



**Long-term Growth Perspectives
and Financial Market Development
in CEE and SEE Countries**

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Summary*

The economies of CEE and SEE countries are growing at a brisk pace. In the past five years, GDP growth rates in CEE and SEE countries have generally exceeded the 4% and 5% marks respectively, considerably higher than the Eurozone average over the same period, well below 2%. Despite the anticipated global slowdown, the growth differential is forecast to remain wider than 2%-3% in 2008-2009.

All the countries considered, albeit to different degrees, have highly benefited from significant advances in their institutional and economic governance frameworks, as well as in the micro structure of their economies, fostered by EU accession prospects and increasing international trade and financial integration. In a context characterised by large scale enterprise privatisations, banking sector restructuring, deep product and labour market changes, strong FDI inflows have spurred productivity changes and sustained long-term growth and real economic convergence towards Western Countries.

The financial sector has made a major contribution to these developments. In all transition countries, banking sector advances coupled with prudential supervision and legal reform have succeeded in creating a more favourable market environment, where more efficient intermediaries can channel domestic and foreign savings to internal investments and meet the borrowing needs of internationally better-integrated large and medium size firms, and of more sophisticated households.

This process, even if not without setbacks in the short run, is expected to continue at a sound pace in the future. Productivity gains are forecast to further narrow the overall and per capita GDP growth rate differentials vs. Eurozone countries, opening up new growth opportunities for investors. Financial intermediaries are therefore asked to sustain further the virtuous cycle of economic growth and financial market development by properly selecting investments, adequately managing credit and financial risks, and responsibly promoting – with the necessary support of national and international authorities – advances of the local financial systems.

The aim of this study – carried out within The International Network of Intesa Sanpaolo Economists – is to investigate in greater detail the long-term economic growth prospects and financial market developments in most CEE countries (Hungary, Poland, the Czech Republic, Slovakia, Slovenia, and Croatia) and SEE countries (Bulgaria, Romania, Serbia, Bosnia, Macedonia and Albania). The first two sections are more macro-oriented. The first, *Long-term Growth Perspectives and Economic Convergence* of CEE and SEE countries by Gianluca Salsecci and Antonio Pesce, analyses in depth the driving factors of long-term growth and real convergence, and the second one, *Current Challenges for Central Banks. Between a Rock and a Hard Place*, by Marko Škreb, Ivana Jović and Ana Lokin, focuses on the main challenges currently faced by local monetary authorities. The last three sections, more micro-oriented, *Trade and Foreign Direct Investment Inflows*, by Wilma Vergi, *Financial Intermediation: Structure, Depth and Growth Opportunities*, by Virginia Tirri, *Capital Market Developments*, by Davidia Zucchelli, investigate major developments stemming from increasing International Trade and Financial Integration of CEE and SEE countries.

* The authors wish to thank Prof. György Surányi, Chairman of the Supervisory Board of VUB, PBZ, BIB & CIB for helpful comments to a first draft of the work. They are, however, fully responsible of any remaining error contained in the study.

Within the framework of a simple Growth Accounting model, productivity is identified in the first section as the most important determinant of economic growth in the long run, with a few exceptions, such as Bulgaria and Slovenia, where capital accumulation seems also to have made a substantial contribution. Even if productivity levels are still below Eurozone averages, productivity changes are impressive, and effectively responsible for the ongoing process of real economic convergence towards the Eurozone in the countries considered.

In terms of nominal convergence, the results achieved in the past ten years have been remarkable. Most CEE and SEE countries started their transition from central planning to market economies having to cope with severe recessions, high inflation and financial market and exchange rate instability. Today the picture is different: inflation, fiscal policy indicators, and long-term interest rates, despite recent setbacks in some cases, have generally been moving along a convergent path towards higher EU standards, partly encouraged by a global trend of declining inflation and market interest rates.

None of the largest CEE economies, however, fulfil Maastricht criteria for Euro adoption yet. In the last ECB Convergence Report, inflation was found to be above the required reference value in Hungary and Slovakia, deficits exceeded the limit in Hungary, Slovakia, and Poland, and Hungary fell short of the debt threshold. Out of the four countries, only Slovakia was and is part of the ERM II.

Most new EU members still face severe challenges in the process of converging towards Maastricht criteria and finally entering the Eurozone. On one hand, they need to reconcile exchange rate stability with inflation convergence. On the other, they have to manage the risks related to current account financing. The first challenge is at the heart of their *de facto* decision to delay EMU entry date until a higher degree of real convergence will have been achieved. The second one turns out to be less burdensome when recognising that capital inflows are to a large extent generally covered by more stable items such as FDI and Other Investments, mostly represented by direct foreign borrowing by enterprises during the transition period and mainly channelled through the banking sector after its restructuring.

A discussion of the main implications for central banking in CEE and SEE countries is provided in the second section. CEE and SEE Central banks must manage increasing risks from demand and oil- and food-driven inflation pressures, world economic slowdown and a deteriorating international financial environment following the breakout of the *subprime* mortgages crisis in the US, with contagion effects on an international scale. By rising interest rates (i.e. tightening monetary policy stances) Central Banks could attempt to curb inflationary risks. However, at the same time, a credit crunch and liquidity tightening could depress domestic growth prospects. On the other hand, by cutting interest rates they could sustain the real economy, but at the risk of speeding up inflation. In facing these dilemmas, central banks have no other choice than to take a pragmatic view, while considering that only a combination of sustainable macroeconomic policies and a structural reform can guarantee success in the long run.

In the third section, recent trends in international trade and FDI flows for CEE and SEE countries are outlined. All of these countries have recently experienced an increasing degree of international trade and an upswing in FDI stocks, fostered by large privatisation programmes, the opening up of trade and financial markets, and EU accession prospects. The Eurozone (with Germany and Italy at the fore) is clearly the main trade partner for most CEE countries, with infra-regional trade also making a relevant contribution, in particular among SEE countries. Machinery represents the most important export and import sector in a large number of

countries, partly affected by the delocalisation processes of Western industries. Fuel and energy are also relevant in some cases, followed by more traditional sectors. The Eurozone is often the main area of origin of FDI inflows, with Germany leading the way in most cases, and Manufacturing and Servicing (including financial intermediation) are the main sectors of destination.

Financial markets have also progressed at a formidable pace in all the countries considered, driven by major changes in terms of deep restructuring and ownership changes, financial sector and macroeconomic policies, and cyclical factors. A comparative analysis of CEE and SEE countries' financial structures (provided in the fourth section) highlights some common traits: still limited financial depth, despite the remarkable catch-up process of some banking activity indicators, and the major role played by the banking sector over the capital markets in channelling funds from domestic and foreign savings to investments.

Despite the strong increase in credit aggregates in the last few years, data still indicate high growth potential for financial intermediation in most cases. While representing an extraordinary investment opportunity for local and foreign banks, advancement of the catch-up process in financial intermediation depth also lays the foundations for sustained economic growth. As most recent literature on this subject indicates, economies with better-developed financial markets are able to gain more from FDI, sustaining productivity and growth.

On the security market side (analysed in the fifth section, devoted to capital market development), although market capitalisation remains half that of the Eurozone average, equity markets have grown rapidly in the past few years. The number of listed companies in Bratislava, Bucharest, Budapest, Bulgarian, Ljubljana, Prague and Warsaw Stock Exchanges steadily increased overall to around 1,100 in October 2007. Listed bonds have also been growing, particularly domestic corporate bonds, although as of 2006 the outstanding stock of non-financial corporate debt securities still accounted for less than 5 percent of GDP in all the countries considered. At the same time, many CEE markets have seen an increase in the number of firms cross-listing in international financial centres. In the Czech Republic, Hungary, and Poland, firms accounting for more than two-thirds of market capitalisation are also listed abroad. These trends may further stimulate the consolidation of CEE Stock Exchanges with other European Stock Exchanges.

Gianluca Salsecci

Long-term Growth Perspectives and Economic Convergence of CEE and SEE Countries

1. Introduction

The economies of CEE and SEE countries have grown at a brisk pace in recent years. Over the 2002-2006 five-year period, the growth differential vs. the Eurozone was of around 2%-3% for CEE countries, and 3%-4% for SEE countries, and widened even further in 2007, a year of sustained growth in Emerging and Transition Economies. Despite the global slowdown forecast in 2008-2009 by most analysts, the differential is expected to remain in line with the recent trend. Therefore, the GDP per capita gap separating CEE and especially SEE countries from the Eurozone, while still high, is expected to narrow further. All the countries mentioned have been benefiting from significant advances in institutional and economic governance framework, which have fostered a remarkable path of real and nominal convergence towards EU.

This document investigates the main drivers of recent economic growth in CEE and SEE countries. The theoretical framework for the analysis is provided by the growth-accounting approach suggested by a wide strand of literature on the topic. The relative contribution made to growth by changes in inputs (capital and labour utilisation) and their combined efficiency, as represented by total factor productivity¹, is evaluated.

Recent sustained economic growth in Eastern Countries is shown to be driven both by capital accumulation and total factor productivity changes, with the latter making a major contribution². In a context characterised by deep product and labour market reforms, enterprise privatisation and banking sector restructuring and by increasing international trade and financial integration, strong FDI inflows are not surprisingly found to have played a primary role in boosting productivity and sustaining long-term economic growth.

The analysis allows to draw some conclusions. As growth determinants – and productivity changes in particular – are expected to continue playing a major role in years to come, CEE and SEE countries should continue to record higher average economic growth than the Eurozone. Furthermore, as the main growth drivers are effectively the same as those shaping the convergence path, these countries are also expected to keep catching up with the Eurozone.

The nominal convergence path towards the Eurozone is then investigated from two viewpoints: convergence towards Eurozone averages of inflation, fiscal policy, and long-term interest rates; and convergence towards Maastricht Criteria in view of euro adoption. Lastly, the two main issues Governments and Central Banks will face in the process of real and nominal convergence – i.e. the reconciliation of exchange rate stability with inflation convergence and with persistent current account deficits – will also be discussed.

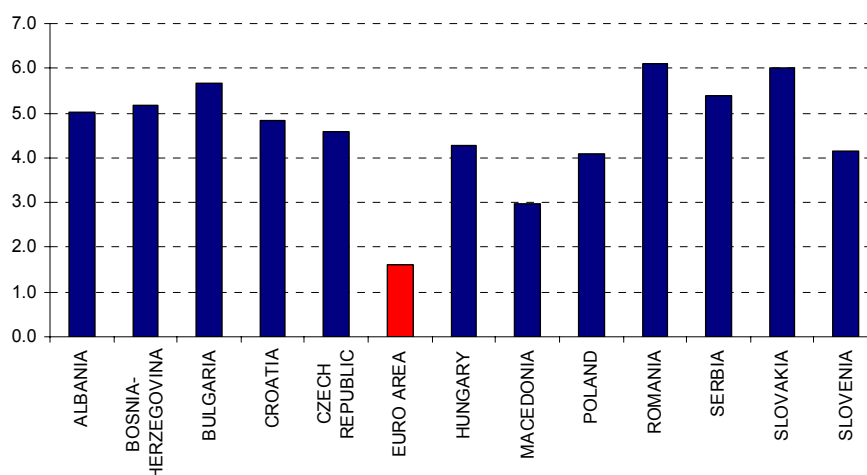
¹ This approach to the analysis of long-term growth determinants in emerging countries is applied and extensively discussed in Barry P. Bosworth and Susan M. Collins (2003), *The Empirics of Growth: An Update, Brooking Papers on Economic Activity*, and O. Arrabitel et al. (2007), *Determinants of Growth in the Central and Eastern European EU Member States – A Production Function Approach, ECB Occasional Paper Series*, n. 61.

² Bosworth and Susan (2003) find that both Capital accumulation and TFP make a similar contribution to GDP growth. However in the context of East European Countries O. Arrabitel et al. (2007) find that GDP growth is mainly related to TFP improvements, and therefore consistent with the deep economic transformation occurring in those countries. A similar result is documented for CIS countries by G. Irdian (2007), *Rapid Growth in Transition Economies: Growth Accounting Approach, IMF Working Paper*, n. 164.

2. Long-term Growth Perspectives and Real Economic Convergence

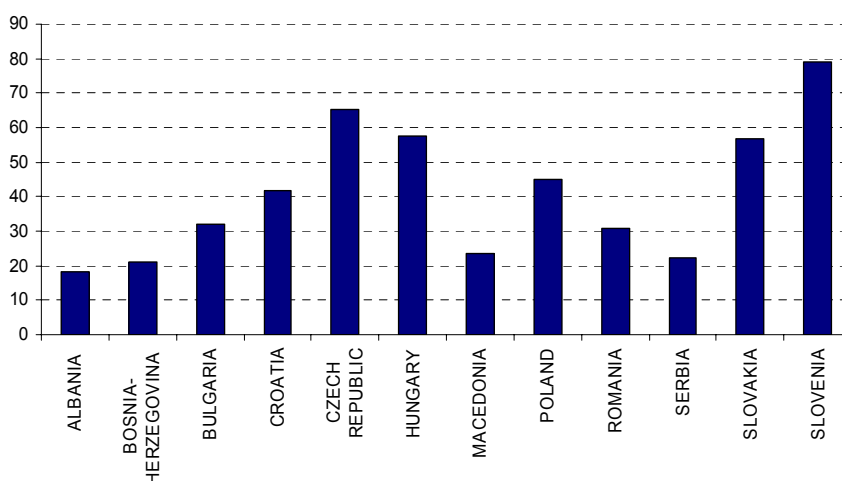
In the past five years, GDP growth rates in CEE and SEE countries have generally exceeded the 4% and 5% marks respectively, considerably higher than the Eurozone average over the same period, of around 1.6% (see Graph 1). The persistently higher growth rates recorded in transition economies in the last decade has contributed to narrowing the GDP per capita gap separating Central Eastern and Southern Eastern European Countries and the Eurozone. This gap currently ranges (in PPP terms) from around 80% for Albania, to around only 20% for Slovenia (see Graph 2).

Graph 1 – Real GDP % Growth (Average 2002-2006)



Source: EIU

Graph 2 – Real GDP per Capita (% Euro Area 2006)

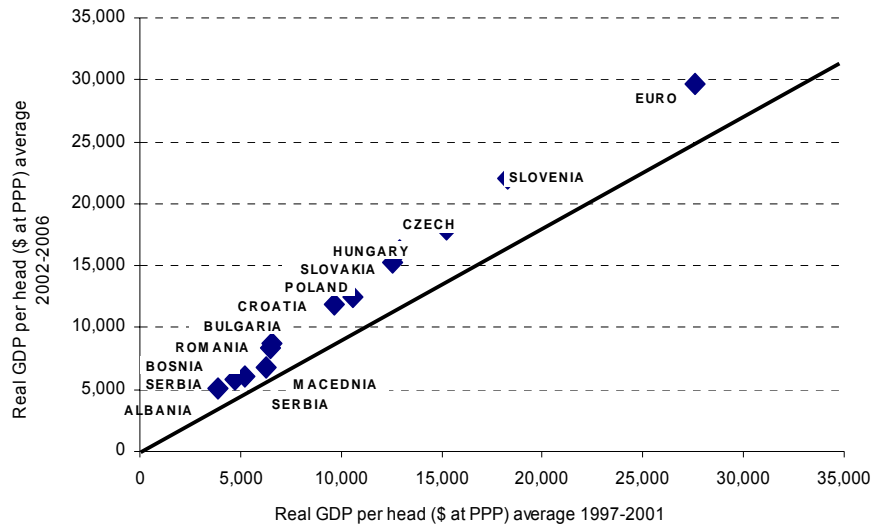


Source: Own calculation on EIU data

In all countries, average real per capita GDP in 2002-2006 was higher than in the previous five years (see Graph 3). In the years ahead, the world economy is expected to slow from the peaks touched in the past five years, and the pace of growth should also lose steam in CEE and SEE countries. Nonetheless, the growth differential vs. the Eurozone is estimated to stay wider than 2%-3% in 2008-2009 (see Table 1). The per capita GDP gap is therefore expected to narrow further.

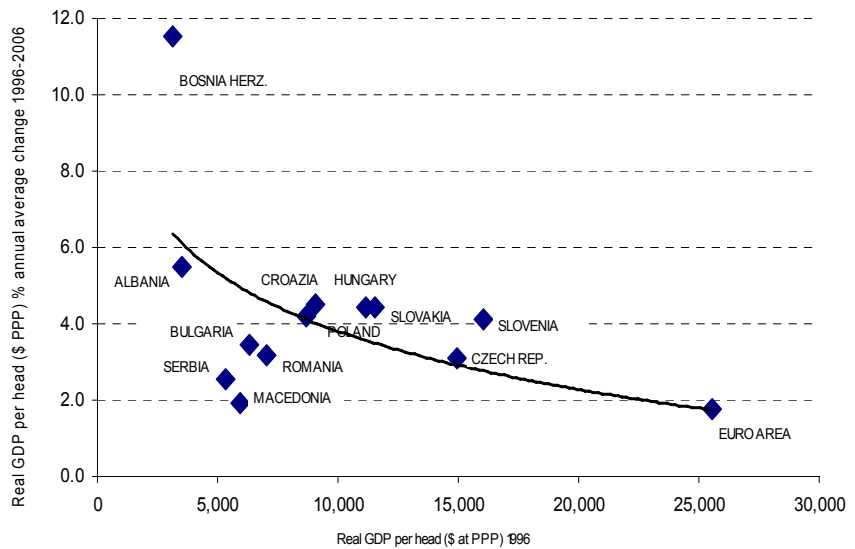
In Graph 4, average per capita GDP growth rates in 1996-2006 are crossed against 1996 per capita GDP levels in the same set of countries. The regression line has a negative slope, denoting convergence in per capita GDP levels. Therefore, the lower the initial (1996) per capita GDP level, the higher the subsequent (1996-2006) per capita GDP average growth rate, in both CEE and SEE countries vs. Eurozone countries. If growth differentials between CEE/SEE countries and the Eurozone average stay wider than 2%-3%, the gaps could be progressively narrowed.

Graph 3 – Real GDP per Head (\$ at PPP)



Source: EIU

Graph 4 - Convergence of Real GDP per Capita in some CEE and SEE Countries



Source: EIU, Own calculations based on EIU data

Table 2 shows the relative contribution to the per capita GDP growth rate made by the two underlying variables it can be broken down into, i.e. the Employment Utilisation rate (Employment over Population) and Labour Productivity (GDP per

Worker)³. Simple data inspection suggests that Labour Productivity growth is the major variable responsible for per capita GDP growth, with the Employment Utilisation rate playing a minor role⁴.

Within the framework of a simple Growth Accounting Model, Labour Productivity's contribution to growth may be explained – through estimation of a widely used production function⁵ – by the separate effects of capital accumulation (as measured by Capital/Labour changes) and Total Factor Productivity, that is the combined result on production efficiency of both capital and labour. In line with most recent literature on growth in Transition Economies, Total Factor Productivity is identified as the most relevant determinant for growth in the long run (See Table 2), with only two exceptions represented by Bulgaria and Slovenia, where Capital accumulation seems to have made a more important contribution⁶.

Moving back to the convergence issue, as Labour Productivity changes may be identified as the main factor behind the GDP performance differential of CEE and SEE countries vs. the Eurozone (see Table 2), they may also be considered as making the strongest contribution to their real convergence. As show in Graph 5, the lower the initial productivity levels, the larger the Labour Productivity changes have been. This has been the case for Bulgaria and Romania (only recently part of the EU), with Slovenia (nearer to EIU productivity standards) on the opposite side of the spectrum. However, since the main variable determining Labour Productivity Growth is Total Factor Productivity, TFP may be ultimately considered as the main driver of CEE and SEE Countries' Real Economic Convergence towards the Eurozone.

³ The growth rate of per capita GDP may be easily approximated by the sum of Employment Utilisation (Share of Working Population) growth and GDP Per Worker (Labour Productivity) Growth, i.e.

$$g[\text{GDP}/N] \approx g[L/N] + g[\text{GDP}/L]$$

where g stands for percentage change, N for population, L for Labour (Workers) and square brackets include the variables with respect to which growth is calculated.

⁴ The main change in labour utilisation was tied to employment rate changes, as the age structure of population changed only marginally. See on this point O. Arratibel et al. (2007).

⁵ The functional form underlying our analysis is a simple Cobb-Douglas Production Function with $\alpha = 0.35$, in line with most empirical work on growth. In this context,

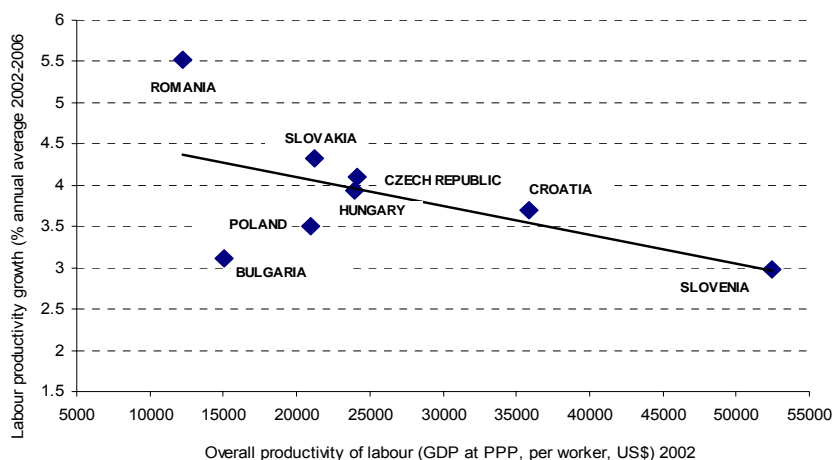
$$g[\text{GDP}/L] = \alpha \cdot g[(K/L)] + g[\text{TFP}].$$

where g stands for percentage change, K/L is the Capital/Labour ratio and square brackets include the variables with respect to which growth is calculated.

TFP is estimated as residual, and therefore includes the effects of factors other than combined efficiency of capital and labour, such as external shocks, changes in Government Policies, and institutional factors, which are thought to be relevant in the context of transition economies. Also, accounting decomposition is not intended to determine the causes of growth, but simply, as Bosworth and Collins (2003) suggest, "provide a framework for examining the proximate sources of growth" (p. 116).

