

POLICY RESEARCH WORKING PAPER

4281

# Credit Growth in Emerging Europe

## A Cause for Stability Concerns?

*Sophie Sirtaine*

*Ilias Skamnelos*

The World Bank  
Europe and Central Asia Region  
Finance and Private Sector Development Unit  
July 2007



## Abstract

High credit growth in Emerging Europe, generally considered a sign of catching-up with the “old” Europe, has begun receiving considerable attention among investors and policymakers alike. Given heightened global risks and the demands under the European Union accession process, the need to better understand this high credit growth’s drivers, riskiness, and the possible macroeconomic and financial stability consequences is strong. The authors adopt a holistic approach in

reviewing the rapid credit growth experienced in the region, examining macroeconomic, financial sector, corporate sector, and asset market consequences and possible vulnerabilities. They consider three possible scenarios—a catching-up with older European countries, a soft landing as experienced by Portugal in the early 2000s, and a hard landing as experienced by Asia in 1997.

---

This paper—a product of the Finance and Private Sector Development Unit, Europe and Central Asia Region—is part of a larger effort to help financial sector authorities in the region adequately monitor potential risks emanating from their financial sector and address them preemptively. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sophie Sirtaine, room I-4-383, telephone 202-4587006, fax 202-5223687, email address [ssirtaine@worldbank.org](mailto:ssirtaine@worldbank.org). Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The authors may be contacted at [ssirtaine@worldbank.org](mailto:ssirtaine@worldbank.org) and [iskamnelos@worldbank.org](mailto:iskamnelos@worldbank.org). July 2007. (41 pages)

*The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.*

# **CREDIT GROWTH IN EMERGING EUROPE: A CAUSE FOR STABILITY CONCERNS?**

Sophie Sirtaine and Ilias Skamnelos<sup>1</sup>  
Finance and Private Sector Development  
Europe and Central Asia Region  
World Bank

JEL Classification Numbers: G00

Keywords: Credit Growth, Financial Stability, Risks and Vulnerabilities, Financial Sector Policy, Emerging Europe

---

<sup>1</sup> Authors' Email Addresses: [ssirtaine@worldbank.org](mailto:ssirtaine@worldbank.org), [iskamnelos@worldbank.org](mailto:iskamnelos@worldbank.org)

We are grateful to Natalia Tamirisa (IMF) and Ugo Panizza (IADB) for sharing BankScope data and to Sarah Zekri for early contributions. We are also grateful for useful comments and suggestions to Fernando Montes-Negret, Jose De Luna-Martinez, Constantinos Stephanou, Thomas Blatt Laursen, Leszek Pawel Kasek, and Manuela Francisco (all WB), as well as to the EU8 Quarterly Economic Report (January 2006) team. This paper was the collaborative result of the Europe and Central Asia Private & Financial Sectors Development Sector Unit (ECSPF) and the Poverty Reduction and Economic Management Network (ECSPE) in the Europe and Central Asia (ECA) Vice-Presidency of the Bank.



## Table of Content

<b>INTRODUCTION .....</b>	<b>3</b>
<b>SECTION 1: BRIEF LITERATURE REVIEW .....</b>	<b>4</b>
<b>SECTION 2: CREDIT GROWTH IN EMERGING EUROPE .....</b>	<b>6</b>
<b>SECTION 3: MACROECONOMIC, FINANCIAL SECTOR AND ASSET MARKET VULNERABILITIES.....</b>	<b>9</b>
<b>A. Macro Imbalances and Potential Vulnerabilities.....</b>	<b>9</b>
<b>B. Banking Sector and Potential Vulnerabilities .....</b>	<b>12</b>
<b>C. Asset Market Imbalances.....</b>	<b>23</b>
<b>SECTION 4: POSSIBLE SCENARIOS: CATCHING-UP WITH OLD EUROPE, SLOW PAINFUL ADJUSTMENT OR EVOLVING TOWARDS A POTENTIAL CRISIS?.....</b>	<b>25</b>
<b>A. Catching-up with Old Europe? .....</b>	<b>25</b>
<b>B. Evolving towards a slow painful adjustment process? .....</b>	<b>27</b>
<b>C. Evolving towards an Asian-style crisis?.....</b>	<b>28</b>
<b>SECTION 5: CONCLUSION AND POLICY RECOMMENDATIONS .....</b>	<b>31</b>

## Introduction

Real GDP growth among the Emerging European Countries<sup>2</sup> has been strong since 2000, reaching an average of over 5 percent p.a. over the period 2000-2005. This has been the signature of the economic recovery of the transition to a market economy. The growth forecasts are also optimistic as Table 1 suggests. However, prior to this period of sustained growth, most countries in the region suffered episodes of sharp GDP decline. These were due to macroeconomic imbalances, policy uncertainty and, notably, financial crises. The degree to which such a reversal could reoccur, especially in view of the rapid credit growth currently experienced, is the central topic of this paper.

**Table 1: Macroeconomic forecasts for 2007 as of Nov. 2006**

	Real GDP Growth	S&P Credit Rating
Baltic countries	7.5	A(S) to A-(S)
Central Eastern European countries	4.7	A(P) to BBB+(N)
South Eastern European countries	5.1	BBB+ (S) to BBB- (P)

Source: Consensus Economics, S&P

Note: S&P credit watch in brackets, P=positive, N=negative, N=neutral

High credit growth in Emerging Europe, generally considered a sign of catching-up with the “old” Europe, has begun receiving considerable attention among investors and policy makers alike. With the memory of the Asian financial crisis and financial contagion of 1997-98 still fresh, investors’ and international financial institutions’ publications exhibit some nervousness and reflect this with a growing focus on vulnerability indicators.<sup>3</sup> Meanwhile, publications by central banks in the region focus on the difficult balancing act between financial deepening and unsustainable credit growth.<sup>4</sup> Given heightened global risks and the demands under the European Union accession process, the need to better understand the drivers of credit growth in Emerging Europe, its riskiness and the possible macro and financial stability consequences is strong.

As will be developed in the paper, the rapid credit growth experienced by most Emerging European Countries has indeed led to the development of relatively large macroeconomic imbalances in many of these countries. In particular, the credit-fueled domestic demand upsurge has contributed to the deterioration of external current account balances and exerted upward pressure on asset, goods and labor market prices. In particular, the rapid increase in household credit has created vulnerabilities in the property market. Under fixed exchange rate regimes or with limited margins to intervene in the foreign exchange

---

<sup>2</sup> By Emerging Europe and Emerging European countries we refer in this study to the Baltic countries of Estonia, Latvia and Lithuania, the Central Eastern European countries of the Czech Republic, Hungary, Poland, Slovakia and Slovenia and the South Eastern European countries of Bulgaria, Croatia and Romania.

<sup>3</sup> For example, ING (2006) ‘Thai with a twist’, Danske Bank (2006) ‘Be careful! Risk on the rise’, or cautionary reports by the IMF (WEO, 2004) and the ECB (Papademos, 2005).

<sup>4</sup> The importance of financial deepening towards growth has received a lot of attention recently with studies such as Levine et al (2000). However, many studies point to financial distress associated with rapid credit expansion, such as Kaminsky and Reinhart (1999). This raises the policy-related balance dilemma of credit growth benefiting the real economy versus credit boom building up macroeconomic imbalances.

market, the rise in domestic prices can reduce external competitiveness and lead to devaluation pressures. Furthermore, as the current credit expansion is largely financed by foreign exchange flows, it raises concerns about currency mismatches, sudden stops and financial contagion.

Irrespective of these macroeconomic imbalances, rapid credit growth can often be considered risky in itself. Euphoria-led credit booms have indeed often led banks to increasingly focus and reassign staff to the generation of new loans to the detriment of credit origination, monitoring and risk appraisal. As a result, credit booms have frequently been associated with future increases in non-performing loans (NPLs) and banking sector problems. In fact, high credit growth is considered an early warning indicator of future potential banking sector problems.

We attempt to examine these concerns by focusing on the banking sector's health and riskiness, but, nevertheless, taking a holistic approach and assessing the macroeconomic, financial and corporate sector conditions and their interrelations. The analysis is based on macroeconomic trends established from widely available sources and bank level data from BankScope. Benchmarks for comparisons are set against Euro Area countries (Portugal in particular) and Asian countries on the eve of the 1997 crisis.

The study is organized as follows: in Section 1, we briefly review the relevant literature; in Section 2, we review the rapid credit growth experienced by the Emerging European Countries in recent years; in Section 3, we examine macroeconomic, financial sector, corporate sector and asset market consequences and possible vulnerabilities; in Section 3, we examine three possible scenarios, a catching-up with older European countries, a soft landing as experienced by Portugal in the early 2000s, and a hard landing as experienced by Asia in 1997; and in Section 4, we conclude and make policy recommendations.

## Section 1: Brief Literature Review

A number of literature strands are relevant to this study. The vulnerability indicator literature motivates us to conduct a holistic analysis of the macro-economy, the banking and the corporate sectors. The existing literature on credit expansion in the region offers inconclusive evidence on the catching-up theory and the degree of regional vulnerability. Finally, the literature related to financial crises (in East Asia in particular) offers insights on possible hard landing scenarios.

A common concern about economies under stress is that problems in one sector can spread to others.<sup>5</sup> This concern has naturally also been identified in the vulnerability indicators and the Early Warning Systems (EWSs) literature, which attempts to identify the causes of financial crises and determine early warning indicators. Interestingly, three prominent approaches have emerged. The **macroeconomic approach**, for example in

---

<sup>5</sup> The Financial Soundness Indicators (IMF, 2004) include indicators of capital adequacy, asset quality, profitability, liquidity and exposure to foreign exchange risk applied to the financial sector. The IMF nevertheless also considers more general financial vulnerability indicators related to the macroeconomy and global risk factors, as well as to corporate and household indebtedness, asset price inflation, contagion and qualitative factors (regulation, supervision, financial institution management).

Demirgüç-Kunt and Detragiache (1998), considers crises to be the result of macroeconomic imbalances, mostly external position fragilities, and highlights the need to monitor macroprudential indicators. On the other hand, the **bank balance sheet approach** of Sahajwala and Van den Berg (2000) sees crises as resulting from poor banking practices and stresses the need to monitor the banking sector's health and conduct stress tests to assess its vulnerability.<sup>6</sup> Finally, the **market approach** developed in studies such as that of Bongini et al (2002) turns to market indicators, like equity and debt prices, to extract a probability of default, resulting from corporate, household and real estate sector fragilities.

Turning to the literature on credit growth in Emerging Europe, the emphasis has been on bench marking to an estimated equilibrium level of credit growth or identifying deviations from trends, with mixed results but with the emphasis always on vigilance.<sup>7</sup> Keeping in mind different approaches, time periods, country and topic focuses, Schadler et al (2004), Cotarelli et al. (2005) and Brzoza-Brzezina (2005) consider the current trend a benign scenario of catching up with a largely remote possibility of a downward correction. On the other hand, others find the current credit growth excessive in some countries and see possible stability issues, with Backé et al (2005) pointing out vulnerabilities in Croatia, Estonia, Latvia and possibly Bulgaria, Boissay et al. (2006) Croatia, Estonia, Bulgaria, Latvia and Lithuania, Kiss et al (2005) Latvia and Estonia and Duenwald et al. (2005) Bulgaria and Romania. Finally, Ko (2006) and Watson (2006) consider different possible scenarios, including a slow correction scenario, with misaligned income expectations, a slow supply response in non-traded goods and unsound fiscal policies as major distress triggers.

Turning to the financial crisis literature, two originating factors have been stressed: weaknesses in fundamentals (whether in the macroeconomic, financial, corporate, or housing sectors) and panics (market overreaction, herding).<sup>8</sup> The studies following the East Asian financial crisis reflect this dichotomy of views as well.<sup>9</sup> Thus, despite consensus on the crisis consequences, the causes of the crisis are still debated. Some characteristics of the Asian crisis are particularly interesting for this study: i) the sudden reversal of capital flows; ii) the occurrence of twin crises and the central importance of the banking sector; iii) the power of contagion; and, surprisingly, iv) the failure of the financial turmoil to be predicted or explained by traditional crisis models.

---

<sup>6</sup> The literature on stress testing has also adopted a broad approach to the origin of shocks, ranging from macroeconomic factors to corporate balance sheets.

<sup>7</sup> But, as pointed out in Gourinchas et al (2001), although the conditional probability of a lending boom occurring before a banking crisis may be quite high, it does not tell us much about the converse. In that respect, the synergy of fragilities at the macro, financial and corporate levels becomes central.

<sup>8</sup> This is also reflected in the literature on contagion, split into rational (linkages of fundamentals) and irrational (herding, euphoria, panic).

<sup>9</sup> Radelet and Sachs (1999) identify four main types of models to explain the crisis: weaknesses in the economies, moral hazard, panic following the Thai devaluation and self-fulfilling panic by investors.



## Section 2: Credit Growth in Emerging Europe

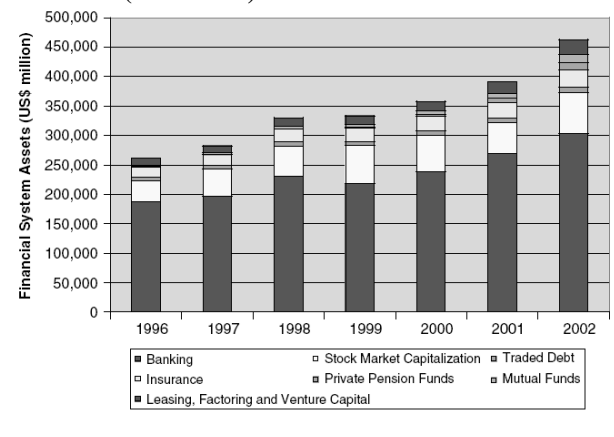
The region's economic convergence has had important financial spillovers, leading to a strengthening and deepening of the financial sectors through, among others, (i) an increased presence of foreign banks, (ii) an alignment of legal and regulatory frameworks to EU guidelines, and (iii) an alignment of supervisory practices with EU practices. Since 2000, abundant liquidity has fed an upsurge in financial activity translating into a rapid rise in bank credit, surging stock markets and a booming real estate sector (see Box 1 on the drivers of credit growth in the Emerging European Countries).

Bank credit is of particular importance given that the financial systems of the region are bank-centric, with bank assets making up about 85 percent of financial sector assets<sup>10</sup> (see Figure 1), while there is relatively limited development of the capital markets and other non-bank finance institutions (NBFIs).

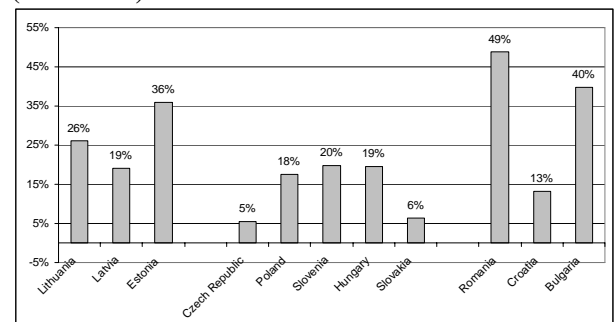
Over the last decade, bank lending to the private sector in the Emerging European Countries has been growing at an average annual compounded growth rate of 24 percent p.a. (from 1993 to 2005 – Figure 2), led by a particularly strong and sustained growth in Romania, Bulgaria, Estonia and Lithuania. In the last few years, credit growth has continued to accelerate in the Baltic countries (reaching annual growth rates of nearly 60 percent in Latvia and Lithuania in 2005) and in Bulgaria (reaching nearly 45 percent in 2005).

