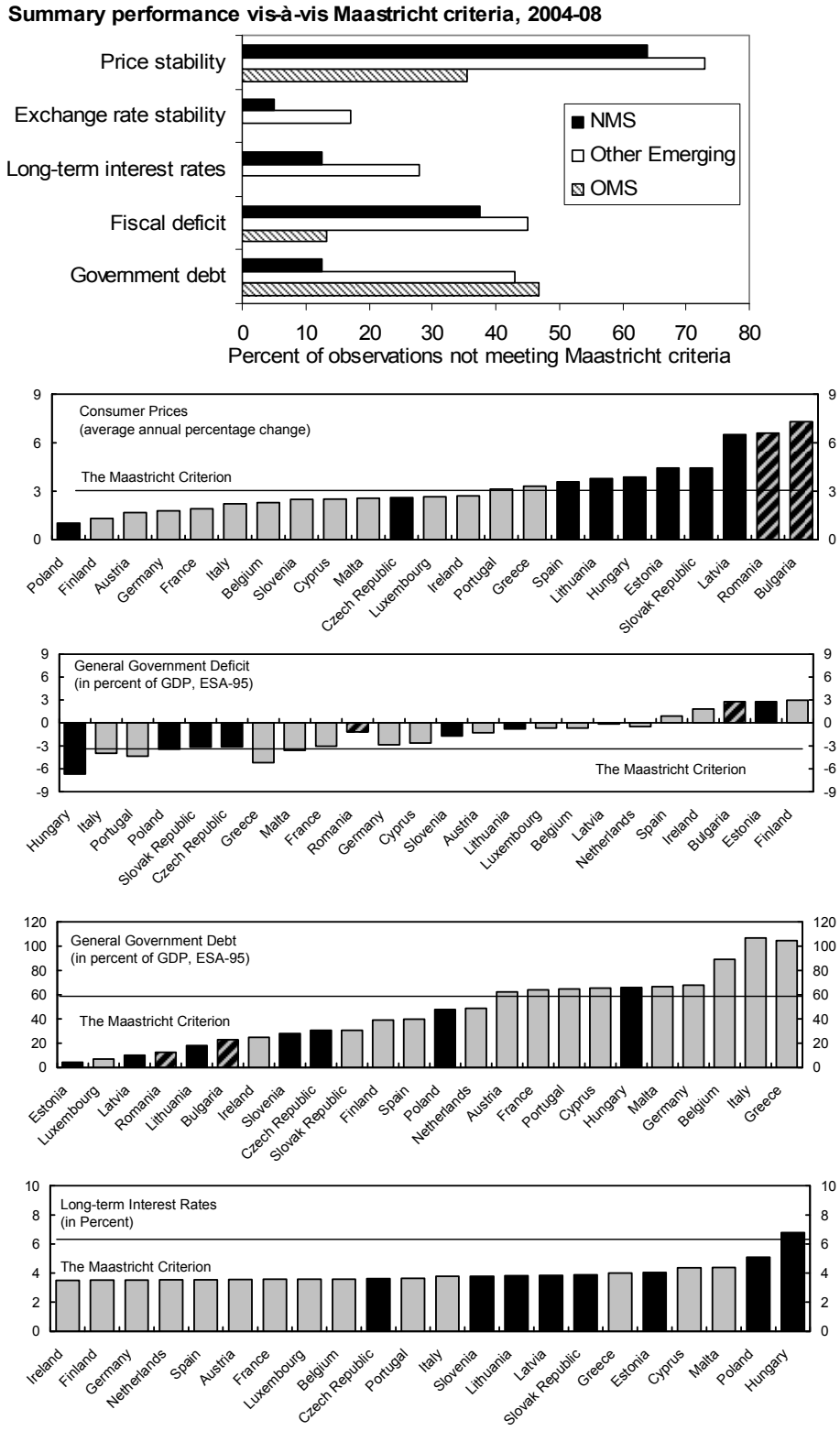
Source: IMF, World Economic Outlook.