⁶ Similar results are found in S. Schadler et al. (2007), *Growth in the Central and Eastern European Countries of the European Union*, IMF Occasional Paper. This analysis of CEEC growth over the last decade shows remarkable increases in TFP to have played a dominant role, with capital accumulation providing a modest contribution.

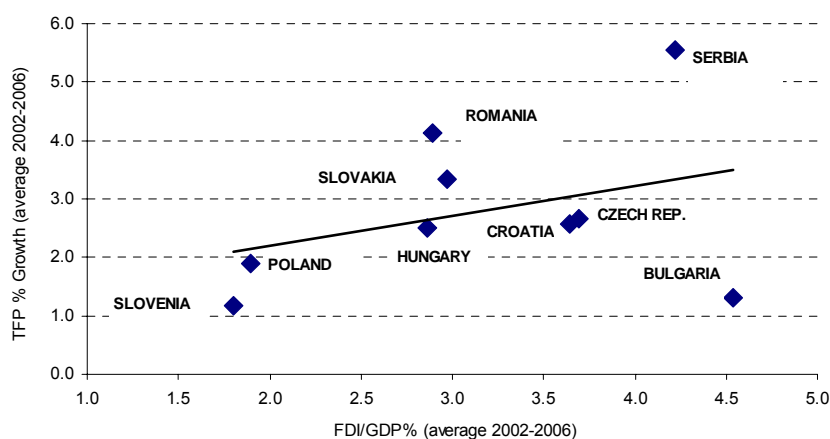
Graph 5 – Labour Productivity Convergence (2002-2006)



Source: EIU, Own calculations based on EIU

At this point, it seems appropriate to investigate eligible drivers of the extraordinary TFP performance achieved by CEE and SEE countries in recent years. Intuitively, TFP performance in Eastern European countries seems to have been strongly related in literature to the institutional and economic transition process involving CEE and SEE countries. The main mechanisms activated by transition are privatisation and restructuring of existing inefficient state-owned enterprises, deep restructuring of the Banking sector, deregulation and competition-enhancing measures introduced in product and labour markets, progressive opening of the economies to external trade and international capital flows. Altogether these ingredients have significantly fostered production and managerial efficiency, consequently (and not surprisingly) affecting the TFP performance trend⁷.

Graph 6 – Total Factor Productivity and FDI



Source: EIU, Own calculations based on EIU data

⁷ On this point see, among the others, Arrabitel et al. (2007).

FDI flows represent the main channel through which the TFP profile has been influenced by the factors mentioned above. As acknowledged by a vast body of literature on the topic⁸ FDIs have represented an important vehicle for technology, innovation and knowledge transfers, stimulating competition, providing financial sources to local enterprises, and boosting domestic investments as a result. In Graph 6, the average change in TFP in CEE and SEE countries in 2002-2006 is crossed with the average FDI/GDP ratio experienced by the same countries in the same period. The scatter shows a positive relationship between the two variables, with relatively stronger TFP performance in countries benefiting from relatively higher FDI/GDP ratios.

A number of theoretical and empirical contributions highlight the important role played by institutions, trade, and financial integration in fostering productivity and growth. D. Dollar and A. Kraay (2003)⁹ find that, in a large cross-section of countries, rapid growth in the very long run is related to high levels of international trade and sound institutions. H. Badiger (2007) finds that in addition to trade and institutions¹⁰, free trade agreements (FTAs) are a further determinant of productivity and per capita income across countries. T. Gao (2004) shows that economic integration enhances FDI, fuels expansion of R&D activity, and increases global growth¹¹. Finally, A. Bonfiglioli (2007), finds that financial integration has a positive direct effect on productivity¹².

The 2002-2006 FDI/GDP average ratio is crossed in Graph 7 against changes in a traditional measure of International Trade Openness, and in Graph 8 against changes in a traditional measure of International Financial Integration¹³. The scatters indicate a positive relationship in both cases. These results seem to support the view that in a context characterised by the improving quality of institutions and regulations, tied in part to each country's EU accession prospects, better international trade and financial integration spurred FDI flows in CEE and SEE countries, reaping positive effects on productivity and growth.

The major contribution made by developing financial markets to establishing a positive relationship between FDI and TFP (and growth) is underlined in literature. L. Alfaro et al. (2004) draw a cross-country analysis emphasising the role of financial institutions in encouraging FDI and supporting growth.

⁸ See among the others Arrabitel et al. (2007)

⁹ D. David and A. Kraay (2003), *Institutions, Trade and Growth*, *Journal of Monetary Economics*, vol. 50, pp. 133-162.

¹⁰ H. Badinger (2007), *Trade policy and productivity*, *European Economic Review* (in press). Badinger utilises an unconventional measure of trade openness - real openness - defined as $(Imp.+Exp. \text{ in US\$})/(GDP \text{ in PPP US\$})$, rather than the conventional measure of "nominal openness" $(Imp.+Exp \text{ in US\$})/(GDP \text{ in US\$})$, to purge the result from the distortion caused by the Balassa Samuelson effect. With this modification he finds that trade and institutions are both robust, statistically and economically significant determinants of productivity, a result questioned by some authors who argue that trade is no more relevant once institutions and geography are controlled for.

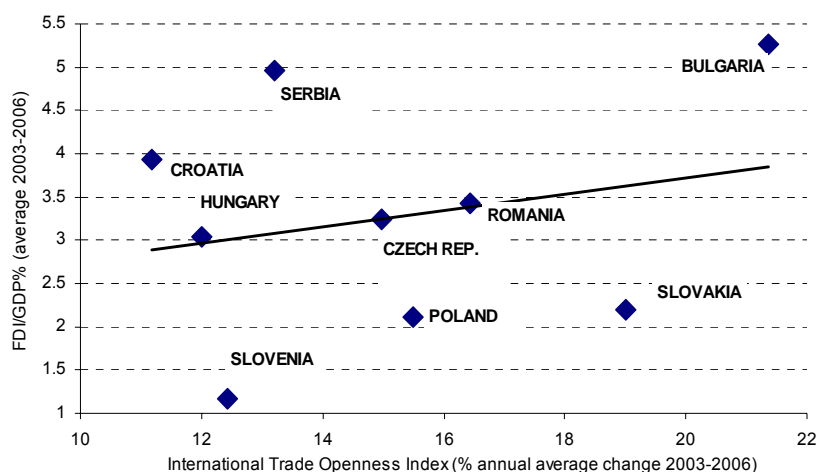
¹¹ T. Gao (2005), *Foreign Direct Investment and Growth under Economic Integration*, *Journal of International Economics*, vol. 67, pp. 157-174. Gao observes that the relationship between FDI and Growth may not signify a causal relationship because both may respond endogenously to the same phenomenon: economic integration.

¹² A. Bonfiglioli, *Financial Integration, Productivity and Capital Accumulation*, *Institute for Economic Analysis, CSIC, February*. Her results suggest that while financial integration has a positive and direct effect on productivity, it only affects capital accumulation with some delay and indirectly, since capital is shown to follow the rise in productivity.

¹³ The measure of International Financial Openness herewith used is given by the sum of Gross Stocks of Foreign Asset and Liabilities, as suggested by P. Lane P. and G. Milesi-Ferretti (2006), *The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970-2004*, IMF Working paper 06/69.

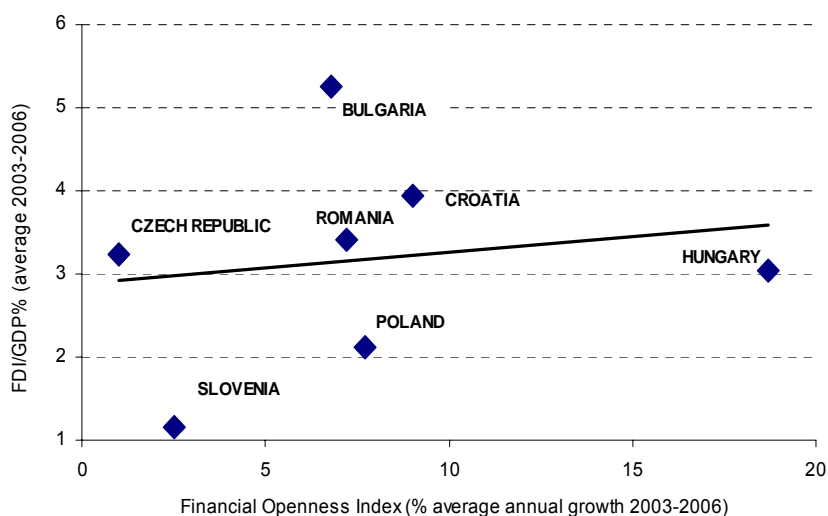
They find that economies with better developed financial markets are able to gain more from FDI. Data on CEE and SEE countries seem to confirm this finding¹⁴. A scatter Graph crossing FDI/GDP with a measure of financial development – provided in the fourth section of this study devoted to the banking system – shows the relationship between the two variables to be positive¹⁵.

Graph 7 – FDI and International Trade Openness



Source: EIU, Own calculations based on EIU data

Graph 8 – FDI and Financial Openness



Source: EIU, Own calculations based on EIU data

¹⁴ See L. Alfaro et al. (2004), *FDI and Economic Growth: the Role of Local Financial Markets*, *Journal of International Economics*, n. 64. The authors argue in particular that “the lack of development of local financial markets can limit the economy’s ability to take advantage of potential FDI spillovers” and that “to the extent that significant FDI arrives through mergers and acquisitions, it is not just easy availability of loans but also well-functioning stock market that matter” (pp. 91-92).

¹⁵ Levine and Zervos (1998), *Stock Market, Banks and Economic Growth*, *American Economic Review*, vol. 88, pp 537-558, find that stock market liquidity and banking development positively predict capital accumulation and productivity, therefore positively affecting growth.

3. Nominal Convergence and Maastricht Criteria

The new member states have made considerable progress in terms of macroeconomic stabilisation over the last two decades. In the transition period from central planning to market economies, CEE countries underwent deep changes in their economic governance frameworks, in most cases having to cope initially with severe recession, high inflation, and financial market and exchange rate instability. The picture definitely improved during the '90s – in a global context characterised by inflation and interest rate decline – when CEE countries started to follow a remarkable nominal convergence path towards the EU-15. More recently, due to demand and oil- and food-driven inflation upsurges and fiscal consolidation setbacks, the convergence process has decelerated in some cases.

Table 3 provides data on inflation, fiscal policy, and long-term interest rates referred to the 2000-2003 and 2004-2007 periods. On average, inflation rates were lower in 2004-2007 than in 2000-2003. Nominal interest rates on outstanding public debt declined in parallel, also reflecting a decline in the sovereign risk premium component. Government deficits and debt stocks over GDP also improved across the board, except in the Czech Republic and, in particular, Hungary, where the Government is however committed to adopting restrictive measures to reshape public accounts.

Future adoption of the euro requires the convergence of the new member states to be measured against a set of parameters (Maastricht Criteria). Convergence is assessed on the basis of given inflation and long-term nominal interest rate thresholds, compliance with strict benchmark values for general government deficits and debt relative to GDP¹⁶, and a minimum period of achieved exchange rate stability against the euro. Of the CEE and SEE countries considered in this study, Table 3 shows the relative positions of Hungary, Poland, the Czech Republic, and Slovakia.

According to the ECB Convergence Report published in December 2006¹⁷, none of the four countries fulfilled the set of criteria at the end of 2006 (see Table 4). Inflation came in above the reference value in Hungary and Slovakia; deficits in Hungary, Slovakia and Poland; and debt in Hungary. Of the four countries, only Slovakia was part of the ERM II, but had been only since November 2005.

In converging to Maastricht criteria and finally entering the Eurozone, the authorities of the EU New Member states have to tackle two main issues: a) how to reconcile exchange rate stability with inflation convergence in the presence of a Balassa-Samuelson effect; b) how to keep the exchange rate stable in a context of persistent current account deficit and high capital mobility.

¹⁶ In addition, Euro adoption is conditioned to the compatibility of national Member State legislations and ESCB Statute.

¹⁷ ECB (2006), *Convergence Report December 2006*, available when this study was prepared.

As a result of significant productivity gains in the tradable goods sectors, Central and Eastern European countries are experiencing an increase in the price of non-traded goods relative to traded goods, with upward effects on inflation and real exchange rates. Some authors estimate this effect at around 2% per year¹⁸. The effect – known as Balassa Samuelson effect – may therefore cause inflation rates to exceed the Eurozone average (and a fortiori the Maastricht criterion), and real exchange rates to appreciate to the same extent.

Table 5 illustrates the trend of nominal and real exchange rates. In 2000-2006, the real effective exchange rate appreciated around 1% per annum in Poland, 4%-5% p.a. in Czech Republic and Hungary and 7% p.a. in Slovakia, which experienced both higher inflation vs. the Eurozone and a higher nominal appreciation of the exchange rate before entering the ERM II in November 2005¹⁹. The Authorities may find it difficult to meet both the inflation target, which could be pursued at the expense of a severe economic downturn, and exchange rate stability, at the expense of strong currency appreciation in real terms and a parallel loss in competitiveness. This dilemma is at the heart of the largest CEECs de facto decision to delay entry in EMU (at least with respect to 2004 expectations, when they entered the EU) until a higher degree of real convergence is effectively achieved²⁰.

The second issue relates to the risk associated with current account deficits in most CEE countries in terms of exchange rate stability. As shown in Table 6, in 2006 the current account deficit over GDP was above 10% in Romania and Bosnia, 7% in Croatia, 5% in Hungary, 3% in the Czech Republic, and around 2% in Poland. Deficits of less than 3% of GDP are not thought to be harmful as in a high-growth environment they may not cause a deterioration in the Country's External Position. On the contrary, higher current account/GDP deficits may introduce risks to a country's long run exchange rate and financial system stability as they may generate unsustainable paths of external debt accumulation and increase vulnerability to external financing.

In the CEE countries considered here, current account deficits are actually covered by strong capital inflows. The issue here is how persistent they will prove to be in a medium-term perspective, bearing in mind that an abrupt reversal might have destabilising effects on the financial markets, seriously jeopardising any attempt to keep nominal exchange rates stable.

¹⁸ For a discussion on this point see J. Frenkel (2004), *Real Convergence and Euro Adoption in Central and Eastern Europe: Trade and Business Cycle Correlations as Endogenous Criteria for Joining EMU*, Paper for Conference on Euro Adoption in the Accession Countries – Opportunities and Challenges, Czech National Bank, Prague, 2-3 Feb.

¹⁹ It is widely recognised (Cfr. P. Kenen and E. Meade (2003), *EU Accession and the Euro: Close Together or Far Apart?*, *International Economics Policy Briefs*) that in most cases, and also in the experiences herewith discussed, real appreciation exceeds the amount tied to the Balassa Samuelson effect.

²⁰ One issue here is the parity EMU accession countries will adopt. In a recent paper N. Giannellis and A. Papadopoulos (2007), *Estimating the Equilibrium Effective Exchange Rate for Potential EMU Members*, *Open Economic Review*, pp 307-326, conclude that "the actual effective exchange rates do not deviate significantly from their equilibrium rates. As a consequence (...) we do not expect any anticipated large fluctuations in the examined effective exchange rates. This evidence persuades us to assert that those countries can successfully meet the exchange rate criterion". However as Frenkel (2004) noticed: "Even assuming these countries are able to adjust their parities to the right competitive level before entering EMU, or more precisely, before entering the two-year probationary period, the Balassa Samuelson effect predicts that there will continue to be upward pressure on their price levels in the future. Once they have joined EMU there will be no good way to address it." (p. 14).

It should be highlighted (see Table 5) that most capital inflows are represented by FDI and by Other Investments, i.e. essentially direct foreign borrowing by enterprises during the transition period and mainly channelled through the banking sector since 2000²¹. Both items are thought to be more stable than Investment Portfolio items, and therefore capable of providing support to exchange rate stability in the long run²².

Gianluca Salsecci and Antonio Pesce

²¹ Z. Arvai (2005), *Capital Account Liberalization, Capital Flow Patterns and Policy Responses in the EU's New Member States*, IMF Working Paper, n. 213. He notes that as a result of the recent banking system privatisation and restructuring, the banking channel has become dominant for investment flows in most countries, largely replacing former direct borrowing by the corporate sector. Direct borrowing was needed when local banks were not able to meet the financial needs of their clients.

²² It should be noted, to this regard, that if part of the capital inflows through the banking channel are a simple replacement of former direct foreign borrowing by the corporate sector, monetary authority attempts to reduce credit growth in some countries by imposing restrictive measure on the banking sector may turn out to be ineffective in a context of free capital mobility, while increasing the cost of domestic borrowing for enterprises in some circumstances. A discussion of the main challenges/implications for Central Banking in CEE and SEE countries stemming from the two issues raised in this last section is left to the second part of this study.

Table 1 - Real GDP % Growth

| | Average (2002 2006) | 2007e | Average (2008 2009)f |
|------------------------|------------------------|-------|-------------------------|
| CEE Countries | | | |
| CZECH REPUBLIC | 4.6 | 5.7 | 4.7 |
| HUNGARY | 4.3 | 2.0 | 3.4 |
| POLAND | 4.1 | 6.5 | 4.8 |
| SLOVAKIA | 6.0 | 8.5 | 5.9 |
| SLOVENIA | 4.2 | 5.8 | 4.3 |
| CROATIA | 4.8 | 5.7 | 5.3 |
| SEE Countries | | | |
| ROMANIA | 6.1 | 5.8 | 5.5 |
| BULGARIA | 5.7 | 6.2 | 5.9 |
| MACEDONIA | 3.0 | 4.6 | 4.9 |
| ALBANIA | 5.0 | 5.0 | 6.0 |
| BOSNIA- HERZEGOVINA | 5.2 | 5.5 | 6.0 |
| SERBIA | 5.4 | 7.0 | 5.8 |
| Euro Area | 1.6 | 2.5 | 2.1 |

Source: EIU December 2007 (e) estimate, (f) forecasts

Table 2 - GDP Growth and Drivers (Average Data 2002-2006)

| | GDP (% real change) | Real GDP growth per head (%) (1) | Employment /Population growth (%) (2) | Labour productivity growth (%) (3) | Real Stock of Capital /Employment growth (%) (4) | Total factor productivity growth (%) (5) |
|--------------------------------|------------------------|---|--|---|--|---|
| CEE Countries | | | | | | |
| <i>EU Member</i> | | | | | | |
| CZECH REPUBLIC | 4.6 | 4.6 | 0.5 | 4.1 | 1.4 | 2.7 |
| HUNGARY | 4.3 | 4.6 | 0.6 | 3.9 | 1.4 | 2.5 |
| POLAND | 4.1 | 4.1 | 0.6 | 3.5 | 1.6 | 1.9 |
| SLOVAKIA | 6.0 | 5.7 | 1.4 | 4.3 | 1.0 | 3.3 |
| SLOVENIA | 4.2 | 4.2 | 1.2 | 3.0 | 1.8 | 1.2 |
| <i>EU Candidate</i> | | | | | | |
| CROATIA | 4.8 | 4.6 | 0.9 | 3.7 | 1.1 | 2.6 |
| SEE Countries | | | | | | |
| <i>EU Member</i> | | | | | | |
| ROMANIA | 6.1 | 6.9 | 1.4 | 5.5 | 1.4 | 4.1 |
| BULGARIA | 5.7 | 6.4 | 3.3 | 3.1 | 1.8 | 1.3 |
| <i>EU Candidate</i> | | | | | | |
| MACEDONIA | 3.0 | - | - | - | - | - |
| <i>EU Potential Candidates</i> | | | | | | |
| ALBANIA | 5.0 | 4.5 | - | - | - | - |
| BOSNIA- HERZEGOVINA | 5.2 | 4.7 | - | - | - | - |
| SERBIA | 5.4 | 6.3 | 0.0 | 6.3 | 0.8 | 5.5 |
| Euro Area | 1.6 | 1.2 | 0.5 | 0.7 | - | - |

Source: Our calculations based on EIU data base

Note that (1)≈(2)+(3) and (3)≈(4)+(5)

Table 3 - Trends of Nominal Indicators in CEE and SEE Countries

| | Average general government surplus (+) or deficit (-) ¹ | | Average government debt ² | | Average inflation ³ | | Average long-term interest rate | |
|----------------------|--|------|--------------------------------------|------|--------------------------------|------|---------------------------------|------|
| | 2000 | 2003 | 2004 | 2007 | 2000 | 2004 | 2000 | 2004 |
| | 2003 | 2007 | 2003 | 2007 | 2003 | 2007 | 2003 | 2007 |
| CEE Countries | | | | | | | | |
| CZECH REPUBLIC | -2.6 | -3.5 | 18.3 | 26.9 | 2.6 | 2.5 | 4.6 | 3.5 |
| HUNGARY | -5.0 | -6.6 | 53.1 | 62.5 | 7.3 | 5.6 | 8.2 | 7.6 |
| POLAND | -3.9 | -2.9 | 40.5 | 45.0 | 4.6 | 2.2 | - | - |
| SLOVAKIA | -4.5 | -3.0 | 40.0 | 37.0 | 7.8 | 4.4 | 7.1 | 4.4 |
| SLOVENIA | -1.6 | -0.9 | 26.0 | 25.6 | 7.6 | 3.0 | - | - |
| CROATIA | -5.1 | -3.7 | 55.2 | 48.5 | 2.9 | 2.7 | - | - |
| SEE Countries | | | | | | | | |
| ROMANIA | -3.0 | -1.5 | 28.6 | 20.4 | 29.5 | 8.1 | - | - |
| BULGARIA | -0.6 | 2.8 | 62.8 | 29.1 | 6.5 | 6.6 | 6.6 | 4.1 |
| MACEDONIA | -2.4 | -0.4 | 31.4 | 27.2 | 3.8 | 1.6 | - | - |
| ALBANIA | -6.8 | -3.9 | - | 55.5 | 2.8 | 2.4 | - | - |
| BOSNIA HERZEGOVINA | -4.0 | 0.6 | 37.4 | 29.4 | 2.2 | 3.2 | - | - |
| SERBIA | -2.0 | 0.4 | 101.7 | 51.3 | 47.8 | 11.5 | - | - |
| Euro Area | -1.8 | -2.0 | 68.4 | 68.9 | 2.3 | 2.1 | 4.8 | 3.9 |

Source: Own calculations based on EIU data

1) Net borrowing/lending of consolidated general government sector as percentage of GDP

2) General government consolidated gross debt as a percentage of GDP

3) Annual average rate of change in Indices of Consumer Prices

Table 4 - Nominal Convergence to Maastricht Criteria in some CEE Countries (2006)

| | General government surplus (+) or deficit (-) ¹ | General government gross debt ² | Inflation ³ | Long-term interest rate ⁴ | Exchange Rate Regime and Monetary Policy Framework ⁵ |
|--|--|--|------------------------|--------------------------------------|---|
| CZECH REPUBLIC | -2.9 | 30.1 | 2.1 | 3.8 | Managed Floating and Inflation targeting |
| HUNGARY | -9.2 | 65.6 | 4.0 | 7.1 | Exchange rate anchor and inflation targeting |
| POLAND | -3.8 | 47.6 | 1.3 | 5.2 | Independently Floating and Inflation targeting |
| SLOVAKIA ⁶ | -3.7 | 30.4 | 4.3 | 4.4 | Exchange rate anchor and inflation targeting |
| convergence reference value ⁷ | -3.0 | 60.0 | 2.8 | 6.2 | |

Source: Eurostat, IMF and ECB.

