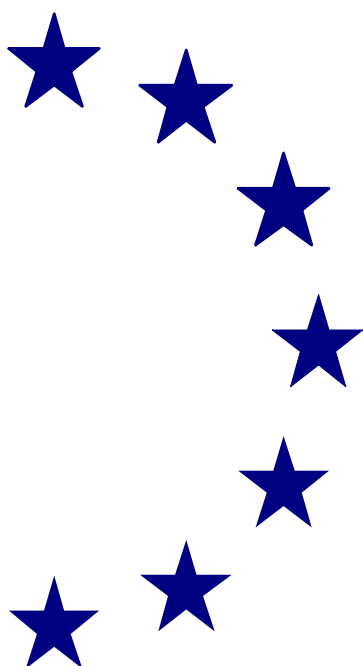


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**What do the sources and uses of funds
tell us about credit growth in
Central and Eastern Europe?**

by

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**WHAT DO THE SOURCES AND USES OF FUNDS TELL US ABOUT CREDIT GROWTH IN CENTRAL AND
EASTERN EUROPE?**

November 2006

Caroline D.M.Ko

ABSTRACT

This study sheds light on the high credit growth rates to the private sector in Central and Eastern Europe by analysing the anatomy of credit growth and the sources and uses of funds. Rather than focusing on mere growth rates, it emphasises the role of resource allocation as part of a more sophisticated understanding of credit growth. The findings are that countries with high credit growth have experienced large current account deficits, but concerns are partly alleviated by high productivity growth in the region. This is suggestive of the fact that high credit growth can be conducive to real economic convergence if channelled to the productive sector.

Key Words:

Central and Eastern Europe, Credit Growth and Real Sector Convergence

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1. INTRODUCTION

The aim of this study is to explore the policy challenges of the EU8 and the acceding member states of Bulgaria and Romania in the light of their convergence process towards the euro area. In recent years, the Baltic States and the Central and Eastern European member states have experienced a period of rapid credit growth to the private sector in many cases reaching levels of 30-50 percent per annum. This development is reminiscent of the experience of other catching-up member states during their run-up to the euro adoption and suggests that a similar process may be on the way in the EU8. Against this background, the EU8 stand to benefit from these countries' past convergence experience in terms of possible policy challenges, allowing them to take pre-emptive measures.

The key question is whether the rapid loan developments in the EU8 reflect a concomitant and desirable convergence phenomenon or a bubble-like credit boom. On the one hand, financial deepening is associated with increased economic growth. On the other hand, rapid credit growth has been causing macroeconomic imbalances and/or banking sector distress and has often culminated in a financial crisis. Thus, rapid credit growth in the EU8 present an opportunity and a policy challenge at the same time and calls for a prudent balancing act for policy makers, who are faced with the challenge of minimising risks of financial crises while still allowing private sector lending to contribute to higher growth. The EU8 and Bulgaria, Romania and Croatia (hereon referred to as EU8 – BRC) face the additional challenge of managing financial sector growth within their countries' convergence process to euro area standards – they need to accompany financial sector growth with a policy mix which is compatible with European Monetary Union membership.

The credit developments in the Central and Eastern European countries have been well-documented at an aggregate level and recently at a more disaggregated level. Cottarelli et al (2003) were among the first to empirically examine credit developments (to the private sector) in the CEEC: their novel work classified the countries into seven 'early birds', three 'late risers' and five 'sleeping beauties' according to the credit developments in the respective countries by gauging the equilibrium credit-to-GDP ratio. Subsequent studies employed various other techniques and took the analysis a step further by assessing equilibrium levels at a sectoral level (Kiss et al (2005), Schadler et al (2005)) and/or according to the currency breakdown (Boissay, Calvo- Gonzales, and Koźluk, 2005). Further studies focus on the implications of credit developments on the economy and discuss the various policy options (Duenwald et al., 2005, Hilbers et al., 2005). While Cottarelli et al. (2003) find no clear evidence that the increases in private sector developments up to 2002 are inconsistent with 'normal' fluctuations most recent empirical work unanimously suggests that the credit developments in some of the CEEC have been faster than what would be justified along the respective equilibrium path.

This study seeks to contribute to the ongoing discussion by continuing into two directions. First, we discuss the anatomy of the credit growth – that is, we take an exhaustive look at the sectoral and currency breakdown of credit growth in order to identify possible policy areas and options. Second, we take a comprehensive look at the uses and sources of the credit growth. The latter forms a crucial yet little touched upon area in discussing and evaluation credit growth in the EU8 – BRC understanding how the credit growth in the EU8 –BRC is financed is important in order to decide future and to evaluate current policy measures to control credit growth. Likewise, it is important to understand the uses of the credit – credit growth rates above an artificial equilibrium value tell just half the story. The key question is whether or not credit is channelled to productive purposes via higher investment activities, thereby maintaining productivity and enhancing long-term prosperity. Along the line, we benchmark the credit developments in the EU8 against the earlier convergence experience of Portugal in order to identify possible risks in association with rapid credit developments in a catching-up economy.

The approach taken is as follows. Section II presents the theoretical and empirical framework of credit growth in the EU8 -BRC. Section III thoroughly discusses the experience of Portugal as a reference point to assess credit developments in Central and Eastern Europe. Section IV discusses and evaluates the anatomy of the credit growth in the EU8. Section V discusses the sources and uses of the credit. Subsequently, section VI provides a discussion of our findings in the light of the countries' convergence towards euro area membership, and identifies possible policy challenges. Section VII concludes.

2. THEORETICAL AND EMPIRICAL FRAMEWORK

2.1 Theoretical framework

Financial intermediation and economic growth

“One of the most important problems in the field of finance, if not the single most important one, is the effect that financial structure and development have on economic growth (Goldsmith 1969: 390)”

The most appropriate starting point for the discussion of the role of credit in the economy is the relationship between financial development and economic growth. Omitted in the neo-classical growth model, the role of financial markets for economic growth was raised by Schumpeter (1956), again taken up by Goldsmith (1969) and rekindled by King and Levine (1993). The importance of this issue emanates from issue of causality – does financial intermediation spur economic growth or does economic growth lead to more financial intermediation. In principle, it could go both ways. As the economy grows, demand for financial services increases and the financial sector develops in order to meet the increased demand. So far, most empirical studies by King and Levine (1993), Rajan and Zingales (1998) and La Porta et al (1998) confirm a positive relationship between growth and financial development and – in terms of causality - suggest that financial sector development spurs economic growth.

Against this background, credit developments as a form of financial market deepening are a relevant aspect of economic growth in Central and Eastern Europe. The findings by King and Levine and others explain why financial deepening and credit growth is desirable for the EU8, yet they face policy makers with the difficult task in assessing sustainable levels of credit growth and to manage these accordingly. At a theoretical level, credit growth can be grouped into three different components: a trend, a cycle and a boom. In essence, the trend reflects financial deepening, meaning that credit grows more quickly than GDP as the economy develops. The cyclical component is often associated with the notion of the financial accelerator, referring to the mechanism in which endogenous developments in credit markets work to amplify and propagate shocks in the economy.¹ During a credit boom, asset prices increase, which, in turn, increases borrowers’ net worth, facilitates and raises new lending, which fuels demand for assets, increases asset prices, etc. The opposite happens during a downturn: borrowers may not be able to repay their loans, banks become more vulnerable, curtail new loans, and investment collapses along with asset prices. It is important to note that temporarily increases in credit above GDP growth do not need to be harmful *per se*, since they may be natural consequences of the fact that firms’ investment and working capital also fluctuates with the business

¹ SEE BERNANKE, GERTLER AND GILCHRIST (1998), “The Financial Accelerator in a Quantitative Business Cycle Framework”, NBER Working Paper 6455.

cycle. Only in the most extreme case may cyclical credit movements transform into a credit boom. Finally, a credit boom describes unsustainable excessive credit expansion which is not in line with the underlying fundamentals in the economy.

The origins and the consequences of credit boom

The theoretical literature identifies four triggers (Gourinchas et al., 2001): First, the origin of a boom is a technological or terms of trade shock.² In this scenario, GDP growth one year ahead of the lending boom is higher than normal and an investment boom emerges simultaneously to the credit boom. Second, the credit boom is the outcome of liberalisation of an initially restricted financial system (over-regulated banking system, etc.). Following liberalisation, there is evidence that the following effects take place: The domestic real interest rate rises significantly after the boom, there is an increase in the probability of a banking and a balance-of-payment crisis, the economy witnesses an investment and/or consumption boom, which, in turn, can cause the real exchange rate to appreciate or a current account deficit, there is a surge in capital inflows and an increase in short-term debt. Third, a credit boom is the domestic counterpart of large capital inflow triggered by external factors. Fourth, the credit boom is a response to financing needs due to an expansion in investment and consumption.

The necessity of identifying possible excessive credit developments is grounded in the severe consequences. Excessive credit growth is closely linked to the issue of financial stability, as it has been identified as the leading indicator of financial crisis. Examining 28 emerging market economies during 1970-2002, the IMF (2004) also finds a 70% probability that a credit boom coincides with either a consumption boom or an investment boom and a probability of less than 50% that it coincides with an output boom.

Identification of a credit boom

The difficulties to determine the causality of financial development and economic growth is reflected in a lack of a widely accepted definition of a credit boom. The 'excessiveness' of credit expansion needs to be examined by taking into account the underlying macroeconomic fundamentals in the economy, which renders a non-specific or general definition of credit boom meaningless. Different methods have been put forward in the empirical literature to identify credit booms and can be grouped into three approaches: (i) speed limits, (ii) trend identification, (iii) determination of an equilibrium credit-to-GDP ratio.

² SEE ALSO KIYOTAKI AND MOORE (1997)

The first approach has been put forward by Honahan (1997) who discusses the use of 'speed limits' on bank asset growth, grounded in the common observation that rapid growth in loan portfolios is often present in individual bank failures. The idea is to limit the rate of loan portfolio growth *ex ante*. Credit expansion beyond a certain growth rate is then considered as excessive. The second approach seeks to identify a trend in credit development by means of the Hodrick-Prescott filter. The estimated trend is considered as the equilibrium of financial deepening while credit growth exceeding a certain threshold above the estimated equilibrium trend is then considered a credit boom. Here, the threshold can be either an absolute or relative deviation from trend, as pioneered by Gourinchas et al. (2001). Finally, most studies seek to econometrically assess an equilibrium level of the credit-to-GDP ratio by means of fundamental macroeconomic variables. Prominent determinants are PPP based GDP per capita, the real interest rate and inflation, but further explanatory variables, such as financial liberalisation or public debt have also been included.

2.2 Literature overview

Cottarelli et al. (2004) present a broad assessment of credit growth to the private sector in Central and Eastern Europe. Their paper studies whether the rapid credit developments in the CEEC are consistent with a process of convergence and structural financial deepening by making use of the third method: They estimate an equilibrium level of bank-credit-to-GDP ratio for the CEEC based on a panel coefficient of non-transition developing and industrialised countries. That is, they compare the actual level of the bank credit to the private sector ratio (BCPS) in the CEEC with what would be considered 'normal' based on the experience of countries with comparable fundamentals. This is done by relating the private sector to GDP ratio to a set of variables including the public-debt-to GDP ratio, GDP per capita, inflation and indices of financial liberalisation. They conclude that the BCPS-to-GDP ratio up to 2002 has been below those of countries which ended up in a financial crisis and that recent credit growth in the CEEC is consistent with a convergence towards equilibrium.

Schadler et al. (2005) examine the credit developments against the CEEC euro area accession. They draw on the experience of existing members of the euro area to gauge likely trends in the EU8 and estimate a vector error correction model on quarterly euro area data for 1991-2002. On the demand side, their VECM includes the credit-to-GDP ratio, a proxy for the cost of credit (long-rung real interest rate on government bonds), and income per capita. They find that these variables are co-integrated (re-phrase), allowing them to reach conclusions about future credit developments in the CEECs.

Brzoza-Brzezina, M.(2005) analyses the potential for lending booms in selected CEEC EU member states (the Czech Republic, Hungary, Poland) during the process of euro adoption in the light of

convergence experiences of a selected set of old members (Portugal, Ireland and Greece). He assesses loan developments in the three CEE countries based on estimated vector error correction models.

Gourinchas et al. (2001) examine whether lending booms may be a natural consequence of economic developments or fluctuations by using a sample of lending booms over 40 years. They define a credit boom as a deviation of the ratio between nominal private credit and nominal GDP from a rolling retrospective country-specific stochastic trend. They distinguish between relative and absolute deviation, where the latter compares the size of the lending to the size of the economy and the first compares it to the size of the banking sector. (specify the threshold levels). They find that lending booms are often associated with (i) domestic investment boom, (ii) an increase in domestic interest rates, (iii) a worsening of the current account, (iv) a decline in reserves, (v) a real appreciation, (vi) a decline in output growth. In addition, they conclude that a 'typical' lending boom does not substantially increase the vulnerability of the balance of payments or the banking sector.

Boissay et. al (2005) examine credit growth in the EU8 and Bulgaria, Croatia and Romania by accounting for the catching up in incomes associated with the transition process. This is done by assessing credit growth as a function of both macroeconomic fundamentals and the gap between the actual credit-to-GDP ratio and an equilibrium level. This approach allows them to derive short-run credit elasticities and an estimation of an equilibrium level against which they benchmark actual credit growth. They use a one-country ECM model as well as a panel technique. They conclude that credit growth in a number of countries cannot be explained by fast economic growth alone, declining interest rates or catching-up in incomes. This holds especially true for countries with a fixed exchange rate regime. Boissay et. al also present the first attempt to assess the equilibrium value of credit growth according to the currency breakdown and sectoral breakdown.

Kiss et al (2005) identify the equilibrium credit/GDP levels of the EU8 by disentangling the observed growth into an equilibrium trend and an excess boom component. They use a pooled mean group estimator, which is deemed superior for modelling short time series. They use aggregate credit/ GDP as their dependent variable and GDP, the short real interest rate, and inflation as explanatory variables. Their estimator suggests that a large part of credit growth can be explained by their catching-up process and credit/GDP ratios are below the levels consistent with macroeconomic fundamentals.

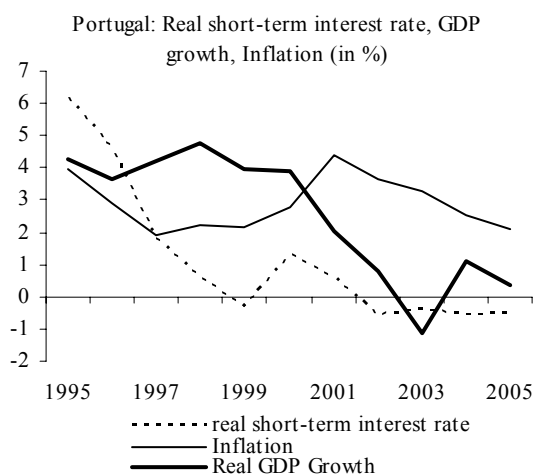
3. THE PORTUGUESE EXPERIENCE

The case of Portugal illustrates well the consequences of a convergence-driven credit boom. In anticipation of euro adoption in 1999, the Portuguese economy experienced high real GDP growth, falling inflation and a convergence of interest rates towards the euro area average. Inflation decelerated from 4% in 1993 to 2% in 1995 and the real-short term interest rate fell from 6% in 1995 to effectively 0% in 1999, while real GDP growth increased from 4% in 1994 to almost 5% in the following year. On the demand side, households responded to these developments in juncture with anticipation of euro area membership by revising their permanent income expectations upwards, which, in turn, increased their demand for domestic credit. On the supply side, the effective elimination of the exchange rate in combination with financial liberalisation and deregulation increased the willingness and capacity of the Portuguese banking sector to accommodate the surge in domestic credit demand. A crucial factor in the supply and demand of credit to/of the private sector was the effective elimination of exchange rate risk, which allowed the banking sector to refinance its domestic credit operations abroad. In this convergence setting, Portugal followed a procyclical fiscal policy stance as reflected by a rise in the public debt ratio and an increase in current primary expenditure.

The expansion in domestic credit started in 1995/1996 and reached its maximum in 1999 at 29% in real terms. The real short-term interest rate fell from an annual average of 5.5% in 1993 to 0.6% in 1998 and became effectively negative in 1999 (-0.3%). After 1999, credit growth returned to a

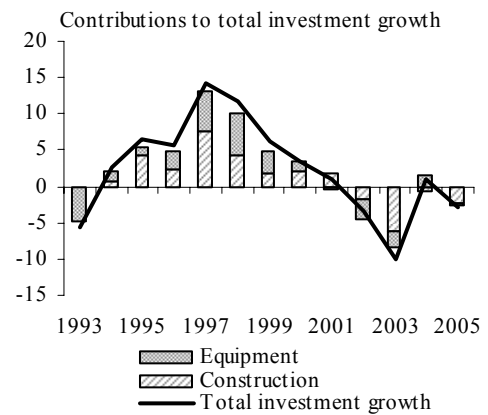
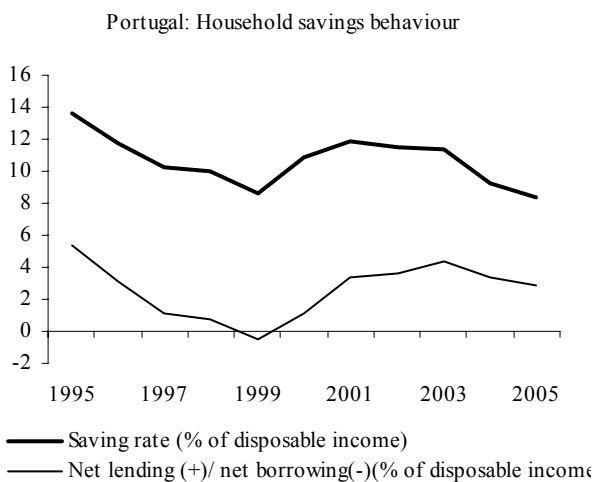
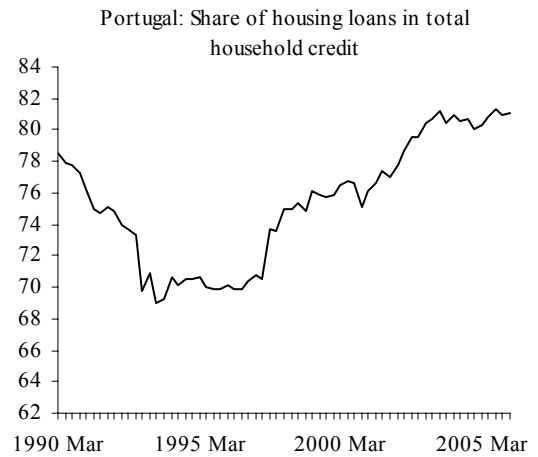
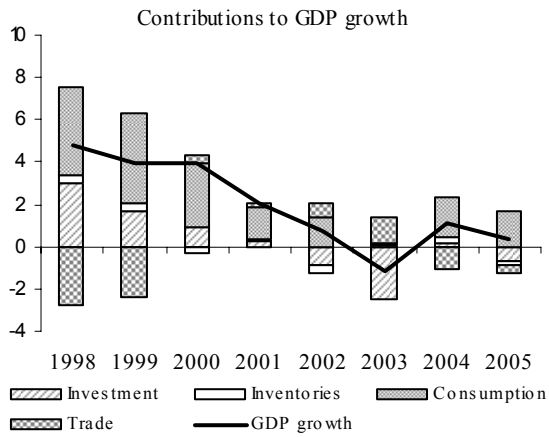
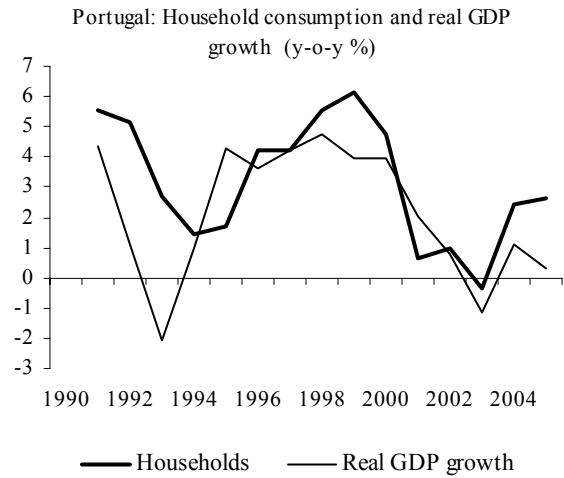
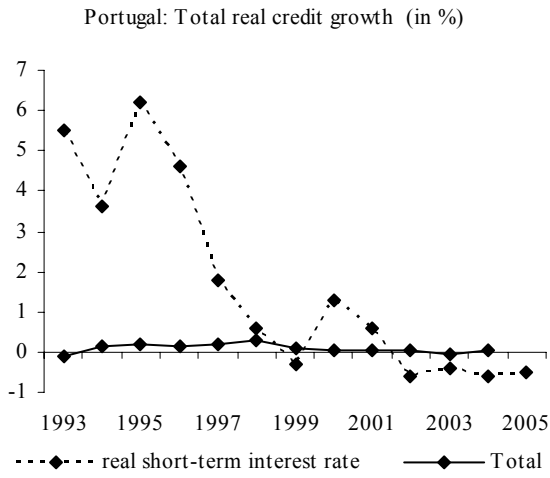
growth rate of 0-5% within three years time. A strong bias in credit to the household sector appears the salient feature of Portuguese credit growth, reaching 26% in real terms in 1998. We also note that credit took primarily place in the local currency. A breakdown of the private sector yields further interesting insight. First, the expansion started in the housing sector, as reflected by the sector's high growth rates in 1994-1996 compared to very low figures for the corporate sector. It was not until 1996/1997 that corporate lending reached similar growth rates, standing on an equal footing with the household sector at an annual growth rate of 25% in 1998.