Figure 2. Financial Market Vulnerability Indicators in the NMS, 2006–08



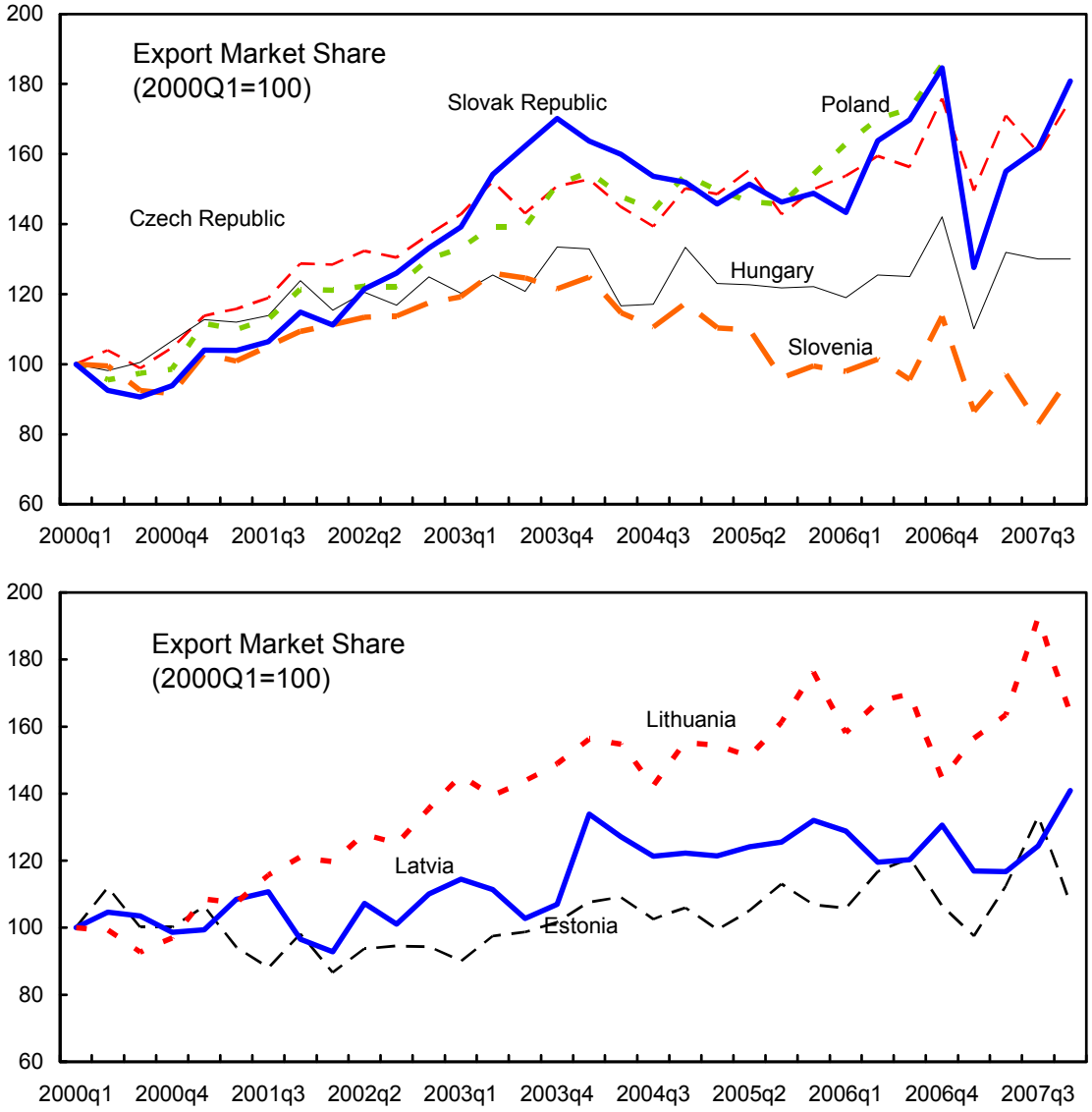
Source: Bloomberg L.P., authors' calculations.