1) Net borrowing/lending of consolidated general government sector as percentage of GDP. 2006 data with the exception of Croatia (2005)

2) General government consolidated gross debt as a percentage of GDP 2006 data with the exception of Croatia (2005)

3) Annual average rate of change in Harmonized Indices of Consumer Prices.

4) EMU convergence criterion bond yields (Maastricht criterion).

5) IMF De facto Classification of Exchange Rate Regime and Monetary Policy Framework.

6) Slovakia joined ERMII on November 2005.

7) Reference value refers to the period November 2005 to October 2006 for inflation and to the year 2005 for general government deficit and debt. Source "Convergence Report. December 2006".

Table 5 - Index of Nominal and Real Effective Exchange Rate

| | Index of Nominal effective exchange rate (2000 = 100) 2006 | Index of Real effective exchange rate CPI-based (2000 = 100) 2006 |
|----------------------|--|--|
| CEE Countries | | |
| CZECH REPUBLIC | 131,75 | 132,29 |
| HUNGARY | 105,09 | 127,01 |
| POLAND | 108,34 | 109,85 |
| SLOVAKIA | 117,20 | 142,69 |
| SLOVENIA | - | - |
| CROATIA | 110,72 | 112,45 |
| SEE Countries | | |
| ROMANIA | 60,92 | 129,05 |
| BULGARIA | 111,96 | 125,39 |
| MACEDONIA | 117,44 | 101,65 |
| ALBANIA | - | - |
| BOSNIA-HERZEGOVINA | - | - |
| SERBIA | - | - |

Source: IFS data

Table 6 - External Economic Indicators 2006 (% GDP)

| | Current account balance | Financial account balance | Direct investment balance | Portfolio investment balance | Other investment balance | Total external debt |
|-----------------------|-------------------------------|---------------------------------|---------------------------------|------------------------------------|--------------------------------|---------------------------|
| CEE Countries | | | | | | |
| CZECH REPUBLIC | -3.22 | 3.56 | 3.27 | -0.79 | 1.28 | 41.00 |
| HUNGARY | -5.49 | 8.75 | 2.62 | 5.71 | 0.26 | 65.40 |
| POLAND | -2.04 | 2.23 | 1.85 | -0.55 | 1.07 | 35.90 |
| SLOVAKIA ¹ | -0.85 | 4.99 | 1.61 | -1.73 | 5.06 | 54.62 |
| SLOVENIA | -2.91 | -0.35 | -0.69 | -4.90 | 5.28 | 48.80 |
| CROATIA | -7.43 | 14.89 | 7.34 | -1.45 | 8.99 | 78.20 |
| SEE Countries | | | | | | |
| ROMANIA | -10.53 | 16.49 | 9.32 | 0.04 | 7.22 | 48.40 |
| BULGARIA | -0.53 | 21.63 | 15.92 | 1.07 | 5.18 | 82.80 |
| MACEDONIA | -0.39 | 6.65 | 5.82 | 1.38 | -0.54 | 39.50 |
| ALBANIA | -7.24 | 5.65 | 3.40 | 0.37 | 1.88 | - |
| BOSNIA HERZEGOVINA | -10.78 | 9.72 | 3.45 | 0.00 | 6.27 | 53.70 |
| SERBIA | na | na | na | na | na | na |

Note 1) 2003 data

Source: IFS, EIU

Current Challenges for CEE and SEE Central Banks. Between a Rock and a Hard Place

1. Introduction

The goal of our work is to describe the main challenges facing Central and Eastern European and South Eastern European (CEE & SEE) central banks in the medium term. We will first describe some of the new challenges for central banks regarding price stability. We will then focus on challenges posed by recent developments on financial stability, and will round up with a discussion on some policy dilemmas. The central banks of the following 11 countries are considered: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, FYRM, Hungary, Romania, Serbia, Slovakia and Slovenia. Our aim is to provide an overview of outstanding issues.

Less than two decades ago, none of the countries in our sample had a modern central bank. All were under socialist rule with mono-banking systems of different scope. The situation has changed dramatically. Ten years into transition, central banks were significantly transformed²³. In the meantime, some would argue that central banking in the world has also transformed, or even been revolutionized. The widespread consensus today is that the two main goals of modern central banking are price stability and (rapidly developing) financial system stability.

With the first big-bang entry into the EU, most of the central banks of the countries included in our sample hoped for a rapid entry into the ERMII and, subsequently, into the Eurozone, thus giving up their independent monetary policies. Price stability would largely have been the ECB's concern, no longer theirs to worry about. At that time it seemed that the entry into the Eurozone would not only be swift, but relatively smooth, given falling inflation and stable financial systems. "Goldilocks" conditions in the world economy supported such optimism.

From today's perspective, the situation seems somewhat different. CEE and SEE central banks are at grips with the increasing dual risk of rising inflation (combined with a slowdown in economic growth) and financial system instability. They are, metaphorically speaking, between a rock and a hard place. By raising interest rates (i.e. tightening the monetary policy stance) they could attempt to curb inflationary risks. But at the same time, given the credit crunch and tighter liquidity conditions on the world markets, in doing so they would risk aggravating domestic growth prospects. On the other hand, cutting interest rates would help the real economy to keep growing, despite more expensive and scarcer external financing, but would imply the risk of speeding up inflation.

Given their recent history of high inflation, the central banks considered can hardly risk jeopardizing their still vulnerable credibility. Some of these countries are on the way to entering the EU, and most aspire to Eurozone accession; therefore, they need swift structural reforms, and reforms are always much easier to implement within a growing economy than in a stagnant situation (zero-sum game). Real convergence can only be achieved through sustained fast-paced growth (faster than the Eurozone's). As the late Herbert Stein used to say: "The difference between 3% and 6% annual growth is 100%" (i.e. the difference in GDP over a span of 25 years with the two rates of annual growth).

²³ Coats, Warren and Marko Skreb (2002): *Central Banking in Transition: An Overview of Main Issues Ten Years Later*. In *Revue D'Economie Financiere. Special Issue*. pp. 265-286.

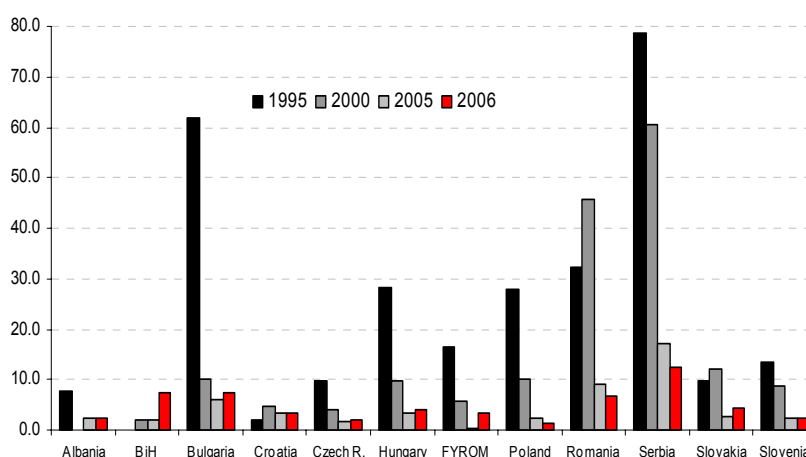
Such dilemmas are nothing new in central banking. What makes the problem somewhat more specific is the relatively high uncertainty veiling future developments, which calls for more value judgments in policies than in normal conditions. However, central bankers earn their pay when models no longer work. And as long as central banks understand that the most they can do for long-term sustained growth is to aim safeguarding both price and financial system stability, there is room for reasonable optimism with regards to both the long-term growth prospects and the economic convergence of CEE and SEE countries.

2. Price Stability Challenges

2.1. New Pressures on CPI

As regards inflation, until quite recently some of the central banks considered could say that inflation was “tame” when compared to the early stages of transition, or even to the first part of this decade (see Graph 1). Some thought that they were on the right convergence path (nominal) to meet the Maastricht requirement for the Eurozone. As the worldwide central banking revolution over the last three decades resulted in price stability being the most important goal for central banks, some of them could claim victory, almost to the point of making a “mission accomplished” boast.

Graph 1 - Inflation yoy Growth Rates, in %

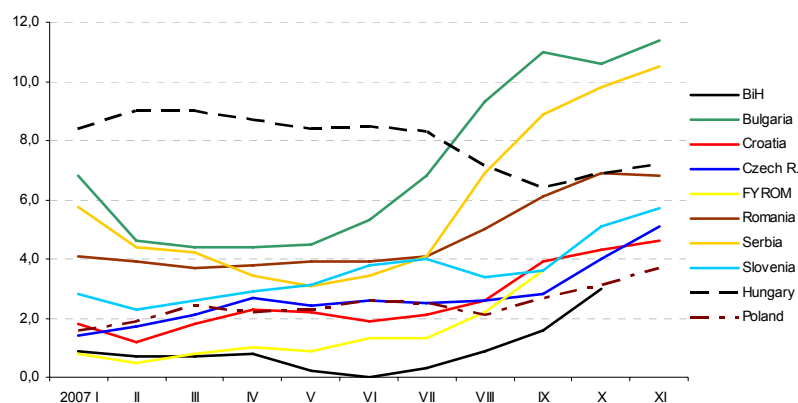


Source: Eurostat, national statistical bureaus

However, very recent upswings in energy and commodity prices (food prices especially) pose new challenges for them. Since mid-2007, inflation has been on the rise again (Graph 2). There probably isn't much central banks can do to stop world market prices from going up. However, we see at least two main risks central banks should focus on. Firstly, their role should be to wisely manage this cost-driven inflation phase, trying to avoid second round effects. For the time being, most forecasters think inflationary pressures will ease in the second part of 2008, and thanks to a base effect, inflation could return to normal levels by the end of 2008. However, should second round effects materialise, more serious problems could arise in the medium term. Even if headline inflation moderates, core inflation could go up, triggering a reaction curve in central banks. The second risk, linked with the first, is that central bank credibility is always fragile, especially in countries (most of those considered here) where less than two decades ago inflation was a big problem. Economic agents still have memories of inflation, and in most of those countries any surge in inflation could re-activate behaviours geared to avoiding inflation tax (currency substitution), resulting in the

loss of hard-won credibility. Furthermore, should the current adding of unprecedented liquidity by major central banks, geared to buffering the credit crunch effects of the subprime mortgages crisis (and effects on the real economy) result in higher global inflation, this could add to domestic inflationary dynamics (depending on pass through) and create further headaches for central banks. In other words, with globalization, total inflation is increasingly escaping the control of individual central banks.

Graph 2 - Consumer Price Inflation



Source: Eurostat, national statistical bureaux

2.2. Asset Price Challenges

Rising energy and food prices are not the only source of concern for central banks. Asset price increases (real estate and stock market) have created new challenges for central banks. On top of the general dilemmas modern central banks face regarding asset price volatility (should they react to asset price variability – “lean against the wind”? Should the reaction be asymmetric? How to identify a bubble in the making, as ex post is trivial?) our sample central banks face specific problems, such as the rapid increase in house prices in this part of the world. Due to the significant structural changes at play, how can we tell whether this increase is in accordance with macro fundamentals, or whether it also contains elements of divergence? This is not a purely academic question, as house prices have been growing rapidly in the recent period, as shown in Table 1.

Table 1: Nominal and Real Growth of House Prices

Four-quarter percentage changes, in national currency units; period averages

| Central and Eastern Europe | 1990-2001 nominal | 2002-2006 nominal | 2002-2006 real* |
|----------------------------|----------------------|----------------------|--------------------|
| Poland (2000) | 9.1 | 2.3 | 0.34 |
| Croatia (1997) | 2.7 | 8.7 | 6.16 |
| Czech Republic (2000) | 16.7 | 9.8 | 8.16 |
| Slovenia (1996) | 6.1 | 9.9 | 5.31 |
| Hungary (1998) | 8.0 | 11.9 | 6.73 |
| Bulgaria (2001) | ... | 23.5 | 17.00 |

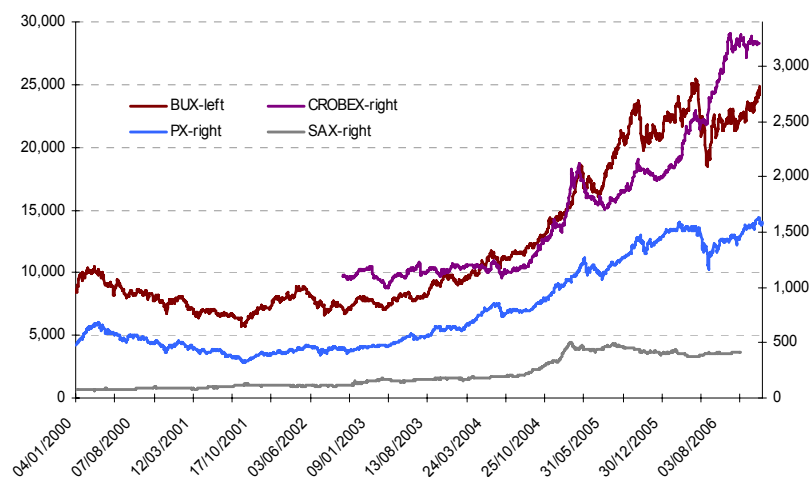
* HICP (CPI for Croatia) deflated

Source: Balazs Egert and Dubravko Mihajek (2006). *Determinants of House Prices in Central and Eastern Europe*. BIS Working Papers No. 236. Real change (deflation) own calculation.

Balasz and Mihaljek (2006) have not found evidence that the rapid increase in housing prices is a bubble; in other words, they conclude that the rise, due to different reasons, is broadly in line with macro fundamentals (income growth, housing financing, relative price distortions in socialism, etc.).

The newly established stock markets also recorded high growth rates, until recently (Graph 3). The challenge lies not only in understanding whether such growth constitutes a bubble or not, but to what extent it has created a wealth effect with implications on demand, consumption and inflation pressures.

Graph 3 - Stock Exchange Indices



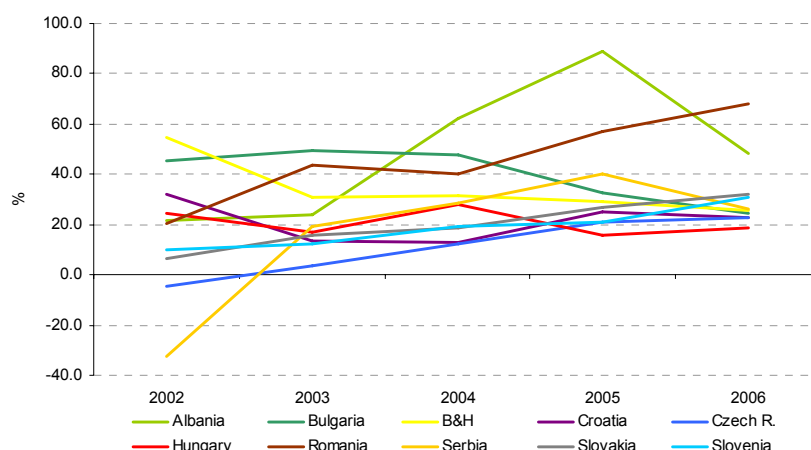
Source: stock exchange web sites

Without attempting to give a definite answer, and regardless of conventional wisdom suggesting that central banks should not react to asset price increases in excess of the direct impact they have on inflation (the usual target for central banks), the monetary institutions cannot ignore these numbers when assessing the overall balance of risks to price stability. Central banks are in the business of managing domestic aggregate demand. Factors affecting this demand cannot be neglected. The good news on stock exchange volatility is that stock market crashes do not necessarily produce financial instability.

2.3. Impact of Rapid Credit Growth on Aggregate Demand and Inflation

In addition to macroeconomic concerns (which will be discussed under the next heading), a relatively recent phenomenon, i.e. the very rapid increase in lending, also raises price-stability issues (aggregate demand) for regional central banks.

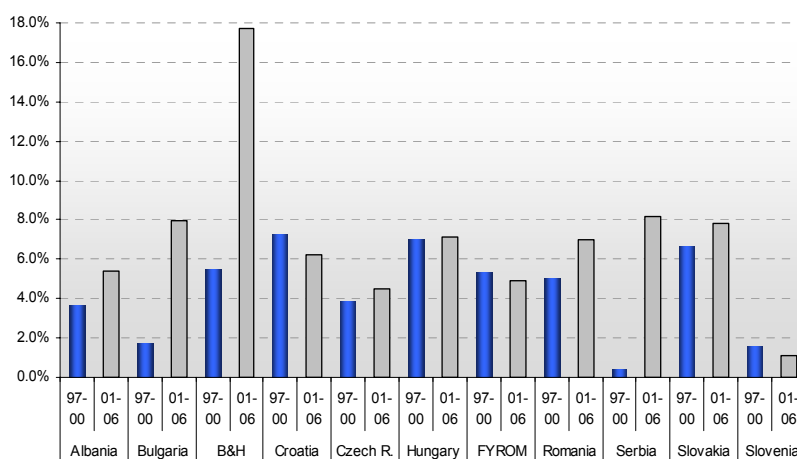
Graph 4 - Credit Growth Rate (in % yoy)



Source: national central banks

As clearly shown in Graph 4, in the last couple of years lending has grown at sharp rates in almost all of the countries considered. Over the three-year 2004-2006 period, in most of the countries included in our sample lending increased by 20-40% a year. An annual loans portfolio growth of 25% means that the stock of outstanding loans has doubled in just three years. This will inevitably impact aggregate demand and, therefore, inflation. Typically, domestic supply cannot cope with “demand shocks” of this kind in the short run. Due to liberalized imports, the shift does not always impact prices, but results in widening trade (and current account) deficits in the countries involved (Graph 5). In countries with large current account deficits, further growth in lending (with lagging supply, due to the relatively low elasticity of this variable in the short run) could place prices under pressure. As starting bases are generally low, it is harder to distinguish between catching up and overheating. Central banks have to deal with this additional risk to price stability.

Graph 5 - BOP CA Deficit (% of GDP)



Source: IMF, World Economic Outlook Database, October 2007

The average current account deficit over the two periods increased from 4.4% of GDP to 7.1%.

2.4. Euroization and Implications on Inflation

Another challenge in controlling inflation is represented by the relatively high degree of euroization of the economies (and bank balance sheets) of these countries. Euroization is difficult to measure in a given country. It is important to note that as well as expressing part of bank balance sheets in foreign currency (EUR), countries of former Yugoslavia typically use indexation. Most of the loans issued in local currency are exchange-rate indexed. Therefore, the degree of euroization is significantly higher than loans in foreign currency would indicate. Furthermore, alongside official euroization, an unofficial component also exists (currency in circulation) and is estimated to be substantial. While circulating currency in euros cannot be measured precisely in any country²⁴, it is a known fact that financial euroization is high. Therefore, the exchange rate transmission mechanism is usually quite strong, and the countries involved cannot afford much currency fluctuation (especially real depreciation in countries where wages are not indexed). Real appreciation helps (Graph 8), as it buffers the pass-through of world inflation and keeps tradable prices under control.

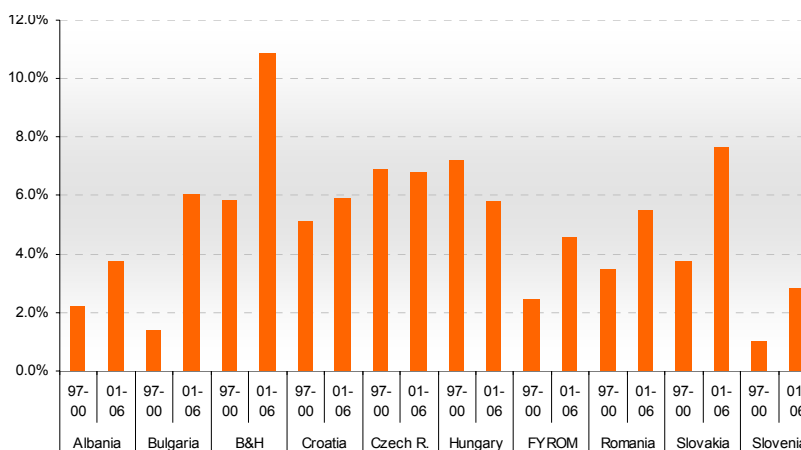
Price stability is essential for long-term sustainable growth, but not sufficient. Central banks must therefore keep close watch over financial stability as well.

3. Financial Stability Challenges

3.1. Capital Flows

In short, all countries in our sample have relatively open capital accounts and are experiencing strong capital inflows²⁵. This is especially true for FDI as graph 6 demonstrates.