**FIGURE (F1): CONVERGENCE VARIABLES
PORTUGAL**



Source: AMECO

FIGURE (F2): DEVELOPMENTS IN PORTUGAL DURING CONVERGENCE



SOURCE: AMECO, BANK OF PORTUGAL

The upward revision of household income expectations in combination with an increase in credit supply fed into rapid growth of private consumption and investment. Household consumption averaged 4% in between 1995-2000 and grew at times faster than real GDP growth. Indeed, household/private consumption appears the main driver of high economic growth in the same years. By the same token, household savings decelerated until 1999. As households revised their financial position in 1999, the savings rate of households began to increase until 2003 but has been falling again since the Portuguese recession in 2003.

TABLE (T1): ALLOCATION OF CREDIT GROWTH IN PORTUGAL

TIME	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
PORTUGAL												
<i>REAL CREDIT GROWTH (IN %, Y-O-Y, DEFLATED BY HCPI)</i>												
TOTAL	-12.6	13.8	19.8	16.1	20.0	29.0	8.5	4.9	6.0	1.9	-5.3	4.0
PRIVATE	2.7	8.5	11.5	15.9	26.1	25.7	19.8	8.4	5.4	0.1	1.7	5.5
<i>local currency</i>					26.8	27.9	21.2	9.4	5.9	0.5	1.9	5.4
<i>foreign currency</i>					14.4	-15.4	-16.8	-30.1	-25.8	-31.7	-15.4	9.2
HOUSEHOLDS	17.0	21.8	21.7	21.9	29.5	25.5	18.2	5.6	5.6	-1.9	4.5	8.3
<i>local currency</i>					30.2	25.8	18.3	5.4	5.9	-1.8	4.4	8.2
<i>foreign currency</i>					-5.7	-2.5	-15.3	-21.0	-27.0	-24.8	-15.6	-13.3
PRIVATE ENTERPRISES	-5.2	-0.5	2.8	11.8	22.4	25.9	21.7	11.6	5.2	2.3	-1.1	2.4
<i>local currency</i>					23.2	30.9	24.6	13.8	6.2	3.0	-0.9	2.3
<i>foreign currency</i>					0.4	-2.8	0.6	-5.6	-4.0	0.1	-5.9	-4.4
<i>CREDIT STOCK IN % OF GDP (YEAR-END)</i>												
TOTAL	68.2	74.8	86.8	95.0	107.2	131.6	137.2	142.0	149.0	154.5	144.4	148.8
PRIVATE	51.8	54.2	58.5	63.8	75.7	90.6	104.2	111.5	116.4	118.5	118.9	124.3
<i>local currency</i>				60.2	71.7	87.4	101.6	109.8	115.1	117.6	118.2	123.5
<i>foreign currency</i>				3.7	4.0	3.2	2.5	1.8	1.3	0.9	0.7	0.8
HOUSEHOLDS	21.1	24.7	29.1	33.5	40.7	48.7	55.2	57.6	60.2	60.0	61.9	66.4
<i>local currency</i>				32.6	39.9	47.8	54.3	56.5	59.2	59.1	60.9	65.2
<i>foreign currency</i>				0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
PRIVATE ENTERPRISES	30.2	29.0	28.8	30.4	35.0	41.9	48.9	53.9	56.2	58.4	57.0	57.8
<i>local currency</i>				27.0	31.2	38.9	46.6	52.3	55.0	57.6	56.4	57.1
<i>foreign currency</i>				3.4	3.2	3.0	2.9	2.7	2.5	2.6	2.4	2.3

SOURCE: BANK OF PORTUGAL AND OWN CALCULATIONS

Higher investment has, however, not promoted higher productivity. Since the mid-90s productivity growth has been trending downwards with an exceptional upward boost in 2000. In addition, while labour productivity growth in Portugal exceeded that of the euro area in the 90s, it has slowed down to levels below the euro area average in recent years. In particular, we observe that the annual change in labour productivity had been falling in the period of high credit growth in 1996-

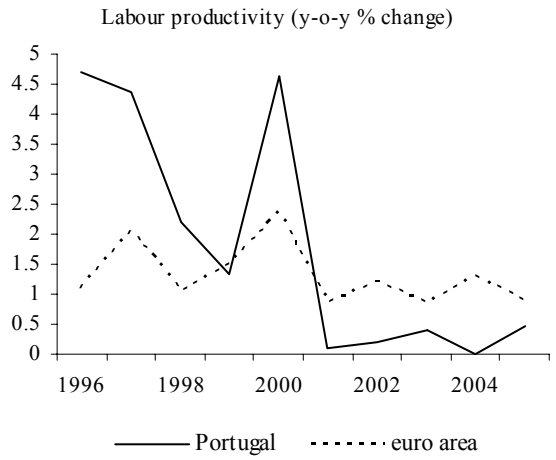
1999. We can further decompose labour productivity growth into capital deepening (here measured by the capital stock per person employed) and total factor productivity growth, where the latter reflects the degree of technological progress, the organisation of the production process and changes in the quality of capital and labour inputs which are not directly measured. The breakdown of labour productivity shows that capital deepening has risen somewhat starting in 1995 while total factor productivity has been rapidly declining since 1995.

A different picture evolves if we measure capital deepening by capital stock per hour worked. According to the IMF (2005) and the EU Commission (2004), some decline in labour productivity growth during the second half of the 90s can be traced back to a slowdown in capital deepening. It is further suggested that the poor productivity performance of the past years could possibly reflect a decline in efficiency of investment. More specifically, the IMF (2005) suggests that the growing productivity gap in Portugal can be explained by the poor performance of ICT using and producing industries, inefficiencies in labour and product market and weak technological progress resulting from low investments in human capital, R&D, and information technology.

FIGURE (F3): PRODUCTIVITY – PORTUGAL



SOURCE: AMECO

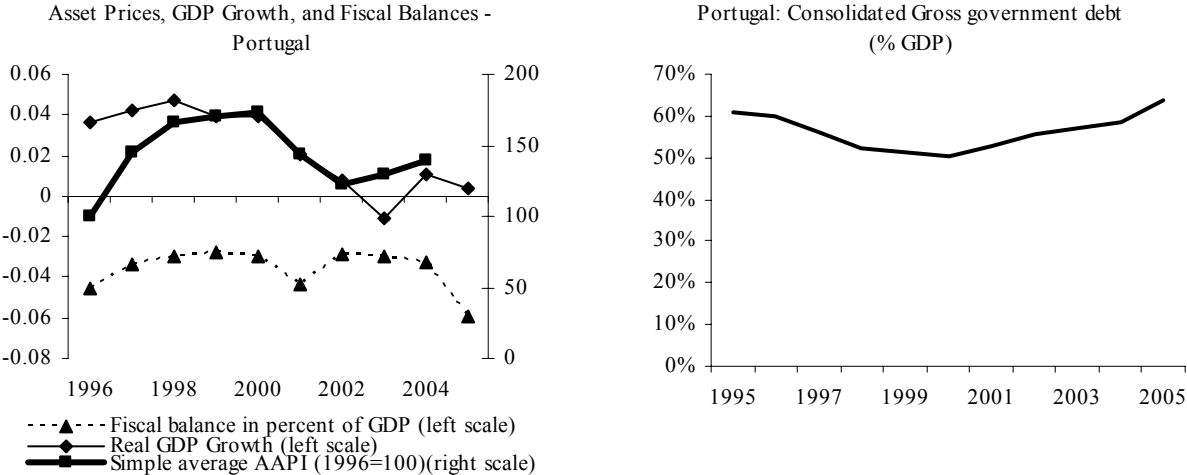


SOURCE: AMECO

One salient feature of the Portuguese convergence experience is its pro-cyclical policy stance during the years of rapid economic growth, which further aggravated the overall expansionary path of the economy. Strong consumption resulted in rising government revenues which rose at an average of 3.7 % of GDP between 1995 and 2002 and the fiscal deficit fell from -4.5% of GDP in 1996 to -2.7% of GDP in 1999. At the same time, increased government revenues led to a rise in primary expenditure of 4.2% of GDP. Portugal’s gross government debt fell below 55% of GDP in the years of strong economic growth. The case of Portugal illustrates fiscal measurement difficulties in times of buoyant economic growth and rising asset price, which let the fiscal position appear more

favourable than the underlying fundamentals suggest. In this respect, the Portugal illustrates the harm done by pro-cyclical fiscal policy behaviour: its loose fiscal stance first added fuel to the domestic boom, its tightened fiscal policy eventually aggravated the situation when the economy went into reverse.

FIGURE (F4): FISCAL INDICATORS – PORTUGAL



SOURCE: STATISTICAL OFFICE OF PORTUGAL, AMECO

SOURCE: AMECO

The discrepancy between investment and savings stemming from buoyant domestic demand coupled with Portugal’s negligent fiscal policy eventually resulted in the weakening of the external sector, as reflected by a current account deficit of 10% of GDP in 1999 and 2000. In the absence of exchange rate risk, the rising demand for domestic credit was met by foreign lenders, resulting in a rise in Portugal’s external net borrowing to 8.6% of GDP in 2000.

The current account deficit has been largely financed by inflows of ‘other investment’ and by a small but steady inflow of capital. In contrast, portfolio financing appears rather volatile, with a 3% of GDP inflow in 1998 but an almost equal outflow in the subsequent year. Other investment inflows consisted equally of trade credit and loans and deposit inflows. FDI inflow does not appear to play a significant flow in financing the current account deficit. Loans and currency deposits account for half of other investment liabilities. We also observe that the inflow of loans and deposits were highest in 1999, the time when the domestic credit boom was at its height. Subsequently, it turned negative in 2000 but increased again in 2002-2004. Such development calls for caution: if the domestic credit boom was largely financed by foreign inflows, there is a risk of a sudden decline in external financing capabilities in case of a recession.

TABLE (T2): STRUCTURE OF OTHER INVESTMENT LIABILITIES IN PORTUGAL

TRADE CREDIT		LOANS/CURRENCY DEPOSITS		OTHER CAPITAL		TOTAL		
VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	
(EUR M)		(EUR M)		(EUR M)		(EUR M)		
1996	503895	50.5	503890	50.5	-10098	-1.0	997687	100
1997	495349	49.5	495349	49.5	9357	0.9	1000055	100
1998	470277	45.1	470277	45.1	102769	9.9	1043323	100
1999	1016727	49.9	1016727	49.9	3928	0.2	2037382	100
2000	942922	50.2	942922	50.2	-8754	-0.5	1877090	100
2001	-371424	53.0	-371424	53.0	42322	-6.0	-700526	100
2002	178629	51.4	178629	51.4	-9467	-2.7	347791	100
2003	219514	46.6	219514	46.6	32046	6.8	471074	100
2004	878415	49.1	878415	49.1	31764	1.8	1788594	100
2005	-600375	51.5	-600375	51.5	35333	-3.0	-1165417	100

SOURCE: BANK OF PORTUGAL

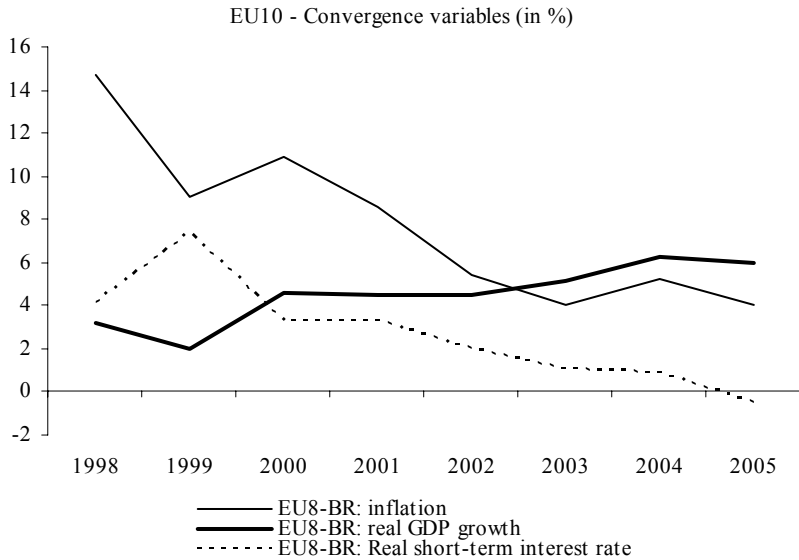
To conclude, the Portuguese convergence experience is characterised by high financial sector growth and pro-cyclical fiscal policy behaviour. The case of Portugal teaches us that the convergence process needs to be accompanied with prudence- while it offers opportunities in the form of higher GDP growth, falling inflation and higher income expectations it also heralds a period of vulnerable economic conditions. The prospects of euro adoption led to a period of nominal and real convergence, which coupled with financial liberalisation led to a loosening of liquidity constraints within the Portuguese economy. Higher income expectations led to an increase in demand for private-sector credit, in particular in the household section, while productivity growth remained disappointingly low, partly due to very rigid labour market conditions. The interplay of increased domestic demand and loosening liquidity constraints on the supply side led to the emergence of large financial imbalances in the end of the 1990s. However, as debt levels rose and with the decline in interest rates fading, private sector agents eventually re-assessed their financial position and savings rates started to increase again. In combination with weak external demand, the Portuguese economy plummeted into recession. The Portugal experience, however, differs from other countries convergence experience (Ireland, Spain) in that strong domestic demand and the rapid surge of credit to the private sector have not resulted in a house price boom due to a strong supply response. In terms of policy lessons, the Portuguese experience stresses the importance of prudent fiscal policy and calls policy makers to be aware of the high foreign financing inflows to meet domestic credit demand.

4. THE ANATOMY OF CREDIT BOOMS IN THE EU8

4.1 An overview –macroeconomic developments

In anticipation of euro area membership, the EU8-BR³ have shown similar developments in macroeconomic variables as Portugal. There has been a rapid decline of the real short-term interest rate from an average of 6.1% in 1999 to -0.1% in 2005 and inflation has fallen from an annual growth rate of 10.9% in 2000 to 4% in 2005. In addition, the EU8-BR have enjoyed high real GDP growth, averaging an annual growth rate of 5.2% in 2000-2005. Table (T3) compares the same variables with data on Portugal at the beginning and at the peak of the credit boom with current figures for the EU8-BR. The real short-term interest in the EU8-BR is as low as Portugal’s in 1999, inflation as well as real GDP growth are generally higher than Portugal. The convergence experience in the EU8-BR appears more pronounced in comparison to Portugal. There are, however, also differences among the EU8-BR. The real short-term interest rate is particularly low in Estonia, Latvia, Romania and Bulgaria. Conversely, inflation and real GDP growth are relatively high compared to EU8-BR.

FIGURE (F5): EU8-BR – CONVERGENCE VARIABLES



SOURCE: AMECO

³ Croatia has not been included due to no data availability from the same source.

TABLE (T3): EU8-BR CONVERGENCE VARIABLES (IN %)

		INFLATION	REAL-SHORT TERM INTEREST RATE	REAL GDP GROWTH
Portugal	1994	5.0	3.6	1.0
Portugal	1999	2.2	-0.3	3.9
Bulgaria	2005	5.0	-0.9	5.5
Czech Rep.	2005	1.6	2.1	6.0
Estonia	2005	4.1	-3.6	9.8
Hungary	2005	3.5	3.7	3.6
Latvia	2005	6.9	-5.4	10.2
Lithuania	2005	2.7	-3.3	7.5
Poland	2005	2.2	2.4	3.2
Romania	2005	9.1	-3.3	4.1
Slovakia	2005	2.8	0.5	6.0
Slovenia	2005	2.5	3.0	3.9
EU8-BR	2005	4.0	-0.5	6.0

SOURCE: AMECO

4.2 Financial deepening and the banking sector

The favourable macroeconomic conditions and (anticipations of) EU membership along with financial liberalisation and deregulation have been conducive to the development of the financial sector. Financial deregulation has furthered financial development, in particular in the dominant banking sector, which puts the system into a key position of financial intermediation in the EU8-BRC. In particular, foreign banks have played a prominent role in the process of financial deepening. On the one hand, foreign-bank ownership has been associated with enhanced competition, more advanced risk management and greater efficiency in the transition economies, which would have an overall stabilising impact on the domestic banking system. On the other side, a high degree of foreign bank-ownership yields the risk of sudden capital withdrawal in times of an economic downturn and cross-border contagion. In most parts of the region, more than two thirds of total banks are effectively foreign owned. Generally, the number of foreign owned banks has remained at a constant level against an overall decrease of banks in the banking sector, reflecting financial deepening.

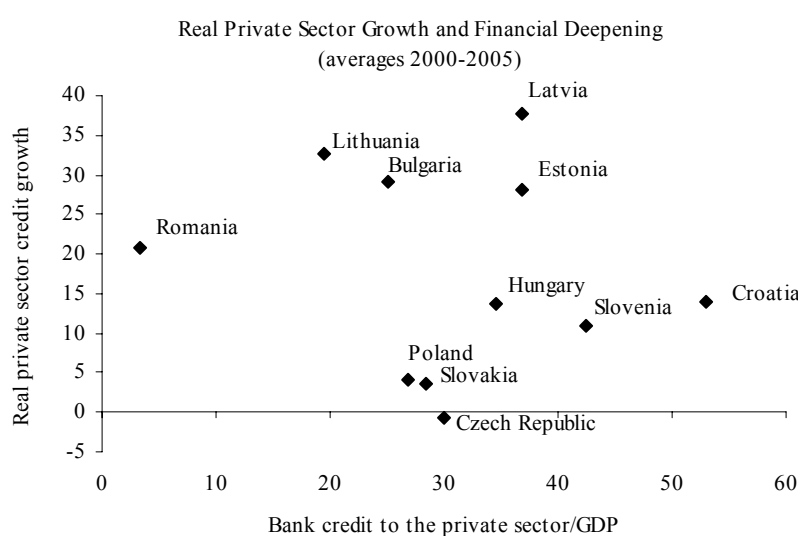
TABLE (T4): EU8-BR - NUMBER OF BANKS (OF WHICH FOREIGN OWNED)

	1999	2000	2001	2002	2003
Bulgaria	34(22)	35(25)	35(26)	34(26)	35(25)
Czech Rep.	42(27)	40(26)	38(26)	37(26)	35(26)
Croatia		43(21)	43(24)	46(23)	41(19)
Estonia					
Hungary	43(29)	42(33)	41 (31)	37(27)	36(29)
Latvia					
Lithuania					
Poland	77(39)	73(46)	69(46)	59(45)	58(46)
Romania	41(26)	41(29)	41(32)	39(32)	38(29)
Serbia	75(3)	81(3)	54(8)	50(12)	47(16)
Slovakia	25(11)	23(14)	21(13)	20(15)	21(16)
Slovenia					

SOURCE: OENB - FOCUS ON EUROPEAN ECONOMIC INTEGRATION AND ECB

Financial liberalisation and deregulation have fostered financial deepening in the EU8-BRC, particularly in Latvia, Estonia, Slovenia and Hungary. The notion of financial deepening plays an important role in assessing credit growth in the EU8-BRC: On the one hand, the major consequence of financial liberalisation/deepening has been the rapid developments in domestic credit over the last five years, particularly to the private sector. Here, the Baltic States but also Bulgaria and Romania have experienced the highest growth rates. In Latvia, credit to the private sector grew at an average of almost 40% in 2000-2005, and on average at 28% and 32% in Estonia and Lithuania respectively. On the other hand, to the extent that financial deepening is a natural development of a formerly restricted

FIGURE (F6): PRIVATE SECTOR CREDIT GROWTH AND FINANCIAL DEEPENING



SOURCE: NATIONAL CENTRAL BANKS

financial system, some credit growth should be expected. The ambiguous role of financial deepening complicates any assessment of credit growth in the transition countries, as policy makers need to distinguish in how far credit growth is a reflection of financial deepening or 'excessive'

4.3 Identification of a credit boom

This section identifies possible credit booms in the EU8-B⁴. It serves as an indication for credit developments in order to view credit growth in a macroeconomic and financial context and explicitly refrains from determining an equilibrium level of credit-to-GDP growth. Following the IMF approach (2004), we define a credit boom/expansion in a given country as a boom if it exceeds the standard deviation of that country's credit fluctuations around the trend by a factor of 1.75. The trend is estimated by using the Hodrick-Prescott filter. The timing of a credit boom is identified as a year in which credit expansion reaches its peak above the boom threshold. In contrast to a similar approach taken by Gourinchas et al (2001), a credit boom refers to excessive expansions in real credit as opposed to the credit-to-GDP ratio. The IMF approach is superior due to two reasons: First, it allows real credit and real GDP to have different trends. Second, the credit boom thresholds are country-specific as opposed to the uniform threshold for all countries as applied by Gourinchas et. al . Also in contrast to Gourinchas et al. (2001) the penalty parameter applied equals 100 as opposed to the H-P filter with a penalty parameter of 1000.

