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Rapid Growth of Bank Credit in Central and Eastern Europe: the Role of Housing Markets and Foreign-Owned Banks

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Rapid growth of bank credit in central and eastern Europe: the role of housing markets and foreign-owned banks

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Abstract

This paper assesses the role of housing market developments and foreign-owned banks in the growth of bank credit in 16 countries of central and eastern Europe since 1999. It is argued that the recent credit expansion has largely reflected rapid development of housing markets in the region. The role of foreign-owned banks has been multifaceted. In the credit expansion per se, their role should not be exaggerated, as other domestic banks have also contributed to the expansion. In improving the allocation of credit to the economy and raising prudential standards, profitability and efficiency in banking industry, foreign-owned banks have played a major role. However, their activities have also been associated with some less benign macroeconomic effects, including the funding of credit expansion from external sources, widespread foreign currency lending and the associated risks of overheating and external imbalances. The paper evaluates evidence on these effects, and reviews measures taken by the central banks and policy challenges arising from the dominant role of foreign-owned banks in the region.

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1. Introduction

The past few years have seen a sea change in the bank lending landscape in central and eastern Europe. In contrast to the late 1990s, when bank credit to the private sector was weak in most countries or falling in those that had experienced a banking crisis, during 2000–04 the ratio of private sector credit to GDP increased by 6% on average in 16 countries studied in this paper.[2] Total bank credit (excluding credit to public enterprises and financial intermediaries) increased in the new member states on average from under 40% of GDP in 1999, to over 50% in 2004; and from 35% to 39% of GDP in southeast Europe.

Several recent papers discuss whether credit expansion on this scale has been excessive; if so, what could be done to bring it under control; and if not, how far the expansion could proceed safely.[3] This paper focuses on two particular aspects of the same phenomenon: first, the role of housing markets in credit growth developments; and second, the role of foreign-owned banks.

The paper argues that the recent credit expansion largely reflects the development of local housing markets. Housing loans have made the largest contribution to the growth of private sector credit in the majority of countries in the region over the past 2–3 years. Since the boom in mortgage lending has not been accompanied by excessive growth of housing prices so far, the associated credit expansion seems to have been for the most part healthy. And as the development of housing markets still has a long way to go, property lending and the overall private sector credit are not likely to slow significantly in the near term.

Regarding the role of foreign-owned banks, the paper argues that credit growth has not been solely the making of foreign-owned banks, as private domestic banks have also contributed to this development. Foreign-owned banks have, however, played a key role in improving the allocation of credit and raising efficiency in banking industry. But at the macroeconomic level, some effects of foreign banks' activities have been less benign. As lending in central and eastern Europe has been highly profitable for parent institutions from western Europe, foreign-owned banks have competed fiercely to increase their market share in the region. After years of pent-up demand, households were attracted by the opportunity to expand their consumption. This constellation of supply and demand factors has led to buoyant growth of consumer loans, which has in turn contributed to the widening of current account deficits and the growth of external debt in some countries, as bank subsidiaries have borrowed from their headquarters in western Europe in order to expand lending in host countries. An additional concern is the growth of foreign currency lending, which might heighten longstanding external vulnerabilities in some countries.

The paper is structured as follows. Section 2 sets the stage with a brief overview of common trends in the growth of bank credit in the region. Section 3 looks at the role of housing markets in the credit expansion. Section 4 assesses the role of foreign-owned banks in the expansion of credit, credit allocation and in changes in bank efficiency; it also evaluates evidence on some macroeconomic effects of foreign banks' activities. Section 5 concludes with an overview of the monetary policy actions taken to address these effects and a discussion of some supervisory issues arising from the prominent role of foreign-owned banks in central and eastern Europe.

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[2] The countries studied in the paper are eight new EU member states from central Europe (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia) and eight EU candidate and potential candidate countries from south-eastern Europe (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Serbia and Montenegro, Romania and Turkey).

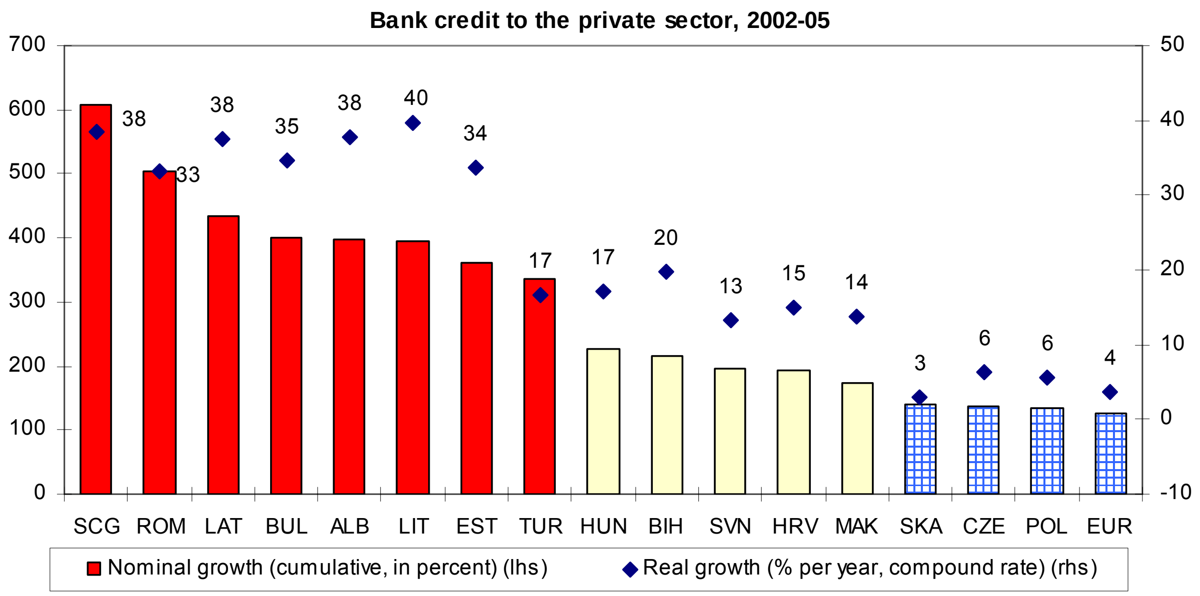
[3] See Arcalean et al (2005) ; Arpa et al (2005), Backé and Zumer (2006), Backé et al (2005), Boissay et al (2006), Coricelli et al (2005), Cottarelli et al (2005); Duenwald et al (2006), and Hilbers et al (2005).

2. Common trends in credit growth

Rapid growth of private sector credit has not been unique to central and eastern Europe. Indeed, over the past few years bank credit has expanded rapidly throughout industrial and emerging market economies. For instance, domestic credit to the private sector in Latin America accelerated to about 15% year-on-year in 2004 and to 20% in 2005, while in Asian emerging economies credit has expanded by about 15% since 2003. In the euro area, banks expanded credit to the households by more than 20% over the course of 2002–04 despite stagnant GDP growth. From the global perspective, then, there is no specific "regional factor" behind the credit expansion in central and eastern Europe; it is part of a global phenomenon that reflects an environment of historically low interest rates and abundant liquidity in international capital markets.

Moreover, even within central and eastern Europe there has been considerable diversity in the dynamics of bank credit. As shown in Graph 1, cumulative growth of private sector credit during 2002–05 exceeded 300% in nominal terms in half of the countries studied in this paper, reflecting mainly the low base effect. In Bosnia and Herzegovina, Croatia, Hungary, Macedonia and Slovenia, the stock of private sector credit expanded from 170–230% in nominal terms. But in the Czech Republic, Poland and Slovakia, the expansion was considerably slower. In real terms, credit growth exceeded 30% per annum in seven out of 16 countries; and in further six countries it ranged from 10–20% (Graph 1). But in Slovakia, private sector credit expanded at a modest 3% annual real rate.