Graph 6 - FDI as % of GDP, Period Averages 1997-2000 and 2001-2006



Source: IMF

In the two sub-periods observed, FDI as a percentage of GDP, are on the rise. The region as a whole received 394 billion in US dollars an unprecedented

²⁴ Attempts by the Croatian Central Bank to measure this variable failed to yield satisfactory results. See Feige, Edgar, Michael Faulend, Velimir Sonje and Vedran Sosic (2002): *Currency Substitution, Unofficial Dollarization and Estimates of Foreign Currency Held Abroad: The Case of Croatia in Mario. I. Blejer and Marko Skreb (2002) editors: Financial Policies in Emerging Markets. MIT Press.*

²⁵ Literature on capital flows to emerging markets is abundant, see Phillip R. Lane and Gian Maria Milesi-Ferretti (2006): *Capital Flows to Central and Eastern Europe. IMF working Paper WP/06/188.*

amount. While reaping numerous positive effects, capital inflows of this size also represent a challenge for central banks (and for other policymakers as well), as they usually increase a country's vulnerability to financial shocks, due to currency appreciation and loss of competitiveness, and may also add to the overheating of the economy. The good news is that the countries considered are less exposed to short-term debt, and FDI accounts for a large portion of the flows. FDI is considered less volatile, the risks are shared, and flows are therefore more sustainable. This is beneficial factor for the financing current account deficits. Central banks still face the challenge of stabilizing their net external position. Heavy reliance on foreign (imported) savings has its limitations, and the main challenge is to correctly manage the risk it implies (especially in countries with larger current account deficits). The balancing act central banks are called to perform between the positive impact of inflows on GDP growth, and the increased vulnerability to sudden interruptions (or even worse reversals), with negative consequences on domestic economies, is of great importance.

3.2. Rapid Lending Growth (Financial Stability Aspects)

As mentioned previously, lending is growing rapidly in all of our sample's countries (Graph 4). Part of the problem with regards to financial stability is that growth is financed not only by domestic sources, but also by foreign borrowing (as highlighted when discussing capital flows). Foreign savings have enabled faster credit growth than domestic sources would allow, while at the same time increasing vulnerability to the possibility of foreign creditors changing their risk preferences. And during this "age of turbulence" and general repricing of risk on a world scale, vigilance is paramount. The good news for central banks is that a large portion of foreign funding is issued by parent banks to their subsidiaries. This type of funding is typically more sustainable, tied as it is to long-term interests (and not of the hit-and-run type often typical of short-run portfolio investors), although it does not make external financing risk free.

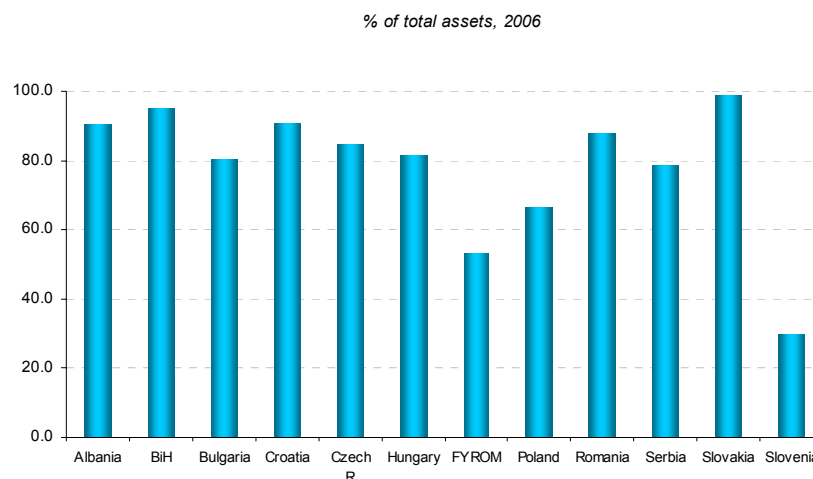
Furthermore, rapid lending growth represents a challenge for supervisory authorities, as well as creating systemic stability concerns. All the central banks, except in Bosnia and Herzegovina and Hungary, have in-house banking supervision. Despite much stricter supervision, better international standards, and higher capital adequacy today than a decade ago, excessively fast lending growth in the upward phase of the cycle can create problems, leading to an increase in non-performing loans in the downward phase of the business cycle, if risks are not managed properly during the upswing. On average, banks in the region are well capitalized and well managed, but it should be borne in mind that the resilience of banks to a full business cycle has not been fully tested yet.

3.3. Dominant Foreign Ownership of Banks

The dominant position of foreign banks has numerous markedly positive implications for the countries considered. Technology transfer, efficiency gains, and innovative products, are but a few of the benefits stemming from ownership by strategic partners (on top of access to capital and funds, which we have already discussed). Of all the business sectors in the countries considered, the banking sector is the best-integrated with the Eurozone, with direct and indirect implications for their economies. However, the high share of foreign-owned banks may also introduce new risks. First of all, home-host supervision is one of the possible issues to be discussed. Memorandums of understanding between supervisors only concern the exchange of information, and are not binding documents in terms of possible action plans, or even cost sharing in the event of a banking crisis. Central banks in the region must be wary of asymmetric exposure. Foreign banks are very often systemically important in the countries

considered, although in their country of origin exposure to the region or individual country is often minimal. Therefore, for parent banks and their supervisors, growth in local banking markets is not of crucial importance, despite the fact that they often hold dominant market positions in the host countries, sometimes simply too important to fail.

Graph 7 - Market Share of Foreign Banks



Source: National Central Banks

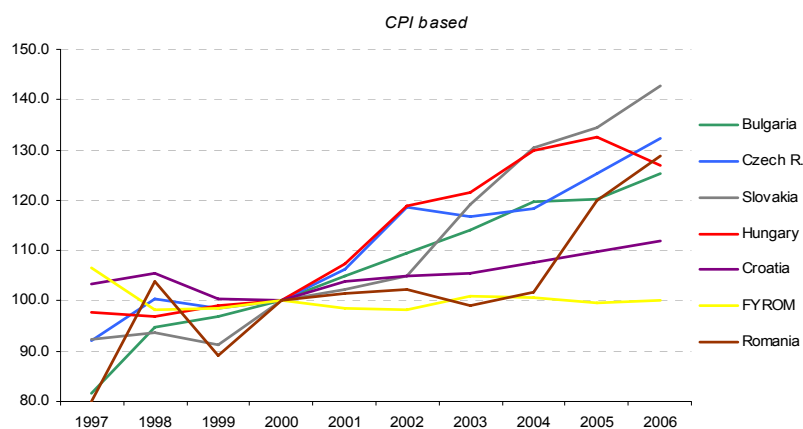
3.4. Euroization and Implications on Financial Stability

The high degree of euroization raises another risk in these countries. Foreign exchange lending (or indexed lending) usually has lower nominal interest rates. Borrowers like lower nominal rates, but to what extent are they hedged? Or are borrowers even at all aware of the exchange rate risk? The nominal appreciation of currencies, or their stability (in some of the countries with fixed exchange rate regimes), makes borrowers less aware of forex risk. Banks themselves are usually hedged against changes in their balance sheets due to exchange rate fluctuations, but currency-induced credit risk for banks should not be overlooked. This risk has only been acknowledged recently, and not many central banks are explicitly asking commercial banks to price and manage it (as the Croatian Central bank has very recently started doing). The bottom line is that exchange rate risk is always present in a country, regardless of its exchange rate regime, but may be hidden and distributed in a way that is not immediately visible.

Of course managing exchange rate risk requires specific attention. On the other hand it is not much different from interest rate risk management over the domestic currencies of these countries.

3.5. Real Appreciation and Implications on Current Account Deficits

Graph 8 - Real effective Exchange Rate



Source: IMF

All the countries considered have experienced serious real appreciation of their currencies in the last decade. Graph 8 (which shows yearly average real effective exchange rate) does not leave any doubt on the direction of real exchange rate change. Part of this appreciation may be attributed to the well-known and widely discussed Balassa-Samuelson effect. However, this is not the only factor that has contributed to the trend of real exchange rates. Large capital inflows, as discussed above, have also played a role. Central banks face the challenge of balancing real appreciation with export competitiveness. In real life, regardless of their narrow price stability mandate, no central bank can ignore external imbalances, which may eventually lead to inflation (via currency crisis, depreciation, euroization and higher inflation).

Most of the central banks considered can ill afford a crisis. Not only is any type of crisis costly per se (apart from overshooting, a crisis simply brings to the surface costs that are already there), but countries risk sovereign downgrading, which implies additional costs for foreign refinancing.

Table 2 - Sovereign Foreign Currency Ratings

| | Moody's | Standard & Poor's |
|----------|----------|-------------------|
| Albania | B1 STA | |
| BiH | B2 STA | |
| Bulgaria | Baa3 POS | BBB+/Stable/A-2 |
| Croatia | Baa3 POS | BBB/Stable/A-3 |
| Czech R. | A1 POS | A/Stable/A-1 |
| Hungary | A2 STA | BBB+/Stable/A-2 |
| FYROM | | BB+/Stable/B |
| Poland | A2 STA | A-/Stable/A-2 |
| Romania | Baa3 STA | BBB-/Negative/A-3 |
| Serbia | | BB-/Stable/B |
| Slovakia | A1 STA | A/Stable/A-1 |
| Slovenia | Aa2 POS | AA/Stable/A-1+ |

Source: Moody's, Standard&Poor's

Emerging markets could turn from safe havens, as they are viewed by some today, to places to be avoided at any cost, "emergency markets" as they were called several years ago.

4. Policy Recommendations

The ultimate goal for the central banks of the countries considered is clear: entry into the Eurozone and cessation of monetary policy. In the meantime, central banks should focus on delivering what they do best, i.e. price stability (regardless

of the monetary regime they have). Lately, inflationary pressures seem to be on the rise for various reasons. Some of the trends will probably last in the longer term and will not simply disappear. Therefore, in spite of the tremendous progress made in combating inflation over the last two decades, central banks should continue to focus on price stability to safeguard a stable macroeconomic framework for sustainable growth.

With financial deepening and globalisation, new financial risks are also on the rise. There is no doubt that these trends have benefited the countries considered, but they are accompanied by new risks. On top of achieving and maintaining price stability and clarity of mandate, central banks should factor in financial stability. The bottom line is that if regulation and supervision are inadequate, bad banks will emerge (or proliferate more than would otherwise be the case). As a result, there will be large incentives to redistribute resources as opposed to using them in production. Banking and currency crises are costly, and their economic costs are much larger than the usual accounting losses tied to such events. And newer developments, such as rapid lending growth over several years, financed by capital inflows, resulting in increasing current account deficits, combined with dominant foreign ownership of banks, may produce an unknown combination of risks. Therefore, contingency plans and vigilance are of the utmost importance.

As regards contingency plans (and policy decisions), central banks should be forward-looking. It is very difficult to forecast in general, but this is something they must do. Any policy action can only influence the future. Central banks are used to explaining their actions on interest rates referring to past inflation, or changes in legislation as prompted by a banking crisis, not by their forecasts, as if they could either influence what has already happened, or were implicitly assuming that the past is the only predictor of the future. Luckily, central banks have for some time moved to a forward looking approach. This approach was especially developed within the context of inflation targeting that more and more central banks are adopting.

Central banks should keep an open mind and be pragmatic. Paradigms in economics do change. For example, no one was speaking about inflation-targeting twenty years ago; monetary-targeting and pegging the rate one way or another was the way to go. Today's prevalent view is that hands should not be tied (or if they are, the "rope" should be very firm). In the financial world, words and acronyms such as subprime, SIV, ABS, etc. are all new additions to the vocabulary. Financial systems are developing rapidly. Therefore, central banks have to make decisions in an uncertain and ever changing world. In this age, central banks cannot afford to act purely by the book.

Finally, it is worth pointing out that central banks alone cannot deliver the full framework for long-term sustainable growth. More and more attention is being devoted to the necessary fiscal restraint and structural reforms. Success can only be guaranteed by a combination of sustainable macroeconomic policies and a series of structural reforms.

Marko Škreb, Ivana Jović and Ana Lokin

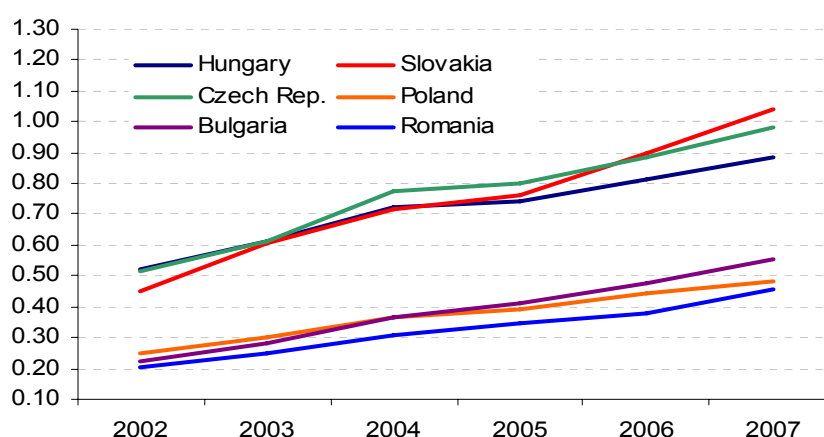
Trade Flows and Direct Investments Flows in CEE and SEE Countries

1. International Trade Flows

In recent years, CEE and SEE Countries have rapidly moved from a situation of relative closure and backwardness, to a condition of international openness. The two broad regions of Central and South Eastern Europe taken into consideration in this document have both benefited from economic and political evolution which has brought them closer to the EU-15 countries. Furthermore, adherence and participation in international bodies such as the WTO, the OECD, the World Bank, the IMF, the EBRD, and the ratification of treaties geared to promoting and encouraging exchanges at the global level, have helped openness to foreign trade, which in turn has aided the transformation and innovation of these economies. Both in the Balkans (SEE) and in Central Eastern Europe (CEE), expansion of foreign trade has contributed decisively to industrial growth, with an obvious positive fallout on the region's entire productive setup, sparking delocalisation and direct investment processes from other EU members states.

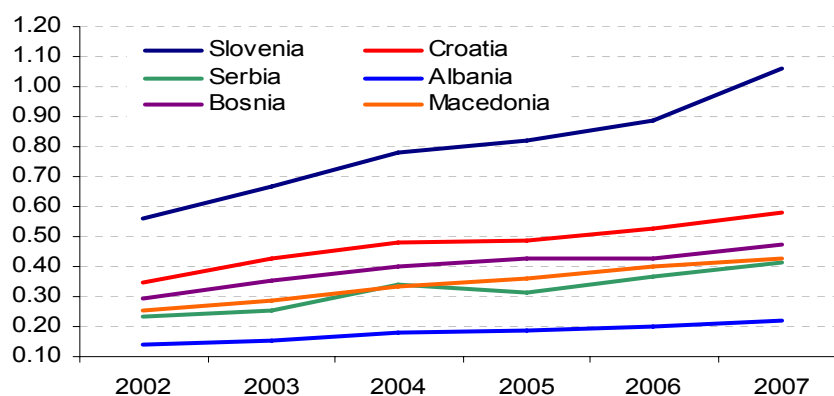
Trade openness in these countries has increased consistently. Over the past five years in particular the ratio of total foreign trade to GDP has increased from 0.33 in 2002 to 0.63 in 2007. Exchanges with foreign countries have in some cases exceeded total production, showing a strong correlation with other economies. This has been the case in Slovakia, the Czech Republic, and Slovenia, on the back of better integration with the European Union from the point of view of trade (Graph 1). Hungary is close to achieving a 1:1 ratio, and may even exceed this value by the end of this decade. Significant growth is also being recorded in Poland, Bulgaria, and Romania, where the trade openness indicator has almost tripled in just over five years. In the Balkans, foreign trade growth has accelerated considerably, but remains on moderate rates, and significant differences exist from one country to another. While Bosnia and Croatia's performances are in line with Romania's, Albania is still showing a weaker propensity to international trade.

Graph 1 - Trade Openness



Source: EIU – data as at December 2007

Graph 2 - Trade Openness



Source: EIU – data as at December 2007

When examining in detail the main countries to which local products are addressed, and those from which raw materials and semi-finished products are exported, the European Union (Table 1) clearly emerges as the most important target and supply market for both the Central Eastern and South Eastern regions of Europe. Germany and Italy, in particular, are the main suppliers and purchasers in almost all the countries considered. German presence is the result not only of historical factors tying the country to its neighbouring economies, but also to the shared vocation to certain industrial products on either side of the borders. Italian enterprises, on the other hand, have seized investment opportunities on these markets, taking advantage of lower labour and raw material costs to relocate production processes. The local industrial setup, often characterised by small or medium sized companies, has adapted well to an organizational structure that is typical in Italy. Russia's presence is also relevant, as the main source of procurement of natural gas and oil for many states, as is China's for semi-finished products. Trade within the Balkans remains strong for nations in the South Eastern part of the region.

Table 1 - Geographical Breakdown of Exports and Imports

| | Export | % | Import | % | | Export | % | Import | % |
|-------------------|---------------|----------|---------------|----------|------------------|---------------|----------|---------------|----------|
| Slovenia | Germany | 21.2 | Germany | 20.4 | Romania | Italy | 17.9 | Germany | 15.2 |
| | Italy | 13.8 | Italy | 18.8 | | Germany | 15.7 | Italy | 14.6 |
| | Croatia | 9.7 | Austria | 12.3 | | Turkey | 7.7 | China | 7.9 |
| | Austria | 9.3 | France | 6.2 | | Hungary | 7.5 | Russia | 6.5 |
| Hungary | Germany | 29.4 | Germany | 27.1 | Croatia | Italy | 23.1 | Italy | 16.7 |
| | Italy | 5.6 | Russia | 8.3 | | Bosnia | 12.6 | Germany | 14.5 |
| | Austria | 5.0 | China | 7.0 | | Germany | 10.4 | Russia | 10.1 |
| | France | 4.9 | Austria | 6.2 | | Austria | 6.0 | Slovenia | 6.3 |
| Slovakia | Germany | 23.6 | Germany | 24.1 | Serbia | Italy | 14.4 | Russia | 16.3 |
| | Rep.Ceca | 14.0 | Rep.Ceca | 18.5 | | Bosnia | 11.6 | Germany | 9.5 |
| | Italy | 6.5 | Russia | 11.2 | | Germany | 9.9 | Italy | 8.4 |
| | Poland | 6.2 | Hungary | 6.1 | | Macedonia | 4.7 | China | 5.9 |
| Czech Rep. | Germany | 31.7 | Germany | 31.8 | Bosnia | Croatia | 18.7 | Croatia | 16.7 |
| | Slovakia | 8.4 | Netherlands | 6.5 | | Italy | 13.8 | Germany | 12.3 |
| | Poland | 5.7 | Slovakia | 6.1 | | Serbia | 13.2 | Italy | 8.9 |
| | Austria | 5.1 | Poland | 6.0 | | Germany | 12.9 | Slovenia | 7.3 |
| Poland | Germany | 27.1 | Germany | 24.0 | Macedonia | Serbia | 23.2 | Russia | 15.1 |
| | Italy | 6.5 | Russia | 9.7 | | Germany | 15.6 | Germany | 9.8 |
| | France | 6.2 | Italy | 6.8 | | Greece | 15.0 | Greece | 8.5 |
| | UK | 5.7 | China | 6.1 | | Italy | 9.9 | Serbia | 7.5 |
| Bulgaria | Turkey | 10.8 | Germany | 17.4 | Albania | Italy | 72.6 | Italy | 28.1 |
| | Italy | 10.1 | Russia | 12.5 | | Greece | 9.7 | Greece | 15.8 |
| | Germany | 9.9 | Italy | 8.8 | | Germany | 3.2 | Turkey | 7.5 |
| | Greece | 8.1 | Turkey | 6.1 | | Macedonia | 1.6 | China | 6.0 |

Source: EIU – 2006 data. Data on Serbia are aggregated with Montenegro

Data on categories of goods exported and imported place machinery and motor vehicles at the top of the rank, followed by clothing and metal processing. Also lively is the trade of semi-finished products, subsequently finished in plants often located in the ordering countries. Oil imported from Russia is in many cases transformed into fuel, solvents or bitumen, and generally makes up for the lack of energy supply necessary to support domestic production. The processing of agricultural products by the food industry is of only marginal importance.