Table (T5) reports the start and the end of the credit boom as well as the corresponding credit growth rates. Where the rapid credit growth is still ongoing, as it is the case for the EU8 and Bulgaria, the end of the boom period is considered the end of the period under considerations. In some cases, the Hodrick-Prescott filter identifies rapid credit growth for a single year (mostly 1998), but not for the two consecutive years, but again for the years to follow. In a similar vein, there can be a clear period of rapid credit growth with 'normal' growth rates for one single year. We, therefore, report credit booms for the years in which credit growth exceeded the specified threshold by at least two times in a row. In the case of the Czech Republic, there seem to be high fluctuations of credit growth around its trend for 2005, which could be a one-time or a lasting phenomenon. In this case, the data reported for the growth rates at the beginning, peak and end of the period are the same, and, hence, identifiable for the reader.

On an aggregate level, Table (T5) reports periods of high credit booms for all EU8 and Bulgaria. Credit started growing at high levels in 1998 in Bulgaria, Slovenia and Poland. Here, the latter forms an exception in the sense that credit growth rates became smoother again in 1999, whereas strong credit growth is still ongoing in Bulgaria and Slovenia. Growth rates at an aggregate level are extremely high for Bulgaria, Estonia and Lithuania. The same pattern of exuberant credit growth is also evident in the private sector and the data suggests that high credit growth at an aggregate level is exclusively coming from the private sector.

⁴ Slovakia and Latvia have not been included due to the short time period available on a disaggregated level. Romania has not been included, since data from the National Central Bank only distinguishes between economic agents with majority private or state-owned capital.

The disaggregated data reveals a yet more interesting observation. Credit growth appears to have started in the households sector before it also became more evident at an aggregate level. Interesting enough, this picture is also becoming evident for the Czech Republic. While the IMF approach identifies a credit boom in the household sector in 2002 already, a credit boom in total lending has only recently become evident (2005). Also, high rates of credit growth in the household sector precede a likewise evolution in credit to private enterprises by one year. Here, Bulgaria forms an exception, since rapid credit growth became evident in the total and private enterprise sector before it also started in the household sector in 2001. Glancing at the sheer numbers, we also observe that the growth rates are by far highest in the household sector. In 2003, credit to the household sector in Lithuania grew at 100% in real terms (!).

The examination of the data also shows the limits of the approach based on the HP filter: due to shortness of the time series, the high credit growth rates in Slovakia and Latvia were not picked up (not included in the table). Data provided by the respective National Central Banks only covers the periods 2002-2005. However, credit growth in both countries exceeds rates of 20% for Slovakia and on average more than 30% per annum in Latvia for the respective sectors. Perhaps reflecting the stability of the rise in credit growth and the short time series, strong growth appears to be incorporated in the trend component.

TABLE (T5): CREDIT GROWTH RATES DURING CREDIT BOOMS

COUNTRY	START OF BOOM	END OF BOOM	REAL CREDIT GROWTH RATE at beginning of boom period	REAL CREDIT GROWTH RATE at the peak of boom period	REAL CREDIT GROWTH RATE at the end of boom period
TOTAL CREDIT					
Portugal	1996	1999	19.8	29.0	29.0
Bulgaria	1998	ongoing	22.1	44.0	26.0
Czech Republic	2005	ongoing	12.8	12.8	12.8
Estonia	2000	ongoing	23.4	39.2	31.9
Lithuania	2002	ongoing	21.0	58.3	58.3
Hungary	2002	ongoing	10.0	15.6	12.4
Poland	1997	1999	16.4	19.9	19.9
Slovenia	1998	ongoing	13.7	18.5	18.5
PRIVATE SECTOR					
Portugal	1997	2000	15.9	26.1	19.8
Bulgaria	1998	ongoing	20.9	44.0	27.6
Czech Republic	2005	ongoing	19.6	19.6	19.6
Estonia	2001	ongoing	11.8	57.5	57.5
Lithuania	2002	ongoing	29.4	59.7	52.5
Hungary	2002	ongoing	12.3	25.5	14.7
Poland	1997	1999	15.1	16.5	16.5
Slovenia	1998	ongoing	16.0	20.2	20.2
PRIVATE ENTERPRISES					
Portugal	1998	2000	22.4	25.9	21.7
Bulgaria	1999	ongoing	22.8	34.6	16.4
Czech Republic	none	none	none	none	none
Estonia	2003	ongoing	22.6	51.9	51.9
Lithuania	2002	ongoing	23.0	50.9	39.2
Hungary	2003	ongoing	14.4	14.4	10.3
Poland	1997	1999	10.0	10.7	10.7
Slovenia	1998	ongoing	10.8	19.1	19.1
HOUSEHOLDS					
Portugal	1994	2000	17.0	29.5	18.2
Bulgaria	2001	ongoing	40.6	76.5	50.8
Czech Republic	2002	ongoing	26.6	31.9	31.9
Estonia	1999	ongoing	22.7	64.0	64.0
Lithuania	2002	ongoing	70.2	100.5	81.9
Hungary	2000	ongoing	34.5	58.9	22.2
Poland/1	1997	1999	28.2	29.4	29.4
Slovenia	1998	ongoing	23.0	23.0	23.0

Year when the real credit growth rate exceeded 1.75 times the standard deviation of country's fluctuation around trend for the first time

In cases where the boom is ongoing, the end of the boom period is considered the end of the period under considerations

In the case of the Portuguese household sector, the boom has been identified for the first year from which data has been collected (1994)

/1 High credit growth sets in again in 2005 for the household sector

The role of cross-border lending...

Domestic credit growth alone may, however, not yield a complete picture of credit demand in the region. As capital markets become more integrated, domestic economic agents can seize foreign financing opportunities in the form of cross-border lending the omission of which yields the risk of underestimating true credit demand by the private sector and the related risks. Table (T6) shows that cross-border lending to the non-bank sector ranges from 2.7 % in Lithuania to 21.4% of GDP in Croatia. Overall, cross-border lending has been increasing at small but steady steps, in most countries and we also note sudden increases in the past two years in Bulgaria (from 2.2% of GDP in 2003 to 7.1 % of GDP in 2005), Estonia (from 6.6% in 2004 to 8.9% in 2005) and Hungary (from 6.9% in 2004 to 8.3% in 2005). Croatia – as a representative of South-Eastern Europe – exhibits the highest cross-border lending activities and also displays a considerable jump in cross-border lending from 2004 to 2005.

TABLE (T6): EXTERNAL LOANS AND DEPOSITS OF REPORTING BANKS VIS-À-VIS INDIVIDUAL COUNTRIES

	<i>(IN PERCENTAGE OF GDP VIS-À-VIS ALL SECTORS)</i>										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Portugal	29.6	27.1	28.6	38.3	40.5	52.9	66.6	77.7	88.7	84.2	77.3
Bulgaria	13.1	15.2	12.0	6.5	5.0	5.1	4.2	6.3	5.1	11.3	12.1
Croatia	2.7	4.0	7.6	9.7	15.1	17.7	15.8	26.0	33.3	33.3	44.9
Czech Rep.	12.9	14.2	15.6	15.0	14.0	14.8	14.5	14.6	17.0	15.8	14.1
Estonia	1.4	2.5	13.9	17.9	11.1	9.4	10.5	15.3	18.1	23.7	32.5
Hungary	14.5	13.0	13.1	15.1	13.5	15.5	13.4	15.1	19.9	20.1	21.3
Latvia	2.0	1.7	2.7	5.6	4.6	4.5	6.7	8.6	12.4	15.9	31.2
Lithuania	2.3	2.9	4.4	7.9	8.4	6.6	6.3	5.9	9.7	11.1	14.3
Poland	3.4	2.9	4.2	5.6	6.5	7.4	6.8	7.8	9.2	9.0	7.3
Romania	5.8	7.5	7.5	6.3	6.1	5.5	5.8	6.2	6.7	9.6	10.8
Slovenia	3.8	5.1	5.5	6.4	10.0	13.2	13.3	17.8	21.5	23.8	40.4
Slovakia	6.1	10.6	19.1	19.6	14.6	10.4	9.5	10.3	13.2	16.8	20.0

	<i>(IN PERCENTAGE OF GDP VIS-À-VIS THE NON-BANK SECTOR)</i>										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Portugal	9.7	7.3	7.6	8.4	7.5	8.7	9.0	9.8	12.9	10.3	12.1
Bulgaria	3.3	3.7	3.0	3.7	2.7	2.7	1.7	2.3	2.2	6.3	7.1
Croatia	1.7	2.8	4.0	5.7	8.9	11.0	8.4	11.4	12.2	13.1	21.4
Czech Rep.	3.7	3.5	4.0	4.3	4.5	6.0	6.3	6.2	7.3	6.7	6.9
Estonia	0.9	0.9	7.6	6.1	5.7	5.3	5.9	6.8	6.0	6.6	8.9
Hungary	5.0	5.8	6.2	6.6	6.6	7.8	7.1	6.4	7.2	6.9	8.3
Latvia	1.7	1.4	1.8	2.6	2.4	1.6	1.4	1.8	2.4	2.2	3.5
Lithuania	1.8	2.4	3.5	5.2	6.0	4.7	3.6	2.9	2.9	2.7	2.7
Poland	2.2	1.7	2.6	3.0	3.3	3.5	3.5	4.0	4.8	4.4	4.4
Romania	2.9	3.9	4.5	4.4	4.5	4.4	4.8	5.0	4.7	5.8	5.7
Slovakia	3.8	5.8	12.1	12.0	11.1	8.3	6.6	5.6	4.4	3.7	4.6
Slovenia	2.0	2.3	2.7	3.2	6.1	7.3	7.3	8.7	8.0	7.2	10.5

Stocks as of end of year

SOURCE: BIS BANKING STATISTICS - TABLE 7A AND 7B

4.4 Sectoral allocation and currency structure

The previous section shows that the EU8-BRC (with the exception of Poland) have shared the common experience of fast credit growth. However, it also indicated that the speed of credit growth and the time frame are non-uniform. Rapid expansion has started early in Bulgaria, Slovenia and Poland and appears to be highest in the Baltic States. The data suggest that credit growth in Poland has been of a temporary nature, as credit to the private sector has returned to reasonable levels in the last years. There are also signs that the Czech Republic - formerly labelled 'sleeping beauty' by Cottarelli et al. has recently awakened. Starting with high growth in credit to households in 2003, the IMF approach identifies a credit boom on an aggregate level since 2005.

Given the heterogeneity of credit growth, this section provides a detailed analysis of the sectoral allocation and the currency structure of credit growth in the EU8-BRC. Table (T7) documents the development of private sector credit in the EU8-BRC since 1998. Private sector credit growth in Bulgaria has been growing at more than 40% per year in 2003, although there are signs of decline to lower levels in the last two years due to restrictive and administrative prudential measures. Again, we see that private sector credit growth has been extremely high in the Baltic States where it developed from almost zero or negative levels to growth rates near 50% in 2005. Credit growth rates were initially negative in the Czech Republic, but have increased in the last three years, reaching a growth rate of 14.7% in real terms in 2005. Likewise, private sector credit growth appears low in Hungary, Slovakia and Slovenia compared to the Baltic States, while growth rates have been decreasing in Poland since 2000.

In discussing the high credit growth rates in the EU8-BRC, it is important to note that credit has developed from initially very low levels of GDP (Figure (F8)), and reflects the process of financial deepening in the regions. Ratios are still relatively small compared to the euro area and Portugal, where the private sector-to-GDP ratio has exceeded more than 100% since 2000. Hence, not surprisingly, the credit-to-GDP ratio has increased in the EU8-BRC, notably in Estonia, Lithuania. In both countries, private credit-to-GDP jumped from 45% in 2004 to over or almost 60% respectively in 2005. Similar figures apply to Croatia. The still rather low levels of credit-to-GDP suggest that we may expect further increases in both the credit-to-GDP ratio and credit growth rates in the future.

FIGURE(F7): REAL CREDIT GROWTH TO THE PRIVATE SECTOR IN THE EU8-BRC

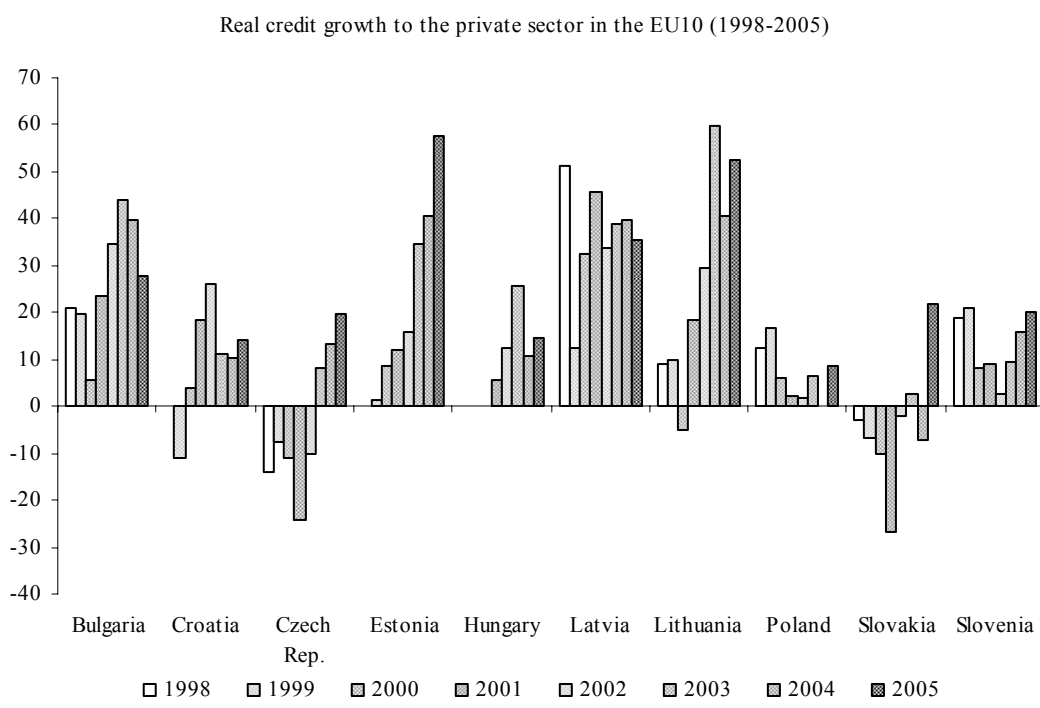
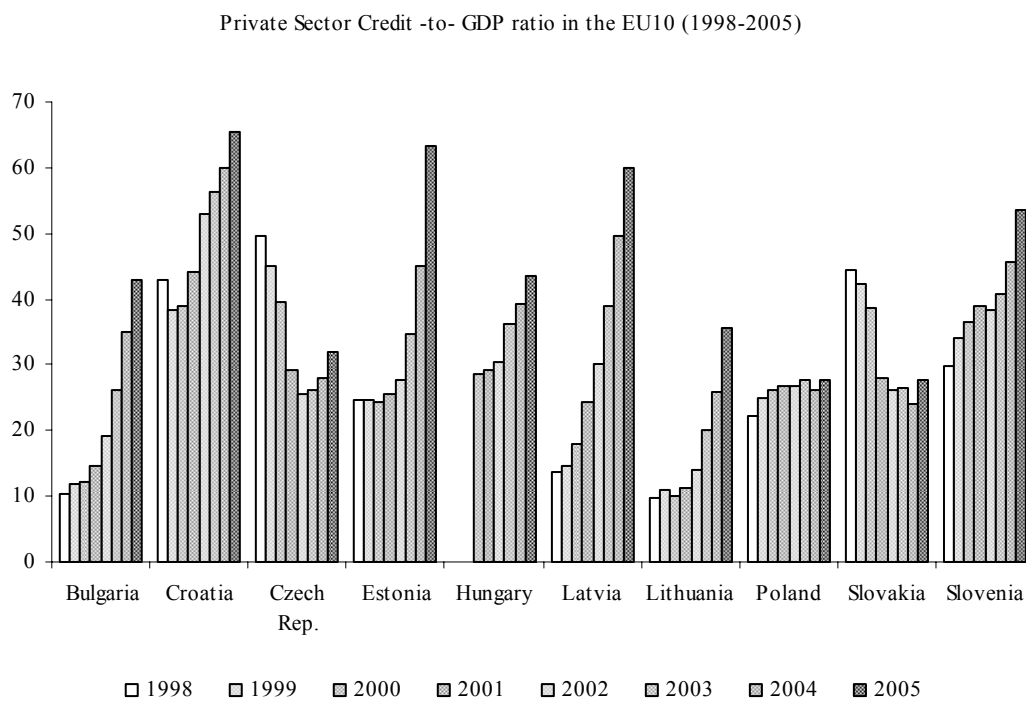


FIGURE (F8): PRIVATE SECTOR-TO-GDP RATIO IN THE EU 10 (1998-2005)



Credit growth has been driven by the household sector...

Credit growth in the EU8-BRC is characterised by high lending to the household sector. On average, household lending in the sample grew at 43.5% in 2005. Interesting enough, household sector credit growth is also high in countries where overall credit growth appears modest at an aggregate level as well as at the private sector level. This is illustrated by the data for Poland, where we observe a strong increase in credit to the household sector in 2005 despite moderate private sector growth rates. This ‘disguised’ credit growth in the household sector is even more pronounced for the case of the Czech Republic, where private sector credit growth rates are embellished by negative credit growth rates to private enterprises: While household credit grew at 27% in 2002, credit to private enterprises was effectively negative in real terms at -20%.

TABLE (T7): ALLOCATION OF PRIVATE SECTOR CREDIT GROWTH IN THE EU8-BRC

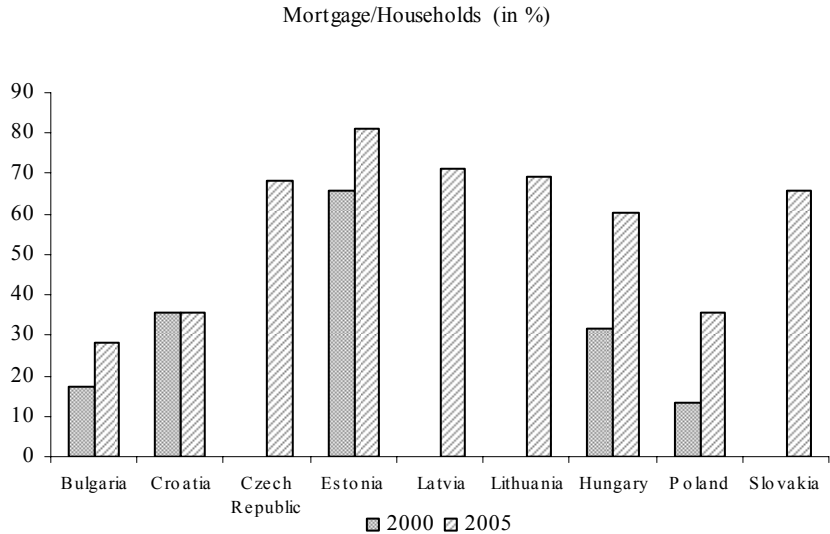
<i>REAL CREDIT GROWTH TO NON-FINANCIAL CORPORATIONS (IN %)</i>								
	1998	1999	2000	2001	2002	2003	2004	2005
Bulgaria	6.9	22.8	5.1	19.3	33.1	34.6	30.0	16.4
Croatia		-17.6	-2.8	14.9	17.2	0.8	5.5	11.1
Czech Rep.	-14.2	-8.7	-13.2	-30.0	-19.4	-1.3	4.7	12.5
Estonia	2.2	-4.9	3.8	5.4	5.6	22.6	37.7	51.9
Hungary				0.4	0.6	14.4	6.1	10.3
Latvia	49.3	8.1	27.1	45.6	23.9	28.2	29.6	39.0
Lithuania	8.2	8.0	-3.9	17.7	23.0	50.9	25.2	39.2
Poland	12.9	10.7	1.5	-1.6	-0.9	1.8	-7.2	-1.5
Slovakia	-4.3	-9.3	-12.3	-32.0	-5.5	-4.3	-19.9	12.9
Slovenia	19.7	14.3	10.7	13.5	3.8	10.8	15.7	19.1

<i>REAL CREDIT GROWTH TO THE HOUSEHOLD SECTOR (IN %)</i>								
	1998	1999	2000	2001	2002	2003	2004	2005
Bulgaria		6.9	7.5	40.6	40.2	76.5	64.7	50.8
Croatia		4.7	15.6	24.3	38.9	23.7	14.9	17.0
Czech Rep.	-11.6	3.0	5.0	8.7	26.6	31.9	29.1	30.3
Estonia	-6.5	22.7	22.3	27.0	36.0	52.9	43.7	64.0
Hungary				34.5	58.9	53.5	19.5	22.2
Latvia	66.7	44.2	63.8	46.9	76.2	71.3	64.6	72.3
Lithuania	14.6	23.8	-13.1	24.0	70.2	100.5	94.1	81.9
Poland	11.2	29.4	14.1	8.9	6.5	12.8	9.3	19.4
Slovakia	21.2	22.7	8.7	10.6	14.1	28.0	28.0	37.1
Slovenia	16.5	36.6	3.5	-0.3	0.3	5.5	16.8	23.0

SOURCE: MFI BALANCE SHEET PROVIDED BY NATIONAL CENTRAL BANKS

The high growth rates of household credit may be a source of risk to the banking sector depending on the composition of the household credit. Consumer loans are generally relatively small and the risk of non-performing loans is usually diversified by the large numbers of debtors. In contrast, large amount of housing loans are usually the multiple of household's income and bear the risk of feeding into asset prices, which may eventually build up into an asset price bubble. The share of housing loans in total household credit are particularly high in the Baltic States, the Czech Republic, Hungary and Slovakia, while they are still modest in Bulgaria and Croatia, where consumer loans play a more prominent role. There are signs that the increased lending to households for the purpose of house purchases has started to feed into housing prices in the Baltic States, in particular in Estonia. Furthermore, household lending (or housing lending) may also disguise part of SME lending, as banks are likely to refuse initial start-up lending to small entrepreneurs, who subsequently finance their lending via, e.g., household mortgages.