Credit growth has been notably lower in the central Eastern European counties, especially in the Czech Republic and Slovakia (where it averaged 5 and 6 percent p.a. respectively).

**Figure 1: Structure of the financial sector in the EU8 countries (1996-2002)**



**Figure 2: Average annual compounded credit growth (1993-2005)**



Source: IFS

<sup>10</sup> In addition, banking sectors are often bi-modal, with few large banks and many small ones.

### **Box 1: The drivers of Credit Growth in the EU10 Countries**

The fast credit growth observed in the EU10 countries has been led by various factors affecting the supply and the demand for credit, as well as by favorable macroeconomic conditions and specific government policies.

Firstly, there has been an increase in the supply of bank loans driven primarily by the convergence-motivated financial sector deepening. The large privatization processes in the late 1990s and early 2000s in the banking sector and public sector retrenchment from banking have been key factors removing previous crowding out and inefficiency effects. Increased competition among banks (as a result of foreign entry into the market to capture market share in countries with favorable growth and return conditions compared to their home countries) has led to narrowing margins and higher credit growth to maintain profitability. The large inflows of foreign financing (resulting from the then lower domestic macroeconomic risks, currency appreciation expectations, as well as external factors like low real international interest rates and abundant liquidity) has also stimulated the rise in credit supply. Finally, credit activities have been supported by the development of credit information bureaus, collateral regimes, improved creditors' rights and insolvency frameworks, stronger judiciary systems, better accounting and auditing practices, and new banking products.

Secondly, the demand for credit has grown under the impact of improving macroeconomic conditions (like falling inflation, lower interest rates and predictable exchange rates), low initial household indebtedness, increases in disposable income, rising income expectations (driven by catching-up expectations and higher confidence), better investment opportunities, and possibly some speculative investments. The demand for credit has also been pushed by foreign interests investing and borrowing in the region (such as the acquisition of real estate assets by Russian investors in the Baltic countries).

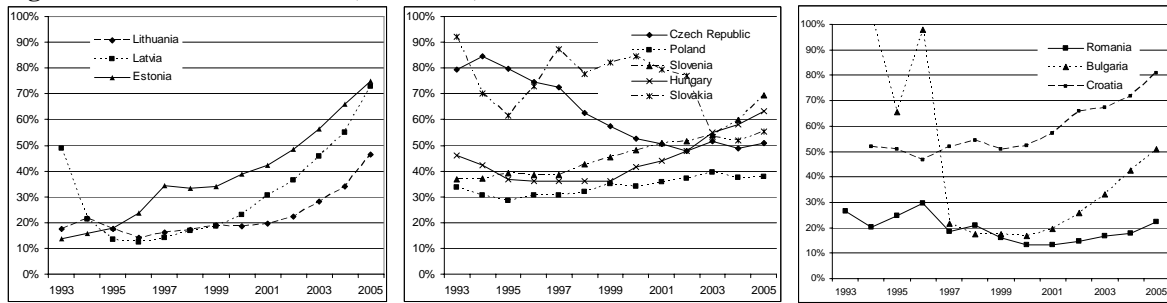
Thirdly, macroeconomic conditions in the EU10 countries have been favorable for credit expansion, including successful disinflation, good economic prospects and a positive business cycle, low real interest rate levels and a real exchange rate appreciation. In some countries, easy monetary and/or fiscal policies have also contributed to strong growth in bank credit.

Fourthly, specific government schemes may have also contributed to some of the observed credit growth, such as construction saving subsidies (in the Czech Republic and Hungary) and interest rate subsidies (in Hungary), favorable tax treatment for housing loans and government bail-out guarantees (implicit or explicit). For instance, in Estonia, mortgage finance has been stimulated by guarantees available from KredEX, the government credit and export fund and the tax deductibility of mortgage interests.

The main reasons suggested above are also the main determinants of credit according to the macroeconomic literature estimating equilibrium levels for credit growth in the EU10, such as in Cotarelli et al (2005), Backe et al (2005), Boissay et al (2006) and Kiss et al (2006). They find among the key determinants of credit: GDP per capita (economic growth), the real interest rate (credit cost), inflation (volatility cost and credit constraint), public debt (crowding out), financial liberalization indices (financial deepening), banking regulation, accounting standards and property prices (wealth effect, collateral). Nevertheless, the literature also suggests that country-specific effects have also played a large role.

**The rapid growth observed in the Emerging European Countries has translated into a sharp increase in the ratio of credit to GDP** (see Figure 3), with the exception of the Czech Republic, Slovakia, Poland and Romania, for which this ratio has been modest or declining (but they are showing signs of a possible renewed upsurge).

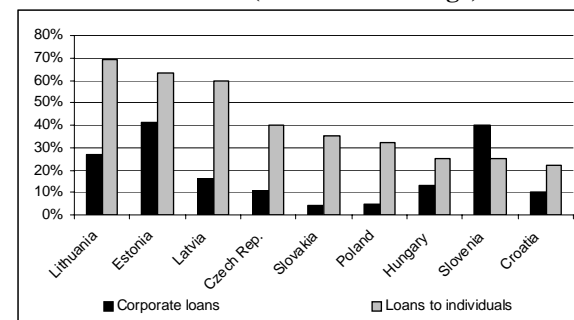
**Figure 3: Credit to GDP ratio (1993-2005)**



Source: IFS

**Credit growth has resulted mostly from loans to households while growth in corporate sector loans has remained modest (Figure 4).** As a result, the share of consumer and mortgage loans in banks' portfolios has increased significantly in all countries (except in Slovenia, where it has remained stable) (Figure 5). Only in Slovenia has the growth in corporate sector loans surpassed that of consumer loans.

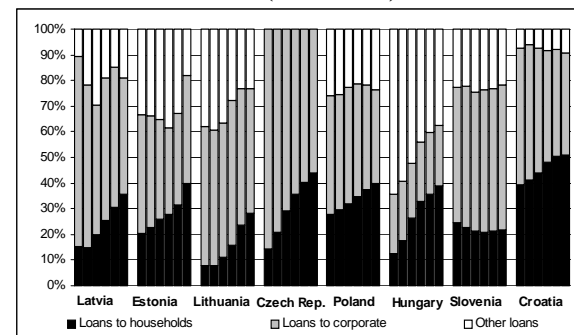
**Figure 4: Individual and corporate credit growth in the EU8 countries (2003-2005 average)**



Source: BIS

**Among loans to individuals, housing loans have been growing particularly fast.** Between 2004 and 2005 alone, housing loans have increased by more than 95 percent in the Czech Republic, 45 percent in Slovakia and Poland and 25 percent in Estonia, Latvia and Hungary. In Latvia and Estonia, total real estate loans outstanding (including mortgages and real estate sector loans) accounted for over 50 percent of total outstanding loans at the end of 2005.

**Figure 5: Evolution of Loan Portfolio Breakdowns in the EU10 countries (2000-2005)**



Source: national central banks

**By contrast, loans to the corporate sector have grown at modest pace in the region (except for the Baltic countries and Slovenia).** Among the reasons behind this trend are the scarcity of financially viable opportunities in industrial sectors, remaining weaknesses in corporate bankruptcy procedures and contract enforcement (see Table 2), opacity of information on enterprises (especially SMEs), low corporate investment and borrowing needs after a cycle of stock building and operations under full production capacity, a large reliance on suppliers' financing and intra-company loans, and a more selective approach to corporate lending brought about by better credit practices and regulations. The low growth in corporate sector loans raises questions on the productive impact of the

observed credit growth, which has fueled large increases in consumption and imports, as explained in the next section.

**Table 2 Selected Doing Business indicators, Emerging European Countries, 2006**

	<b>Closing a Business (2006)</b>			<b>Enforcing Contracts (2006)</b>		
	Time (years)	Cost (% of estate)	Recovery rate (cents on the dollar)	Procedures (number)	Time (days)	Cost (% of debt)
OECD	1.4	7.1	74	22.2	351.2	11.2
Europe & Central Asia	3.5	14.3	29.5	31.5	408.8	15
Estonia	3	9	39.9	25	275	11.5
Latvia	3	13	34.8	21	240	11.8
Lithuania	1.7	7	50.5	24	166	8.6
Czech Republic	9.2	14.5	18.5	21	820	14.1
Hungary	2	14.5	39.7	21	335	9.6
Poland	3	22	27.9	41	980	10
Slovakia	4	18	48.1	27	565	15.7
Slovenia	2	8	44.9	25	1350	15.2
Bulgaria	3.3	9	34.4	34	440	14
Croatia	3.1	14.5	28.9	22	561	10
Romania	4.6	9	19.9	43	335	10.7

Source: Doing Business (2006) - See [www.doingbusiness.org](http://www.doingbusiness.org)

### **Section 3: Macroeconomic, Financial Sector and Asset Market Vulnerabilities**

#### **A. Macro Imbalances and Potential Vulnerabilities<sup>11</sup>**

**The high credit growth experienced by many of the Emerging European Countries has had important macroeconomic consequences**, primarily through a sharp boost on their domestic demand (see Table 3). We look in this chapter at the main macroeconomic variables, their interaction with the credit expansion and the possible risks they present.

**Overall, the recent economic performance of the Emerging European Countries has been remarkable.** They have successfully managed their transition from centrally-planned to market economies, and to the European Union. Real GDP growth in the region has been strong since 2000, reaching an average of over 5 percent p.a. over the period 2000-2006 and forecasts for 2007 are optimistic.

**Inflation has generally been declining in most of the region**, averaging about 4 percent in 2005. However, since 2002-03 inflationary pressures have been mounting in the Baltic countries and in Bulgaria, delaying the prospect for Euro adoption for the Baltic countries. This rise reflects both exogenous and internal factors, including rising food and energy prices and wage increases in the Baltic countries<sup>12</sup>, and a sharp boost in domestic demand (fueled by increases in real income, high consumer confidence about future growth and a rapid credit expansion -in particular loans to households). The latter has led

<sup>11</sup> Based on data from IMF's IFS and WB's WBI and EU8+2 QER.

<sup>12</sup> The labor markets in these countries are tightening, with a decline in unemployment and labor migration leading to skills shortages and market bottlenecks.

to a surge in asset prices in the Baltic countries, especially real estate prices, creating fears of asset price bubbles. In addition, for countries with inflexible exchange rates<sup>13</sup>, inflation above EU levels (the EU 25 average was 2.2 percent in 2005) has led to an appreciation of the real effective exchange rate (REER).

**Most of the region has experienced real exchange rate appreciation since 2001**, with sharper increases in 2005. That is in part explained by the large inflows of foreign direct investments (FDI) to the region, attracted by relatively lower labor costs and skilled labor force, good infrastructure and prospects of becoming an outsourcing manufacturing or service hub for Western Europe. While some real appreciation may be driven by fundamentals (Balassa-Samuelson effects among others), some may reflect overvaluation and misalignment. The differential in inflation between the region and the rest of the EU (the main trading partner) is leading to further real exchange rate appreciation - particularly worrisome for the countries under fixed exchange rate regimes. Increasing wage pressures in the Baltic countries (faster than total-factor productivity -TFP) also contribute to competitiveness losses and slower output growth.<sup>14</sup>

**The inflationary pressures are manifesting themselves into rising interest rates** which, with the exception of the Czech Republic, are above interest rates in the Euro Area (particularly for Hungary). This differential, if combined with a perception of lack of exchange rate risk, could encourage further inflows of capital (in a context of absence of capital controls), leading to further appreciation of the exchange rate. If some of these inflows were speculative, they could present a significant risk in the context of a possible depreciation and reversal of external flows.

**The domestic demand boom has led to a regional surge in imports and large current account deficits.** Imports also grew due to the sharp increase in oil and gas prices, as Emerging European Countries are all largely dependent on energy imports. By contrast, the share of exports in GDP grew much less in general, under the effect of wage inflation above TFP improvement, and REER appreciation. Overall, while investments increased, savings increased much less<sup>15</sup>, leading to large current account deficits, especially in the Baltic countries, Southern European countries, particularly Bulgaria and Romania, and in Hungary and Slovakia. Only the Czech Republic, Poland and Slovenia have current account deficits below 4 percent of GDP. Hungary and Croatia have significant twin deficits.

**The current account deficits have been financed by large FDI inflows**, especially in Estonia and Bulgaria (about 20 percent of GDP in 2005 in each country), and in Romania and the Czech Republic (5 to 10 percent of GDP).

---

<sup>13</sup> Countries with inflexible exchange rate regimes include Estonia, Latvia, Lithuania, Slovakia, Hungary and Bulgaria, while the Czech Republic, Poland and Romania exhibit more flexibility. Slovenia adopted the Euro in January 2007.

<sup>14</sup> As competitiveness becomes more global, this development model will come under stress, unless countries are able to climb the “innovation ladder”, adding more value to manufacturing goods.

<sup>15</sup> Interestingly, this trend is the result of private sector savings and investment imbalances, rather than public sector imbalances (see WEO Sep. 06).

**In the Baltic countries, foreign borrowing by banks has also played a large role in financing the deficits** (including in Estonia in recent years), so that the net debt liabilities of these countries have increased sharply. Thus, while the external debt to GDP ratio has remained at relatively low levels for Lithuania, Poland, Slovakia and particularly the Czech Republic and Romania, it has been rising sharply in other countries, reaching levels above 75 percent of GDP in 2006. In the case of Latvia external debt to GDP reached about 112 percent in 2006.

**The debt is subject to currency, interest and maturity risk.** A significant part of the debt is indeed denominated in foreign currency –mostly Euros (in part because some of it has been contracted via foreign banks). This currency mismatch – combined with a decrease in the export to import ratios of many countries and therefore of earnings in foreign currency – could hurt the economy of these countries in the event of devaluations. Maturity mismatches, leading to liquidity risk, are also high. Short-term debt over total external debt is above 40 percent in Lithuania, Latvia and Slovakia and the ratio of short term public debt over foreign exchange reserves was very high in the Baltic countries at the end of 2005 (at about 150 in Lithuania, 250 in Estonia and 350 in Latvia). There are also re-pricing risks, as some of these debts are contracted with floating rates and some will be refinanced.

**With regards to the fiscal situation, the region has in general not taken full advantage of the strong economic growth to consolidate fiscal positions.** The Central Eastern European countries are all running budget deficits, albeit relatively small (except in Hungary where it reached 6.5 percent of GDP in 2005). In Croatia the deficit stood at about 4 percent of GDP in 2005. Bulgaria, Estonia and Latvia are running small surpluses by most accounts and Lithuania and Romania small deficits. As several of these countries held elections in 2006 and others have elections in 2007, fiscal policies have been loose and the fiscal outlook for 2007 does not envisage any turn around except in Hungary (see EU8 QER, Sep. 06). In addition, in some of the Central Eastern European countries (for example Croatia) adequate fiscal adjustment would require unpopular decreases in public expenditures through public sector downsizing. Furthermore, implicit public sector liabilities have been building-up in several of these countries as a result of unfunded social security systems.