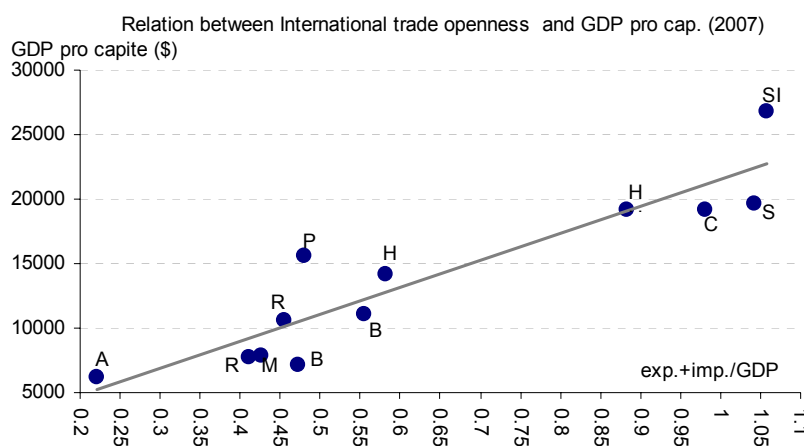
Table 2 - Breakdown of Exports and Imports by Product Category

| | Export | % Import | % | | Export | % Import | % | |
|-------------------|----------------------|-----------------|----------------------|------------------|---------------|--------------------|------------------|--------------------|
| Slovenia | Transport equip. | 38 | Transport equip. | Romania | Machinery | 20.40 | Machinery | |
| | Manufactures | 25.90 | Manufactures | | 23.10 | Textiles | 16.20 | Fuels |
| | Manufactures misc. | 14.00 | Chemicals | | 12.20 | Metals | 15.10 | Textiles |
| | Chemicals | 13.70 | Manufactures misc. | | 9.50 | Fuels | 10.50 | Chemicals |
| Hungary | Machinery | 61.80 | Machinery | Croatia | Machinery | 28.80 | Transport equip. | |
| | Manufactures | 27.30 | Manufactures | | 32.10 | Fuels | 15.10 | Fuels |
| | Food and beverages | 5.50 | Fuels and energy | | 10.90 | Food and beverages | 11 | Chemicals |
| | Raw Materials | 1.90 | Food and beverages | | 3.90 | Chemicals | 9.20 | Food and beverages |
| Slovakia | Machinery | 48.70 | Machinery | Serbia | Manufactures | 37.60 | Transport equip. | |
| | Manufactures interm. | 23.60 | Manufactures interm. | | 17.10 | Food and beverages | 16.60 | Manufactures |
| | Manufactures misc. | 9.40 | Fuels and energy | | 14.30 | Manufactures misc. | 14.40 | Fuels |
| | Chemicals | 5.50 | Chemicals | | 8.90 | Chemicals | 10.10 | Chemicals |
| Czech Rep. | Machinery | 55.90 | Machinery | Bosnia | Metals | 26.40 | Minerals | |
| | Manufactures interm. | 18.90 | Manufactures interm. | | 18.90 | Minerals | 11.50 | Machinery |
| | Chemicals | 5.70 | Fuels and energy | | 11.70 | Wood prod. | 8.80 | Food and beverages |
| | Fuels and energy | 5.50 | Chemicals | | 9.40 | Chemicals | 6.60 | Chemicals |
| Poland | Machinery | 40.10 | Transport equip. | Macedonia | Iron | 27.80 | Oil and gas | |
| | Manufactures | 23 | Manufactures | | 20.70 | Textiles | 21.20 | Transport equip. |
| | Manufactures misc. | 13.30 | Chemicals | | 13.40 | Oil and gas | 8.50 | Machinery |
| | Food and beverages | 8.40 | Fuels and energy | | 10.30 | Tobacco | 4.70 | Meat |
| Bulgaria | Metals | 14.50 | Oil and gas e | Albania | Manufactures | 79.70 | Manufactures | |
| | Textiles | 13.70 | gas | | 17.50 | Raw Materials | 5.50 | Machinery |
| | Iron | 7.50 | Machinery | | 8.90 | Fuels and energy | 4.30 | Food and beverages |
| | Chemicals | 5.20 | Textiles | | 7.80 | Food and beverages | 4.30 | Fuels and energy |
| | | Chemicals | 6.40 | | | | 10.60 | |

Source: EIU – data as at December 2007

The correlation between international trade openness and per capita gross domestic product in the economies considered is a direct one. Countries with a higher propensity to foreign trade can boast a higher per capita GDP. This variable is lower in the Balkan region, which is still experiencing a transition phase and is less open to international trade. Albania brings up the rear, with the lowest propensity to foreign trade and the lowest per capita GDP²⁶.

²⁶ On the correlation between trade openness and per capita GDP, see D. Dollar and A. Kraay (2002), *Institutions, Trade and Growth*, *Journal of Monetary Economics*, n. 50.

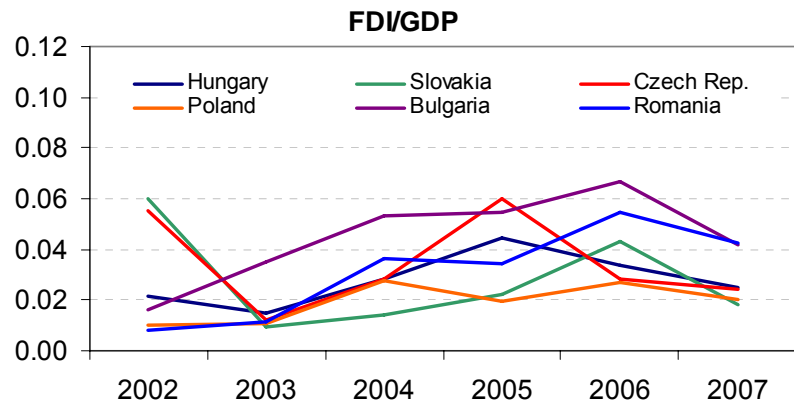
Graph 3 - Correlation of Trade Openness and per Capita GDP

Source: EIU – data as at December 2007

2. Foreign Direct Investment Flows

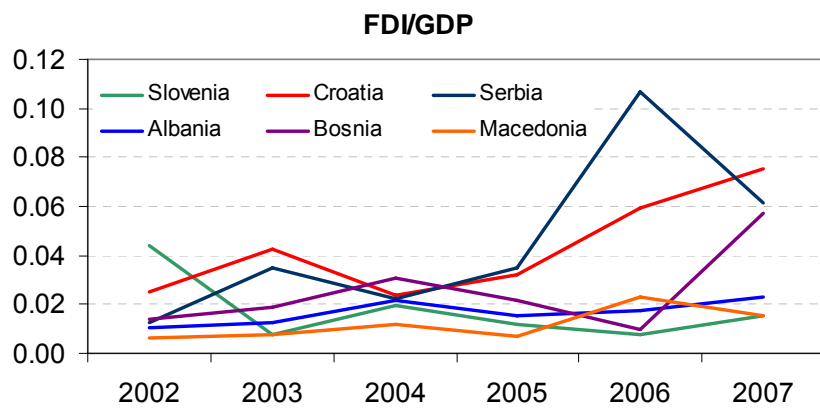
Foreign Direct Investment Flows have increased consistently in recent years, as has been the case with openness to foreign trade, with specific trends in each of the sub-regions considered, and substantial differences from one country to another. The privatization process, at a more advanced stage in the more mature Central Eastern economies, has attracted large amounts of foreign capital. Privatization is still in its initial phase in Balkan countries, but should offer numerous opportunities in the years ahead. The process is involving a very large number of business sectors, often tied to the specific nature of local industry, ranging from the auto industry to mechanics, from telecommunications to media, from energy to the financial and banking sectors, from manufacturing at large to retail chains. Furthermore, the modernisation and extension of existing infrastructures has provided many foreign contractors with an opportunity to access these markets. As regards the source of FDI, UNCTAD data identifies the EU as the strongest investor in both the Central Eastern region and in the Balkan area. Russia's role is smaller, limited as it is to investments in gas and oil distribution facilities. Italy is one of the leading investors in Central Eastern Europe, both in terms of its participation in existing activities on the territory, and of new investments of its own initiative. In addition to large corporations, attracted to these countries by the opportunity of expanding their production activity, and involved in the implementation of projects approved at the international level, medium-sized companies have also entered the region to extend or diversify production.

Graph 4 - FDI/GDP Trend from 2002 to 2007



Source: EIU – data as at December 2007

Graph 5 - FDI/GDP Trend from 2002 to 2007



Source: EIU – data as at December 2007

Table 3 - FDI by Country and Destination

| | FDI by Country | % | Destination | % | | FDI by Country | % | Destination |
|-------------------|----------------|-------|---|-------|-----------------|----------------|-------|--|
| Slovenia | Austria | 28.90 | Financial interm. Chemical products | 18.62 | Bulgaria | Austria | 16.24 | Real estate, business act. |
| | Switzerland | 16.30 | Other business activity | 15.75 | | Netherland | 10.14 | Manufactury |
| | Netherland | 10.60 | Wholesale | 9.47 | | Greece | 9.01 | Financial interm. Buildings |
| | France | 8.70 | | 8.50 | | United Kingdom | 7.90 | |
| Hungary | Germany | 28.00 | Manufactury | 41.40 | Romania | Netherland | 17.40 | Industry |
| | Netherland | 14.90 | Services | 28.20 | | Austria | 13.00 | Commerce |
| | Austria | 11.10 | Commerce | 11.70 | | France | 10.60 | Financial interm. Transport and telecom. |
| | France | 4.70 | Transport and telecom. | 10.10 | | Germany | 9.80 | |
| Slovakia | Netherland | 19.50 | Industry | 39.10 | Croatia | Austria | 25.60 | Financial interm. Chemical products |
| | Germany | 18.20 | Financial interm. Prod. Energy, gas and water | 19.20 | | Netherland | 17.20 | Transport and telecom. |
| | Austria | 14.80 | Wholesale | 13.90 | | Germany | 15 | Wholesale |
| | Italy | 12.40 | | 11.50 | | France | 8.30 | |
| Czech Rep. | Netherland | 18.06 | Transport and telecom. Real estate, business act. | 45.15 | Serbia | Norway | 19.40 | Financial interm. Transport and telecom. |
| | Germany | 10.14 | Manufactury | 17.67 | | Germany | 16.50 | Manufactury |
| | Poland | 6.39 | Financial interm. | 16.82 | | Greece | 16.30 | Chemical products |
| | Austria | 4.18 | | 11.85 | | Austria | 12.50 | |
| Poland | Germany | | Manufactury | | | | | |
| | United Kingdom | | Financial interm. | | | | | |
| | Spain | | | | | | | |
| | France | | | | | | | |

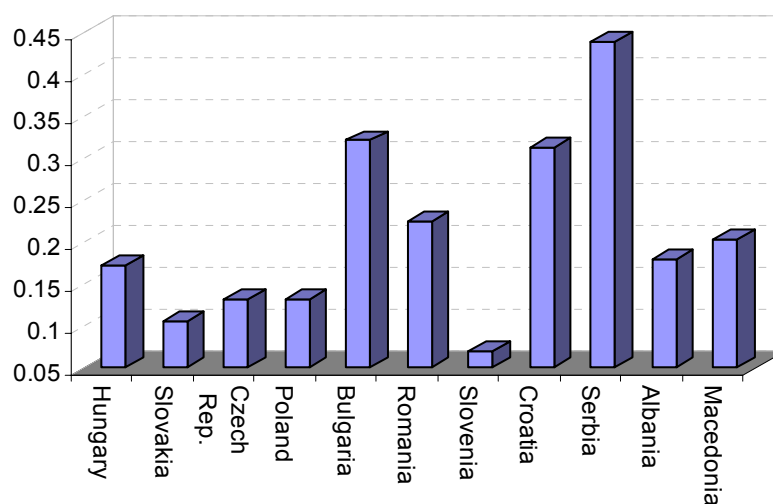
Source: EIU

Foreign capital inflows have proven decisive in many countries for the development of local industry and infrastructures. Flows peaked during phases of corporate organization restructuring in major business areas, such as the banking, financial and industrial sectors. Around half of FDI in 2004 were addressed to the services sector (financial brokerage, commerce, transportation, real estate), and the remaining 40% to the manufacturing sector²⁷. On this front also, CEE countries are at a more advance stage, whereas the situation in SEE countries is still evolving and may offer interesting opportunities in the near future²⁸.

²⁷ O. Arratibel, F. Heinz, R. Martin, M. Przybyla, L. Rawdanowicz, R. Serafini and T Zumer (2007) *Determinants of growth in the central and eastern European EU member States – a production function approach*, EBC Occasional Paper Series, n.61

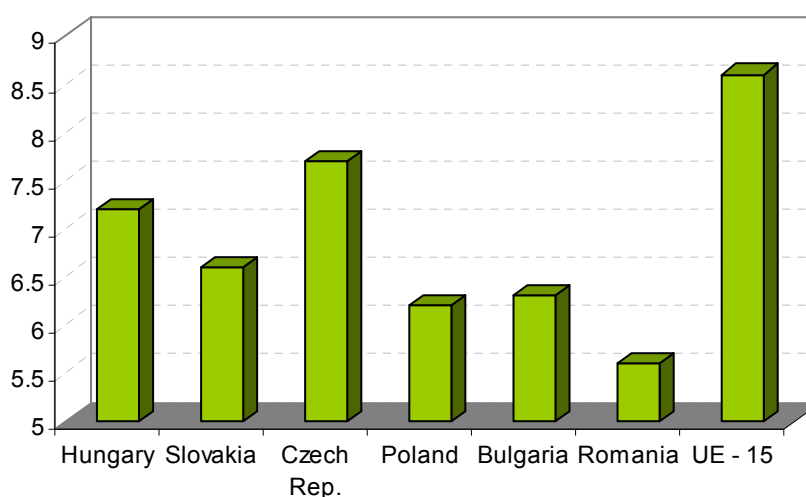
²⁸ See also O. Arratibel, F. Heinz, R. Martin, M. Przybyla, L. Rawdanowicz, R. Serafini and T Zumer (2007) *Determinants of growth in the central and eastern European EU member States – a production function approach*, EBC Occasional Paper Series, n.61

Graph 6 - FDI/ Total Investment – 2007



Source: EIU – data as at December 2007

Graph 7 - Infrastructure Index – 2007



Source: EIU – data as at December 2007

3. Infrastructure

The best-positioned countries in terms of infrastructure development belong to the CEE area. The EIU's infrastructure ranking is topped by Hungary, Slovakia and the Czech Republic, whose standards are by now comparable to the EU-15's. Poland and Bulgaria are also well positioned, whereas Romania has margin for further improvement. The same cannot be said for the Balkan countries, where based on the documentation currently available, the situation is still a very backward one. The 25% average rise recorded by this important indicator in Central European countries over the past five years testifies to the efforts being made by these states to implement and renovate the structure of their economies. The investments involved are often of foreign origin. The development of infrastructure has in fact benefited from financing issued by super-national bodies such as the IBRD, the IMF, the EBRD and the European Union.

4. Business Opportunities

The World Bank's Doing Business Index, included in the institution's annual report on the business climate in individual countries, uses a number of parameters to assess the convenience of undertaking a specific production activity in a certain economy. The index provides rankings of the 178 nations surveyed. The situation differs considerably in the two geographical regions considered. CEE countries have achieved a higher level of efficiency, both in terms of their administrative and bureaucratic systems, and of their fiscal and financial setup, as opposed to the Balkan area's more backward position.

Table 4 - Doing Business Index

| | 2007 | 2006 |
|------------|------|------|
| Slovakia | 32 | 31 |
| Hungary | 45 | 51 |
| Bulgaria | 46 | 54 |
| Romania | 48 | 55 |
| Slovenia | 55 | 53 |
| Czech Rep. | 56 | 61 |
| Poland | 74 | 68 |
| Macedonia | 75 | 96 |
| Serbia | 86 | 84 |
| Croatia | 97 | 120 |
| Bosnia | 105 | 105 |
| Albania | 136 | 135 |
| UE - 15 | 29 | 29 |

Source: World Bank

One element which has undoubtedly attracted investments to CEE and SEE Countries, fuelling FDI flows, is the availability of qualified labour at competitive costs, and the possibility of relocating production at a reasonable distance from home. Labour costs per hour in the countries considered are summarised in Table 5. The hourly labour cost is lower by far than the EU-15 average. The figures estimated by the EIU for 2007 are of between USD 9.31 and USD 11.66 in CEE and Slovenia, as opposed to between USD 1.73 and USD 5.48 in the Balkan area. The corresponding value in the EU-15 countries is USD 28.43²⁹.

Table 5 - Labour Cost per Hour in USD

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|------------|-------|-------|-------|-------|-------|-------|
| Hungary | 4.62 | 5.76 | 6.77 | 7.48 | 7.68 | 9.31 |
| Slovakia | 3.25 | 4.35 | 5.24 | 5.99 | 6.80 | 8.71 |
| Czech Rep. | 5.07 | 6.52 | 7.63 | 8.63 | 9.72 | 11.46 |
| Poland | 5.08 | 5.52 | 6.11 | 7.19 | 7.87 | 9.33 |
| Bulgaria | 1.24 | 1.57 | 1.82 | 1.96 | 2.20 | 2.60 |
| Romania | 1.58 | 1.98 | 2.46 | 3.23 | 3.98 | 5.48 |
| Slovenia | 5.16 | 6.64 | 7.62 | 8.00 | 8.46 | 9.68 |
| Croatia | 2.62 | 3.26 | 3.84 | 4.09 | 4.38 | 4.95 |
| Serbia | 1.15 | 1.61 | 1.95 | 2.11 | 2.64 | 3.54 |
| Albania | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Bosnia | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Macedonia | 0.97 | 1.21 | 1.38 | 1.42 | 1.54 | 1.73 |
| Italy | 14.75 | 18.11 | 20.48 | 21.05 | 21.98 | 24.45 |
| UE - 15 | 17.01 | 20.92 | 23.65 | 24.37 | 25.37 | 28.43 |

Source: EIU – data as at December 2007

Wilma Vergi

²⁹ O. Arratibel, F. Heinz, R. Martin, M. Przybyla, L. Rawdanowicz, R. Serafini and T Zumer (2007) *Determinants of growth in the central and eastern European EU member States – a production function approach*, EBC Occasional Paper Series, n.61

Financial Intermediation in Central, Eastern and South Eastern Europe: Structure, Depth and Growth Opportunities

1. Introduction

The aim of this chapter is to provide an updated overview of financial development – and in particular of the banking systems – in fifteen countries³⁰ in Central, Eastern and South-Eastern Europe (hereinafter the CEEC-15). The may aid interpretation of the financial context in which domestic and international companies operate, and the forecasting of the long-term growth potential of both financial intermediation activities and the economy in the region. The development of the financial sector is, in fact, a crucial factor in bringing about real and nominal convergence for new and future EU members, given the positive correlation between growth and financial structure³¹.

Financial development in the CEEC-15 has been progressing at a rapid pace in recent years, driven by profound changes in the banking sector, by financial sector and macroeconomic policies, and – more recently – by cyclical factors³². Despite similarities, the CEE region is not homogeneous: countries tend to follow the same economic and financial path, but with substantial time lags.

Development is primarily a result of the progress made in terms of the transition from centrally planned to market economies. At the earliest stage of the transition, a thorough restructuring of the financial sector was necessary, followed in most countries by a rapid privatisation of the banking sector. Restructuring, liberalisation and privatisation have laid the necessary foundations for financial intermediation to flourish. In particular, the gradual liberalisation and privatisation of the banking sector has enabled foreign investors, mainly from Western Europe, to buy into local banks at different times and in various ways, often as controlling shareholders³³. Foreign bank entry has led to a substantial increase in the supply of credit and the range of financial products available in the economies, with capital, reputation, knowledge and expertise all being imported. Furthermore, the development of local banking and capital markets has progressed jointly with the inflow of foreign direct investment: foreign investment in the banking sector and in the capital markets has not only helped the development of the domestic financial

³⁰ *The countries under investigation are: Poland, the Czech Republic, Slovakia, Slovenia, Hungary, Bulgaria and Romania, which have already gained EU membership (New Member States); Croatia and the Former Yugoslav Republic of Macedonia, which are official EU candidates (Candidate Countries); Albania, Bosnia-Herzegovina, Montenegro and Serbia (Western Balkans); Russia and Ukraine (CIS).*

³¹ *Literature on economic growth has long shown a positive and significant association between the financial structure of a country — that is, its financial instruments, markets and institutions as a whole — and economic stability and growth. This causal relationship is not a one-way street unequivocally determined by theory: while an evolved financial structure ensures the mobilisation of savings, and an efficient allocation of funds reduces the costs of accessing external finance and thus boosts real investment, the positive effects of economic development on the demand for increasingly sophisticated financial products and services are also undeniable*

³² *For a detailed discussion of the main factors behind financial development in the region see: ECB (2006), "Financial development in Central, Eastern and South-eastern Europe", Monthly Bulletin, Nov.*

³³ *Foreign capital was needed as there were few domestic investors (institutional or private) with the requisite financial resources and managerial and technical know-how to restructure and re-launch the privatised banks, a process that required a huge amount of capital. Moreover, the absence of a developed and efficient capital market in the region made it more difficult to privatise the banks via share placements, with a few rare exceptions (e.g. OTP Bank in Hungary).*

sectors themselves, but has also created a favourable environment for further foreign capital inflows in other industries.

Other remarkable consequences of the presence of foreign banks are the integration of the local financial sector with EU financial markets, which facilitates access to foreign funding, and the increased confidence in domestic intermediaries, reflected in domestic deposit mobilisation. Improvements in financial regulation, supervision, and legal systems, have been important structural factors in fostering financial deepening, along with favourable income prospects. As a result, both firms and households have gained increased access to a wide range of financial services and products, most importantly in the fields of consumer and mortgage lending, offered by banks. Supply-side factors have been matched by demand-side conditions, such as the emergence of new firms with strong a need for credit, and the entry of households in the consumer and mortgage credit markets, as a result of current and expected disposable income gains.

Macroeconomic policies – more specifically monetary, fiscal, and exchange rate policies – have also played a role. For example, the demand of housing loans is directly affected by fiscal measures such as the deductibility of mortgage repayments and mortgage loan subsidies (ECB, 2006).

Finally, cyclical factors have been important determinants of credit dynamics in recent years, as most of the CEEC-15 are experiencing strong real GDP growth. Demand for credit has been further stimulated by decreasing borrowing costs, abundant liquidity, and low interest rates on the global financial markets, as well as by rising asset prices (real estate assets in particular).

In addition to the factors listed above, which affect the supply and demand of financial activities, a natural catch-up effect is materialising: the CEEC-15 are still experiencing a financial deepening process, moving from low levels of financial and economic development. As suggested by literature on the growth-finance nexus, credit expansion will accompany economic expansion, as the CEEC-15 catch-up with more developed economies.

The report is divided into three parts. The first (Section 2) describes the state of financial development in the region, the role of the banks compared with other non-banking intermediaries, and the growth potential of the CEEC-15 banking markets. Section 3 describes the main structural features and recent trends of the region's banking systems, while Section 4 examines the relationship between institutional reform and the development of banking activities. Section 5 rounds up.

2. Financial Development in the CEEC-15: Current Levels and Growth Potential

Studies conducted on transition economies³⁴ show a low degree of financial sector development in CEE countries when set against current levels of per capita wealth, and despite the enormous efforts made to reform the institutions and the remarkable progress achieved in the past fifteen years³⁵.

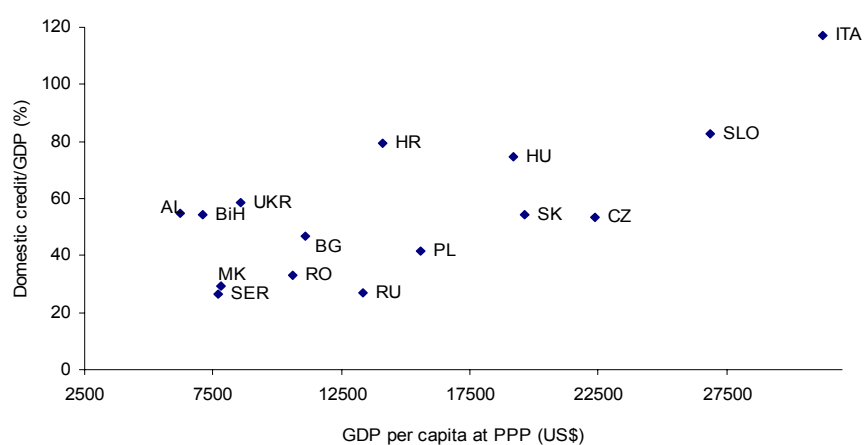
³⁴ See, among others, EBRD (1998), *Transition Report*; Berglöf E., G. Roland (1995), "Bank restructuring and soft budget constraints in financial transition", *Journal of Economic Perspectives*, n. 16; Berglöf E., P. Bolton (2003), "The great divide and beyond. Financial architecture in transition", CEPR w.p. n. 3476.