FIGURE (F9): MORTGAGE/HOUSEHOLDS (IN %)



*SOURCE: NATIONAL CENTRAL BANKS AND OWN CALCULATIONS
 The numbers for 2000 are reported for those countries for which data was publicly available from the National Central Banks*

...while corporate lending remains comparatively low...

Credit to non-financial corporations has also been increasing, albeit at a slower pace. The average growth rate of corporate lending averaged 25% in 2005. Again, the picture is diverse across the region. Corporate lending has been growing at a similar pace as household lending in the Baltic States and Slovakia, averaging 43% in the Baltic States. Conversely, corporate lending has been comparatively low to the household sector in the rest of the region, and even reached negative growth rates in Poland. However, we also observe that the Czech Republic and Hungary experienced a sudden increase in corporate lending in 2004/2005 and growth rates also increased considerably in the Baltic States and Hungary in the same year. This development is reminiscent of the Portuguese experience, where high credit growth began in the household sector before it also became apparent in the corporate sector.

Our earlier insight suggests, however, that a discussion about domestic credit demand needs to be complemented by cross-border lending data in order to capture true credit growth figures. Since corporations usually have better access to foreign financing than households, cross-border lending ought to be considered as part of corporate credit demand. If so, then Table (T6) suggests that additional corporate credit runs from 2.7% of GDP in Lithuania in 2005 to 10.5% of GDP in Slovenia and 21.4 % of GDP in Croatia. Also, these figures of cross-border lending are likely to be on the low side, as inter-company loans or non-BIS reporting bank lending are not included. The overall steady increase in cross-border lending activities and the developments in Portugal suggest that cross-border lending is likely to rise in the years to come, especially in view of large foreign bank presence in the EU8-BRC. This process possibly reflects yet another aspect of convergence, as companies integrate further into the European Union. Most importantly, increasing cross-border activities do not only add to domestic credit growth numerically, but also point to possible channels of circumventing domestic measures to contain credit growth. In the case of Bulgaria, the decline in the credit growth rate from 40% in 2004 to 28% in 2005 followed a set of measures to curb domestic credit growth (tightening of loan classification and minimum reserve requirements). Interesting enough, the drop in credit also coincides with a sharp increase in cross-border lending to the non-bank sector from 2.2% of GDP in 2003 to 6.3% in 2004, suggesting that the corporate sector has responded to tightened credit measures by seeking alternative financing abroad.

TABLE (T8): PRIVATE SECTOR INDEBTEDNESS

<i>CREDIT-TO-GDP: NON-FINANCIAL CORPORATIONS</i>								
	1998	1999	2000	2001	2002	2003	2004	2005
Bulgaria	8.1	9.6	9.9	11.4	14.8	19.0	23.7	26.4
Czech Rep.	44.1	39.4	33.8	23.0	18.0	16.8	16.6	17.9
Croatia	30.0	24.9	23.5	25.9	28.8	27.9	28.3	30.2
Estonia	19.3	18.1	17.1	17.0	16.6	18.9	24.2	32.8
Hungary			24.0	23.2	21.8	23.7	24.5	26.2
Latvia	12.1	12.4	14.6	19.8	22.7	26.9	31.8	32.4
Lithuania	8.5	9.5	8.7	9.9	11.4	15.5	17.9	22.5
Poland	15.3	16.4	16.4	16.2	15.8	15.5	13.6	13.1
Slovakia	41.0	38.0	33.8	22.8	20.5	19.5	15.2	16.2
Slovenia	21.1	22.8	25.1	27.7	27.7	29.8	33.3	38.7

<i>CREDIT-TO-GDP: HOUSEHOLD SECTOR</i>								
	1998	1999	2000	2001	2002	2003	2004	2005
Bulgaria	2.1	2.2	2.3	3.1	4.3	7.2	11.4	16.5
Czech Rep.	5.5	5.5	5.7	6.0	7.4	9.2	11.3	14.1
Croatia	12.9	13.6	15.3	18.2	24.0	28.5	31.5	35.4
Estonia	5.4	6.5	7.3	8.7	11.0	15.7	20.9	30.5
Hungary			4.5	5.8	8.6	12.6	14.7	17.4
Latvia	1.6	2.2	3.4	4.6	7.5	11.9	18.0	27.5
Lithuania	1.2	1.6	1.3	1.6	2.5	4.5	8.0	13.2
Poland	6.9	8.6	9.7	10.6	11.1	12.1	12.5	14.6
Slovakia	3.4	4.3	4.7	5.1	5.6	7.1	8.8	11.5
Slovenia	8.7	11.2	11.5	11.2	10.8	11.1	12.5	15.0

SOURCE: OWN CALCULATIONS BASED ON DATA PROVIDED BY NATIONAL CENTRAL BANKS

Foreign-currency denominated credit plays a significant role in the region...

Another key factor in assessing the rapid credit growth in the EU8-BR is the currency denomination. Foreign borrowing is generally driven by lower foreign interest rates and limits on open foreign exchange positions by banks, forcing them to fund increased domestic credit demand in foreign currency (IMF, 2004). Banks may then pass on the exchange rate risk to borrowers through foreign currency-denominated credits. As end-borrowers may not earn foreign income, they are not fully hedged against exchange risk, which could turn into a source of credit risk for the banking sector.

Since foreign currency-denominated lending forms a significant share in total credit to the private sector in the EU8-BR, credit risk presents a pressing policy issue across the region, although to a different degree. Foreign currency shares are particularly high in the Baltic States, where foreign-currency denominated credit presents more than two thirds of total loans to both the corporate and the household sector. These shares have remained rather steady since 1999 and can be explained by the high degree of foreign bank ownership in the Baltic States and the fixed exchange regimes, which

mitigates exchange risk concerns. Other countries show a more diverse picture of foreign currency lending in each sector: Generally, private enterprises tend to borrow more in foreign currency than the household sector, which becomes evident in the case of Bulgaria and Hungary. Slovenia and Slovakia have just recently experienced an increase in foreign currency lending from initially very low shares. The high share of foreign currency lending in Slovakia may be explained by the role of foreign-owned companies in the country, while the increase in Slovenia can be linked to euro area entry anticipation (exchange rate risk elimination). Finally, the Czech Republic stands out as a case where foreign currency lending has played a minor role in the household sector and remained rather steady at 20% in the corporate sector.

**TABLE (T9): RATIO FOREIGN CURRENCY TO TOTAL CREDIT IN THE RESPECTIVE SECTOR
IN THE EU8-BRC**

(IN %)	1998	1999	2000	2001	2002	2003	2004	2005
HOUSEHOLDS								
Bulgaria	0.8	1.5	3.2	4.9	7.2	8.9	11.0	15.4
Croatia								
Czech Republic	3.3	3.0	1.9	1.6	0.7	0.5	0.3	0.3
Estonia	68.4	64.4	62.8	66.8	72.6	63.5	64.0	73.6
Latvia						58.4	65.1	69.7
Lithuania	17.4	31.3	48.5	44.5	26.6	29.2	42.8	54.7
Hungary						4.3	12.6	29.1
Poland	7.7	6.6	10.7	17.7	22.9	28.9	24.3	28.6
Slovenia	0.0	0.7	0.6	0.7	0.7	1.0	2.9	11.7
Slovakia						0.5	0.7	1.2
PRIVATE ENTERPRISES								
Bulgaria	49.5	48.5	43.1	43.8	51.8	55.3	65.3	66.9
Croatia								
Czech Republic	21.9	20.7	18.5	19.9	20.4	19.8	18.6	17.7
Estonia	71.2	72.7	71.9	76.3	79.8	71.7	69.4	73.8
Latvia						52.1	56.3	69.3
Lithuania	58.0	64.1	71.8	65.3	55.6	61.9	64.8	67.9
Hungary						39.2	43.4	46.6
Poland	26.3	25.5	26.4	27.4	28.0	31.3	23.7	22.8
Slovenia	13.6	17.3	20.6	23.5	28.4	34.3	40.9	52.6
Slovakia						25.9	34.1	37.0
TOTAL DOMESTIC CREDIT								
Bulgaria	39.2	40.0	35.9	36.0	42.2	43.2	48.0	47.3
Croatia								
Czech Republic	22.1	22.4	20.7	17.1	15.0	13.5	12.8	12.6
Estonia	74.9	75.3	76.4	78.4	82.1	79.7	78.9	77.3
Latvia						56.2	60.9	69.9
Lithuania	49.2	54.4	61.3	57.3	47.9	53.5	57.9	65.3
Hungary	54.7	50.7	49.1	41.8	37.2	37.3	40.3	45.0
Poland	21.1	19.9	21.6	24.1	25.6	29.0	22.6	24.4
Slovenia	9.4	10.7	12.8	14.0	17.2	20.6	25.3	35.1
Slovakia						13.2	13.7	47.9

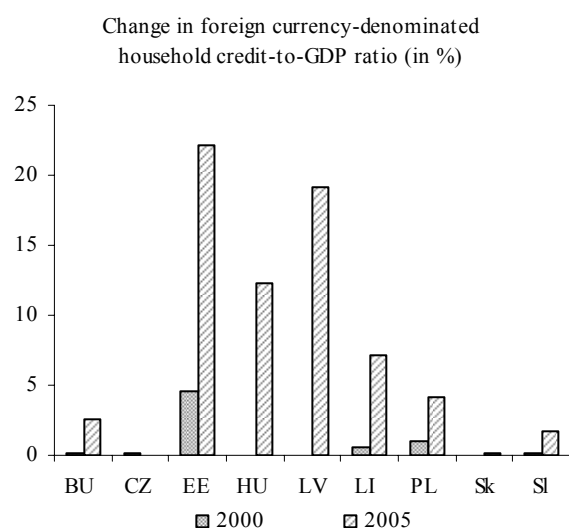
SOURCE: MFI BALANCE SHEETS PROVIDED BY NATIONAL CENTRAL BANKS AND OWN CALCULATIONS

...most notably in the household sector.

The relatively stable share of foreign currency lending in total sector lending does, however, disguise the extremely high growth rates in foreign currency lending in the EU8-BRC, in particularly in recent years. In between 2004 and 2005, real foreign currency lending to the household sector grew at 80% in real terms in Estonia and more than doubled annually over the last three years in Bulgaria, Lithuania, and Latvia. Foreign currency lending to the household sector also experienced a rapid boost of an annual growth of 40% in Poland in 2005. The most extreme case is presented by Slovenia, where foreign currency lending to the household sector more than tripled in 2004 and 2005, which can be attributed to the optimistic prospects of early euro adoption, which became official in May 2006.

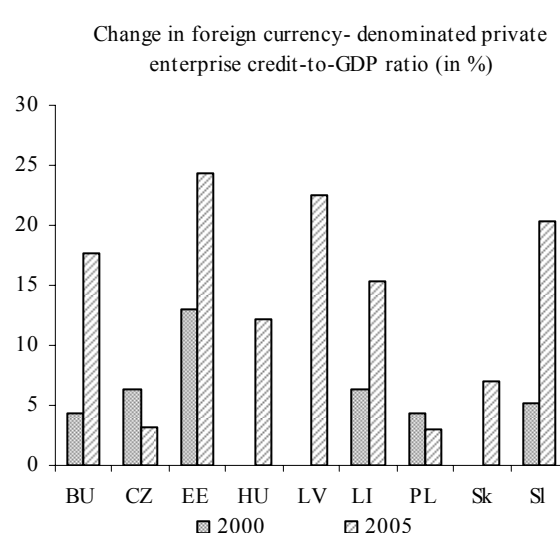
Similar –albeit less dramatic- developments can be observed in foreign currency lending to private enterprises, where foreign currency lending grew at almost 50% in the Baltic States and Slovenia. Conversely, private enterprises decreased their foreign currency borrowing in Poland and most recently also in Bulgaria. Growth rates were negative for the Czech Republic but turned positive again in the course of 2005 with a growth rate of 7%. Also, Slovakian private enterprises increased their foreign currency borrowing in 2005.

FIGURE (F10): FOREIGN CURRENCY-DENOMINATED PRIVATE ENTERPRISE CREDIT –TO-GDP



SOURCE: MFI BALANCE SHEETS BY NCBS

FIGURE (F11): FOREIGN CURRENCY-DENOMINATED HOUSEHOLD CREDIT-TO-GDP



SOURCE: MFI BALANCE SHEETS BY NCBS

The share of foreign-currency denominated credit-to-GDP has also risen in the last two years from initially very low levels or even non-existing levels in the household sectors to levels as high as 20% in the Baltic States. Likewise, corporate indebtedness in foreign currency has risen. To a certain

extent, the rise in corporate foreign indebtedness may be less of a concern given that corporations possess superior hedging possibilities. Nonetheless, increased corporate loans to small and medium enterprises could undermine this assumption – against this background, a database indicating the degree to which corporations are hedged would prove valuable in the long run.

The here presented data analysis highlights three important points concerning credit growth in the EU8-BRC. First, credit growth has been especially high in the private sector and we have identified the presence of a credit boom for all EU8-BRC except for Poland. Second, credit growth has been highest in the household sector. The evidence suggests that housing credit has been increasing in all EU8-BRC since 2000. Most of the housing credit goes into loans for house purchases, which bears the risk of fuelling real estate prices in the future – a development that has already become evident in Estonia and partly in Bulgaria. Third, to the extent that cross-border lending activities to the non-bank sector are omitted, domestic credit growth data underestimates true corporate credit demand. Finally, lending in the EU8-BRC has increasingly been taking place in foreign currency, which fuels concerns about the banking sector's credit risk exposure. The monetary regime appears a major determinant for the degree of foreign currency-denominated lending, as shown by the Baltic States, Bulgaria and Croatia.

5. SOURCES AND USES OF FUNDS

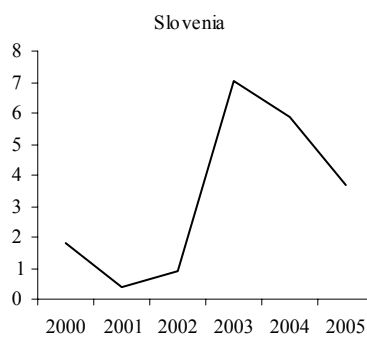
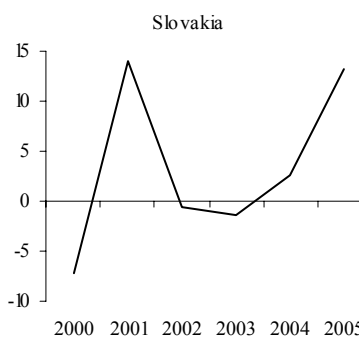
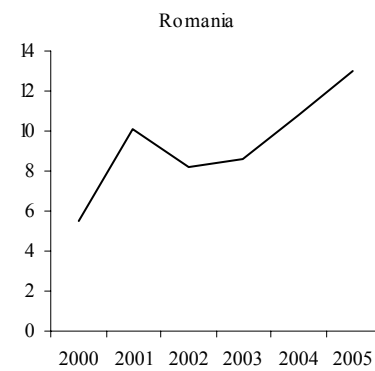
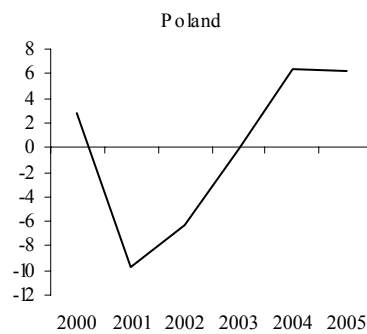
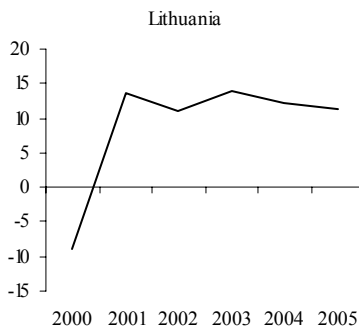
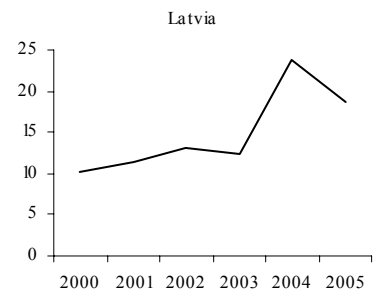
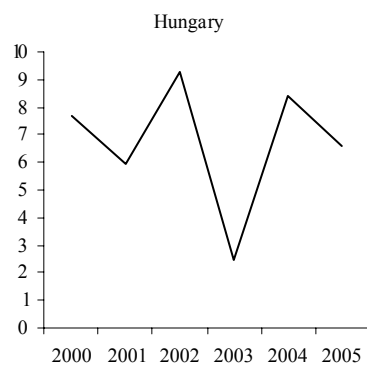
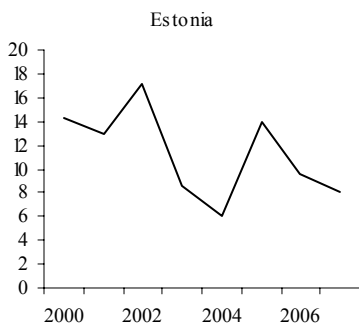
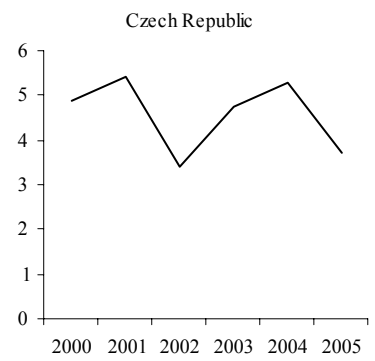
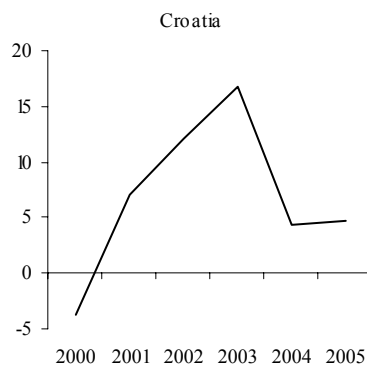
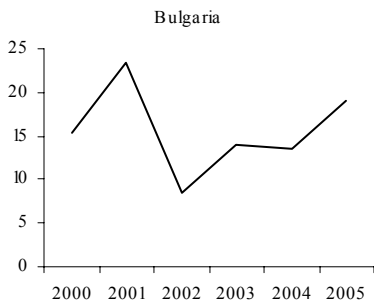
The previous section has documented the exuberant credit growth to the private sector in the EU8-BRC, as characterised by high foreign currency-denominated lending behaviour by the financial sector and rocketing household credit in all EU8-BRC, especially in the last two years. This has been further corroborated by a technical identification of credit booms in 9 out of the ten countries at the private sector and corporate level and for all EU8-BRC at the household level. Nonetheless, high credit growth rates do not need to be harmful *per se*: High credit growth is a feature of convergence towards the euro area, as macroeconomic conditions become more favourable and private sector agents adopt a more optimistic outlook. Credit growth in the EU8-BRC is closely linked to financial market development and may be a mere symptom of ongoing financial sector deepening, as illustrated by the rise of credit-to-GDP from initially very low levels reaching from 30% for Poland and Slovakia to over 60% for the Baltic States.

The heterogeneous pattern of credit development in the individual member states suggests that sustainable credit growth rates need to be assessed by the overall macroeconomic conditions in the country (interest rate, GDP growth, inflation) and the degree of financial liberalisation. However, assessing the sustainability of the credit growth levels in the EU8-BRC also calls for a thorough analysis of what the credit is used for and how it has been financed. Understanding the uses of the credit helps us to understand the future path and possible risks in the economy. High credit growth rates may, for instance, appear more favourable if credit goes into productive purposes (via increased investment activities), which would eventually boost overall productivity in the economy and ensure sustainable growth rates. The opposite holds if credit is biased towards the consuming sector. In a similar fashion, we need to understand the financing of the credit growth – where does the credit come from and do its sources display a certain risk of sudden withdrawal in times of declining macroeconomic conditions? This is particularly important in order to apply necessary prudential and supervisory measures effectively.