**Table 3: Selected macroeconomic indicators, Q3 2006**

	CZ	EE	HU	LT	LV	PL	SI	SK	BG	RO	HR
GDP growth, SNA (real, %, yoy)	5.8	11.3	3.8	6.3	11.8	5.8	5.6	9.8	6.7	8.3	4.7
Domestic Demand, (real, %, yoy)	5.5	16.1	-0.3	8.9		6.1	6.5	9.2	12.1		7.1
Current account balance, (4Q cumulative, % of GDP)	-3.7	-12.4	-6.2	-10.4	-18.3	-1.9	-2.8	-10.4	-14.0	-10.4	-8.2
REER index (2000 = 100, HICP-based, increase = appreciation)	127.4	113.1	120.2	95.9	103.0	102.8	103.8	140.3	121.0	127.4	87.7
FDI (4Q cumulative, % of GDP)	3.7	1.5	6.0	2.1	5.9	2.8	0.8	6.6	14.8	7.2	5.2
Total gross external debt (eop, % of GDP)	36.8	92.9	91.7	56.3	112.0	47.3	76.5	54.2	77.5	27.4	82.4
Change of international reserves in euro (eop, relative to previous period, %)	1.6	12.7	-0.5	4.1	18.8	4.1	-5.1	-15.1	7.3	2.1	-7.0
Reserves-to-short-term debt ratio (eop, %)	189.8	46.5	159.4	81.8	137.0	149.9	222.4	207.5	157.9	209.7	224.4
Money Supply-to-Reserves ratio (eop, %)	285.7	331.4	272.5	277.7	138.2	297.0	190.2	142.8	179.2	86.1	294.0
Credit to private sector (eop, % of GDP)	38.2	79.8	55.6	47.2	80.8	31.7	63.2	37.7	44.5	24.7	68.0
Growth rate of credit to the private sector (avg, %)	19.4	34.0	24.8	55.2	61.1	20.5	26.6	21.9	23.6	55.0	22.4
Foreign currency loans to the private sector (eop, % of loans to priv. sect.)	10.3	78.1	51.9	55.6	74.4	27.3	57.4	19.6	45.1	46.9	9.2
Short-term (3M) interest rates spreads to euro area (avg, basis points)	-84.0	8.0	407.0	4.0	156.0	98.0	25.0	171.0	18.0	529.0	
Change of stock exchange index (avg, relative to previous period, %)	-0.5	1.7	-2.1	-3.3	1.1	5.6	9.1	-1.9	1.6*	5.0	19.0
Exchange Rate Regime	Free Floating	ERM 2, Currency board	Floating	ERM 2, Currency board	ERM 2, Currency board	Free Floating	EMU	ERM 2, Managed Floating	Currency Board	Managed Floating	Managed Floating

Source: QER, January 2006, World Bank.

**Turning to political and global risks, a number of fragilities can be pointed out too. Firstly, recent elections have resulted in weak alliances in many countries and upcoming elections in others increase uncertainty.** These elections have generally put the momentum for the reform agenda on hold. On the global front, an oil shock, slowdown in EU growth, increases in European or global interest rates, sudden stops in capital flows or FDI could have a significant negative impact on the region. Interestingly, the turbulence and volatility in May-June, 2006, revealed significant vulnerabilities in financial markets as a result of investors' attitude towards the region and an eventual re-pricing of risk by investors. It also highlighted the higher danger such an event could pose for countries with large fiscal deficits and foreign debts.

**Secondly, the risk of contagion should not be downplayed.** Many of the Emerging European countries share indeed common creditors and investors, which could potentially lead to a non-discriminating pull-out of investments and attack on currencies, as it occurred in Asia in 1997. In addition, the strong presence of some Western European countries in the Emerging European Countries may also lead to the transmission of potential problems in Western Europe to the region.

**In conclusion, in spite of the remarkable economic performance of the Emerging European Countries overall, macroeconomic imbalances are still prevalent in the region** in the form of large external deficits, appreciating real effective exchange rates and inflationary pressures, fragile public finances, large public sectors, uncertainty regarding commitment to reforms and exposure to global shocks. The Baltic countries (and to a lesser extent Bulgaria) stand out for their higher vulnerability on all of these criteria, so that many agree that signs of overheating are evident in these countries (see EU8 QER, Jan. 07). With a large part of FDI inflows going to the non-tradable sector and limited growth in the share of manufacturing and of exports in GDP, as well as relatively shallower financial systems, productive capacity in the Baltic countries seems indeed unable to keep pace with the growing aggregate demand. As a matter of fact, the IMF estimates that a positive output gap of 1 to 2 percent of GDP has emerged in these countries in 2006.<sup>16</sup> Experts are increasingly arguing that the situation in the Baltic countries is not sustainable as the slow increase in their productive capacity will not enable them to repay their large foreign denominated debt. A preliminary analysis of potential future scenarios is presented in Section 3.

## **B. Banking Sector and Potential Vulnerabilities**

**In addition to the macroeconomic vulnerabilities described in the previous chapter, rapid credit growth may in theory also lead, with an unknown lag, to the appearance of weaknesses in the banking sector.** We now review the health of banks in the Emerging European Countries.

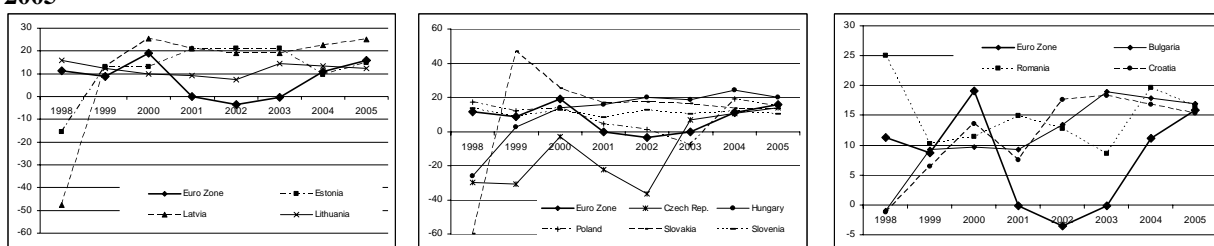
---

<sup>16</sup> See World Bank (2007).

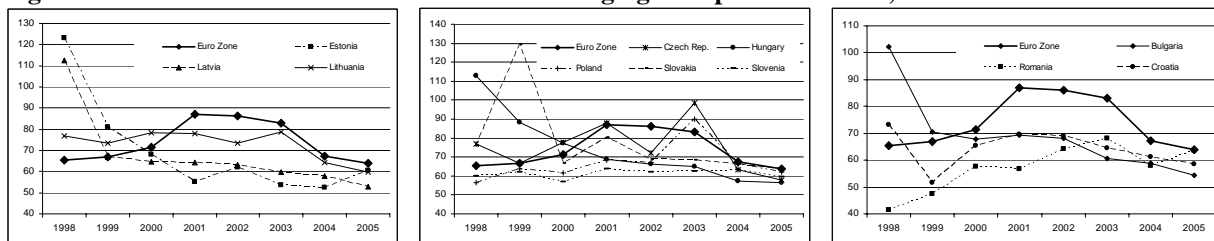
(i) *Financial robustness of banks*

An analysis of the current financial health of banks in the Emerging European Countries suggests *prima facie* that banks are stronger than in the past with satisfactory prudential ratios overall<sup>17</sup>. Indeed, the overall efficiency and profitability of banks in the Emerging European Countries have improved in all countries and are in line with, or above, those of Euro Zone banks (see Figure 6 to Figure 8). Capital adequacy ratios are well above those of banks in the Euro Zone overall, but have been falling in all of the Emerging European Countries, except Poland, over the last decade.<sup>18</sup> It should be emphasized that these are not risk-adjusted indicators.

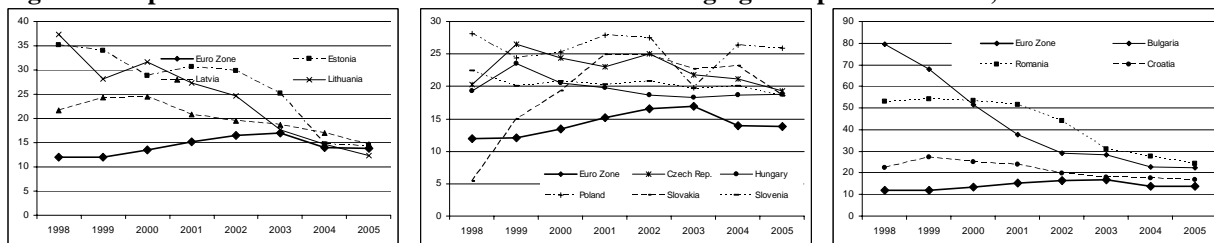
**Figure 6: Return on Average Equity (ROE) of banks in the Emerging European Countries, 1998-2005**



**Figure 7: Cost to income ratios of banks in the Emerging European Countries, 1998-2005**



**Figure 8: Capital funds to net loan ratio of banks in the Emerging European Countries, 1998-2005**



Source of all three figures: BankScope

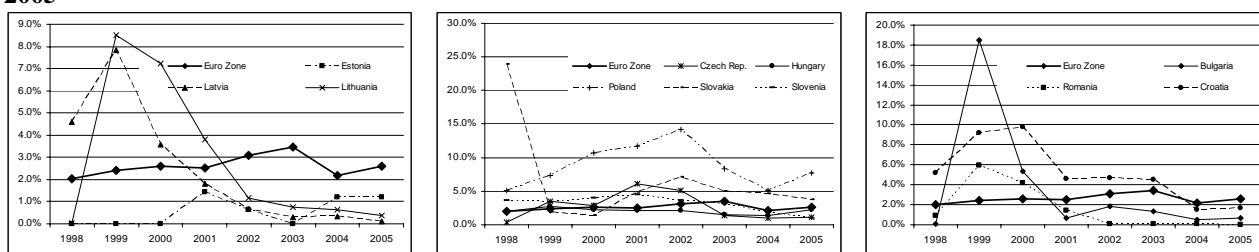
<sup>17</sup> The analysis is based on Bureau van Dijk's BankScope database of the financial statements of banks. Note that the database is often said to be biased towards larger banks. Nevertheless, Schmitz (2004), comparing BankScope data with IFS data, finds that approximately 70–90% of total banking assets is covered by BankScope for CEE countries. Mathieson and Roldos (2001) estimate data coverage to about 90% of total banking assets in the CEE countries.

<sup>18</sup> These have been proxied by the ratios of total capital funds to net loans in the absence of consistent CAR data for all countries over the period. These ratios are likely to understate the CAR given the large share of mortgage loans (with a risk-weight of 50 percent according to Basle I rules) in total loans in all countries.



**There has been a visible improvement in the quality of banks' credit portfolios since the end of the 1990s**, as shown by the reduction in the ratio of measured NPLs to total loans. The overall improvement is partly the mathematical result of the expansion of loan volumes (higher denominator) and some write-offs of irregular loans (lower numerator), as well as the result of concrete improvements such as the introduction of more stringent credit underwriting standards, improved risk management and capital allocation policies, as well as the adoption of IFRS-compliant accounting methods (all stimulated by the entry of foreign banks and the alignment of regulatory and supervisory practices with EU standards). However, a slight increase in NPLs can be observed in 2005, especially in Estonia, Poland and Hungary, and high credit growth can lead to increased NPLs with a lag. Nevertheless, a forthcoming IMF study on credit growth in the EU8 Countries (Fabrizio et al., 2006) concludes that there is no strong evidence that rapid credit growth has so far weakened bank soundness in any of the EU8 countries.<sup>19</sup>

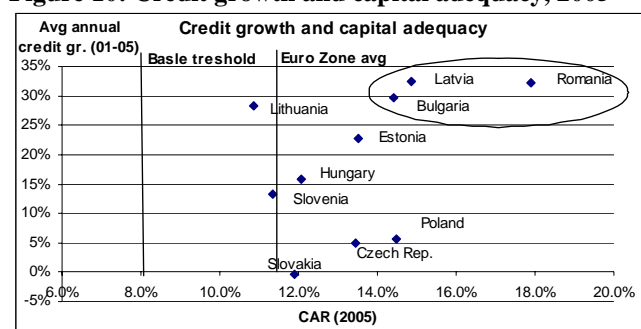
**Figure 9: Non performing loans to total loans of banks in the Emerging European Countries, 1998-2005**



Source: Bankscope

**The countries with the fastest credit growth are also those with the highest median capital adequacy ratios** (in particular, Romania, Latvia and Bulgaria). Lithuania is a notable exception with one of the weakest median capital adequacy ratio (albeit well above the Basle minimum threshold ratio of 8 percent) –see Figure 10.

**Figure 10: Credit growth and capital adequacy, 2005**

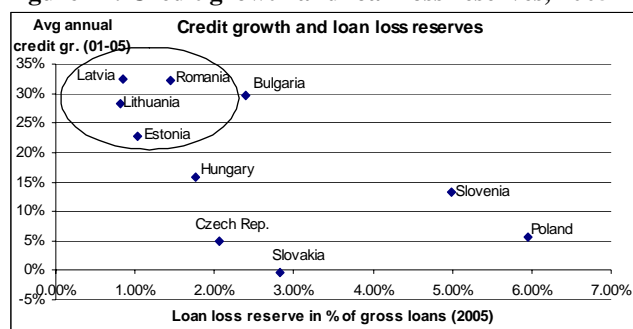


Source: Bankscope

<sup>19</sup> A caveat is that the NPL data are as good as the loan classification systems, internal bank risk control and risk management practices, and enforcement capabilities of the supervisory agencies.

Similarly, the countries with the fastest credit growth are also those with the lowest level of non performing loans (proxied by the level of loan loss reserves in percentage of gross loans)<sup>20</sup> –see Figure 11 -- but NPLs are a lagging indicator of credit quality. In particular, the Baltic countries have the lowest levels of loan loss reserves<sup>21</sup>, followed by Romania.

**Figure 11: Credit growth and loan loss reserves, 2005**

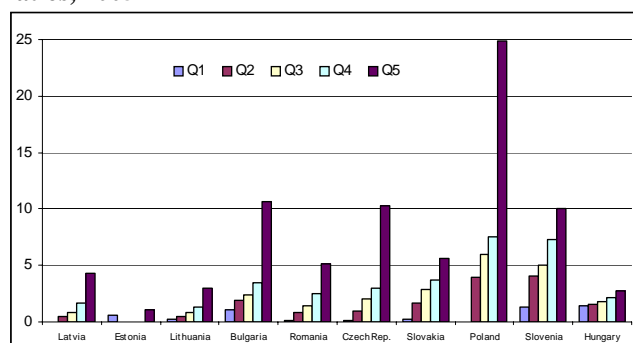


Source: Bankscope

Interestingly, Lithuanian banks, which had the smallest median capital adequacy ratio, had in fact the lowest median level of non loss reserves in 2005. Among countries with an average annual compounded credit growth over 20 percent, Bulgaria has the lowest observed asset quality.

The distribution of loan loss reserve ratios by quintiles reveals differences among countries. While all banks in the Baltic countries seem to have levels of loan loss reserves below 5 percent of gross loans, some banks in Bulgaria, the Czech Republic, Poland and Slovenia have significantly higher levels of bad loans<sup>22</sup> -see Figure 12. Of these countries, Bulgaria is the only one with an average annual compounded credit growth above 20 percent.

