National Bank of the Republic of Macedonia

Conference:

Competitiveness of the South Eastern European Countries and Challenges on the Road to EU

Skopje, May, 2008

CONTENTS

The National Bank of the Republic of Macedonia organised the Conference "Competitiveness of the South Eastern European Countries: Challenges on the Road to EU", which was held in Skopje, on 30 May 2008. The Conference was consisted of presentations of research made on issues related to the competitiveness of the new and the potential member-states during the process of Euro-integration, the real and nominal convergence, the challenges of monetary policy and related topics. The presenters were representatives of central banks and institutions with good knowledge of the economies of transition countries and their integration in the European Union and the European Monetary Union. The Conference was also attended by representatives of educational and research institutions, government institutions, banks and companies in Macedonia. The experience of the new EU and EMU Member-States which was presented at the Conference will be particularly useful for Macedonia, which will increasingly face these processes and challenges in the period ahead.

This collection incorporates part of the papers presented at the workshop. Regarding the other topics in the Agenda, the speakers submitted their presentations. All papers and presentations are available on the NBRM's web site (www.nbrm.gov.mk/Conferences/Conference: Competitiveness of the South Eastern European Countries and Challenges on the Road to EU).

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Introductory Speech

Mr. Petar Goshev, MSc,
Governor of the National Bank of the Republic of Macedonia

Honored guests,

Dear friends,

I wish you a very warm welcome to the Conference of the National Bank of the Republic of Macedonia on the ***Competitiveness of the South Eastern European Countries and Challenges on the Road to the EU.*** Similarly to the several conferences and workshops organized by our Bank in the recent years, this one will also seek to develop a discussion on a very important topic for the countries in transition striving to reach the income level of the EU member states. Although real convergence is not directly in the focus of interest of the monetary authorities, the unbreakable tie between the nominal and real convergence makes this topic extremely important also from a viewpoint of the monetary policy. Therefore, at this Conference we will try to analyze once again the achievements of the new EU member states, particularly their experience, their successes, but also their failures regarding competitiveness of their economies on the road to EU and EMU membership. I am convinced that South Eastern European countries, that is EU candidate and potential candidate countries, will have an opportunity to broaden their knowledge about what to do and what to avoid on the road to EU. At the same time, we will also share the experiences about the challenges that the South Eastern European countries face with on their way to the real convergence.

The transformation of the Central and Eastern European countries and their final membership in the EU is one of the most remarkable events in human history. Never before had so many countries and people made so many changes in such a short time. During the 1990s, we witnessed a complete renewal of entire systems and institutions, implementation of structural reforms, but also establishing new ways of living and thinking. What is important for us here is that these changes were happening simultaneously with a huge ***rise of income*** and living standards in general. Although not a perfect indicator for the remarkable changes, the comparison of GDP per capita in the beginning of transition and now shows a clear picture of the progress. In 1993, the group of 10 new EU member states had a GDP per capita that was 37.2% of the euro-zone level at that time, but in 2007 this indicator reached 56.4%[1]. Certainly, not all transition countries were moving with the same speed, and not all of them reached the same level of income. Among this group of countries, the three Baltic countries were moving the fastest. In 2007 they had an average GDP per capita of 56.8% of the average level in the euro-zone (it was 28.2% in 1993). Although the process of income growth is present also in South Eastern Europe, its pace is slower. For the period 1996-2007, convergence was made to the income per capita in the countries of the euro-zone by 8.2 percentage points (from 20.8% to 28.9%)[2]. What is clear from these comparisons is that the achievements are huge, but also that much more remains to be done in order to reach the level of old EU members.

Why the speed of real convergence of the new EU member - states and of the candidate and potential candidate countries is different, is one of the frequently discussed questions. Taking classical theory of growth as a starting point, income actually depends on the factors of production and technological growth, meaning that the reasons for the differences should be sought in these factors. According to research, the productivity rise was mostly due to what we call "total factor productivity", that is improvements that can be attributed neither to capital nor to labor, but to specific organizational, technological and institutional changes that result in productivity rises and GDP

[1] Source: World Economic Outlook Database, April 2008 and NBRM calculations. The indicator is unweighted average of GDP per capita of these countries. The indicators are according to the purchasing power parity.
[2] Source: World Economic Outlook Database, April 2008 and NBRM calculations. The indicator for SEEU is unweighted average of GDP per capita of Macedonia, Albania, Croatia, Bosnia and Herzegovina and Serbia (for 2000). The indicators are according to the purchasing power parity.

growth. In the past few years, the new EU member-states register trends of positive influence also of the labor to the economic growth, while among the SEEU countries this contribution is still mainly negative.[3] Structural and institutional reforms also had key influence on the accelerated productivity growth. Transition indicators of the EBRD that are commonly used for assessment of the reforms indicate that the new member-states have already reached the level of the developed countries in the fields of privatization, price liberalization, trade and foreign exchange systems (although they are still lagging behind with respect to the enterprises restructuring, competition protection, banking reform and liberalization of the interest rates and financial markets and institutions, as well as the overall infrastructure)[4]. On the other hand, these indicators clearly point to the fact that the SEEU countries, are significantly lagging behind with the reforms in all these areas, except price liberalization and to a certain extent trade and foreign exchange systems.

The process of accelerated income increases, that is the process of real convergence, also initiated the process of nominal convergence. Nominal convergence about which we, central bankers, speak the most, is consisted mainly of convergence of price levels, but also of exchange rate changes, interest rates and budget deficits to EU levels. As an empirical fact, rises in relative CPI usually move together with rises in relative GDP, and emerging Europe was not immune to this trend. The CPI level in the new EU member states in 1995 ranged from 29.2% of the EU-15 level in Lithuania to 44.9% of the EU-15 level in Poland. In 2006, the CPI level ranged from 42.7% in Bulgaria to 71.8% in Slovenia, which clearly shows fast price rises in these countries[5].

It is obvious that the **parallel processes of real and nominal convergence of countries in transition pose numerous challenges for their economic policies in general and particularly for their monetary policies**. The process of real convergence creates inflationary pressures through a number of channels, thus making it difficult to fulfill one of the Maastricht criteria for entering the monetary union, and also the higher inflation generates negative effects on the competitiveness of the domestic economy. The **Balassa-Samuelson** effect is one of the most frequently indicated channels through which real convergence leads to higher inflation rates. According to this concept, the faster productivity growth in the tradables sector compared to the non-tradables sector of a country will cause a positive inflation differential and afterwards real appreciation - through the rise of market-determined prices of non-tradable goods[6]. Although there are certain dilemmas regarding its importance, most estimates show that the contribution of this effect ranges between 1 and 3 percentage points of CPI inflation. Therefore, for countries with a fixed exchange rate regime, such as almost all transition countries had in the beginning and quite a few of them now, the higher inflation is reflected directly into real effective exchange rate appreciation. On the other hand, countries with flexible exchange rate regimes also face their share of difficulties. Since they allow their currencies to fluctuate (and usually try to target inflation), their productivity growth is reflected first in higher nominal exchange rate, and consequently in real effective exchange rate appreciation as well.

Besides the Balassa-Samuelson as a supply side effect, there were also factors on the **demand side** which contributed to higher inflation in these countries during the transition process. As productivity and income grow, people start spending relatively more on non-tradables and services, which are usually considered more luxurious and are therefore more expensive. In addition, there were huge quality improvements in products and services, which also contributed to price rises. Last but not least, as these countries were establishing functional market economies, they had to allow for market rather than administrative determination of prices. As prices were previously kept artificially low, these changes caused additional inflationary pressures. The implementation of structural reforms that are prerequisite for real convergence, also creates pressures on the fiscal policy, i.e. the budget deficit and consequently inflation. Part of the costs for the economic reforms are financed from EU pre-

[3] *M. Morgese Borys, E.K. Polgar and A. Zlate,* "**Real Convergence in Central, Eastern and South-eastern Europe",** Background paper prepared for the Economic Conference on Central, Eastern and South-eastern Europe, 1-2 October 2007, European Central Bank, Frankfurt am Main

[4] Source: EBRD Transition Report 2007: November update.

[5] Source: Eurostat, NBRM calculations.

[6] *Jane Bogoev, Sultanija Bojceva Terzijan, Balázs Égert, Magdalena Petrovska,* "**Real exchange rate dynamics in Macedonia: Old wisdoms and new insights",** *http://www.economics-ejournal.org/economics/discussionpapers*

accession funds, whose utilization, although it does not imply direct increase of the budget deficit and jeopardizing one of the nominal Maastricht criteria, still could have a significant liquidity effect, creating inflationary pressures.

The combined effect of the of these factors on the supply side and on the demand side, is reflected in the relatively high inflation in these countries, the average annual rate of which in the period 1993-2007 in the countries of Central and Eastern Europe ranged from 6% in the Czech Republic to 38.6% in Lithuania. (By mid-90s, in South Eastern Europe, and in Bulgaria and Romania, there were frequent instances of extremely high inflation. In this group, in the period 1998-2007, the average annual inflation rate ranged from 2.1% in Macedonia to 31.1% in Serbia)[7]. Such movements **caused appreciation of the real exchange rate, which was especially emphasized in the new member states. Thus in the period 1994-2006, the cumulative appreciation of the real effective exchange rate ranged from 8% in Slovenia to 105.9% in Lithuania[8].** Economic theory offers arguments that real exchange rate appreciation is not dangerous as long as it reflects changes in the equilibrium real exchange rate. However, policy makers in these countries, especially in the recent years, are not really comforted by these theoretical discussions which consider that real appreciation is only movement to equilibrium. What they are seeing in their countries are common signs of overheating of the economy and loss of competitiveness, which deepens the external imbalances. In the beginning of transition, current account deficits were understandable and not too much cause for concern, as these countries were importing technology and previously unavailable goods. However, the size of the deficits in the last several years exceeds the level that is usually deemed sustainable. Thus, the current account deficit in the new member states in the period 1996-2005 ranged from 5% to 7.7% of GDP, but in the last two years it has been reaching 10.1% and 11.3% of GDP. The average current account deficit in the SEEU countries in the same period is even higher, and it is estimated that in 2007 it will reach 16.3%[9]. Even though deficits are projected to fall in some of the countries, in general they remain a cause for concern in most of them. Besides the trade deficit which, due to lower competitiveness and higher consumption, is one of the main causes for the current account deficits, some of these countries are also experiencing deficits in the income balance, which mainly reflects repatriation of profits from foreign direct investments.

Most certainly, such high current account deficits would not have been possible if there were not such large and continuous **capital inflows** in transition countries, mainly in terms of FDI, but also of portfolio and other types of investments. For example, in the period 1989-2007, total FDI amounted to around 3,600 USD per capita in the new EU member states and around 2,000 USD per capita in the SEEU countries[10]. Again, in the earlier years of transition, capital flows partially substituted for the insufficient savings in these countries and allowed for the necessary transfer of technology and expansion of production. However, there are concerns that, in the recent years, and particularly in the countries with fixed exchange rates, capital inflows are dangerously adding to domestic demand, thus putting further pressure on inflation and increasing imports.

In addition, the rise in incomes, the presence of abundant foreign capital, the expansion of the banking sector and sometimes negative real interest rates all contributed to rapid credit growth in transition countries. Again, the rates of growth were almost unprecedented before, and in 2007 they reached around 60% year on year in Bulgaria, Romania and around 40.6% in Lithuania[11]. After a previously suppressed consumption, the process of credit growth was understandable and desirable for economic growth. However, the rates of growth are only adding to demand pressures in these countries, and in combination with the other factors, adding to the rise of inflation, rise of imports and further worsening of the current account position.

[7] Source: IMF World Economic Outlook Database, April 2008.
[8] Source: Eurostat. For the SEEU countries data are available only on Croatia and Macedonia, from the IMF International Financial Statistics. Cumulatively, in this period in Croatia there was real appreciation of 9.1%, while in Macedonia there was real depreciation of 18.2%.
[9] Source: EBRD Transition report 2007: November update and NBRM calculations. Data for 2007 are estimates.
[10] Source: EBRD Transition report 2007: November update and NBRM calculations. Data for 2007 are estimates.
[11] Source: EBRD Transition report 2007: November update. Data for 2007 are estimates

Dear guests,

At the current time, these developments pose **two particular challenges** for the policy makers in transition countries, one a short-term and the other a longer term.

The short term challenge is ***how to lower the risk of high current account deficits, which can cause wider financial crisis, combined with a currency crisis in countries with pegs and currency boards***. Both the economic theory and the economic history are clear that current circumstances are not the most favorable for these countries. Worsening current account deficits are not sustainable and can not continue forever. The more they widen, the bigger the pressure becomes for real exchange rate depreciation as a way of restoring competitiveness. This of course can be a bit easier for countries with flexible exchange rates, which can achieve it by nominal depreciation (and thus risk rise in inflation). However, countries with fixed rates are sometimes forced to abandon their exchange rate regime, as they do not have any other way out of real overvaluation of their currencies. Another risk in the short term might be the contagion of financial crises from abroad, which would combine with fragilities and thus prompt financial and economic difficulties in these countries.

The long-run challenges for transition countries are related to the ***simultaneous maintenance of competitiveness and nominal convergence***. What is next for the new EU member states is certainly achieving EMU membership and all of them agree that the stability and opportunities of the single currency are their goal. While achieving this seemed easier a few years ago, the prospects are somewhat worsened in the light of the recent developments. The record high oil prices and the high food prices additionally augmented the inflationary pressures in these countries. The high inflation in most of the transition countries makes them breach the first of the four Maastricht criteria. What is even worse, the forecasts for the next several years for most of the countries show they will probably not meet the inflation criterion. This is particularly troubling for the countries on a fixed exchange rate regime or currency board, which do not have the exchange rate flexibility as an instrument for handling inflation.

Another part where there might be trouble is the exchange rate criterion. Now it is the floaters that could have bigger difficulties, particularly if the current developments continue and capital keeps to flow in these countries, thus making pressures for nominal appreciation. As far as the budget deficit criterion and the interest rate criterion are concerned, it appears that in these areas there will be less difficulties in fulfilling the Maastricht criteria, under the assumption there will be maintenance and strengthening of fiscal discipline.

Of course, not all is bad and unreachable as far as Maastricht criteria are concerned. These countries are not giving up and they stand ready to increase their efforts in order to achieve their goals. While it appears that most transition countries have postponed their euro-zone entry a little bit due to the abovementioned difficulties, there are also two remarkable success stories from the transition countries. We already have Slovenia which has been in the euro-zone since last year. In addition, we have Slovakia which got a positive opinion by the European Commission on fulfillment of criteria and is getting ready to adopt the euro in the beginning of next year.

The remarkable success of the Central and Eastern European countries of achieving EU membership after a thorough transformation and rapid growth of living standards undoubtedly holds a lot of recommendations and lessons for the South Eastern European countries. These countries had similar, maybe even more advanced starting positions than the other transition countries, but South Eastern Europe is now lagging far more behind in terms of progress towards the EU. However, we should bear in mind that the main reason for this is definitively the political instability and war conflicts in the region, which understandably prevented faster economic transformation and reforms. Luckily, it appears that political support for EU accession and the determination to pursue EU membership, including all the necessary economic and political reforms, are strengthening.

In analyzing the economic developments in the region of **South Eastern Europe,** some notable differences with the CEE countries appear. South Eastern Europe has much lower pace of

reforms and lower growth rates. Related to this, capital inflows in the region have been much smaller and have shown a much bigger dispersion among countries, ranging from 834 USD per capita in Albania to 3,932 USD per capita in Croatia, cumulatively in the period 1989-2007[12]. Credit expansion has been high, but has still to reach rates and length of the one seen in more advanced transition countries. Consequently, there have been less demand pressures as well as comparatively lower inflation than in the other countries, although inflation has been rising recently. Exchange rate regimes in the region are various, ranging from currency board in Bosnia and Herzegovina to almost free float within inflation targeting in Serbia. What is common is that during the transition process all these countries dedicated particular attention to their exchange rate regimes and they were mostly using fixed rates, which reflects their high trade openness and their efforts to establish strong monetary authority.

Regardless of the exchange rate regime, the real exchange rate appreciation in the countries in the region has been considerable, although maybe a bit lower when compared to the new EU member states. As a result, these countries have been suffering from competitiveness loss as well. This can be clearly seen in the movement of their current account deficits, which are considerable in all of these countries. For instance, current account deficits in 2007 range from 3.1% of GDP in Macedonia to 36.2% of GDP in Montenegro[13]. However, SEEU contains two distinct patterns of the structure of the balance of payments. The first is the conventional one for the transition countries, where the current account deficit is covered mostly with FDI and portfolio investments (e.g. Croatia). On the other hand, the second pattern is consisted of huge trade deficits, which are covered much more by remittances from abroad than by foreign investments (e.g. Macedonia, Albania). However, the dilemma appears whether these high current account deficits are sustainable.

Regarding the economic history, despite the fact that in certain areas Macedonia was a pioneer in the implementation of reforms in South Eastern Europe, under the influence of negative external and domestic shocks it had relatively low rate of economic growth of averagely 2.7% in the 1997-2007 period. This resulted in a relatively low level of real convergence of 25.7% of GDP per capita in the euro-zone (23.6% in 1996). The use of the exchange rate as an anchor for inflation expectations has been effective until now, producing low and stable inflation rates. In circumstances of high import dependence and relatively slow implementation of structural reforms aimed at increasing the export potential, contributed to the maintenance of high trade deficit, which was mainly financed by high private transfers.

However, the transition process in Macedonia is specific because of the relatively slower process of real convergence and the **continuous real depreciation of the Macedonian Denar.** Namely, according to some research[14], there has been an absence of the Balassa-Samuelson effect in Macedonia, that is the productivity in the tradable sector compared to foreign partners rises with relatively lower rates. This was a result of the absence of big foreign companies and the loss of important foreign markets, particularly after the independence. In such circumstances, the only way to maintain the competitiveness of the Macedonian producers was the specialization and exports of lower quality products. These developments did not generate inflationary pressures, which caused absence of real appreciation that was evident in the other transition countries.

In the past several years, Macedonia is quickly moving closer to the more advanced transition economies. Several years in a row we have achieved positive and stable growth rates, equaling 5.1% in 2007, which is the highest growth rate since independence. Even though economic growth rates are lower than the ones in Baltic countries as well as some of the countries in the region, this is a sure sign for the acceleration of the process of real convergence. This process is also supported by the foreign direct and portfolio investments (6.3% of GDP in 2007) and the faster credit expansion, with annual

[12] Source: EBRD Transition report 2007: November update and NBRM calculations. Data pertain to FDI. Data for 2007 are estimates.
[13] Source: EBRD Transition report 2007: November update.
[14] Loko B. and Tuladhar A. (2005), **"Labor Productivity and Real Exchange Rate: The Balassa-Samuelson Disconnect in the former Yugoslav Republic of Macedonia"** *IMF Working Paper* No. 113 and *Jane Bogoev, Sultanija Bojceva Terzijan, Balázs Égert, Magdalena Petrovska,* **"Real exchange rate dynamics in Macedonia:Old wisdoms and new insights",** *http://www.economics-ejournal.org/economics/discussionpapers*

growth rate of 39% in 2007. As far as nominal convergence is concerned, Macedonia is facing challenges that are common for most of the economies in the region and elsewhere. Since the last quarter of 2007, we are having an acceleration of the inflation rate, which is mostly caused by the global rise of food and energy prices. Therefore, the uncertainty regarding the movement of these prices, as well as the expectations for pressures initiated by the process of real convergence are the main challenges for monetary policy in the medium term.

Dear guests,

I hope that with my introductory speech I have identified issues that are in the focus of interest of the economic policy-makers in the transition countries, and which I expect to be further elaborated by the participants in the conference. Today we have with us guests with diverse backgrounds. We have presenters from EU institutions, from old and more advanced new EU new member states, as well as from the South Eastern European countries, which are determined to work hard for European integration. I hope that we can share the experience of the existing EU member states, including the more advanced transition countries, in the process of EU and later EMU integration. I am sure that South Eastern European countries have a lot to learn, both in terms of successful strategies and steps and mistakes to avoid. I am also sure that our capability as central bankers to successfully face the challenges of faster accession towards the EU and EMU will be enhanced by this and similar conferences. The high quality of the speakers and the guests and the diversity of their background make me an optimist that we will have a fruitful Conference, which will broaden our knowledge with new experiences. I wish you a successful work in the Conference and to the representatives from abroad I wish a very pleasant stay in Macedonia.

Thank you for your attention!

Growth and Economic Policy: Are There Speed Limits to Real Convergence?

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Abstract

Real convergence in the recently acceded EU member states (RAMS) is taking place in a new environment, with important implications for convergence and vulnerabilities. Financial liberalization can increase temporary imbalances, while financial integration provides the necessary external finance to support the larger current account deficits involved. Thus, periods during which relative prices are distorted and resources are not reallocated to reach a new equilibrium can be lengthened. When prices are sticky, the exchange rate regime matters in the short run: a fixed exchange rate regime generates a larger current account deficit than a flexible exchange rate regime. That is, the extent of vulnerability to adjustment risk will depend on several factors, and trade-offs between these, including price stickiness, the extent of unhedged balance sheet exposures, and the degree of nominal flexibility afforded by the exchange rate regime. Financial liberalization and integration may also lead to sizable changes in the composition of final demand, and through this, considerable movements in the equilibrium real exchange rate. It may therefore be a challenging task for policymakers to achieve fast and steady nominal convergence in certain phases of convergence in this new environment. The paper discusses the challenges policymakers in RAMS face and the policies that can make the convergence process faster and smoother.

Keywords: real and financial convergence, financial integration, recently acceded EU member states.

JEL Classification: F43, E61, E44, D58

[15] Paper presented at the ECB Economic Conference on Central, Eastern and South-Eastern Europe, Frankfurt, 1-2 October, 2007. The authors are advisors at the European Commission, DG ECFIN. István P. Székely is on leave from the IMF, and is on the faculty of Corvinus University, Budapest. Max Watson is a Fellow of Wolfson College, Oxford. Views expressed are those of the authors and do not necessarily represent the views of DG ECFIN or the IMF. The authors wish to thank colleagues in DG ECFIN, and notably Julia Lendvai and Werner Roeger, for their great assistance in developing the material on which this paper is based.

I. Introduction

The concept of speed limits to real convergence can be interpreted in two different ways. It can mean factors that limit or enhance potential growth in the recently acceded EU member states (RAMS)—in other words, ***speed limits to the potential pace of real convergence.*** But it can also mean factors that limit adjustment capacity and/or create market imperfections and rigidities, that is, ***speed limits due to vulnerabilities***. Both are important and will be dealt with in this paper.

Regarding the former, recent research findings offer empirical evidence on the role of several non-traditional growth factors that are of particular importance in RAMS. These include the quality of institutions, the size and efficiency of government, and the development of the financial sector and financial integration.[16]

More attention to nontraditional growth factors reflects the fact that real convergence in RAMS is taking place in a new environment. The differences from previous convergence episodes are attributable to several factors, including financial integration, globalization, and European integration. RAMS also have important characteristics that are different from those of previously converging economies, such as the level of education or cross-border mobility of labor force.

These differences in environment and characteristics also have important implications for the speed limits due to vulnerabilities. On the one hand, financial liberalization—which provides a historically unique opportunity to use foreign savings to accelerate real convergence—can also increase the amplitude of certain cyclical elements, while financial integration, in large part due to European integration, can provide the necessary external finance for the kind of current account deficits that these larger deviations may generate. That is, these factors may lengthen the periods during which relative prices are distorted and resources are not reallocated to reach a new equilibrium.

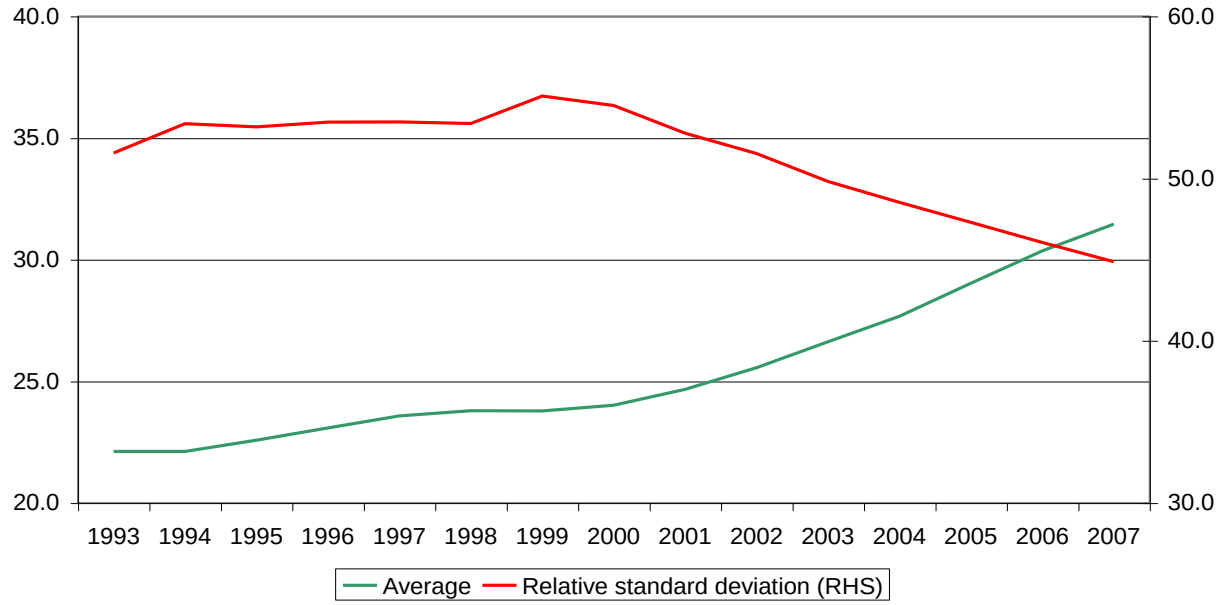
It may be a challenging task for policymakers to achieve fast and steady nominal convergence, a prerequisite for euro adoption, in certain phases of convergence in this new environment. Financial liberalization and integration may lead to sizable changes in the composition of final demand, and through this, considerable movements in the equilibrium real exchange rate. As policies also work rather differently in the new environment, some even argue that they are ineffective, policymakers may face a double challenge in this regard.

II. The Convergence Process

RAMS are catching up with the average income level in the EU, and with each other, at a relatively rapid pace. The pace of convergence has accelerated since the turn of the century when EU accession became a central scenario for business. At the same time the dispersion of per capita relative income within this group started to decline rapidly, that is, the convergence also gathered pace among RAMS themselves (Figure 1).

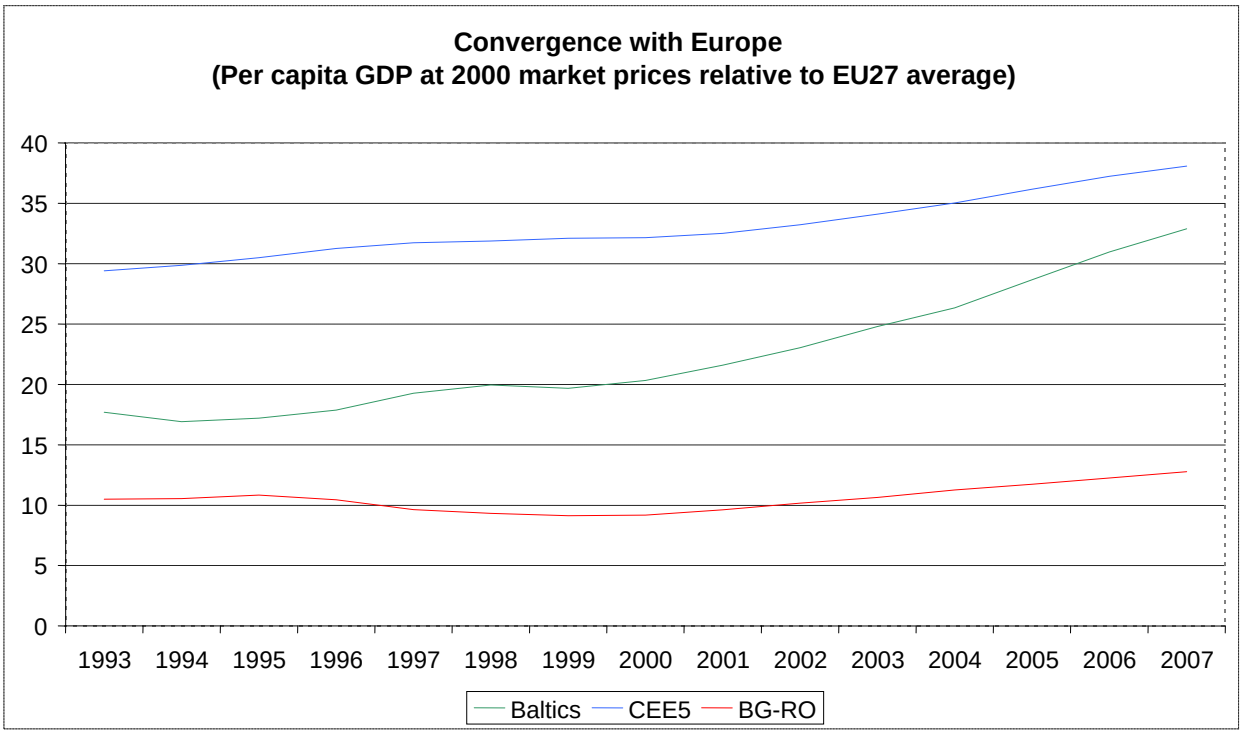
[16] Some of these factors might have played an equally important role in previous convergence episodes but received little attention.