5.1 *Funds - where does the credit go?*

In a broad manner, credit can either be used for consumption or investment purposes. An analysis by the IMF (2004) of credit booms in 28 emerging markets suggests a probability of 70% that a credit boom coincides with either a consumption or investment boom.

FIGURE (F12): TOTAL INVESTMENT GROWTH (IN % Y-O-Y)



SOURCE: AMECO
 Note the different scales
 Data from 2005 onwards is based on EU Commission forecasts

Investment has been growing at 10.4% in the EU8-BRC in 2005 compared to still 3.9 % in 2000, but growth patterns differ across the region

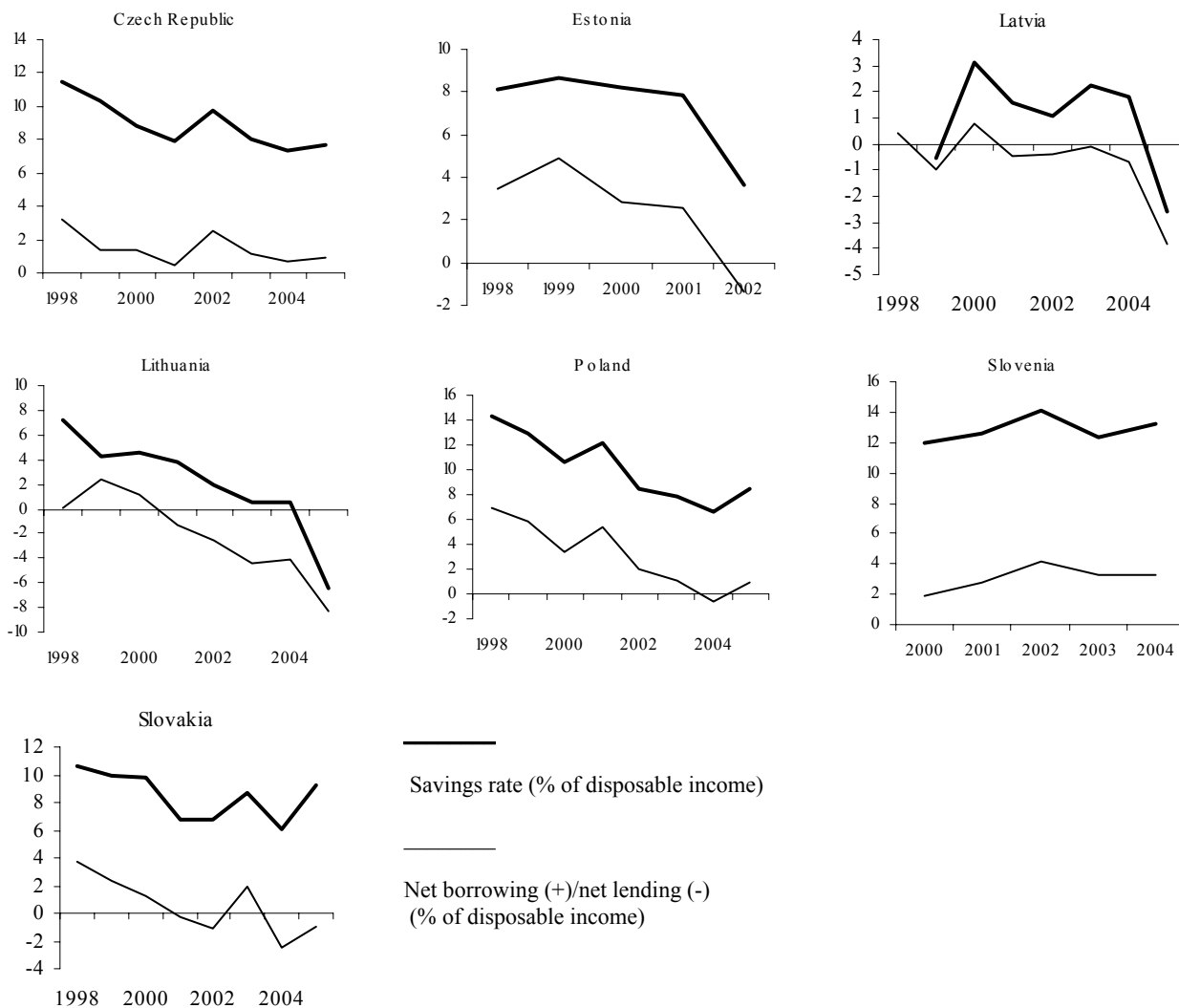
Against this background, policy makers are required to analyse the consumption, savings and investment patterns in the economy thoroughly. Generally speaking, overall investment in the EU8-BRC has increased since 1998 as a consequence of the countries' catch-up process and countries can be grouped into two sub-groups: First, the Baltic States along with Bulgaria, Romania and Slovakia present the group of countries with very high investment growth rates ranging from 11% per year in Lithuania to 19% in Bulgaria in 2005. Total investment growth has been growing at a steady rate of 10-13% in Lithuania over the past five years with a notable share of investment in construction in 2003⁵, while the other Baltic states of Latvia and Estonia have experienced a temporary boost in investment in 2004 and 2005 respectively. The peak in Latvia in 2003 is particularly strong, totalling a growth rate of 23%. Likewise, Bulgaria and Slovakia experienced a one-time boost in investment growth of 19% and 13% respectively in 2005. In Romania, investment growth embarked on a stable upward path, currently averaging 13%.

In Central Europe and Croatia, total investment has grown in between 3% in the Czech Republic and Slovenia to 6% in Hungary and Poland. In Slovenia, investment has been falling since 2003 associated with an investment decline in equipment (see Figure (A1) in the appendix). Likewise, investment growth has fallen in the Czech Republic and Hungary, while investment growth in Poland has picked up again from negative growth rates in 2001-2003 to an average growth rate of 6% in the last two years based on equal contributions of equipment and construction. The upward path in Croatia in 2001-2003 has come to a sudden halt in 2004, when growth rates returned to an annual rate of 4%.

The savings behaviour of the private sector offers a second pillar in the analysis of the uses of funds. Here, the savings and consumption behaviour of the households sector forms a pivotal part in the analysis of credit uses in the EU8-BR in the light of the observed high credit growth to the sector.

⁵ See Appendix for the investment composition (based on data availability)

FIGURE (F13): HOUSEHOLD SAVINGS BEHAVIOUR IN THE EU8-BR



SOURCE: AMECO

Data for Bulgaria, Croatia, Hungary, and Romania are not available from the same source

Figures from 2005 are based on forecasts

Note the different scales for the countries

There appears to be a common trend of declining household savings rate in the EU8-BR...

We can identify two groups of countries. Savings rate of households were generally high in the Czech Republic, Poland, Slovakia and Slovenia in 1998, standing at around 10%. In subsequent years, household savings declined in the Czech Republic and Poland to 7.4% and 6.5% in 2004 respectively, although there are signs that households in Poland have started to save more in 2005. The savings ratio developed in a similar manner in Slovakia, where it fell from around 10% in 1998 to 6% in 2004, but increased again to 9% in 2005. Among this group of countries, Slovenia stands out as a country in which the household savings rate has remained above 12% in the last 8 years. The Baltic States form the second group, which is characterised by a rapid decline in the savings rate. While households were still saving 8% of disposable income in Estonia and Lithuania in 1998, the savings rate has declined to 3% in 2002 in Estonia⁶ and to a negative value of -6.4% in Lithuania in 2005. In contrast to Estonia and Lithuania, Latvian households saved 3.1% at its peak in 2002, but have also started to save less in the following years.

...while household consumption has increased considerably in recent years.

On the counter-side, household consumption growth has been extremely high in the Baltic States: Household consumption grew from 4% in 2001 to almost 10% in 2005 in Lithuania and from 6.5% in 2002 to 10% in 2005 in Latvia. Household consumption has also been high in Estonia, but in contrast to Lithuania and Latvia at a decreasing share of GDP. However, the recent rise in consumption growth from 4.4% in 2004 to 7.5% in 2005 leaves Estonian households a point of concern. Household consumption is also growing at high rates in Bulgaria (7.3% in 2005) and Slovakia (6% in 2005). Earlier we have seen the pivotal role of households for the Portuguese economy during the credit boom years - if we take Portugal's household consumption growth rate of 6% in 1999 as a reference point, then household consumption growth in the EU8-BRC should be placed high on the agenda for policy makers. Here, Poland and the Czech Republic form an exception with growth rate of 2.5% in 2005, but the recent increase in household lending in Poland in 2005 serves as a warning for precipitant relief. Also, household consumption in Romania has come down in 2005, although it is still growing at a faster pace than the economy. Among the EU8-BRC, household consumption in Hungary seems the most erratic, growing above real economic growth in 1999-2003, but dropping sharply in 2004.

Unlike the case of Portugal, the public sector appears to have mitigated distortions that could potentially arise from the increase in private consumption (or the decline in savings rate) and a loss of confidence of foreign investors. Fiscal balances have overall improved, leading to a decline in

government debt. The question is, however, to which extent an improvement in fiscal balances stems from greater prudence by the government or from a (possibly transient) increase in government revenues due to favourable economic conditions. For instance, Jaeger and Schuknecht (2005) suggest that revenue related to capital gains or losses and turnover taxes as well as wealth effects on consumption boost revenue disproportionately during asset price booms. Table (T10) indicates that improvements in fiscal balances in Bulgaria, Latvia and Lithuania emanate from a rise in government revenues. Conversely, improvements in fiscal balances in the Czech Republic, Estonia, Poland, Slovakia and Slovenia stem from a cut in government expenditures. Hungary runs the highest government debt among the EU8-BRC, maintained by a rise in expenditures.

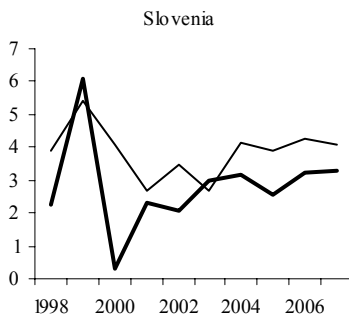
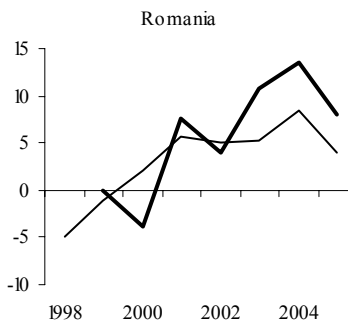
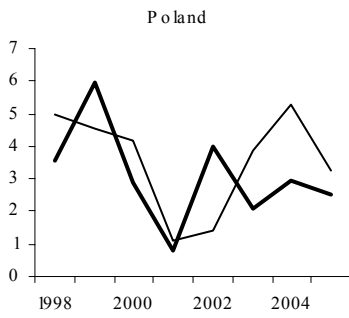
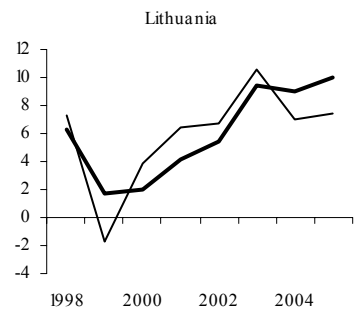
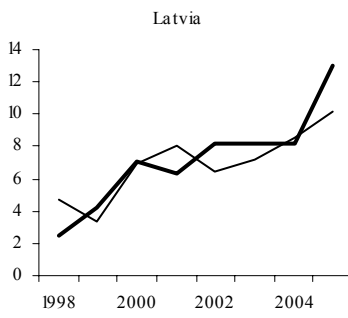
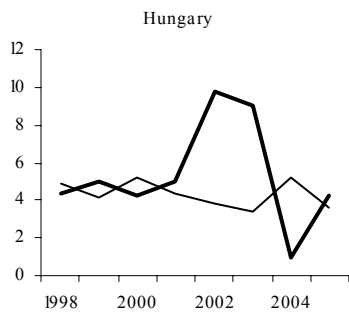
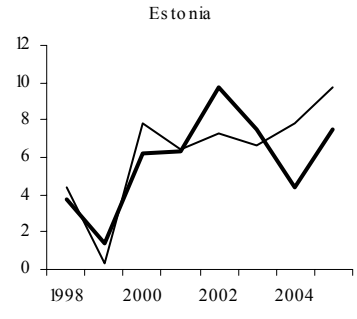
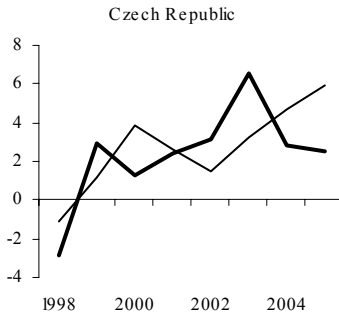
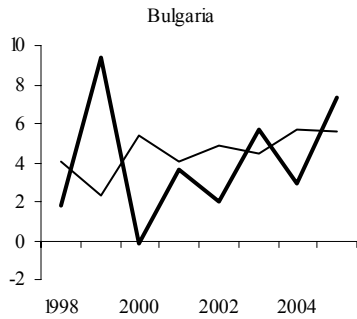
TABLE (T10) : PUBLIC FINANCES


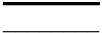
	GOVERNMENT DEBT		FISCAL BALANCE		TOTAL GOVERNMENT REVENUE		TOTAL GOVERNMENT EXPENDITURE	
	<i>(in % of GDP)</i>		<i>(in % of GDP)</i>		<i>(in % of GDP)</i>		<i>(in % of GDP)</i>	
	2003	2005	2003	2005	2003	2005	2003	2005
Bulgaria	46.1	29.9	0.3	3.1	44.3	46.2	44.0	43.0
Croatia	42	45.6	-4.6	-4	42.8	42.1	47.4	46.1
Czech Republic	30.3	30.8	-6.7	-2.6	41.1	41.5	47.7	44.1
Estonia	6	4.8	2.4	1.6	39.1	37.5	36.7	35.9
Hungary	56.7	58.4	-6.4	-6.2	43.4	44.5	49.8	50.7
Latvia	14.4	11.9	-1.2	0.2	33.5	36.4	34.6	36.2
Lithuania	21.2	18.7	-1.2	-0.5	31.9	33.1	33.2	33.7
Poland	43.9	42	-4.7	-2.4	39.9	40.3	44.6	42.8
Romania	20.7	15.2	-1.7	-0.4	36.1	19.6	48.1	47.3
Slovenia	29.1	29.1	-2.8	-1.8	45.2	45.5	39.8	37.7
Slovakia	43.1	35.2	-3.8	-2.9	36.0	34.7	37.9	20.0

SOURCE: AMECO

⁶ No data is currently available for the period 2002-2005

FIGURE(F14): HOUSEHOLD CONSUMPTION GROWTH AND REAL GDP GROWTH



 Household consumption growth (% y-o-y)
 real GDP growth (% y-o-y)

SOURCE: AMECO

Consumption plays an important role in economies with high real GDP growth...

Against these developments, the question is that of the key drivers of economic growth in the EU8-BRC. Figure (A2) in the appendix presents the contributions to GDP growth in the EU8 for the years 2000-2005. Domestic demand seems the main stimulus to economic growth in Bulgaria, Croatia, Lithuania, and Slovakia. For instance, in Estonia domestic demand contributed on average 5.4 % to an average of 7.8% of GDP growth in 2000-2005 compared to an average contribution of 3% of investment. In Lithuania, the contribution of consumption to GDP has been almost twice as high as the contribution of investment, but overall GDP growth has been dampened by a negative trade balance. In Latvia, consumption and investment contributed 7.3% and 5.9% to GDP growth of 7.6% in 2005. Conversely, a favourable trade balance in the Czech Republic was the major contributor of the real GDP growth of almost 6% in 2005. Similar observation hold for Hungary, Poland, and Slovenia, where a stronger trade balance has replaced domestic demand as a main contributor to GDP growth.

Productivity levels are increasing to euro area levels

Buoyant domestic demand in some parts of the region would seem more favourable if part of the credit was channelled to productive purposes, which would sustain economic growth. Looking at annual productivity per person employed, we find that labour productivity growth has generally been increasing in the EU8-BRC and is well above the euro area average but again the picture differs across the region. Productivity growth rate has been growing at high rates close or over 8% per annum in the Baltic, suggesting that the earlier discussed high investment activities have stimulated productivity and enhanced competitiveness. Also, productivity growth has been strong in Romania. Conversely, productivity growth has been considerably lower in the rest of the region in a range of 3-4% annually and is disappointingly low in Poland, currently equalling the euro area growth rate of 0.9 %. Also, productivity growth in Bulgaria has been decreasing in the last three year (reaching a negative growth rate of -1.7% in 2003). According to the latest IMF report, these erratic growth rates are due to sector differences – while labour productivity in the industry and service sector has increased significantly, it has fallen in the agricultural sector, which is characterised by stagnant output at constant employment levels.

TABLE (T11): PRODUCTIVITY GROWTH IN THE EU10

<i>LABOUR PRODUCTIVITY PER PERSON EMPLOYED (ANNUAL CHANGE)</i>									
	1998	1999	2000	2001	2002	2003	2004	2005	AVERAGE (2000-2005)
Bulgaria	4.2	4.4	9.2	4.5	4.5	-1.7	3.4	3.5	3.9
Croatia				3.9	4.4	1.8	2.5	3.5	3.2
Czech Rep.	0.9	4.2	4.6	2.2	0.0	0.1	4.8	5.0	2.8
Estonia	6.8	5.3	11.0	5.6	5.6	5.8	7.7	7.9	7.3
Hungary	3.1	1.2	3.7	3.8	3.9	2.6	5.8	3.2	3.8
Latvia	5.0	5.2	10.1	5.7	4.8	5.4	7.4	8.5	7.0
Lithuania	8.1	0.5	8.3	10.1	2.7	8.0	7.1	4.7	6.8
Poland	3.8	8.8	5.8	3.4	4.5	5.1	3.9	0.9	3.9
Romania	-2.5	3.5	-0.3	6.6	8.1	5.4	8.0	3.9	5.3
Slovakia	4.7	4.3	3.9	3.2	5.2	2.6	5.9	3.8	4.1
Slovenia	4.1	3.9	3.3	2.2	1.9	2.9	3.7	3.1	2.9
Portugal	2.0	2.0	2.1	0.3	0.4	-0.7	1.0	0.3	0.6
EU-12	1.2	1.3	1.7	0.5	0.4	0.7	1.7	0.9	1.0
EU-25	1.6	2.1	2.4	1.0	0.9	1.0	2.0	0.9	1.4

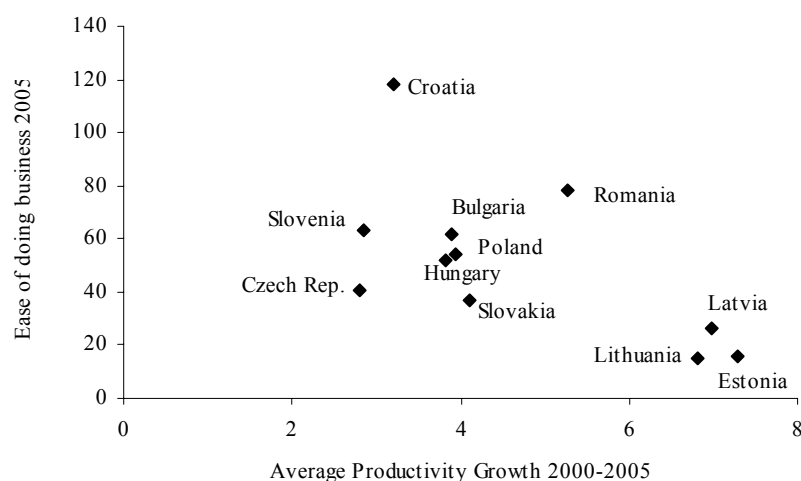
<i>LABOUR PRODUCTIVITY PER PERSON EMPLOYED IN PURCHASING POWER STANDARDS (PPS)</i>									
	1998	1999	2000	2001	2002	2003	2004	2005	AVERAGE (2000-2005)
Bulgaria	12.2	13.0	14.6	15.6	16.1	16.0	16.7	17.6	16.1
Croatia			26.8	28.4	30.4	31.0	32.5	34.3	30.6
Czech Rep.	24.0	25.8	27.3	28.6	29.7	31.1	33.6	35.9	31.0
Estonia	16.2	17.3	19.8	20.9	22.6	24.0	26.6	29.2	23.8
Hungary	25.7	26.4	28.2	30.8	33.0	33.5	35.6	37.6	33.1
Latvia	14.7	15.8	17.8	18.9	19.9	20.7	22.3	24.6	20.7
Lithuania	16.4	16.8	19.1	21.5	22.2	23.6	25.9	27.6	23.3
Poland	20.4	22.6	24.7	25.9	27.7	28.7	30.6	31.5	28.2
Romania	12.0	12.7	13.0	14.3	15.9	17.0	18.9	20.1	16.5
Slovakia	21.5	22.9	25.2	26.5	28.8	29.2	30.8	32.6	28.9
Slovenia	29.2	31.0	32.5	34.1	35.1	36.2	39.2	41.2	36.4
Portugal	29.9	31.8	33.5	34.2	35.3	33.0	34.4	35.1	34.3
EU-12	46.9	48.3	50.4	51.6	52.9	53.4	55.4	56.8	53.4
EU-25	42.3	44.0	46.3	47.7	49.3	49.9	52.0	53.5	49.8

SOURCE: AMECO

1/ Average for Croatia for 2001-2005

Whether or not these productivity levels will prevail in the future is highly contingent on favourable business environment. For this purpose, Table (T12) presents private sector share of GDP, enterprise reform status as well as financial institutions reform status, as published by the EBRD. The EU10-BRC fare quite well on a range from 1 (a rigid centrally planned economy) to a 4+ (standards of an industrialised market economy): The private sector share of GDP is already quite high and the privatisation process is well advanced. Work remains, however, to be done in furthering enterprise restructuring and improving legal aspects to strengthen competitiveness.