Graph 1



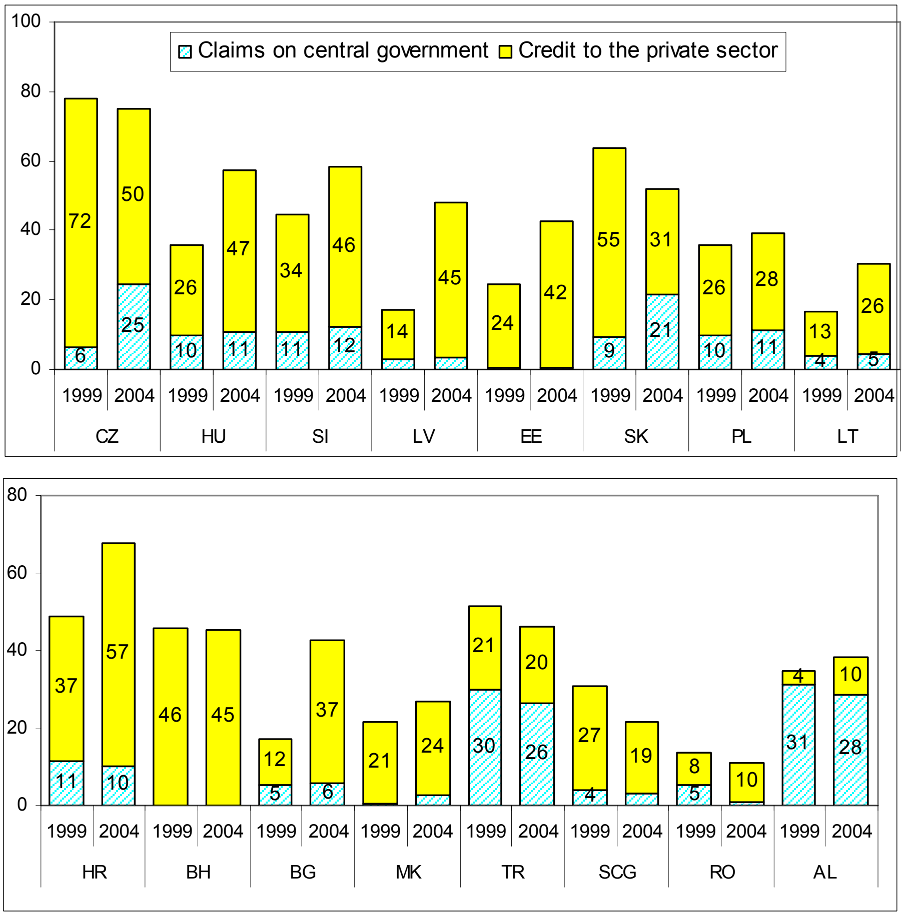
Note: ALB=Albania, BIH=Bosnia-Herzegovina, BUL=Bulgaria, CZE=Czech Republic; EST=Estonia, EUR=Euro area; HRV=Croatia, HUN=Hungary, LAT=Latvia, LIT=Lithuania, MAK=Macedonia, POL=Poland, ROM=Romania, SCG=Serbia-Montenegro, SVK=Slovakia, SVN=Slovenia, TUR=Turkey.
Sources: IMF, International Financial Statistics; national data; author's estimates.

There is also considerable diversity in the composition of bank lending. For instance, claims on the government accounted for more than 20% of total bank lending in the Czech Republic, Poland and Slovenia in 2004, not to mention Albania, Slovakia and Turkey (Graph 2). Moreover, as discussed in Section 4, the share of credit to the government has increased in some countries in recent years.

What are, then, some common characteristics of the growth of bank credit in central and eastern Europe? One common feature is that the composition of commercial bank lending has changed very rapidly. Starting from a highly distorted structure of lending in the late 1990s, when two-thirds of loans on average were extended to enterprises, 20% to the government and only 15% to households, by 2004 the composition of lending has clearly shifted towards the households (Table 1).

Graph 2

Bank credit as a percent of GDP



Sources: IMF; national data; author's estimates.

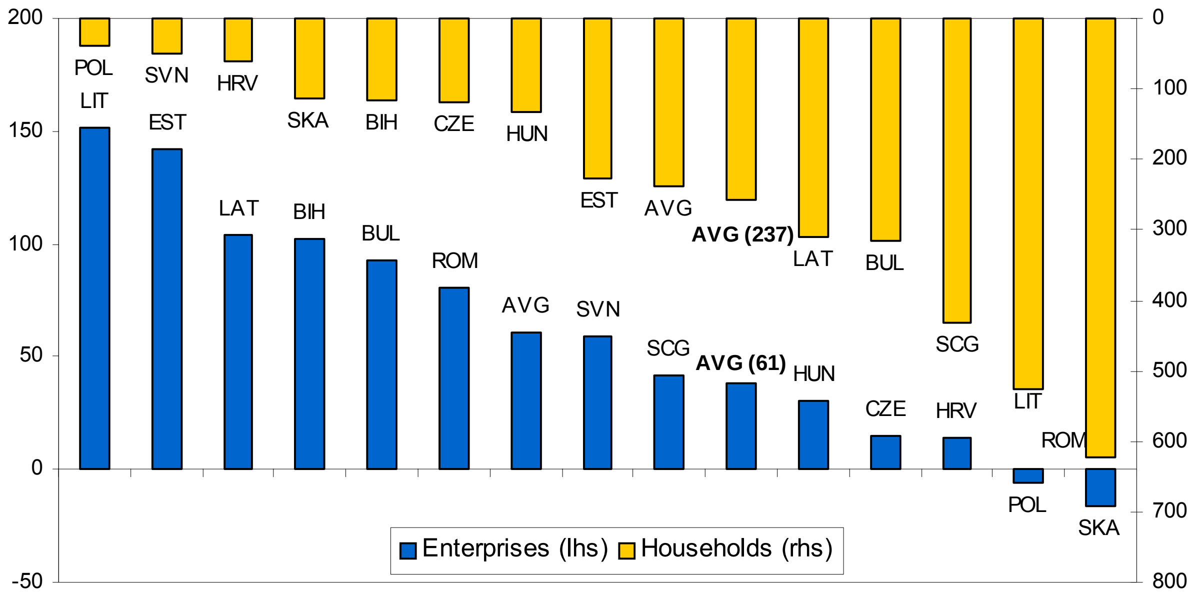
Table 1	Composition of commercial bank lending[1]								
Countries[2]	**Government[3]**			**Corporate**			**Household**		
	1999	**2003**	**2004**	**1999**	**2003**	**2004**	**1999**	**2003**	**2004**
Estonia	3	6	4	71	52	50	26	43	45
Czech Rep.	6	31	25	83	45	45	12	25	30
Lithuania	29	20	4	62	63	70	8	17	26
Slovakia	29	49	49	64	37	34	7	14	17
Croatia	21	8	8	65	68	42	14	25	50
Bulgaria	21	8	–3	65	67	70	14	25	33
Hungary	43	13	9	49	57	57	8	30	32
Poland	5	6	7	62	53	46	33	31	46
Romania	35	9	5	62	68	68	3	23	27
Latvia	11	10	9	76	63	59	13	28	32
Slovenia	22	22	22	52	57	55	26	21	23
Turkey	3	4	4	86	76	71	11	20	25
Average	*19*	*16*	*12*	*66*	*59*	*56*	*15*	*25*	*32*
Euro area	…	11	11	…	41	41	...	48	49

[1] In percent of total credit, excluding interbank credit and credit to non-bank financial institutions. End of period or for 2004, latest available period. [2] Ordered based on the share of foreign-owned banks in total banking sector assets. [3] Net claims on government for most countries.

Lending to the households has expanded nearly four times as fast on average as corporate lending during 2003–05 (Graph 3). There has been a high negative correlation (R = –0.60) between the growth of these two types of credit: the faster the growth of credit to the households, the slower the growth of credit to enterprises. Yet only in Croatia, Estonia and Poland has the composition of lending evolved closer to that found in the euro area, with household loans representing about one-half of total loans.

Graph 3

Real credit growth, 2003-05
(cumulative growth rate, in percent)



Source: National data; author's estimates.

As discussed in Section 4, this shift reflects to a large extent changes in the ownership structure of banking systems in the region. During the 1990s, households were largely ignored by the banking sector. However, this changed after the main banks had been sold to foreign institutions and started to compete for market shares, introducing many new products and pushing down interest rates in the process. The increased supply of credit was matched by rising demand, as real household incomes have grown rapidly in recent years.

Other factors that contributed to the credit expansion in the region include financial deepening; the nature of exchange rate regimes – countries with fixed or quasi-fixed exchange rate regimes have generally experienced faster credit growth dynamics than countries with more flexible regimes; and the traditional catching-up effects, in particular strong economic and personal income growth in recent years (see Arcalean et al, 2005). While certainly relevant, these factors are not unique to central and eastern Europe. If there is one specific "regional factor" behind the rapid credit growth, then it seems to be the development of local housing markets. We turn to this issue in the next section.

3. The role of housing markets

One common feature of credit growth in the region is the large contribution of housing loans. As shown in Table 2, housing loans expanded on average by 56% per annum and contributed 42% to the growth of total private sector credit during 2003–05. The contribution of household loans – and housing loans in particular – was larger than or equal to that of corporate loans in all the countries with the exception of Lithuania and Slovenia. Within household loans, consumer loans made a larger contribution than housing loans only in Bulgaria and Croatia. One should note that in many countries (including the Baltic states, Croatia and Romania) a significant part of credit to the households is provided by leasing companies, which are often owned by commercial banks but are not included in banking sector statistics. The above figures thus underestimate to some extent the extent of credit expansion. In Estonia, for instance, credit provided to the private sector by bank-owned leasing companies amounted to 15.4% of GDP in 2004.