Catch-up with Europe and convergence among EU10
(Per capita GDP at 2000 market prices relative to EU27 average)



Both phenomena are mostly explained by the acceleration of convergence in the Baltic countries. These economies kept up with the fastest-growing emerging market economies, while the growth performance of the others has been, overall, more modest (Figure 2).

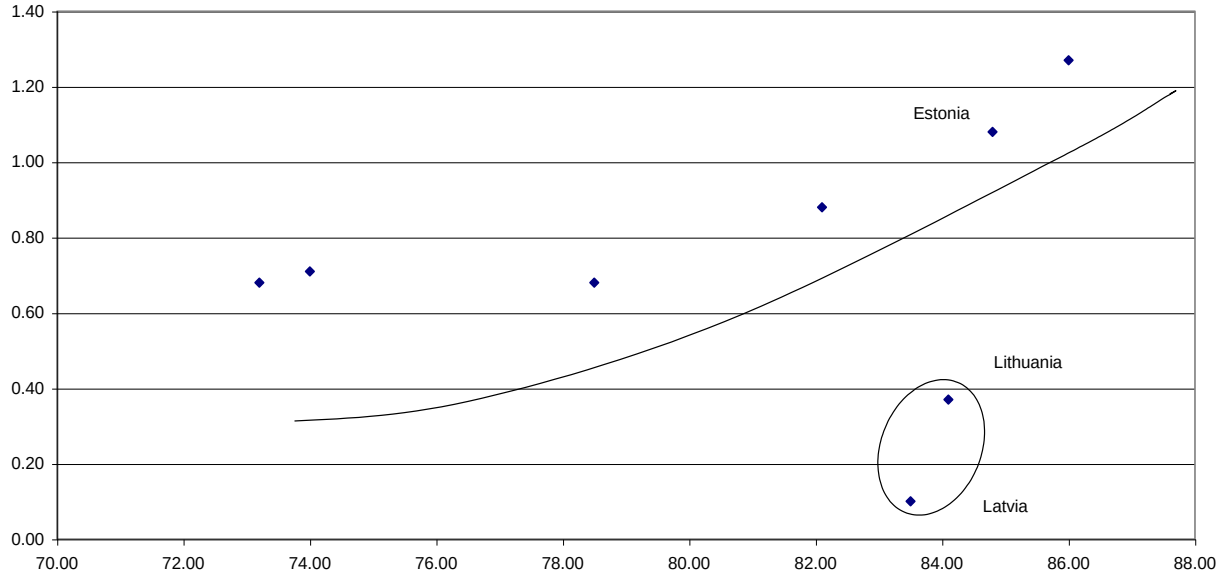
Convergence with Europe
(Per capita GDP at 2000 market prices relative to EU27 average)



Exports product structures of most RAMS have also improved rapidly, indicating that these countries have a significant potential to absorb modern technology (Igan et al., 2007 and IMF, 2006)**.** Given their relatively high educational achievements and the fact that their financial systems are well-developed, this is not surprising. Differences across countries in this regard are, however, also likely to be influenced by the quality of education and, more broadly, by their

attractiveness for technology-transferring FDI (Figure 3).

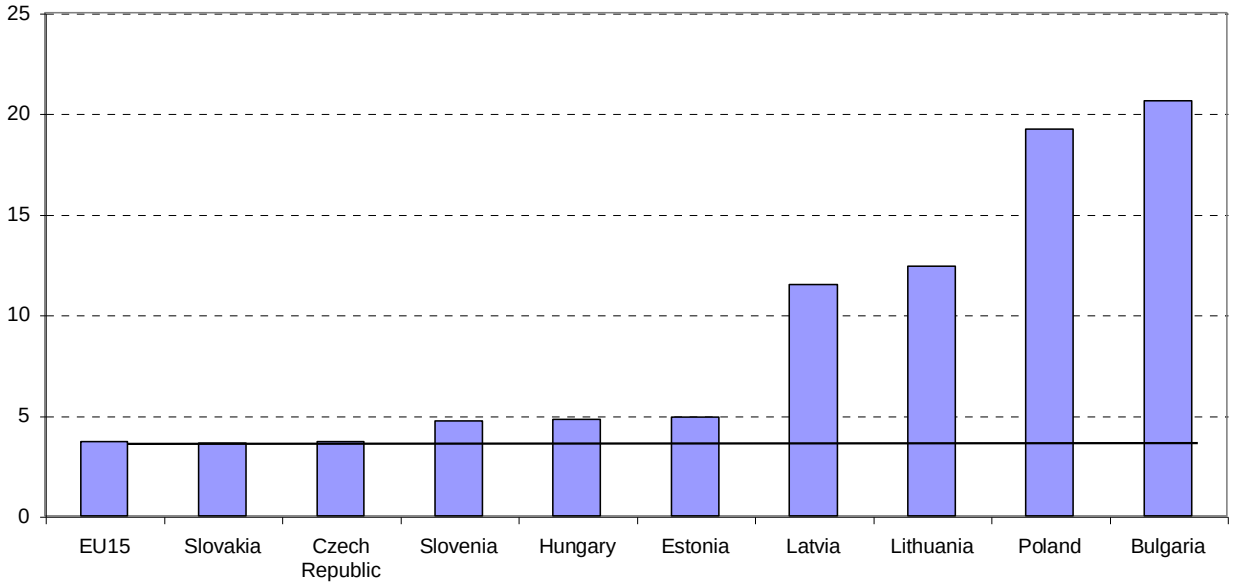
RAMS: Educational attainment and change in export unit value, 1999-2004



Percentage of the population aged 25 to 64 having completed at least upper secondary education in 1999 (horizontal) and change in export unit value in between 1999 and 2004 (vertical).
Sources: Igan et al. (2007) and Eurostat.

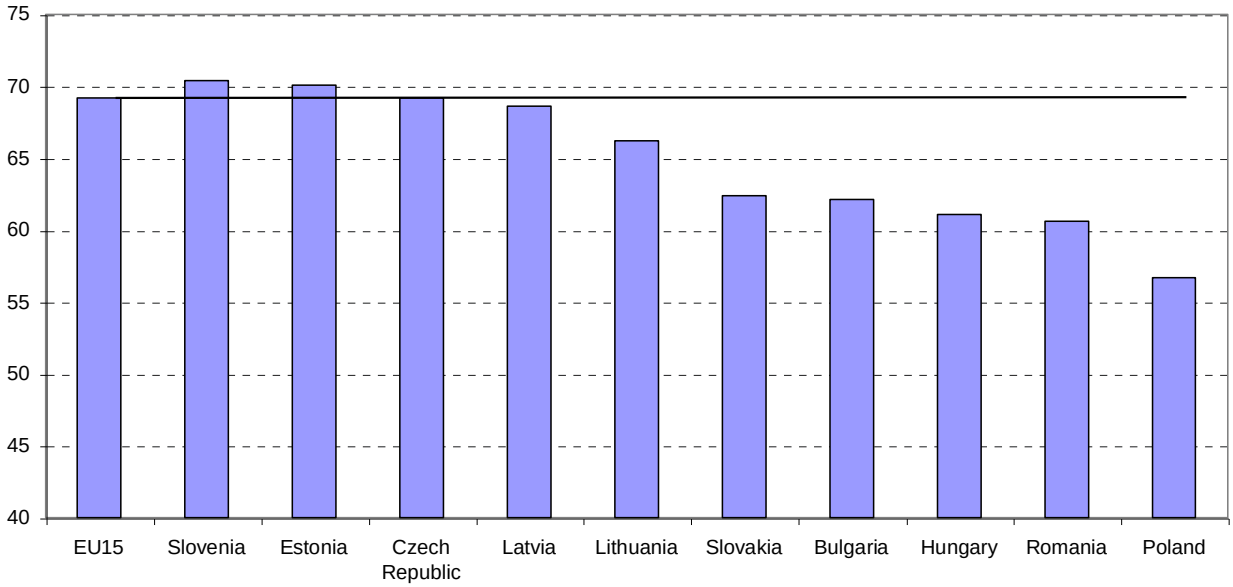
Caselli and Tenreyo (2005) call the attention to the importance of the initial production and employment structures in explaining the speed of convergence, especially in the early phases of convergence. Indeed, the share of agriculture, particularly if measured by employment, is rather different in RAMS, with Poland, among others having much higher shares of employment in agriculture (Figure 4 Chart on agricultural employment). The resulting scope for sectoral shifts can, in principle, be a source of rapid growth in the coming years in these countries, as was the case, e.g., in Spain. The issue, however, is broader than just agricultural employment even in Poland. The level of employment, and thus the potential in increasing labor input, is rather different across the RAMS, with the Baltic countries having relatively high employment levels by EU standards (Figure 5).

Figure 4. RAMS: Share of Agricultural Employment in 2006



Share in total employment
Source: Eurostat, for Slovenia the StatisticalOffice of Slovenia.

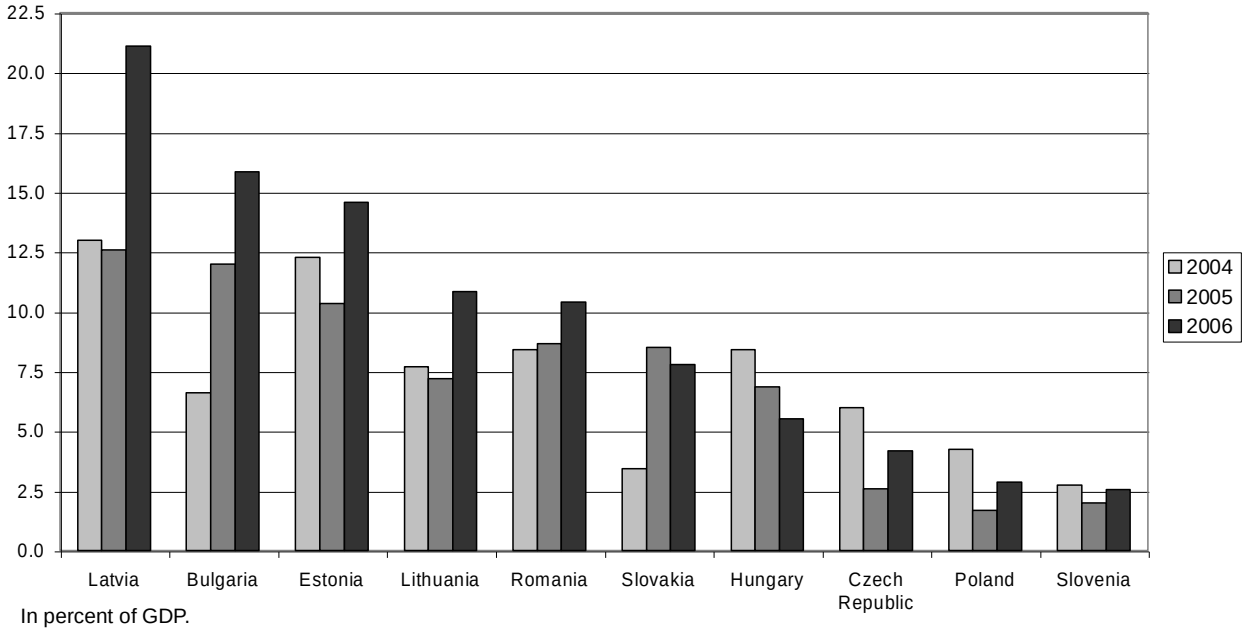
Figure 5. RAMS: Employment ratios in 2006



Employment ratios for people aged 15 to 59.
Source: Eurostat.

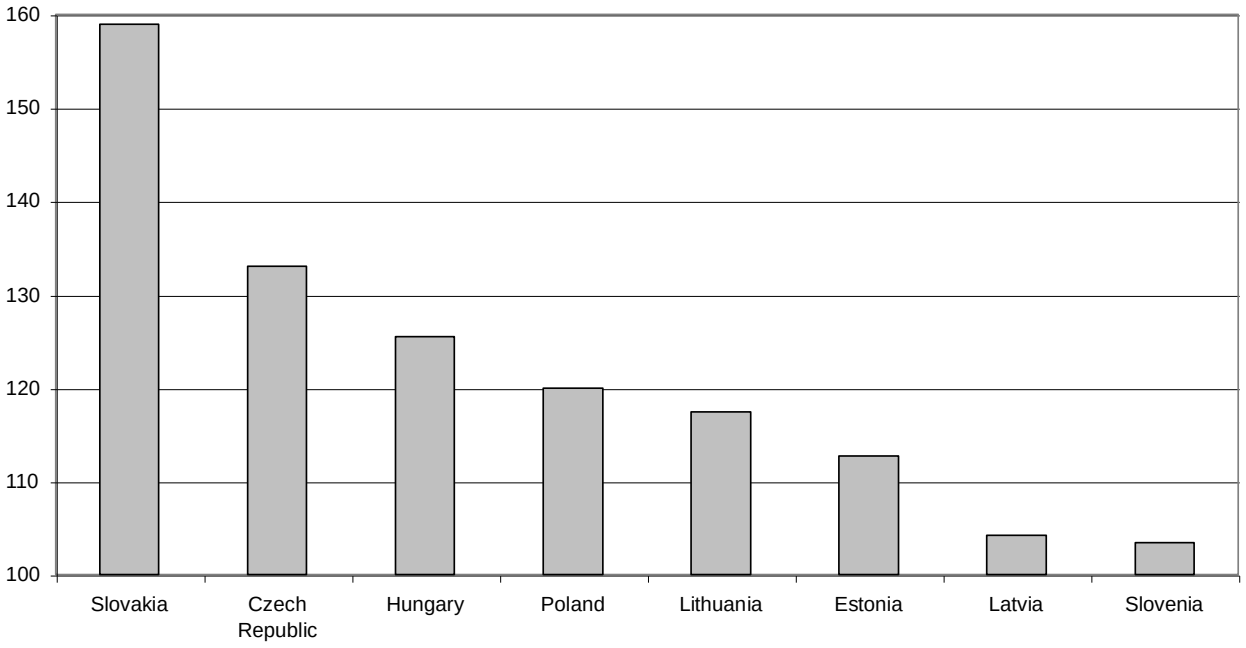
The process of convergence is associated with high current account deficits and rapid real appreciation in several RAMS. The recent experiences of the Baltic countries and Bulgaria are of particular importance in this regard, though the origins, and, thus, the longer- term implications for growth are likely to be rather different in these cases (Figures 6-8). The flip-side of real appreciation in RAMS with fix exchange rate regimes is somewhat higher inflation, though a periodic acceleration of inflation is not restricted to these countries (Figure 9, Inflation).

Figure 6. RAMS: Current Account Deficit, 2004-06



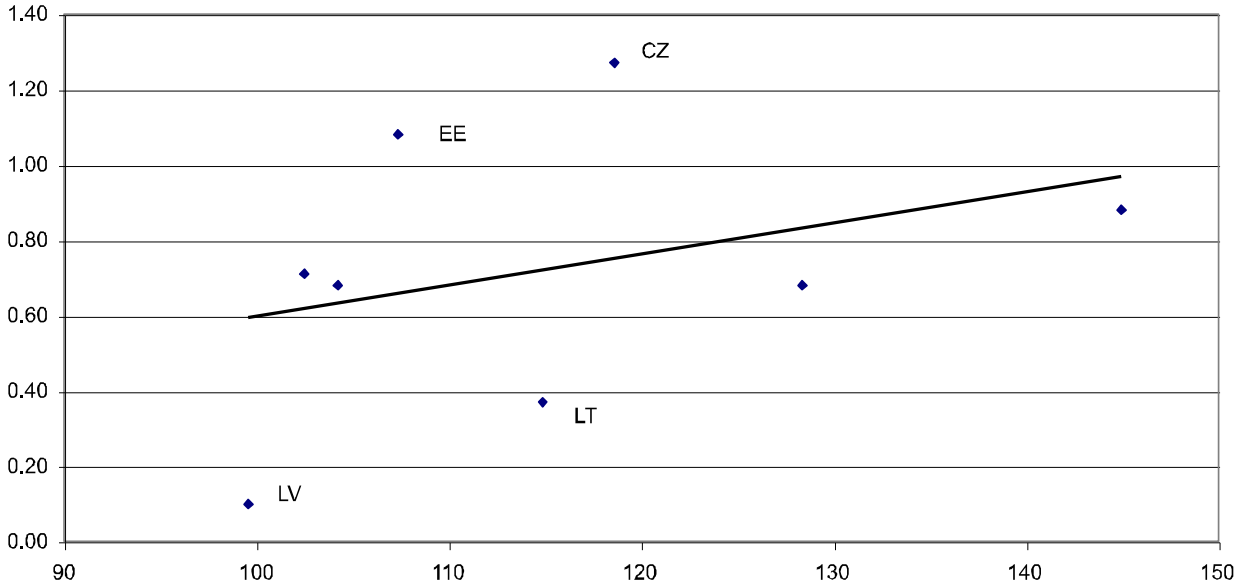
In percent of GDP.
Source: Eurostat and the authors' own calculations.

Figure 7. RAMS: Real Effective Exchange Rate Indices, 2006



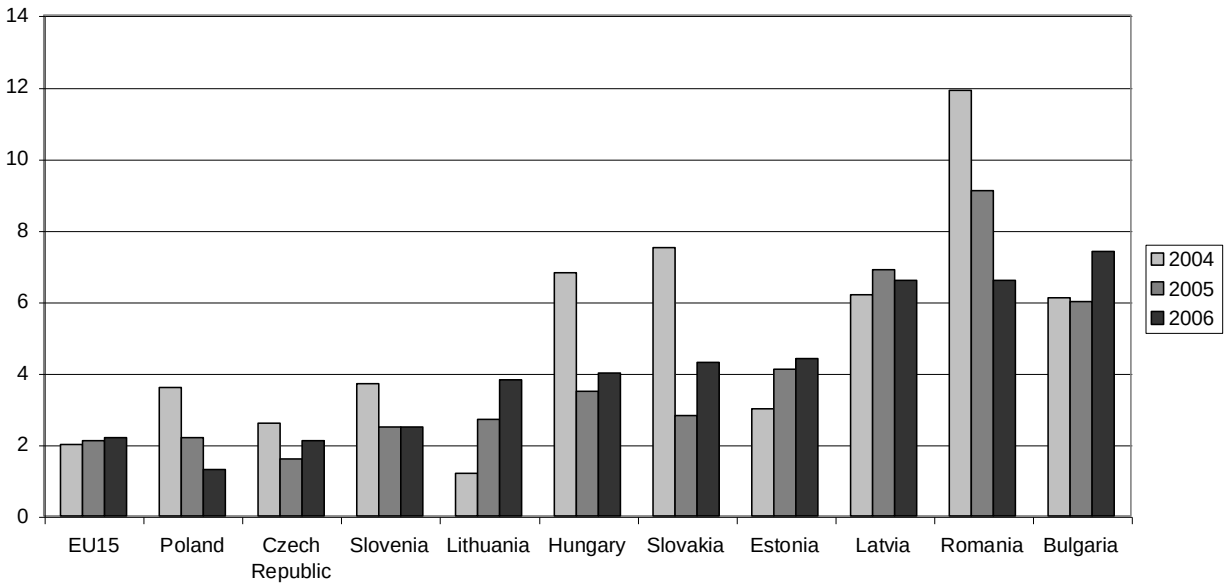
Based on CPI, 1999=100.
Source: Eurostat.

Figure 8. RAMS: Change in Export Unit Value and Real Appreciation, 1999-2004



Change in export unit value (horizontal) and REER index (1999=100) between 1999 and 2004 (vertical).
Sources: Igan et al. (2007) and Eurostat.

Figure 9. RAMS: Rate of Inflation, 2004-06



Harmonized indices of consumer prices (2005=100) - Annual rate of change
Source: Eurostat.

III. Theoretical Foundations and Empirical Evidence

Though findings are not always robust and/or theoretically well understood, there are several factors that are consistently found to influence growth performance in empirical studies. In what follows we shall review some of these findings and try to relate them to theoretical models in order to understand the channels through which, and the ways in which, they might influence catch-up potential in the RAMS. We shall also review how these factors might influence the adjustment to a new equilibrium and, through this, the variability of output and macroeconomic vulnerabilities. Of course, with perfect markets, fully informed agents, and flexible prices, theory would suggest no impact of such variability on potential growth. But these assumptions are not necessarily plausible for

the RAMS (or other EU Member States). Thus major deviations from potential output create vulnerabilities—mostly, though not only, through large external gross financing requirements. Moreover, they also limit growth potential because of extended periods of distorted relative prices and slow responses to relative prices changes.

Other things equal, a lower initial income level seems to be associated with more rapid growth: lower-income countries, on average, do converge with higher-income countries. As the RAMS' income level is still significantly lower than that of the rest of the EU (Figure 1), this factor will potentially work in their favor, as it has done since the beginning of transition. The evidence for an interaction of this exogenous catch-up factor with policy determined factors, however, is much scarcer and more recent. Schadler et al. (2006) offer some evidence on the interaction with institutional quality and financial integration. These interactions are of particular importance to RAMS because European integration, by design, brings about major improvements in these areas.[17]

Aghion et al. (2006) offer a model that can establish a link between domestic savings and growth performance in a small open economy. This is an important, though long overdue, theoretical result. Even though it has been a widely-held view in economics that domestic savings matter for growth also in a small open economy, theory has long offered little support for this view. A crucial element of this link in the above model is the capacity of domestic banks to cofinance investments by foreign firms that bring local firms closer to the industry frontier. As monitoring is crucial to ensure efficient use of external financing by firms, the higher domestic savings are—the higher the domestic banks' capacity to cofinance—the higher foreign investment and, thus, the faster convergence to the efficiency frontier will be.

Schadler et al. (2006), however, find no evidence of this link to domestic savings for growth rates in the RAMS. Instead, they offer evidence suggesting that higher current account deficits—that is, more reliance on foreign savings—on average, speeds up convergence.[18]

Is this a contradiction, or a finding that reduces the relevance of this model? Not necessarily. The banking sector in most RAMS is dominated by foreign-owned banks that can bring in foreign financing at large scales and that have already developed the necessary capacity to efficiently monitor local firms. In fact, in the early phase, foreign-owned banks mostly specialized in corporate financing and moved into the retail sector only more recently. So, there is a very plausible explanation for the fact that RAMS can easily substitute foreign for domestic savings[19] and, on average, converge fast with the rest of the EU despite relatively low domestic savings (relative to, for example, South-East Asian countries, see Schadler et al., 2006). Large-scale FDI, and more broadly, openness to foreign ownership, is another factor that makes this channel less relevant. We shall take up this issue below.

In another seminal contribution, Aghion et al. (2005) present a model to explain how financial development can enhance the growth potential once it reaches a threshold level.[20] This is an issue that has long been in the center of attention (Greenwood and Jovanovic, 1990, Levine, 1997, Demigrüç-Kunt and Levine, 2001). This model, however, is of particular interest to RAMS as it explicitly accounts for technological transfer and the role of financial development in this, a central mechanism for the convergence of RAMS. Their model predicts an acceleration of growth once

[17] Schooling, which influences a country's capacity to adopt new technologies (Howitt and Mayer-Foulkes, 2002), does not seem to have a strong explanatory power for the RAMS, perhaps because differences among them in this area are more qualitative than quantitative, as indicated in Figure 3.

[18] Abiad et al. (2007) provide further empirical evidence and argue that Europe (RAMS) is different in this regard. They also make the important distinction between steady state growth and convergence, which might be essential to understand why previous studies for larger sets of low-middle-income countries found no evidence supporting this link (Kose et al., 2006), or found that capital tended to flow "uphill" (Prasad et al., 2006).

[19] For example, in Latvia, foreign borrowing by (mostly foreign-owned) domestic banks amounts to more than half of their total lending (to residents and non-residents), and over ⅔ of their deposit base.

[20] Empirical investigations in Aghion et al. (2005) and Aghion et al. (2006) do not include RAMS as no reliable long-run data are available for these countries, simply because data for pre-transition periods are not very meaningful in this regard. The lack of data for a longer time period, of course, make it rather difficult to draw any conclusion from empirical work on the nature of the effects these development factors have on the growth or convergence potential of RAMS.

financial intermediation (proxied by the private credit-to-GDP ratio) reaches a threshold level (at around 25 percent based on their estimates); and provide empirical evidence to support this prediction of their model.

Though these results would suggest a strong relationship between financial development and growth in the RAMS, empirical evidence is weak. Credit-to-GDP ratios in RAMS are above this threshold level and credit growth is well in excess of nominal GDP growth in most RAMS. Nonetheless, Schadler et al. (2006), for example, find no evidence that this factor is serving to enhance growth potential in these economies.[21]

Again, this is not necessarily a contradiction. While increased access to credit is a positive development even if it is used for financing consumption or housing investment (since it allows households to optimize their consumption over a much longer time horizon) the contribution of credit expansion to potential growth is greatly dependent on how the increased credit is allocated. In the model of Aghion et al. (2006), this comes down to the assumption that credit finances innovation, or in that of Aghion et al. (2005) that finance is essential for the technology transfer—which clearly do not apply to credit that goes to nonproductive use, such as durables or housing. And indeed, the share of consumption and housing loans, is significant in the RAMS, albeit with important differences among countries (Figure 8). Thus, depending on the actual share of credit that finances innovation or technology transfer (more broadly, productive investment) in a given sample, one may or may not find financial development as a direct growth enhancing factor.[22]

FDI is another important factor that can enhance potential growth and convergence. It can directly finance innovation and/or transfer technology, and thus substitute for local innovation.[23].RAMS have been benefiting from large FDI inflows since the beginning of transition, though to varying extent. Similarly to debt finance, the structure of FDI is key to understanding its implications for real convergence. FDI that finances or creates a real estate boom, in itself, is clearly not a factor that speeds up the convergence to the production frontier in the receiving country.[24]

Financial development and integration, however, can also increase vulnerabilities, especially if they take place in countries and periods that are characterized by major market imperfections. Improved access to credit by households, especially in countries with large pent-up demand for housing such as Latvia, can increase the demand for nontradable goods and shift resources in a dramatic fashion towards nonproductive uses even in the medium term. This, in turn, can lead to a sizable widening of the current account deficit and a considerable real appreciation—comparable in size or even larger than that generated by the B-S effect. Moreover, with sticky prices, the initial deterioration in the current account is significantly higher than with flexible prices, further increasing vulnerabilities (Box 1). This mechanism seems key to understanding recent developments in some RAMS with very large current account deficits and rapid asset price inflation, such as Latvia.

Box 1. Factors determining real exchange rate trends in converging economies

The discussion on real exchange rate trends in converging economies has so far focused mostly on the possible size of the Balassa-Samuelson (B-S) effect. The general consensus is that this effect is modeston average, 1-2 percent annually) (e.g., Kovács, 2002). More broadly, sectoral data for EU15 countries suggest that even in the euro area (a single market with a common currency), there are several uncertainties surrounding the very basic assumptions underlying the B-S framework, most importantly the one price assumption for tradable goods (Carsten and Ruscher, 2007). Moreover, recent movements in the real exchange rates of some of the converging economies have been much

[21] It is, however, important to mention that they include variables that measure institutional quality, which might pick up some of the effects of the key mechanism involved in the models in Aghion et al. (2005) and Aghion et al. (2006), namely enterprise monitoring.

[22] For example, the share of loans to households and for real estate development in the increase in loans to the private sector (excluding financial institutions) amounted to 75 percent in the past year (12 months up to end Q1 2007) in Latvia.

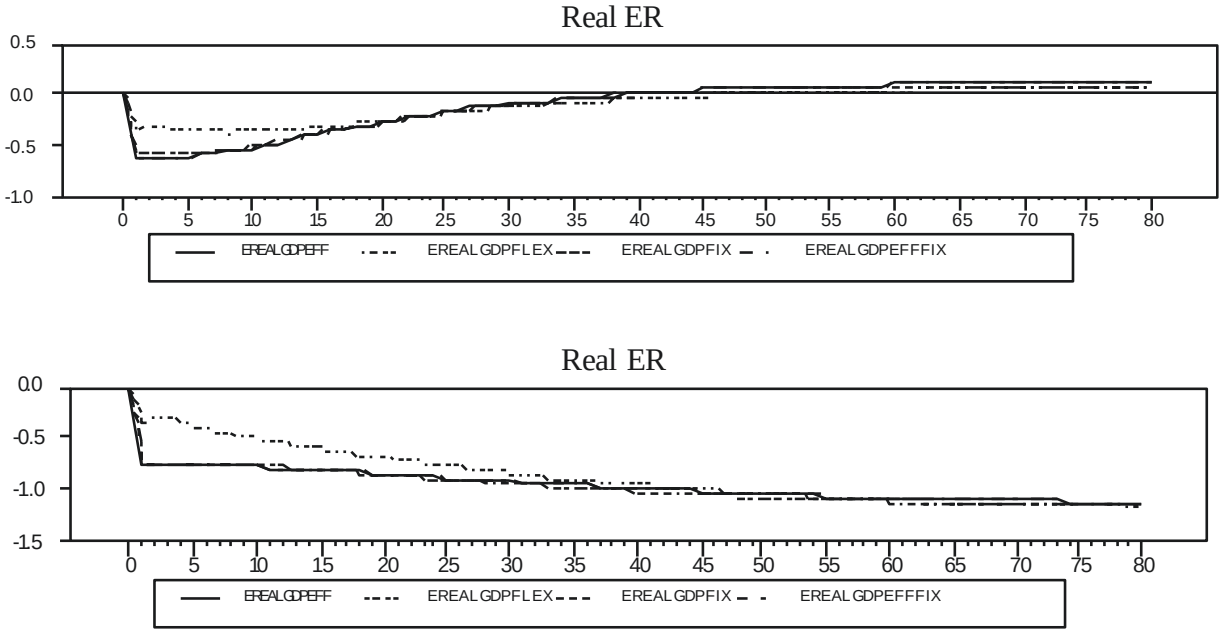
[23] In fact, Aghion et al. (2006) directly estimate the implication of FDI for the impact of domestic savings on long-term growth and convergence and find that FDI makes this impact smaller, though still important. FDI is equally relevant to the model in Aghion et al. (2006).