**Figure 12: Distribution by quintiles of loan loss reserve ratios, 2005**



Source: Bankscope

Thus, among the countries that are experiencing the fastest credit growth (i.e. the Baltic countries, Bulgaria and Romania), our analysis suggest that Latvia, Estonia and Romania have among the highest median capital adequacy ratios and among the lowest median level of non performing loans (proxied by their ratios of loan loss reserves). Lithuania has the lowest median level of capital adequacy ratio among its peers, which gives it a low cushion to absorb potential credit shocks, but it also has the lowest level of bad loans today. As to Bulgarian banks, they tend to have a large capital

<sup>20</sup> Loan loss reserves are a good proxy for NPLs as long as regulation and supervision ensures NPLs are recognized and provisioned timely and adequately, an acceptable proposition in countries applying EU standards. NPL ratio time series data are not consistently available for all countries under study.

<sup>21</sup> Note that practices to require reimbursement of real estate loans covered by collateral before they become non performing may lead to an artificially low level of NPLs in the Baltic countries.

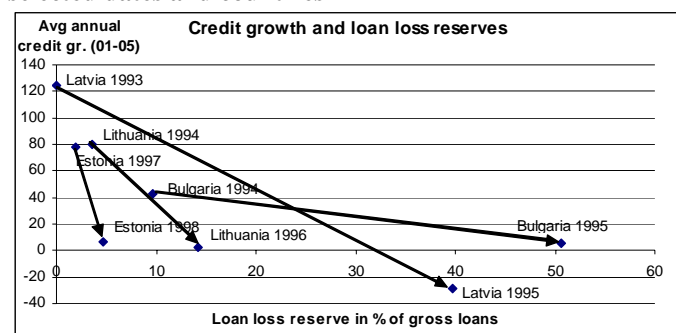
<sup>22</sup> Note that the ratio of loan loss reserves in Poland is artificially inflated by legal difficulties preventing banks from passing into losses loans that should be written off, which forces them to maintain provisions on lost loans on their balance sheets.

buffer to absorb potential credit shocks -but some of them seem to have relatively high levels of bad loans.

**Three factors do however mitigate this overall reassuring conclusion. Firstly, the low levels of NPLs experienced today by the Emerging European Countries do not mean that their credit portfolios are not at risk of future sharp increases in NPLs,** as the past experience of several countries in this and other regions suggests (see Figure 13 in the case of the Baltic countries and Bulgaria)

–although improved accounting, regulatory and supervisory frameworks should have decreased that risk significantly by ensuring that NPLs are recognized and provisioned timely (see later). In case of such sudden increase in NPLs, stress tests performed by local central banks tend to conclude that banks are overall resilient. However, some tests highlight potential stability issues in case of substantial increases in NPLs (see Box 2).

**Figure 13: Historical changes in credit growth and NPLs, selected dates and countries**



Source: Bankscope

–although improved accounting, regulatory and supervisory frameworks should have decreased that risk significantly by ensuring that NPLs are recognized and provisioned timely (see later). In case of such sudden increase in NPLs, stress tests performed by local central banks tend to conclude that banks are overall resilient. However, some tests highlight potential stability issues in case of substantial increases in NPLs (see Box 2).

**Secondly, in contrast to the late 1990s, the pace of credit growth since 2001 is no longer dependent on bank soundness,** with weaker banks expanding credit as rapidly as sounder banks (see Fabrizio et al., 2006). The negative correlation between bank soundness and credit growth seems to be the highest in household lending. It is also higher in the Baltic countries and in foreign currency lending. The study concludes that the prudential risks associated with the current credit growth have risen and stresses that potential credit quality problems at weaker banks are likely to materialize in financial soundness indicators with a variable lag, unless these banks strengthen their credit origination standards and risk practices. This will likely depend on how well these banks address the trade off between allocating human resources to credit screening and expansion vs. ex-post credit evaluation and monitoring. Overall, the study concludes however that there is no strong evidence yet that rapid credit growth has weakened bank soundness so far in any of the EU8 countries.

### **Box 2: Stress Tests Results by Central Banks (CB), selected Emerging European Countries**

Stress testing, in the context of financial sector surveillance, refers to a range of techniques to help assess the vulnerability of a financial system to exceptional but plausible events (see FSAP: a Handbook). Notably, stress test results evaluate effects of large movements in key variables with low probability of occurrence (“fat tail” events) and care should be taken in their interpretation.

The Central Banks (CBs) of Emerging European countries have adopted various approaches to stress testing, involving credit, interest rate, exchange rate and contagion shocks individually or under broader scenarios, expressing the effect as a percentage of bank capital adequacy, assets or profitability. Not all CBs make these results available to the public for stability concerns, although typically some conclusions may be found in their Financial Stability Reports (FSR). Appendix 1 provides a rudimentary overview of the reported CB stress test results in selected Emerging European countries.

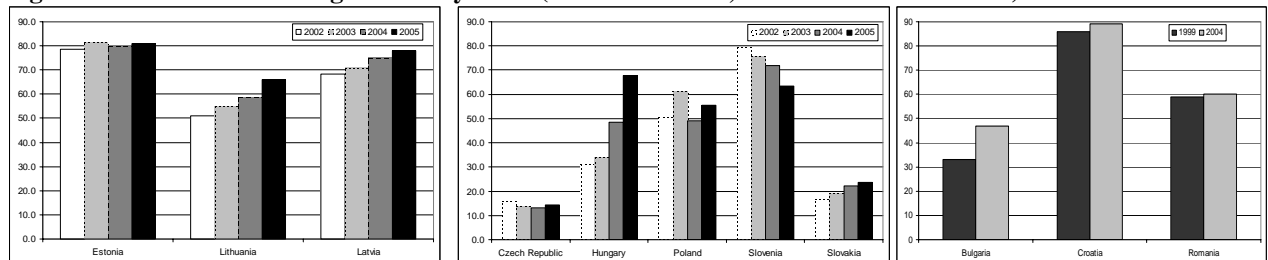
Overall, the CB tests lead their respective authorities to conclude that the banking sector as a whole is resilient to macroeconomic and prudential shocks, with some banks showing greater sensitivity. However, some clear weaknesses are apparent from the tests. Some affect a few selected banks only. For instance, in Poland, the CB tests highlight that the CAR of one bank falls below 8% in all stress scenarios. The resilience of that bank is clearly weak. Other weaknesses appear larger in scope. For instance, the Slovakia CB stress tests highlight that credit risk could be a stability concern under the current fast lending growth in case of a strong deterioration in asset quality. Also, while the Latvian CB stress tests report no significant problems in absorbing a three-fold expansion of NPLs (with NPLs amounting to only 0.5 percent of total loans at the end of June 2006), a 5 percentage point increase in NPLs would result in banks representing nearly 50 percent of total assets with CAR below 8%. Given that a 5 percentage point increase in NPLs may not be of a remote probability according to past international experience, the tests may suggest stability concerns (see details in appendix 1).

Note: Results as reported in CB websites.

**Thirdly, the rise in foreign exchange denominated loans and in maturity mismatches on banks’ balance sheets raises serious concerns.** First, the growing share of foreign currency-denominated loans (see Figure 14) exposes banks to direct (mismatches in their balance sheets) and indirect credit risks (if borrowers’ earnings are denominated in domestic currencies). Since a high share of consumer and housing loans are in fact denominated in foreign currencies (Euros, Swiss Franks and Yen in some cases), it is highly likely that a substantial part of these loans is indeed subject to such currency risk, as individuals mostly have income in domestic currency in the Emerging European Countries.<sup>23</sup> Central banks generally conclude that the risk remains limited primarily because of the historical stability of domestic currencies. However, this is a growing unhedged exposure that could precipitate massive loan quality problems in the case of currency devaluations. Banks’ balance sheets in the Emerging European Countries are also exposed to liquidity risk as loans tend to be financed through mostly short term deposits but are increasingly funding long term real estate loans and mortgages. In addition, foreign-denominated loans are exposed to interest rate risks out of the control of local central banks.

<sup>23</sup> Although labor migration has led to skills shortages, bottlenecks and increased wage pressures, countries are benefiting from increased worker remittances from official and unofficial entries. WB inflows estimates of workers' remittances, compensation of employees and migrant transfers through formal channels in the countries under study (excluding the Czech Republic) are estimated to amount to about US\$13.5 billion, with Romania at US\$ 4.5, Poland at 3.5, Bulgaria at 2 and Croatia at 1.2 billions respectively.

**Figure 14: Evolution of foreign currency loans (% of total loans, 2002-2005 or 1999-2004)**



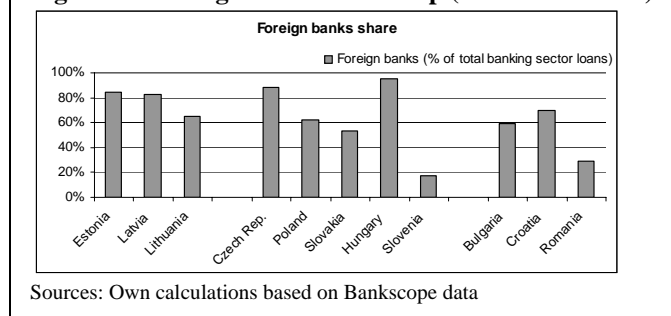
Sources: IMF, World Bank calculations, Fitch IBCA

**To conclude, the apparent health of banks in the Emerging European countries hides risks of potential future deterioration.** Banks in the Emerging European Countries are at present displaying strong financial soundness indicators overall and there is little sign of deterioration. However, the increasing participation of weaker banks in the current credit expansion raises prudential concerns, as do the rising share of foreign-denominated lending and the existence of liquidity risks. It should also be re-emphasized that low NPLs today could give a false sense of security, as NPLs are clearly a lagging indicator of portfolio quality. Finally, differences in financial soundness indicators among countries (in particular capital adequacy ratios and loan loss reserve ratios) suggest the existence of lower capital buffers in Lithuania and higher levels of credit risks in Bulgaria.

*(ii) Large Presence of Foreign Banks*

**Jointly with the strong financial soundness indicators generally presented by banks in the region, the large presence of foreign banks has also been seen as reassuring.** In all the Emerging European Countries, except Slovenia and Romania, foreign-owned banks dominate the national banking system (see Figure 15).<sup>24</sup> These foreign banks come mostly from other European countries<sup>25</sup> and their presence is usually seen as leading to improved banking practices, especially in terms of credit risk analysis and risk management.

**Figure 15: Foreign Bank Ownership (% of total assets)**



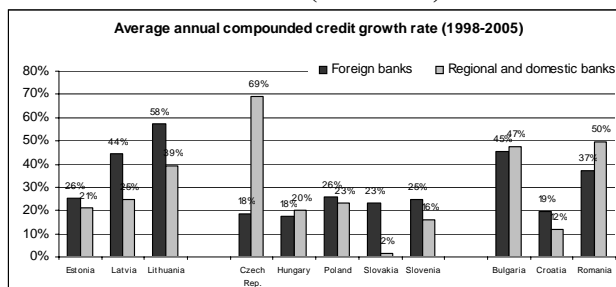
Sources: Own calculations based on Bankscope data

<sup>24</sup> By foreign banks we mean banks currently owned by a majority of shareholders incorporated in the old European countries, the US, Japan and Korea. Banks owned by regional shareholders are not considered foreign. Bank ownership is considered post past privatizations.

<sup>25</sup> In particular, from Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, and Norway.

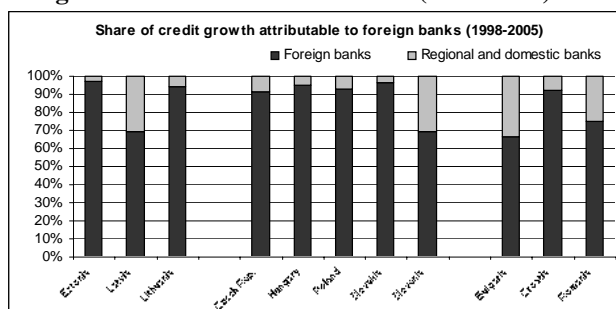
Interestingly, foreign banks have been responsible for a large part of the credit growth observed in recent years in the Emerging European Countries. In most countries, with the notable exceptions of the Czech Republic, Hungary, Romania and Bulgaria, foreign bank credit has indeed been growing faster than domestic banks' (see Figure 16). However, even in those countries where domestic banks have been growing faster than foreign banks, these represent a small part of the banking system, so that overall, in all countries, the large majority of the new credit issued since 1998 (85 percent on average) has been originated by foreign banks (see Figure 17). This is perceived as a source of comfort for supervisors, as foreign banks are deemed in possession of better tools and processes to assess and monitor credit risks, as well as of deeper pockets (parent banks) to address possible shocks (as a result of which the fiscal cost of a potential bank crisis would likely be lower).

**Figure 16: Average annual compounded credit growth rate in the EU10 countries (1998-2005)**



Source: Own calculations based on Bankscope data

**Figure 17: Share of credit growth attributable to foreign banks in the EU10 countries (1998-2005)**



Source: Own calculations based on Bankscope data.

However, the presence of foreign banks is not all reassuring. Firstly, despite the deep pockets of these banks' mother companies, the extent to which they would come to the rescue of their eastern European subsidiaries remains unclear.<sup>26</sup> For most of these foreign banks, their eastern European subsidiaries represent indeed a small share of their assets and one may wonder if the mother company would want to invest more capital in them at a time of a potential regional crisis (see Box 2). This risk is mitigated by the reputational risk which Western European banks would face if they did not rescue one of their Eastern European subsidiaries. Pressure from the EU may also prevent this to happen.<sup>27</sup>

Secondly, the large presence of foreign banks exposes these countries to higher contagion risks. Difficulties in the banking sector of one mother bank's country could affect its Eastern European subsidiaries and, reciprocally, problems in one country in Eastern Europe could trigger a withdrawal by foreign banks from other countries in the region (as did Japanese banks during the Asian crisis)<sup>28</sup>. In Latvia, the problem is

<sup>26</sup> It should be noted that these are not foreign branches, but separate legally and capitalized subsidiaries.

<sup>27</sup> Nonetheless, it should be mentioned that international reputable banks did leave Argentina following the 2001 crisis.

<sup>28</sup> See Martinez Peria et al. (2002)

compounded by the large share of non-resident deposits, which, as the Uruguay crisis has shown, could also flee in case of difficulties. In addition, a decision by foreign banks to stop pouring liquidities into the region might have serious consequences for these countries. This is particularly true in the Baltic countries where most of the current growth has been financed by foreign bank liquidities.

**Box 3: The Case of Raiffeisen**

The table below highlights asymmetries stemming from foreign ownership in the case of Raiffeisen Bank. While the Austrian Raiffeisen Zentralbank is present in all of the Central European countries with subsidiaries that account for a large share of the local banking systems (up to 19 percent of total banking sector assets in the case of Slovakia), these subsidiaries represent only a small share of Raiffeisen Zentral bank's assets (5 percent in the case of Slovakia).

**Table: Raiffeisen subsidiaries in the EU10 countries, asymmetry of weights (2006)**

Network banks of Raiffeisen International	Balance-sheet total (€mn)	Percentage of total banking sector assets	Percentage of:	
			Raiffeisen Int.	RZB Group
Slovakia	4,862	19%	12%	5%
Bulgaria	1,436	13%	4%	2%
Croatia	3,896	11%	10%	4%
Romania	3,028	11%	7%	3%
Hungary	4,913	9%	12%	5%
Czech Republic	2,619	3%	6%	3%
Slovenia	910	3%	2%	1%
Poland	2,860	2%	7%	3%
<b>Total</b>	<b>20,628</b>	<b>6%</b>	<b>51%</b>	<b>22%</b>

Source: Raiffeisen's website, Bankscope.