³⁵ There are numerous reasons (some of which will be examined in detail in the next section) for this state of underdevelopment, including unfavourable economic conditions inherited from the former planned economies, episodes of financial and currency instability resulting in some cases in banking collapses, and the lack of a legislative and regulatory framework to protect financial institutions and savers. As a result, corporate investment in transition economies has mainly been financed through cash flows, foreign direct investment, and intra-group transfers (in the case of companies controlled by foreign multinationals). These have replaced alternative forms of domestic financing, further hindering the system's development.

A comparative analysis of the financial structure of the CEEC-15 highlights some of the main characteristics shared by all the countries examined: small size and low depth of financial system services development, predominance of the banking sector with capital markets and other non-banking intermediaries playing a marginal role, strong involvement of private foreign investors.

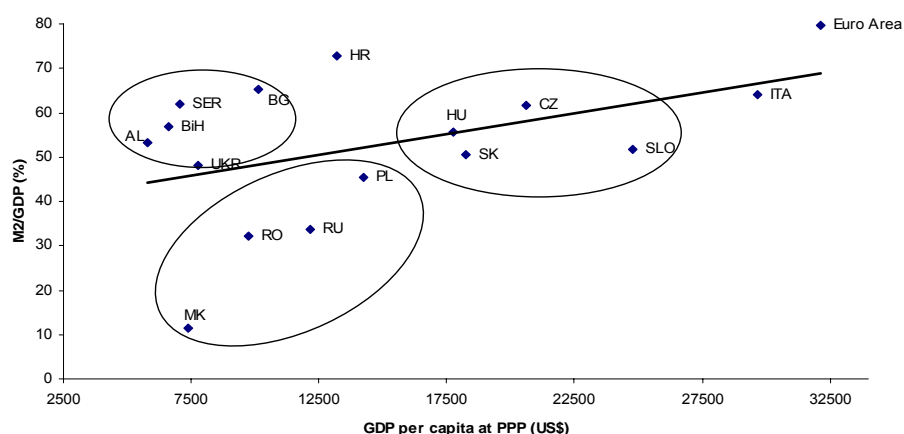
As for the first common feature, a few general points emerge when examining the data. First of all, the positive correlation between wealth and financial depth is confirmed: countries with a higher per capita GDP, like Croatia, the Czech Republic, Hungary and Slovenia, show – on average – stronger financial services development, as measured by both the Domestic Credit to GDP ratio (Graph 1) and the degree of monetisation (or savings mobilisation capacity) of the economy (M2/GDP, Graph 2).

Graph 1 - Stock of Domestic Credit to GDP and per Capita GDP (2007*)



* estimates.
Source: EIU

Graph 2 – Savings Mobilisation Capacity (2006)

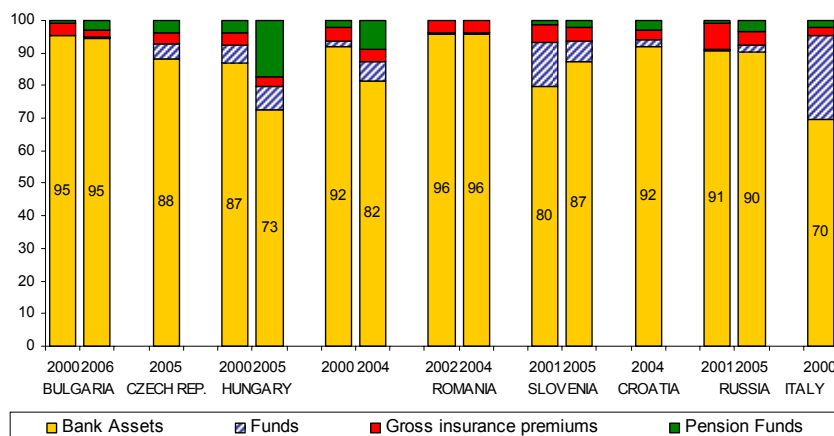


Source: Intesa Sanpaolo Research Department, own calculations on EIU, EBRD and ECB data.

Secondly, as shown in other section of this study, all the CEEC-15 have less evolved financial systems in terms of the size and role of capital markets and more sophisticated financial intermediaries, with banks playing a leading role in

channelling financial flows. Stock market capitalisation is very low and, like in most of the major Western European countries, the CEEC-15' financial structure model is bank-based: the total domestic credit/stock market capitalisation ratio is not far off the average for Eurozone countries (data not tabulated), and in all countries bank assets account for the lion's share of total financial assets (Graph 3).

Graph 3 – Financial Assets Composition (in %) for Selected Countries



Source: Intesa Sanpaolo Research Department calculations on EIU, IMF, National Central Banks and National Supervision Authorities data.

'Total financial assets' includes total banking assets, asset under management of investment funds, gross insurance premiums and total assets of pension funds.

Banks represent the sole channel for the transfer of financial flows, and only in recent years have foundations been laid for the creation and growth of institutional investors, which still play only a minor role. In some countries, the insurance sector and pension funds are fairly well developed, while in others they are still at a fledgling stage. While the number of investment funds and asset management companies is increasing, assets under management are low both in absolute terms and as a percentage of total financial assets.

Despite the central role of banks and the rapid growth of lending in recent years, traditional banking activities are still underdeveloped in the CEEC-15 compared with the European Union: the ratio of total bank assets to GDP varies from 42% in Montenegro to 120% in Croatia and Slovenia — well short of the 2006 Eurozone figure of 268% (Table 1). Similar conclusions can be drawn from the Deposits/GDP³⁶ ratio which ranges from 25% in Montenegro to 64% in the Czech Republic vs. 94% in the Eurozone.

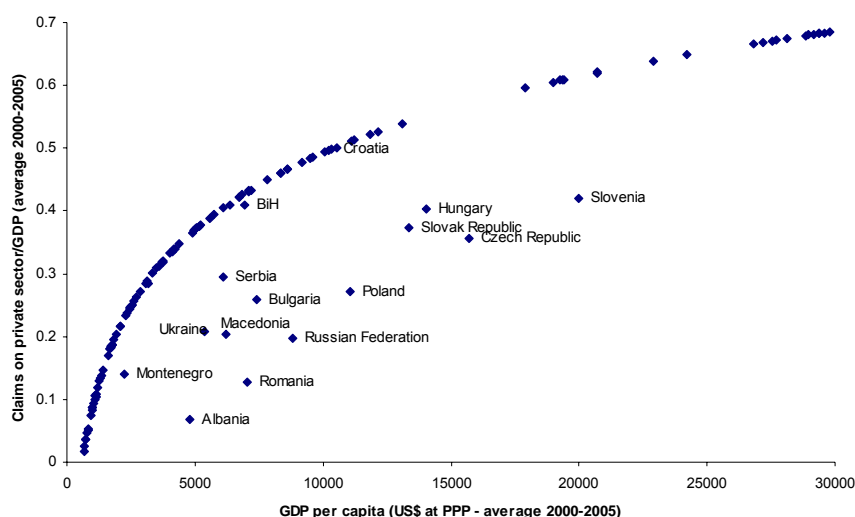
³⁶ The intermediation gap is narrower if considering the deposit market, but bank deposits are a less efficient form of financial investment. As financial development progresses and households become more financially educated, the share of bank deposits in percentage of total financial savings of households tends to decrease.

Table 1 – State of Financial Development

| | Bank assets (% of GDP) | Deposits (% of GDP) |
|--------------------|-----------------------------------|--------------------------------|
| Albania | 70.6 | 53.5 |
| Bosnia-Herzegovina | 75.4 | 44.4 |
| Bulgaria | 86.6 | 53.7 |
| Croatia | 120.8 | 55.9 |
| Czech Republic | 100.8 | 64.2 |
| FYR Macedonia | 71.0 | 40.0 |
| Hungary | 94.8 | 45.9 |
| Montenegro | 42.4 | 24.8 |
| Poland | 60.9 | 35.7 |
| Romania | 53.8 | 28.7 |
| Russian Federation | 45.1 | 27.4 |
| Serbia | 64.8 | 28.5 |
| Slovak Republic | 89.9 | 51.4 |
| Slovenia | 119.0 | 48.8 |
| Ukraine | 71.5 | 33.3 |
| EURO AREA | 267.6 | 93.8 |

Source: EBRD, Intesa Sanpaolo Research Department own calculations on EIU and National Central Banks data
Data as of 2006

Descriptive statistics are backed up by more a detailed empirical analysis aimed at ascertaining whether the banking sectors of CEEC-15 countries are fully developed in line with the process of economic growth, or whether some latent growth potential remains. For some time now, both theoretical and empirical literature on economic development has highlighted a positive and significant relationship between a country's banking sector development and its economic growth. Consistently, the results of the regression analysis suggest that the level of banking development in transition countries is unusually low in relation to their per capita wealth.

Graph 4 - Banking Intermediation and Wealth

Source: Intesa Sanpaolo Research Department own estimates

Graph 4 shows the gap in the development of banking intermediation in the CEEC-15 and that of the market economies, with the relationship between the level of banking development and per capita GDP represented by the logarithmic

curve³⁷. Given their levels of GDP, the CEEC-15 therefore have less developed banking sectors than would be expected, and thus display attractive growth potential. Table 2 shows the growth potential for each country, calculated as the difference between the actual value of the indicator of banking sector development and its estimated value³⁸.

Table 2 – Banking Intermediation Growth Potential

| | CLAIMS ON PRIVATE SECTOR/GDP | | |
|----------------------------------|------------------------------|--------------|--------------|
| | Estimated | Actual | Gap |
| BULGARIA | 44.1% | 25.9% | 18.2% |
| CZECH REP. | 57.3% | 35.6% | 21.7% |
| HUNGARY | 55.3% | 40.3% | 15.0% |
| POLAND | 51.1% | 27.2% | 23.9% |
| ROMANIA | 43.1% | 12.6% | 30.5% |
| SLOVAK REP. | 54.4% | 37.3% | 17.1% |
| SLOVENIA | 61.5% | 42.1% | 19.4% |
| New Member States | 52.4% | 31.6% | 20.8% |
| CROATIA | 49.9% | 49.8% | 0.1% |
| MACEDONIA | 41.0% | 20.4% | 20.6% |
| Candidate Countries | 44.4% | 29.9% | 14.5% |
| RUSSIA | 47.1% | 19.8% | 27.3% |
| UKRAINA | 38.4% | 20.8% | 17.6% |
| ALBANIA | 36.4% | 6.8% | 29.6% |
| BOSNIA HERZEGOVINA | 42.9% | 40.9% | 2.0% |
| SERBIA | 40.6% | 29.4% | 11.1% |
| CIS & Western Balkans | 41.1% | 23.5% | 17.5% |

Source: Intesa Sanpaolo Research Department calculations on World Bank, IMF (IFS), EIU data

Table 3 – Trends in Banking Intermediation Growth Potential

| | INTERMEDIATION GAP | |
|--------------------------|--------------------|--------------|
| | 1996-2002 | 2000-2005 |
| BULGARIA | 29.0% | 18.2% |
| CZECH REP. | 20.0% | 21.7% |
| HUNGARY | 35.0% | 15.0% |
| POLAND | 30.2% | 23.9% |
| ROMANIA | 39.4% | 30.5% |
| SLOVAK REP. | 31.9% | 17.1% |
| SLOVENIA | 39.0% | 19.4% |
| New Member States | 32.1% | 20.8% |

Source: Intesa Sanpaolo Research Department calculations on World Bank, IMF (IFS), EIU data

Data points to high growth potential in all countries, with the exception of Croatia. This not only represents a business opportunity for local banks, but more importantly, sets a growth objective that could lay the foundations for sustained economic development in a wider sense. Growth potential is particularly high in Romania, CIS, and some Western Balkan countries, where delays in the transition to a market economy are also evident in the development of the banking sector. Considerable expansion opportunities also exist in NMS, whose banking sectors are more developed than elsewhere in the region. This also applies to the Czech Republic and Slovenia, although these countries already had a reasonably well-established banking market.

However, in the region's more advanced countries (Hungary, Poland, Croatia and Slovenia), banking activity has significantly intensified, and the intermediation gap has narrowed significantly (Table 3), due - first and foremost - to the expansion of

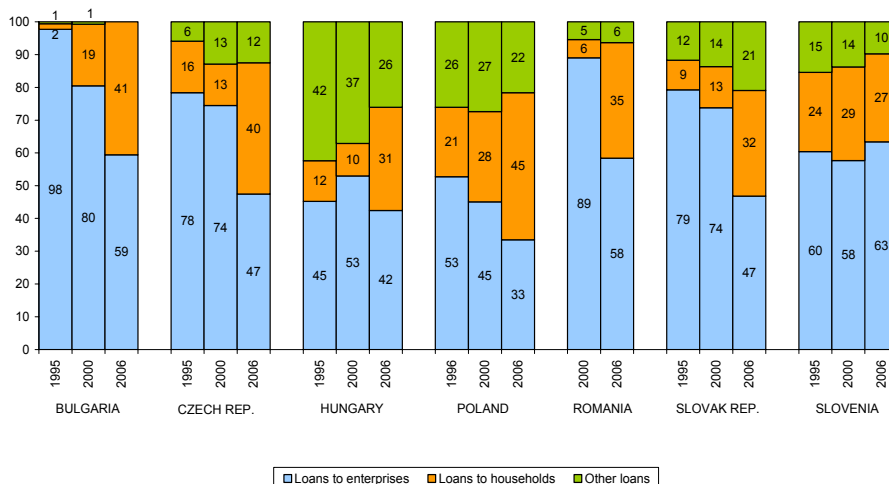
³⁷ See appendix for a description of the methodology used to estimate the correlation shown in the graph.

³⁸ The expected value of Claims on Private sector/GDP ratio is estimated based on the following relationship:

$$CLAPR / GDP = \alpha_0 + \beta_1(LNGDP_PC) + \beta_2(LNGDP_PC)^2 + \varepsilon$$

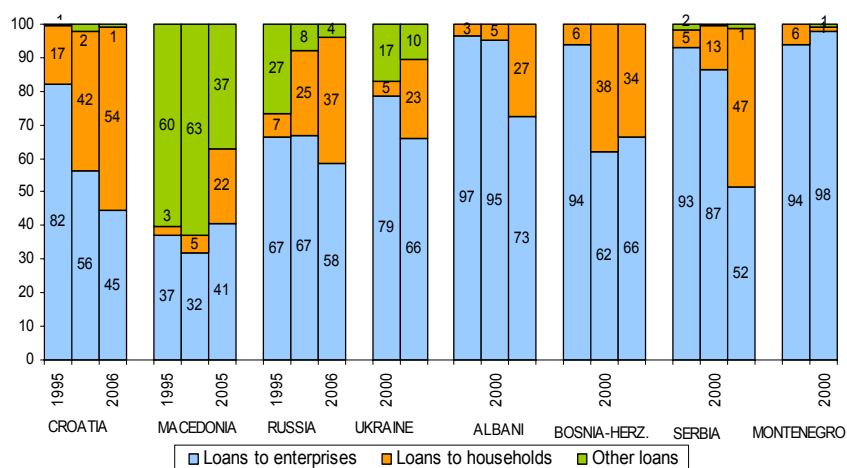
activity into new market segments, especially SMEs and households (Graph 5 and 5a), as well as to the improved quality of financial services and products addressed to companies.

Graph 5 – Bank loan by Institutional Sector (% , as of 2006)



Source: Intesa Sanpaolo Research Department calculations on National Central Banks data For Slovak Republic loans in local currency only; for Slovenia loans to households in local currency only; for Czech Republic loans to CNB are included; for Romania loans to enterprises include loans to financial corporations.

Graph 5a – Bank Loan by Institutional Sector (% , as of 2006)

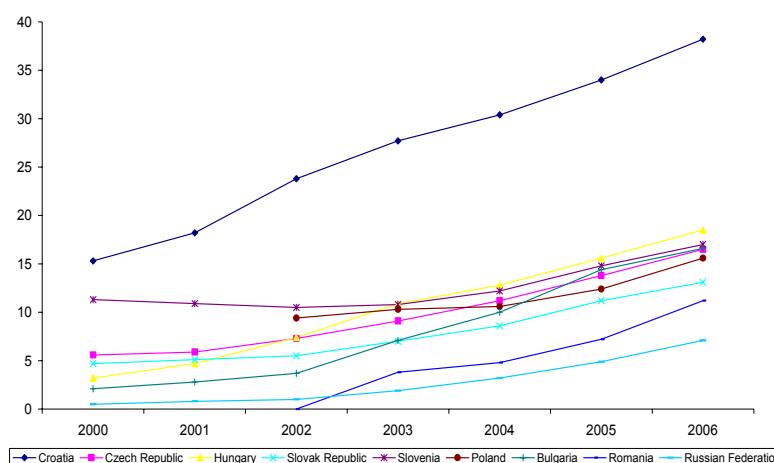


Source: Intesa Sanpaolo Research Department calculations on National Central Banks data For Russia total loans include loans to government sector

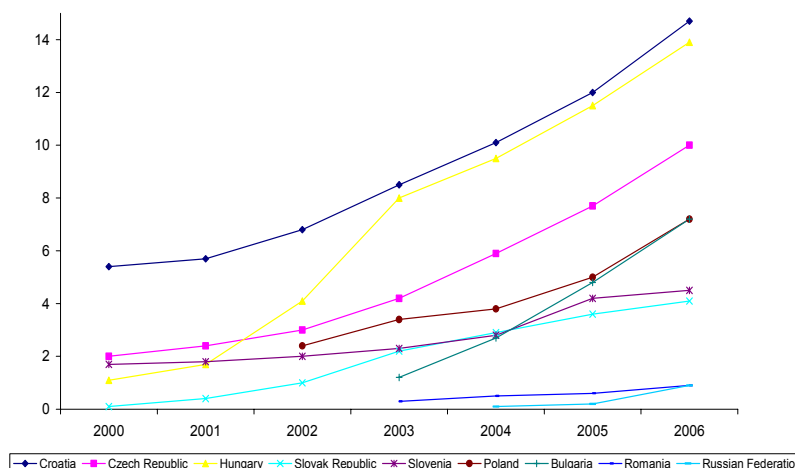
The main growth driver for banking sectors in all CEE countries has been the boom in lending to households. South-Eastern Europe and CIS in particular have recorded up to triple digit y/y nominal growth rates in this segment, albeit starting from very low levels. The amazing dynamics of mortgage loans (Graph 6 and 6a) reflect both strong demand from households to invest in housing, and the proactive lending policies of banks that compete for market shares in this lucrative and relatively low-risk segment. Credit growth is also supported by rising income levels and rising property prices, which allow households to increase their

outstanding debt, and by declining interest rates, that make long-term loans more affordable.

Graph 6 – Domestic Credit to Household (% of GDP – as of 2006)



Graph 6a – Mortgage Loans (% of GDP – as of 2006)



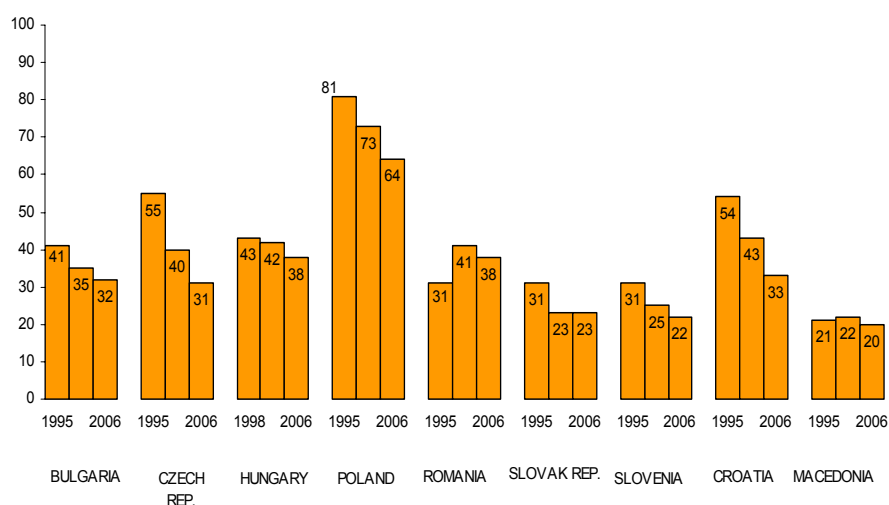
Source: EBRD

However, the credit boom has raised concerns in terms of economic and financial stability, triggering restrictive measures by some Central Banks, aimed at curbing the growth in lending, and of foreign-currency denominated loans in particular. In the recent months, other sources of concern have been the subprime contagion risk (via foreign parent banks) and the liquidity risk. Though the behaviour of foreign banks in the CEEC-15 in times of crisis is still untested, there is wide consensus on the positive role played by foreign-owned banks (mostly Western European) pursuing a long-term strategy in the region. The banks most active in the region are not greatly exposed to subprime borrowers/CDOs, and therefore the contagion risk is limited. Moreover, CEE banks are, on average, less exposed to liquidity risk, as their funding gap is low on average, and foreign-owned banks seem not to suffer from intra-group credit restrictions.