[24] For example, in Latvia, 12 percent of cumulative FDI went into the real estate sector, and 37 percent into the financial system, which, at present, seems to finance mostly a real estate boom.

more dramatic than the estimated extent of the B-S effects, and real appreciation occurred even when TFP growth was mostly generated in nontradable sectors (e.g., Latvia).

Recent research in the European Commission, however, provides important insight into alternative mechanisms that might be equally important in determining real exchange rate trends in RAMS. They may also help better understand the recent experience of RAMS that witnessed rapid real appreciation, way beyond the possible extent of the B-S effect. Results of stochastic dynamic general equilibrium model-based simulations (Lendvai, 2007) seem to suggest that financial integration, most importantly increased access for households to credit, can be one such important factor. These results show that removing credit constraint on households, while leaving TFP growth unchanged both in tradable and nontradable sectors, leads to a persistent real appreciation and a widening of the current account deficit in the medium-run —just like in the case of the B-S effect. The long run implications are, however, markedly different from those of the B-S effect. The real exchange rate appreciates only temporarily, in the long-run it depreciates slightly (relative to the baseline) to generate the current account surplus necessary to service the higher net external debt accumulated in the first phase. That is— unlike in the case of the B-S effect where the appreciation is permanent—the real exchange rate goes through major adjustments twice before a long-run equilibrium is reached again (Figure B1.1).[25]

Figure B1.1 Real exchange rate trends under different scenarios: Increased access by households to credit (upper panel) and TFP shock in the tradable sector (lower panel)



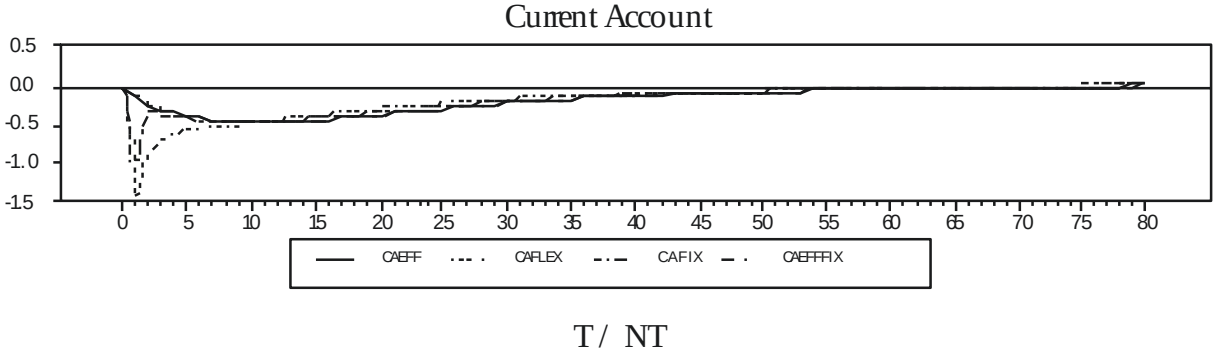
Source: Lendvai (2007).

Note: In the first simulation (upper panel), the loan-to-value ratio is increased by 10 percentage points for collateral constrained households, while in the second one (lower panel) there is a permanent 5 percent increase in the level of TFP in the tradable sectors. Both simulations are carried out with the same 2-country, 2-sector model in which 3 types of households are distinguished (Ricardian, collateral constrained, and liquidity constrained). Solid line: flexible exchange rate regime with sticky prices; dashed line: flexible exchange rate regime with fully flexible prices; -- - : fixed exchange rate regime with sticky prices; -- - --: fixed exchange rate regime with fully flexible prices. T = related to Traded goods sector, NT = related to Non-Traded goods sector.

[25] In discussing recent experiences of Portugal and Spain, Blanchard (2007) presents a model that can produce a similar outcome, but the shock in his model is a change in preferences, namely increased impatience (decrease in the discount factor). While we have evidence that supports an easing of the credit constraint on households in several RAMS, we have little to suggest a sudden change in preferences in any of the known episodes of rapid real exchange rate appreciation (and consequent widening of the current account deficit) in RAMS.

These results also shed some lights on the vulnerabilities rapid financial development and integration can create in RAMS. As one would expect, when prices are sticky, the exchange rate regime matters in the short run: a fixed exchange rate regime generates a larger current account deficit (relative to the baseline) than a flexible exchange rate regime. That is, the extent of vulnerability to adjustment risk will depend on several factors, and trade-offs between these. These factors include the stickiness of prices, the extent of unhedged balance sheet exposures, and the degree of nominal flexibility afforded by the exchange rate regime.

Figure B1.2 Current account developments following an increase in the access of collateral constrained households to credit.



Source: Lendvai (2007).

Note: See notes to Figure B1.1. Results shown in this figure refer to the first scenario described above (increasing LTV). Solid line: flexible exchange rate regime with sticky prices; dashed line: flexible exchange rate regime with fully flexible prices; -- - : fixed exchange rate regime with sticky prices; -- - --: fixed exchange rate regime with fully flexible prices. T = related to Traded goods sector, NT = related to Non-Traded goods sector.

These findings offer a useful frame of reference for exploring some aspects of economic developments and policy challenges in the converging EU economies. Notably, the two shocks illustrated here may be hard to distinguish initially, so policy-makers may face a diagnostic problem. Meanwhile, the adjustment challenge facing the economy will be very different under these alternative scenarios. Under the 'household collateral shock', quite a significant corrective depreciation could be needed over the medium term: how smoothly this is achieved will depend on rigidities in the economy and on the capacity to switch resources and restart strong productivity growth at that stage. The implications for policy of this diagnostic uncertainty and potential adjustment challenge are explored in more detail below.

It is, however, important to note that the distinction between investment in productive and non-productive uses is not necessarily the same as the one between investments in tradable and non-tradable sectors. The overall productivity of an economy, and its long-term competitiveness, is not only a function of productivity in the tradable sectors—an issue that received considerable attention recently in Europe—but also the productivity of the non-tradable private sector, and that of the government sector. As Blanchard (2006) shows, higher productivity in non-tradable sectors can enhance the competitiveness of producers in tradable sectors in the same way as productivity increase in the tradable sectors does, by keeping wages down in tradable sectors.

In fact, as he argues, for many PAMS—and we would add RAMS—it is much easer to implement reforms that enhances productivity growth in non-tradable sectors than attract more investment in high tech sectors.[26]

[26] This issue would also deserve more attention in the euro area, as it was lagging behind the US in the past decade mostly because of dismal performance in many non-tradable sectors.

Moreover, regarding RAMS, it is also important to keep in mind that the share of foreign ownership in tradable sectors, particularly in export sectors is rather high. That is, production technologies and managerial practices in a considerable part of the tradable sector are likely to be close to the efficiency frontier. In fact, many producers in tradable sectors are fully integrated into the global production networks of their parent companies. Rapid improvements of export product structure and export unit values in several RAMS, such as Hungary, Czech Republic, reflect this fact (IMF, 2006). In a way, the catching up is near full in these parts of the economies of RAMS. While this is a very positive development, this also means that productivity growth in RAMS in these sectors will be driven by developments at the frontier and, thus, will be similar to that in the rest of the EU. The catching up potential is thus related to the increase of the relative size of this part of the economies of RAMS. However, as evidence in Schadler et al. (2006) suggests, this is limited in most RAMS, most likely because of the relative lack of highly skilled labor, and institutional weaknesses that limit the capacity to rapidly reallocate resources. Looking forward, increasing the supply of highly skilled labor will take time and will require major improvements in the educational systems of RAMS, mostly in their higher education. While this is a crucial area for structural policies, private sector involvement is critical to improve allocative efficiency and ensure incentive compatibility.

The size of the government is found by some to influence growth performance, also in RAMS (e.g., Barro, 1991, or more recently Aslund and Jenish, 2005, and for RAMS, Schadler et al. 2006). A large government may reduce the growth potential because of the dead-weight loss stemming from collecting tax revenue; the larger the size the higher the loss through this channel. And in most RAMS, the government is similar in size to that in the rest if the EU euro area and significantly higher than in countries with similar income levels in other parts of the world, particularly in fast growing South-East Asian economies (table). The most damaging way of high tax intake is perhaps a high tax wedge on labor. Most RAMS score rater poorly in this regard (see, e.g., World Bank 2007) with tax wedges twice as high, or more, than those of their fast growing middle-income competitors. The Baltic countries, however, compare favorably in this regards, with an average size of government relative to GDP about 8½ percentage points lower than in the rest of RAMS. It is also important to point out that it is expenditure on social transfers and government consumption that explains most of the difference between RAMS and their competitors in this regard, expenditure items that are generally not found to enhance the growth potential directly (Barro, 1991). Moreover, if social transfer schemes are not well designed, which seems to be frequently the case in RAMS, it can significantly reduce labor market participation and labor supply.

Though not only for this reason, employment ratios in RAMS, except the Czech Republic and the Baltic countries, are indeed rather low by international comparison (see, e.g. Schadler et al. 2006).[27]

Nonetheless, size in itself is not necessarily the only, or even the main factor that determines how the government will influence the convergence potential of RAMS.[28] More recent results by the World Bank (2007) call the attention to the quality of government (expenditure), and provide some evidence for transition economies that large government (above a certain threshold size) hinders potential growth only if government is inefficient. They provide important evidence for the efficiency of government spending in education and health care in transition economies and RAMS, and use the size of the government to approximate the impact of resource waste and deadweight cost. As results in Afonso et al. (2006) suggest, with the exception of Slovenia, the use of government size

[27] This is another channel through which a large government can reduce the relative income level (though not necessarily the long-term growth rate).

[28] There is also a technical issue related to the size of the government in this regard. Productivity is rarely measured in the public sectors and, thus, it is typically imputed by statisticians. A quick look into the data suggests that assumptions on productivity growth in the public sector across EU/OECD countries are rather similar at around 0-½ a year. If so, by design, a larger government (higher share of GDP produced in the public sector) in a country than in another one results in lower growth even if the private sectors (and presumably the public ones as well) grow at the same rate in the two countries.

as an explanatory variable may not be a major distortion for RAMS (see Figure 7 in Afonso et al., 2006).[29]

Macroeconomic policies can be very different, however, if an economy has rigidities that may impede external adjustment. RAMS with fixed exchange rate regimes, currency boards or hard pegs, are indeed growing fast and have major imbalances. Schadler et al. (2006) find growth, and partly because of this current account deficit, above equilibrium in some of the Baltic countries. Rapid nominal convergences on interest rates and high inflation are apparent in this group of countries, producing low, in many cases negative real interest rate, which in turn thought to lead to a consumption boom (financed by credit) and a shift in investments towards nontradable sectors. While these phenomena are apparently present in these countries, it is not clear whether they are exclusively or even in the first place related to the choice on the exchange rate regime. First, euroization is widespread in countries with fix exchange rate regime, more so than in other RAMS, therefore, the low or negative real interest rate on domestic currency-denominated instruments can have little impact on overall resource allocation. Second, as long as the UIP condition holds, the domestic real interest rate will be low in a country irrespective of the exchange rate regime if there is strong real appreciation. Finally, a fixed exchange rate arrangement, including the currency board, is not necessarily more credible than any other arrangement, thus the risk premium is not necessarily lower for "fixers". It may be lower if economic fundamentals are stronger and fiscal policy is on a sustainable path.[30] Therefore, it is not surprising that empirical studies (references) find no systematic effect of the exchange rate regime on growth performance.

Implications for vulnerabilities, however, might be different, particularly if a fixed exchange rate regime is combined with rigidities and imperfections. In an ideal economy, once the effects of a shock fade, the economy reaches its new equilibrium and resources will be reallocated accordingly. Therefore, there is no impact on long-term growth performance. For example, regarding the case of removing credit constraints discussed in Box 1, as households and other agents reach their desired net wealth positions and restructure their portfolios of financial and real assets and liabilities, the consumption and housing booms end and the economy finds a new equilibrium. With imperfect or missing markets and sticky prices, however, relative prices, including the relative prices of foreign exchange and labor, are persistent and, thus, remain distorted for a considerable period—increasing vulnerability and eventually reducing the convergence potential. Policies, thus, might matter.

IV. Challenges for Policy

In this setting of financial integration and real convergence, the key challenges for policy are two-fold. First, an over-arching priority is to **foster high potential growth** over the medium term, thus raising the speed limits on economic activity. Second, policy-makers must engage in suitable **risk management**, to avoid adjustment stresses that could set back the real convergence process. The framework illustrated above suggests important ways in which policy can contribute to both objectives.

Macroeconomic and structural policies, jointly, will have a key role to play in raising the ceiling on potential growth. A key concern will be to ensure that the scope for gains from financial integration is fully tapped. This requires a strong emphasis on actions to improve resource allocation. Credible macroeconomic policies can help ensure moderate real interest rates. Structural fiscal reforms to increase the efficiency (and thus reduce the size) of government and to rearrange priorities with a view to enhancing human resources, developing infrastructure, and avoiding distortions will enhance

[29] Though it may slightly distort the parameter estimate for this variable if the equation is estimated for a wider set of countries. There is however, little support in Afonso et al (2006), for threshold size for government (35 percent of GDP) chosen in World Bank (2007). The finding by Schadler et al. (2006) that the size of government has a significant negative impact on growth also suggest that, in general, it is a relatively good proxy for resource waste in government.

[30] In economies where the fix exchange rate regime was adopted in order to make political commitment to sound fiscal policies lasting (commitment device), like in the case of some of the Baltic countries, the exchange rate arrangement and higher credibility (and consequently lower risk premium) are likely to go hand in hand.

potential growth. Labor and product market policies can help shift resources toward new opportunities for productivity gains. Prudential policies can seek to counter capital market imperfections. Overall, the emphasis will be on maximizing potential gains from technology so as to raise total factor productivity, with financial integration playing a strong supportive role.

The risk management challenges facing policy-makers in containing vulnerabilities and enhancing adjustment capacity are complex. Nonetheless, it seems feasible to map these to challenges for the main branches of policy:

- **A first source of uncertainty and potential risk lies in the nature of the shocks that the economy is experiencing.** As discussed above, an expansion driven by easier household borrowing constraints will ultimately require a correction of the real exchange rate to divert resources to debt service. During the correction phase, rigidities in the real and financial sectors may prove costly in terms of output foregone. In other words, the expansion will be an equilibrium process but may involve a testing adjustment phase. By contrast, where the drivers of growth are favorable shocks to productivity, then the need for later real depreciation will be lower and the adjustment challenges less. Initially, however, the symptoms of these shocks may be hard to distinguish, leaving policy-makers unclear about the magnitude of the challenges ahead.
- **A second source of risk lies in distortions and incentive problems**. These could cause a misallocation of resources, and move the economic expansion away from an efficient path. Distortions could stem from fiscal programs that affect financial markets (such as mortgage subsidies) as well as the real sector. Incentive issues may also be significant in the financial sector – for example, where moral hazard results from guarantees of deposit liabilities, or where private sector agents rely unduly on a commitment to exchange rate stability.
- **Experience in advanced and emerging market economies points also to the risk that errors in fiscal policy could cause an unintended stimulus during the economic and financial upswing**. Public revenues may benefit strongly from the tax-rich composition of activity during a financial boom, and there are risks that policy-makers may also underestimate the cyclical position of the economy. Such errors could lead to an unintended fiscal stimulus that impairs resource allocation – including by triggering unwarranted real appreciation. This could also complicate adjustment by reducing the stabilizing capacity of fiscal policy when a domestically driven boom loses steam.

These considerations suggest that policy-makers need to engage in a comprehensive risk-return strategy – enhancing resource allocation, and thus pushing out the frontier of potential growth, while also safeguarding the economy against adjustment stress.

There is clearly a strong potential for complementarity between the measures required to pursue these twin goals. Nevertheless, it will be valuable to analyze as far as possible the nature of the shocks affecting the economy and hence the potential demands on policy—and especially the adjustment challenges—that may lie ahead. Here, a promising analytical route is to simulate different combinations of shocks to the economy (for example, building on the DSGE approaches illustrated here). This can provide a basis to explore what underlying shocks and patterns of allocation are confirmed by observed trends in incomes, output, prices, the real exchange rate, the external balance and—with particular emphasis—sectoral productivity trends.

In designing policies, moreover, country authorities need to take account of specifics in the EU integration and convergence context. On the one hand, the trade and integration opportunities of EU Accession and Membership, and the scope for institutional strengthening in line with the acquis communautaire, pose unique opportunities to raise the speed limits on growth. At the same time, this environment also fosters accelerated financial integration, thus raising the stakes for polices to the extent that it amplifies both opportunities and, in some ways, costs of policy failure. Moreover, policymakers in the converging economies have faced questions about the efficacy of economic instruments in managing financial risks in a rapidly integrating environment.

This concern about policy efficacy deserves careful exploration. There are certainly potential constraints on policy in this environment. Even where exchange rates are floating, there are limits on the autonomy of monetary policy, including through the prevalence of euro-denominated borrowing. Foreign-owned banks, which account for an overwhelming proportion of financial assets, have deep pockets in terms of capital and liquidity—meaning that prudential measures may have limited traction. And in a setting of ever deeper financial integration, credit controls are not likely to work well: they will tend to divert flows to cross-border or less supervised channels.

Clearly, policy is far from powerless. But effective risk management requires policy-makers to internalize four cross-cutting features that are particularly pronounced in this policy environment:

- **Policy interactions, as always, can be mutually reinforcing.** But with large balance sheet risks they may not operate with the conventional sign. With unhedged foreign currency exposures, nominal depreciation can potentially be deflationary—affecting the desirable fiscal stance to flank devaluation.[31]
- **Policy actions may have strong distributional effects**: (1) depreciation in the presence of large currency exposures may compress the existing non-trade goods sector, which is unlikely to be hedged; (2) prudential tightening may particularly impact locally owned banks, and firms with less access to diversified funding, and both aspects of this may affect SMEs severely even in economies with relatively well-developed financial systems; and (3) monetary tightening and nominal appreciation may need to be sharp where the role of the domestic currency in financial intermediation is modest: the brunt of this will fall unevenly across firms. These distributional considerations underscore the case for fiscal measures to play a full role in the policy mix.
- **Lying behind concerns about the "policy impotence" are two regime related issues:** (1) there is an understandable reluctance to reactivate monetary policy, and potentially moderate unhedged borrowing, by ending hard-peg regimes; and (2) there is currently something of a vacuum as regards local systemic risks in large foreign-owned establishments—e.g., sector concentrations or intra-group funding vulnerabilities. In both cases, there are circumstances in which policy may need to "think outside the box" to regain full effectiveness. In other words, there are issues of regime design as well as policy calibration.
- **Many measures are complementary, with mutually reinforcing benefits for adjustment and growth.** This includes the scope for growth-oriented fiscal consolidation. But in some respects, policy-makers face tough trade-offs. This may be true of some measures needed to assure a risk-averse fiscal policy. Equally, the shift from a peg to a flexible rate, or even the very active use of interest rates under a flexible regime, may entail increased short-run volatility in the economy. This may be desirable to dampen excessive risk-taking, and even if costly may still be key to avoiding larger risks to growth in the future.

Therefore, it will be important to rely on quantified macroeconomic scenarios in exploring policy options. These models can also support the design of appropriate stress-tests, which capture compound risks, and help explore the scope of policy interactions. They provide, too, some objective basis on which to discuss difficult inter-temporal trade-offs of the kind highlighted above.

To provide a sound basis for policy-making, such scenarios need to build in explicitly a number of financial stability factors.

- The evidence from productivity growth about resource allocation during the boom, and the medium-term implications of different assumptions on this, including for swings in net foreign liabilities and the real exchange rate.
- The impact of balance sheet risks, where vulnerable exposures may lie in any sector of the economy—firms, households, banks, government, and the aggregate external balance sheet—and the interaction of sector exposures can be of key importance.
- Concerning the saving-investment balance of the private sector, the impact on this of rapid

[31] This is also the case for real effective depreciation with an unchanged nominal rate, but the time-path of the balance sheet impact will be much more gradual.

financial integration, credit growth and asset price increases: sensitivity analysis could explore how far the external current account might widen as a result, on varying assumptions about the fiscal stance.
- As regards real exchange rate adjustment, an exploration how adjustment through different channels—nominal exchange rate, wage and price level—may interact with rigidities, such as wage and price stickiness, and balance sheet exposures.

Together with the other issues discussed above, these considerations underscore that policy-makers face important analytical challenges. Gaining a better understanding of these issues is essential in the development of effective frameworks and measures.

V. Conclusion

This paper has suggested some elements of a framework for thinking about "speed limits on growth" in the converging economies of the EU (RAMS). It has distinguishing throughout between the challenges relating to potential growth and to adjustment risks. But in both respects it has laid particular emphasis on the interaction of financial integration with real economic convergence.

The factors that may limit the convergence potential most in RAMS seem to be
- Resource waste in public sector;
- Government policies that reduce labor force participation by distorting the relative price of labor; and
- Policies that promote shifting resources to nonproductive uses in the private sector, particularly when they are combined with market inefficiencies and sticky prices.

Though to a varying extent, Central and East European RAMS seem to suffer from all these problems, while Baltic RAMS face the latter as a major challenge. Consequently, the most important ways of increasing the speed limit on growth potential in the former group is to enhance efficiency of government expenditure, most importantly on government consumption and social transfers, and use most of the efficiency gain not needed to restore fiscal sustainability for reducing the tax wedge on labor. The latter would also help with increasing employment. Since the housing boom in the Baltic countries—which in the short run boosts growth—is still ongoing, the possible negative impact on the convergence potential cannot yet be detected. Moreover, relatively small and efficient governments and increasing labor utilization will mask any negative effect by this factor. Nonetheless, it may turn out to be an important factor that could reduce an otherwise high growth potential and threaten macroeconomic stability.

Regarding policies, five main conclusions flow from this analysis:
- **A key goal for policy frameworks should be to unlock the full potential offered by financial integration**, including the interaction of cross-border flows with institutions that are well-placed for monitoring credit contracts.
- **The nature of shocks to the economy is important.** For example, higher productivity in traded goods, or an easing of collateral constraints on households will have rather different impact on growth prospects and will create different adjustment challenges. But, from the initial symptoms, it may be hard to discern which shocks are actually occurring.
- **This argues for a comprehensive approach to policy management**. One that aims to foster strong potential growth, to contain vulnerability risks, and to enhance adjustment capacity. In such a strategy, measures that promote higher productivity and address rigidities and distortions will take centre stage.
- **Policy is far from powerless to influence these outcomes.** But the specifics of the EU convergence setting mean that particular attention is merited to the direction of policy interactions; the sectoral impact of measures; the design of policy regimes; and the inter-temporal trade-offs that may face policy-makers.
- **The need to evaluate policy options, and also to design realistic stress-tests, argues in favor of developing quantified macroeconomic scenarios.** This is one of several areas in

which deeper economic analysis can shed light on policy challenges and responses, and can help to articulate persuasive policy approaches.

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Competitiveness in Southeastern Europe and Prospects during the Catching-Up Process: A Regional Overview[32]

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As recent economic history has underlined, securing competitiveness is one of the decisive elements that make the catching-up process of economies in transition a success. Prominent examples for this observation include the East Asian Tigers or – more recently – China, India and the EU Member States in Central, Eastern and Southeastern Europe (CESEE). These countries not only exhibit a fair amount of cost competitiveness due to relatively low unit labor costs but also score with their relatively highly skilled labor force and a newly built institutional structure for economic activities. As a consequence, competitiveness and catching-up (together with various related aspects like exchange rate and tax regimes, legal and institutional infrastructure, regulatory environment, etc.) rank high on the policy agenda of almost all countries in question, including those Southeastern European (SEE) states which have not yet joined the EU.

1. Real Catching-up is Taking Place

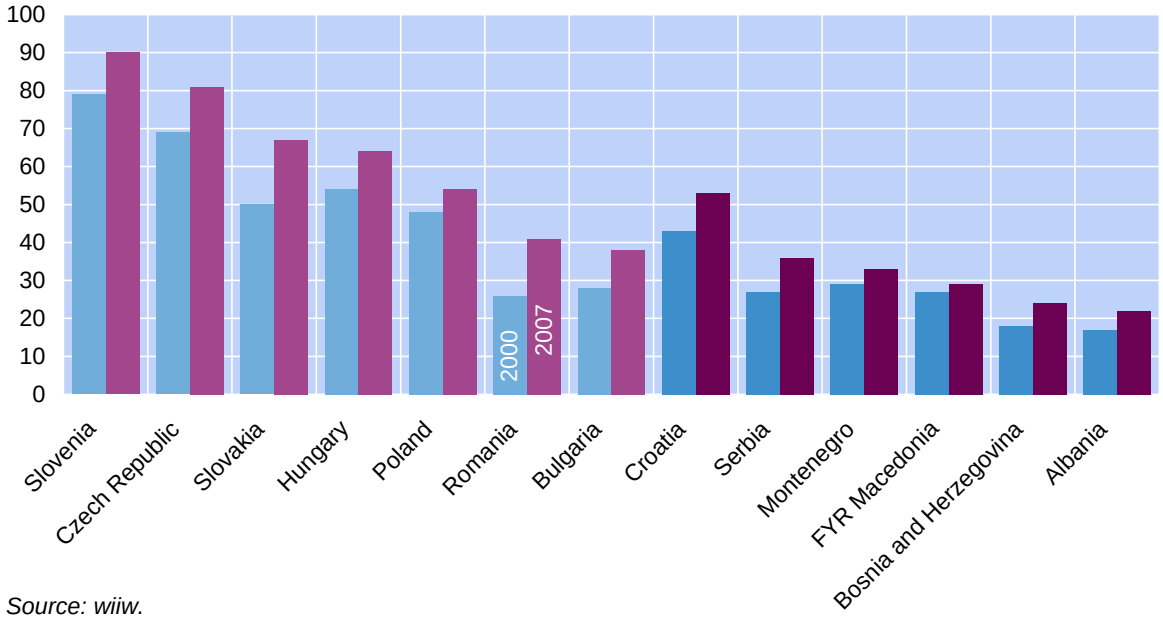
After years of political conflict and war following the disintegration of former Yugoslavia, the non-EU countries of SEE have embarked on a catching-up path. According to the vast majority of available indicators, the economic transition of the countries of SEE (that is, Croatia, Serbia, Montenegro, the Former Yugoslav Republic of Macedonia, Bosnia and Herzegovina, and Albania) has clearly progressed in recent years. Since 2000, per capita income (at purchasing power parities – PPP) in these countries has grown substantially faster than the EU average and has not been falling short of the progress made in the CESEE EU Member States, despite the – in many cases – less favorable starting point.

The income level observed in the countries of the region, however, is still considerably lower than the EU average, and it is also lower than the levels that have so far been reached in Central and Eastern Europe (CEE). The only remarkable exception in this respect is Croatia, where per capita income stood at 53% of the EU average in 2007 and thus came close to the income level reported in Poland (54%).

[32] The author wishes to thank Antje Hildebrandt, Josef Schreiner and Julia Wörz for substantial input and valuable assistance in preparing this paper.

Progress in Catching-Up

GDP per capita at PPP, % of EU-27 average



Source: wiiw.