Figure 3. Performance vis-à-vis Maastricht Criteria, 2004–08



Sources: Eurostat, national statistical offices, IMF staff estimates.

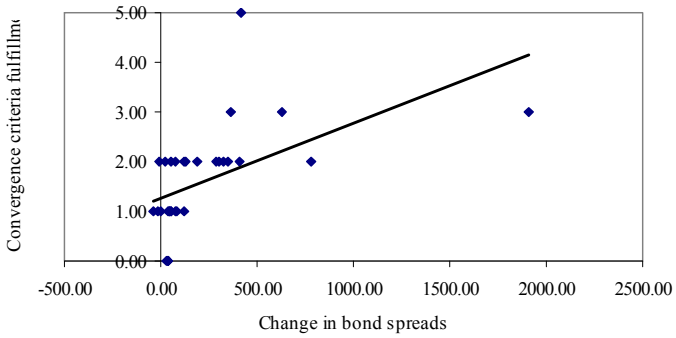
Figure 4. NMS: Export Share in the World Market, 2000–07



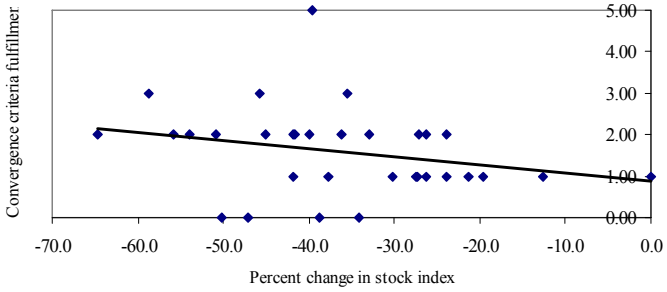
Source: IMF, Direction of Trade Statistics.

Figure 5. Europe: Market Indicators in the Crisis

Change in spreads in Nov 2008 and meeting the convergence criteria

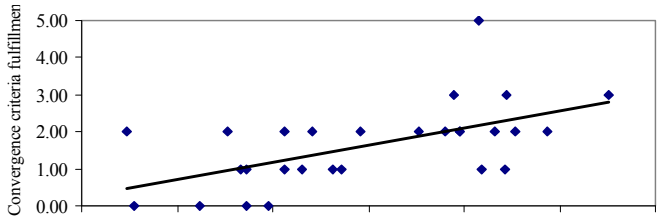


Change in stock index in Nov 2008 and fulfillment of the convergence criteria 1/



1/ Based on sum of five convergence criteria, 0 for meeting and 1 for not meeting each criterion, worst as 5, best as 0.

Index of Market Pressure (IMP) in Nov 2008 and fulfillment of the convergence criteria 1/



1/ Fulfillment of convergence criteria based on sum of five criteria, 0 for meeting and 1 for not meeting each criterion, worst is 5, best is 0. Index of market pressure (IMP) based on -ln(FX(t)/FX(t-1))-ln(NEER(t)/NEER(t-1))+ln(S(t)/S(t-1)); higher = more pressure. The country sample in this chart includes all European countries for which data are available, not only EU members.

APPENDIX I. ANALYZING THE 'HALO EFFECT' IN NMS COUNTRIES

Interest rates in the NMS countries have converged rapidly to NMS levels. Analyzing spreads on NMS sovereign bonds in early 2000s, one could identify the presence of so-called halo effect: the spreads on NMS' sovereign bonds were lower than could be explained by "fundamentals," such as the country's level of development and its macroeconomic vulnerability indicators. While a fundamental (economic) analysis pointed to rising vulnerabilities in some NMS economies, markets remained optimistic, compressing sovereign bond yields. Hauner, Jonas, and Kumar (2007) and Luengnaruemitchai and Schadler (2007) find the "halo effect" for 2001–06 and 1995–2005 data, respectively.

The interpretations of the "halo effect" in the literature differ. Hauner, Jonas, and Kumar (2007) posit that the EU halo effect is linked to the EU membership. Better institutions and processes, such as fiscal rules, that have been put in place since EU accession may also have had the effect of reducing sovereign risk (thus bringing countries closer to meeting the Maastricht criterion on government bond rates). This would suggest that the "halo effect" may be lasting. Luengnaruemitchai and Schadler (2007) argue that the "halo effect" is essentially an unexplained residual that may turn out to be temporary.