The expansion of private sector credit in central and eastern Europe thus seems to be primarily a question of the credit. This raises questions about the nature of the property market in central and eastern Europe: Why is the housing market developing so fast so late in the transition process? Is the development of the housing market – and the associated credit growth – sustainable at the current pace? And how far might it continue without causing problems at the macroeconomic level and raising challenges for financial stability?

Table 2 **Housing loans and private sector credit growth, 2003–05**

Countries	**Growth of private sector credit**[1]				**Contribution to growth of private sector credit**[2]			
	Corporate	**Household**			**Corporate**	**Household**		
		Total	**Housing**	**Con-sumer**		**Total**	**Housing**	**Con-sumer**
Bulgaria	28.7	63.3	114.8	51.5	50.5	49.5	17.3	32.1
Croatia	8.4	16.7	23.3	13.7	22.4	62.7	24.9	37.9
Czech Republic	11.1	32.3	39.6	23.3	10.7	89.3	69.9	19.4
Estonia	40.7	56.8	64.2	34.2	45.4	54.6	47.5	7.0
Hungary	12.3	28.5	26.1	44.2	40.8	59.2	43.9	15.8
Latvia	16.4	53.2	60.0	42.4	43.0	57.0	35.5	6.4
Lithuania	27.6	67.1	68.9	3.3	59.0	41.0	40.7	0.3
Romania	30.8	64.8	67.8	42.9	50.7	49.3	46.1	3.2
Serbia	25.2	61.4	…	…	48.4	51.6	…	…
Slovakia	3.7	35.4	34.9	15.6	27.0	73.0	51.7	15.2
Slovenia	40.0	105.0	…	…	78.0	22.0	…	…
Average	**22.3**	**53.1**	**55.5**	**30.1**	**43.3**	**55.4**	**41.9**	**15.3**

[1] Annual growth rate of private sector credit (excluding credit to financial intermediaries), 2003–05; in percent. Data for 2005 are for the latest month available. [2] Percentage contribution to the annual growth rate of private sector credit; average for 2003–05 (for Slovakia, 2004–05). Based on monthly data.

Sources: Central banks; author's estimates.

The real estate market in central and eastern Europe started to develop in earnest only in the early 2000s, partly as a result of another specific regional factor – the EU accession process, which led to improvements in institutional infrastructure necessary for the development of the property market. The sector is still relatively small – construction and real estate industries account for about 15% of GDP on average, compared with 20–25% of GDP in many industrial countries. Research on the economics of the property market is not developed, and statistical data on the sector are very patchy.

The key obstacle to the development of housing markets in the 1990s had been inadequate institutional and regulatory framework for the property market. Privatisation of housing from the socialist period had been mostly completed during the 1990s, but missing or unclear land and property titles, the difficulty of enforcing foreclosure of residential properties, and the lack of credit registries have limited the supply of housing and mortgage finance. In addition, the supply of new homes was constrained during the 1990s by the exit of the public sector from housing construction; slow growth of private property developers; and inadequate spatial plans.[4] In the secondary market, supply was constrained because of the poor quality of many existing homes and their uneven regional distribution (shortage of housing in large cities and surplus in small towns). These factors have at the same time put pressure on housing demand, which has been strong despite high owner-occupancy rates.[5]

The EU accession and the adoption of *acquis communitaire* have accelerated the removal of legal impediments to property transactions and housing finance. Once the institutional preconditions for the real estate market fell into place, the supply of housing and of mortgage products started to improve very quickly. Private construction firms have significantly expanded development of new housing, while many existing properties started to appear on the market after their owners had obtained clean property titles. On the financing side, once reforms in legislation and the judiciary made it easier for creditors to seize real estate collateral, many banks started to provide longer-term housing loans; the loan-to-value ratios increased; and mortgage rates started to decline.

A final impetus to the development of housing markets came from the demand side. In addition to strong income growth, it included demographic factors: most countries in central and eastern Europe experienced small baby booms in the 1970s and the early 1980s, often following episodes of political repression under the communist regime. As the 1970s and the 1980s generations are gradually nearing their prime earning age, they are entering the housing market and providing strong boost to demand, especially for quality housing.

Another factor adding to demand pressures in recent years is increased external demand for real estate in central and eastern Europe. It has two components: first, the demand for second homes by residents of EU-15 countries; and, second investment demand. The demand for second homes partly reflects demographic factors, and partly the low interest rate environment of recent years. As baby boomers from northern Europe near their retirement age, they are increasingly looking for second homes in southern Europe, where they could spend part of the year during retirement. Second homes in countries such as France, Italy and Spain have become fairly expensive in recent years, so many households have turned their attention to properties in Bulgaria, Croatia, Romania and Turkey.

Investment demand has so far concentrated on commercial real estate (eg, shopping malls and office space in major cities). For instance, CB Richard Ellis (2005, p. 1) notes that the property investment markets in central and eastern Europe perform "exceptionally well", and that investors who would only consider offices three years ago were now "so anxious to buy that they were open to the industrial, hotel and residential sectors."

Against this background, it is not surprising that housing loans have expanded at annual rates of 40–100% in several countries since 2003. Although statistical data on the property market are patchy, it appears that Croatia, the Czech Republic, Estonia, Hungary, Lithuania and Poland all experienced periods of double-digit growth of house prices in nominal terms (Table 3). The good news is that the market seems to be functioning relatively normally, as prices occasionally decreased by up to 10% per year.

As shown in Graph 4, house prices and housing loans in Croatia, the Czech Republic, Estonia, Hungary, Lithuania and Poland have been highly correlated. The direction of causality between house prices and housing loans cannot be determined a priori. Rising house prices may have made it necessary for households to take on larger mortgages, but they may have also induced some individuals to invest in property, thus fuelling speculative

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4 In the late 1990s, the number of newly completed dwellings per 1,000 inhabitants ranged from 1–3 units per year in central and south-eastern Europe, compared with 7–13 units in western Europe (OECD, 2002).

5 In Bulgaria, Estonia, Hungary, Slovenia and Romania, the ratio of owner-occupied housing exceeds 90%, while in Croatia it exceeds 80%. For comparison, the share of owner-occupied housing in western Europe ranges from 38% in Germany to 80% in Ireland (OECD, 2002).

demand. At the same time, greater availability of housing loans may have spurred the growth of house prices on its own, especially in areas where the supply of housing is lagging behind the demand.

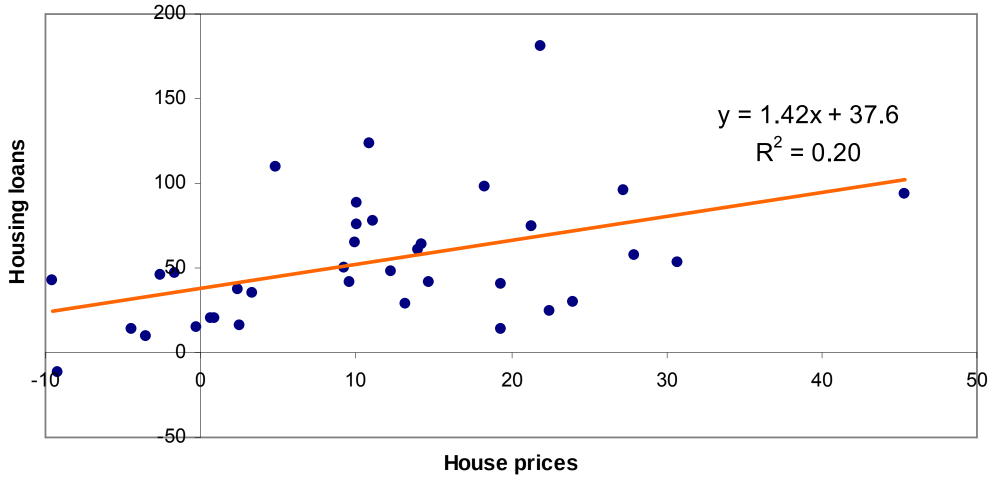
Table 3	House prices[1]				
	2001	**2002**	**2003**	**2004**	**2005**
Croatia	–4.4	0.7	2.4	13.2	22.5
Czech Republic	14.7	22.0	19.4	–2.5	…
Estonia	34.0	30.7	14.0	28.0	21.3
Hungary	…	4.8	10.9	9.2	0.9
Lithuania	24.0	10.1	18.3	10.1	45.3
Poland	–1.6	–9.5	12.3	…	…

[1] Annual percentage changes. Data refer mainly to house prices in urban centres.
Sources: Central banks; real estate firms; author's estimates.