FIGURE (F15): EASE OF DOING BUSINESS



*SOURCE: WORLD BANK ENTERPRISE SURVEY AND AMECO
A lower rank indicates a better performance*

A favourable business environment is, however, decisive in order to maintain high productivity growth. Figure (F15) provides a crude yet insightful assessment of the correlation between a favourable business environment and average productivity growth. The graph is overall suggestive in terms of a downward sloping line, indicating that an improved business environment is conducive to productivity growth. Reforms to strengthen the business environment are particularly important in the light of comparatively more advanced banking reforms, which have facilitated credit growth. Also, the securities markets and non-bank financial institutions reform process is likely to accelerate credit growth as alternative financing sources to the more regulated banking system become available. The high growth rate in household lending in the EU8-BRC bears the risk of undermining productivity growth in the region (as illustrated by the Portuguese experience). In this regard, a competitive business environment would act as a counterbalance to increased household lending and prevent a misallocation of credit to the unproductive sector. This aspect becomes even more eminent under the assumption that part of productivity growth in the region is still emanating from enterprise restructuring and/or entry and exit of firms.

TABLE (T12): EBRD TRANSITION INDICATORS - 2005

			ENTERPRISE REFORM STATUS			MARKETS AND TRENDS		FINANCIAL INSTITUTIONS						
	PRODUCTIVITY GROWTH 2005	PRIVATE SECTOR SHARE OF GDP	LARGE-SCALE PRIVATISATION	GOVERNANCE AND ENTERPRISE RESTRUCTURING		COMPETITION POLICY		BANKING REFORM & INTEREST RATE LIBERALISATION	SECURITIES MARKETS & NON-BANK FINANCIAL INSTITUTIONS					
Bulgaria	3.5	75	4	3	-	3	-	↑	4	-	2	+		
Croatia	3.5	60	3	+	3				2	+	4	-		
Czech Republic	5.0	80	4		3	+	3		4	↑	4	-	↑	
Estonia	7.9	80	4		4	-	↑	3	-	4		3	+	
Hungary	3.2	80	4		4	-	↑	3		4		4	↑	
Latvia	8.5	70	4	-	3			3	-	4	-	3		
Lithuania	4.7	75	4	↑	4	+		3		4	-	↑	3	
Poland	0.9	75	3	+	4	-	↑	3		4	-	↑	4	-
Romania	3.9	70	4	-	2	+	↑	2	+	3		2		
Slovak Republic	3.8	80	4		4	-	↑	3		4	-	3	-	
Slovenia	3.1	65	3		3			3	-	3	+	3	-	

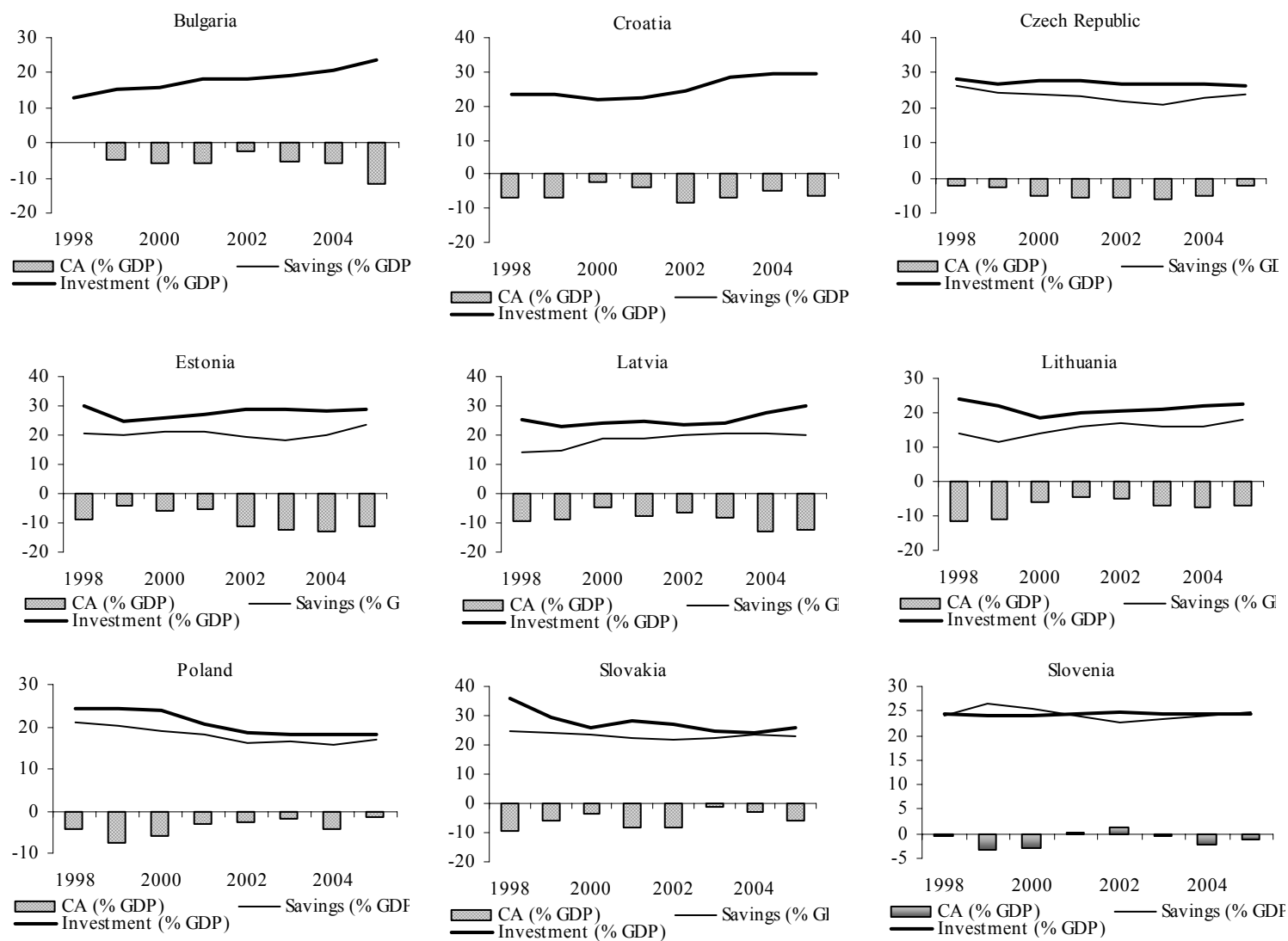
Note: The transition indicators range from 1 to 4+, with 1 representing little or no change from a rigid centrally planned economy and 4+ representing the standards of an industrialised market economy.

SOURCE: EBRD TRANSITION REPORT 2005

Diverse picture of current account imbalances in the EU8-BRC

Sizable current account deficits have been building up in several countries in the region, most notably in the Baltic States and Bulgaria. Concerns about the sustainability of the current account deficits have been eased by recent improvements in the Baltic States, but deficits remain high, amounting to over 10% of GDP. Several countries – including the Czech Republic, Hungary and Poland – succeeded in reducing current account deficits by 1.2 percentage points of GDP in Hungary up to 3-4 percentage points in the Czech Republic and Poland (running a deficit of -2.1 % and -1.4% in 2005). Current account deficit improvements do, however, emanate from a change to surplus for goods and services (2% of GDP) in the Czech Republic. Also, current account deficits increased sizably in Bulgaria from still -5.8% in 2004 to -11.8 % in 2005, in Croatia from -4.9% in 2004 to -6.3% in 2005 and in Slovakia from -3.0% to -5.6%. Only in Slovenia has the current account been kept close to balance.

FIGURE (F16): CURRENT ACCOUNT DEFICITS



SOURCE: EUROSTAT (NUMBERS SINCE 2003 ARE OWN CALCULATIONS BASED ON BALANCE OF PAYMENT DATA BY THE NATIONAL CENTRAL BANKS)

5.2 Sources - financing of the credit growth?

The widening imbalances of the current account deficits in the Baltic States raise the question of long-term sustainability in these economies. To a certain extent, higher investment in expectation of higher returns or consumption smoothing may be acceptable in the light of the catching-up of the economies, but the high and increasing figures of the current account deficits raise concern about macroeconomic stability. Against this background, one important question concerns the external financing of the current account deficit (see Appendix, Figure (A3)).

The role of other investment flows....

The current account imbalances have been financed by large foreign direct investment inflows to the EU8-BRC. In addition to foreign direct investment, other investment inflows have become a substantial source of external financing. This holds particularly true for Latvia and Bulgaria, and most recently for Estonia and Lithuania. The Estonian current account deficit has been financed by a balanced mix of foreign direct investment inflows and experienced a one-off substantial outflow of portfolio investment related to the buying up of shares of Hansapank in 2005. Foreign direct investment inflows also played a prominent role for the Lithuanian economy, but have been overhauled by other investment inflows in the past three years. Among the Baltic States, other investment inflows play the most significant role in Latvia, amounting to 8.5% and 14.3% of GDP in 2004 and 2005 respectively. In Slovenia, other investment inflows increased from 3.2% of GDP in 2004 to 8.9% in 2005 and other investment inflows were also significant in the Czech Republic.

A breakdown of other investment flows for a sample of the EU8 - BRC (Estonia, Lithuania, and Bulgaria) shows that loans have formed the major part of other investment inflows in the EU8-BRC, and have gained a greater part of total share of other investment in recent years (see Table (A4) in the appendix). The data for Estonia suggests also high deposit inflows, while deposit inflows are substantially lower than loan inflows for Lithuania and Bulgaria. In Bulgaria, capital inflows in the form of loans have been particularly high in 1998 and 2001 and have accounted for about 50% of total other investment inflows in the last three years.

These observations suggest that high credit growth in the region has increasingly been financed by inflows of foreign funds. Concerning the domestic banking sector, increased foreign financing is also reflected by the increase in net foreign liabilities of deposit money banks, as presented by table (T13).

TABLE (T13): NET FOREIGN LIABILITIES OF DOMESTIC BANKS IN PERCENT OF GDP

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Bulgaria	3.9	15.8	12.8	10.0	10.8	13.2	13.4	9.0	4.4	-1.0
Czech Rep.	-4.8	-5.4	-1.0	1.5	6.4	8.5	12.4	8.7	5.2	8.3
Estonia	4.8	-0.4	-7.3	-6.9	-6.0	-6.5	-1.9	-6.1	-14.0	-22.3
Hungary	-1.2	-0.4	-1.0	0.3	1.4	0.4	4.2	2.5	1.1	1.1
Lithuania	0.5	1.2	0.8	-1.2	-0.9	1.7	1.3	-0.7	-4.3	-3.6
Latvia	3.1	3.0	4.1	-1.2	-3.8	-0.4	-4.6	-7.4	-12.8	-21.2
Poland	3.7	2.3	2.0	0.1	0.7	2.6	3.9	2.2	1.0	3.6
Slovenia	4.8	5.7	3.5	3.1	1.8	2.3	7.9	-2.2	-6.5	-10.3
Slovakia	4.4	1.9	3.8	5.7	5.0	8.8	7.6	2.5	-2.2	-6.3

TABLE (T14): DEMAND DEPOSITS IN PERCENT OF GDP

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Bulgaria	10.7	21.0	10.4	8.1	7.7	8.0	9.0	9.9	11.7	13.6
Czech Rep.	21.2	19.1	16.7	14.0	14.2	15.2	17.4	25.9	29.0	28.4
Estonia	10.2	12.6	13.6	11.0	14.2	15.6	17.2	17.3	18.5	20.1
Hungary	10.0	10.6	11.3	11.1	11.2	11.2	11.6	12.5	12.3	11.3
Lithuania	6.1	5.2	6.5	6.2	5.8	6.5	7.8	8.8	10.4	11.7
Latvia	5.6	5.1	6.5	6.7	6.1	7.0	7.2	8.7	10.8	14.4
Poland	5.3	6.8	6.7	6.9	7.5	6.5	6.7	8.7	10.0	10.3
Slovenia	4.3	4.6	4.8	5.5	6.0	6.1	6.6	10.0	10.5	12.9
Slovakia	19.6	20.3	16.4	12.4	11.3	12.7	14.3	14.6	21.7	22.9

SOURCE: IMF- INTERNATIONAL FINANCIAL STATISTICS

Again, the picture differs. In particular, domestic banks in Bulgaria, Estonia, Lithuania and Slovenia have incurred increasing foreign liabilities to meet domestic credit demand: In 2005, net foreign liabilities of domestic money banks amounted to 22.3% of GDP in Estonia and 22% in Lithuania. Part of domestic credit is also financed by an increase in bank deposits and a steady deposit base in Hungary and the Czech Republic. Foreign financing opportunities by banks can be explained by the high degree of foreign ownership in the region. While the increase in net foreign liabilities suggests that domestic banks are increasingly financing domestic credit demand abroad, foreign financing is not restricted to the banking sector only, as suggested by the previously discussed cross-border lending figures and international claims of BIS-reporting banks on the EU8-BRC.

The high capital inflows raise concern whether the EU8-BRC are becoming too dependent on foreign inflows, especially the private sector as it absorbs the majority of international claims. One important aspect is the maturity structure of international claims (here of BIS-reporting banks)⁷ on the EU8-BRC. In particular, high shares of short-term claims bear a certain risk, as they can be easily

liquidated. Table (T14) shows that long-term international claims are consistently higher than short-term claims throughout the region with Poland taking the lead. Nonetheless, short-term international claims remain high, especially in Slovakia, Bulgaria and the Baltic States.

**TABLE (T14): MATURITY STRUCTURE OF INTERNATIONAL CLAIMS
(% OF INTERNATIONAL CLAIMS)
-END OF 2005**

	Up to and including 1 year	More than 1 less than 2 years	More than 2 years	Not allocated by maturity
Bulgaria	36.8	6.4	48.8	7.9
Estonia	37.7	4.0	41.6	16.7
Czech Rep.	29.5	7.7	44.3	18.5
Hungary	26.8	4.9	49.5	18.8
Latvia	35.8	12.5	45.4	6.3
Lithuania	29.8	16.0	43.7	10.5
Poland	25.7	4.3	52.6	17.4
Slovakia	41.4	4.2	33.8	20.5
Slovenia	33.5	5.1	54.2	7.1

Source: BIS Banking Statistics

⁷ International claims are defined as BIS reporting banks' cross-border claims in all currencies plus the local claims of their foreign affiliates in foreign currency.

6. POLICY DISCUSSION AND CHALLENGES AHEAD

6.1 *Policy discussion*

Favourable macroeconomic conditions along with banking system reform and restructuring during transition were the main drivers of credit growth in the EU8-BRC. While credit growth is a normal phenomenon of ongoing financial deepening, policy makers need to be aware of the risks to macroeconomic and financial stability which are associated with rapid credit developments. The previous section allows us to derive the following conclusions

The EU8-BRC have experienced an ongoing period of high credit growth to the private sector. On the demand side, growth in private sector credit is driven by falling inflation, low short-term interest rates and rising income expectations. On the supply side, bank lending has been facilitated by financial deregulation and deepening as the economies converge towards EU area standard. These developments are reminiscent of the Portuguese convergence experiences, which presented the initial rationale to examine credit growth in the EU8-BRC. Nonetheless, the EU8-BRC also differ from earlier converging candidates like Portugal, Ireland and Greece in their transition experience, which amplifies financial and real sector convergence and also complicates the already diagnostic challenge with regards to rapid credit developments in the private sector. In this respect, the Portuguese experience can only offer as much as a reference point.

The analysis of the anatomy of credit growth reveals that private sector growth is dominated by high growth rates to the household sector, reaching from a three years average growth rate (2003-2005) of 15% in Slovenia to 64% in Bulgaria. Household lending has continued to expand considerably faster than corporate lending, and is increasingly biased towards housing loans. In some countries –e.g. the Baltic States, the Czech Republic, Hungary and Slovakia - housing loans account for more than two third of total household lending. In contrast to consumer loans, which are usually small and diversified by a large number of debtors, these large amounts of housing loans often present the multiple of household's income and substantially raise credit default risk in times of an economic downturn. Bulgaria, Croatia and Poland are exceptions to this development – consumer loans form by far the largest share of household lending (ranging from 28% in Bulgaria to 36% of total household lending in Poland and Croatia). Nonetheless, housing loans have gradually been increasing – e.g. from a share of still 18% of total household lending in 2000 to 28% in 2005 in Bulgaria. The increasing role of housing loans highlights and amplifies risks associated with asset price developments, as there are signs that housing loans have started feeding into real estate prices. Yet another aspect is that housing loans are likely to capture part of SME lending (e.g. to finance start-ups, which banks are reluctant to finance).

The rising share of foreign-currency lending in the household sector are a dominant cause of concern. Unlike the corporate sector, which is often hedged through foreign exchange export earnings, households do not earn a foreign currency income, which makes them vulnerable to exchange rate movements. Foreign-currency lending is particularly high in countries with a fixed exchange rate regime, which appears to dispel end-borrowers' concerns about exchange rate risk exposure. It also casts doubts on the behaviour of the banking sector, which is willing to match debtor's demands for foreign-currency denominated credit. These developments can turn into a balance sheet risk if the exchange rate depreciates and ultimately raises credit risk. However, while it is true that countries with a fixed exchange rate regime display the highest credit growth rates (both in domestic and foreign currency), high shares of foreign-currency lending is a common characteristic across the EU8-BRC. The dominance of foreign-currency lending to private enterprises in terms of GDP is rapidly being challenged by high growth rates in foreign currency-denominated credit to households.

An increase in cross-border lending and leasing activities suggest that conventional figures underestimate true credit growth and the share of enterprise credit in the economy. Cross-border lending activities of 3% to 21% of GDP suggest that corporate sector indebtedness is higher than indicated by domestic credit figures alone. Similar concerns apply to the household sector due to an increase in leasing activities, predominantly in Central Europe, which are not captured by domestic credit data. As awareness is rising, leasing data is gradually becoming more available, but the quality and coverage of data is still insufficient for regional comparisons.

Rising household lending has contributed to increased household consumption. Household consumption growth rates in the region have increased from an average of 2% in 2000 to 6% in 2005 and it has been significantly high in the Baltic States (averaging 7% for 2000-2005) and also Romania (averaging 6.5% for 2000-2005) and Hungary (5.5% for the same years). It is, however, important to note that high private sector consumption is partly alleviated by improving public sector balances. As a consequence, government debt burdens have ameliorated in the region with the exception of Hungary. Nonetheless, a note of caution is required given that - for some countries - these improvements emanate from an increase in government revenues rather than from a cut in expenditures. These government revenues could temporarily be swollen by an increase in asset prices, induced by higher private sector lending, thereby embellishing the fiscal stance. Fiscal policy makers are, hence, well-advised to manage and assess fiscal balances with prudence so as to avoid pro-cyclical behaviour (see Portugal).

Widening current account imbalances resulting from strong consumption and investment growth in the region illustrate the risks associated with credit growth. Strong domestic demand has been the major contributor to the region's current account deficits, which amount to more than 10% of

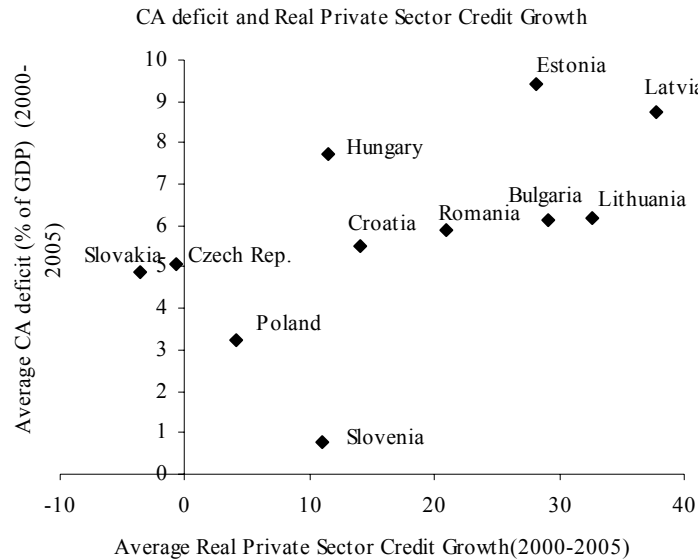
GDP in the Baltic countries and Bulgaria. While current account deficits may to a certain degree be justified by catching-up economies, some studies (Duenwald et al. 2005) find a positive relationship between credit growth rates and the size of the external trade balance for some countries in the region. Indeed, Box (B1) illustrates that countries exhibiting the highest credit growth rates have also experienced the highest external imbalances. The crucial point is, however, the long-term sustainability of the current account deficit in an environment which is characterised by fast financial sector acceleration. There is a potential danger that high financial inflows from abroad to finance the current account deficit fuel the build-up of liabilities in the economy, especially in the banking sector (Table (T13)), thereby impairing banks' balance sheets. The analysis has shown that the banking sector in the countries with the highest credit growth has recently incurred increasing net foreign liabilities, ranging from still-1.0% of GDP in Bulgaria to -22% of GDP in Estonia in 2005. A negative international investment position could be detrimental in times of financial distress or/and an economic downturn. This is crucial as we observe an increase in foreign financing in the form of 'other investment' flows. For the moment, strong foreign direct investment inflows protect the EU8-BRC by virtue of its more permanent nature and also form a substitute for company credit demand. However, lately an increase in 'other investment' inflows can be observed, which could turn out to be more sensitive if economic conditions were to worsen.