3. Main Structural Features and Development Trends in the Banking Sector

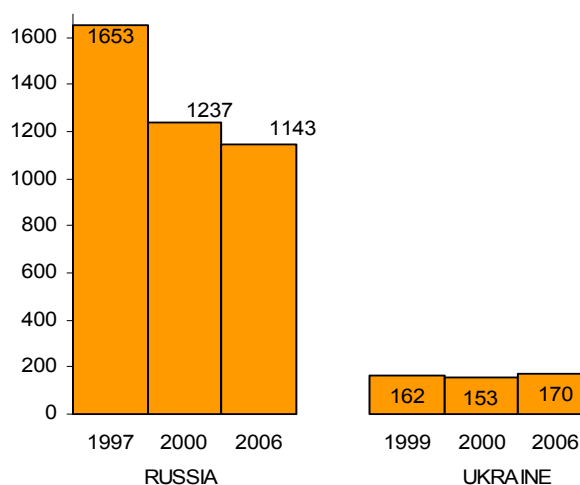
Since the early 1990s, the banking systems of CEE countries have undergone widespread privatisation and restructuring. As a result, the structure of the banking sector has changed significantly over the last fifteen years, and more recently in the Western Balkans and CIS. The first phase of the transition saw an increase in the number of banks, as state banks hived off their commercial activities to newly-created state-owned commercial banks established under new licences. The second phase consisted of a period of major restructuring, asset clean-up, and large-scale recapitalisation, that preceded the launch of privatisation programmes. The number of banks decreased during this phase, as the weaker institutions exited the market and mergers and acquisitions took off. As shown in Graph 7 and 7a, the number of banks decreased considerably in all the CEEC-15.

Graph 7 – Number of Commercial Banks



Source: Intesa Sanpaolo Research Department calculations on National Central Banks and National Supervision Authorities data
 For Slovak Republic and Czech Republic, the number of commercial banks includes the building societies

Graph 7a – Number of Commercial Banks



Source: Intesa Sanpaolo Research Department calculations on National Central Banks and IMF

The gradual liberalisation and privatisation of the banking sector has enabled foreign investors to buy into local banks at different times and in various ways, often as controlling shareholders. The main feature that all the CEEC-15 banking sectors have in common is the high involvement of foreign (mainly European) investors, and the speed at which this came about. At the same time, privatisations offered EU banks an unprecedented opportunity to enter markets offering high growth potential, allowing them to develop widespread and significant presence over a short period of time. This has led to significant and unintended internationalisation of CEEC-15 banking systems. These trends are strongly backed up by figures. The number of foreign-controlled commercial banks has increased in some countries, but in all the CEEC-15 they have increased as a percentage of the total number of banks.

Table 4 – Ownership Structure of Banks in CEEC-15

| | Number of banks | Number of foreign-owned banks | Asset share of foreign-owned banks | Asset share of state-owned banks |
|--------------------|-----------------|-------------------------------|------------------------------------|----------------------------------|
| Albania | 17 | 14 | 90.5 | 0.0 |
| Bosnia-Herzegovina | 32 | 22 | 94 | 3.2 |
| Bulgaria | 32 | 23 | 80.1 | 1.8 |
| Croatia | 33 | 15 | 90.8 | 4.2 |
| Czech Republic | 37 | 28 | 84.7 | 2.2 |
| FYR Macedonia | 19 | 8 | 53.2 | 1.6 |
| Hungary | 40 | 28 | 82.9 | 7.4 |
| Montenegro | 10 | 8 | 91.9 | 0.0 |
| Poland | 64 | 53 | 74.3 | 21.1 |
| Romania | 31 | 26 | 87.9 | 5.9 |
| Russian Federation | 1189 | 65 | 12.1 | 40.5* |
| Serbia | 37 | 22 | 78.7 | 14.9 |
| Slovak Republic | 24 | 16 | 97 | 1.1 |
| Slovenia | 25 | 10 | 29.5 | 12.6 |
| Ukraine | 170 | 27.0 | 35.0 | 8.9 |

Source: EBRD, Intesa Sanpaolo Research Department own calculations on EIU and National Central Banks data

Data as of December 2006. * December 2005

Public ownership has decreased considerably in the past decade, and the role of state-controlled banks is now very limited in the New Member States and substantially lower – albeit still relevant – in other countries (namely, Russia and Serbia). Meanwhile, the share of assets belonging to banks controlled by foreign investors (usually the largest banks in each of the countries) as a proportion of total banking assets, has shot up in nearly all the countries, approaching or exceeding 90% in four of them. The only exception is Slovenia, where the share of assets belonging to foreign investors is only 29.5%. Liberalisation measures allowing the entry of foreign banks were passed later in Slovenia than in the region's other countries (in 1999), however, and significant stakes in the country's two main banks remain state-owned.

4. Institutional Reform and Development of Banking Activity

The importance of the banking sector's institutional framework for economic and financial development is well documented, and has recently prompted a series of studies investigating the origins of institutional differences between countries, and the ways in which financial institutions — broadly speaking — influence economic development. One of the main conclusions drawn in these studies is the existence of a close positive correlation between effective institutions and financial market development. A large body of empirical analyses carried out on market economies support the hypothesis that financial regulations and corporate governance laws (and, more in general, the legal system at large) are essential

for the development of the banking and financial markets³⁹. The positive correlation between institutional reform and financial sector development has also been demonstrated for the transitional economies⁴⁰, which helps explain the different stages of advancement of the sector in the CEEC-15: Hungary, Poland, and Croatia, for instance, which undertook the reform process earlier, have a more developed financial services system than the other countries.

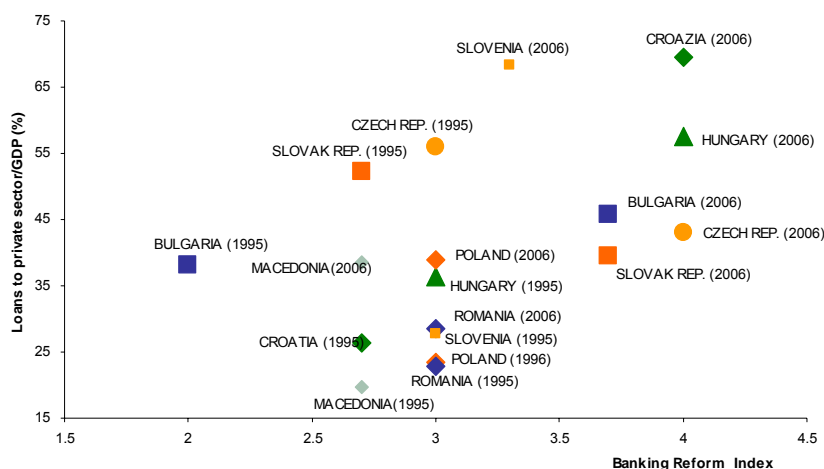
In all the transition countries, the changeover to a market economy has required thorough and extensive institutional reform, also involving the financial system. For Central and Eastern European countries, the prospect of EU accession has bolstered and accelerated the transition, guiding economic policy decisions and boosting the efforts made by candidate countries to bring their banking and financial regulations into line with international standards. All candidate countries have undeniably worked hard to harmonise the legislative and institutional frameworks regulating the functioning of their domestic financial markets. Such harmonisation was necessary both to enable foreign investors to participate in the privatisation process, and to restore confidence in the financial institutions, in itself essential for the advancement of the banking sector. A key factor here is full implementation of prudential supervision reform, especially important in transition economies where market practices and reputation need time to establish themselves. Moreover, the creation of solid, well-regulated systems subject to close supervision is a prerequisite for facilitating integration into the single European market, in order to fulfil its objectives in terms of total freedom in the establishment and provision of services, and the free circulation of capital.

The relationship between banking activity development and reform for each of the countries considered is illustrated in Graph 8 below. A proxy of structural and institutional reform is the index of banking reform and interest rate liberalisation drawn up for each country every year by the EBRD. This measures the progress made in bringing banking legislation into line with international standards and regulations, as well as advances in the liberalisation of interest rates, the allocation of credit, privatisation, and mechanisms of prudential supervision. Banking activity development is measured by the loans/GDP ratio.

³⁹ La Porta R., Lopez-de-Silanes F., Shleifer A., R. Vishny (1998), "Law and Finance", *Journal of Political Economy*, 106, (6); Beck T., R. Levine (2002), "Stock markets, banks and growth: correlation and causality", *World Bank w.p. n. 2670*. Levine R. (1998), "The legal environment, banks and economic growth", *Journal of Money, Credit and Banking*, 30 (3); Levine R. (1999), "Law, finance and economic growth", *Journal of Financial Intermediation*, 8 (1/2); Cottarelli C., Dell'Ariccia G., Vladkova-Hollar I. (2005), "Early birds, late risers and sleeping beauties: bank credit growth to the private sector in central and eastern Europe and the Balkans", *Journal of Banking and Finance*, 29 (1).

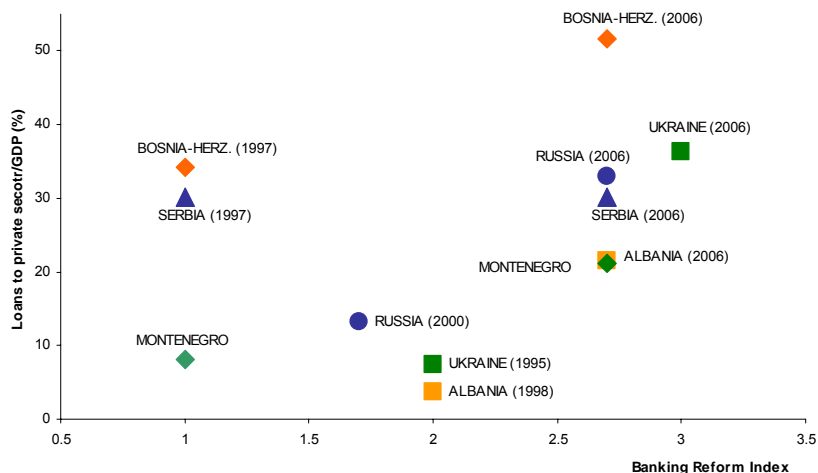
⁴⁰ EBRD (1998), *Transition Report*; Cottarelli, (2005).

Graph 8 – Institutional Reform and Banking Development



Source: Intesa Sanpaolo Research Department calculations on EBRD, EIU and National Central Banks data

Graph 8a - Institutional Reform and Banking Development



Source: Intesa Sanpaolo Research Department calculations on EBRD, EIU and National Central Banks data

The banking sector clearly made significant progress during the structural and institutional reforms of 1995-2006, and the first countries to introduce real, decisive changes (led by Hungary and Croatia) now show a much higher Loans/GDP ratio. The case of Bulgaria is equally significant, as reforms here were introduced later than in other countries in the region, but have been followed by a real boom in banking activity since 2000.

The Czech Republic and Slovakia represent something of an exception: partly for historical reasons, their banking sectors were already fairly developed in 1995, and both countries formally adopted much of the EU's banking legislation right from the beginning, wasting no time in launching privatisation programmes. However, banking volumes declined significantly as a result of the economic

downturn in 1997-1999, which, even in the years immediately afterwards, had an impact on banking asset quality, and necessitated costly operations to clean up balance sheets and restructure loan portfolios. Banking activity, therefore, declined despite the progress of reform⁴¹.

Along with the studies on institutional reform and financial development, a second extensive strand of empirical literature has recently underscored the importance of financial institution reform. This literature analyses the relationship among economic development, the financial markets, and FDI inflows, focusing on the necessary preconditions for FDI to have a positive impact on growth⁴². Two of the main widely-accepted conclusions are that (a) progress in economic reform and the creation of supporting financial institutions have a positive impact on FDI (i.e. make the recipient country more attractive, all else being equal), and (b) the financial system of the recipient country enhances the positive relationship between FDI and economic growth (i.e. a more developed financial system contributes positively to the process of technological diffusion associated with FDI, which fosters economic growth).

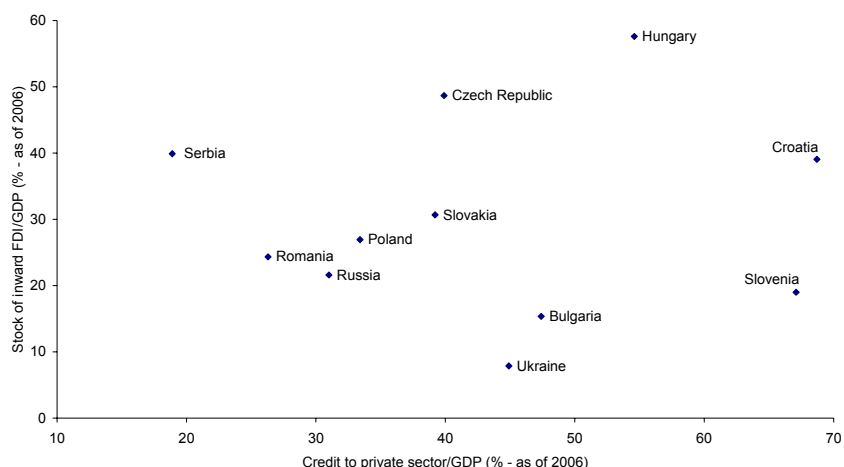
Qualitative analyses on updated data from the CEEC-15 are consistent with the first finding: Graphs 9 and 9a show a positive correlation between the level of local banking development – measured by either the Credit to private sector/GDP ratio or the EBRD banking reform index – and the FDI inflow stock (as a percentage of GDP).

Further financial sector development would significantly help transition countries - especially the Western Balkans and CIS – to increase output and to catch-up with the more advanced economies.

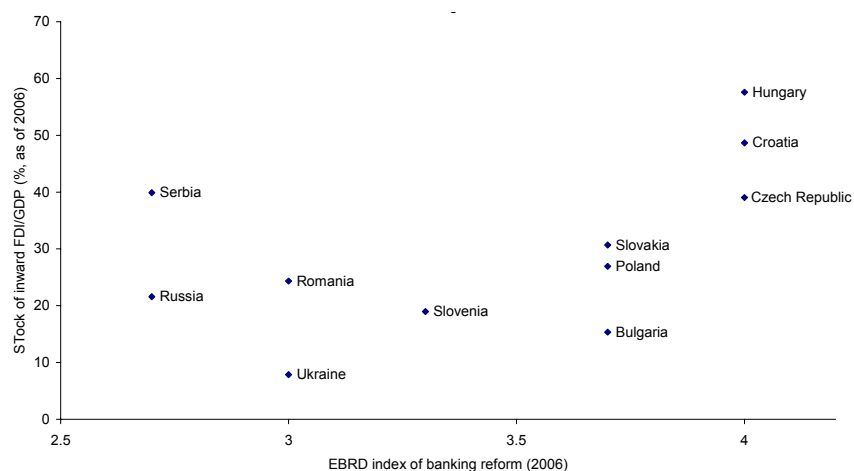
⁴¹ *In all the countries considered, reforms must not only be formally accepted but fully operational for financial institutions to operate properly in accordance with market principles, and for the confidence of investors and savers to increase over time, thanks to the safeguarding of their rights. Structural and institutional reforms are a necessary condition, but not sufficient in themselves to drive a country's financial development.*

⁴² *A comprehensive review of the literature is well beyond the scope of this report. Some interesting references are: Bevan A, Estrin S. and K. Meyer (2004), "Foreign investment location and institutional development in transition economies", *International Business Review*, February; Alfaro L. et al. (2004), "FDI and economic growth: the role of local financial markets", *Journal of International Economics*, (64); EBRD (2003), "Integration through flows of capital and labour", *Transition Report*; Baudino P. et al. (2004), "Financial FDI to the EU accession countries", *ECB w.p. 04/78*. The aforementioned papers contain further references to relevant related literature.*

Graph 9 – Inward FDI and Financial Development



Graph 9a - Inward FDI and Banking Sector Reform



Source: Intesa Sanpaolo Research Department calculations on EBRD, EIU and National Central Banks data

5. Conclusions

Financial sector development continues to be a crucial factor in bringing about real and nominal convergence for new and future EU members, as it will help boost economic growth and bring them into line with the EU more quickly. Financial activities in these countries have very high growth potential, given both the economic development gap between their economies and the Eurozone average, and the current level of financial services development in the CEEC-15.

Despite high average GDP and banking intermediation activity growth in the past few years, the level of financial development remains low. The banking development gap is wide for all CEEC-15 countries, and a positive growth trend is expected over the next few years. Projected economic growth, and the consequent ongoing expansion of credit institutions into new market segments (SMEs and households) and business lines (consumer credit, asset management, pensions and investment banking services), suggest that banking intermediation activity development in these countries will increase significantly in the near future. Finally, the consolidation of structural and institutional reform, coupled with the full implementation of financial banking legislation, will ensure greater savings

protection and better monitoring and governance procedures for the banks, which should lead to a permanent increase in banking intermediation volumes.

Countries with low levels of financial development could attain much higher rates of economic growth if their financial sectors were more developed, also considering that the latter is a precondition for attracting FDI and making them most effective in accelerating growth.

Virginia Tirri

Appendix: sample and data sources used

Banking intermediation gap estimates are based on World Bank data for 207 countries. These countries are classified as (1) OECD members, (2) transition economies (Central and Eastern European countries, including Russia and the Caucasian republics), (3) the CEEC-15 (the sample of countries considered in this report; a subset of transition economies) and (4) other countries. For the purposes of our analysis, the CEEC7 countries that are also OECD members (the Czech Republic, Poland, Slovakia and Hungary) are excluded from the OECD sample.

Data were taken from the World Bank Development Indicators Database 2006 and refer to 2005. In turn, this World Bank database draws on the IMF-International Financial Statistics database for data on monetary and credit aggregates. The indicator for banking sector reform is taken from the EBRD's Transition Report (2006).

Table A.1 – Variables and Proxies

| Variables | Proxies | |
|------------------------------------|--|---|
| Economic development | GDP per capita (US\$ at PPP) | GDP_PC LNGDP_PC (LNGDP_PC) ² |
| Financial development | Domestic credit/GDP Market cap. of listed companies/GDP | |
| Banking intermediation development | M2/GDP Claims on private sector/GDP | CLAPR/GDP |
| Reform of the banking system | Banking reform index | BAREFIN |

The progress made along the paths of interest rate and credit allocation liberalisation, privatisation and reform of supervisory regulations, is recorded by the EBRD, which has been assigning an annual rating to each country since 1992. These ratings score between 1 and 4+ (the latter indicates full compliance of national legislation with international standards, and clarity and transparency in the definition and application of the regulations, good levels of legal enforcement, and a satisfactory degree of competition in the supply of financial services). For further details on the methodology used to build the index, please refer to the EBRD's 1998 Transition Report 1998.

Capital Market Development in CEE and SEE Countries

1. Introduction

The process of financial integration in CEE and SEE countries is well under way and has accelerated with access to the EU. Profound differences persist among countries in terms of the equity market deepening and liquidity. Equity markets have grown rapidly in the past few years, but market capitalization is still equal to only half the Eurozone average. Bank lending remains the most important form of financial intermediation in Transition Europe. Listed bonds are also growing, with domestic corporate bonds at the fore. The ownership structure of shares listed on the European markets – which highlights the increasing relevance of foreign investors – reflects ongoing harmonisation.

Building a supportive, enabling financial infrastructure, will prove essential to allow financial systems to provide more resources to the corporate sector and to households. The rapid inflow of capital, which has fuelled rapid financial deepening, has allowed countries to fast-forward the convergence process. Convergence to higher income levels, combined with improvements in infrastructure and institutions, offer mutually reinforced support to the inflow of capital.

Securities market development varies significantly across countries. At one end of the spectrum are countries like the Czech Republic, Hungary, and Poland, where at least two different segments – government securities and equities – are relatively well developed. At the other end, in countries such as Albania, all segments of the market are still at an incipient phase⁴³. The banking sector is markedly dominant. Despite recent capital market trends, bank lending remains the most important form of financial intermediation in Transition Europe, with non-bank financial institutions just beginning to emerge.

2. Equity Markets

Equity markets have grown rapidly in the past few years, especially in South Eastern Europe and Russia, where market capitalization has reached surprisingly high levels. Excluding Bosnia-Herzegovina, Montenegro, and Croatia, average market capitalization is 31.4 percent of GDP, half the Eurozone average (59 percent of GDP), but in line with Latin America and Asian Emerging Markets⁴⁴. The number of listed companies is steadily increasing. In October 2007 they added up to 1,096, most of which (1,068) local (Table 1).

⁴³ See Edda Zoli, *Financial Development in Emerging Europe: The Unfinished Agenda*, IMF WP/07/245.

⁴⁴ Only FESE members considered, for their more reliable data series.

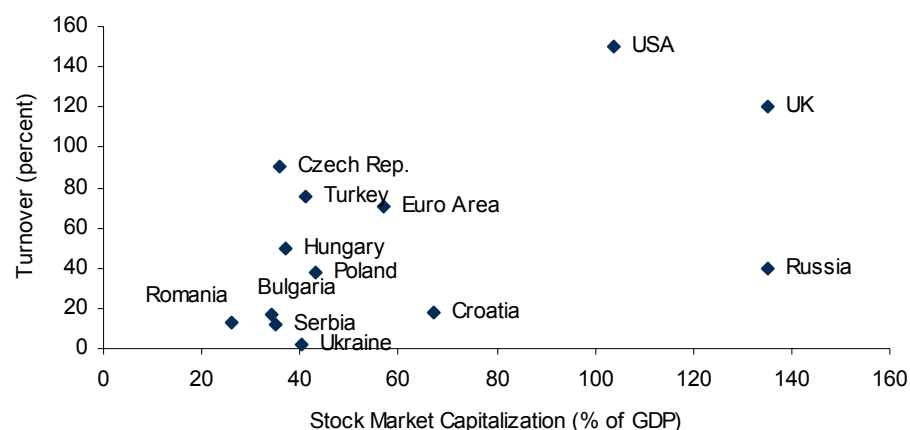
Table 1 - Market Capitalization and Number of Listed Companies (October 2007)

| Exchange | Market Capitalization | | | N° of Companies with Listed Shares | | |
|----------------|----------------------------|--|--|------------------------------------|-----------|--------------|
| | Value at month end (EUROm) | % change vs. previous year end in EURO | % change vs. Previous year end in loc. curr. | Domestic | Foreign | Total |
| Bratislava SE | 4,516.54 | 7.2 | 3.4 | 166 | 0 | 166 |
| Bucharest SE | 24,437.19 | 29.6 | 29.6 | 54 | 0 | 54 |
| Budapest SE | 33,534.30 | 5.8 | 5.3 | 39 | 2 | 41 |
| Bulgarian SE | 14,891.90 | 90.2 | 90.2 | 364 | 0 | 364 |
| Ljubljana SE | 18,808.67 | 63.4 | 63.4 | 90 | 0 | 90 |
| Prague SE | 47,320.26 | 36.4 | 33.8 | 25 | 7 | 32 |
| Warsaw SE | 159,763.76 | 41.6 | 34.2 | 330 | 19 | 349 |
| Total | | | | 1,068 | 28 | 1,096 |
| Borsa Italiana | 783,043.32 | 0.6 | 0.6 | 299 | 6 | 305 |
| Deutsche Börse | 1,463,267.00 | 17.8 | 17.8 | 756 | 103 | 859 |
| London SE | 2,904,873.21 | 1.0 | 4.8 | 2,588 | 699 | 3,287 |

Source: FESE

Many CEE markets – namely the Czech Republic, Hungary and Poland – have seen an increasing number of cross-listings (dual-listing or listing only on an international exchange) in international financial centres. Since cross-listed entities tend to be large in size, an even greater share of local market capitalization has been internationalized: for the three countries mentioned above, companies accounting for over two-thirds of market capitalization are also listed abroad⁴⁵.