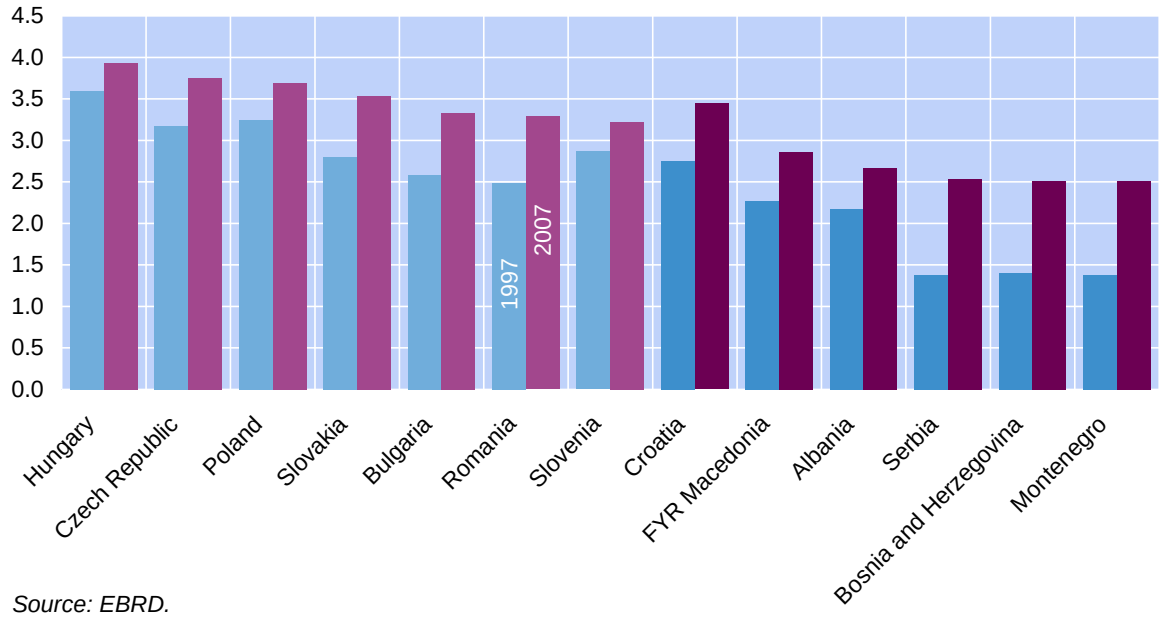
The integration of the countries of SEE into world markets has made some progress since 2000. The market shares in world imports have risen in all countries with the exception of Serbia, whose currency strongly appreciated. However, given the small size of the countries under observation, imports remain very limited at not even 0.1% of total world imports. By comparison, imports of the three largest CEE EU Member States reached between 0.6% and almost 0.9% of world imports. The share of SEE is clearly below 1% even with regard to EU imports.

2. Clear Progress in Institutional Quality – Some Signs of Risks for Price Competitiveness

Not only real convergence in SEE saw rapid progress in the past decade, but also institutional convergence. With regard to the transition indicators of the European Bank for Reconstruction and Development (EBRD), improvements could be observed in all subcomponents – including enterprise restructuring and privatization, price and trade liberalization, competition policy as well as banking sector and infrastructural reform. The upgrades were most pronounced in Serbia, Bosnia and Herzegovina, and Montenegro, i.e. in the countries that had started out with the weakest institutional setting in 1997.

EBRD Transition Indicators (Overall Transition Score)

Indicators ranging from 1 (worst performance) to 4.33 (best performance)



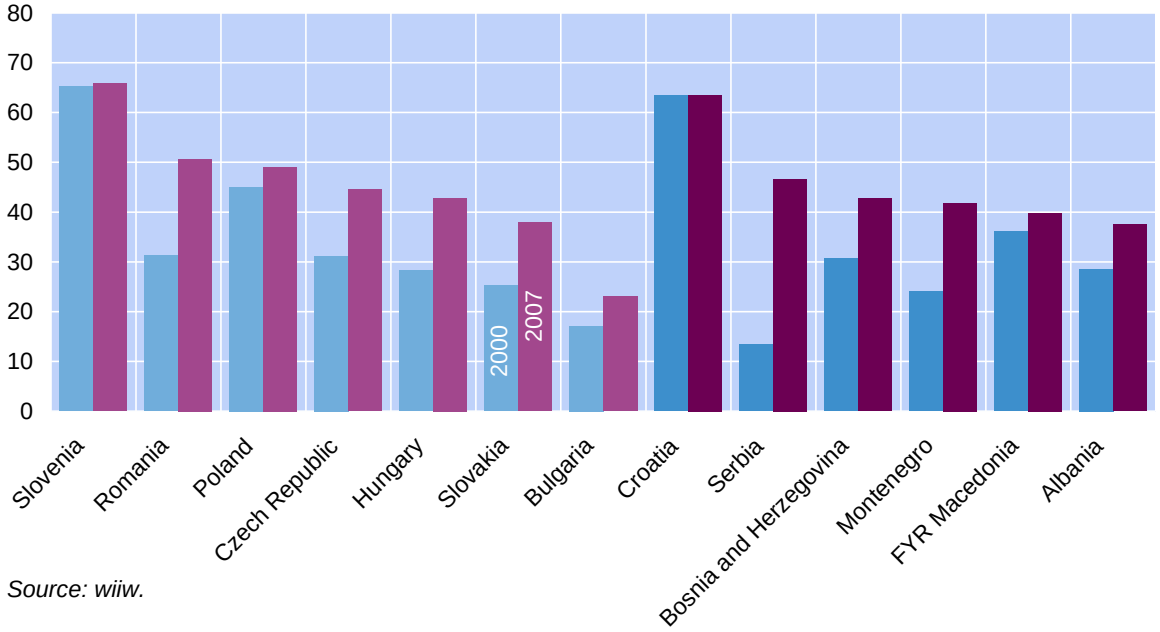
Source: EBRD.

The success in the transition process was mainly spurred by political stabilization, strong economic momentum and enhanced cooperation within European institutional structures. In the future, the countries in question will have to become increasingly competitive at the international level in order to further sustain the catching-up process. Looking at recent experience, competitiveness in the region developed in a rather heterogeneous fashion. While "hard factors" like the exchange rate and unit labor cost (ULC) developments point more toward a certain loss in price competitiveness, "soft factors" draw a much more favorable picture. Moreover, one can observe rather pronounced differences not only between competitiveness indicators but also between countries. While Croatia, for example, managed to improve its standing in international markets and ranks high regarding numerous economic indicators, Serbia did not nearly perform as successfully for a number of reasons.

One example can be found in real exchange rate developments. Since 2000, the Producer Price Index-deflated exchange rates remained broadly stable in the FYR Macedonia, Bosnia and Herzegovina, and Croatia, but appreciated more strongly in Albania and, above all, in Serbia. Over the same period, ULC in SEE also clearly came a lot closer to Western European standards. Again, the increase was strongest in Serbia, followed by Montenegro, and Bosnia and Herzegovina. Croatia, by contrast, did not see a comparable rise in ULC. However, the ULC level in Croatia is already roughly comparable to that of Slovenia, one of the most advanced countries from the 2004 EU enlargement round. Generally, the ULC levels reached in SEE by 2007 roughly correspond to those observed in the CESEE EU Member States. This observation points to some erosion in the competitive edge in prices and costs, which still existed in 2000 in SEE vis-à-vis the CESEE EU Member States.

Unit Labor Costs on the Rise

PPP-adjusted, Austria=100, %



Source: wiiw.

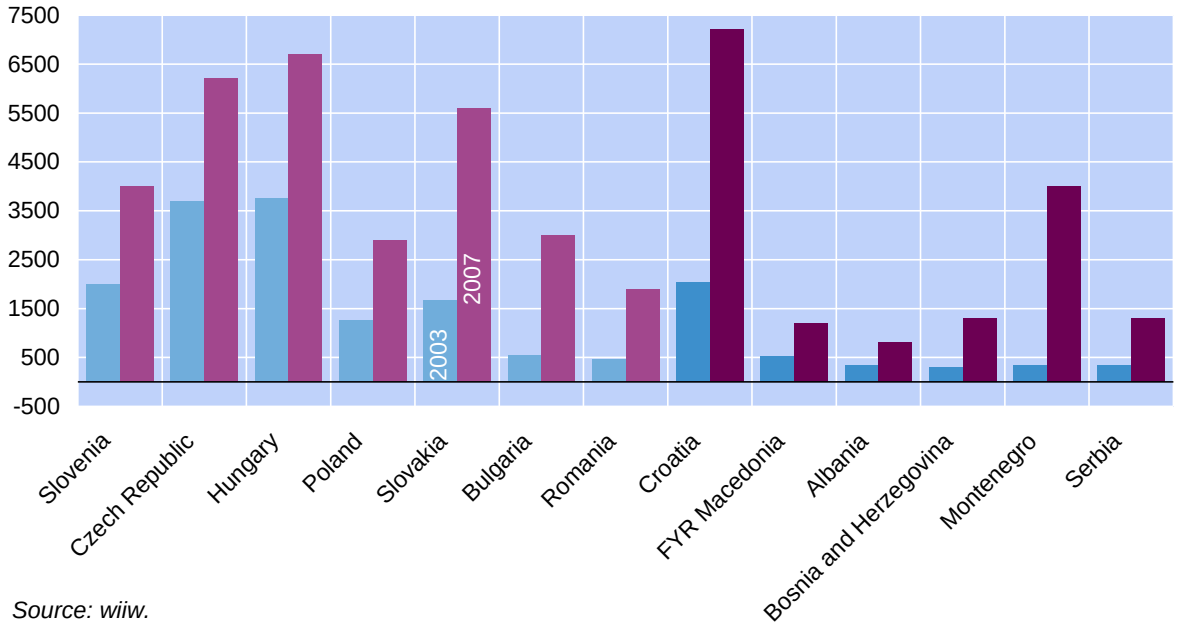
To some extent, soft factors draw a generally much more encouraging picture than some of the quantitative indicators, suggesting a more favorable competitive environment. For example structural factors – like the geographical proximity to EU markets and also pronounced infrastructural improvements – support trade with the EU. EU funds are also increasingly beginning to flow into the region, thus further enhancing its economic potential. Closer economic and political relations with the EU, as exemplified by the existing Stabilisation and Association Agreements and the concrete perspective of EU membership for some of the SEE countries, make the region a more attractive location for foreign investors. Finally, most of the countries have introduced tax regimes that are favorable for corporations – a step which should also have a positive impact on foreign direct investment (FDI).

3. FDI as a Main Driving Force behind Economic Improvements

The positive influence of these various factors on the attractiveness of SEE for FDI is obvious from the relevant data. Per capita FDI stocks have grown in all CESEE countries, with Croatia taking the lead and posting the highest value in the region. But also the other countries under observation exhibit a very dynamic performance, with growth rates of per capita FDI stocks ranging from 200% in the FYR Macedonia to as much as 1200% in Montenegro in the period from 2003 to 2007.

FDI Stock per Capita

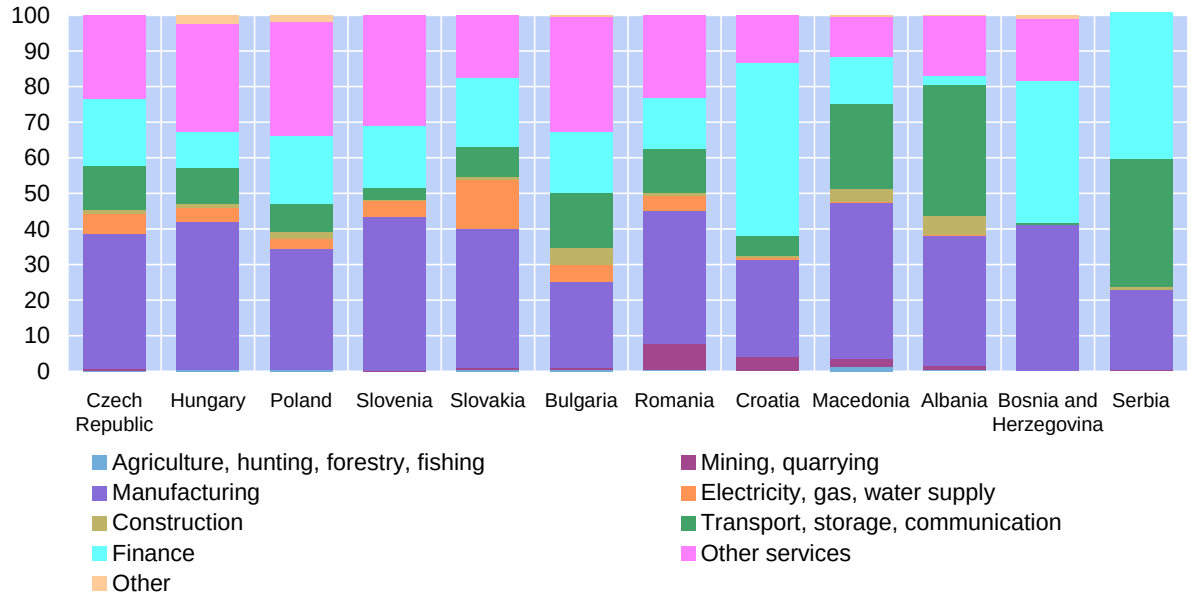
EUR



Source: wiiw.

Sectoral Structure of Inward FDI Stock

% of total inward FDI stock

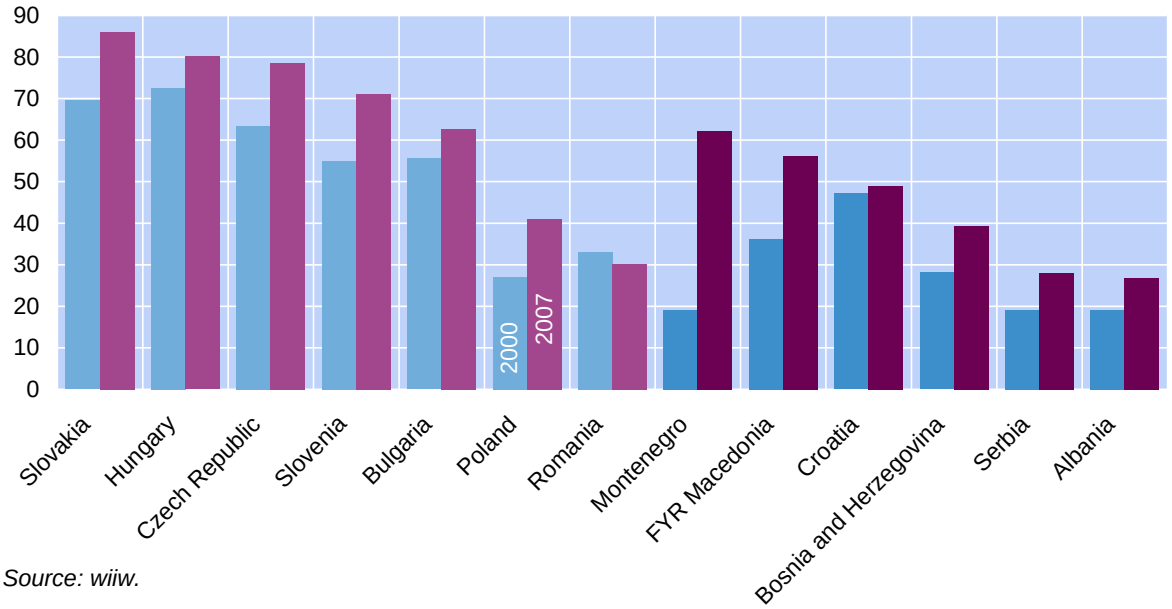


Note: 2006 (CZ, HU, PL, RO, SI, MK), 2005 (BIH), 2004 (AL), latest available data.

Concerning its sectoral structure, FDI in SEE was more strongly directed toward services than this was the case, on average, in the CESEE EU Member States. Especially the categories "Finance" and "Transport, storage and communication" performed comparatively strongly, mirroring the privatization of banks and telecommunication companies in the past few years. Investment in manufacturing was a little bit less pronounced than in the CESEE EU Member States, which may point to some lack in greenfield investment. In addition, it should be taken into account that the region consists mainly of smaller countries – a structural feature that might constrict one of the main motives (or maybe even *the* main motive) for FDI, i.e. the acquisition of substantial market shares by foreign investors.

Exports of goods and services as a percentage of GDP also reflect the structural differences between the CESEE countries. These figures reveal that the SEE economies are not yet as open as the CESEE EU Member States. This lower degree of openness – together with the fact that the countries in question are small economies – suggests that there is room for external trade to grow further according to economic theory. This is especially true for Serbia and Albania, where exports of goods and services currently only account for around 30% of GDP. Montenegro, the FYR Macedonia and Croatia, however, already record substantially higher export quotas of around 50% to 60% of GDP.

Exports of Goods and Services



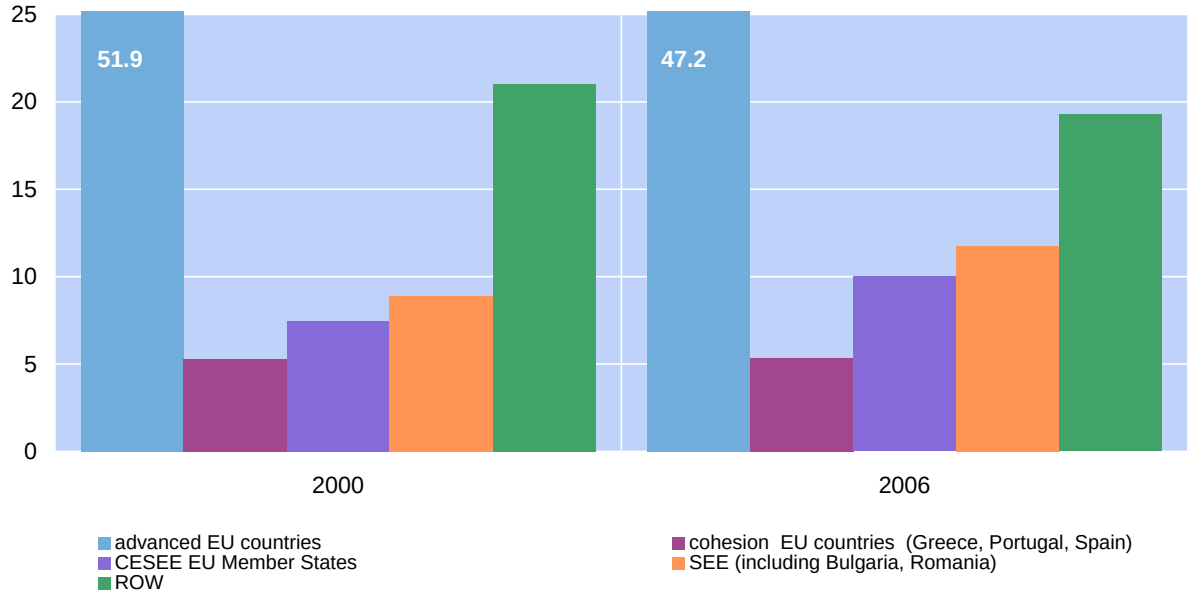
Source: wiiw.

Note: Data on Montenegro, FYR Macedonia, Bosnia and Herzegovina, Serbia and Albania stem from 2003instead 2000. For 2003, Serbia and Montenegro are not considered separately.

With respect to the regional trade structure, the advanced EU countries are still by far the most important destination for exports from SEE. Their share in SEE exports, however, has decreased quite substantially since 2000, as trade with the CEE EU Member States has been increasing markedly. The same is also true for intraregional trade among CESEE countries. This reorientation of trade flows toward CESEE markets is welcome, as the CESEE countries show high growth rates and will presumably continue to outpace economic growth in the more advanced EU countries in the foreseeable future.

SEE Export Shares by Export Partners

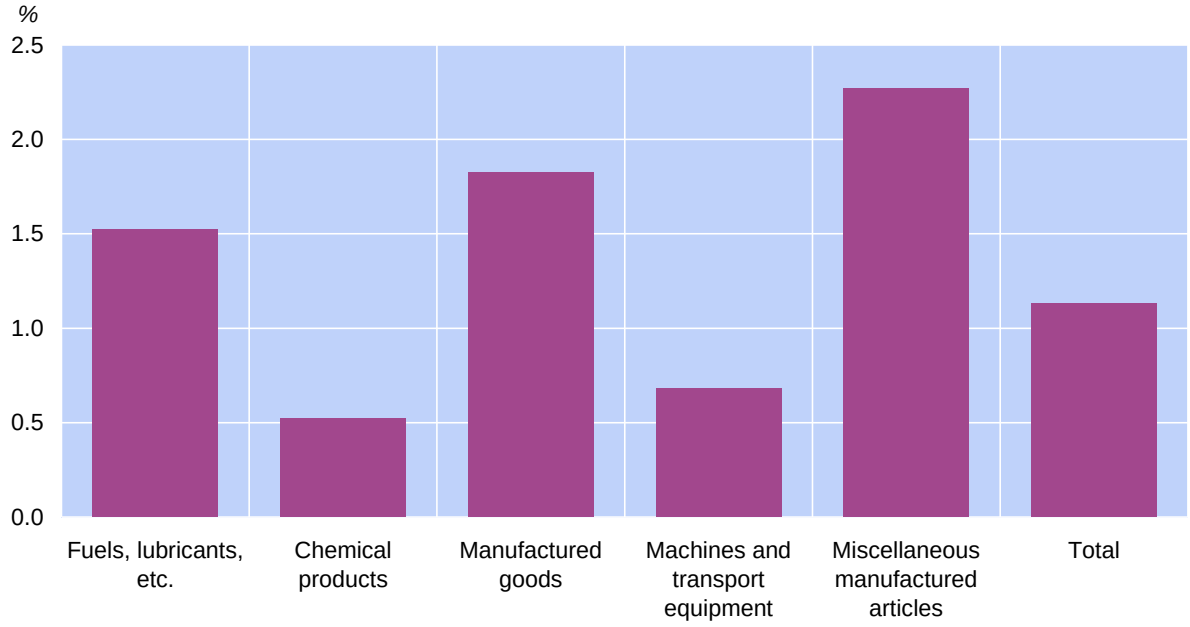
% of total exports



Source: UN COMTRADE.

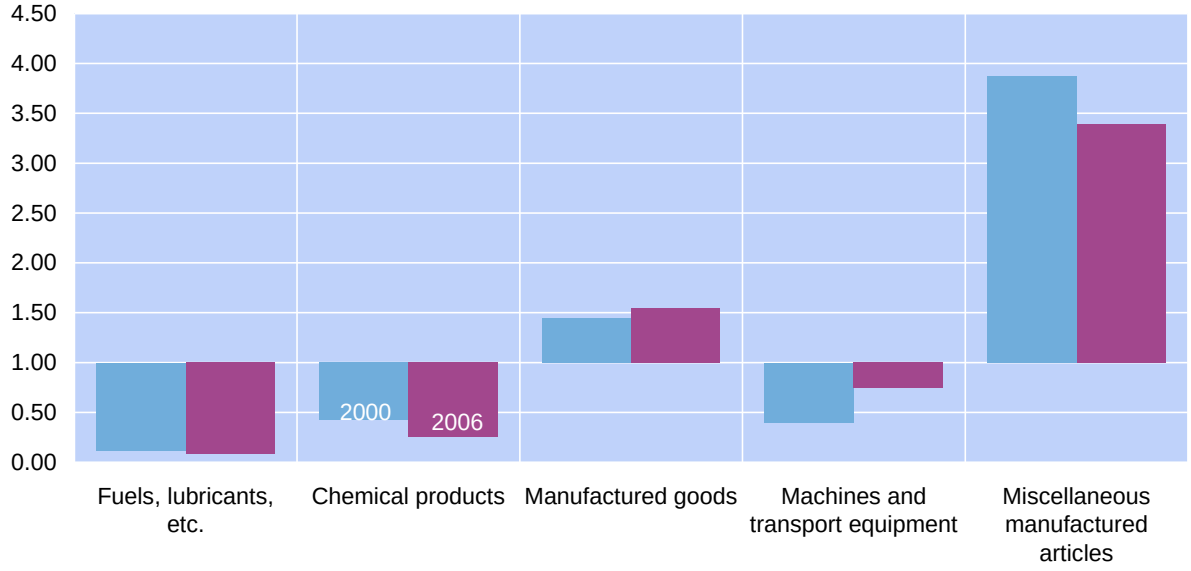
In terms of product groups, SEE countries are currently specializing in relatively simple manufactured goods. This is a commodity group where international competition is strong in particular from the fast-growing countries of emerging Asia. Given the recently observed loss in cost/price competitiveness, this development may constitute an obstacle for the region's future trade performance. At the same time, SEE countries perform rather weakly in the commodity groups "Chemicals" and "Machinery and transport equipment," which may indicate a lack of vertical integration in pan-European production networks. For sure, this pattern underlines the overall need to improve the technological level of the production structure over the medium term.

SEE Export Shares by Commodities (2006)



Source: UN COMTRADE.

Revealed Comparative Advantages of SEE on Advanced EU Markets



Source: UN COMTRADE, authors' calculations.

A positive deviation from 1 implies a comparative advantage in the respective commodity group; a value below 1 points toward a weak competitive position.

A look at revealed comparative advantages (RCA) confirms this conclusion. The commodity group of "Miscellaneous manufactured articles" is the area where the RCAs of the SEE countries are highest. Some competitive edge can also be observed in the commodity group of "Manufactured goods." The competitive position in the categories "Fuels, lubricants, etc.," "Chemical products" and "Machines and transport equipment," however, is comparatively weak. All of the above-mentioned facts point toward the necessity for structural upgrading in the medium to long term – a need which can be easily illustrated by looking at the development in the CEE EU Member States.

For a variety of reasons, external balances in SEE have worsened in the past few years, with most countries showing current account deficits ranging from 5% to 15% of GDP in 2007. In Montenegro, the deficit even reached as much as 40% of GDP. The main cause for this development is the high deficit in the goods and services balance in SEE. The situation is alleviated, however, by the strong surplus in the transfers balance due to the inflow of remittances. In the medium term, it will be a challenge to bring back the gaps in the goods and services balance to more sustainable levels and to reduce the dependence on remittances by i.e. substituting them by FDI – factors clearly related to, or even dependent on, competitiveness.

To sum up, the SEE countries still show a rather significant cost/price advantage compared to the EU average. This advantage, however, is diminishing, and ULC in the region today are only marginally lower than in the CEE EU Member States. Together with a trade specialization in relatively simple manufactured goods – an area where competition on world markets is strong– this situation poses a challenge for the future development in SEE. The improvement of production structures and quality should be high on the agenda if the SEE countries wish to remain competitive on world markets. Some steps in this direction have already been taken, as substantial improvements have been observed e.g. in the institutional environment. Together with political stability and intensified relations with the EU, the progress already made will help to attract FDI, which in turn contributes to the ongoing process of structural improvement.

4. The New OeNB Euro Survey – A New Tool to Help Understand the Motives for Holding Foreign Currency

Competitiveness is not only determined by wages, prices and productivity - all influenced by the institutional framework - it is also a matter of the exchange rate. Under certain conditions, expectations of economic agents can be stabilized by a fixed exchange rate policy. Austria's experience with its hard currency policy (i.e. pegging its currency to the Deutsche Mark after the breakdown of the Bretton Woods System), for example, was positive. Today, the euro serves as the central nominal anchor in Europe. For most SEE countries the introduction of the euro as a legal tender and even participation in ERM II are still a long way off. That is why the public and policymakers might choose different approaches with regard to the euro.

In CESEE the use of foreign currencies in general and of the euro in particular, is a widespread phenomenon. The latter case is also referred to as "euroization". There are several reasons for euroization, some of which relate to a country's history (e.g. the erosion of confidence in the national currency owing to political and economic turbulences), while others possibly relate to its present or future situation (e.g. close economic ties with the euro area, migration and expectations about a prospective introduction of the euro).

Despite the important role foreign currencies play in CESEE, we know relatively little about the various dimensions of euroization in the region. The first dimension concerns its extent: Little direct evidence is available for foreign currency cash (FCC) holdings, i.e. banknotes and coins. For foreign currency deposits (FCDs), by contrast, aggregate data are available for most countries. However, these data contain little information on how the respective deposits are distributed among the population. The second dimension concerns the reasons why people hold foreign currency-denominated assets. They may use them as a store of value and hence as a substitute for local currency-denominated assets, or they may use foreign currency as a unit of account and medium of exchange.

To find out more about the various dimensions of euroization in CESEE, the Oesterreichische Nationalbank (OeNB) recently extended a survey that had been conducted regularly since 1997 in 5 countries to now cover a total of 11 countries in the CESEE region. This new OeNB Euro Survey provides comprehensive data on the extent of, and the reasons behind, euroization.

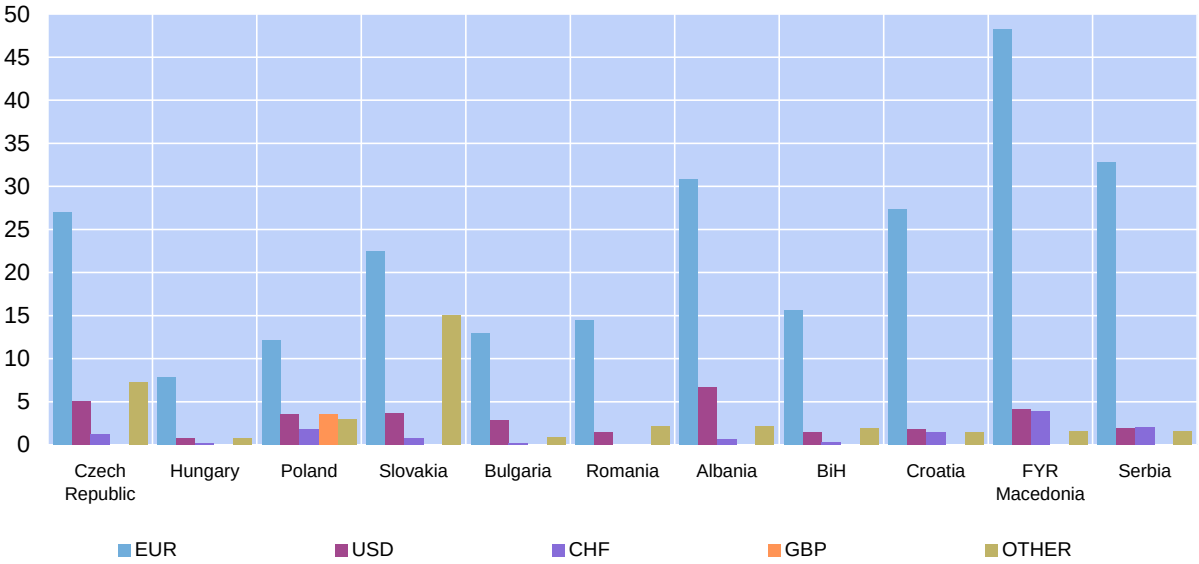
The first wave of the new OeNB Euro Survey was conducted by Gallup in October/November 2007. The survey waves will be repeated every six months. Compared to earlier OeNB surveys, the extended geographical scope of the new survey now comprises 6 EU Member States (Bulgaria, the Czech Republic, Hungary, Poland, Slovakia and Romania) as well as 5 EU candidate and potential candidate countries (Albania, Bosnia and Herzegovina, Croatia, the FYR Macedonia and Serbia). The current survey comprised face-to-face interviews with about 1,000 persons aged 15+.