Against this background, high productivity and investment growth rates ease concerns about high credit growth rates to the private sector.⁸ Investment has been growing at 10.4 % in the EU8-BRC in 2005 compared to still 3.9% in 2000. Likewise, productivity has been growing at an average of 4.4% in 2005. Following the discussion in Box (B1), concerns about high private sector growth rates based on mere growth rates considerations are mitigated by a further analysis of the uses of funds. In the Baltic States, high credit growth rates appear to be channelled to the more productive sector, which is conducive to maintaining competitiveness and economic growth in the long-term. This is well illustrated by Estonia, which has experienced the highest private credit growth and is also running the largest current account deficit, but at the same time it excels in investment and productivity growth, with an average growth rate of 7.3% in 2000-2005.

⁸ Note: There is a risk that some of the credit, investment and productivity data are influenced by cyclical developments. The data coverage (2000-2005) seems, however, a good stretch.

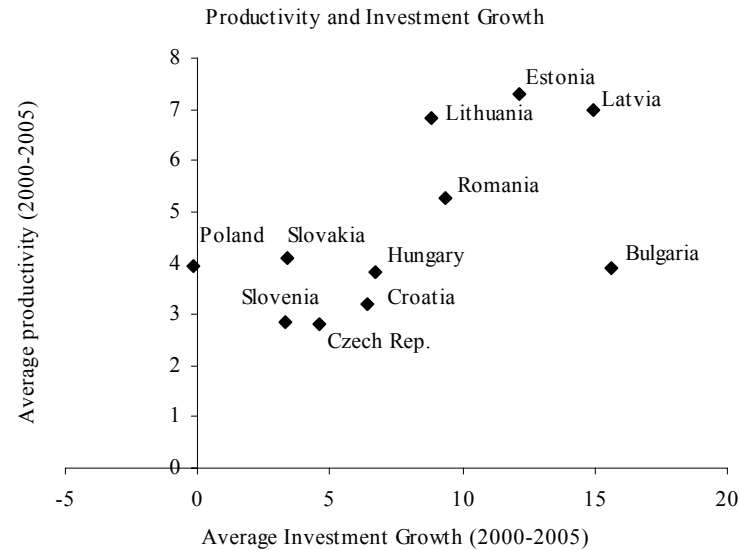
BOX(B1): FINANCING TRENDS AND LINKS TO GROWTH

**FIGURE (F17): CA DEFICITS AND REAL PRIVATE SECTOR GROWTH
(2000-2005)**



Source: National Central Banks

**FIGURE (F18): PRODUCTIVITY AND INVESTMENT GROWTH
(2000-2005)**



Source: AMECO

Figure (F17) and (F18) illustrate the linkage between high private sector credit and high productivity growth for a sample of countries. In particular, countries with a fixed exchange rate regime exhibit large current account deficits with Estonia taking the average lead. While current account deficits may to a certain degree be justified by the catching –up process of the EU8-BRC, the left hand graph indicates a positive relationship between current account deficits and real private sector growth (see e.g. Duenwald et al. (2005) who find a positive relationship between credit growth and external trade balances). Interesting enough, Figure (F18) is suggestive of the fact that – if managed with prudence– high credit growth can foster investment activities and eventually translate into higher productivity growth.

Note: Productivity for Croatia presents the average for 2001-2005.

Note: Figure (17) and (18) serve as a pure illustration. Ideally, we would like to establish a statistically significant relationship.

Nonetheless, policy makers need to remain vigilant in terms of credit growth and real sector dynamics. While overall investment and productivity growth in Baltic States ease concern about high credit growth rates and fast real sector convergence, the pivotal question is whether these dynamics could eventually jeopardise medium-term prospects.

In a benign scenario, the current process of credit development and real sector convergence continues. Although household consumption remains high, it is balanced by a strong resource allocation to productive purposes, which enhances productivity and re-assures competitiveness. While there may be some pressures on non-traded goods prices due to increased household lending, this may not be greater than what is warranted by the Balassa-Samuelson effect. Hence, in a setting of sustainable real convergence, some tensions can nonetheless arise from nominal convergence and question euro area exit.

In a less favourable environment, credit dynamics could eventually undermine high productivity growth. If credit to the household sector continues at the present type of pace, households will progressively consume a greater share of foreign savings. To illustrate the power of current credit growth rates, an extrapolation for the next years suggests that household credit could reach levels of more than 100% of GDP in the Baltic States by 2009. Inflow of foreign savings is increasingly attracted by rising residential housing prices, which offer among the highest local currency rates of return. As demand gradually shifts to the non-traded goods sector, inflationary pressures pick up and there is a self re-assuring decline in real short-term interest rates, which further supports high credit growth, and so on. Eventually, asset price dynamics start to dominate. As economic activity takes increasingly place in the non-traded goods sector, competitiveness and productivity performance eventually deteriorate. Declining competitiveness would then also highlight prevailing balance sheet risks in presence of large foreign-borrowing, as the nominal exchange rate becomes less defensible. In this environment, countries are left with virtually no tool to break the dynamics in rapid credit growth.

Misaligned income expectations, a slow supply response in non-traded goods, and unsound fiscal policies could be major triggers. While the analysis suggests that the high credit growth countries are currently characterised by sustainable resource allocation to the productive sector, the question arises what factors could push the countries into scenario two. First of all, income expectations could get ahead of productivity. Rising wages could then slowdown productivity growth. Second, a slow supply response could feed into rising property prices, increase return on residential investment and eventually divert capital away from the productive sector. Third, unsound fiscal finances could lead to a market enforced correction of these imbalances through the increase in the required risk premium in the form of, e.g., exchange rate depreciation and an increase in interest rates.

6.2 *Policy challenges ahead*

The analysis of credit allocation and the sources and uses of funds emphasises the role of (supply-side oriented) resource allocation. For the moment, overall favourable economic outlook in anticipation of euro area membership and the rise of productivity levels in the EU8-BRC associated with high investment growth appears to mitigate concerns about exuberant credit growth rates in the region. Undoubtedly, the EU8-BRC have embarked on a different and more favourable convergence path than Portugal, but policy makers need to remain vigilant concerning the real and financial sector dynamics.

Having said this, we could think of credit growth dynamics along two lines: the change in allocation of credit growth and the external forces (in the form of measures implemented to manage credit growth) changing credit allocation:

There is evidence that measures to contain domestic credit growth have induced private sector agents to look for alternative financing sources. As the financial sector deepens, alternative financial actors will enter the scene. This generally desirable aspect of financial deepening bears the potential risk that too rigid domestic credit measures, e.g. in the form of tightened banking regulations, are likely to intensify financial disintermediation and push credit into non-regulated markets, thus shifting or re-allocating credit (risk) instead of reducing it and ultimately bringing about new risks to financial stability. This risk of circumventing tighter domestic credit controls is particularly high in the corporate sector and is likely to increase further as the economies integrate into the European Union.

The high degree and interwoven pattern of foreign ownership raise concerns about cross-border financial contagion. Strong inflows of foreign capital in the EU8-BRC have raised non-resident holdings in the economies, which causes concerns that the economies have become too dependent on foreign inflows. Also, foreign bank penetration and the sector's ramifications across the region mean that shocks which generate financial market turbulences in one country can easily spill over to other countries through these linkages.

Policy makers also need to remain wary of the sectoral dynamics of credit growth in view of rocketing household lending. True, household credit growth rates appear more favourable considering that household credit was virtually non-existing 10 years ago. However, rising household credit implies the following two risks (see previous section). First, as household lending increases, non-traded good prices increase and create inflationary pressure, which would further accelerate the financial dynamics and eventually jeopardise euro area exit. Second, incommensurate household credit

runs the risk of undermining the region's productivity growth in which case, countries remain with no policy tool to manage credit growth.

In view of limited policy tools, structural reforms to bolster the productive sector are of paramount importance. The preceding analysis points towards the potentially adverse effects of administrative measures attempts to curb credit growth. This insight in combination with the loss of monetary mechanisms gives the EU8-BRC limited leeway in the form of fiscal policy and structural reforms. Fiscal positions, with a few exceptions, are already quite strong, which leaves structural reforms to strengthen the region's competitiveness a key policy concern. A tentative assessment of the overall business environment in the region suggests a high correlation with average productivity growth. Based on these results, suitable measures to influence credit growth and allocation would be to cut policy measures that encourage household lending (e.g. mortgage tax breaks) and/or to increase the attractiveness of the productive sector for capital. These considerations are also important in containing the prevailing high current account deficits. Whether foreign inflows finance higher consumption or investment will crucially depend on the structural characteristics of the country – its human resource endowment and the quality of business environment.

Needless to say that these considerations can provide but a general framework for assessing and managing credit developments in the EU 10. While the EU8-BRC share their convergence experience, they nonetheless display wide differences in terms of economic, financial and structural development, which makes a case-by-case analysis essential (see Appendix II). As an intermediate step, we can, however, identify the following types of credit growth experiences:

Baltic States

High foreign –currency lending and inflationary pressures are the key concerns in the Baltic States. The Baltic States are characterised by high growth rates in both the household and corporate sector. A favourable business environment and very high productivity growth rates ease concerns about high private credit growth, but some policy issues remain. First, high foreign-currency borrowing exposes end-borrowers to substantial foreign exchange rate risk, which could ultimately transform into higher credit risk for the banking sector. Likewise, banks have increasingly financed rising domestic credit demands through foreign financing channels, as reflected by the increase in the sector's net foreign liabilities. Second, high current account deficits have built up, amounting to over 10% of GDP. While foreign direct investment appears a stable and significant form of financing, other investment flows have become an important source of financing in Lithuania. Third, improved fiscal balances have counter-balanced private consumption and rising current account deficits, but caution is still necessary, as government revenues could be swollen by a transient increase in asset prices due to

higher investment activities in a setting of real sector convergence. For instance, while improved public balances in Estonia are due to a cut in expenditures, improvements in fiscal position emanate from a rise in government revenues in Lithuania and Latvia rather than from a cut in expenditures. Fourth, rocketing house prices, particularly in Estonia, raise concerns about a possible housing bubble, which emphasises the importance of a strong supply response (see Portugal). Finally, analogous to our earlier discussion, inflation in the Baltic States has increased by 0.7-1.5 percentage points from 2004 to 2005.

Central Europe

At first sight, comparatively low private sector growth rates cause less concern in the Central European States, which could be due to their overall rather disappointingly slow convergence process. Nonetheless, private sector credit growth has gradually become more pronounced in the past two years, particularly in the household sector, which also takes increasingly place in foreign currency. In this regard, Central European countries face similar currency and credit risks as the Baltic States – however, external imbalances in Hungary seem more a credit accelerated than a credit-induced problem. There is a clear need for credible fiscal adjustment to forego market enforced corrective measures. In contrast, in Slovenia, low current account deficits and increased household as well as public savings in a low-inflation environment speak for sustainable real convergence, but high cross-border lending activities should be observed carefully. While Poland and the Czech Republic also display moderate private credit growth, increasing household indebtedness is still a matter of concern in view of rather low productivity growth.

South-East Europe

Among the here presented South-Eastern European States, Bulgaria has experienced the highest private credit growth rates, reaching 40% in 2004. The resulting sizable current account deficit, currently amounting to almost 12% of GDP, increasing inflation and high sector indebtedness appear the eminent policy issues. Again, increasing credit rates to the household sector expose end-borrowers to substantial foreign exchange risk, thereby raising credit risk in the banking sector. Also, productivity growth in Bulgaria has been rather low (3.5% in 2005) relative to the expansion of credit and the high current account deficit. Interesting enough, investment growth is growing rapidly, which indicates that investment is not sufficiently channelled to productive purposes. Clearly, structural reforms to further competitiveness are essential to ensure resource allocation to the productive sector. In view of a favourable fiscal stance, the same concerns expressed to some other countries hold, since improved fiscal balances stem from an increase in revenues, which could be of mere temporary nature.

In Croatia, extremely high foreign currency – denominated lending forms the key concern, totalling 65% of total lending in 2005 according to the latest IMF report. Also, Croatia displays the highest cross-border lending activities, amounting to 21% of GDP in 2005. Furthermore, household lending in Croatia is dominated by consumer loans. Against this background, a weak business environment in combination with high household lending and low productivity growth could be detrimental to the future path of the economy.

7. CONCLUDING REMARKS

This study has examined rapid credit growth in the EU8-BRC by analysing credit composition, the sources and uses of funds, and the links between financial activity and trends in the real economy. We find that high credit growth can be conducive to real economic convergence if channelled to the productive sector. In this context, reforms to enhance the business environment and further the productive sector are pivotal, since accelerated credit growth may tend to amplify both favourable and distorted aspects of the real sector setting and policy environment. Further research is required in terms of non-bank financial lending channels (e.g. the rolls of leasing companies, inter-company loans, etc) and the response of asset prices to higher credit growth.

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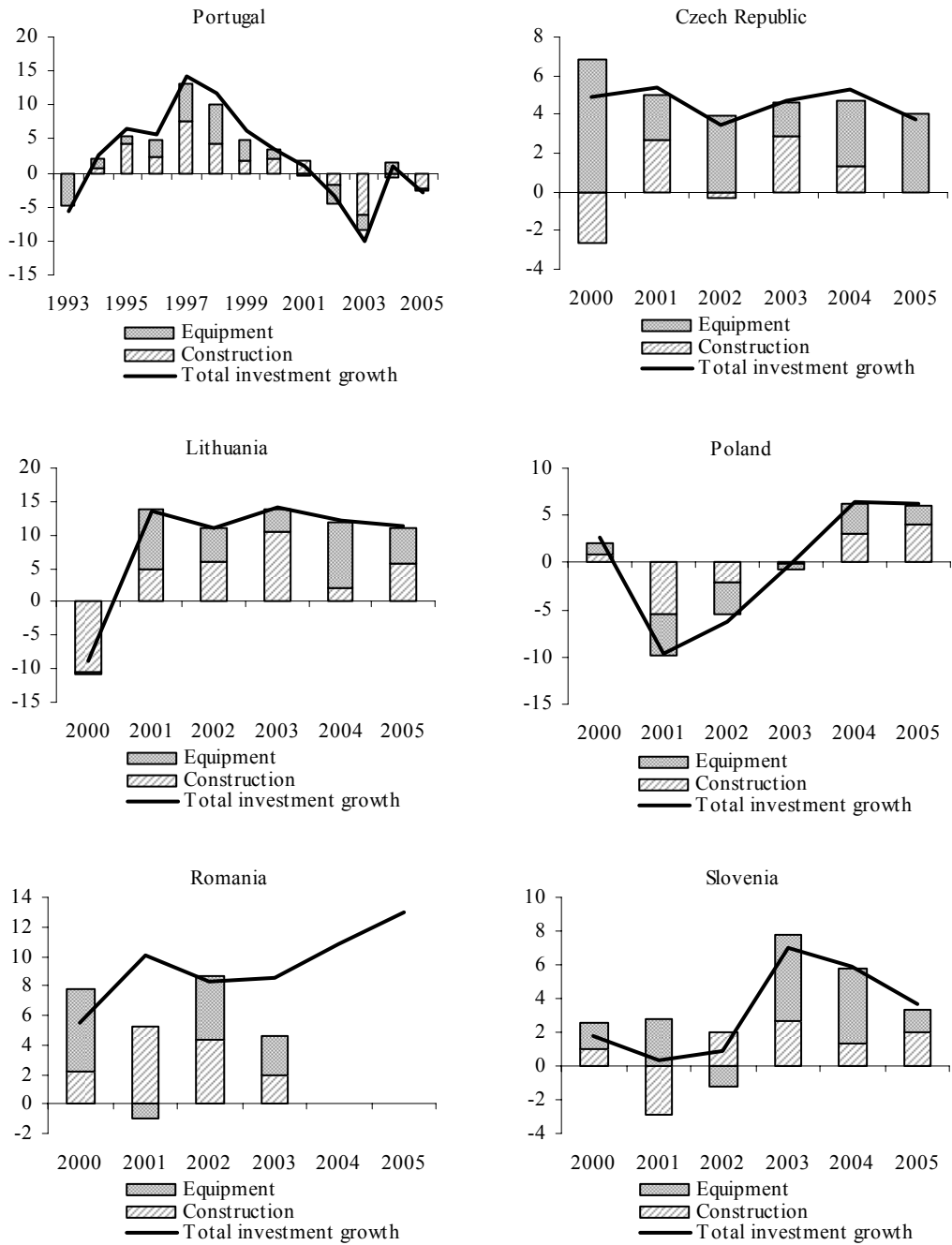
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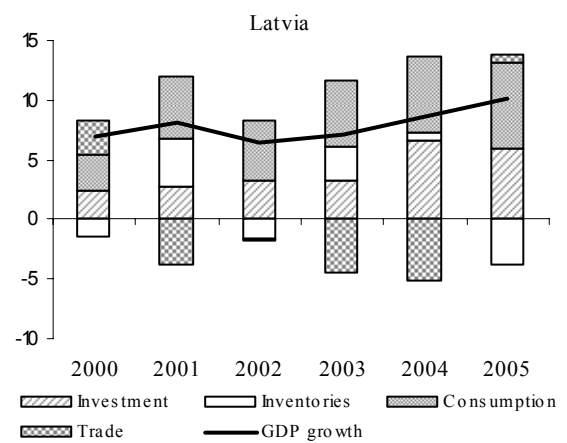
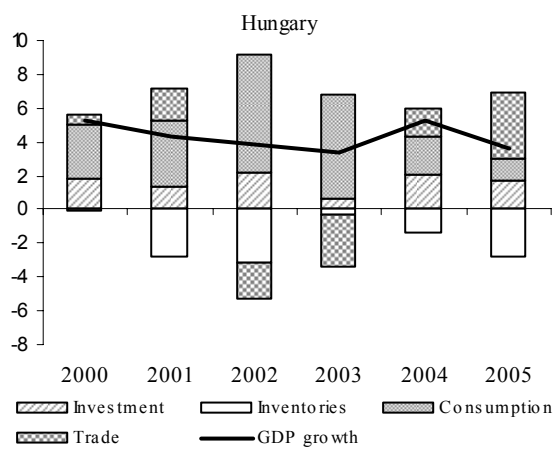
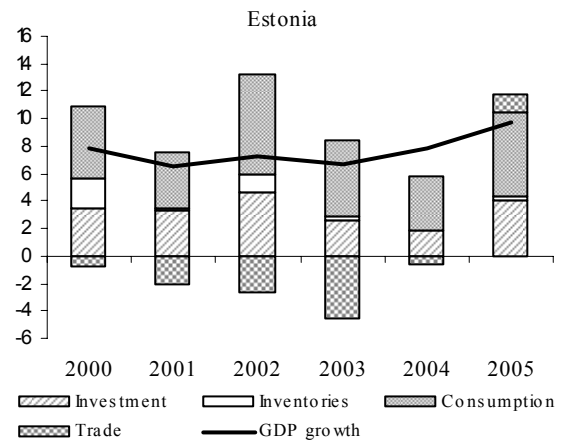
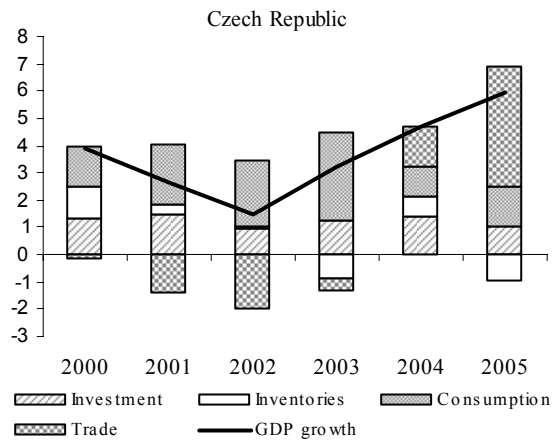
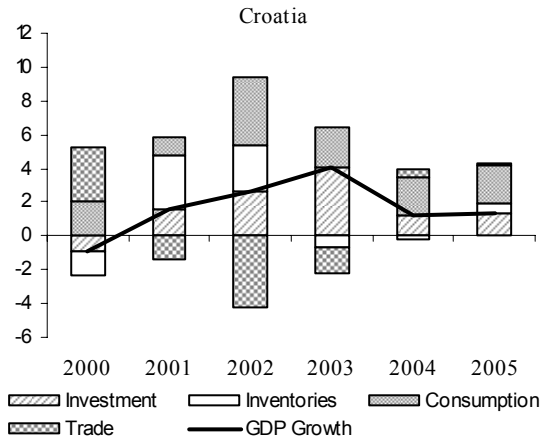
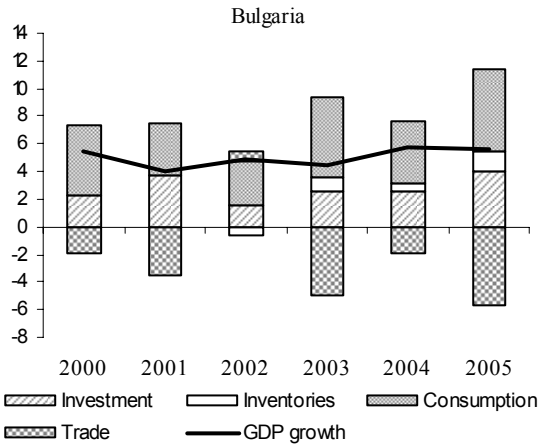
APPENDIX