The fastest increases in property prices have been observed in large cities such as Budapest, Bucharest, Prague, Warsaw and Zagreb, as well as in coastal areas of Bulgaria, Croatia, Romania and Turkey. The growth of property prices has accelerated where the regime for property sales to non-residents had been liberalised. Constrained supply of quality housing and signs that the construction industry in several countries may have started to hit capacity constraints suggest that underlying price pressures are strong and could manifest themselves openly if the development of the real estate market becomes disorderly. The risk of a property price bubble in certain central and eastern European countries can thus not be excluded. But economic policies to address such risk should probably be aimed at the supply side of the property market rather than household demand for housing or the demand for housing loans.

Graph 4

Housing loans and house prices, 1997-05[1]
(annual percentage changes)



[1] Annual percentage changes; data for the Czech Republic, Croatia, Estonia, Hungary, Lithuania and Poland.
Sources: National data; author's estimates.

Nonetheless, given the importance of the housing market for investment, saving and consumption choices of households and the rapidly growing size of mortgage portfolios of financial institutions, it seems appropriate for central banks to closely monitor developments in real estate markets. As in many industrial countries, a major part of the effort to monitor developments in the housing market will have to be focused on developing reliable statistics on the property market.

4. The role of foreign-owned banks

Impact on credit expansion

That the foreign-owned banks should play a major role in credit expansion in central and eastern Europe would seem to be obvious, given these banks' dominant position in banking systems in the region. As shown in Table 4, foreign-owned banks accounted on average for 69% of total banking sector assets in 16 countries studied in this paper, their share rising to 80% or more in Albania, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Lithuania and Slovakia in 2004. Foreign-owned banks have not been prominent only in Turkey, and have yet to make major inroads in Latvia, Macedonia, Serbia and Slovenia.

Table 4 **Structure of the commercial banking sector, 2004**

Countries[1]	Number of banks	Market share[2]				Ratio to GDP[3]		
		Foreign-owned banks	Private domestic banks	State-owned banks	Top five banks	Total assets	Private sector credit	House-hold deposits
Croatia	37	91	6	3	74	109	62	60
Latvia	23	47	50	3	63	96	51	16
Slovenia	19	36	40	24	64	89	48	51
Bosnia-Herzegovina	33	66	22	12	61	73	45	41
Hungary	35	83	16	3	53	79	45	40
Estonia	9	99	1	–	99	94	42	20
Bulgaria	35	83	15	2	55	66	37	39
Czech Rep.	35	96	1	3	63	107	32	64
Poland	54	68	8	24	50	65	31	39
Lithuania	14	96	4	–	82	39	29	14
Slovakia	21	96	–	4	67	83	24	54
Macedonia	21	47	51	2	76	57	23	30
Turkey	35	3	57	40	60	76	20	48
Romania	39	62	31	7	60	38	18	24
Serbia	43	37	28	35	47	39	17	20
Albania	16	89	5	6	77	54	9	47
Total/Average	469	69	22	12	66	73	33	38
Euro area	*2,287*	*24*	*74*	*2*	*54*	*206*	*100*	*73*

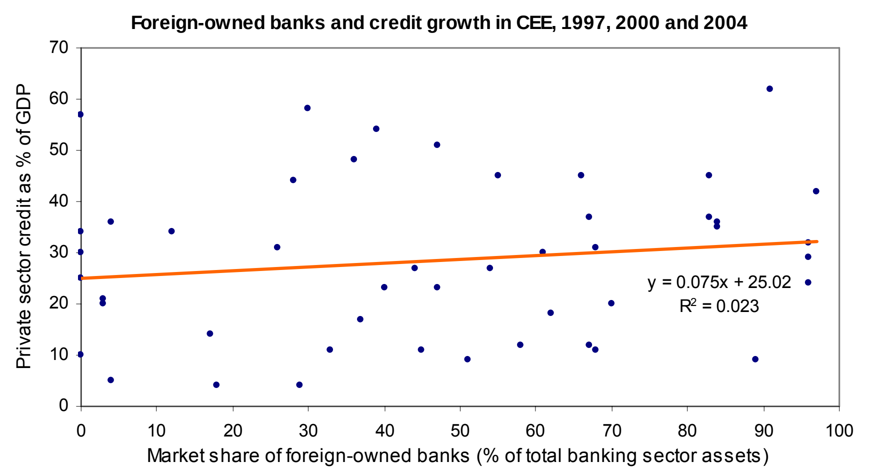
[1] Ordered according to the private sector credit/GDP ratio. [2] As a percentage of total assets. [3] In percent.

Sources: ECB; Bank Austria Creditanstalt; national data; author's estimates.

It may therefore come as a surprise that the shares of foreign-owned banks in total banking sector assets are basically uncorrelated with the shares of private sector credit in GDP over time (Graph 5). One can also notice that countries with a relatively low share of foreign-owned banks such as Latvia, Serbia and Turkey have recently seen some of the fastest rates of expansion of bank credit, in both nominal and real terms (Graph 1). Conversely, some of the countries with the highest share of foreign-owned banks – the Czech Republic and Slovakia – have seen some of the slowest rates of credit expansion.

While other measures might reveal a stronger relationship between foreign bank presence and private sector credit growth, one should recognise that private domestic banks and state-owned banks – where they still exist – have also participated in the credit expansion. For instance, over the past five years private domestic banks were leading the credit expansion in Hungary, and state-owned banks in Turkey. In a broader emerging market context, for every 10 percentage-point increase in the credit to GDP ratio, credit by private domestic banks has expanded on average by 8% of GDP over the past ten years; credit by foreign-owned banks by about 1½% of GDP; and credit by state-owned banks by about half a percent of GDP (Mihaljek, 2006).

Graph 5



Sources: Bank Austria - Creditanstalt; author's estimates.

Effects on credit allocation and bank efficiency

If not always in credit growth, then have foreign-owned banks played a leading role in improving the allocation of credit to the economy and raising prudential standards, profitability and efficiency in banking industry in the region? The evidence on these issues is more supportive of the positive role of foreign-owned banks.

Shifts in the composition of commercial bank landing shown in Table 1 correspond fairly closely to the increase in the presence of foreign-owned banks in the region. But there are some important caveats. For instance, the share of credit to the government in total bank lending increased in those central European countries that joined the EU by 4½% of GDP on average between 1999 and 2004 (to 11% of GDP), even though foreign banks in these countries account for a larger share of intermediation than in south-eastern Europe (77% vs. 60% of total assets, respectively). By contrast, in south-eastern Europe the share of credit to the government declined by 1½% of GDP (also to 11%) between 1999 and 2004. Foreign-owned banks in the Czech Republic and Slovakia in particular increased their lending to the government relative to the private sector (see Graph 2).

Another caveat is that foreign-owned banks in some countries do not seem to have done enough to intermediate private sector deposits. One case in point is the large discrepancy between household deposits and loans to the private sector. In the Czech Republic, household deposits amounted to 64% of GDP at the end of 2004, and loans to households to only 32% of GDP (Table 4). A large discrepancy can also be found in two other countries with predominantly foreign-owned banking systems – Albania and Slovakia. At the other extreme, foreign-owned banks in Estonia and Latvia have extended considerably more loans to the private sector than they have received deposits from the households, suggesting that the credit expansion has been funded to a large extent by external borrowing of the banks.

Evidence on role of foreign-owned banks in improving efficiency in banking industry is clearer. One contribution, which is admittedly hard to quantify, is that foreign-owned banks have been actively involved in the development of new banking products in the region. When they were established as part of the privatisation process – typically through purchases of local state-owned banks – foreign-owned banks inherited a large portfolio of loans to the government and the corporate sector. Like private domestic banks, many foreign banks initially focused on the corporate sector. But as large firms strengthened their financial position and over time started to diversify their sources of finance (by issuing bonds, equities and borrowing directly from banks abroad), foreign-owned banks quickly began to extend services to the previously underserved household sector. More recently, as competition in consumer loan and mortgage markets has intensified, foreign-owned banks have turned to the next underserved segment of the market: small and medium-sized enterprises. Loans to SMEs have thus rivalled mortgage loans in terms of the rate of expansion (though still not in terms of the size) in the Czech Republic, Hungary and Poland over the past two years.

Another contribution, which is easier to quantify, is the strengthening of banks' prudential standards and profitability. Reflecting balance sheet restructuring and better risk management, the share of non-performing loans was reduced by more than 50% between 1999 and 2004; a high capital adequacy ratio was maintained (16.5% on average in 2004); provisioning against loan losses increased. Likewise, profitability improved to a level comparable with that of banks in countries such as Austria (Table 5).