Cross-listing can affect the liquidity of internationalized firms on their local markets. Foreign listing may divert trade away from the local exchanges. With few exceptions, liquidity – as measured by the turnover ratio, defined as the value of trading relative to market capitalization – is still generally low throughout the region. The free float – the portion of shares available to the investing public – is often small, and trading is concentrated on a few stocks.

Graph 1 - Equity Market Turnover and Capitalization (2006)

Sources: FESE, Reuters

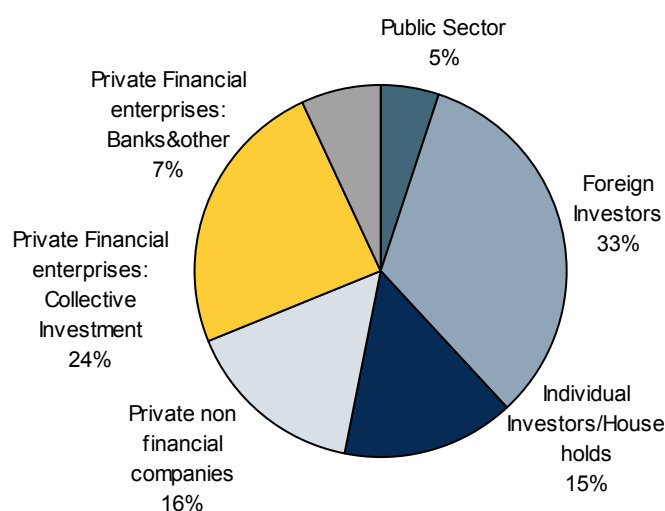
Capitalization is concentrated in a limited number of companies even in countries – like the Czech Republic, Hungary, and Poland – with relatively well-developed markets.

⁴⁵ See Stijn Claessens, Ruben Lee, Josef Zechner, *The Future of Stock Exchanges in European Union Accession Countries*, CEPR, 2003.

Market activity is largely driven by foreign investors, which account for over 50 percent of equity holdings in several of the region's countries⁴⁶. Identifying the ownership structure of shares listed on the European markets is a very useful tool in assessing differences between European markets and the state of the harmonisation process⁴⁷. The percentage of non-resident investors in shares listed on European markets increased slightly between 1999 and 2005.

The share ownership structure of European listed companies at the end of 2005 highlights foreign investors as the main shareholders, with one third of total market capitalization to their name (it cannot yet be determined precisely how many of these investors are European). Domestic financial sectors are also important and account for a 31% share, of which 24% collective investments and 7% banks. Private non-financial companies and individual investors account for 16% and 15% respectively. The Public sector owns 5% of the market value of the companies listed.

Graph 2 - Share Ownership Structure of European Listed Companies (2005)

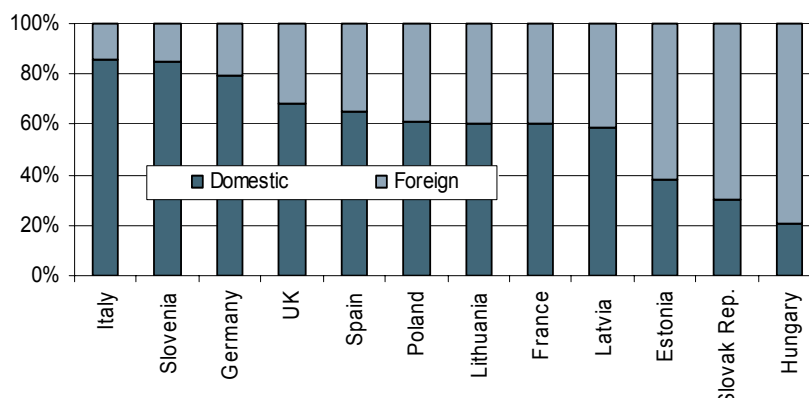


Source: FESE

In seven countries (Italy, Slovenia, Cyprus, Germany, Denmark, Malta and Iceland) domestic investors account for a large portion of share ownership (over 70%). In seven other countries, domestic investors own less than 50% of the shares listed: Finland, Belgium, Estonia, Ireland, the Slovak Republic, the Netherlands and Hungary (Graph 3).

⁴⁶ Although foreign involvement is most visible in the banking system, it is also highly relevant in other segments of the financial sector. For example, a substantial share of government and enterprise financing originates abroad, and many major firms are listed on stock exchanges outside the accession countries – often in Frankfurt, Luxemburg or Vienna – some of which are listed on several stock exchanges abroad. About 40-50 Polish, Czech and Hungarian corporations are listed abroad, for a total of about 60-80 listings (owing to multiple listings at several stock exchanges). Although these figures may not seem impressive, it should be noted that the enterprises concerned are typically the largest in their respective countries. Moreover, access to bank lending and capital markets abroad is significantly alleviating domestic constraints on financing. Many leading companies in accession countries are part of multi-national corporations and receive financing from their parent companies.

⁴⁷ On these topic see FESE, Share Ownership Structure in Europe, February 2007.

Graph 3 - Domestic and Foreign Investors (% , 2005)

Source: FESE

Capital flows play an important role in diversifying and sharing risk⁴⁸. A striking aspect of convergence in emerging Europe is that it has been taking place on the back of increasing financial globalization. Financial globalization has created vast opportunities for diversification and risk sharing, further enhancing the role played by finance in convergence.

The development of stock markets has been closely linked to the privatisation strategies pursued in individual countries⁴⁹. The first stock markets in accession countries appeared in the Czech Republic and the Slovak Republic in 1992, as a consequence of mass privatisation schemes, followed by Bulgaria, Lithuania and Romania (Table 2)⁵⁰.

A different approach towards initial public offerings was chosen in countries such as Estonia, Hungary and Poland. Enterprises in these countries were only listed after the establishment of a framework for securities trading.

Table 2 – Origins of Stock Markets

| Mass privatization | Initial public offerings |
|--------------------|--------------------------|
| Bulgaria | Estonia |
| Czech Republic | Latvia |
| Lithuania | Hungary |
| Romania | Poland |
| Slovakia | Slovenia |
| | Malta |

Source: Christian Thimann, *Financial Sectors in EU Accession Countries*, ECB, July 2002, p.22

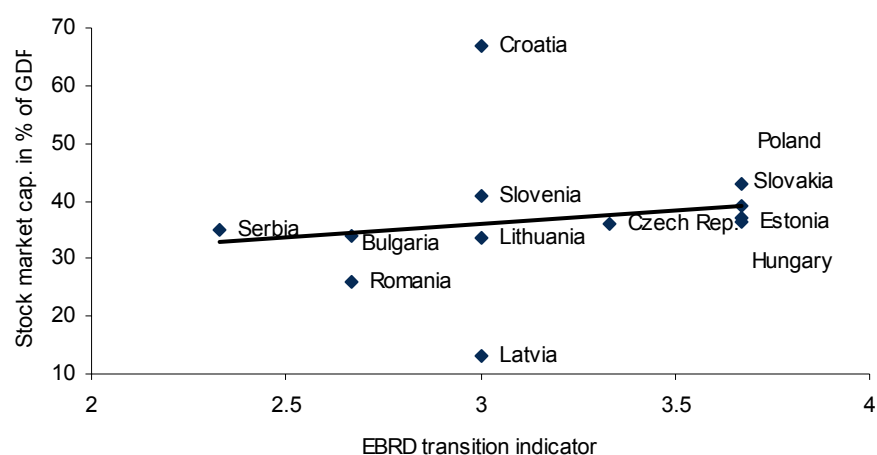
⁴⁸ In this regard see Rudolf Bems and Philip Schellekens, *Finance and Convergence: What's Ahead For Emerging Europe?*, IMF WP/07/244. According to the authors the degree of financial globalization, as measured by the ratio of total foreign assets and liabilities to GDP, has reached high levels in many emerging European countries: around 1.9% in Hungary and the Slovak Republic; 1.6% in Bulgaria; 1.4% in Russia; and 1% in Poland.

⁴⁹ For a discussion of the Capital Market in the Czech Republic, Hungary and Poland see Thomas Reininger, Franz Schardax, and Martin Summer, *Financial System Transition in Central Europe: The First Decade*, SUERF Studies, No.16, 2002.

⁵⁰ Christian Thimann, *Financial Sectors in EU accession countries: Issues for the workshop and summary of the discussion*, in ECB, *Financial Sectors in EU Accession Countries*, July 2002. Stock markets in these countries quickly attracted a large number of companies, but widespread ownership actually limited the development of sound corporate governance structures and restrained liquidity. This led to a loss of confidence in the market and massive delisting of ailing enterprises. In the Czech Republic, for instance, 83% of firms were de-listed between 1996 and 1997.

Stock market development is positively related to the countries' progress in governance and restructuring, as measured by EBRD indicators (Graph 4). To allow financial systems to provide more resources to the corporate sector, building a supportive, enabling financial infrastructure will be essential. Creditors need good protection, provided through strict enforcement of bankruptcy and insolvency laws that meet international best practice standards.

Graph 4 – Stock Market Capitalization vs. Progress in Governance and Restructuring (2006)



Sources: EBRD Transition Report 2007, FESE. In 2007 Stock Markets of Estonia, Latvia and Lithuania merged with Sweden, Denmark, Finland, and Iceland to create OMX Nordic Exchange

Table 3 shows investment inflows in some CEE stock markets in 2007. It is interesting to note that flows have proven relevant in absolute terms only in Bucharest and in Warsaw. In Bucharest, fresh capital was raised by previously listed companies, while on the Warsaw SE, newly listed companies (IPOs) prevailed.

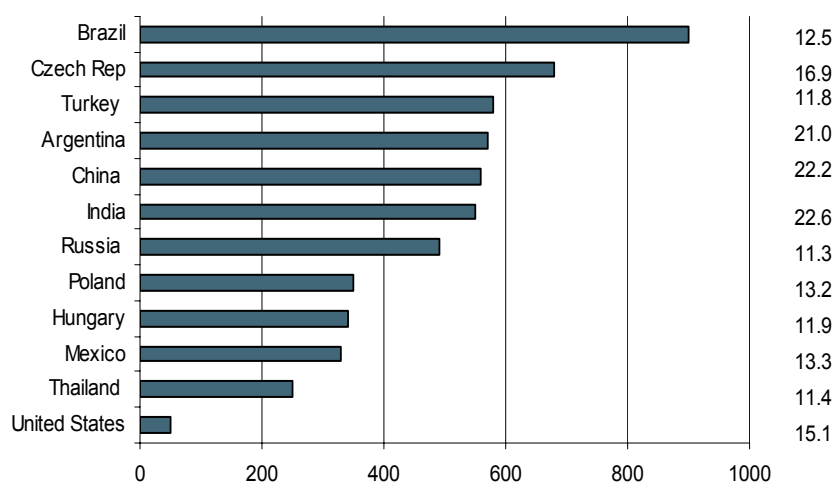
Table 3 – Investment Flows Channelled through the Stock Exchange (2007, EUR m)

| Exchange | Status of the company | | Total |
|---------------|-----------------------|-------------------|-------|
| | Newly Listed (IPO) | Previously Listed | |
| Bratislava SE | 0 | 0 | 0 |
| Bucharest SE | 42 | 2754 | 2796 |
| Budapest SE | 7 | 16 | 23 |
| Bulgarian SE | 18 | 113 | 131 |
| Ljubljana SE | 7 | 98 | 105 |
| Prague SE | 0 | 34 | 34 |
| Warsaw SE | 4663 | 1173 | 5836 |

Source: FESE

As far as market performances are concerned, since 2003 Morgan Stanley Capital International's Emerging Market index has jumped more than fourfold in dollar terms, vs. a 70% rise in America's S&P 500. In Europe, the best performer was the Czech Republic, with a gain of 650% (Graph 5).

Graph 5 - Stock Market Performances in CEE Countries (% Increase from January 2003, USD Terms; 12-Month Forward P/E Ratio)

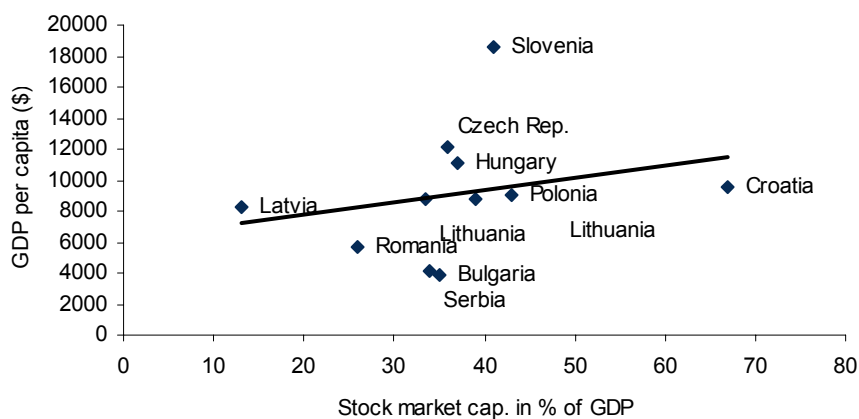


Source: Thomson Datastream, JPMorgan in *The Economist*, Nov 15th 2007

Transition stock markets now have a higher average P/E ratio than developed markets for the first time since the early 1990s, of 14.7 (based on forecast 2008 profits), higher than the 20-year average of 14, but nevertheless still well below previous peaks⁵¹.

Finally, the positive correlation of stock market capitalization and GDP per capita, illustrated in the chart below, should also be highlighted.

Graph 6 - Stock Market Cap. and GDP per Capita (in US Dollars)



Sources: EBRD Transition Report 2007, FESE

⁵¹ In order to evaluate signs of "irrational exuberance" the nature of capital inflows also matters. For an examination of the evolution of the external asset positions of CEEC countries and of FDI, portfolio equity and external debt, see Philip Lane and Gian Maria Milesi-Ferretti, Capital Flows to Central and Eastern Europe, IMF Working Paper, 2006/188.

3. Bond Markets

The depth and liquidity of the government securities market is largely dependent on public sector financing needs. Therefore, Central European countries and Turkey have well-established government securities markets. Conversely, the market for securities issued by corporations and financial institutions is thin virtually everywhere. In 2006, the outstanding stock of non-financial corporate debt securities accounted for less than 5 percent of GDP in all countries, lower than the average for Latin America and Asian Emerging markets, and extremely small compared to advanced economies. Furthermore, secondary corporate bond market activity is limited, and even in countries where primary corporate issues have increased at faster rates in the past few years, growth has been concentrated in a handful of sectors. The market for securities issued by financial institutions is somewhat deeper and expanding more rapidly than the non-financial corporate securities segment.

The following table provides a summary of listed bonds in CEE countries. The table highlights the increase in the number of listed bonds in the past few years, most of which domestic. International bonds play a marginal role. The latter are prevalent, on the other hand, on the Irish SE, the Deutsche Borse, the London SE, and the Swiss SE. According to FESE data, domestic non-public bonds are more numerous than public bonds.

Table 4 – Listed Bonds

| Exchange | Domestic Public | | | Domestic Non Public | | | International | | | Total Bonds | | |
|---------------|-----------------|------|--------|---------------------|------|--------|---------------|------|--------|-------------|------|--------|
| | 2005 | 2006 | Nov-07 | 2005 | 2006 | Nov-07 | 2005 | 2006 | Nov-07 | 2005 | 2006 | Nov-07 |
| Bratislava SE | 26 | 25 | 23 | 48 | 76 | 91 | 1 | 1 | 2 | 75 | 102 | 116 |
| Bucharest SE | 13 | 11 | 12 | 6 | 6 | 5 | 0 | 1 | 2 | 19 | 18 | 19 |
| Budapest SE | 21 | 22 | 23 | 78 | 80 | 107 | 0 | 0 | 0 | 99 | 102 | 130 |
| Bulgarian SE | 8 | 6 | 4 | 45 | 67 | 80 | 0 | 0 | 0 | 53 | 73 | 84 |
| Ljubljana SE | 32 | 29 | 27 | 67 | 64 | 63 | 0 | 0 | 1 | 99 | 93 | 91 |
| Prague SE | 16 | 17 | 18 | 64 | 76 | 80 | 16 | 17 | 17 | 96 | 110 | 115 |
| Warsaw SE | 63 | 58 | 51 | 9 | 3 | 2 | 4 | 4 | 4 | 76 | 65 | 57 |

Source: FESE

Other financial institutions, including pension funds, mutual funds and insurance companies, are just starting to emerge. In countries that introduced pension and regulatory reforms early on, the share of pension fund assets is high by regional standards, and even in comparison to some advanced economies. For instance, pension fund assets as a percentage of GDP are higher in Croatia, Hungary, and Poland than in Germany and Italy. Mutual fund assets, while growing rapidly, remain below 5 percent of GDP in all countries with the exception of the four largest Central European economies, Croatia, and Estonia. Similarly, insurance premiums exceed 3 percent of GDP only in five economies (Croatia, the Czech Republic, Hungary, Poland, and Slovenia)⁵².

4. Looking Ahead. The Role of Integration

The ongoing process of creating a single financial services market in the European Union (EU) can be expected to keep fuelling further comprehensive reforms. Changes in securities market legislation, regulatory and supervisory

⁵² See also Valerie Herzberg and Max Watson, Economic Convergence in South-Eastern Europe: Will the Financial Sector Deliver?, *SUERF*, 2007/2: "The non-bank financial sector also still stands on more shaky grounds, despite some progress made in 2006 in a number of economies, as noted by the 2006 EBRD Transition Report (e.g., Bulgaria, Croatia and the former Yugoslav Republic of Macedonia). Insurance and pension funds suffer from ongoing governance and supervision weaknesses, insufficient size, lack of competition and openness and skill shortages".

frameworks for both banks and non-bank institutions, clearing and settlement systems, and other important financial areas, are all being driven by the harmonization process involving all EU member states.

In Transition Economies that are not yet part of the EU, prospects of future integration with Europe are expected to continue to foster financial development. At the present stage, focus should be on reinforcing the foundations of financial development, by establishing stronger corporate governance and creditor rights protection, creating a well-functioning government securities market, and promoting a favourable environment for the emergence of institutional investors.

The EU's financial integration process is likely to be the main propelling and shaping force of financial development. The EU is heading toward a single financial services market, which represents both an opportunity and a challenge for Transition Economies. The process will allow greater diversification of financing and investment options, and enhance competition.

New EU member states also need to adapt their financial growth strategies to take into account the opportunities as well as the constraints created by financial integration. For instance, as countries move towards the adoption of the euro, increasing access to foreign resources made available to companies raises doubts on the need of a market for securities denominated in domestic currencies. Increased competition places small countries in particular under massive pressure to identify niche markets with a local comparative advantage tied to the financial integration process⁵³. For these countries, joining regional markets, rather than developing national ones, might be the most sensible option, especially with respect to certain segments like the securities market. Indeed, different forms of collaboration and consolidation among trading platforms have already started. For instance, the merger of the Nordic-Baltic exchanges has created the regional OMX market. The Warsaw Stock Exchange has signed an agreement with the multinational exchange Euronext. The Vienna Stock Exchange has entered into a cooperation project with the Budapest Stock Exchange⁵⁴.

5. Conclusions

In the years ahead, the banking sector is bound to retain a leading role in the financial and economic development of CEE countries. However, capital markets will provide the corporate sector with a possible alternative in terms of financing and investment. Financial flows are expected to increase via the capital markets as the economies grow and financial intermediation deepens.

Part of the increase will stem from the resolution of past transition-related issues, with the gradual bridging of the income gap and accelerating economic development also playing a role. To foster such development, completion of the transition agenda is crucial, and should include corporate restructuring, corporate governance improvements, and the implementation of well-functioning regulatory

⁵³ For a discussion of Financial centres, see *The Economist*, Special Reports, Sep 13th 2007.

⁵⁴ *The recent consolidation process could involve the Eastern European markets. One reason for the concentration of financial firms in a small number of centres is the proximity with people in related fields and the social connections and information that come with it. The second factor at play is the use of technology. Explaining reasons behind the NYSE, Arca, and Euronext mergers, Mrs. Noreen Culhane, Vice-president of NYSE Group said: "Consolidation is driven by the need to invest in technology to meet investor demand for greater speed and capacity in transaction execution. Like many other financial services businesses, exchanges benefit from economies of scale. (...) Exchanges also thrive on concentration of liquidity."*

and legal frameworks. Finally, the high level of foreign involvement implies a strong integration of these economies with Western Europe.

Stock exchanges in CEE and SEE countries are still relatively new, with low liquidity due to the short history of their listed companies and the undeveloped state of the domestic institutional investor base. At the same time, CEE exchanges are affected by internationalization trends: they are geographically close to, and share the same time zone as, large financial centres; their firms are integrating rapidly with the EU through trade, investment and other cross-border capital flows; and their markets are increasingly converging to the EU model in terms of standards. There has also been a consolidation of trading system in Europe. Internationalization could thus make it more difficult for the CEE countries to survive, especially the small ones.

The stock exchanges will be forced to choose among several options: to seek to prosper by themselves by reducing costs and increasing revenues; to try to build larger virtual markets by establishing cross-border links of some kind with other exchanges; or to merge with, or be taken over by, one or more other exchanges.

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