As in previous surveys, the issue of FCC holdings, and in particular of euro cash holdings, is also at the core of the new OeNB Euro Survey. The survey results on FCC holdings can be summarized as follows:

- First, the share of respondents holding foreign cash is substantial in some countries but varies considerably across countries, ranging from 8% in Hungary to 49% in the FYR Macedonia.
- Second, a currency breakdown of FCC holdings reveals the predominant role of the euro in all countries analyzed, with the SEE countries showing the highest euro cash holding rates (e.g. 48% in the FYR Macedonia).
- Third, in all countries surveyed, the share of respondents reporting cash holdings denominated in U.S. dollars is substantially lower than that of euro cash holders.
- Fourth, cash holdings denominated in foreign currencies other than the euro and the U.S. dollar play a very limited role. Exceptions are pound sterling (GBP) holdings in Poland as well as cash holdings of, presumably, the Czech koruna in Slovakia and the Slovak koruna in the Czech Republic.

Share of Respondents Holding Foreign Cash

% of respondents

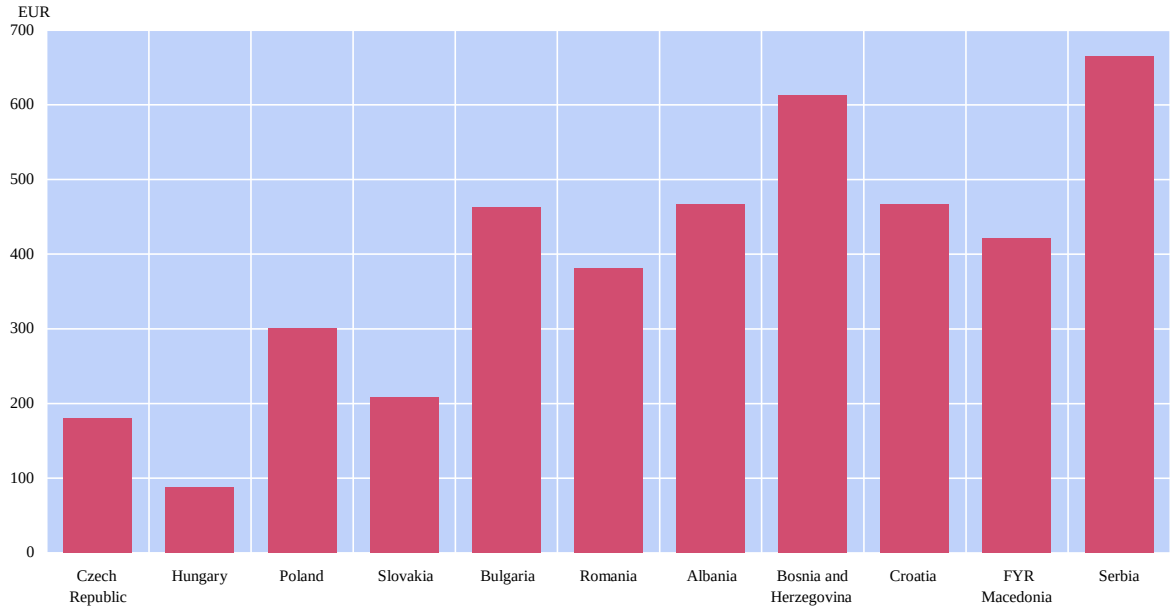


Source: OeNB Euro Survey 2007.

Note: Only the survey conducted in Poland contained questions regarding GBP holdings.

In terms of the median amounts of euro cash, the survey reveals pronounced differences between countries, with median amounts ranging from EUR 100 per person in the case of Hungary to more than EUR 650 per person in Serbia. In general, euro cash holdings are lower in the "older" EU Member States than they are in Bulgaria, Romania and in the other non-EU countries, where median holdings of around EUR 400 or more can be observed.

Respondents Holding Euro Cash: Median Amounts



Source: OeNB Euro Survey 2007.

Note: The chart shows median holdings of euro. Values are based on categorical answers. The median is calculated by linearily interpolating between class boundaries.

Overall, a high proportion of respondents in SEE said they held euro cash, and the amounts they hold are comparatively large. While the share of respondents holding euro cash is also considerable in CEE, the amounts reported there are considerably smaller. This leads to the conclusion

that the amount of euro cash in circulation is considerably higher in SEE than in CEE, which may be attributable to differences in the motives for holding euro cash.

In the countries covered by the survey, the share of respondents who indicated that they had one or more savings accounts is generally low compared to EU standards, ranging from only 7% in Bosnia and Herzegovina to 37% in Slovakia. The responses reveal that the shares of FCDs are very heterogeneous across countries, with relatively low shares for CEE countries, intermediate levels for Bulgaria and Romania and very high shares for the SEE countries. These survey results are broadly consistent with aggregate data on average FCDs as a share of total deposits for the period between 2000 and 2006.

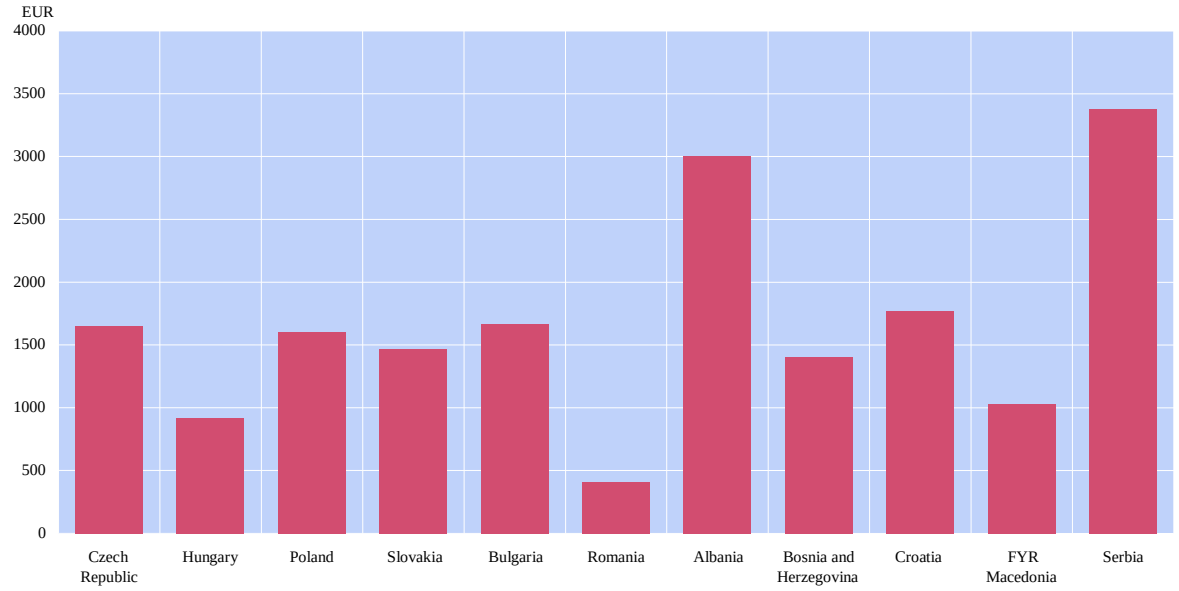
Foreign Currency Deposit Holdings in CESEE

	Share of respondents holding …		
	…a savings deposit (% of respondents)	… a foreign currency deposit (% of savings deposit holders)	… a euro-denominated foreign currency deposit (% of foreign currency deposit holders)
Bulgaria	22	28	75
Czech Republic	35	9	94
Hungary	21	8	97
Poland	11	18	76
Romania	17	42	98
Slovakia	37	13	87
Albania	24	58	87
Bosnia and Herzegovina	7	78	89
Croatia	25	63	94
FYR Macedonia	21	72	96
Serbia	10	84	94

Source: OeNB Euro Survey 2007.
Note: For some countries the number of observations is low and hence computed shares may not be reliable.

Chart 3

Respondents Holding Euro Savings Deposits: Median Amounts



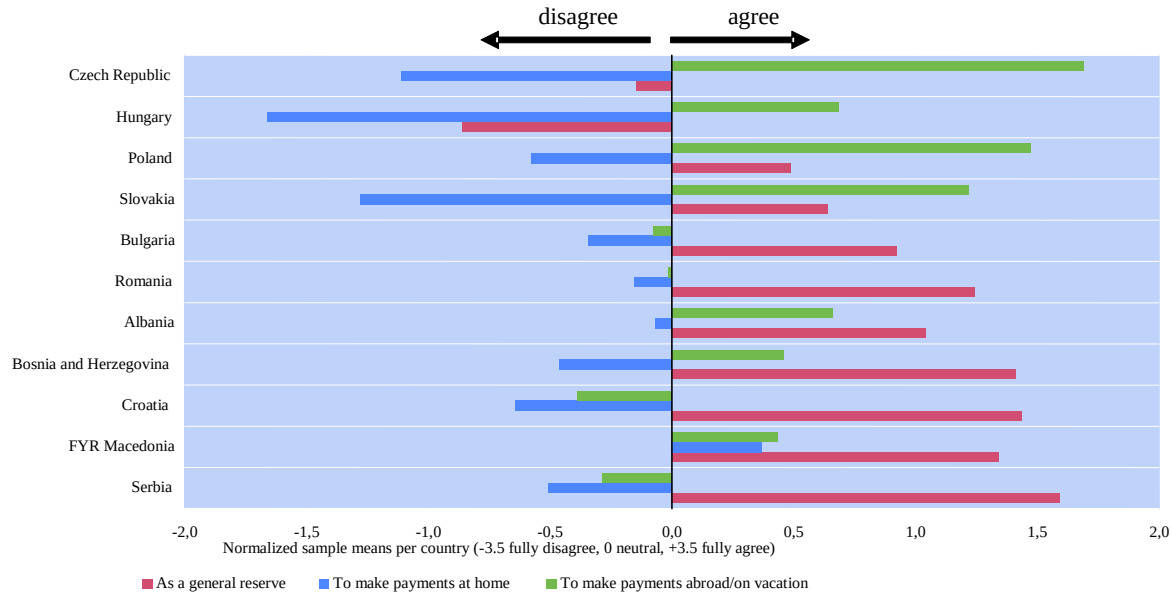
Source: OeNB Euro Survey 2007.

Note: The chart shows median holdings of euro savings deposits. For some countries (Bosnia and Herzegovina, Bulgaria, the Czech Republic, Hungary, Poland) the number of observations is low (less than 30) and hence medians may be unreliable.

In all countries covered by the survey, results indicate that the bulk of FCDs is denominated in euro. This outcome is largely in line with aggregate data collected by the ECB (ECB, 2007). The euro amounts held in savings deposits, however, are significantly higher than those held in cash. At the same time, the number of respondents that said they held savings deposits was lower than that of interviewees reporting cash holdings. As a case in point, the amounts of euro-denominated deposits reported from Albania are more than six times higher than those of euro cash holdings, but only 14% of Albanians said they held FCDs.

If euro cash is held primarily as a store of value, this points to a certain degree of asset substitution, which is generally seen as a first step toward euroization. The final step toward currency substitution is the use of a foreign currency for domestic transactions. Another possible reason for holding FCC is that people might use it in transactions abroad (e.g. during shopping trips or vacations to (neighboring) euro area countries).

Motives for Holding Euro Cash



Source: OeNB Euro Survey 2007.

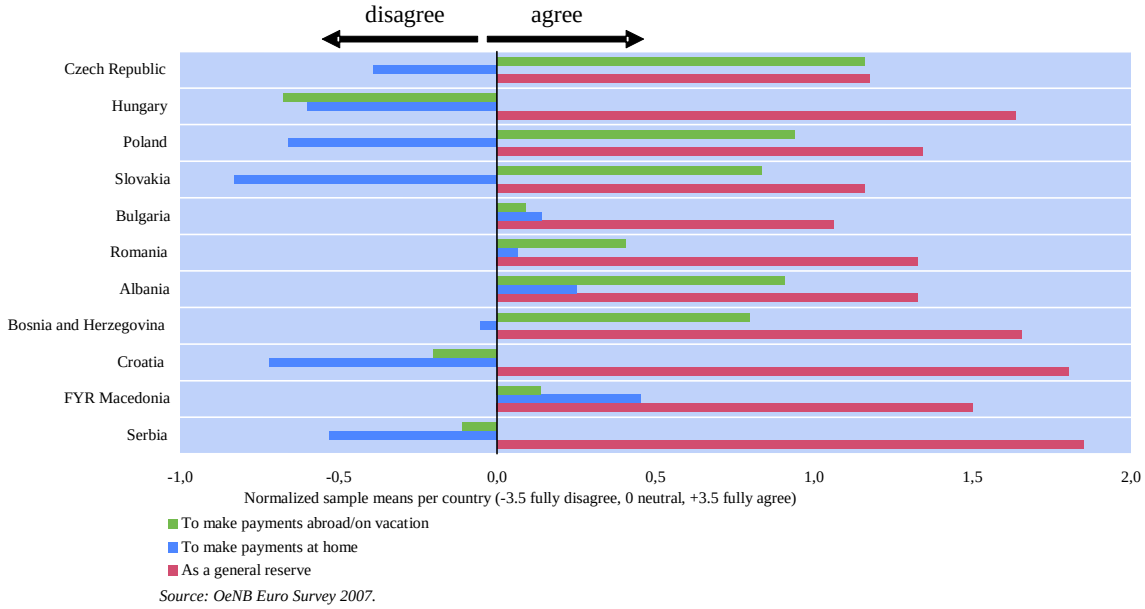
Note: Respondents who said they held euro cash were asked whether they agreed or disagreed on a scale from 1 (fully agree) to 6 (fully disagree) to a list of motives for holding euro cash (see legend).

In CEE, the prime motive for holding euro cash is to make payments abroad. In the CEE countries, the store-of-value function of holding euro cash has decreased over the past few years, whereas the importance of holding euro cash for making payments abroad has increased. This development reflects the more advanced economic situation and the higher macroeconomic stability in the region.

In SEE, the store-of-value function is the key motive for holding euro cash. At first glance, it may seem striking that people virtually hoard euro cash under their mattresses, which means they forego interest earnings. One explanation for this behavior is that a high percentage of respondents perceive the euro as a "very stable and trustworthy currency." Another explanation may be that respondents still remember historical periods of high inflation or hyperinflation and their consequences. This explanation is to some extent underpinned by the survey results which, for some countries, show high rates of agreement to the following statement: "I remember periods of high inflation during which the value of the local currency dropped sharply." But the respective survey results might, to some extent, also be attributable to the still low availability of banking services in some of the countries surveyed.

Using euro cash for domestic transactions does not seem to be a major motive for keeping euro cash in any of the SEE or CEE countries surveyed, at least in relation to the other two motives. However, the survey also includes a direct question on the use of the euro for domestic payments. In Albania, Bosnia and Herzegovina, the FYR Macedonia and Serbia, between 20% and close to 50% of respondents said that they had made payments in euro in their respective country within the past six months. It is not surprising that the predominant motive for holding euro-denominated savings deposits is the store-of-value function – a fact which again points to asset substitution.

Motives for Holding Euro Savings Deposits



Source: OeNB Euro Survey 2007.

Note: Respondents who said they held euro savings deposits were asked whether they agreed or disagreed on a scale from 1 (fully agree) to 6 (fully disagree) to a list of motives for holding euro savings deposits. For some countries (the Czech Republic, Hungary and Poland) the number of observations is very low (less than 40).

The good reputation of the euro as well as people's recollection of past periods of inflation may also have contributed to this development. Furthermore, as with the reasons for holding euro cash, respondents from some countries said that they held euro-denominated savings deposits in order to make payments abroad. Interestingly, Hungarians did not regard this motive as important in connection with deposits, but as quite important in the case of cash holdings. Again, according to the respondents of all countries surveyed, making payments in euro in their own country was not a major reason for holding euro-denominated savings deposits.

5. Conclusions

All in all, it is safe to say that the SEE countries have embarked on a catching-up path and that they have made clear progress in terms of transition over recent years. In spite of this favorable development, one has to keep in mind that converging to the EU or euro area average in terms of GDP per capita will take some time. For example: for a country starting out with 50% of the average euro area GDP and recording a constant rate of real economic growth of 5% (compared to 2% in the euro area), it will take about 20 years before it can expect to achieve the average euro area GDP per capita. Therefore, securing competitiveness and fostering trade integration are among the main issues on the agenda for SEE countries.

Clear progress has already taken place in terms of modernizing institutional structures, and the SEE countries still benefit from relatively low ULC and a trade potential to be explored, in particular, vis-à-vis the higher developed neighboring EU countries. But some recent developments in a number of the "hard factors" in competitiveness point at least to the risk that a certain loss in competitiveness might develop in some countries of the region. Therefore, it seems to be of specific importance to make competitiveness a high-ranking economic policy objective and, on this basis, secure a stable path of convergence. It is also very important to establish SEE as an attractive target for FDI, which is one of the main driving forces of GDP per capita growth. At the same time, the technological improvement of the production structure is a second key element for securing the competitive position of the SEE countries.

From the monetary and financial perspective, joining the euro area is one of the obvious long-term political options the SEE countries might pursue after their possible entry into the EU. In this

context, the results of the new OeNB Euro Survey, which was conducted in 11 CESEE countries, show that the euro dominates foreign currency-denominated assets (both cash and deposits) in these countries. This might be related to the fact that among the region's population the euro enjoys a good reputation as a stable and trustworthy currency. The survey reveals considerable differences across countries with respect to both the distribution and the amount of euro cash holdings. In general, euro cash appears to be more important in the SEE than in the CEE countries. Taken together, the results on foreign currency cash holdings and deposits suggest that the euro plays a more substantial role in SEE than in CEE. This corresponds well to the results regarding people's motives for holding foreign currency-denominated assets. In the SEE countries, people tend to agree to the statement that they hold euro cash as a general reserve or a means of precaution. By contrast, in CEE the most important reason to hold euro cash is to pay for shopping abroad. This suggests that in SEE euroization mainly takes place in the form of asset substitution, while in CEE countries this motive appears to be less relevant.

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Czech Republic on its Way Towards the Euro

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1. Introduction

Thank you, Mr. Chairman. First of all, I would like to join the previous speakers and to thank organisers and especially Mr. Governor for having invited me to this very nice conference. I am enjoying it very much.

Ladies and gentlemen, in my presentation I would like to indicate on what exact place on its way towards the euro the Czech Republic (CR) actually is, how it has got there and what is going to be the most likely future evolution.

Let me start by highlighting the structure of my presentation. At the beginning, I will briefly introduce some basic facts about the CR. Then, I will mention some of the economic effects of the EU entry. Later I will discuss economic aspects of the euro adoption somewhat from a general point of view. And finally, I will specify the Czech euro-adoption plans, and our actual position in the debate on euro introduction in our country.

As you know, in the last 15 years the Czech Republic has successfully gone through a transition process from a centrally-planned to market economy. There were several very important mile-stones on this going west. Let me mention the starting and the last (so far) points. Velvet Revolution taking place in 1989 actually started to process of transition. In 2004, we entered the EU and became a member of EMU with derogation on euro introduction. In general, our economy can be characterised as a small, open, converging economy with all implications this may have. Now, I will in brief go through the main economic events we experienced over the last say 20 years. And I will start with a recapitulation of pre-accession economic developments.

2. Economic effects of the EU membership

a) Pre-accession economic developments

Fundamental transformation steps were taken and related so-called transitory recession occurred in 1990 – 94. The subsequent period of 1994 – 1997 can be characterized by demand-driven economic recovery with supply side unfortunately lagging behind, which resulted into an overheating of the economy that escalated into a financial and subsequent economic crisis in 1997 – 1999. Having in mind the previous experience, the Czech National Bank abolished its failed monetary policy regime of the exchange rate peg which was conducted in a combination with monetary targeting until May 1997 and consequently adopted an inflation targeting framework in 1998. Since 2000 until now, we have observed gradual supply-side improvements connected to inward foreign direct investments (FDIs) and acceleration of real economic convergence.

Let me now give you a bit more detailed description of the pre-accession period of the economic development in the Czech Republic. Massive inflow of FDI started in 1998, which was paradoxically in economic bad times. It is a matter of fact that introduction of government investment incentives and privatisation of state-owned property kicked-off the inflow (see Král, 2004). Subsequently, enterprises under foreign control started to gain growing share on economic activity. Inward FDI at those times were both (i) vertical benefiting from the comparative advantage of the Czech economy in terms of input prices, government promotion of FDI and economic stability and (ii) horizontal focusing on the LR growth and market size prospects arising from the expected Czech

Republic's future accession to the EU. As for their geographical breakdown, FDIs were coming prevailingly from EU countries (Germany, Austria, and Netherlands). In the last case, however, the data may be biased due to the fact than many multinational companies from overseas invested in the Czech Republic via their acquisition centres located in the Netherlands. As a result, the Czech Republic became one of the most FDI penetrated country in the region and in the world and simultaneously the openness and export performance of the country are also tremendous. Accordingly, positive effects of inward FDI on the supply side of the economy (capital stock + crowding-in effects, primary and secondary technological spillovers) contributed significantly to gradual acceleration of potential (non-inflationary) output growth.

b) EU entry – acceleration of ongoing trends and new phenomena

Let me now turn your attention to a brief overview of economic effects of the last step on the road so far, namely of the EU entry of our country. The four freedoms of movement regarding goods, services, labour and capital have further promoted rapidly growing export performance of the Czech economy primarily affected by the previous massive inflow of FDI. Implementation of other EU related measures and regulation has also contributed to increasing allocative efficiency of the Czech economy. Besides this, an access to EU funds facilitated to a certain extent the capital formation. And last but not least, the EU membership has also had some a reputation effect and perceived quality of the Czech production in general increased.

As a result, economic growth in the Czech Republic in past few years has significantly outperformed GDP growth recorded in euro area countries on average with other Central European countries growing at a comparable pace and with Baltic states enjoying extraordinarily high increases in their economic levels. This acceleration of GDP growth and its potential pace led to speeding-up of the real convergence vis-à-vis western countries. Rapidly growing export capacities were the main driver (which was extremely pronounced in 2004) with the openness of the economy steadily increasing over the whole period of time under review. Recently, however, the growth is also spurred by strong domestic demand.

By the way, Czech exporters have developed specialized in machinery and transport equipment mainly due to already mentioned massive inflow of FDI. As a result, trade balance turned to positive numbers being driven especially by the surplus of the trade with SITC 7 items.

As for macroeconomic policies, the EU entry meant no major changes or challenges for monetary policy (with harmonisation of excise duties being subject to standard application of our monetary policy caveats i.e. escape clauses). On the other hand, fiscal policy has had to face requirements originating from the Stability and Growth Pact (SGP) with Excessive Deficit Procedure (EDP) being opened immediately after the CR became an EU member.

3. Economic aspects of the euro adoption

a) Why to adopt the euro

Let me now summarise economic and other reasons for the euro adoption from the perspective of the CNB. First of all, there is a legal obligation since the Czech Republic does not have an opt-out clause but only derogation on the euro introduction. As for economic reasons which are obviously more fundamental, having the euro as a legal tender will ensure or significantly promote (i) exchange rate stability, (ii) lower transaction costs (due to reduction of exchange rate risk, conversion costs, costs of dual bookkeeping and through an access to more liquid financial markets, and (iii) higher price transparency. In addition, the euro adoption and operating within the area of common monetary policy will impose more discipline on domestic economic policies. And finally, the euro area entry will naturally be the final step on our road west as it will mean a completion of our integration efforts.

b) Possible risks

There are on the other hand several possible risks of euro adoption originating from the loss of independent monetary policy. As of the euro adoption, the main tool of monetary policy – the official interest rate – will be handed over to the European Central Bank (ECB). Consequently, it is not certain that ECB will always conduct one fits all monetary policy. Due to differences in inflation rates, the common monetary policy might be for some countries too tight and for the others quite loose. The solution how to cope with the loss of independent monetary policy is at first place – being economically aligned with the euro area. Unless our economy is aligned after having given in its own monetary policy, there is a strong need to have alternative stabilisation mechanisms, namely fiscal policy and flexible labour market. An early euro adoption may also lead to an acceleration of inflation. Nevertheless, these risks and costs are not constant over time and generally will be decreasing as our degree of real convergence and economic alignment will be rising. It is, therefore, useful to check from time to time what progress has been made in this regard.

c) Timing of the euro adoption

Concerning the timing of the euro adoption, there are two categories of conditions that need to be fulfilled first to become and second to successfully operate as a euro zone member. As for the former, well known and strictly defined are the formal conditions, so called Maastricht convergence criteria. Their fulfilment is an obligatory but not sufficient condition in this respect. As for the latter, which are informal conditions, their fulfilment, in turn, will cause that benefits from euro adoption will be higher than costs and risks stemming from the loss of independent monetary policy. These are, as mentioned above, based on economic considerations about symmetry and flexibility of the economy operating without its own independent monetary policy.

As we have seen on previous slides, there are several conditions to be fulfilled if we want to enter the monetary union successfully. Our success is highly dependent on the fulfilment of both formal and informal conditions. The level of convergence to the euro area plays an important role as well. Regular monitoring of the stage of the development of the Czech economy is proceeded by both the CNB and the Government.

4. Euro-adoption plans

a) Strategic documents

Concerning the euro adoption plans in the Czech Republic, the following documents are worth mentioning: *The Czech Republic's Euro Area Accession Strategy (EAAS) written by* the CNB & Government:

- First in 2003
- Updated in 2007
  - *(based on that) regular annual Assessment of the Fulfilment of the Maastricht Convergence Criteria and the Degree of Economic Alignment of the CR with the EA and*
  - *Analyses of the CR's Current Economic Alignment with the EA (in responsibility of the CNB)*

b) First Euro-Area Accession Strategy (2003)

Let me now in brief comment on these strategic documents. The first Euro-Area Accession Strategy (EAAS) was approved and published in 2003 as a common stance of the CNB and the Government Its main conclusion was that benefits of the euro adoption outperform its risks but risks can be reduced further and hence that quality of the entry is preferred to its speed. An integral part of the text was the statement that CNB will continue in conducting its monetary policy using the inflation targeting regime until the CR adopts the euro. And simultaneously, that participation in the ERM II

mechanisms is not fully consistent with this regime and that is why we prefer our participation in this mechanism not to exceed by much the minimum period of two years. The text said that one can expect the date of the euro adoption to be in 2009 – 2010 conditional on (i) criteria fulfilment (including a consolidation of public finances), (ii) achievement of a sufficient level of real convergence, and (iii) adequate progress with structural reforms made leading to a sufficient degree of economic alignment. The strategy suggested conducting the regular annual Assessment of Maastricht criteria fulfilment and economic alignment with the euro area.

c) Fulfillment of the Maastricht criteria

Now, we will skim through the actual figures that depict the most relevant data for our topic to find out, where we are and how prepared for the euro adoption the CR is. Firstly, we will comment on formal conditions of Maastricht convergence criteria and lately go through the evaluation of informal conditions.

Concerning the price stability, we can say that inflation criterion has been in general fulfilled over the past few years. The current situation is however quite hot, so to speak. At the moment, the consumer price index has risen over the value of 5 per cent, while our target is at 3% with a tolerance band of +/- 1 percentage point. The CNB, nevertheless, believes and foresees that this development is rather temporary and predicts that the inflation will come back down to its target already next year. The source of the current surge in inflation is mainly attributed to the temporary effect of high food and regulated prices and indirect tax changes.

Sustainability of government finance is, as already mentioned, measured by fiscal deficit and public debt. In the past, fiscal discipline was rather loose. The deficit went up to almost 7 percent in 2002 and 2003. Lately, the situation has got better, and also the short term outlook sees the fulfilment of the reference value. As regards the public debt, we can say that it has been stabilised at about 30% of GDP which is well below the criterion. Nevertheless, the long- run outlook remains an issue especially for fiscal deficit. We will talk about this in more detail in a while.