As part of the reassessment of risks in 2007–08, the NMS country spreads increased dramatically (Figure 2). To examine what this meant for the halo effect, an econometric analysis is used to identify the role of fundamentals and global liquidity conditions in determining the level of spreads on foreign currency denominated bonds—sovereign spreads—issued by emerging market countries, using a methodology similar to Eichengreen and Mody (1998), Hauner, Jonas, and Kumar (2007), and Luengnaruemitchai and Schadler (2007). Following this methodology, the present study uses three indices of fundamentals that group variables influencing economic risks, financial risks and political risks. This avoids the problem of multicollinearity among explanatory variables since several influences affect each risk category and in many instances they move in similar ways. Three other measures of global interest rates and liquidity conditions are also included. IMF (2006) suggests that this estimation model does a reasonably good job in predicting the spreads on a global level.

To approximate the price of "risk" of the emerging markets in the sample, JP Morgan's Emerging Market Bond Index-Global (EMBIG) sovereign spreads is used as the dependent variable. The spreads of each country are weighted averages of yield spreads over US treasury bills of external debt instruments

issued by sovereign and quasi sovereign entities (denominated in US$). For countries where (US$) EMBIG spreads are not available, Euro EMBIG spreads are used. These are yield spreads over German reference rates of external debt instruments denominated in Euro. The sample encompasses the 25 emerging market countries included in both MSCI Emerging Markets index and JP Morgan EMBIG index, and spans 1998 to 2008 for most of the countries.

One caveat in this exercise is that it focuses on market perceptions about government or quasi-government default risks, which do not necessarily reflect overall risks to the economy including the private sector. This is an unavoidable shortcoming insofar as sovereign bond spreads are the principal asset class comparable across countries. Other asset classes— domestic currency bonds, stock markets and exchange markets—are influenced by a variety of factors not directly related to the risk profile of issuing countries.

Each of the three indices of fundamentals that is included as explanatory variables—political, financial and economic—are composites of ratings of several variables from International Country Risk Guide (ICRG). In addition, following IMF (2006) and Luengnaruemitchai and Schadler (2007), the present study includes three measures of global liquidity conditions: (1) Volatility Index (VIX), which is the volatility of U.S. stock market volatility implied in the pricing of S&P500 options; (2) implied yield of 3-month ahead 30-day Fed Funds futures, which reflects short term global interest rates as well as market expectations of future U.S. monetary policy; and (3) 90-day rolling standard deviation of the difference between implied yields on 3-month ahead Fed Funds futures and the Fed policy target rates. The volatility measure indicates the uncertainty about U.S. monetary policy, which has a large impact on global financial markets. These variables are from Bloomberg and are available daily. Since the ICRG ratings are updated on a monthly basis, all of the variables are averaged to a monthly frequency (this also filters out some of the noise in the day-to-day volatility of high-frequency variables).

Following IMF (2006) and Luengnaruemitchai and Schadler (2007), the present study includes the measures of fundamentals and liquidity conditions in the same estimating equation, using a pooled OLS with country fixed effects. Specifically, the following equation is estimated:

$$\begin{aligned}\ln(spread_{it}) = \alpha + \beta_1 econ_{it} + \beta_2 financial_{it} + \beta_3 political_{it} + \\ + \beta_4 VIX_t + \beta_5 FF_t + \beta_6 FFvol_t + u_i + \varepsilon_{it}\end{aligned} \quad (1)$$