Table 5

Prudential indicators
(in percent)

Countries[1]	**Non-performing loans**[2]		**Capital adequacy**[3]		**Loan-loss provisions**[4]		**Return on equity**		**Return on assets**	
	1999	**2004**	**1999**	**2004**	**2000**	**2004**	**1999**	**2004**	**1999**	**2004**
Estonia	1.7	0.3	16.1	13.4	…	…	9.2	13.8	1.4	1.6
Czech Rep.	22.0	4.1	13.6	12.6	46.8	69.4	–4.3	23.4	–0.3	1.3
Lithuania	12.5	2.3	17.4	12.3	34.6	21.6	1.1	13.4	0.5	1.3
Slovakia	23.7	5.4	29.5	19.0	75.1	89.1	–36.5	11.9	–2.3	1.0
Croatia	11.8	4.5	20.6	14.1	79.9	60.3	4.8	16.6	0.7	1.4
Bulgaria	29.0	7.1	43.0	16.6	65.9	49.0	20.9	20.0	2.5	2.1
Hungary	3.6	2.7	14.9	11.2	57.0	51.1	7.1	25.2	0.6	2.0
Poland	13.2	15.5	13.2	15.6	40.5	58.0	12.9	17.6	0.9	1.4
Bosnia and Herzegovina[5]	9.9	3.5	26.3	18.0	64.2	96.1	–5.8	5.6	–1.3	0.6
Romania	35.4	8.1	17.9	18.8	…	34.3	–15.3	19.3	–1.5	2.5
Latvia	6.0	1.1	16.0	11.7	74.1	99.1	11.2	21.4	1.0	1.7
Macedonia	41.3	13.2	28.7	23.0	…	76.2	3.5	6.2	0.8	1.1
Serbia and Montenegro[6]	21.6	22.8	25.6	27.9	…	…	–60.6	–5.3	–8.4	–1.2
Slovenia	5.2	5.7	14.0	11.0	45.3	34.0	7.8	14.2	0.8	1.1
Turkey	10.5	6.0	8.2	28.8	59.8	88.1	33.1	17.4	3.3	2.5
Average	**16.5**	**6.8**	**20.3**	**16.9**	**58.5**	**63.6**	**–0.7**	**14.7**	**–0.1**	**1.4**
High share of foreign banks[7]	14.9	3.8	22.2	14.2	59.9	56.8	8.6	17.8	1.1	1.5
Lower share of foreign banks[8]	17.9	9.5	18.7	19.4	56.8	69.4	13.7	14.5	1.4	1.6
Memo: Austria	*1.7*	*1.5*	*13.9*	*14.7*	*…*	*…*	*6.9*	*9.3*	*0.3*	*1.5*

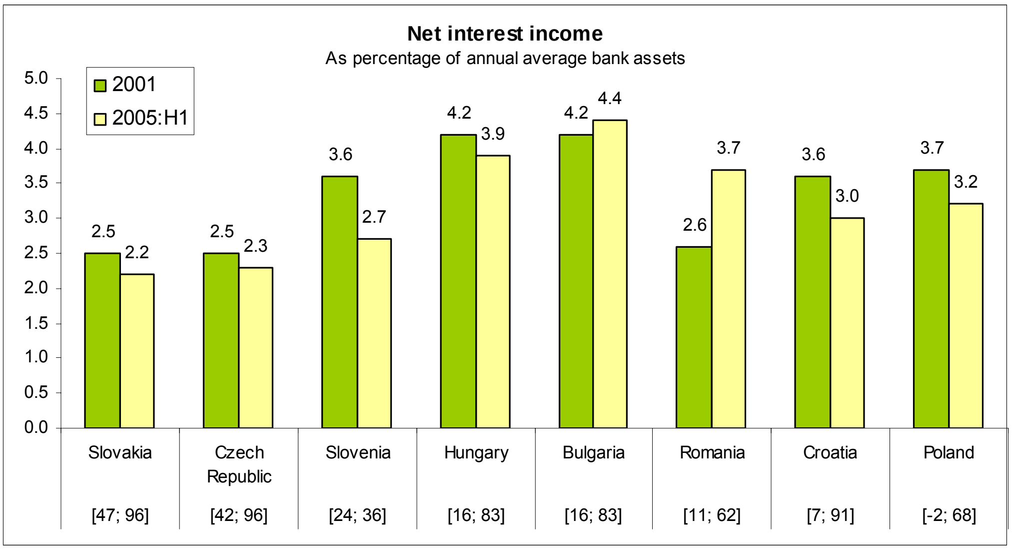
[1] Ordered according to the share of foreign-owned banks in total banking sector assets shown in Table 3 (from 80–99% in Estonia, the Czech Republic, Lithuania, Slovakia, Croatia, Bulgaria and Hungary; below 70% in other countries). [2] As percent of total loans. [3] Risk-weighted capital-asset ratios. [4] Ratio of bank provisions for loan losses to non-performing loans. [5] End-2000 instead of 1999. [6] End-2002 instead of 1999. [7] Average for the countries with a share of foreign bank ownership higher than or equal to 70% of total banking sector assets. [8] Average for the countries with a share of foreign bank ownership lower than 70% of total banking sector assets.

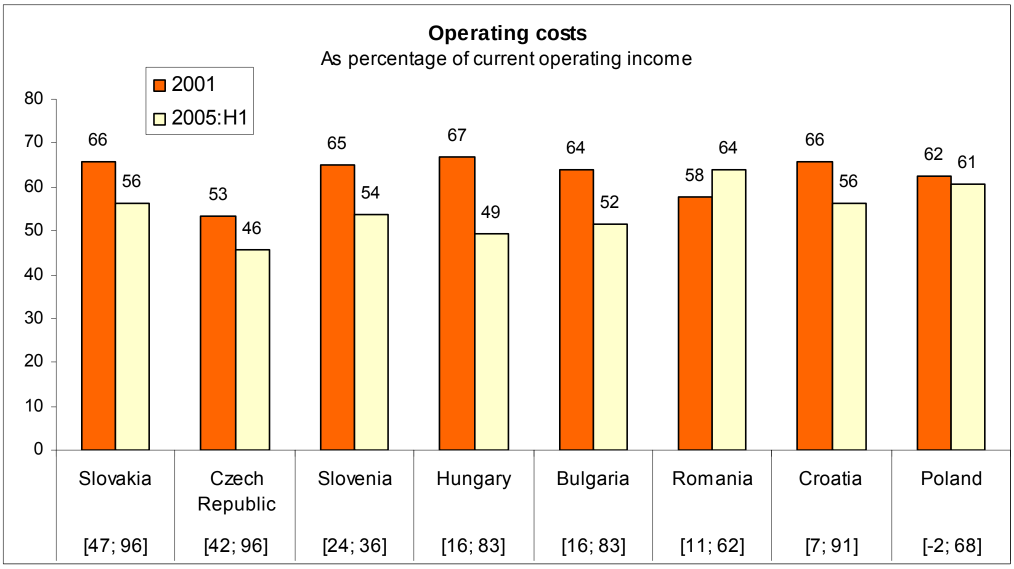
Sources: Central banks; IMF; author's estimates.

Foreign-owned banks have played a major role in these improvements. As indicated in the lower part of Table 5, in countries where foreign-owned banks account for more than 70% of total banking sector assets, non-performing loans were reduced by a larger proportion (about

14 percentage points) and to a much lower level (3.8% in 2004) than in countries with a lower share of foreign bank ownership. In countries with a higher share of foreign ownership bank capital is used more efficiently and banks generate considerably higher return on equity. Where foreign ownership is higher, banks also increased profitability by a much larger margin between 1999 and 2004.

Graph 6





Note: Countries are ordered in terms of the percentage increase in the share of foreign-owned banks in total banking sector assets between the end of 200 and the end of 2004, as indicated by the first figure in brackets below the name of the country (the second figure denotes this share at the end of 2004).

Sources: Bank Austria Creditanstalt; national data; author's estimates.

A similar picture emerges when indicators of bank efficiency such as net interest income and operating costs are considered. In Graph 6, countries are ordered in terms of the percentage increase in the share of foreign-owned banks in total banking sector assets between 2000 and 2004. The more the countries increased this share, the more they tended to reduce operating costs and diversify the sources of their income away from net interest income.

One should note that some of the improvement in prudential and efficiency indicators may reflect cyclical factors. Many loans extended during the recent period of rapid credit growth have yet to mature, so the NPL ratios recorded at the end of 2004 may not fully reflect the quality of banks' loan portfolios. Part of the improvement in NPL ratios also reflects the fact that many banks (especially the former state-owned banks that were sold to foreign strategic investors) unloaded a significant portion of their NPL portfolios to asset management companies and other vehicles for resolution of bank distress.