The long term interest rate has been under the reference value. Exchange rate criterion has not been fulfilled since we have not yet entered the ERM II.

d) Economic Alignment

Let me now turn your attention to selected aspects of the assessment of economic alignment with the euro area. As for long-run convergence, some progress has been made in terms of real as well as nominal convergence but we are still well below average euro area levels. Countries from our region are roughly in the same position. On the contrary, correlation of cyclical part of the GDP development between the Czech Republic and the euro area has been very poor over the past few years. Low correlations have been observed also as regards macroeconomic shocks. Higher level of correlation, however, seems to prevail for industrial production.

From the picture, it is obvious that budgetary deficit in the past was rather structural and little room was provided for automatic stabilisers. The latest developments based on revised data not shown in the graph, however, have been quite favourable and the deficit declined below the reference value suggesting that the excessive deficit procedure will probably be abrogated this year. Beyond the favourable economic developments being the main cause of the better-than-expected fiscal position in the past few years, it is worth saying that some reforms have been implemented, some are in the pipeline and some have been announced. However, long-term sustainability of public finance stemming from negative demographic trends remains an issue and needs to be addressed within fundamental reforms of pension and healthcare systems.

The share of long-term unemployment has been relatively high – over 50% in 2006. Other states cope with this problem at the similar level. In 2005, the variation coefficient of regional unemployment was among the highest of the selected sample. Both indicators are relatively high –

showing structural problems on the labour market (including low geographical and occupational mobility of the Czech labour force partly offset by a massive inflow of workers from countries such as Slovakia, Poland and Ukraine).

e) An Up-dated Euro-Area Accession Strategy (2007)

As the expected date of the euro adoption (2009 -2010) stated in the EAAS from 2003 proved obviously not to be met, an up-dated document was prepared, approved and published in 2007. Its point of departure is that Strategy from 2003 has proved to be useful and in some sense fulfilled. Major obstacle, however, was seen in fiscal consolidation and that is why EDP should be abrogated as soon as possible (with 1st stage of fiscal reforms addressing that). Simultaneously, Maastricht criterion is not ambitious enough and therefore Medium Term Objectives (MTO) defined for structural deficit of public finance of 1% of GDP should be the right target for consolidating efforts. In these efforts in particular long-run challenges stemming from negative demographic changes have to be addressed.

As the second needed step, still low flexibility and efficiency of the economy especially concerning the labour market must be markedly enhanced.

5. Conclusion

To conclude, no particular date of the euro-area entry was proposed in the up-dated EAAS saying that the new euro-adoption date will not be set until sufficient progress is made in fiscal consolidation and flexibility of the economy. The same conclusions were drawn in the last annual Assessment of the fulfilment of the Maastricht Convergence Criteria and the Degree of Economic Alignment Published at the end of 2007. Based on that, the Czech government having regard the recommendation of the Czech National Bank and the Ministry of Finance decided not to initiate the ERM II entry in 2008.

Thank you very much for your attention!

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Real exchange rate dynamics in Macedonia: Old wisdoms and new insights[33]

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Abstract

The ambition of this paper is to analyse real exchange rate dynamics in Macedonia relying on a highly disaggregated dataset. We complement the indirect evidence reported in Loko and Tuladhar (2005) and we provide direct evidence on the irrelevance of the Balassa-Samuelson effect for overall inflation via service prices in the CPI. Furthermore, we estimate variants of the BEER model. We show that alternative econometric techniques and data definitions bear an impact on the robustness of the estimation results. Overall, productivity, government consumption and the openness variables were found to be fairly robust in terms of sign and size. An increase/decrease in the productivity variables is associated with an appreciation/depreciation of the real effective exchange rate. Given that the B-S effect admittedly has a very limited role to play through nontradable prices in the CPI, this relationship could be explained by the (inverse) quality effect proposed by Loko and Tuladhar and, possibly in addition to that, by the nontradable component of tradable prices.

JEL: E31, F31, O11, P17

Keywords: real exchange rate, Balassa-Samuelson, Macedonia

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[33]This is a revised version of an earlier draft using an updated dataset. Égert was with the Oesterreichische Nationalbank when this work started. The paper was prepared in the framework of a technical cooperation between the National Bank of the Republic of Macedonia and the Oesterreichische Nationalbank. The authors would like to thank two referees for their valuable comments.

1. Introduction

A general perception in the economic profession is that catching-up economies tend to experience an appreciation of their real exchange rate. The Balassa-Samuelson effect is commonly thought to be underlying the trend appreciation during periods of rapid real convergence. According to this view, productivity gains in the tradable sector are higher than those in the nontradable sector, and lead to a positive inflation differential and thus to real appreciation - through the increase in market-based non-tradable prices.

Real appreciation was and remains a prominent feature in some of the fast growing countries of Central and Eastern Europe. As Figure 1 below indicates, the pace of the appreciation of the real exchange rate, constructed using the consumer price index (CPI), reached about 6 % between 1990 and 2005 in the Baltic countries and has been also sizeable in the CEE-5. The dynamics of real exchange rates differs, however, considerably among CEE economies. In some countries, the bulk of the appreciation occurred during the early and mid-1990s and flattened afterwards. Some consider it as a proof for a so-called initial undervaluation (Halpern and Wyplosz, 1997) that was followed by a rapid correction back to levels in line with fundamentals.

In other countries, the appreciation proved to be a long-lasting and steady phenomenon. For these cases, there is ample empirical evidence that the appreciation can be only partially explained by the direct Balassa-Samuelson effect. Other sources of appreciation that are identified in the literature are the positive inflation differential of administrative prices (MacDonald and Wojcik, 2004), and, most importantly, the trend appreciation of the real exchange rate of the tradable sector, measured by means of the producer price index (PPI), that accounted for most of the overall appreciation. Why did then the PPI-based real exchange rate appreciate? One argument relates to the constant upgrade of the quality of goods that shows up in inflation rates (see e.g. DeBroeck and Slok, 2006, and Égert et al., 2006 for empirical evidence and Bruha and Podpiera, 2007, for a DSGE model theoretically explaining the phenomenon). A second possible explanation is the non-tradable content of goods that can be thought of as an indirect Balassa-Samuelson effect.

Against this background, real exchange rate behaviour in Macedonia appears rather peculiar because the officially published real exchange rate has been depreciating rather than appreciating during the last ten years or so. Loko and Tuladhur (2005) argue that falling relative prices of non-tradable goods relative to the foreign trading partners, i.e. an inverted Balassa-Samuelson effect, was not to be blamed for the observed depreciation. Instead, they put forward that an inverse quality effect was at play. As Macedonia did not achieve substantial productivity gains in the tradable sector mainly due to the slow process of economic transformation, the argument goes, the only way to preserve export market shares was to specialise in low quality products. As a result, the tradable price inflation grew slower in Macedonia than abroad leading to the depreciation of the real exchange rate. Gutierrez (2006) also comes to the conclusion that the depreciation was caused by low productivity growth although she does not elaborate on the potential channels.

The shortcoming of the analysis of Loko and Tuladhur (2005) and Gutierrez (2006) is that they proxy productivity differential with GDP per capita. It is far to be obvious that GDP per capita accurately captures productivity differentials because GDP per capita increases may be not only due productivity increases in the tradable sector but also due to productivity gains in the non-tradable sector or due to labour market participation increases (see e.g. Spain). In both cases, GDP per capita is clearly a biased measure of the true productivity differential. Furthermore, both studies use real exchange rate measures where the CPI and PPI are composed in line with the national weights. What this means for countries at very different stages of economic development is that goods and especially food and energy items will have much higher shares in the less developed country's price index, while services will be given more weight in the more developed countries, since weights in the CPI reflect final consumption expenditures. Consequently, similar underlying development of the CPI subcomponents will show up in different overall inflation rates. In this paper, we make an attempt to remedy the aforementioned problems by using a new dataset on highly disaggregated sectoral productivity and by correcting for the obvious bias in the construction of the real exchange rate. In

addition to that, we carry out a series of sensitivity analysis as we use several alternative measures for sectoral productivity and as we employ a variety of time series cointegration techniques.

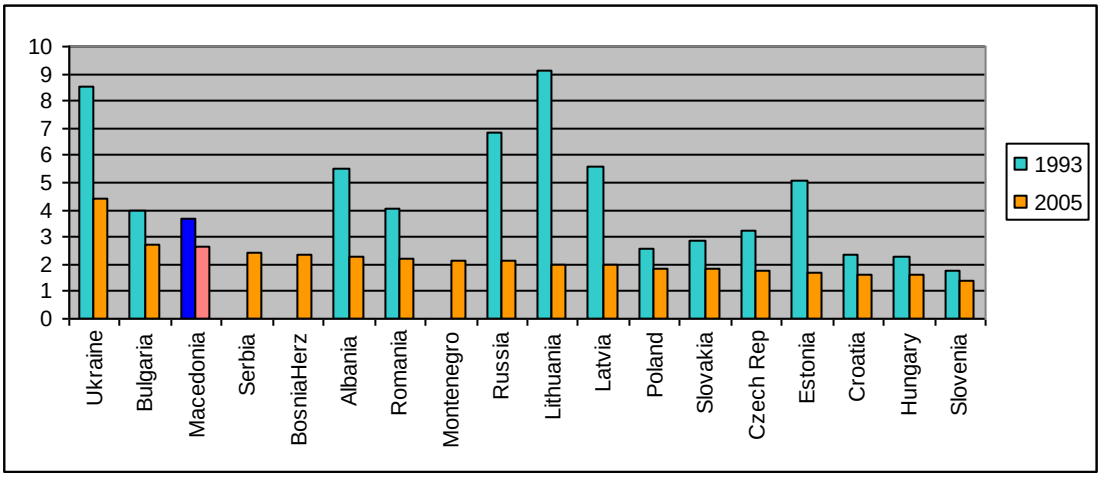
The paper is structured along the following lines. Section 2 presents stylised facts for Macedonia. Section 3 describes the data, discusses conceptual issues relating to data construction and presents the battery of estimation techniques used in the paper. Section 4 displays the estimation results. Finally, Section 5 draws some concluding remarks.

2. Stylised facts in Macedonia

The starting point of our analysis is purchasing power parity (PPP). When using absolute price levels (expressed in units of the foreign and domestic currencies), absolute PPP would imply that the domestic price level expressed in terms of the foreign currency (P/E)[34] is equal to the foreign price level (P*). Put differently, the real exchange rate, obtained as the foreign to domestic price level should be 1 ((P/E=P* => P*/(P/E)=EP*/P=1). Yet it is widely acknowledged that the real exchange rate of less developed countries are undervalued in terms of absolute PPP because lower non-tradable prices, and also because goods prices are cheaper due to lower quality and lower non-tradable component.(see e.g. Égert, Halpern and MacDonald, 2006, for more details on this issue).

Real exchange rates constructed using absolute price levels and against the euro, displayed on Figure 1 below, are different to 1 in all Central and Eastern European economies. The fact that the figures exceed unity indicates substantial undervaluations in terms of PPP for all transition economies of Central and Eastern Europe (CEE). At the same time, a convergence towards absolute PPP took place from 1993 to 2005 in line with progress achieved in real convergence in general, and in productivity levels in particular. Macedonia is no exception to this rule: real exchange rate fell from around 4 in 1993 to below 3 in 2005. However, the real exchange rate was among the most undervalued in 2005. In other words, Macedonia's price level was one of the lowest in Central and Eastern Europe when compared to the euro area.

Figure 1. Real exchange rates in levels vis-à-vis the euro area (based on absolute price levels)



Source: Authors' calculations based on data obtained from the WIIW's annual database 2006.

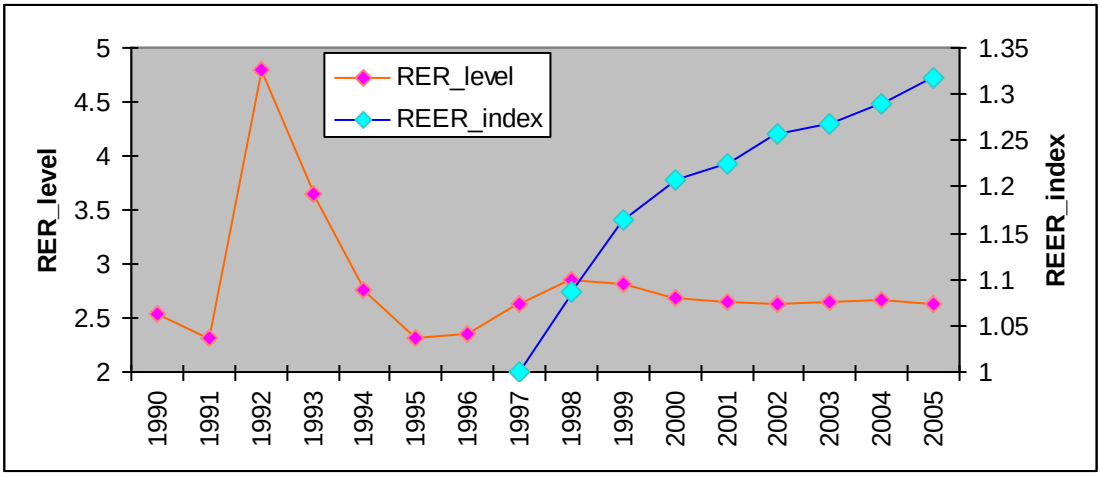
The observed appreciation on Figure 1 seems to be chiefly a result of a sharp appreciation between 1992 and 1995 (see Figure 2). Nevertheless, the real exchange rate vis-à-vis the euro has been on a moderate appreciation trend starting in 1998 as the Macedonian denar strengthened by an annual average of 1.1% in real terms.

This stands in sharp contrast with the development of the real effective exchange rate of the Macedonian denar, obtained from the official statistics of the National Bank of the Republic of

[34] The exchange rate is expressed as domestic currency units over one unit of foreign currency. Hence, a rise (fall) in the exchange rate indicates a depreciation (appreciation).

Macedonia, that depreciated by some 30 percent from 1997 to 2005 (Figure 2). The striking divergence could be explained by two facts relating to the composition of the data. First, the Serbian denar occupies a central role in the effective exchange rate (with a weight of 18.4% in 2003), and it appreciated strongly against the Macedonian denar as a result of high inflation rates. Second, the different composition and the different weights used in the consumer price indexes and in the GDP-based price levels can also yield diverging outcomes. The subsequent sections will explore these two composition effects.

Figure 2. Real exchange rates in levels vis-à-vis the euro area (based on absolute price levels)



Source: Authors' calculations based on data obtained from the WIIW's annual database 2006 and based on the real effective real exchange rate published by the National Bank of the Republic of Macedonia (corrected for the devaluation of the Serbian dinar in December 2000)[35].

3. Visual Inspection: Caught Red Handed?

3.1. Conceptual Issues

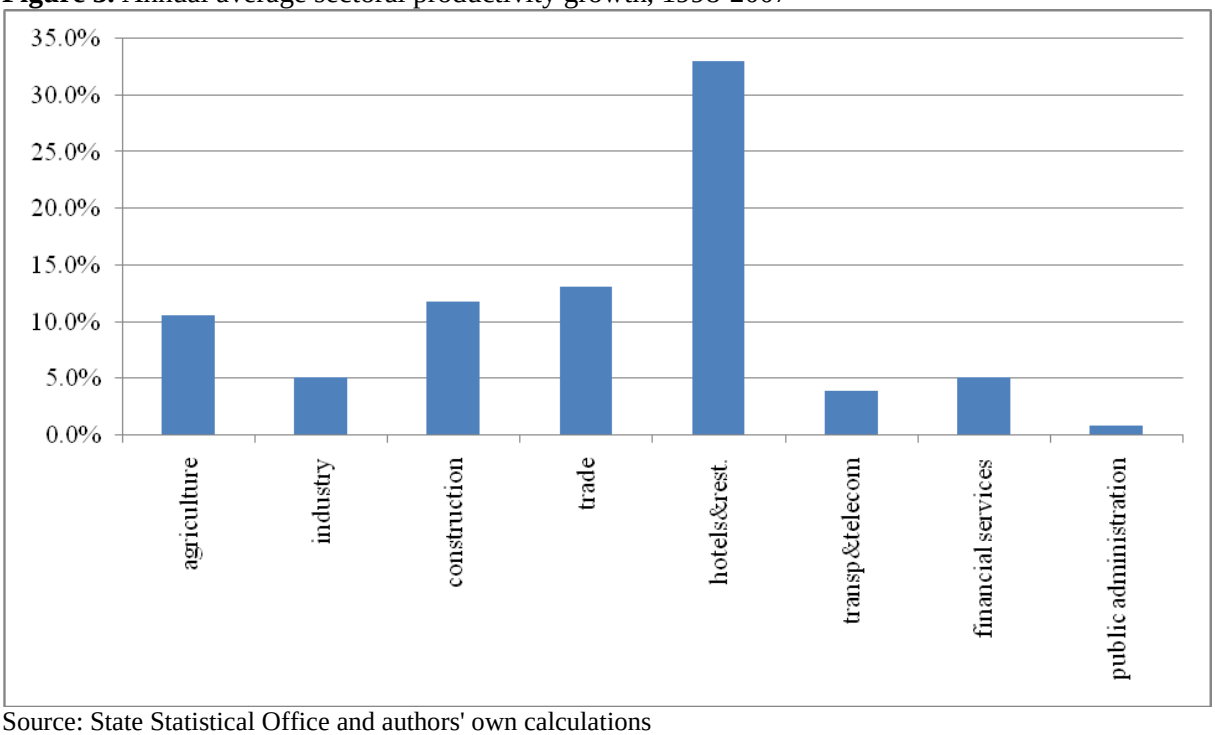
The productivity differential is often found in empirical investigation to be the single most important determinant of the real exchange rate. Against this background, we investigate the link between the productivity differential and the real exchange rate. In a first step, we analyse the productivity differential and the behaviour of the relative price of non-tradables in Macedonia. In a second step, we study the relation between the productivity differential compared to the foreign benchmark and various real exchange rate measures.

Turning to the productivity variable, we first computed annual productivity growth rates for the different sectors from using data from 1997 to 2007. Productivity growth for the eight sectors, i.e. 1) agriculture und mining, 2) industry, 3) construction, 4) wholesale und retail trade, 5) hotel and restaurants, 6) transport, storage and telecommunication, 7) financial intermediation, real estate and other business activities, 8) public administration and defence, compulsory social security, education, health and social work.

In accordance with Figure 3, productivity growth has been strong in agriculture, industry, construction and trade. The unusually high growth rate in hotel and restaurant is a statistical artefact and is due to a change in classification in 2002 that affect hotels& restaurants and the transport and telecommunication sectors. This in turn is also reflected in the very low growth rates in the latter sector. Finally, it merits mention that productivity growth remained moderate in financial services and close to zero in public services.

[35] In December 2000, the Serbian dinar was officially devaluated by 80%. It was a formal devaluation in order to equalize the official exchange rate (announced by the central bank) and the exchange rate on the black market and in practice did not have an impact on the market exchange rate.

Figure 3. Annual average sectoral productivity growth, 1998-2007



Source: State Statistical Office and authors' own calculations

Given that the core tradable sector, industry, did not record productivity gains substantially higher than the other sectors, it is not very surprising to find that the various productivity differentials tend to be negative. We indeed calculated 4 alternative measures of productivity differentials based on the following considerations (obtained using four alternative measures for productivity in tradables and three variants in nontradables):

First, only those sectors are considered where prices are established on the market. The intuition behind is that in order for productivity to be reflected in wages and prices, wages and prices need to be determined by market forces. This is obviously not the case for public administration and defence, compulsory social security, education, health and social work that are disregarded in our analysis. Therefore, these sectors are excluded from our analysis.

Second, the tradable sector comprises either only industry (PROD1_T) or industry and agriculture (PROD2_T). Using the rule of thumb established by Canzoneri et al. 1999, agriculture is more likely to be tradable than not as agricultural exports account for more than 10% of agricultural output (around 16% from 2004 to 2006). Nevertheless, the reason for not considering agriculture is that it still to a certain extent receives government subsidies. So we either include agriculture into the tradable sector or omit it completely from the analyses. Recently, some voiced the view that services are increasingly becoming tradable in nature (see e.g. Randveer and Rell, 2002; Hinnosar et al, 2003; MacDonald and Wójcik, 2004 and Mihaljek and Klau, 2004). For this reason, service sectors are included in the third and the fourth variant, such as shown in Table 1a (PROD3_T and PROD4_T). Table 1b below gives a detailed overview of the composition of the four different measures of the productivity differential for Macedonia. The productivity measures for the foreign countries follow the same logic. The difference is that for Macedonia's largest trade partners, we do not have disaggregated data for trade&retail&repair + hotels&restaurants + transport&storage&communications and these sectors are treated together.

Table 1a. Definition of sectoral productivity

	TRADABLES		MARKET NON-TRADABLES
Macedonia			
PROD1_T_M	Industry	PROD1_NT_M	Construction + wholesale trade&retail&repair + hotels&restaurants + transport&storage&communications + financial intermediation+real estate&business activity (excluding public sectors and agriculture)
PROD2_T_M	Industry + agriculture	PROD1_NT_M	Construction + wholesale trade&retail&repair + hotels&restaurants + transport&storage&communications + financial intermediation+real estate&business activity (excluding public sectors)
PROD3_T_M	Industry + agriculture + wholesale trade&retail&repair + hotels&restaurants + transport&storage&communications	PROD2_NT_M	Construction + financial intermediation&real estate&business activity (excluding public sectors)
PROD4_T_M	Industry + agriculture + hotels&restaurants + transport&storage&communications	PROD3_NT_M	Construction + wholesale trade&retail&repair + financial intermediation&real estate&business activity (excluding public sectors)
Foreign benchmark			
PROD1_T_F	Industry	PROD1_NT_F	Construction + wholesale trade&retail&repair + hotels&restaurants + transport&storage&communications + financial intermediation&real estate&business activity (excluding public sectors and agriculture)
PROD2_T_F	Industry + agriculture	PROD1_NT_F	Construction + wholesale trade&retail&repair + hotels&restaurants + transport&storage&communications + financial intermediation&real estate&business activity (excluding public sectors)
PROD3_T_F	Industry + agriculture + wholesale trade&retail&repair + hotels&restaurants + transport&storage&communications	PROD2_NT_F	Construction + financial intermediation&real estate&business activity (excluding public sectors)

Table 1b. Definition of productivity differentials

	TRADABLES	MARKET NON-TRADABLES
Macedonia		
PROD_DIFF1_M	PROD1_T_M	PROD1_NT_M
PROD_DIFF2_M	PROD2_T_M	PROD1_NT_M
PROD_DIFF3_M	PROD3_T_M	PROD2_NT_M
PROD_DIFF4_M	PROD4_T_M	PROD3_NT_M
Foreign benchmark		
PROD_DIFF1_F	PROD1_T_F	PROD1_NT_F
PROD_DIFF2_F	PROD2_T_F	PROD1_NT_F
PROD_DIFF3_F	PROD3_T_F	PROD2_NT_F
Macedonia - Foreign benchmark		
D_PROD_DIFF1	PROD_DIFF1_M - PROD_DIFF1_F	
D_PROD_DIFF2	PROD_DIFF2_M – PROD_DIFF2_F	
D_PROD_DIFF3	PROD_DIFF3_F – PROD_DIFF3_F	
D_PROD_DIFF4	PROD_DIFF4_F – PROD_DIFF3_F	

3.2. Balassa-Samuelson effect (re)visiting Macedonia

Loko and Tuladhar (2005) argued that the Balassa-Samuelson effect is of negligible importance for real exchange rate dynamics in Macedonia. This conclusion is based on indirect evidence. They regressed the CPI-based real exchange rate and the PPI-deflated real exchange rates on their productivity variables proxied by per capita GDP - in accordance with Egert and Lommatzsch (2004) - and found that productivity had similar effects on both exchange rate series. Nevertheless, if PPI were a good measure for tradable prices, then productivity should not have any effect on the PPI-based real exchange rate given that in the Balassa-Samuelson framework, the real exchange rate of the tradable sector is pinned down by the Purchasing Power Parity condition.[36]

We provide here with more direct evidence with regard to the empirical relevance of the Balassa-Samuelson effect for Macedonia. Our starting point is that the Balassa-Samuelson effect assumes that the productivity differential bears a link to the relative price of nontradables – computed as services prices in the CPI over goods prices in the CPI. Applying eyeball econometrics to the data displayed in Figure 4 suggests that the link is either nonexistent or at the very best very fragile when considering the various definitions of the productivity differential. Generally, relative prices rose steadily while the productivity differentials remained rather flat with substantial short-term variations. Obviously, service prices increased due to other factors than the Balassa-Samuelson effect.[37]

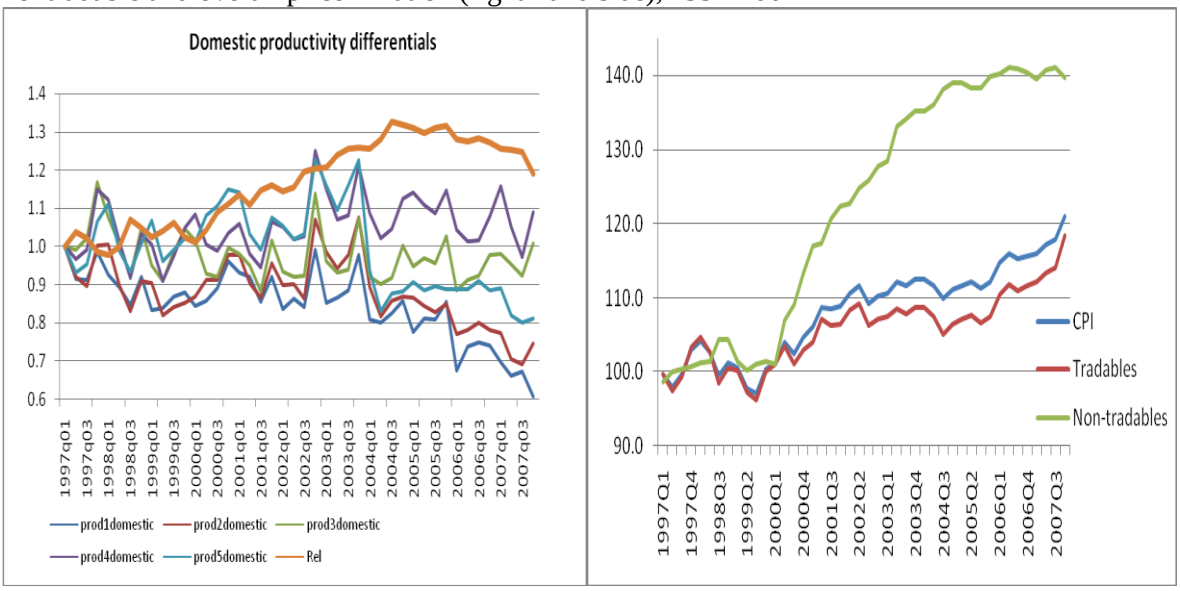
But even if we found a robust relation running from productivity to relative prices, the overall impact on the consumer price index would crucially depend on the share of nontradables in the CPI basket. The weight structure of the CPI is given by final household consumption expenditures. In turn, how much households spend from their budget on goods and services is usually strongly correlated to overall economic development of the country considered. Poorer households tend to spend more on foodstuff and richer household consume more services. This phenomenon that came to be known as Engel's law can be also observed in the Macedonian data. In 2006, the share of services amounted to 19% in the total CPI. In other words, the possible contribution of nontradables to overall inflation and thus to real exchange rate appreciation seems to be fairly limited in Macedonia. The case for a low impact is strengthened when comparing overall inflation with its two main components: services and goods. The steady rise of services from 2000 onwards appears to have a negligible influence on the CPI. By contrast, the consumer price index exhibits an extremely strong comovement with goods price inflation.

Overall, it is fair to conclude that the Balassa-Samuelson effect bleeds from two wounds. First, rises in service prices were not connected to developments in the productivity differential in Macedonia from 1997 to 2005. Second, service price inflation has potentially little impact on overall inflation because of the modest weight of services in final household expenditures.

[36] Models drawing on the tradition of New Open Economy Macroeconomcs (NOEM) provide a theoretical link running from productivity to the tradable sector's real exchange rate. However, in such a case, productivity gains in tradables lead to a depreciation and not to an appreciation of the real exchange rate (Benigno and Thoenissen, 2004).

[37] We also ran cointegration tests such as set out in Section 4.2 between the log-transformed relative price of nontradables and the log-transformed alternative productivity differential measures. The results indicated very robustly that the null hypothesis of no cointegration cannot be rejected for any of the bivariate relationships. The results are available from the authors upon request.

Figure 4. Relative prices and various productivity differentials (left-hand side) and tradable, nontradable and overall price inflation (right-hand side), 1997-2007



Source: Authors' calculations based on data obtained from the National Bank of the Republic of Macedonia and the State Statistical Office.

3.3. Real exchange rate measures and productivity differentials

We stressed earlier the caveats related to the construction of real exchange rate series. In particular, we showed that while the officially published real effective exchange rate depreciated sharply between 1997 and 2005, the real exchange rate based on absolute price levels recorded small but steady appreciation during the same period. It is clear, however, that none of those variables is perfect.

The real effective exchange rate index suffers from differing weights in the CPI of Macedonia and of main industrialised trading partners. As a matter of fact, goods and foodstuff have more weight in Macedonia and services more weight in the main trading partners. As a result, low goods price inflation and higher service price inflation in the foreign benchmark possibly overestimates the true depreciation of the real exchange rate.