Note: This table is limited to Raiffeisen's subsidiaries in the EU10 countries, but the situation is similar in other countries for instance in the Balkans.

**Thirdly, rapid credit growth by foreign banks with sophisticated credit assessment models may lead to the formation of a dual banking system**, in which they “cherry-pick” low risk deals and borrowers, while others (mostly domestic banks) are left with risky deals and borrowers (adverse selection).

**Fourthly, financial crises have occurred even in countries with high-quality banking systems** (e.g. the savings and loans crisis in the 1970s in the USA, the 1990s banking crises in Nordic countries).

*(iii) Strong regulatory and supervisory frameworks*

**As part of the convergence process, banking sector legal, regulatory and supervisory frameworks have improved significantly in all the Emerging European Countries.** The Financial Sector Assessment Programs (FSAP) conducted by the World Bank and the IMF in these countries have generally concluded that compliance with the Basle core principles (BCPs) was high. In general, supervisory structures are strong, enjoying adequate independence and staffing, supervisors have adequate legal protection and supervision methods are increasingly risk-based. Regulatory forbearance is infrequent

and enforcement is generally consistent. While a driving factor for many of these changes has been the need to harmonize with EU standards, it also reflects the authorities' strong commitment in all these countries to creating a well-functioning and well-supervised financial system.

**In all countries, the financial sector infrastructure has also been significantly strengthened** (credit bureaus, payment systems, corporate and collateral registries in particular), the use of the International Financial Reporting Standards (IFRS) generalized, and auditing is now subject to International Standards on Auditing (ISAs), enabling banks and market participants to make more informed credit decisions. In addition, creditors' rights and insolvency frameworks have been strengthened (see the Doing Business indicators –[www.doingbusiness.org](http://www.doingbusiness.org)).

**Nevertheless, some issues remain.** Most shortcomings are considered minor and not hampering the supervisor's capability to perform their supervisory responsibilities. They include further progress in integrating supervision (for those countries such as Slovakia that have integrated their supervisory agencies), as well as ensuring adequate supervision of banks that will be using their own internal credit models under Basle II. However, the lack of adequate cooperation between home and host supervisory bodies means that supervisors in home countries are not fully aware of the risks posed by their Emerging European Country exposure to their banks, while host country supervisors are not well aware of the health of foreign bank entities in their countries. Memorandums of understanding, when they exist, are rarely complemented by reciprocal visits and sharing of information. The issue will become even more important under Basle II, where the challenge for national supervisors will be to ensure they maintain an effective role regarding supervision of banks which are systemically important in their country despite their using their mother company's internal credit risk models (which might not be well "calibrated" to the local circumstances).

*(iv) Financial robustness of borrowers*

**Risks may also be analyzed at the level of borrowers.** Since loan quality traditionally has the highest impact on banks' balance sheets and depends directly from borrowers' capacity to repay their loans, an analysis of the financial strength of borrowers in the Emerging European Countries becomes relevant. The financial strength of corporate borrowers is usually measured by some key financial indicators, including their leverage, debt structure and debt service coverage ratios.<sup>29</sup> Measures of households' capacity to repay their consumer and housing loans can be proxied by measures of their overall indebtedness and savings.

**Despite the importance of these indicators in measuring potential credit risks, the little information that is available on these indicators in the Emerging European Countries is striking.** From national statistics and other sources of publicly available information, it is impossible to get quality data on the financial health of borrowers in any of the Emerging European Countries. Faced with such limitation, we proxy the relevant

---

<sup>29</sup> Banks would usually rely more on a cash flow analysis than on these indicators, but cash flow analyses cannot be performed in aggregate.

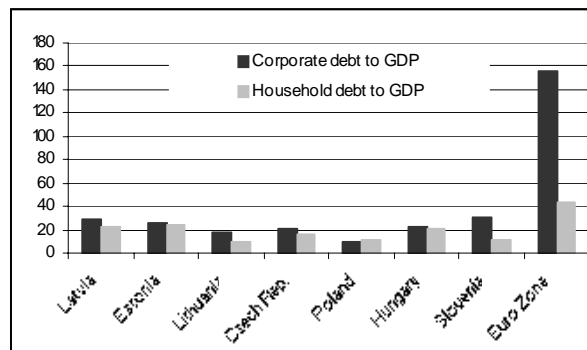


indicators with indicators of the level of corporate and household debt respectively, recognizing that such proxy indicators face significant limitations. In particular, they do not allow to analyze how the available credit is spread across enterprises, nor the effective level of indebtedness of enterprises with borrowings or the debt maturity structure.

**The overall level of indebtedness of corporations and households in the Emerging European Countries remains low in absolute terms compared to the Euro Zone** –see Figure 18,

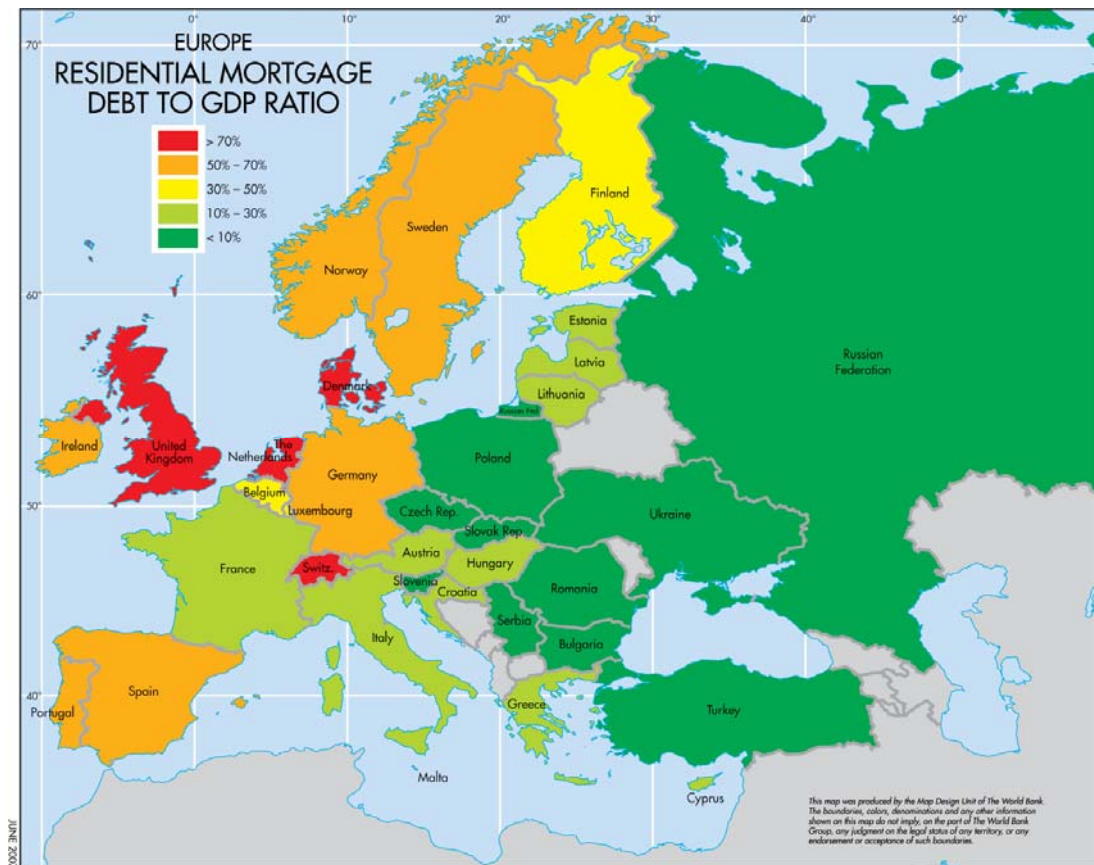
based on our proxy indicators. Corporate sector debt in the EU8 countries averages 10-30 percent of GDP compared to more than 150 percent in the Euro Zone. Household’s debt as a percentage of GDP was around 10 to 20 percent compared to more than 40 percent in the Euro Zone. In particular, residential housing debt was still significantly lower than in the Euro Zone (see Figure 19).

**Figure 18: Corporate sector and household debt in % of GDP, selected countries, 2005**



Source: Fraït (2006)

**Figure 19: Residential mortgage debt in percentage of GDP, 2005**



Source: European Mortgage Federation

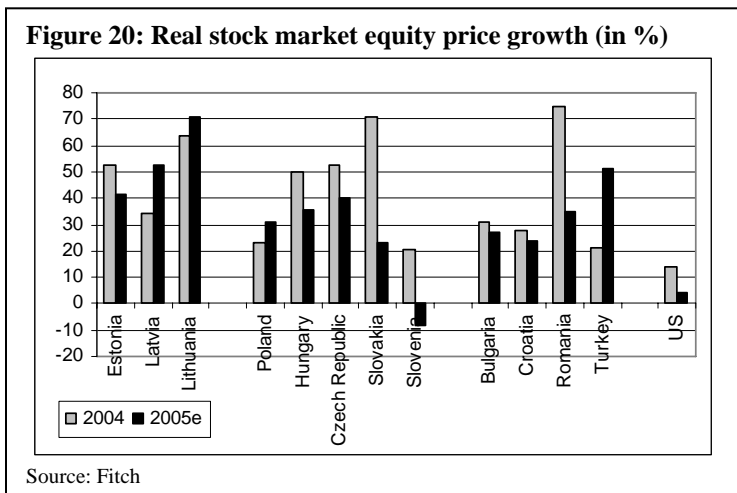
**However, their debt presents a higher risk.** The lower stock of existing assets (“wealth”) and the exposure to foreign currency risk which corporations and households bear in the Emerging European Countries increases the riskiness of their debt and decreases their capacity to repay under specific downside scenarios (such as in case of devaluation). Thus, it may indeed mean that they can only bear lower levels of debt than corporations and households in the Euro Zone. In addition, if only a portion of all enterprises have access to credit (which is likely in the Emerging European Countries where access to finance remains a problem, especially for SMEs)<sup>30</sup>, the leverage and interest coverage ratio of those enterprises with borrowings may be very high.

### C. Asset Market Imbalances

**As the literature on financial crises suggest that real sector imbalances can also lead to crises,** especially through the appearance of price bubbles, we now briefly look at the stock and real estate markets in the Emerging European Countries. This analysis is of relevance as it can be a source of instability for the financial sector and the economy as a whole, but also because of the possibility that these sectors have experienced growth (even of a speculative kind) as a result of the high credit growth in the region.

#### (i) Stock Market

**The development of stock exchanges is still at an early stage in the Emerging European Countries** where total stock market capitalization amounted to 28 percent of GDP in 2004, compared to 75 percent in the Euro Zone. The privatizations of the last decade have had a positive but limited impact on the development of the Emerging Europe’s stock exchanges.



**However, the situation is changing rapidly** and stock markets in the Emerging European Countries have all experienced rapid equity price growth over the last two years, except for Slovenia (see Figure 20). While such rapid growth may be seen as a normal consequence of the transition process, it increases the potential vulnerability of these economies to financial contagion. The Asian crisis has for instance highlighted the growing interdependencies between world equity markets and investors’ “herd mentality” and the capital movements that may subject a country to global shocks. Studies of co-movements between the region’s and international stock prices offer mixed conclusions

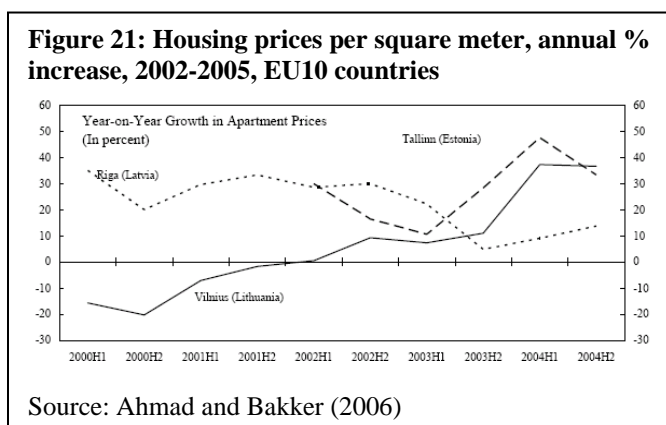
<sup>30</sup> See for instance Flash Eurobarometer #184, 2006 (“SME access to finance in the new member states”).

(mostly as a result of using different stock market indices, data frequency and sampling periods). Nevertheless, Gelos and Sahay (2000) document spillover patterns among transition economies and find increasing financial market integration since 1993, especially around the Russian crisis.

**The consequences of a future turmoil in the stock market are uncertain**, as on the one hand their importance remains limited, but on the other hand their rapid growth demands caution. A fall in equity prices could result in fleeing foreign and national investors, putting pressure on the exchange rate, reserves and the monetary base, and resulting in higher interest rates and liquidity problems. The May/June 2006 or the March 2007 emerging market turbulence did not result in such a scenario in the Emerging European countries, but their short lived nature may have left hidden potential future vulnerabilities.

*(ii) Real estate market*

**House prices have experienced rapid growth and generated fear of a potential housing market bubble, especially in the Baltic countries** (see Figure 21). A common feature of credit growth in the region is the large contribution of housing loans. It is generally recognized that, while housing loans have contributed to sustained increases in the demand for real estate asset, the supply of real estate assets has not increased much in most of the Emerging European Countries.



**An adjustment in real estate prices could affect the banking sector in several ways. First, as the value of borrowers' assets and wealth would fall, the adjustment could lead to potential increases in NPLs.**<sup>31</sup> However, residential housing loans are usually recognized as among the safest bank assets (as a result of which their weight under Basle I is usually of 50 percent in the calculation of risk weighted assets, compared to 100 percent for other loans). Episodes of historical real estate prices collapses, such as those observed during the Swedish crisis of the early 1990s and the UK real estate crisis of the late 1980s, have indeed not materialized in significant increases in NPLs. Nevertheless, with a large presence in some of the Emerging European Countries of foreign investors in real estate, sometimes financed through local banks (such as for instance in the Baltic countries where Russian investors have made large acquisitions), the safety of residential housing loans may not be as high as in the Swedish and British cases, where most residential housing was held by locals for their own use.

<sup>31</sup> As, potentially, in the US in 2007 with sub-prime mortgages. See Global Financial Stability Report, April 2007.

A downward adjustment in real estate prices would also affect the value of collaterals as real estate assets are increasingly used as loan collateral. This could lead to increased provisioning requirements for banks and ultimately higher losses if assets are foreclosed. Finally, with the use of real estate as collateral, spending has become more dependent on housing prices, so that an adjustment in real estate prices could slow down aggregate demand and economic growth.

#### Section 4: Possible Scenarios: Catching-Up with Old Europe, Slow Painful Adjustment or Evolving towards a Potential Crisis?