Moreover, private domestic banks in several countries have outperformed foreign-owned banks in terms of prudential indicators. Data available for Hungary, Poland and Turkey indicate, for instance, that private domestic banks had improved prudential indicators to a greater extent and often to a higher level than foreign-owned banks between 1999 and 2004 (see Mihaljek, 2006). This is a major achievement considering that in many countries private domestic banks had to cope with restructuring at their own shareholders' expense, whereas the state-owned banks were typically restructured at taxpayers' expense and subsequently sold to foreign-owned banks, in most cases below the cost of restructuring.

Macroeconomic effects

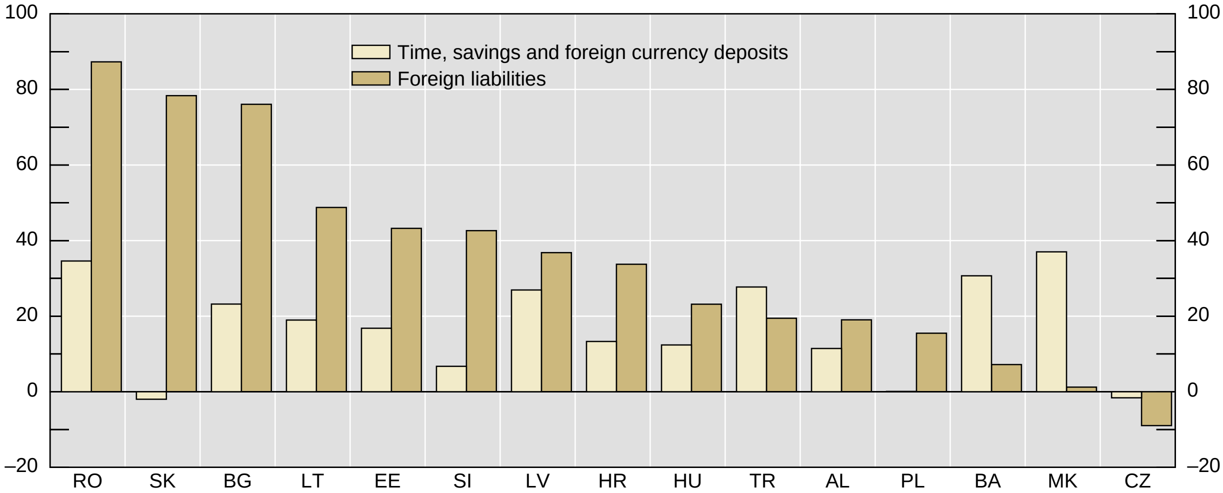
Increasing presence of foreign-owned banks has also been associated with some less benign macroeconomic effects in central and eastern Europe. Four such effects are discussed here: funding of credit expansion from external sources; foreign currency lending; rapid convergence of interest rates; and the associated risk of overheating and external current account deficits.

As banks in many countries have expanded their balance sheets by 20% per annum for several years in a row, it was a question of time when they would start running into funding difficulties. In many countries, deposits of residents expanded at annual rates of 20–40% from 2000 through mid-2002, making it possible to finance credit expansion from domestic sources. However, after the effects of the euro changeover in 2002 had dissipated, the growth of time, savings and foreign currency deposits decelerated in most countries. At the same time, foreign liabilities jumped sharply (Graph 7), implying that commercial banks had financed the expansion of domestic credit to a large extent from foreign sources. Another consequence of this development has been the rising external debt of the private sector. As this situation is not sustainable in the long run, several central banks have taken precautionary measures to restrict the growth of consumer and mortgage loans over the past two years (discussed below).

Graph 7

Commercial bank liabilities, 2002-05

Annual changes, in per cent, quarterly average

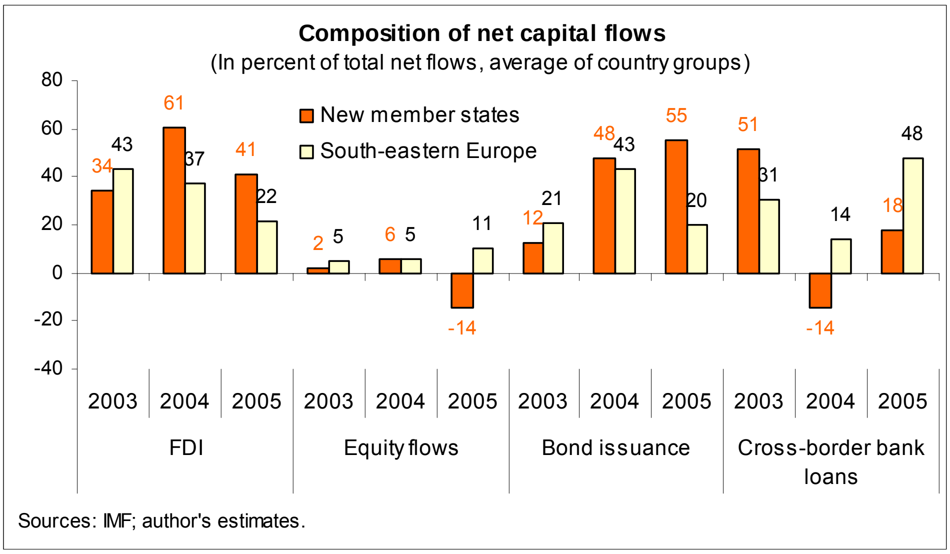


Note: AL = Albania; BA = Bosnia and Herzegovina; BG = Bulgaria; CZ = the Czech Republic; EE = Estonia; HR = Croatia; HU = Hungary; LT = Lithuania; LV = Latvia; MK = Macedonia; PL = Poland; RO = Romania; SI = Slovenia; SK = Slovakia; TR = Turkey.

Sources: IMF; BIS estimates.

Increased foreign borrowing by commercial banks has been reflected in the changing composition of capital flows. The share of FDI flows in total private net flows declined in 2005 in both central and south-eastern Europe (Graph 8). In central Europe, this has been offset by increased bond issuance and cross-border loan financing. In south-eastern Europe, the offsetting flows were in the form of equities and in particular cross-border loans.

Graph 8



A second macroeconomic concern related to the role of foreign-owned banks is the growth of foreign currency loans to domestic residents, including to households for purchase of housing. Foreign currency borrowing is often rational from an individual borrower's perspective because interest rates on foreign currency loans are lower than those on local currency loans, and most currencies in the region are expected to strengthen against the euro in the medium term. But as most households and corporate borrowers taking such loans do not earn foreign currency income, a large currency mismatch might arise on the aggregate private sector balance sheet. Commercial banks, whose open foreign currency positions are limited by prudential regulations, are still exposed to foreign exchange risk via the credit risk, as many borrowers might not be able to service their loans in the case of unexpected exchange rate depreciation.

Third, in virtually all central and eastern European countries interest rates have converged rapidly towards the euro area levels as a result of intense competition among banks and expectations of the approaching entry to the euro area (in the case of the new member states) or the European Union (in the case of EU candidate and potential candidate countries). Commercial bank lending rates declined on average from 16% at end-2000, to 7¾% at end-2005 (Table 6). While this development is on the whole desirable and a healthy indicator of competition in banking industry, the speed of change is such that the risks to macroeconomic and financial stability cannot be ignored.

Fourth, aggressive marketing of consumer loans may have contributed to rising household indebtedness and the widening of external current account deficits. Consumer loans – in particular car loans – often expand very rapidly and may indeed contribute to large current account deficits.[6] However, judging from the experience of countries such as Croatia and Poland, which went through several consumer lending cycles over the past ten years, this type of credit growth tends to be self-correcting. As the stock of consumer durables is renewed and household indebtedness rises, households reduce their borrowing and adjust consumption, facilitating a smooth reversal of current account deficits (see Mihaljek, 2004). Whether the same tendency applies to any external deficits and household indebtedness arising from the growth of mortgage loans remains to be seen. In most countries in central and eastern Europe, total household debt remains well below the levels that are common in

[6] For instance, car imports accounted for 5% of GDP in Romania in 2005.

western Europe. In 2004, the ratio of household debt to GDP ranged from 5–6% in Romania and Turkey, to 25–30% in Croatia and Estonia, compared with 50% in the euro area (see Coricelli et al, 2005). The ratio of debt to disposable income was 18% on average (rising to 80% in the case of Croatia), compared with 75% in the euro area in 2004.