We attempted to correct this bias and constructed two kinds of CPI series. First, the weights were set to equal in all countries to the ones observed in Macedonia. Second, average weights of the foreign countries were applied to recalculate the CPI for Macedonia.

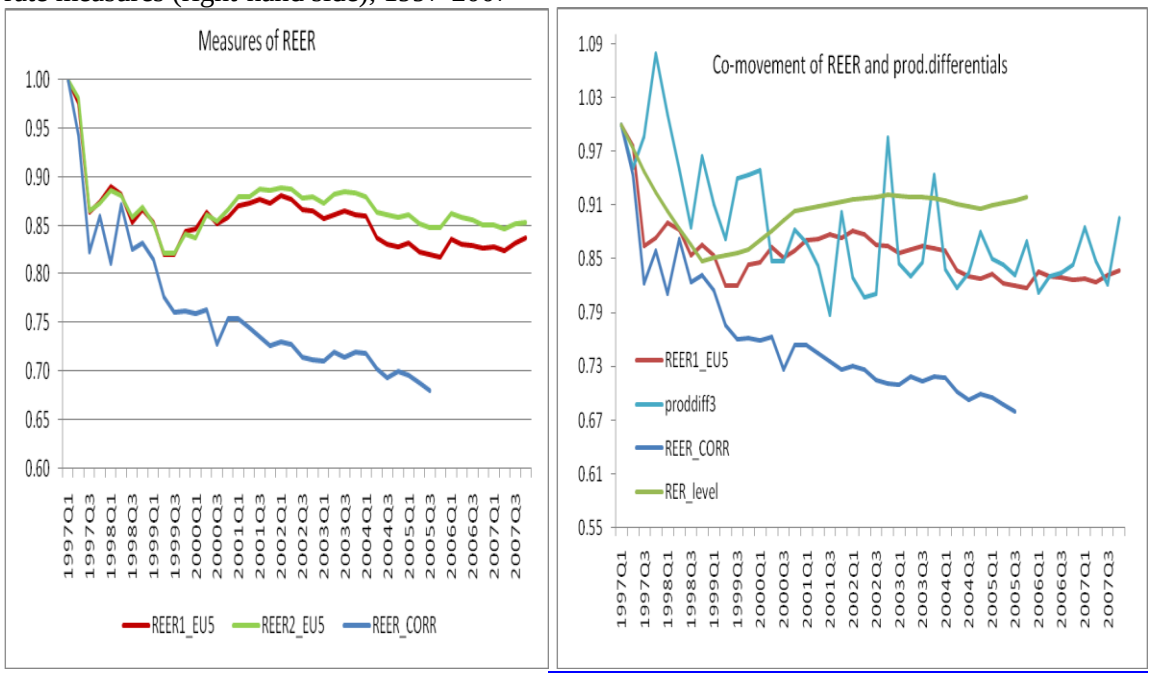
We were able to reconstruct the effective exchange rate for the main industrialised countries where weights were derived on the basis of the ratio export and imports over total foreign trade.[38] The drawback is that we did not have detailed data on CPI for Serbia (& Montenegro), a country that accounted for 13.7% of the overall foreign trade in 2005.

Figure plots and compares the old series (REER_CORR)[39] and the newly calculated ones: REER1 based on Macedonian weights and REER2 based on the average weights of the foreign effective benchmark. The depreciation is substantially lower than for the official real effective exchange rate series. Furthermore, and as expected, using weights of the foreign benchmark results in an even less depreciation of the real exchange rate.

[38] We used data for the five largest trading partners from the EU to proxy the euro area: Germany, Greece, Italy, France and the Netherlands. Note that our basket covers almost half of Macedonian foreign trade.
[39] An increase implies appreciation and a decrease indicates depreciation.

While the real exchange rate series based on absolute price level data is broadly in line with the dynamics of the newly calculated real exchange rate series, it shows a moderate appreciation from 1999 onwards whereas the new series point more in the direction of stability. This difference is likely to be connected with the construction of the absolute price level data: absolute price data are basically not fully consistent over time given that new goods and quality upgrades are not controlled for at all[40], while at least efforts are made to filter out those effects from the CPI.

Figure 5. Real exchange rate measures (left-hand side) and productivity differential and real exchange rate measures (right-hand side), 1997-2007



Source: Authors' calculations based on data obtained from the National Bank of the Republic of Macedonia.

Now, let us take a look at how different productivity differentials relate to the real exchange rate series. Figure 5 testifies forcefully the absence of any link if using the official real exchange rate series, whilst the newly constructed real exchange rate series seem to move tandem with the productivity differential.

The intriguing question is now how to explain this finding, i.e. the relation between the real exchange rate and productivity, given the quasi irrelevance of the Balassa-Samuelson effect and that productivity developments are reflected in the evolution of the real exchange rate of tradables.

We think that there are two plausible explanations. The first one is given by Loko and Tuladhar (2005). Productivity gains may be reflected in the quality of the produced and consumed goods. One caveat is that the overlap between the producer price index and the consumer price index is possibly fairly limited. Consumer goods and foodstuff included in the CPI have little in common with intermediate and final industrial goods included in the PPI. So, while it may be well true that Macedonia specialises in low quality and thus low price goods, it does not necessarily need to show up in the CPI. In the CPI, what really matters is the final consumption of households that in turn is a function of disposable income. Goods of lower quality relative to the foreign benchmark concern the CPI if final consumptions patterns become divergent.

Another explanation would consist in saying that goods contain an important chunk of local inputs. Local inputs may be local services. In addition, goods prices may be also predominantly determined by local wages in labour intensive sectors and if prices are not subject to international

[40] See .e.g. Eurostat-OECD methodological manual on purchasing power parities, http://www.oecd.org/document/0,2340,en_2649_34357_37961859_1_1_1_1,00.html

trade. If productivity increases less in Macedonia than in its trading partners, prices of local inputs contained in tradable goods prices will increase less, resulting in a real depreciation of the denar's exchange rate.

4. Estimations

4.1. Conceptual issues

Because we are interested in the general impact of conventional fundamentals on the real exchange rate in Macedonia, we use a general single-equation approach, proposed among others by MacDonald (1997) and Clark and MacDonald (1998) that also came to be known as the Behavioural Equilibrium Exchange Rate approach. Such a framework is related to the real interest parity:

$$E_t(q_{t+1}) - q_t = r_t - r_t^* \qquad (1)$$

where $r_t = i_t - E_t(\Delta p_{t+1})$, $r_t^* = i_t^* - E_t(\Delta p_{t+1}^*)$ represent the domestic and foreign ex ante real interest rates, $E_t(q_{t+1})$ stands for the expected real exchange rate in t for $t+1$, and q_t is the observed real exchange rate in period t. Rearranging equation (1) allows us to express the observed real exchange rate as a function of the expected value of the real exchange rate in t for $t+1$ and the ex ante real interest differential.

$$q_t = E_t(q_{t+1}) - (r_t - r_t^*) \qquad (2)$$

$E_t(q_{t+1})$ can be assumed to be the outcome of the expected values of the fundamentals, so that

$$q_t = E_t(\bar{x}_{t+1}) - (r_t - r_t^*) \qquad (3)$$

where $\bar{x}$ is the vector of fundamentals. Besides the productivity variable, the list of fundamentals usually analyzed in the empirical literature are net foreign assets, openness, a variable capturing government finances and terms of trade (MacDonald, 1997, and Clark and MacDonald, 1998)

As equation (3) shows, the usual BEER specification includes the interest rate differential to capture short-term real exchange rate movements due to capital flows. Given the low degree of liberalisation of capital movements over the period under study and the shallowness of financial markets in Macedonia, we drop the interest rate for our empirical analysis. Another reason for dropping the interest rate differential from the model is because by including this variable into the regression, the series were not cointegrated[41].

We discussed at length the relationship between **productivity** and the real exchange rate. It suffices to summarise that increases in the productivity differential would lead to a real appreciation through the Balassa-Samuelson effect. In addition productivity gains could also lead to appreciation of the tradable sector's real exchange rate via the quality channel and via the non-tradable component of goods. On the other hand, NOEM models suggest a possible negative relationship between productivity and the real exchange rate of tradables.

Net foreign assets, expressed in terms of GDP is not an unambiguous variable. Generally, an increase in the NFA position is usually associated with an appreciation of the real exchange rate in developed countries because it is the appreciation that corrects current account surpluses and because of the capital inflows related to increasing payments received on NFA. However, in transition economies, the relationship may be inverted at least in the medium term. Indeed, domestic savings may be insufficient to finance the high growth potential. Thus, foreign savings are needed, the inflow

[41] This results are available from the authors upon request.

of which reduce the net foreign assets and, at the same time, causes the real exchange rate REER to depreciate. In the longer run, servicing the accumulated foreign liabilities needs real exchange rate depreciation.

It has been argued recently that remittances may play an important role in real exchange rate movements in developing countries. Lopez, Molina and Bussolo (2007) argue that workers' remittances can have an influence on the exchange rate because they are reflected in capital inflows. We do not introduce remittances as a separate variable because they are indirectly included in our net foreign assets variable.

The **openness** variable, measured as export +import / GDP ratio affects the real exchange rate in a not straightforward manner. If openness reflects trade liberalization, an increase in openness should lead to a deterioration of the current account position and real depreciation of the currency should follow suit. On the other hand, the more open an economy is, the more links it has to international markets, making the distortions arising from tariffs less significant. Moreover, an open country would benefit more from comparative advantage, which would enable the whole economy to become more efficient. This could, in turn, justify a real appreciation via the productivity channel.

An improvement in the **terms of trade** (increase in the price of exports relative to that of imports) can generate two effects. The first one is the *substitution* effect, when the domestic sector shifts the production towards the tradable (exportable) goods resulting in higher wages in the tradable sector relative to the non-tradable sector. Assuming sufficient labour mobility this will induce increase in the overall domestic price level and appreciation of the domestic currency (through the improvement in the current account). The second effect or the *income* effect comes as the improvement in the trade balance raises income of the domestic economy and higher demand for the non-tradable goods emerges. To restore the internal equilibrium the real exchange rate is required to depreciate. The relative magnitudes of the substitution and income effect hinge on relative price elasticity of the demands for imports and exports.

Finally, *t*he effect of **fiscal policy** is fairly straightforward. In the short to medium run, an increase in public consumption leads to increased demand for both goods and services. Thus, an increase in government consumption leads to a real exchange rate appreciation through higher demand and the resulting surge in inflation. However, in the long run, the budget deficit causes higher government indebtedness, which could destabilise the economy, drains it from the potential growth path, and lead to real exchange rate depreciation.

Our baseline specification includes the real effective exchange rate as dependent variable, and the productivity differential and government consumption as a proportion of GDP:

$$q_t = f(prod, govc) \qquad (4)$$

Since we have a limited number of observations (around 40) and as we are using dynamics equations including leads and lags of the first differenced dependent and independent variables, we add the other fundamentals one by one:

$$q_t = f(prod, govc, nfa) \qquad (4a)$$

$$q_t = f(prod, govc, open) \qquad (4b)$$

$$q_t = f(prod, govc, tot) \qquad (4c)$$

We use three measures of the real effective exchange rate such as described earlier and four alternative measures for the productivity differential. For details of the definitions of productivity differentals see tables 1a and 1b.

4.2. Econometric issues

Long-term cointegration relationships that connect the real exchange rate to the fundamentals are estimated using four alternative cointegration techniques: the Engle and Granger (EG) method (Engle and Granger, 1987), the Dynamic OLS (DOLS) due to Stock and Watson (1993), the error correction representation of the Autoregressive Distributed Lags (ARDL) model of Pesaran et al. (2001) and the VAR-based cointegration technique developed by Johansen (1995). For the EG and DOLS techniques, residual-based cointegration tests are conducted, whereas the so-called bounds testing approach proposed by Pesaran et al (2001) is used for the ARDL model. The trace-statistics are employed for the VAR model to investigate possible cointegration vectors. As an additional check to the standard cointegration tests, error correction terms are also analysed. In what follows, only those models are reported for which the formal cointegration tests reject the null of no cointegration and where the error correction terms are negative and statistically significant.

In addition, a battery of specification tests including tests looking into serial correlation, heterscedasticity and normality is carried out for the error correction models. For the VAR model, the inverted roots should be lay within the unit circle in order to ensure the stability of the model.

We stick to this systematic assessment in order to check for the sensitivity of the results regarding different econometric specifications.

4.3. Estimation results

We first check the order of integration of the rough data series (see appendix for detailed data sources). Standard unit root and stationarity tests are used for this purpose: the augmented Dickey-Fuller (ADF), Phillips-Perron (PP) and the Elliott-Rothenberg-Stock (ERS) point optimal unit root tests and the Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) stationarity test. For the real effective exchange rate series, the tests provide with conflicting results. However, they never indicate unambiguously that the series are stationary in level. This is why we conclude that the series are I(1). Overall, we can rely on the time series cointegration techniques as the series are I(1) processes (see appendix for the results).

Table 2 presents the estimation results when the formal cointegration tests (residual based tests for Engle-Granger and DOLS, and F-test and residual based test for ARDL) and the error correction terms indicated that the variables studied are linked via a long-term relationship. Generally speaking, we found it difficult to establish cointegration for the specification (4) through (4c) when using the DOLS and Engle-Granger methods, but were more successful when relying on the error correction model of the ARDL proposed by Pesaran et al. (2001). These models are well specified in terms of the residuals that turn out to be well behaved. An exception is model 6 for which the null of normality could be rejected.

We did a cross-check and used the Johansen cointegration technique to make sure that only one cointegration vector is present in the data. Out of the 6 models identified by the ARDL model, five were confirmed by the VAR-based Johansen test. All these five models have problems in terms of the residuals when normality and serial correlation is checked on the residuals of the VAR and VECM, respectively. Only two models passed the residual checks for the VAR and none of them for the VECM. So, overall, single equation models seem to be more robust in meeting the basic hypothesis of well behaved residuals than the VAR-based estimations.

Turning to the interpretation of the results, several observations merit attention.

- First, we barely managed to establish cointegration between the officially published real effective exchange rate series and the fundamentals. By contrast, using the real exchange rate series we constructed yielded more encouraging results, even though it did matter which definition of the real exchange rate we took (weights in the CPI normalised to Macedonia or to the foreign benchmark).

- Second, the productivity differential, the government consumption and the openness variables were found to be fairly robust in terms of sign and size. Net foreign assets and terms of trade enter less often the cointegrating vectors.

Table 2. Estimation results, Q1:1997 to Q4:2007

	ARDL							JOHANSEN					
	Model1 REER1	Model2 REER2	Model3 REER1	Model4 REER1	Model5 REER1	Model6 REER2		Model1 REER1	Molde2 REER2	Model3 REER1	Model4 REER1	Model5 REER1	Model6 REER2
lags	2 , 2	2 , 2	2, 2	2 , 2	2 , 0	2 , 2	Model	M4	M4	M2	M2	M2	M2
ECT	-0.303**	-0.251**	-0.554**	-0.588**	-0.301**	-0.868**		p-values for trace-test statistics					
UR	-4.211**	-4.149**	-5.166**	-5.214**	-4.313**	-6.026**	R=0	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	0.13
F-test	5.587**	6.323**	6.323**	7.352**	5.885**	11.386**	R=1	0.62	0.54	0.69	0.67	0.69	0.86
							R=2	0.62	0.56	0.62	0.74	0.83	0.77
							R=3	0.49	0.44	0.39	0.55	0.72	0.63
C	-0.148**	-0.139**	-1.816**	-1.966**	-1.956**	-0.014							
PRODDIFF_1			0.277**			0.128**				0.179**			
PRODDIFF_2				0.349**							0.231**		
PRODDIFF_3	0.628**	0.731**						0.239**	0.211**				
PRODDIFF_4					0.246**							0.135**	
GOVCON	0.250**	0.249**	0.118**	0.118**	0.152**	0.087**		0.049**	0.019	0.098**	0.100**	0.080**	
OPEN			0.183**	0.190**	0.176**					0.077**	0.089**	0.043**	
NFA	0.040**	0.068**						0.046**	0.058**				
TOT						-0.114**							
AUTO(4) (p-values)	0.71	0.68	0.53	0.53	0.80	0.82							
ARCH(4) (p-values)	0.68	0.44	0.65	0.92	0.90	0.76							
J-B normality (p-value)	0.60	0.72	0.55	0.58	0.50	0.01							
Root								OK	OK	OK	OK	OK	
AUTOCORRELATION													
VAR								OK	OK	OK	OK	NO	
VECM								NO	NO	NO	NO	NO	
Multivariate													
J-B normality (p-value)													
VAR								**0.00**	**0.04**	0.15	0.06	**0.00**	
VECM								0.31	0.27	0.28	0.41	**0.00**	

Notes: * and ** indicate statistical significance at the 10% and 5% levels, respectively. ECT, UR and F-test refer to the error correction term, the cointegration tests based on the residuals of the long-term coefficients and the F-test proposed in Pesaran et al. (2001), respectively. "lags" indicates the lag structure of the error correction representation of the ARDL. The first number is the lag of the first differenced dependent variable, the second number is the lag used for the first differenced explanatory variables. For the Johansen approach, M4: the series and the cointegrating equation have a trend, M2: series have non-zero mean, the cointegrating vector contains an intercept. The models are selected using the Schwarz information criterion. "OK" ("NO") indicates that the inverse roots of the model are lower than 1 and the absence (presence) of serial correlation in the residuals of all equations (any of the equations). J-B normality for the Johansen method stands for the Jarque-Bera multivariate normality tests. A figure higher than 0.05 indicates that the null hypothesis of normality cannot be rejected at the 5% level.

5. Conclusions

The ambition of this paper was to analyse real exchange rate dynamics in Macedonia relying on a highly disaggregated dataset. We complement the indirect evidence reported in Loko and Tuladhar (2005), we provide direct evidence on the irrelevance of the Balassa-Samuelson effect for overall inflation via service prices in the CPI. We also estimate variants of the BEER model. We show that alternative econometric techniques and data definitions bear an impact on the robustness of the estimation results.

Overall, productivity and other explanatory variables such as government consumption, openness and net foreign assets were found to be fairly robust both in terms of sign and size. The productivity variable has a positive sign. This means that an increase/decrease in the productivity variables is associated with an appreciation/depreciation of the real effective exchange rate. Given that the B-S effect obviously has a very limited role to play through nontradable prices in the CPI, this relationship could be explained by the (inverse) quality effect proposed by Loko and Tuladhar and, possibly in addition to that, by the nontradable component of tradable prices. Furthermore, increases in public expenditures lead to real appreciation probably through the same channel, namely through the relative price of tradable goods. A rise/fall in openness is reflected in real exchange rate appreciation/depreciation. Finally, increasing net foreign assets tend to generate a currency appreciation that is in line with finding for established market economies (see e.g. Égert, Lommatzsch and Lahrèche-Révil, 2006).

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Appendix A

Table A1. Unit root and stationarity tests, Q1:1997 to Q4:2007

Log-level series

	ADF-trend	ADF-const	PP-trend	PP-const	KPSS-trend	KPSS-const	ERS-trend	ERS-const
l_proddiff1	-2.74	-0.58	-2.63	-0.72	0.139	0.729	7.9	41.05
l_proddiff2	-1.96	-0.57	-1.92	-0.41	0.151	0.689	10.64	21.77
l_proddiff3	-3.27*	-2.7*	-3.23*	-2.7*	0.087	0.408	6.15	3.68
l_proddiff4	-2.4	-0.72	-2.4	-0.8	0.141	0.682	11.65	11.57
l_reldiff	0.01	-1.1	-0.5	-1.1	0.147	0.723	31.46	23.48
l_reer	-5***	-1.64	-2.68	-2.14	0.143	0.602	8.59	13.67
l_reer1_eu5	-4.66***	-4.8***	-4.74***	-4.97***	0.084	0.591	30.94	43.82
l_reer2_eu5	-4.58***	-4.98***	-4.61***	-5.04***	0.094	0.251	33.36	37.04
l_gcon_diff	-2.43	-2.5	-2.69	-2.71*	0.124	0.265	9.48	4.02
l_nfa	-1.19	-2.03	-1.41	-1.9	0.169	0.695	39.35	128.93
l_tot	-1.73	-0.23	-2.22	-0.66	0.104	0.523	20.68	18.78
l_open	-1.59	-0.31	-1.61	-0.26	0.157	0.6	13.66	16.81

First differenced series

l_proddiff1	-7.37***	-7.38***	-7.4***	-7.39***	0.085	0.144*	4.38**	1.26***
l_proddiff2	-8.27***	-8.37***	-8.29***	-8.39***	0.052	0.055*	4.64**	1.44***
l_proddiff3	-5.98***	-5.96***	-5.96***	-5.93***	0.042	0.112*	4.19**	1.19***
l_proddiff4	-4.44***	-4.38***	-4.43***	-4.41***	0.193	0.262*	5.05*	1.95***
l_reldiff	-5.39***	-5.47***	-6.31***	-5.8***	0.074***	0.072*	8.03	5.4**
l_reer	-6.28***	-6.07***	-6.3***	-6.08***	0.14**	0.304*	4.27*	1.62**
l_reer1_eu5	-6.29***	-6.1***	-6.28***	-6.09***	0.139**	0.271**	4.19*	1.38***
l_reer2_eu5	-7.08***	-7.16***	-7.07***	-7.15***	0.065*	0.072*	5*	2.25***
l_gcon_diff	-6.07***	-2.08	-6.16***	-5.96***	0.07	0.258*	4.16*	5.35**
l_nfa	-4.29***	-4.32***	-4.37***	-4.38***	0.095	0.121*	7.08*	4.01
l_tot	-6.72***	-6.64***	-6.73***	-6.64***	0.069	0.164*	4.21**	1.21**
l_open	-6.53***	-6.45***	-6.76***	-6.54***	0.094	0.212*	4.23*	1.2***

Notes: ADF, PP; KPPS and ERS are the Augmented Dickey-Fuller, the Phillips-Perron, the Kwiatowski-Phillips-Schmidt-Shin and the Elliott-Rothenberg-Stock point optimal unit root tests, respectively, for the case including only a constant (-const) and a constant + a trend (-trend). The lag length is chosen using the Schwarz information criterion for the ADF and ERS tests and the Newey West kernel estimator for the PP and KPSS tests. *, ** and *** denote the rejection of the null hypothesis. For the ADF, PP and ERS tests, the null hypothesis is the presence of a unit root, whereas for the KPSS tests, the null hypothesis is stationarity.

Appendix B – Data definitions and sources

The dataset comprises quarterly data for Q1:1997 to Q4:2007. The series are seasonally adjusted if neeeded.

Real effective exchange rate - the log of the nominal effective exchange rate index deflated by the CPI. Three alternative measures were used: the series officially published by the central bank (reer) and two series (reer1 and reer2) we constructed on the basis of a partial foreign benchmark (five major trading partners from the EU in 2003: Germany, Greece, France, Netherlands and Italy), and using two variants of the CPI index. *Consumer price index 1 (CPI1)* - the log of consumer price index. The CPI for the foreign trade partners was constructed by using the weights for goods and services of the Macedonian CPI. *Consumer price index 2 (CPI2)* - the log of consumer price index. CPI for Macedonia was constructed by using the geometric average of the weights for goods and services from the major five trading partners from the EU. Data source: National Bank of the Republic. of Macedonia and Eurostat.

Productivity differential (prod_ diff2) - log of the relative productivity differential between Macedonia and its five major trade partners from the EU, calculated as a ratio of the corresponding productivity in the open (tradable) and the closed sector (non-tradable) sector. Productivity was calculated by dividing value added in the corresponding sector by the number of employed workers in that sector. Four different classifications were used for calculation of the open and the closed sector. Data source: State Statistical Office of Republic. of Macedonia, Eurostat, Greek state statistical office and OECD.

Government consumption differential (govcon_diff) - log of domestic government consumption over GDP related to foreign government consumption over GDP. Government consumption for Macedonia was deflated with the GDP deflator, while the real GDP in constant prices from 1997 was used because quarterly nominal GDP data are not available. Government consumption for the five major trading partners from the EU was calculated as geometric average by using the trade weights from 2003, where the nominal value of government consumption over nominal GDP was taken. Data sources: State Statistical Office of the Republic of Macedonia, Eurostat, Greek state statistical office and OECD.

Net foreign assets (nfa) - net foreign assets (of the monetary system) relative to GDP, both in Denars. Data source: State Statistical Office of Republic of .Macedonia and the National Bank of the Republic. of Macedonia.

Openness (open) - the ratio of exports and imports relative to GDP, both in Denars. Data source: State Statistical Office of the Republic of .Macedonia and the National Bank of the Republic. of Macedonia.

Terms of trade (tot) - the ratio of export to import prices. Data source: State Statistical Office of the Republic of .Macedonia.

Some Elements of Competitiveness of the Economy of Serbia

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Abstract

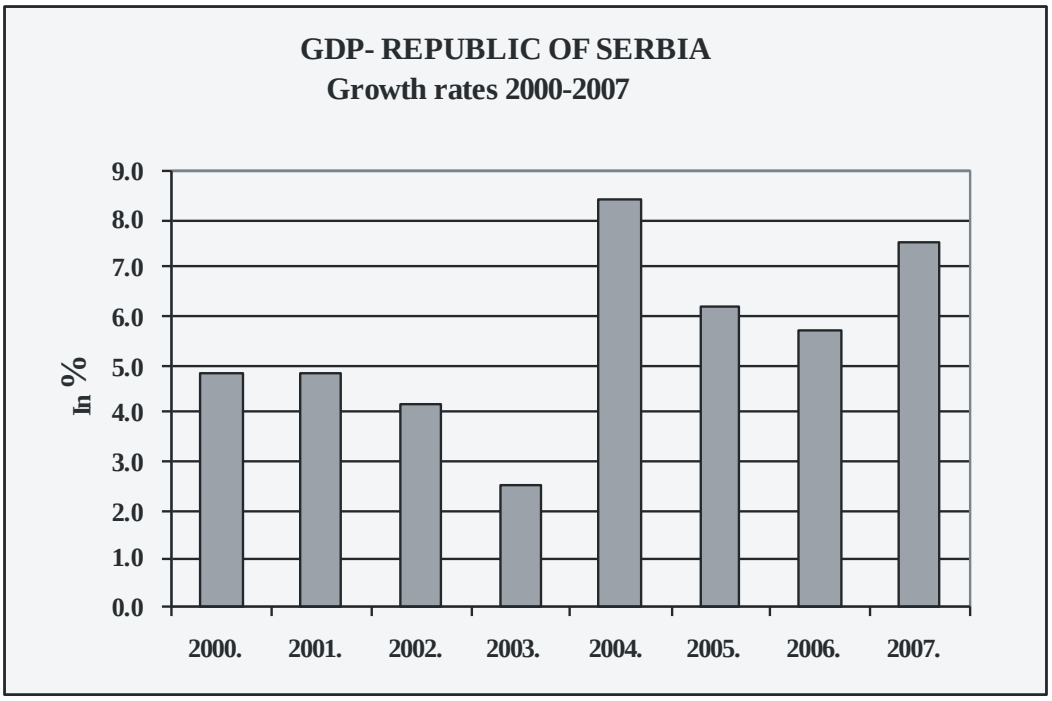
Taking into account the need for further considerable increase in competitiveness of the economy of the Republic of Serbia, this paper analyses: the macroeconomic stability; new framework of monetary policy and medium-term goal of reducing inflation by 2010, general economic movements, external balance and challenges in the forthcoming period, assessment of Serbia's competitiveness according to the latest comparative analysis of World Economic Forum, foreign direct investments, tax, financial and other incentives for investing in Serbia etc.

Key words: Republic of Serbia, competitiveness, World Economic Forum (WEF), Global Compositeness Index, macroeconomic stability; core inflation, medium-term core inflation objectives, financial system stability, Serbia's accession to the European Union, favourable investment regime.

Having in mind that maintaining macroeconomic and price stability is one of the basic factors which enable increase in competitiveness, below is given an overview of assessment of overall economic activity in the Republic of Serbia, plans for curbing core and headline inflation, as well as assessment of competitiveness of Serbian economy, including tax, legal and other incentives for absorbing new domestic and foreign investments.

Total economic activity in the Republic of Serbia has considerably increased over the last couple of years. In 2007, **gross domestic product (GDP)** increased by 7.5%, which is an acceleration when compared to previous two years. Gross value added contributed 6.2 pp to year-on-year GDP growth, whereas taxes (less subsidies) contributed 1.3 pp, with asymmetric real growth by sectors. In terms of structure, the largest contribution to GDP growth came from the service sector: transport (2.7 pp), retail and wholesale trade (1.9 pp) and financial intermediation (1.3 pp). Agriculture, due to a severe drought in 2007, recorded a drop in production of around 8%. In 2007, the industrial production recorded a year-on-year growth of 3.7%, which implies a slowdown in growth when compared to last year. Real retail trade growth has accelerated by 22.4%, whereas construction growth amounted to 9.1%. Transport, storage and communications recorded a turnover growth of 24%.

In the first quarter of 2008, gross domestic product, according to preliminary official statistics, recorded a real growth of 8.2% relative to the same period last year, while the largest growth rate was recorded in service sector (financial services, trade and transport).