##### A. Catching-up with Old Europe?

There seem to be several legitimate reasons behind the rapid credit growth observed in the Emerging European Countries. Financial deepening is indeed a welcomed result in transition countries, resulting generally from higher economic activity and better economic prospects, as well as the parallel sophistication of the banking system. Large privatization processes, public sector retrenchment, the liberalization of the real estate market and other legal and regulatory improvements are often also key factors behind the rapid rise of bank loans to the private sector in transition economies. In addition, as mentioned in Box 1, macroeconomic conditions in the Emerging European Countries have been favorable for credit expansion.

Thus, the rapid credit growth observed in the Emerging European Countries certainly reflects in part the deepening of their financial systems. Credit to GDP ratios are indeed expected to grow faster in transition economies than in industrial economies. Ratios

of bank credit to GDP confirm indeed that the Emerging European Countries still have a lot to catch-up with compared to other European countries (see Figure 22).

Today the level of credit reached in the Emerging European Countries appears to be in line with what their GDP per capita would dictate, as evidenced by the experience of other European countries (see Figure 23).

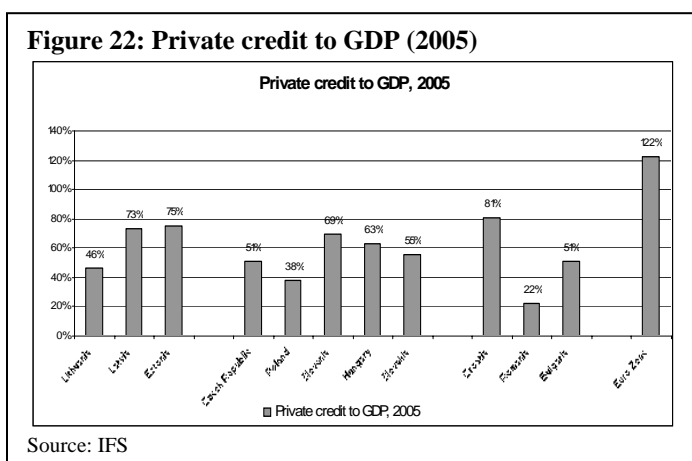


Figure 23: Catching up of credit to GDP ratios and its dynamics, 1995-2005



in particular. Thus, according to this view, a painful adjustment process cannot be avoided (“hard landing”).

## **B. Evolving towards a slow painful adjustment process?**

**The experience of Portugal is increasingly being used to suggest that the Emerging European Countries, especially the Baltic countries, will not be spared from a future slow painful adjustment,** characterized by slow GDP growth over several years (see for instance Ahmed and Bakker, 2006). There are indeed a number of similarities between the recent experience of Portugal and the current situation in the Emerging European Countries, especially the Baltic countries. As in these countries indeed, Portugal experienced high demand-led growth rates from 1995 to 2000 driven by rapid credit expansion to households (household debt surged from 13 percent of GDP in 1990 to 61 percent in 2000, fuelled by the strong decline in interest rates based on the prospect of accession to the EU, financial liberalization, and increased innovation and competition in the financial sector). Demand growth was also spurred by strong real wage increases (resulting from a tightening labor market and wage increases led by the public sector), a steady rise in permanent income expectations, a decline in the household saving rate and an increase in investment activity (particularly residential construction). However, the high domestic demand in Portugal was not matched by increases in domestic supply, with the economy near full employment and economic activity shifting to non-tradable sectors.

**As in Emerging Europe, especially the Baltic countries, the demand for tradable goods was satisfied through imports, leading to a high current account deficit and external indebtedness.** As in Emerging Europe again, this led to a real exchange rate appreciation and a loss in competitiveness, accelerated by the impact of fast rising wages concealed initially by the high economic activity and productivity growth. It led eventually, alongside other factors, to the Portuguese recession of the early 2000s. ECB’s higher interest rate policy from 1999 to 2001 was perhaps the turning point exposing the country’s macroeconomic imbalances. The slowdown in international trade, weaker Euro area growth and the continuing weakness of the Brazilian economy where Portuguese firms were exposed, led to a reassessment of household expectations, lower domestic demand and weakening investment activity. As fiscal policy until 2001 was primarily expansionary, the space for policy response to stimulate aggregate demand was limited during the downturn.<sup>33</sup>

**A similar scenario cannot be excluded in the Emerging European countries.** The rise in aggregate demand that sustains economic growth could slow down under various external shocks, including a slow down in older European countries leading to adjustments in expectations, an interest rate shock (for instance through an adjustment in interest rates in the rest of Europe, which could easily impact Emerging European Countries through foreign bank subsidiaries), or a more severe oil shock. With FDI focused on the non-tradable sectors and limited growth of exports, the economies of Emerging Europe could, as Portugal, find themselves incapable of sustaining their current levels of economic growth. And, as in Portugal again, governments in Emerging Europe

---

<sup>33</sup> See IMF (2006).

would have few instruments of policy response to stimulate aggregate demand or economic growth, so that these countries could fall into a prolonged recession as Portugal did since the early 2000.

**However, Portugal's experience also suggest that the adjustment process in Emerging Europe, and in particular in the Baltic countries, could be limited to a prolonged period of economic slowdown, without a banking crisis.** In Portugal, the banking sector has indeed held up well in recent years despite the difficult environment. Banks remain profitable, well capitalized and with declining NPLs. Given that in Emerging Europe, as in Portugal, the initial health of banks is strong (with some potential exceptions in Bulgaria where higher credit risks might be present), and the sector's regulatory and supervisory frameworks are adequate, a similar scenario could indeed be replicated in Emerging Europe, although it cannot be taken for granted.

**Lessons from the Portuguese experience suggest that the increase in aggregate demand should be actively managed and growth of the domestic supply stimulated, in particular towards productive sectors.** To that end, policies to encourage corporate - as opposed to household- lending (such as policies to increase the quantity and quality of corporate sector information, improve creditors' rights and insolvency laws, etc) would help stimulate exports and aggregate supply. Also, internationally competitive wage levels and labor market flexibility play an important role in limiting excessive aggregate demand growth and attracting FDI in tradable sectors.

### **C. Evolving towards an Asian-style crisis?**

**The most pessimistic observers point out that the experience of other emerging markets suggests that crises have materialized under similar circumstances as those observed in the Emerging European Countries today, especially the Baltic countries, sometimes surprising the international community.** The East Asian crisis is the most striking (but not the only) example in this regard.

**The East Asian financial crisis came after years of large foreign financial capital inflows intermediated by the domestic banking systems (as in Emerging Europe today).** Other similarities with the Emerging European Countries, and particularly the Baltic countries and the Southern Eastern European countries (Regions 1 and 3 respectively in the table below), include high current account deficits, inflationary pressure, and high external and short term debt (see Table 4). As in Emerging Europe, East Asian countries also had fragile fixed exchange rate regimes, real estate and stock market bubbles, and a large presence of foreign investors. Nevertheless, despite these weaknesses, the East Asian region was praised before the crisis for its fast GDP growth and its budget surpluses. However, little attention was paid to the rising imbalances in their private sectors.

**Table 4: Macroeconomic indicator comparison: Emerging European Countries (2005) and Asia (1996)**

	Europe 2005				Asia 1996		
	Reg. 1	Reg. 2	Reg. 3	Total	Reg. 1	Reg. 2	Total
GDP growth (annual %)	9.1	4.6	4.8	6.0	6.8	7.9	7.3
Inflation, consumer prices (annual %)	4.5	2.5	5.6	4.0	6.2	5.5	5.9
Current account balance (% GDP) <sup>/1</sup>	-10.1	-4.1	-7.1	-7.1	-5.2	-4.6	-5.0
External debt (% GNI) <sup>/2</sup>	77.0	51.9	53.9	60.7	60.9	46.1	53.5
Short-term debt (% of total external debt) <sup>/2</sup>	43.4	30.4	18.4	32.0	39.2	23.0	32.7
Reserves / Total debt (%) <sup>/2</sup>	23.9	48.1	56.6	41.9	24.6	48.5	36.6
Central government balance (% GDP)	0.4	-3.2	-0.9	-1.6	0.7	0.5	0.6
Domestic credit by banking sector (% GDP)	62.3	51.1	31.3	50.5	77.4	116.6	93.1
Domestic credit to private sector (% GDP)	51.7	41.4	27.9	41.8	89.2	98.2	92.8
FDI, net inflows (% GDP) <sup>/2</sup>	6.0	3.8	7.7	5.2	1.5	3.4	2.3
S&P's Credit Rating	A to BBB-				A to BB		

Source: EU8 QER, GDF, IFS, WEO, Standard and Poor's Credit Ratings.

Europe Region 1: Baltic countries; Region 2: central Eastern European countries; Region 3: Southern Eastern European countries. Asia Region 1: Indonesia, Korea Thailand; Region 2: Malaysia, Philippines.

/1 Europe Region 3 figures for 2004, /2 Europe figures for 2004

**In Asia, the external inflows that helped finance the current account deficits came to a sudden reversal in 1997.**<sup>34</sup> In addition, withdrawal by Japanese banks from the entire region aggravated the liquidity crunch. The exact reasons of the crisis are still debated today<sup>35</sup>, but it is widely agreed that the interplay of weaknesses in fundamentals and panic on the side of investors resulted in strong unanticipated financial contagion.

**A similar scenario cannot be excluded in the case of the Emerging European Countries,** where foreign banks provide large amounts of credit but for whom subsidiaries in these countries do not always individually contribute significantly to the mother company's income. When the Asian crisis occurred, Japanese banks suffered capital losses, resulting in a sharp decline of financial flows from Japan to Asia, as well as slower direct investment by Japanese firms as the availability of capital in Japan was reduced.

**But, despite these similarities, a number of differences can be pointed out as well.** The quality of banking supervision is considered higher in the Emerging European Countries, connected lending does not appear to be an issue and credit growth partly reflects a catching-up from low initial levels. Moreover, membership in the EU is a major difference. At the time of the Asian crisis, domestic credit in Asia reached indeed almost twice the level observed in the Emerging European Countries today in percentage of GDP. Thus, while in Asia the liquidity crunch brought about by the crisis revealed inherent weaknesses in the banking sector and further aggravated the crisis and dented investors' confidence; banks in Emerging Europe may be better placed at surviving a similar liquidity crunch given their better fundamentals. Thus, under such a scenario, investors' confidence in Emerging Europe may be restored before a general banking

<sup>34</sup> The net private capital inflows into Thailand, Indonesia, Malaysia, Korea and the Philippines rose from US\$38 to 97 billions between 1994 and 1996. In the second half of 1997, these reversed to outflows of US\$12 billion.

<sup>35</sup> See Section 1.



crisis spreads out. Countries, such as Bulgaria where credit risks may be higher, may be more prone to seeing a potential economic slowdown spread to the banking sector.

**Another key difference is that some of the Emerging European Countries (namely the Baltic countries, Slovakia and Slovenia) are under the ERM-II mechanism,** under which after a debtor's central bank makes use of its foreign reserves, it can draw on the very short-term financing facility, which is in principle automatically available in unlimited amount.<sup>36</sup> The ECB's reserves are about 4 times the combined GDP of the Baltic States, constituting a strong base to defend against any currency speculative attack. But, as the agreement points out, the ECB and the participating non-Euro area central banks could suspend further automatic financing if it were to conflict with their primary objective of maintaining price stability.

**Next to the East Asian crisis, other banking crises have also come largely to the surprise of the international community.** The Mexican crisis for instance materialized during a period of low inflation, fiscal responsibility, rapid privatization of banks and major structural reforms, with the primary weaknesses being the current account deficit (resulting in part from a domestic credit boom financed by foreign borrowing) as well as an inadequate prudential framework, poor bank governance and the large presence of connected lending. Moreover, it took place in light of the country's entry to NAFTA. However, a key difference with the Emerging European Countries lies in their stronger foreign owned banking system and better regulation and supervision.

**Other comparison have been made with the Nordic banking crisis of the early 1990s as well as with the ERM crisis of the early 1990s, which all confirm that significant macroeconomic vulnerabilities can lead to crises.**<sup>37</sup> Finally, the Uruguay crisis of 2001 highlighted that withdrawals by non-resident depositors can also precipitate or accelerate crises, as happened after the withdrawal of their deposits by Argentine depositors. Such experience is particularly relevant for Latvia where non-resident deposits represent a large part of total deposits.

**To conclude, the comparison with Asia primarily raises the questions of contagion and of the potential impact of international investors' attitude.** While there are similarities and differences with Asia's crises in 1997 and with other countries that underwent financial crises, the literature on financial crises suggests that one must pay particular attention to the possibility of panics and of cuts in international financial flows. Financial innovations integrated Asia closely to international financial markets. This is also the case for the Emerging European Countries, increasing vulnerability to changes in

---

<sup>36</sup> The ERM was based on the concept of fixed currency exchange rate margins. In 1993, the margin was expanded from 2.25% to 15%, following recurrent speculative attacks, mainly on the French Franc. The ERM2 was introduced in August 1993, following the recurrent speculative attacks mainly on the French Franc, while the UK exited from the EMS (ERM1) already in September 1992. The EU10 national currencies themselves will become part of the ERM II at different dates, with Estonia, Lithuania and Slovenia having been included on 2004 and Latvia and Slovakia in 2005.

<sup>37</sup> The Swedish banking crisis of the early 1990s is particularly interesting (see Englund, 1999). In Sweden, newly deregulated credit markets stimulated competition among financial institutions, which, alongside an expansive macroeconomic policy, contributed to an asset price boom. The crisis materialized through a strong real interest shock resulting from a combination of a fixed exchange rate, excessive lending, a highly leveraged private sector, as well as exogenous events, such as the ERM crisis.

market sentiment and financial market contagion. The expectations of Euro accession have created a strong sentiment of security among investors so far, but past success stories turning into crises abound.

**In the case of Asia (or indeed Mexico) foreign banks suspended lending rapidly when signs of trouble appeared, and in the case of Uruguay, foreign depositors withdrew their deposits worsening liquidity.** If this were to happen in Emerging Europe, the consequences would be painful, especially in the Baltic countries. But, in Emerging Europe, on the one hand, past evidence suggests that foreign banks have not massively left the region during the periods of banking crises some countries experienced in the 1990s (see Haas and Lelyveld, 2005) and the domestic banking sectors in the Emerging European Countries are significantly stronger than in most countries with past banking crisis. On the other hand, today's environment could be more fragile and interconnected than in the past and the urge to withdraw in case of distress from the region would have grave consequences for the countries, but not necessarily for the parent banks.

## **Section 5: Conclusion and Policy Recommendations**

**The Emerging European Countries have experienced very rapid credit expansion over several years and are subject to significant macroeconomic imbalances, largely fueled by this rapid credit growth,** despite their overall formidable economic performance since the beginning of their transition to market economies. To the question of whether the current credit growth is excessive or not, arguments have been made, in this paper and in literature, in both directions.

**Our analysis suggests that, in the short term, the risk that a macroeconomic shock (possibly triggered by an external shock) leads to an adjustment process in the Emerging European countries is higher than the risk of deterioration originated from the banking system.** An economic growth slowdown scenario seems more likely than an overt economic-banking sector crisis scenario.

**The existence of these serious risks calls for a preventive policy response.** Any adjustment in the future will indeed crucially depend on how the current situation is managed today. Appendix 2 examines Policy Responses in Eastern and Western Europe to past or current credit growth pressures.

**The main prudential/preventive means countries have at their disposal to achieve this include tighter macroeconomic policies, tougher prudential and supervisory policies, and enforcement of administrative policies.** Since vulnerabilities arise mostly from macroeconomic risks, some argue that policy responses should focus primarily on macroeconomic policy tools.