Table 6 **Representative commercial bank interest rates**

	Lending rate		**Deposit rate**		**Interbank lending rate**	
	End-2000[1]	**End-2005**[1]	**End-2000**[1]	**End-2005**[1]	**End-2000**[1]	**End-2005**[1]
Czech Republic	6.9	5.6	3.2	1.1	5.4	2.2
Hungary	12.7	8.0	9.5	5.5	12.3	6.5
Poland	20.9	6.2	15.0	2.5	19.4	4.6
Slovakia	13.4	6.7	6.9	2.3	8.1	3.1
Slovenia	15.8	7.7	10.1	3.1	12.2	4.0
Estonia	7.1	4.8	4.2	2.1	6.1	2.6
Latvia	13.2	5.5	4.4	2.5	8.7	2.5
Lithuania	11.3	5.8	3.4	1.5	5.4	3.1
Bulgaria	11.6	7.1	3.1	3.0	2.7	2.1
Croatia	10.8	11.1	3.5	1.7	4.5	4.4
Romania	53.2	15.7	32.4	4.2	49.1	5.2
Turkey	…	…	68.2	20.5	65.0	13.9
Average	**16.1**	**7.7**	**13.7**	**4.2**	**16.6**	**4.5**
Memo: Austria	*4.4*	*3.6*	*2.2*	*2.2*	*4.9*	*2.5*

[1] Or the latest period available.

Sources: IMF; national data; author's estimates.

The relationship between credit growth and external imbalances is a matter of some dispute. Large and widening current account deficits are not surprising for the economies that are catching up with the much larger and wealthier economic areas such as the European Union. Goods market integration makes external borrowing more attractive, while liberalisation of domestic financial markets and the accompanying reduction in interest rates encourage spending and investment relative to saving, which tends to further increase the current account deficit.

Some studies (eg, Duenwald et al, 2005) thus found a positive relationship between the rate of credit growth and the size of external trade deficits for a number of countries in the region. Others (eg, Deutsche Bundesbank, 2006; Hermann and Jochem, 2005) found that current account deficits in the new member states could be attributed primarily to the economic catching-up process and buoyant investment activity.

One way to address this issue is to look at changes in external balances, investment and saving over time. As shown in Table 7, the current account deficit widened during 2004 and 2005 in seven countries in the region, on average by 3% of GDP. Two and a half percentage points or 76% of this change could be attributed to a rise in the investment to GDP ratio, and 0.7 percentage points (or 24%) to a decline in the domestic saving ratio.[7] By contrast, during 2000–03, higher current account deficits could be explained entirely by changes in investment.

[7] The available data do not allow a decomposition of domestic saving into public and private saving, so changes in government budget deficits are used as an approximation of changes in public saving.

Table 7	Changes in external balances, investment and saving, 2004–05[1]				
	Current account balance	**Investment[2]**	**Domestic saving[3]**		*Real effective exchange rate[4]*
Slovakia	–8.0	–0.2	–8.2	*(0.8)*	110.3
Latvia	–4.3	4.4	0.1	*(1.4)*	101.5
Romania	–3.9	1.7	–2.2	*(1.3)*	122.1
Bulgaria	–2.6	5.6	3.0	*(8.8)*	101.7
Turkey	–2.2	3.5	1.3	*(1.5)*	119.7
Slovenia	–0.8	1.5	0.7	*(2.7)*	97.4
Lithuania	–0.2	0.3	0.1	*(0.7)*	97.2
Croatia	0.0	–0.2	–0.2	*(1.0)*	103.2
Albania	0.0	0.1	0.1	*(0.3)*	101.6
Poland	0.6	–0.6	0.0	*(2.1)*	118.5
Serbia-Montenegro	0.9	4.3	5.2	*(2.2)*	97.7
Hungary	1.2	0.9	2.1	*(0.3)*	106.3
Estonia	1.3	–1.3	0.0	*(3.3)*	102.0
Macedonia	1.8	2.2	4.0	*(–0.8)*	98.8
Bosnia-Herzegovina	2.0	0.9	2.9	*(–0.8)*	99.5
Czech Republic	4.0	–0.6	3.4	*(4.0)*	109.0
Average	**–0.6**	**1.4**	**0.8**	***(1.8)***	**105.4**
Wider deficit[5]	*–3.1*	*2.4*	*–0.7*	*(2.1)*	*105.7*
Narrower deficit[5]	*1.3*	*0.6*	*1.9*	*(1.5)*	*105.1*
Memo: 2000–2003					
Average	*–1.4*	*1.4*	*0.0*	*(0.6)*	*106.3*
Wider deficit[5]	*–3.4*	*3.4*	*–0.1*	*(1.3)*	*107.1*
Narrower deficit[5]	*2.6*	*–2.7*	*0.0*	*(–0.8)*	*104.9*

[1] In percentage points of GDP, except real effective exchange rate. The table shows cumulative changes in GDP ratios during 2004 and 2005. [2] Gross fixed capital formation. [3] Numbers in parentheses are changes in general government budget balances; positive numbers indicate lower deficit/higher surplus. [4] End-2005; in terms of relative consumer prices; end-2003 = 100. [5] Average for the countries with wider/narrower deficits.

Sources: European Commission, *Economic Forecasts,* Spring 2006; IMF, *World Economic Outlook*, April 2006; author's estimates.

Two other interesting points emerge from Table 7. First, public saving was positive during 2004 and 2005 in almost all the countries in the region. Second, real effective exchange rates for countries with a wider deficit appreciated on average by 5¾% during 2004 and 2005, which is not excessive. However, real exchange rate appreciation was quite pronounced in Romania (20% over two years), Slovakia (10%) and Turkey (22%). On the other hand, despite a 19% real appreciation of the zloty during 2004 and 2005, Poland reduced its current account deficit.

These results cast doubt on a popular hypothesis that banks in central and eastern Europe – and foreign-owned banks in particular – are "destroying savings" (*Ersparnisvernichtung*) by offering what seems to be relatively cheap credit to households and thereby fuelling domestic demand, imports and the growth of household indebtedness.[8] Hermann and Jochem (2005)

[8] This concern is strong among interest groups opposing foreign-owned banks. They typically argue that, by extending credit to the households and corporations, owners of foreign banks are serving primarily industrial interests in their home countries, given that consumer credit is often used for imports of cars, consumer durables and other manufactured goods from western Europe. Even some serious media have expressed such concerns; see eg, Thomas Kreyenbühl, "In den Balkan-staaten wird unbekümmert auf Pump gelebt: die Banken finanzieren den boomenden Konsum", *Neue Züricher Zeitung*, 31 March 2006.

present evidence on a related issue: they show that purchasing power gains associated with real exchange rate appreciation in new member states were only used for additional consumption once the gains actually occurred, not in anticipation of such gains.

5. Policy responses and implications for financial stability

The preceding sections have evaluated several potential risks associated with the rapid growth of bank credit, including excessive rise in house prices, overheating and large current account deficits. These risks are difficult to assess more precisely at the moment given that the credit cycle has not yet run its full course, especially with respect to housing loans and house prices. Risks to the banking sector and financial stability appear limited at present. Regular stress tests conducted by central banks indicate that, at least in the Czech Republic, Hungary and Poland, commercial banks appear fairly resistant to large exchange rate depreciations or sharp interest rate increases.[9] As most banks in other central and eastern European countries have also built up reserves and most banks are foreign-owned, the risks to the banking sector appear limited at the moment.

Central banks have nonetheless taken a cautious approach and implemented a number of measures to limit the pace of growth of private sector credit over the past few years.

- In Romania and Slovakia, central banks raised interest rates in February 2006 – and in Slovakia again in May 2006 – referring explicitly (Romania) or implicitly (Slovakia) to concerns about the rapid credit growth;
- In the Baltic states, Bulgaria, Croatia, Macedonia, Romania and Serbia, central banks raised commercial banks' reserve requirements to limit their credit expansion. The measure came in several different forms and was often tightened progressively;
- Some central banks have tightened prudential regulations, for instance, by raising foreign currency liquidity ratios (Baltic states, Croatia);
- Several central banks have strengthened banking supervision, for instance by checking commercial banks' internal lending procedures and requirements to make sure they were sufficiently strict (Baltic states, Hungary);
- Central banks in the Baltic states, Croatia and Hungary have also used moral suasion with commercial banks and domestic supervisors, and stepped up communication with the public in order to improve understanding of various risks associated with foreign currency borrowing and booms in asset prices;
- Where none of this worked, some central banks introduced administrative measures such as credit ceilings (eg, Bulgaria).