Source: Republican Statistical Office

According to estimates, the total **number of employees** at the end of 2007 amounted to 2,493 thousand, which is 0.8% lower than at the end of last year. Decrease in number of employees is connected with performed structural changes and ownership transformation of the economy. The unemployment rate, based on a survey on labour force, dropped from 20.9% in 2006 to 18.1% in 2007 and is still high relative to more developed countries undergoing transition.

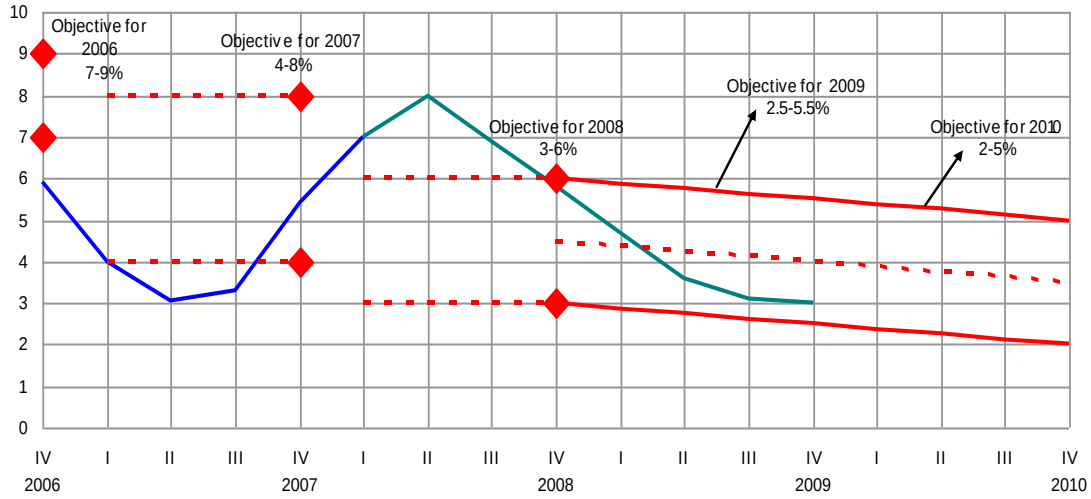
As for **curbing inflation** and inflation expectations, National Bank of Serbia achieved its objective for 2007: in 2007, **core inflation** was 5.4%, falling within the 4 to 8 % range, set by the Memorandum on the New Monetary Policy Framework. The objective has been achieved regardless of the fact that in the second half of 2007, due to drought, prices of industrial and processed food products and core inflation rose considerably. Due to substantial increase in regulated prices, the headline retail price growth in 2007, measured on December-on-December basis, reached 10.1 percent. Regulated prices contributed 6.5 percentage points to headline price growth (whereas free market prices contributed 2.7 percentage points).

The primary objective of monetary policy for 2008 and years to come is to achieve and maintain price stability, as well as maintain stability of the financial system. In accordance with Memorandum on the New Monetary Policy Framework, during this and the following years National Bank of Serbia will continue with its activities intended for providing price stability, primarily by open market operations. Such activities, according to the new monetary policy framework, are primarily aimed at achieving and maintaining price stability within a predefined target range by 2010.

The NBS Monetary Policy Committee (MPC) has set the **core inflation objectives** for the years 2009 and 2010 as a linearly declining band of core RPI year-on-year inflation rates with the following parameters:

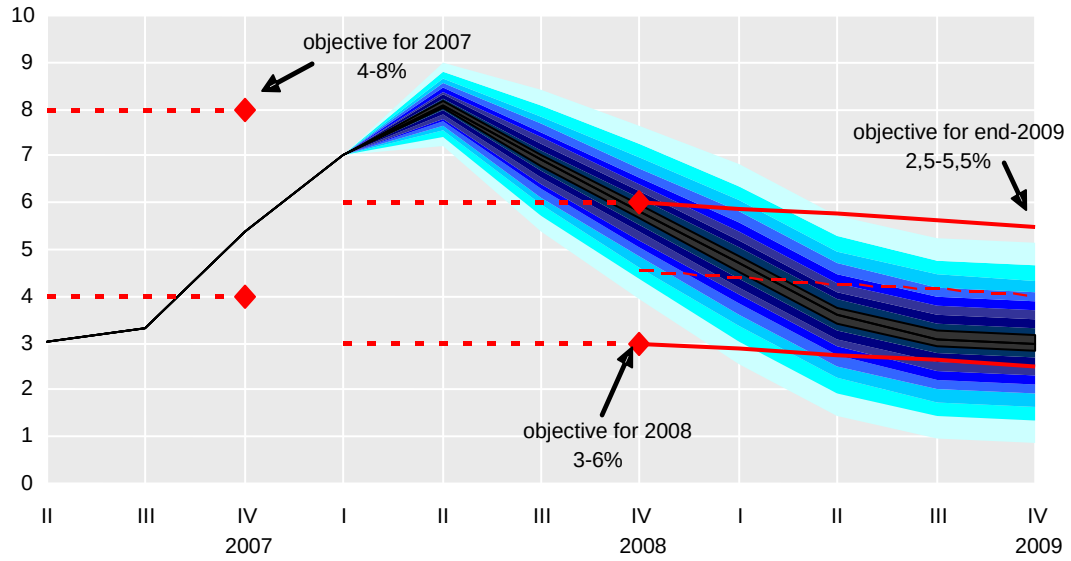
- 2009 starting level:
  A range of 3.0% - 6.0% with a midpoint of **4.5 %**
- 2009 end level and 2010 starting level:
  A range of 2.5% - 5.5% with a midpoint of **4.0%;**
- 2010 end level:
  A range of 2.0% - 5.0% with a midpoint of **3.5%.**

Medium-term core inflation objectives
(year-on-year growth rates, in %)



Source: National Bank of Serbia

Core inflation projection
(y-o-y rates, in %)



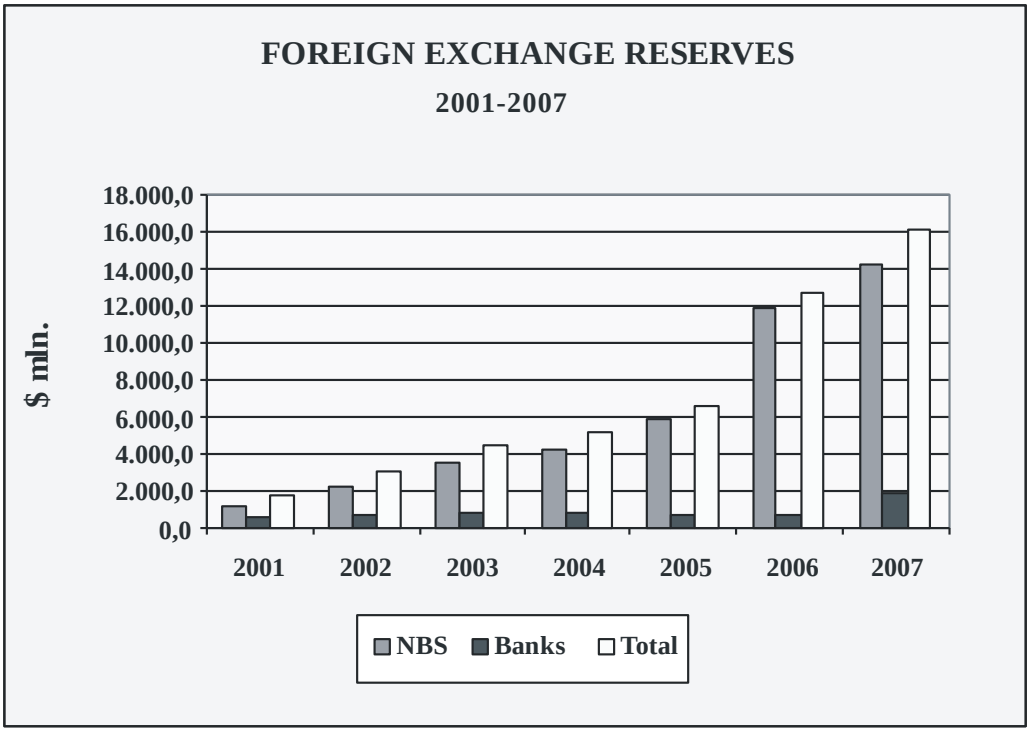
Source: National Bank of Serbia

National Bank of Serbia will, mostly by its interest rate policy, influence foreign exchange supply and demand in the foreign exchange market, so as to indirectly steer the Dinar exchange rate towards a course sustainable in the long run. In special cases, National Bank of Serbia will intervene in the foreign exchange market in order to achieve following objectives: 1) limit excessive daily volatility, but not the constant cumulative pressure in the long run, 2) ensure stable operation of foreign exchange market and neutralize possible threats to financial and price stability and 3) maintain adequate level of foreign exchange reserves. Dinar exchange rate will therefore be formed freely, based on supply and demand in the foreign exchange market. National Bank of Serbia will keep up with the process of creating a unique, flexible and efficient foreign exchange market. In 2008, National Bank of Serbia will continue to develop and strengthen market instruments of monetary regulation and create conditions, in association with banks, for further improvement of interbank money market.

Accelerated **lending activity** in 2007 contributed to a sharp rise in aggregate demand. Total loans to domestic sectors (apart from banks) increased in 2007 by RSD 225.1 billion, or 36.9%. Based on measures taken by National Bank of Serbia, RSD loans increased by RSD 230.1 billion, whereas foreign currency loans dropped by RSD 5.0 billion, or 7.2%. Breakdown by sector shows that the corporate and household loans recorded the biggest growth, equal to RSD 126.7 billion and RSD 102.3 billion, respectively. Housing loans saw a sharp rise due to improved debtors' credit rating and expectations of continued upward trend in real property prices, as well as effect of other factors. Considerable portion of RSD loans have been indexed with a foreign currency clause. Indexed loans account for 66.7% of the total loans, so the National Bank of Serbia is taking steps to decrease the volume of loans with a foreign currency clause.

Total household savings, in the previous few years, considerably increased and in 2007 reached about EUR 5.0 billion (USD 7.3 billion), while foreign currency savings deposits in Euros and other convertible currencies make up a dominant portion.

National Bank of Serbia's foreign exchange reserves reached at the end of 2007 an amount of USD 14,218.2 million, which was USD 2,330.7 million, or 19.6%, higher than in 2006. Such level of foreign exchange reserves was achieved with meeting obligations to foreign creditors, the total amount of which was USD 598.8 million, including prepayment of a part of the debt to International Monetary Fund equal to USD 231.9 million. The rest included payment of outstanding obligations to other foreign creditors and domestic obligations.



Source: National Bank of Serbia

While attempting to curb inflation, National Bank of Serbia was forced to influence the slowdown of loan growth, especially household loans. Because of that, in the second half of 2007, it enacted a series of **prudential measures.** By taking such measures, in 2007, National Bank of Serbia provided stability of financial sector, increase in banking sector capital, expansion of the market, especially insurance and voluntary pension fund market.

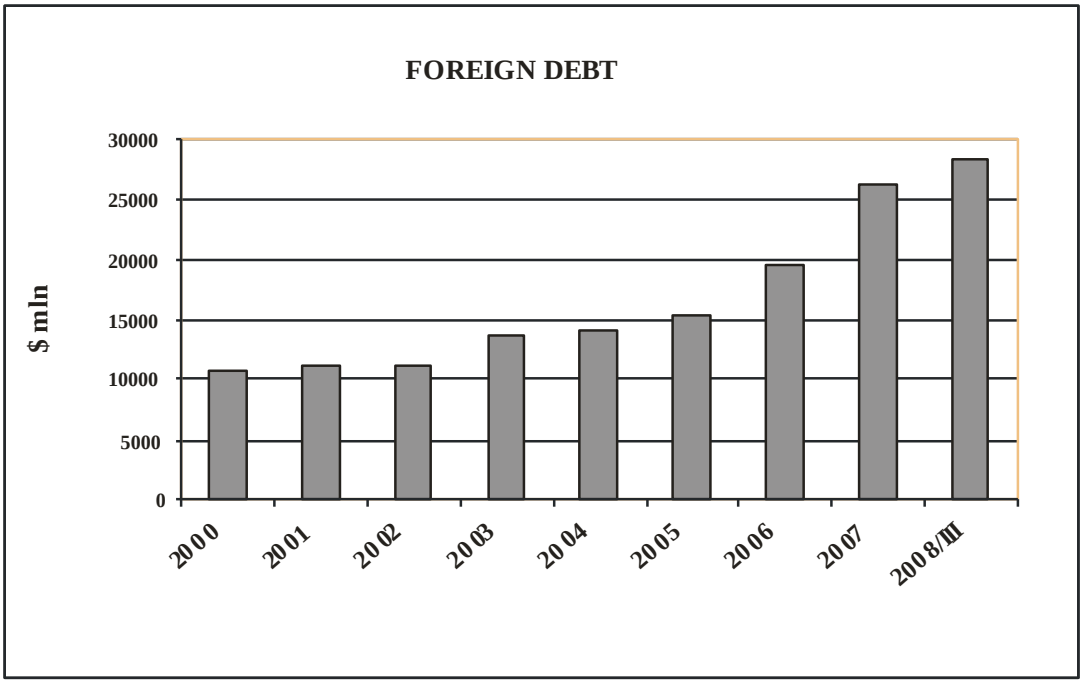
As at 31 December 2007, **the banking sector capital** amounted to RSD 328 billion, which is an increase of RSD 112 billion, or 51.8 percent compared to 2006. **Total balance sheet assets** of

commercial banks amounted to RSD 1,561.8 billion at the end of 2007 and RSD 1,615.4 billion at end of first quarter of 2008. The increase in capital is a result of, on the one hand, successful operation of banks and, on the other, increase in share capital due to new issues, primarily by the largest banks. With three new insurance companies, their total number rose to 20 in 2007, whereas by the end of 2007 the market already saw operation of seven voluntary pension funds.

Total consolidated budget revenues (which, apart from the level of the Republic, include revenues of other levels of government as well as revenues of mandatory social security organizations), excluding grants, according to estimates of National Bank of Serbia, reached RSD 974.4 billion in 2007, while total consolidated expenditure including payment of domestic debt with respect to pension arrears reached RSD 1,021.9 billion (EUR 12.7 billion). In 2007, a fiscal deficit amounted to RSD 47.5 billion. Compared to 2006, the total consolidated revenues are up, in nominal terms, by 16.1% (5.5% in real terms), whereas total consolidated expenditure is up by 16.4% (5.7% in real terms). Considering the fact that the growth of public revenues and expenditure, in real terms, is in accordance with growth of GDP, relative ratio of public spending to GDP has not considerably changed.

By the end of 2007, **total foreign debt** of the Republic of Serbia reached USD 26.2 billion or EUR 17.8 billion. A dominant part of this debt was the long-term debt, accounting for about 92%, while the short-term debt is relatively small (around 8% of the total foreign debt).

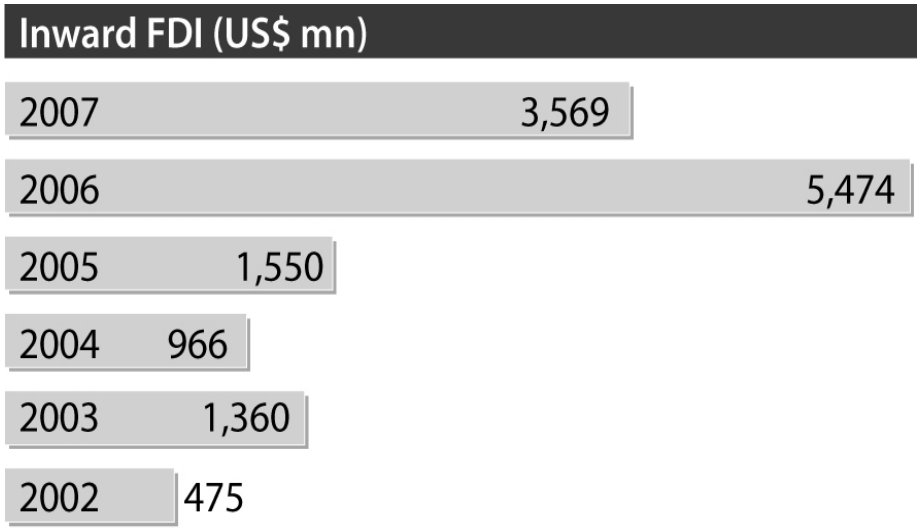
By the end of May 2008, total foreign debt amounted to USD 28 billion or EUR 18.1 billion. The share of **public sector debt** was about EUR 6.1 billion or 33.7 percent of the total foreign debt. Private sector debt accounted for much more, reaching nearly two thirds of the total foreign debt or EUR 12 billion (banks – EUR 2.9 billion and companies around EUR 9.1 billion).



Source: National Bank of Serbia

Total (domestic and foreign) public debt, as at 31 December 2007, equalled RSD 756.2 billion (about EUR 9.5 billion calculated at the middle exchange rate in effect on that date). Within domestic public debt, frozen foreign currency savings accounted for 90.3%, long-term securities of the National Bank of Serbia for 3.96%, pension arrears for 3,98%, whereas short-term securities accounted for the rest. Total public debt in 2007 fell by 4.5% compared to total public debt as at 31 December 2006.

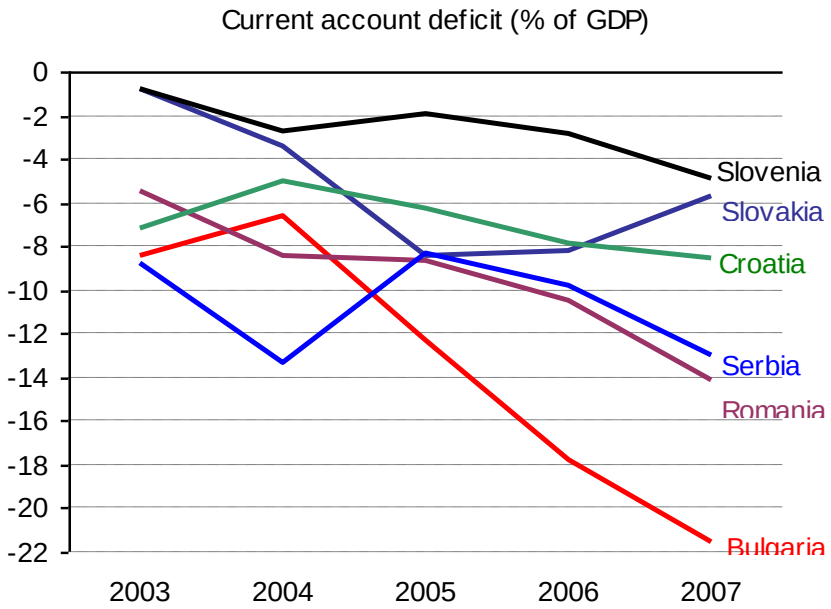
Between 2002 and 2007, total **foreign direct investments (FDI)** amounted to USD 13.5 billion. The highest inflow with respect to foreign direct investments was recorded in 2006 and 2007, namely USD 5.5 billion and USD 3.6 billion, respectively:



Source: National Bank of Serbia

Current account deficit in 2007 was high and it amounted to USD 5.3 billion (including reclassified remittances from abroad) or about 13% of the estimated gross domestic product. Compared to other neighbouring countries, such deficit in Serbia was higher, apart from the one in Bulgaria and Romania.

Capital inflows exceeded the current account deficit financing needs in 2007, which reflects an increase in foreign exchange reserves. Average increase in foreign exchange reserves in the period 2003-2007 was recorded for Serbia (7% of GDP).

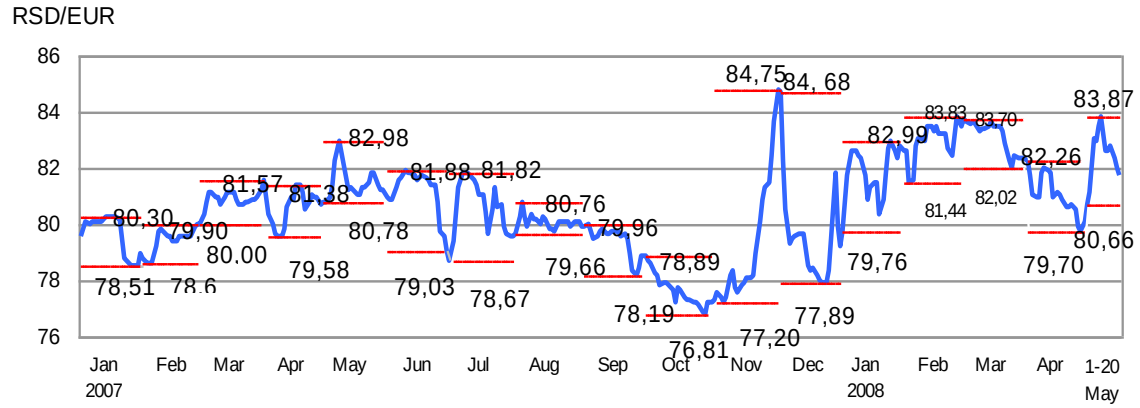


Source: EUROSTAT and central banks' websites.

Dinar exchange rate against the euro was relatively steady in the previous couple of years, whereas in 2006 and 2007 it appreciated, in real terms, which had an effect on curbing of inflation expectations, but also on external payments and competitiveness of economy**.**

Dinar exchange rate was freely formed in domestic foreign exchange market, while NBS intervenes only in the event of higher daily volatility.

Movements in the RSD/EUR exchange rate in 2007 and 2008



Source: National Bank of Serbia

In terms of competitiveness, Serbian economy, according to the latest World Economic Form Report 2007-2008, ranks as 91st among 131 world countries, which account for 98% of the world's gross domestic product.

Of all 12 pillars and 113 indicators for measuring competitiveness (105 indicators measured for Serbia), Serbia has a relatively better position in: macroeconomic stability, health and primary education, technological readiness, market size and innovation.
Macroeconomic stability in Serbia even ranks slightly better than the one in some developed countries with market economy (Greece, Hungary, Italy etc.).

World Economic Form-Global Competitiveness Index-2007-2008
BY COUNTRIES

	SER	B&H	Mtng	Mac. FRY	GR	Bull.	Rom.	AL	Cro.	Hun.
Competitiveness Index WEF	**91**	**106**	**82**	**94**	**65**	**79**	**74**	**109**	**57**	**47**
• **Sub index A- Basic requirements**	**78**	**104**	**59**	**72**	**48**	**76**	**88**	**99**	**53**	**55**
1st pillar- Institutions	**99**	**113**	**78**	**102**	**49**	**109**	**94**	**114**	**65**	**54**
2nd pillar- Infrastructure	**92**	**117**	**90**	**85**	**35**	**84**	**100**	**128**	**53**	**54**
3rd pillar- Macroeconomic Stability	**88**	**90**	**33**	**53**	**106**	**47**	**84**	**79**	**73**	**107**

	SER	B&H	Mtng	Mac. FRY	GR	Bull.	Rom.	AL	Cro.	Hun.
4th pillar-Health and primary education	31	87	33	47	42	56	52	65	44	41
• Sub index B-Efficiency enhancers	88	95	87	98	57	72	62	105	61	40
5th pillar-Higher education and training	82	98	79	75	39	66	54	103	46	33
6tht pillar-Good market efficiency	114	113	91	98	60	90	74	117	71	59
7tht pillar-Labour market efficiency	111	77	52	112	120	73	85	88	56	58
8th pillar-Financial market sophistication	98	71	43	83	60	74	78	103	68	51
9th pillar-Technological readiness	57	110	48	90	58	65	59	74	49	41
10th pillar-Market size	75	80	130	106	39	61	43	107	64	41
• Sub index C-Innovat. and sophisticat.	88	123	97	101	59	91	73	125	53	43
11th pillar-Business sophistication	95	119	90	108	62	92	73	109	64	46
12th pillar-Innovation	78	121	104	92	63	88	76	131	50	37
• Quality of nation. business environment	90	105	80	96	52	77	74	122	61	46

Source: WEF - Global Competitiveness Report 2007-2008

It is estimated that the basic **competitive advantages** with respect to investing in the Republic of Serbia are the following ones:

1) **Investment Incentives**
   *State grants in the range between €2,000 and €10,000 per every new job created and tax incentives are now available**.**
2) **Quality Human Resources**
   *Skilled and productive labour force- one of the major competitive advantages.
3) **Strategic Geographic Location**
   *You can effectively serve your European and Middle Eastern customers
4) **Low Operating Costs**
   *Attractive tax environment - corporate profit tax rate 10% and other benefits.
   * Lowest individual income tax- 12%
   *Total monthly labour costs EUR 550 (April 2008)
5) **Locate Business**
   *Property Database
6) **Law of Concessions incentives** (free zones incentives / BOT-investments, etc...)

Also, an important factor for investing in Serbia is reflected in **access to the following markets:**

- Duty free exports to the EU
- FTA with Russian Federation - market of 150 million people
- CEFTA – duty free access to 30 million people market (CEFTA agreement signed in 2007)

- WTO accession expected in 2008.

For the purpose of attracting foreign direct investments, Republic of Serbia has introduced **additional financial, tax and other investment incentives**, as shown below:

Republic of Serbia- Favourable investment regime

Financial Incentives	Grants from €2,000 up to €10,000 per new job created
	Numerous support schemes offered by the National Employment Service
Tax Incentives	A 10-year corporate profit tax holiday for large investments
	Corporate profit tax credits up to 80% of the fixed assets investment
	Tax Reduction for New Employment
	A 5-year corporate profit tax holiday for concessions
	Carrying forward of losses over up to 10 years
	Salary tax and social insurance charges exemptions for employees under 30 and over 45 years
	Annual income tax deductions up to 50% of the taxable income
Other Incentives	Accelerated depreciation of fixed assets
	Customs-free imports of equipment based on foreign investment

Source: SIEPA, Government of Serbia

Finally, the **main challenges** in the forthcoming period are: current account deficit, strengthening competitiveness of the economy, lowering the unemployment rate and reaching, in nominal and real terms, parameters of convergence for accession to EU.

Sources:

1. Annual Report, National Bank of Serbia 2006 and 2007
2. Memorandum of the National Bank of Serbia on setting inflation objectives for the years 2009 and 2010
3. Memorandum of the National Bank of Serbia on the Principles of the New Monetary Policy Framework Aiming at Low Inflation Objectives, August 2006
4. World Economic Form Report 2007-2008
5. Statistical Bulletin NBS, April 2008
6. Inflation Report NBS, February 2008 and May 2008
7. ECB -Treaty on European Union, Article 105
8. IMF-Concluding Statement of the Mission, Serbia -2007 IV Consultation, November 6, 2007
9. Inflation Report, Bank of England, May 2008
10. Western Balkans Integration and the EU-An Agenda for Trade and Growth, World bank, 2008

Agenda

"Competitiveness of the South Eastern European Countries and Challenges on the Road to EU"
Skopje, Holiday Inn, 30 May 2008

09:00 ***Opening remarks* - Petar Goshev, MSc., Governor of the NBRM**

10:00 ***Session 1:* The Path towards EU and the Single Currency**
Moderator: ***Dimitar Bogov**, Vicegovernor, National Bank of the Republic of Macedonia*

- **Growth and Economic Policy: Are There Speed Limits to Real Convergence? - István P. Székely -** *Research Director, DG Economic and Financial Affairs, European Commission*
- **ECB's Monetary Policy Strategy and the Euro Area Enlargement - Massimo Rostagno**, *Head of Monetary Policy Strategy Division, European Central Bank*

- **Regional Overview: Competitiveness in SEE and Prospects in the Catching Up Process - Peter Mooslechner,** *Director, Economic Analysis and Research Section, Oesterreichische Nationalbank*

12:00 ***Session 2*: Competitiveness and Experiences of the Old and New Member States**
Moderator: ***Marko Škreb**, Chief Economist and Strategist, Privredna banka Zagreb*

- **The Road to the Euro: The Greek Experience - Christos Papazoglou**, *Head of Balance of Payments Analysis Section, Bank of Greece*
- **The Czech Republic on its Way towards Euro - Petr Král -** *Director of Monetary Policy and Fiscal Analyses Division, Monetary and Statistics Department, Czech National Bank*
- **Competitiveness of Bulgaria's Economy and the Challenges of Real and Nominal Convergence - Grigor Stoevsky -** *Expert Economic Research and Forecasting Directorate, Bulgarian National Bank*

15:00 ***Session 3*: Challenges for SEE Countries**
Moderator: ***Sašo Arsov**, Member of the Council of the NBRM*

- **Real Exchange Rate Dynamics in Macedonia: Old Wisdoms and New Insights - Sultanija Bojceva Terzijan, MSc.,** *Head of the Economic Modelling Division, Research Department, National Bank of the Republic of Macedonia*
- **Some Elements of the Competitiveness of the Serbian Economy - Milan Šojić,** *Deputy-General Manager, Research Department, National Bank of Serbia*
- **Competitiveness of the Albanian Economy with a View to Eventual EU Accession: Current Situation and Challenges Ahead - Niuton Mulleti -** *Head of Foreign Relations and European Integration Division, Department of Foreign Relations, European Integration and Communication, Bank of Albania*

16:30 ***General discussion***

17:00 ***Concluding remarks***