**In the Emerging European Countries, monetary tools may be of limited potential efficiency.** On the *monetary policy* front, even putting aside the constraints under a fixed

exchange rate regime<sup>38</sup>, the openness of financial markets suggests that traditional monetary policies might be limited or even unproductive. Monetary tightening may divert borrowing abroad, increasing foreign currency borrowing and risk taking.

**Fiscal tightening should be considered, especially with regards to the real estate sector.** *Fiscal policy* can play an important role in restraining aggregate demand. However, its limitations should be recognized, such as the possible lack of political will, or time lags in implementation. Given the significant real sector credit expansion in most countries, to the extent that the sector is undertaxed, tax-based measures could possibly be used to moderate mortgage lending. Tax incentives for mortgage borrowing could be eliminated and a comprehensive real estate tax applied. Another possible policy response would be to apply temporary foreign exchange restrictions to moderate foreign banks' credit expansion or limits on banks open foreign exchange market positions. This however will have to be considered in light of EU restrictions and take into account stability consequences for foreign banks.

**Short term capital controls have also been used sometimes successfully**, such as in the case of Malaysia at the time of the Asian crisis or Chile. They may be a relevant option for countries which need to distinguish between resident and non-resident flows of funds.

**With regard to prudential and supervisory tightening, while their impact on controlling credit growth is unclear, their primary objective is to strengthen the health of the banking system.** In general, particular attention should be paid in all countries, to risk-based supervision, cross border supervision and home-host cooperation, timely and thorough information disclosure by banks and companies, and the strengthening of their risk management capacity. These are indeed the measures and areas generally recognized as having the best impact on the quality of banks' balance sheets, and where FSAPs have indicated some Emerging European Countries still present some weaknesses.

**Stronger and more targeted regulatory measures might be considered in countries with higher potential risk, such as the Baltic and Southern Eastern European countries.** The instruments traditionally put forward first include increases in capital adequacy ratios and the introduction of dynamic provisioning<sup>39</sup> to dampen the cyclical fluctuations of lending activity. However, the former are not effective when Capital Adequacy Ratios (CARs) are above legal limits (as in all the Emerging European Countries) and dynamic provisioning tends to decrease transparency on actual asset quality (and may be seen as incompatible with IFRS principles which apply an incurred – as opposed to expected- loss principles to provisioning).

---

<sup>38</sup> Under a fixed exchange rate regime, the traditional monetary policy tools loose relevance. This is further so under open capital accounts.

<sup>39</sup> Spain has had dynamic provisioning since 2000. Dynamic provisioning addresses credit risk during credit boom periods by smoothing loan-loss provisioning over the economic cycle. As credit growth and loan portfolio quality exhibit strong cyclical fluctuations, dynamic provisioning uses historical experience to recognize that credit losses can be properly accounted and provisioned for in a statistical sense as soon as the risk (or the incurred loss) appears in the balance sheet.

**Increases in reserve requirement rates have also been used, but their long term impact has generally proven limited at best.** If they become too high, they are likely to result in shifts to direct lending from abroad or from non bank financial institutions (NBFIs). Widening the reserve requirement base to include all liabilities, relevant off-balance sheet items and NBFIs, while maintaining a single rate (to avoid misclassification), has led to better results than increases in the reserve requirement rates. Imposing minimum liquidity ratios is also likely to have limited impact, as foreign banks will probably satisfy them without an effect on credit expansion.

**Alternative instruments should be considered in these countries and targeted at the specific risks arising from indirect foreign exchange exposures and real estate risks.** These instruments include tighter loan classification and provisioning rules, stricter assessment of real estate collateral, lower loan to value ratios, higher risk weights for certain type of loans (such as those in foreign currency to local currency earners), and the establishment of tighter minimum standards for borrowers.

**Such measures should not be incompatible with the EU Capital Requirements Directive nor with Basle II principles and IFRS principles.** It is true that in general, stricter domestic prudential regulations than elsewhere in the EU may easily be evaded by booking loans offshore. Moreover, with the introduction of Basel 2, all EU members will be expected to implement uniformly the EU's Capital Requirements Directive, leaving little room for stricter national implementation of the Directive, including in the areas of risk weighting of mortgages and loan-to-value rules. However, some articles of the Directive do leave room for maneuver to regulators and supervisors, which should be used at times of difficulties.<sup>40</sup> IFRS principles also open the door for exceptional provisioning measures in certain circumstances.<sup>41</sup>

---

<sup>40</sup> In particular, recital 15 of the CRD allows EU member states to “establish stricter rules than those laid down in the Directive, including with respect to Article 75” on the minimum level of own funds. In addition, recital 15 allows “member states to require that Article 123 of the Directive be complied with on an individual or other basis” (Article 123 requiring that credit institutions have in place sound, effective and complete strategies and processes to assess and maintain on an ongoing basis the amounts, types, and distribution of internal capital that they considered adequate to cover the nature and level of the risks to which they are or might be exposed.”)

Furthermore, Article 136 of the CRD establishes that “competent authorities shall require any credit institution that does not meet the requirements of this Directive to take the necessary actions or steps at an early stage to address the situation. For those purposes, the measures available to the competent authorities include [...] (a) obliging credit institutions to hold own funds in excess of the minimum level down in Article 75, [...], (c) requiring credit institutions to apply specific provisioning policy or treatment of assets in terms of own funds requirements, [...]”.

<sup>41</sup> Banks subject to IFRS must follow IAS 39 for provisioning purposes. Article 58 of IAS 39 requires the review of financial assets for impairment. Article 59 establishes that loans can be recorded as impaired only when there is “objective” evidence that losses have been “incurred as a result of one (or more) loss events” and that “that loss event (or events) has an impact on the estimated future cash flows of the financial assets or group of financial assets that can be reliably estimated”. This definition may be seen to create a potential problem because a prospective downturn scenario would appear to pertain to expected rather than incurred losses.

**On the supervision front, close inspection, close collaboration with home supervisors, and periodic stress testing of individual banks are crucial.** Inspections targeted at analyzing the risks created by indirect foreign exchange exposures and real estate risks would help supervisors understand the extent of these risks better. However, it should be noted that such tightening has also potential downsides. It could potentially introduce competitiveness imbalances among financial sector players (e.g. foreign vs. domestic banks), or even reroute financing to less supervised channels (e.g. leasing companies or even foreign bank switching from subsidiaries to branches). Such efforts by supervisory authorities should thus be complemented by strong communication on the risks associated with rapid credit growth. More general inspections should be planned as soon as signs of deterioration in bank balance sheets would be seen. Closer cooperation with foreign supervisors is also needed to ensure adequate monitoring of foreign subsidiaries. Finally, efforts to adequately assess key risks in stress tests of the banking systems, especially indirect foreign exchange and real estate risks under specific macroeconomic scenarios, would help better understand macro-financial linkages and the degree of these risks. Requiring banks to conduct specific scenario-based tests would also raise their awareness of specific risks.

**Administrative measures, such as credit ceilings are temporary and last resort measures,** usually with distortionary effects and they should thus generally be reserved to cases of excessive credit growth materializing in higher NPLs. Among the most likely distortionary effects of individual bank credit growth control are financing rerouting to other asset categories or other financial intermediaries, a reduction in banking sector data transparency and an increase in direct borrowing from abroad (as in Croatia in 2003). Finally, if the limits are not risk-based, they effectively punish the stronger institutions for risks taken by weaker banks.

**Measures to enhance the availability and quality of corporate sector information would also help facilitate a better monitoring of borrowers' health by banks and the authorities.** Coupled with other measures to stimulate corporate sector lending in countries where it has remained limited (especially the Central Eastern European countries) through improvements in the business environment for instance, such measures could also have a positive impact on aggregate supply, exports and economic growth. This however should take place alongside policies to strengthen banks' ability to assess and monitor the creditworthiness of customers outside the traditional banking relationships, such as SMEs, where little prior experience exists. Furthermore, the

---

However, Article 59 further establishes a list of loss events that constitute an objective evidence of a loss. Among these events<sup>41</sup>, recital (f) includes “observable data indicating that there is a measurable decrease in the estimated future cash flows from a group of financial assets since the initial recognition of those assets, although the decrease cannot yet be identified with the individual financial assets in the group, including [...] national or local economic conditions that correlate with defaults on the assets in the group (e.g. [...], a decrease in property prices for mortgages in the relevant area, [...].”

This recital has been used in California to justify higher provisions when electricity shortages and higher electricity prices were seen as an event that could trigger loan impairment. Thus, signs of macroeconomic deterioration, such as pressure on the exchange rates, could justify in Emerging Europe higher provisions.

development of capital markets would be an additional element to diversify risk and sources of financing for the corporate sector.

**Finally, authorities should prepare themselves for the unlikely, but possible scenario of an overt financial turmoil scenario.** This means that adequate contingency plans need to be in place, defining in details responsibilities and restructuring methods should banks be intervened. Ideally, if the capacity of the authorities to implement such contingency plans has not been proven yet by real life cases, drills should be performed.

**In the case of a banking crisis, the authorities are likely to face significant problems in home-host co-operation given the large presence of foreign banks in the region and the natural reluctance to absorb losses incurred in another jurisdiction.** Many host countries have already tried to address such potential problems by signing Memorandums of Understanding (MoUs) with home countries, but these are only first steps in co-operation and information sharing; they are usually not legally binding and do not address the underlying conflicts of interest. Furthermore, the quality of insolvency systems, creditor rights and debt restructuring mechanisms will also come to the forefront under a crisis. Doing Business indicators suggest that much is left to be desired on this field, and countries could enhance enormously these areas of prompt resolution and recovery in anticipation of bad times.

**In conclusion, a balanced approach between ensuring the benefits of convergence are reaped on the one hand, and ensuring its sustainability and limiting its risks on the other hand, is required in the Emerging European Countries where the risk that the current rapid credit growth and macroeconomic imbalances lead to a painful adjustment is not to be excluded.** Given the lessons learnt in Asia and other past crises, it is clear that prudence should dominate the ‘growth vs. imbalance’ policy-related dilemma that the Emerging European Countries face today. To that end, sound macroeconomic policies are key, while initial closer inspection, forward-looking analysis and stress testing could suffice in most countries to monitor risks in the banking sector, but a rise in NPLs should be a trigger to implement stronger measures along the lines discussed above. In all countries, longer term policies to enhance the business environment and thus divert high credit growth to the productive sector instead of household consumption would also be advisable, as well as better home host cooperation and contingency planning.

## Appendix 1: Selected stress testing practices and results reported in FSRs in 2005/2006

Shocks Examined	Results Reported
<i>Czech Republic (FSR, 2005)</i>	
<p>Stress tests measure the impact on CAR of various shocks:</p> <p>A. Basic stress tests based on 2 scenarios: (i) Scenario I: increase in interest rates of 1 percentage point, depreciation of the exchange rate of 15% and increase in the share of NPLs of 30% by reclassification of loans, (ii) Scenario II: increase in interest rates of 2 percentage points, depreciation of 20% and increase in the share of NPLs in total loans of 3 percentage points.</p> <p>B. Maximum interest rate shock which the banking sector as a whole can absorb.</p> <p>C. Impacts of contagion in the interbank market in the event of a bank's capital inadequacy.</p> <p>D. Other tests based on results from the macroeconomic forecasting model and the credit risk model.</p>	<p>-The resulting post-test CAR of the banking sector is above 8%, except in one test, which, however, was based on relatively extreme assumptions.</p> <p>-Some banks show greater sensitivity to interest rates and interbank contagion risks.</p> <p>-The banking sector is capable of withstanding the stress of shocks, including movements in exchange rates.</p>
<i>Hungary (FSR 2006)</i>	
<p>The 2003 FSR present various stress tests measuring the impact on CAR of interest, exchange rate and credit risk shocks. Subsequent FSRs only report one "stress CAR" in a scenario where all NPLs are written off.</p>	<p>The banking sector's "stress CAR" declined during 2005, but that of the ten largest banks improved.</p>
<i>Latvia (FSR, 2006)</i>	
<p>The FSR reports on the impact on CAR of gradual NPL increases, in the domestic, external and real estate sectors.</p>	<p>Banks would have no significant problems in absorbing a potential credit risk increase resulting in a three-fold expansion of NPLs. Specific or sectoral credit risk shocks continue to point to banks' growing exposure to real estate market associated risks, but none of the analyzed shocks would cause bank insolvency.</p>
<i>Lithuania (FSR, 2005)</i>	
<p>Banks submit the results of individual stress tests with scenarios and methods at their discretion (but including at least credit, market, liquidity and operational risks) to the CB.</p> <p>The CB also performs its own stress tests, measuring the impact on CAR of an increase in specific provisions by 2, 4 and 6 times.</p>	<p>If specific provisions increase by 2 or 4 times, the overall CAR of the banking system would remain higher than 8 percent.</p> <p>With a 6 time increase, the average ratio would be below 8%.</p>
<i>Poland (FSR, 2006)</i>	
<p>The stress tests measure the impact of a credit risk shock on CAR under the following 3 scenarios:</p> <p>A. Migration of satisfactory and special mention loans to doubtful loans.</p> <p>B. (i) All claims on non-financial customers from the substandard and doubtful categories are downgraded to the category of loss loans, (ii) a decrease in the value of loan security by 25% and 50%.</p> <p>C. Simultaneous bankruptcy of (i) the sector's three largest non-financial borrowers or (ii) the three largest financial sector borrowers.</p>	<p>- Banks' loan loss absorption capacity decreased in the first half of 2006: the CAR of domestic banks whose assets constitute 1/5 of total assets would fall to 8% under scenario A, compared to 15% in Dec. 2005;</p> <p>- The CAR for one of the banks slid slightly below 8% in all scenarios.</p> <p>-Under C (i) only one bank's CAR would drop below 8% (ii) the majority of banks' CARs would stay above 11.5%.</p>

<i>Romania (FSR, 2006)</i>	
<p>The stress test measures the impact on CAR of a 18.6 percent depreciation of the domestic currency exchange rate and a 6.7 percentage point decline in interest rate on leu denominated operations, considering indirect credit risk effects (exposure to companies).</p>	<p>The average CAR remains high after the shock, at 16.7. On an individual basis, it remains higher than the minimum level of 12 percent, except for one small bank.</p>
<i>Slovenia (FSR, 2006)</i>	
<p>The stress tests measure the impact on pre-tax profit, return on equity (ROE), CAR, growth in loans and deposits of different shocks:</p> <p>A. Real GDP growth down 2.5 percentage points;  B. Tolar interest rates up 4 percentage points, foreign currency interest rates up 2 percentage points;  C. Interest margin down 1 percentage point;  D. Exchange rate down 5%;  E. Exchange rate up 5%.</p> <p>An assessment of credit risk via changes in the quality structure of banks' portfolios is also performed.</p>	<p>Banks are primarily exposed to interest-rate risk, while exchange-rate risk and the risk of lower economic growth are relatively less important. Attention should be drawn to the shortening of the open foreign exchange position in the corporate sector, which for banks represents a potential increase in credit risk in the event of a depreciation of the tolar.</p>
<i>Slovakia (FSR, 2005)</i>	
<p>Stress tests measure the impact on CAR of various shocks:</p> <p>A. Foreign exchange risk: several scenarios based on historically "worst" exchange rate changes;  B. Interest rate risk: 3 scenarios representing a parallel move, a change in the short term or long-term rates, and a change in the slope of the interest-rate curve.  C. Credit Risk: 2 scenarios based on deterioration in the quality of the credit portfolio, and a fast growth in lending while the structure of loans and the overall risk in their portfolio remains unchanged.  D. Liquidity risk: 3 basic scenarios of a large decline in the value of government bonds, a large unexpected withdrawal of client deposits, and a sudden outflow of short-term capital from the banking sector owing to external factors.  E. Systemic risk: one scenario based on a matrix of relations between banks, testing the failure of one or several banks and domino effects.</p>	<p>-Extreme changes in exchange or interest rates should not threaten the stability of the banking sector.  -Credit risk is a problem for individual banks, and could be a stability concern under the current fast lending growth and assuming deterioration in asset quality.  -The simulated decline in the value of government bonds did not have a substantial effect on banks. The sudden withdrawal of 20% of client deposits had a greater effect on large and medium-sized banks and of 90% of foreign bank deposits on certain medium- sized banks and on banks tied in terms of resources to their financial groups.  -The crash of one bank threatens the CAR of 2 banks at most, with a spillover unlikely.</p>



## **Appendix 2: Policy Responses in Eastern and Western Europe to past or current credit growth pressures**

The table below summarizes the policy responses that have been used by countries in Eastern and Western Europe to respond to past or current credit growth pressures. Although it is too early to assess the impact in the countries under study of these measures, some early results can be discussed. In several countries, the measures taken have so far had little if no impact at all. In Bulgaria, the impact of credit and prudential measures was reduced by rapid deposit growth and bank foreign borrowing. In Croatia, direct credit controls were not successful in controlling the aggregate demand and the current account deficit, with corporations moving to foreign parent bank borrowing, leasing and other forms of unsupervised and unregulated financing. Estonia's credit growth remains robust under the impulse of increasing financing from banks abroad. In Romania, the measures taken led to a slowdown in local currency credit but a surge in foreign exchange denominated credit.