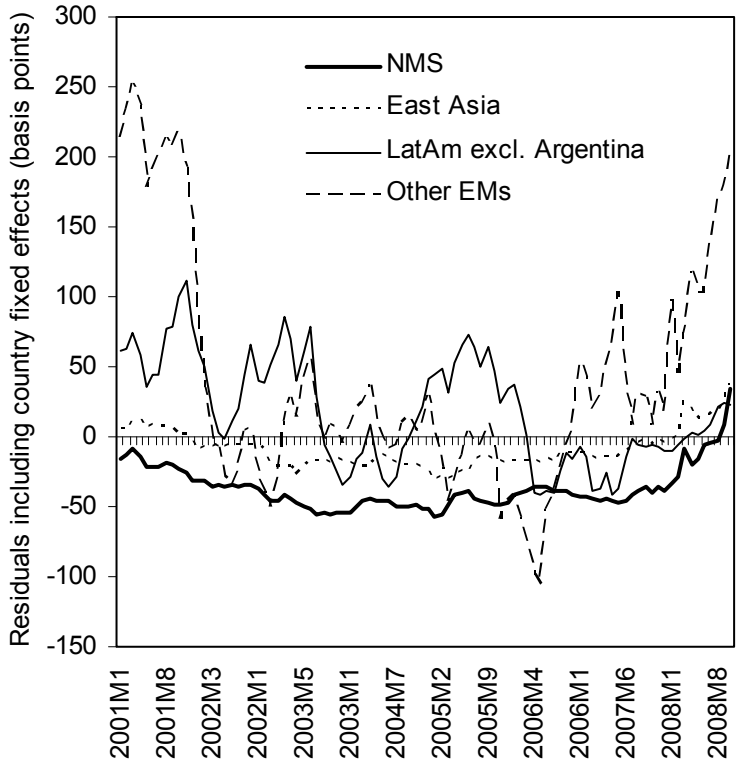
where $econ_{it}$, $financial_{it}$ and $political_{it}$ are the values of ICRG's economic, financial and political risk ratings of country i at time t, respectively. For all these

variables, higher values mean better fundamentals, so the respective slope coefficients are expected to be negative . VIX_t is the implied volatility index, FF_t is the implied yield on the 3-month ahead 30-day Fed Funds futures, and $FFvol_t$ is the 90-day rolling standard deviation of the difference between implied yields on 3-month ahead Fed Funds futures and the Fed policy target rates. These three variables are likely to have a positive impact on the spreads. u_i denotes individual country-specific fixed effects, and ε_{it} is the residual term.

The estimation results (Table 2) are encouraging in that the underlying specification is robust and consistent with previous estimates in the literature. The variables enter with expected signs, and their coefficients are significant at 1 percent level of significance. As expected, better fundamentals (lower economic, financial and political risks) are associated with lower sovereign spreads. Higher global interest rates and higher volatility in the financial markets lead to higher spreads. Similarly, spreads are higher when the volatility of interest rates implied by Fed Fund Futures rises.

The residuals of the fixed effects regression suggest that after controlling for global liquidity conditions and fundamentals, the level of spreads of the NMS, which has been low and stable by emerging markets standards up to 2006, has returned to the "fundamental" levels (and even slightly above) in 2007–08. The charts are similar when one examines the residuals plus country fixed effects for individual NMS countries, even though there is considerable cross-country differentiation within the NMS. The differentiation among the NMS has increased in the crisis period, with the Baltic countries showing substantially higher spreads

Residuals from the FE regression for sovereign spreads



(differentiation has also occurred among the OMS, even though not to the same extent as among the NMS).

In sum, the NMS-wide halo effect seems to have disappeared during the global financial crisis. At the same, it still holds that those NMS that adhere more closely to the Maastricht criteria tend to have lower spreads and face less strong market pressures (Figure 5). This is consistent with the findings of Debrun and Joshi (2008), who, using data for 1990–2005, do not find an EU-wide "halo effect," but find that countries adhering more closely to EU's fiscal rules tended to have lower bond spreads.