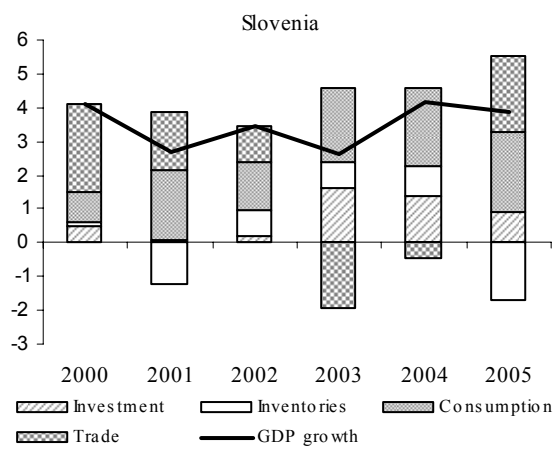
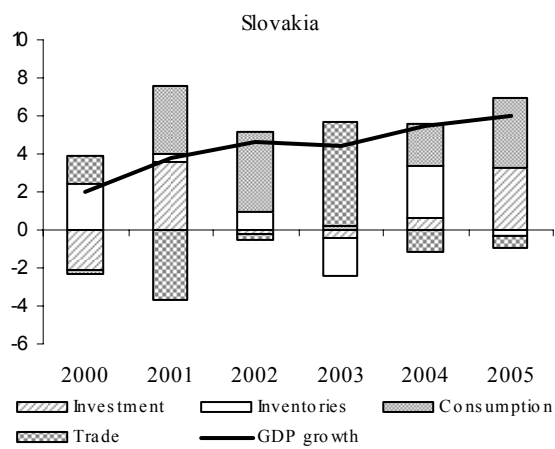
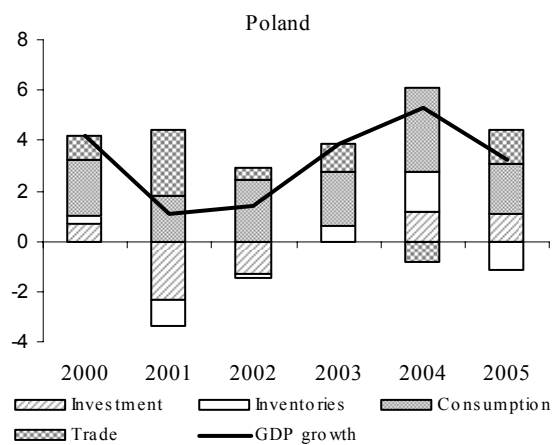
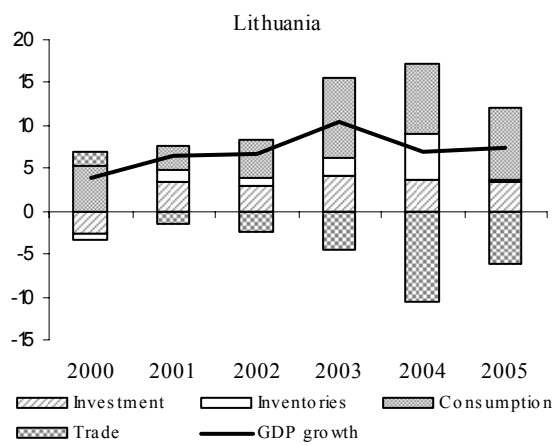
FIGURE (A1): CONTRIBUTIONS TO TOTAL INVESTMENT GROWTH



Source: AMECO

FIGURE (A2): CONTRIBUTIONS TO GDP GROWTH





Source: EU Commission AMECO Database

TABLE (A3): STRUCTURE OF OTHER INVESTMENT LIABILITIES FOR A SELECTED GROUP OF COUNTRIES

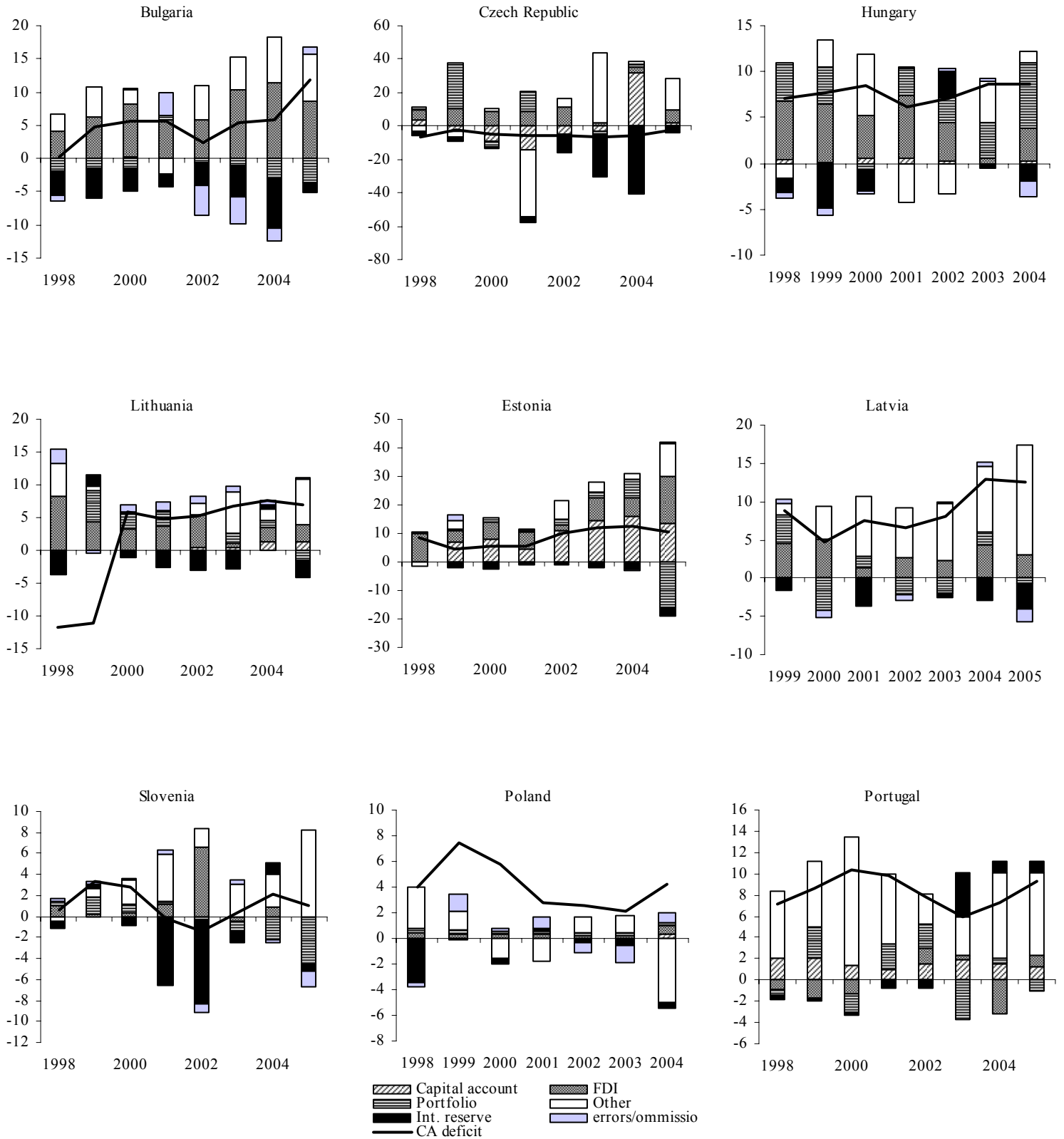
ESTONIA										
TRADE CREDIT		LOANS		DEPOSITS		OTHER CAPITAL		TOTAL		
VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	
(EEK M)		(EEK M)		(EEK M)		(EEK M)		(EEK M)		
1995	230.1	11.9	1,060.70	54.8	636	32.9	8.5	0.4	1,935.30	100
1996	426.7	12.6	1,723.70	50.7	1,232.30	36.6	14.80	0.4	3,397.50	100
1997	367	3.6	6,399.70	63	2,426.00	23.9	961.80	9.5	10,154.50	100
1998	-221.2	-16.3	290.00	21.3	365.5	26.9	924.2	68	1,358.50	100
1999	119.1	2.8	2,399.70	57.3	1,462.70	34.9	204.30	4.9	4,185.80	100
2000	1,080.90	41.6	-785.30	-30.2	1,955.40	75.3	345.60	13.3	2,596.60	100
2001	102.9	3.1	2,570.40	78.2	81.40	2.5	533.50	16.2	3,288.20	100
2002	781.1	11.6	1,963.30	29.2	3,763.50	55.9	225.40	3.3	6,733.30	100
2003	-115.7	-1.7	3,220.90	47.8	4,587.90	68.1	-960.30	-14.3	6,732.80	100
2004	625.2	4.6	4,564.70	33.3	8,804.70	64.2	-278.20	-2	13,716.40	100

LITHUANIA										
TRADE CREDIT		LOANS		DEPOSITS		OTHER CAPITAL		TOTAL		
VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% share	
(LTL M)		(LTL M)		(LTL M)		(LTL M)		(LTL M)		
1998	439.94	19.3	1,800.62	79.0	-16.44	-0.7	53.72	2.4	2,277.84	100
1999	-149.23	-15.3	899.76	92.5	129.78	13.3	92.46	9.5	972.77	100
2000	-10.09	74.6	-335.65	2482.6	234.42	-1733.9	97.80	-723.4	-13.52	100
2001	573.67	53.7	-1.77	-0.2	122.41	11.5	373.46	35.0	1,067.77	100
2002	495.74	191.8	-288.81	-111.7	36.18	14.0	15.37	5.9	258.48	100
2003	816.69	20.8	2,991.74	76.3	256.78	6.5	-144.90	-3.7	3,920.31	100
2004	692.19	22.9	1,779.65	58.9	816.00	27.0	-266.47	-8.8	3,021.37	100
2005	1294.97	18.7	5271.53	76.1	393.83	5.7	-31.88	-0.5	6928.45	100
2006	-119.54	-8.1	961.52	65.5	273.14	18.6	352.26	24.0	1467.38	100

BULGARIA										
TRADE CREDIT		LOANS		DEPOSITS		OTHER CAPITAL		TOTAL		
VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	VOLUME	% SHARE	
(BGN M)		(BGN M)		(BGN M)		(BGN M)		(BGN M)		
1998	-74	-11.9	646.3	103.9	24	3.9	25.6	4.1	621.9	100
1999	202.9	13.7	949.1	64.2	-0.1	0.0	326	22.1	1477.9	100
2000	286.4	17.9	725.7	45.3	82.1	5.1	508.6	31.7	1602.8	100
2001	-254.2	45.9	-587.3	106.0	18.5	-3.3	269.1	-48.6	-553.9	100
2002	398.7	38.5	41.3	4.0	81.9	7.9	513.5	49.6	1035.4	100
2003	-162.3	-14.1	749.6	65.1	103	8.9	461.1	40.0	1151.4	100
2004	171.4	3.0	2846.6	49.5	792	13.8	1945.5	33.8	5755.5	100
2005	304.6	7.6	1562.9	38.8	933.7	23.2	1228	30.5	4029.2	100

SOURCE: BALANCE OF PAYMENT STATISTICS PROVIDED BY NATIONAL CENTRAL BANKS

**FIGURE(A4): SOURCE OF EXTERNAL FINANCING OF THE CURRENT ACCOUNT DEFICIT
(AS A PERCENTAGE OF GDP)**



Source: National central banks and own calculations

BOX(02):THE NATURE AND USES/FUNDS OF CREDIT GROWTH

	PRIVATE CREDIT GROWTH	SIGNS OF MACROECONOMIC/ FINANCIAL DISTRESS?	SECTORAL LOAN COMPOSITION	LOAN CURRENCY COMPOSITION	PRIVATE SECTOR BEHAVIOUR/USES OF CREDIT	FUNDING SOURCES OF CREDIT
<i>BULGARIA</i>	High credit growth of 40% in 2003/2004, but signs of credit deceleration in 2005 (28%) in real terms at increasing levels of financial deepening (from 12% in 2001 to 40% of GDP in 2005)	Rising GDP growth, but expected to stay at current levels of 5.5% per annum for the next two years. Signs of inflationary pressure (from 2.5% in 2003 to 5% in 2005 and projections to 7% in 2006. Rapidly rising current account deficit from 5.7% in 2004 to 11.8% in 2005.	High growth rates in household lending (50% in 2005) with a rising share of loans for housing purchases, albeit from initially very low levels. Also strong growth in credit to non-financial corporations.	High share of foreign-currency denominated loans in corporate lending, and to a lesser extent in households lending. High foreign-currency denominated household lending-to-GDP (17% in 2005).	Rising household consumption growth at times higher than economic growth. GDP growth primarily driven by domestic demand. Investment currently growing at 19%. Improvements in fiscal balances due to increase in government revenues. Productivity growth currently at 3.5%.	Increase in net foreign liabilities by domestic money banks and high FDI inflows. Lately also high other investment inflows in the form of loans.
<i>CZECH REPUBLIC</i>	Very low credit growth rates at the private and aggregate level at increasing rates of financial deepening (20% of GDP).	High GDP growth at falling inflation, and decreasing current account deficit (from 6% in 2004 to 2.1% of GDP in 2005).	In past three years, rise in household lending with a growth rate of 32% in 2005. High share of housing loans. Lately, a rise in growth of corporate credit of 12.5% in 2005. Also higher credit-to-GDP ratio in corporate sector (18%) than in household sector (14%).	Household borrowing takes place in local currency. Share of foreign currency lending in corporate lending somewhat higher at 18% in 2005.	Increasing investment growth, falling household consumption growth (projected to grow at 2%) but somewhat falling household savings rate. Increase in productivity growth from 0.1% in 2003 to 5% in 2005 ease concerns of rise in corporate sector credit.	Strong deposit base, comparatively low FDI inflows mainly in the form of reinvested earnings against high capital and other investment inflows.
<i>ESTONIA</i>	High private credit growth since 2000 of more than 35% in real terms since 2003 and a sharp rise in credit-to-GDP ratio to 60% in 2005	Very strong GDP growth (10% in 2005) with rising inflation (4% same year), but expected to decrease again in 2006/2007. A very high current	Potential risk of high credit growth in the household sector (on average of almost 50% in 2002-2005) at increasing level of credit-to-GDP in the	Households are increasingly borrowing in foreign currency. Similar developments in the corporate sector.	High investment growth, but projected to decline in 2006/2007. High household consumption growth, albeit at lower rates than real economic growth.	Increase in net foreign liabilities of the domestic banking sector. Foreign inflows consists of an equal proportion of FDI and 'other investment'

		account deficit of over 10% since 2002.	sector. High share of loans for house purchases. Also increasing credit growth in the corporate sector.		Until 2002 a sharp decline in household savings (no data available thereafter). Very high productivity growth and good business environment along with sound fiscal balances.	inflows. Increasing share of loans and deposit inflows as part of other investment.
<i>HUNGARY</i>	Increasing credit growth to the private sector (on average 15% annually 2002-2005) driven by the household sector at increasing levels of credit-to GDP.	Steady GDP growth at 4% in 2003-2005 on average at falling inflation. Significant deterioration of current account (8.6% of GDP in 2005)	Corporate lending has slightly increased since 2003. High credit growth to the household sector in 2001-2003, but growth rates have declined to 20% on average in the last two years.	Foreign currency-denominated loans present almost 50% of total credit, stemming from the corporate sector. However, households are increasingly borrowing in foreign currency (29% of total households loans in 2005 compared to still 13% in 2004)	Investment growth increased from 2.5 % in 2003 to 8.4% in 2004. Falling rates of household consumption but weak fiscal position.	Steady deposit base. CA deficit financed by portfolio and foreign direct investment inflows.
<i>LATVIA</i>	Very high credit growth in the private sector (over 40% in the past two years) at rising credit-to-GDP ratio	High GDP growth at rising inflation (6.5% on average in past two years) and high current account deficit (over 12% of GDP in past two years)	High credit growth in both corporate and household sector at rising levels of credit-to-GDP ratios. High share of housing loans in total household loans.	Very high share of foreign currency-denominated lending in both sectors (over 60% of total sector loans)	High private credit growth rates (over 10% annually since 2002). Sharp increase from 12% in 2003 to 24% in following year. High household consumption growth (13.1% in 2005), with rapidly declining savings ratios. High productivity growth. An improvement in fiscal balances due to higher government revenues against an increase in government expenditure.	CA deficit financed by a mix of FDI inflows and very high other investment inflows. Banking sector incurred high net foreign liabilities (22% of GDP in 2005).

<i>LITHUANIA</i>	Very high credit growth since 2001 amounting to almost 60% in 2003, some signs of easing in 2004 but returned to levels of 50% in 2005. Increasing levels of credit-to-GDP.	High GDP growth (7%) at low but increasing levels of inflation. High current account deficit since 2003 (more than 7% of GDP).	Very high growth rates in credit to the household sector, used for the purpose of house purchases.	High levels of foreign currency-denominated credit-to-GDP ratios in household and private sector. High share of foreign loans in both sector, at higher levels in the corporate sector (almost 70% of total corporate loans) to still 55% in the household sector.	Steady but slightly falling investment growth with rapidly declining household's savings rate and high household consumption growth. Productivity growth fell from 7.1% in 2004 to 4.7% in 2005. Good business environment.	Current account deficit increasingly financed by other investment inflows in the form of loans. Increasing deposit base at increasing net foreign liabilities in the banking sector.
<i>POLAND</i>	Very low credit growth to the private sector. Signs of a temporary increase in credit growth in 1997-1999. Financial deepening is increasing steadily, currently at 27% of GDP.	Moderate GDP growth pending between 3% and 5% with low inflation (a one-off high inflation of 3.6% in 2004). A general low CA deficit, with the exception of 2004 (4.2% of GDP compared to again 1.4% of GDP in 2005).	Negative growth rates in corporate lending. Generally low growth rates in household lending, but the year 2005 saw a rise in the growth rate to households of almost 20%.	Foreign currency-denominated loans amount to 20% and 30% of total loans in the corporate and household sector respectively)	High investment growth, especially in 2004 (explaining the CA deficit in the same year) with a temporary decline in households savings rate in 2004 to 6.5%. Household savings rate increased again in 2005 and is projected to increase to 10% of disposable income in 2007. Falling productivity growth. Improved fiscal balances.	Increasing deposit base. Relatively low foreign financing compared to other parts in the region.
<i>SLOVAKIA</i>	High levels of credit growth in last two years for which data was available, at 27% of GDP.	After a rise in inflation in 2003 and 2004 (8.4 and 7.5%), inflation has been down to 2.8% in 2005, while economic growth has increased to above 6% in 2005. The current account deficit has decreased from -8% in 2002 to -0.9% in 2003	High credit growth rates in the corporate sector (40% compared to 28% in the household sector, both at very low levels of GDP (11% in 2005). High share of housing loans in household lending.	Low share of foreign currency in the household sector (1.2%) compared to high share in the corporate sector (37%).	Growth in investment in recent years (10% in 2005), but expected to be falling again. Household consumption growth jumped from 2.5% in 2004 to 6% in 2005, while household savings rate is high and increasing (10% of disposable income).	Steady deposit growth and increase in net foreign liabilities.

<i>SLOVENIA</i>	Credit to the private sector has been rising since 2003, albeit at a moderate pace (from 9% in 2003 to 20% in 2005) at a considerable rise of financial deepening.	Slightly rising GDP growth with falling inflation. Current account deficit is in a surplus of 2.1% of GDP in 2004 and 1.1% in 2005).	Household lending has been increasing since 2004 (from formerly 5.5% in 2003 to 23% in 2005) at still relatively low levels of GDP (15% in 2005). Similar picture for corporate lending.	High share of 50% of foreign-currency denominated credit in the corporate sector compared to low levels in the household sector (11% of total household credit).	A fall in the investment growth rate from 2003 - 2005, but investment growth is expected to start increasing again in the following years (6% in 2007). High savings rate in the housing sector at a constant 12% of disposable income, with moderate growth in household consumption at 2-3%.	High inflow of other investment and high cross-border lending to the non-bank sector (over 10% of GDP). Steady growth in deposits and incurrence of net foreign liabilities.
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