In some other countries, the impact of credit limiting measures was more positive, albeit limited. Bosnia's monetary and regulatory tightening somewhat constrained credit expansion. Moldova's response had small effects as did Serbia's monetary tightening given the high proportion of foreign currency denominated loans. Ukraine experienced a slowdown in credit growth, although it remained high. Greece's tightening had a limited effect by the increasingly accommodative monetary conditions in the run-up to the monetary union. Portugal credit growth decline was largely affected by higher ECB interest rates in 1999 and the 2003 recession (although housing loan growth persisted at high levels), and Spain experienced a temporary two year housing credit decline in 2000 but a resumption thereafter resulting in further dynamic provisioning measures in 2004.

**Table 5 :Policy responses to rapid credit growth**

Countries	Central Bank Actions
Bosnia	Tightened bank core capital requirements, Tightened reserve requirements (foreign currency in the base, exclusion of vault cash from eligibility), Reduced remuneration of excess reserves at the central bank, Tightened foreign exposure regulations, Strengthened application of bank liquidity regulations.
Bulgaria	Tightened fiscal stance, Restricted conditions for current profits to be included in regulatory capital, Tightened reserve requirements (by reducing the share of vault cash in eligible assets and broadening the liability base subject to RR by including deposits and securities with longer term maturity and repos), Introduced marginal reserve requirements for banks exceeding certain rate of credit growth, Tightened loan classification and provisioning requirements, Increased the frequency and focus of on-site inspections, Strengthened information on retail lending conditions.
Croatia	Tightened moderately fiscal stance and interest rates, Introduced charges for market risk into capital adequacy calculation, Required rapidly growing banks to meet higher capital adequacy standards or be subject to mandatory retention of a portion of profits, Introduced banks penalties rates for banks with high lending growth, Increased required FX coverage of banks' FX liabilities, Introduced additional reserve requirements for banks with rapidly growing portfolios (with exemption if they meet higher capital standards), Introduced marginal reserve requirement on foreign borrowing, Introduced monitoring of bank customers' FX risk during on-site inspections, Reorganized CB's banking supervision department to operate on risk basis, Unified supervision of NBFIs.
Estonia	Increased risk weighting in the capital adequacy calculation of all loans secured by mortgages on residential property, Required credit institutions to include half of the total loan amount secured by mortgages on residential property in the reserve requirement base calculation (unless the appropriate regulator applies a 100% risk weighting in the analogous calculation of capital adequacy), Restricted reserve requirements by the inclusion of foreign bank liabilities on gross basis and abolishment of vault cash deductibility. Limited mortgage interest deductibility.
Greece	Imposed non remunerated deposits for an amount equivalent to credit growth above specified rates. Increased monitoring of credit management processes and stress testing, public disclosure and coordination among supervisory agencies.
Latvia	Raised reserve requirements, interest rates
Moldova	Required reserves for FX deposits to be held in FX, Required banks to have separate risk management units.
Poland	Adjusted CAR for foreign exchange risk, Required banks to strengthen risk management and internal controls, Credit registry/ wider information base/ APR disclosure requirements.
Portugal	Tightened rules governing general provisions, large exposures, connected lending and capital adequacy. Increased capital requirements for housing loans with loans-to-value ratios exceeding 75% and tightened provisioning requirements for consumer loans. Strengthened reporting requirements relating to risk management, and increased monitoring and coordination among supervisory agencies..
Romania	Tightened fiscal and monetary stance, Introduced limits on foreign currency credit as percent of capital, Increased mandatory reserve requirement on banks' foreign currency denominated liabilities, Extended the reserve base for required reserves on foreign exchange deposits, Lowered the reserve ratio on domestic currency deposits, Applied stricter loan classification rules, Tightened eligibility for consumer and mortgage loans, Limited insurance companies' exposure to bank loans, Established credit bureau, Postponed liberalization of permitting leu deposits by nonresidents.
Serbia	Increased capital adequacy ratio, Raised reserve requirement for foreign currency deposits, Broadened reservable base to include commercial banks' foreign borrowing, Tightened conditions for bank consumer loans, Started regulating and supervising leasing companies.
Spain	Introduced dynamic provisioning and monitored forward looking indicators related to housing credit.
Ukraine	Raised minimum capital adequacy ratio, Reduced the eligible amount of vault cash in reserve requirements, Strengthened loan classification rules, Tightened related-party lending regulations were tightened (by set-aside capital), Strengthened bank inspection based on risk assessment, Strengthened creditor rights, Established NBFIs regulator.

Sources: World Bank staff, Central Banks Annual Reports

## References

- Ahmed, f. and Bakker, B.B. (2006), "Catch-up in the Baltics: A comparison with Ireland and Portugal", mimeo.
- Backé P., Égert B. and Zumer T. (2005), "Credit Growth in Central and Eastern Europe: Emerging from Financial Repression to New (Over) Shooting Stars?", mimeo.
- Boissay F., Calvo-Gonzales O. and Kozluk T. (2005), "Is Lending in Central and Eastern Europe developing too fast?", mimeo.
- Bongini P., Laeven L. and Majnoni G. (2002), "How Good Is the Market at Assessing Bank Fragility? A Horse Race between Different Indicators.", *Journal of Banking and Finance*, 26.
- Brzoza-Brzezina M. (2005), "Lending Booms in the New EU Member States – Will Euro adoption matter?", ECB Working Paper, 543.
- Chang R. and Velasco A. (1998), "The Asian Liquidity Crisis", NBER Working Paper No. 6796.
- Corsetti G., Pesenti P. and Roubini N. (1998) "What caused the Asian Currency and Financial Crisis? Part I: A Macroeconomic Overview", NBER Working Paper 6833.
- Coricelli F., Mucci F., Revoltella D. (2006), Household Credit in the New Europe: Lending Boom or Sustainable Growth?, CEPR Discussion Paper 5520.
- Cottarelli C., Dell Ariccia G. and Vladkova Hollar I. (2003), "Early birds, late risers, and sleeping beauties: Bank credit growth to the private sector in Central and Eastern Europe and in the Balkans", IMF Working Paper 03/213.
- Danske Bank (2006), "New Europe – Be careful! Risk on the rise".
- Demirgüç-Kunt A. and Detragiache E. (1998), "The Determinants of Banking Crises in Developing and Developed Countries." IMF Staff Papers 45.
- Duenwald C., Guergiev N. and Schaechter A. (2005), "Too Much of a Good Thing? Credit Booms in Transition Economies: The Case of Bulgaria, Romania, and Ukraine", IMF Working Paper 05/128.
- Fitch (2007), "Special Report: Bank Systemic Risk Report", [www.fitchratings.com](http://www.fitchratings.com)
- Flood R. and Garber P. (1984), "Collapsing Exchange-Rate Regimes: Some linear Examples." *Journal of International Economics*, 17.
- Furman J., Stiglitz J. E., Bosworth B. P. and Radelet S. (1998), "Economic crises: Evidence and Insights from East Asia", *Brookings Papers on Economic Activity*, 2.
- Gourinchas P. O., Valdes R. and Landerretche O. (2001), "Lending Booms: Latin America and the World." NBER Working Paper 8249.
- Gourinchas, P.O., Valdes, R. and Landerretche O. (1999), "Lending booms: Some stylized facts." IMF Seminar Series 35.
- Haas R. and Lelyveld I. (2003), "Foreign Banks and Credit Stability in Central and Eastern Europe: A Panel Data Analysis", DNB Staff Reports 109.
- Herring, R. J. and Wachter, S. M. (1999), "Real Estate Booms and Banking Busts – An International Perspective." Group of 30 Occasional Paper 58.
- International Monetary Fund, 2006, "Portugal: Financial System Stability Assessment", IMF Country Report No. 06/378.
- ING, 2006, "Directional Economics: Thai with a twist".
- Kaminsky G. and Reinhart C. (1999), "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems", *American Economic Review*, Vol. 89.
- Kiss, G., Nagy, M. A and Vonnak, B. (2006), "Credit Growth in Central and Eastern Europe: Trend, Cycle or Boom?", mimeo.
- Ko, D.M.K. (2006), "What do the sources and uses of funds tell us about credit growth in Central and Eastern Europe?", EC Occasional Paper No.26.
- Levine, R., N. Loayza and T. Beck (2000), "Financial Intermediation and Growth: Causality and Causes," *Journal of Monetary Economics*, 46(1).
- Mathieson, D.J. and Roldos, J. (2001), "The role of foreign banks in emerging markets", in: Litan, R.E., Masson, P. and Pomerleano, M. (Eds.), *Open Doors. Foreign Participation in Financial Systems in Developing Countries*, The Brookings Institution.
- Papademos (2005), "Financial structures, credit growth and house prices in the new EU Member States: Policy challenges on the road to the euro", Speech at the Conference held by Latvijas Banka, Riga.
- Radelet S. C. and Sachs J. (1998), "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects", *Brookings Papers on Economic Activity*, 1.

- Radelet S. C. and Sachs J. (1998), "The Onset of the East Asian Financial Crisis", NBER Working Papers 6680.
- Sahajwala R. and Paul Van de B. (2000), "Supervisory Risk Assessment and Early Warning Systems", Basel Committee on Banking Supervision Working Paper 2, BIS.
- Schadler R. S., Kuijs L., Murgasova Z. and Van Elkan R. (2004), "Credit Booms, Demand Booms, and Euro Adoption", mimeo.
- Schmitz B. (2004), "What Role do Banks play in Monetary Policy Transmission in EU Accession Countries?", University of Bonn, mimeo.
- Soledad M.M.P., Powell A.P. and Vladkova Hollar I. (2002), "Banking on Foreigners: The Behavior of International Bank Lending to Latin America, 1985-2000". World Bank Policy Research Working Paper No. 2893.
- World Bank, 2007, "Economic overheating and current account in the Baltic States", mimeo.
- World Bank and International Monetary Fund (IMF). 2005. Financial Sector Assessment: a Handbook.
- World Economic Outlook (2004, April), "Advancing Structural Reforms" International Monetary Fund World Economic and Financial Surveys.



## Policy Research Working Paper Series

Title	Author	Date	Contact for paper
WPS4263 HIV/AIDS and Social Capital in a Cross-Section of Countries	Antonio C. David	June 2007	A. David 82842
WPS4264 Financing of the Private Sector in Mexico, 2000–05: Evolution, Composition, and Determinants	Constantinos Stephanou Emanuel Salinas Muñoz	June 2007	S. Coca 37474
WPS4265 The Structure of Import Tariffs in the Russian Federation: 2001–05	Oleksandr Shepotylo	June 2007	P. Flewitt 32724
WPS4266 The Economic Community of West African States: Fiscal Revenue Implications of the Prospective Economic Partnership Agreement with the European Union	Simplice G. Zouhon-Bi Lyngé Nielsen	June 2007	S. Zouhon-Bi 82929
WPS4267 Financial Intermediation in the Pre-Consolidated Banking Sector in Nigeria	Heiko Hesse	June 2007	G. Johnson 34436
WPS4268 Power to the People: Evidence from a Randomized Field Experiment of a Community-Based Monitoring Project in Uganda	Martina Björkman Jakob Svensson	June 2007	I. Hafiz 37851
WPS4269 Shadow Sovereign Ratings for Unrated Developing Countries	Dilip Ratha Prabal De Sanket Mohapatra	June 2007	N. Aliyeva 80524
WPS4270 Jump-Starting Self-Employment? Evidence among Welfare Participants in Argentina	Rita Almeida Emanuela Galasso	June 2007	A. Bonfield 31248
WPS4271 Construction, Corruption, and Developing Countries	Charles Kenny	June 2007	C. Kenny 33540
WPS4272 Migration, Remittances, Poverty, and Human Capital: Conceptual and Empirical Challenges	David McKenzie Marcin J. Sasin	July 2007	M. Sasin 36877
WPS4273 Rules of Origin and the Web of East Asian Free Trade Agreements	Miriam Manchin Annette O. Pelkmans-Balaoing	July 2007	L. Yeargin 81553
WPS4274 Are Labor Regulations Driving Computer Usage in India's Retail Stores?	Mohammad Amin	July 2007	S. Narsiah 88768
WPS4275 Can Foreign Lobbying Enhance Development? The Case of Tourism in the Caribbean	Kishore Gawande William Maloney Gabriel V. Montes Rojas	July 2007	V. Cornago 84039
WPS4276 Human Capital, Trade Liberalization, and Income Risk	Tom Krebs Pravin Krishna William Maloney	July 2007	V. Cornago 84039
WPS4277 Climate Change Adaptation in Africa: A Microeconomic Analysis of Livestock Choice	Sungno Niggol Seo Robert Mendelsohn	July 2007	P. Kokila 33716
WPS4278 Endogenous Irrigation: The Impact of Climate Change on Farmers in Africa	Pradeep Kurukulasuriya Robert Mendelsohn	July 2007	P. Kokila 33716
WPS4279 The Impact of Climate Change on Livestock Management in Africa: A Structural Ricardian Analysis	Sungno Niggol Seo Robert Mendelsohn	July 2007	P. Kokila 33716

## Policy Research Working Paper Series

Title	Author	Date	Contact for paper
WPS4280 Governance Matters VI: Aggregate and Individual Governance: Indicators, 1996-2006	Daniel Kaufmann Aart Kraay Massimo Mastruzzi	July 2007	R. Bonfield 31248