APPENDIX II. CRISIS RESPONSE MEASURES IN SELECTED NMS COUNTRIES

Czech Republic	Hungary	Poland
Monetary Policy and Exchange Rate Policy		
Liquidity measures launched regular liquidity-supplying repo operations with government bonds used as collateral	**Interest rate:** MNB raised the interest rate by 300 bps to 11½ % on October 22, in response to increased financial market pressures. The policy rate was cut by 50 bps on November 24. **Liquidity measures:** (i) Reserve requirement reduced from 5 to 2 %; (ii) Establishment of a foreign exchange swap facility, supported by a repo facility with the ECB amounting to €5 bn; (iii) Establishment of an auction facility to purchase government bonds from market makers; (iv) Creation of two new facilities to inject forint liquidity into the banking system: a 2-week refinancing window at a fixed price and 6-month tender with no fixed price; (v) Loosening of collateral requirement.	**Interest rate:** 25 bps rate cut on the main policy rate on November 27. **Liquidity measures:** (i) Weekly EUR/CHF swap operations with SNB; (ii) NBP offering USD and EUR swaps for banks; (iii) Range of collateral for Lombard credit has been broadened and haircuts reduced; (iv) Participation in the weekly EUR/CHF foreign exchange swap operations of the SNB and the Eurosystem.
Financial Sector Policies		
Deposit insurance/debt guarantee: Announced deposit insurance increase from € 25,000 (at 90 %) to € 50,000 for all deposits. **Regulatory measures:** Daily monitoring of banks' liquidity positions and exposures.	**Deposit insurance/debt guarantee:** (i) Government plans to establish a precautionary Refinancing Guarantee Fund ($2.8 bilion); (ii) Legal increase in deposit insurance coverage of retail deposits from HUF 6 million to HUF 13 million (in line with EU agreements); (iii) Political pledge to provide a blanket guarantee on all deposits. Bank recapitalization Government plans to establish a precautionary Capital Base Enhancement Fund ($2.8 billion). **Asset purchases/market support:** Discussions ongoing on a plan to mitigate the balance sheet risks of households from their exposure to foreign currency loans by (i) extending duration of the loan, (ii) converting fx-based loan to a forint loan at no extra charge, and (iii) transitionally reducing the installments if unable to service the existing loan.	**Deposit insurance/debt guarantee:** (i) The Bank Guarantee Fund law has been amended to increase the level of deposit guarantee from EUR 22,500 to EUR 50,000 and eliminate coinsurance; (ii) Draft law to guarantee interbank lending submitted to parliament. The government has set aside 40 billion zloty for these guarantees. **Bank capital injection**: Increase the capital of state-owned BGK bank by 2 billion zloty.
Fiscal Policy		
	Tax/revenue measures Tax cuts previously envisaged for 2009 canceled, and commitment not to make changes in the tax code that could lead to lower net revenues. Expenditure/public investment (i) Primary government expenditure reduced by 2 percentage points of GDP; (ii) Overall deficit target for 2009 cut to 2½ percent of GDP; (iii) Announcement of an economic stimulus package; (iv) Fiscal responsibility law passed by parliament.	**Tax/revenue measures** Excise tax on alcohol and luxury car raised to finance budget reserve for social assistance to the poor. Expenditure/public investment measures Accelerate EU fund spending (PLN 7 billion beyond 2009 budget and PLN 3 billion advance from the EU).
International Financial Support		
	(i) Hungary reached agreement on a 17-month stand-by arrangement of SDR 10.5 billion ($15¾ billion, €12½ billion) from the IMF, with the first tranche of SDR 4.2 billion (ii) EU approved a €6½ billion loan, with an additional €1 billion coming from the World Bank.	

APPENDIX III. THE DE LAROSIÈRE PROPOSALS—WHAT IS AT STAKE FOR THE NMS?

The financial crisis, the challenges that EU countries have experienced coordinating their crisis management actions, and concerns that these actions are setting back financial integration have intensified calls for a more integrated approach to financial stability in the EU. In response, European Commission president Barroso established a high-level expert group to review the EU's supervisory arrangements ("De Larosière Group"). The Group issued its report in February 2009.[36]

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) that would be accountable to the EU institutions and would be developed from the current Level 3 Committees. These Authorities would continue the work currently done by the Level 3 Committees, but would also oversee the work of, and resolve disputes among, the national supervisors. The latter would continue to remain responsible 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 micro-prudential 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 ESCB central banks, heads of the Level 3 Committees or Agencies, and the European Commission. The group also advocates "a truly harmonized set of core rules," harmonized and pre-funded deposit insurance schemes, and more detailed criteria for burden sharing.