These measures have generally provided only temporary relief. They have tended to become ineffective relatively quickly, as banks found ways to avoid restrictions, usually by shifting business to less tightly regulated non-bank financial institutions. The ongoing normalisation of interest rate policy in major industrial countries should facilitate the conduct of monetary policy in central and eastern Europe. Rising ECB rates will allow central banks in the region to raise their own policy rates without inducing even stronger capital inflows and appreciation pressures. The policy dilemma between internal (price) and external (exchange rate) stability should become less acute.

Some members of the euro area, including Greece, Portugal and Spain, experienced similar pressures in the run-up to EMU in the 1990s. Yet the monetary authorities in central and eastern Europe seem to find it more difficult to control credit expansion given that they are in

[9] See Czech National Bank (2005a, 2005b); National Bank of Hungary (2005b); and National Bank of Poland (2005).

the early stages of financial deepening and that foreign-owned banks account for almost three-quarters of total banking sector assets in the region. This raises the question about the impact of rapid credit growth on overall financial stability and, more specifically, challenges for banking supervision arising from the dominant position of foreign-owned banks.

Regarding impact on the supervisory regime, the presence of foreign banks has generally led the domestic supervisory authorities to upgrade the quality and increase the size of their staff in order to supervise the more sophisticated activities and new products that are being introduced by foreign banks. In addition, supervisory authorities in the region are cooperating closely with home country supervisory authorities.

One should keep in mind, however, that foreign bank affiliates are often of marginal importance from the perspective of parent institutions and home country supervisory authorities, but might well be systemically important for the host country. One issue that arises in this context is what would happen if a foreign-owned subsidiary that was systemically important locally ran into problems. There were cases where a parent company helped its subsidiary immediately, without asking host country authorities for any assistance. But there were also some cases of a parent abandoning its subsidiary (eg, the case of Riječka banka in Croatia). The response would seem to depend mainly on the financial health of the parent. If the parent was in weak shape, it might care less about reputation costs and might decide to abandon its subsidiary.

A related issue in this context is the possible conversion of systemically important subsidiaries of foreign-owned banks into branches. This development is facilitated in the EU by the adoption of the single EU banking passport. But the issue is more general, as the centralisation of the decision making process in global financial institutions has led to a system in which subsidiaries operate more or less like branches (see Domanski, 2005). Again, the issue is whether such systemically important branches (or quasi-branches) might be abandoned in a period of distress, and how the supervisory authorities in the host country might prepare for such an eventuality.

Developments in the global banking industry are important for market discipline and supervision in emerging market host countries for yet another reason: mergers between parent institutions in industrial countries might result in a significant increase in concentration in host countries. For instance, the merger between Unicredito and HVB has implications for competition in Croatian and Polish banking markets, where these two parents own some of the largest domestic commercial banks. This raises questions about the best approach that the supervisory authorities could take in such circumstances.

The delisting of foreign-owned subsidiaries from local stock exchanges raises a different set of concerns. The delisting has occurred for instance in Croatia, the Czech Republic and Poland. In Croatia, it involved the largest commercial bank in the country; in the Czech Republic, it involved one institution with a 12% share in market capitalisation; and in Poland, three institutions with a combined share in stock market capitalisation of 5%. Delistings on this scale can lead to a considerable loss of market prices and scrutiny by independent analysts. In addition, the disclosure of timely and meaningful information about developments in institutions might be impaired, making it necessary to significantly improve information flows from parent banks to markets, and from home supervisors to host authorities.

These considerations suggest that the rapid credit growth will continue to draw attention of policy makers, economists and industry analysts in the future. For the time being, the expansion of private sector credit has been mostly a benign phenomenon. But given the speed of financial deepening in the region, the time when credit growth will become a normal cyclical phenomenon and raise usual concerns about macroeconomic and financial stability might not be too far away.

References

Arcalean, Calin, Oscar Calvo-Gonzalez, Csaba Móré, Adrian van Rixtel, Adalbert Winkler and Tina Zumer (2005): "The Causes and Nature of the Rapid Growth of Bank Credit, with Particular Emphasis on Central, Eastern and South-Eastern European Countries". Paper presented at the IMF and National Bank of Romania Conference on the Rapid Growth of Bank Credit to the Private Sector, Sinaia, 7–8 October 2005.

Arpa, Marcus, Thomas Reininger and Zoltan Walko (2005): "Can Banking Intermediation in Central and south-eastern Europe Ever Catch up with the Euro Area?" *Focus on European Economic Integration*, No. 2/05, pp. 110-133. www.oenb.at

Backé, Peter and Tina Zumer (2005): "Developments in Credit to the Private Sector Growth in Central and south-eastern Europe: Emerging from Financial Repression – A Comparative Overview." *Focus on European Economic Integration*, No. 2/05, pp. 83–109. www.oenb.at

Backé, Peter, Balázs Égert and Tina Zumer (2005): "Credit Growth in Central and south-eastern Europe: Emerging from Financial Repression to New (Over)Shooting Stars?" Unpublished manuscript, Austrian National Bank, December.

Bank Austria Creditanstalt (2005): *Banking in South-Eastern Europe: on the Move*, September, www.ba-ca.com

Bank Austria Creditanstalt (2004): *Banking in Central and south-eastern Europe*, April, www.ba-ca.com

Boissay, Frederic, Oscar Calvo-Gonzalez and Thomas Koźluk (2005): "Is Lending in Central and south-eastern Europe Developing too Fast?" Paper presented at the IMF and National Bank of Romania Conference on the Rapid Growth of Private Sector Credit in Central and south-eastern Europe, Sinaia, Romania, 7–8 October 2005.

CB Richard Ellis (2005): *CEE Investment: Market View, First Quarter*. www.cbre.com/cee

Coricelli, Fabrizio, Fabio Muci and Debora Revoltella (2005): "The New Europe Household Lending Market." Paper presented at the Austrian National Bank Conference on European Economic Integration, 14–15 November.

Cottarelli, Carlo, Giovanni Dell'Ariccia and Ivanna Vladkova-Hollar (2005): "Early Birds, Late Risers, and Sleeping Beauties: Bank Credit Growth to the Private Sector in Central and south-eastern Europe and in the Balkans," *Journal of Banking and Finance*, Vol. 29, No. 1, pp. 83–104.

Czech National Bank (2005a): *Banking Supervision 2004*. www.cnb.cz

Czech National Bank (2005b): *Financial Stability Report 2004.* www.cnb.cz

Deutsche Bundesbank (2006): "Determinants of the current accounts in central and east European EU member states and the role of German direct investment", Monthly Report, January. www.bundesbank.de

Domanski, Dietrich (2005): "Foreign Banks in Emerging Market Economies: Changing Players, Changing Issues", *BIS Quarterly Review*, December. www.bis.org

Duenwald, Christoph, Nikolay Gueorguiev and Andrea Schaechter (2005): "Too Much of a Good Thing? Credit Booms in Transition Economies: The Cases of Bulgaria, Romania, and Ukraine", IMF Working Paper No. 05/128, June. www.imf.org

European Central Bank (2005): "Banking structures in the new EU member states", January, www.ecb.int

Hermann, Sabine and Axel Jochem (2005): "Determinants of current account developments in the central and east European EU member states: consequences for the enlargement of the euro area", Deutsche Bundesbank Economic Studies Discussion Paper No 32. www.bundesbank.de

Hilbers, Paul, Inci Otker-Robe, Ceyla Pazarbasioglu and Gudrun Johnsen (2005): "Assessing and Managing Rapid Credit Growth and the Role of Supervisory and Prudential Policies", IMF Working Paper No 05/151, July. www.imf.org

Mihaljek, Dubravko (2006): "Privatisation, Consolidation and the Increased Role of Foreign Banks." Forthcoming in *The Banking System in Emerging Economies: How Much Progress has Been Made?* Forthcoming in *BIS Papers*.

Mihaljek, Dubravko (2005): "Free Movement of Capital, the Real Estate Market and Tourism: a Blessing or a Curse for Croatia on its Way to the European Union?" in Katarina Ott, ed, *Croatian Accession to the European Union*, Vol 3, Zagreb: Institute of Public Finance and Friedrich Ebert Stiftung, April, www.ijf.hr

Mihaljek, Dubravko (2004): "Challenges to Macroeconomic Stability: A Speed Limit on Croatia's Accession to the European Union?" *Financial Theory and Practice*, Vol. 28, No. 1, March, pp. 93–119. www.ijf.hr

National Bank of Hungary (2005a): *Senior Loan Officer Survey on Bank Lending Practices*, August. www.mnb.hu

National Bank of Hungary (2005b): *Report on Financial Stability*, April. http://english.mnb.hu

National Bank of Poland (2005): *Summary Evaluation of the Financial Situation of Polish Banks 2004*, July. www.nbp.pl

OECD (2002): *Housing Finance in Transition Economies*. Paris: OECD. www.oecd.org