If implemented, these proposals 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. They would improve the day-to-day supervision of cross-border financial institutions, help reconcile the interests of home and host countries, and strengthen macroprudential oversight. However, many important aspects still need to be clarified, including accountability arrangements within the ESFS, the functioning of the ESRC and the organization of operational work to support it, and provisions for data sharing. Also, the strong linkages among banks, insurance companies, and securities markets argue for an early cross-sectoral integration of supervisory arrangements rather than considering this only as a desirable long-term option.

The proposals hold the potential to address some of the challenges facing the NMS.

- A more integrated system of supervision could help to further improve the quality of supervision in the NMS. The NMS could benefit particularly from the proposed

[36] Available at: http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf

intensified efforts by the Level 3 Committees / Authorities to train staff, organize exchanges, and foster a European supervisory culture.

- The ESRC could help to reduce the likelihood of an unsustainable buildup of risk in NMS with a large foreign bank presence, if it pays sufficient attention to systemic risks in individual countries, and if it effectively manages to coordinate a response by supervisors and other relevant authorities. To achieve this, the NMS will have to be proactive in dealing with the ESRC and accept that restrictive policies that reduce demand in the short run may be necessary at times. It will also be essential that the ESRC organize itself in a way that facilitates effective decision-making. Given the large number of Council members, this may require strong leadership by the ECB president and majority voting, as well as strong operational and analytical support by the ECB and ESCB.

- The work of the ESFC will need to be supported by information, analysis, and policies from the individual member states. Notably, an effective interaction with the ESFC will require that bridges be built between micro- and macro-prudential policies also at the national level. Regardless of the institutional setup, close operational links are needed between central banks and financial supervisors. Notably, central banks need continuous and real-time access to supervisory information, supervisors need information about and a good understanding of systemic risks, and central bankers need to develop better insights into the interaction between financial and economic developments. Staff exchanges, joint training programs, central bank involvement in the design and conduct of off-site monitoring, and central bank staff joining on-site inspections of systemic banks could all be helpful in this regard.

- The ESFS and the colleges of supervisors should result in better home-host cooperation, more effective supervision of cross-border risks, and greater attention for host-country concerns. Particularly important is the fact that the New Member States would have independent bodies (the ESFS secretariat and the ESRC) to which they can turn in case of concerns or grievances that home country supervisors do not adequately address. For this, it is essential that the ESFS Authorities be given the competences to mediate, issue supervisory standards, and oversee colleges of supervisors as proposed by the group.

- Branch-based cross-border banking under the “single passport” has been a driver of European financial integration. Some of the NMS have already benefited from the activities of cross-border branches; however, under current arrangements, cross-border branching also poses challenges as it implies host country dependence of the home country’s financial stability arrangements, including deposit insurance. Because this has created problems in the current crisis, the Group recommends a review of the powers of host countries in respect of branches. Such a review should take care not to lead to any setback to financial integration, from which the NMS have benefited.

- The introduction of EU-level arrangements to protect depositors in cross-border banks would be beneficial in terms of economic efficiency and financial stability. This would have to be part of a more comprehensive move toward a two-tiered system of financial stability arrangements, with EU-level supervision, crisis management, and resolution for cross-border groups.[37]

- The Group's proposals do not fundamentally alter the incentive structures that have proven to be a challenge in crisis situations. The reason is that it does not address the crucial question of cross-border crisis management and resolution. In this area, the Group does not go much beyond endorsing the ongoing efforts and recommending more specific criteria for burden sharing. This falls well short of mechanisms that would ensure adherence to the ECOFIN crisis management principles.

- Question marks also remain about accountability within the ESFS. The Authorities would be accountable to the European institutions, but the national supervisors would remain accountable to their Treasuries and parliaments. To ensure consistency, the national authorities should also have a European mandate (see Hardy, 2009).

[37] For a fuller discussion and some concrete proposals, see Čihák and Decressin (2007) and Véron (2007).

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