

# The Refinancing Structure of Banks in Selected CESEE Countries

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*Since the onset of the global financial market turbulence in mid-2007 there have been concerns whether and to what extent the unfolding liquidity squeeze may affect banks in Central, Eastern and Southeastern Europe (CESEE). In this note, we present systematic regional and cross-country information about the refinancing structure of the banking sector in selected CESEE countries as at end-2007 and mid-2008 (most recent data, depending on data availability). Thus, we focus on the situation of banks in these countries before external funding conditions deteriorated significantly for some of them, which happened in the second half of 2008 and has become particularly evident since mid-September. We benchmark the region against the euro area, and – where appropriate – against non-European emerging market economies. This exercise is to contribute to a better understanding of the risks to these countries emanating from the global liquidity squeeze, which may turn out to be more persistent and more relevant for the CESEE region than assumed when the turbulence began to unfold in mid-2007.*

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## 1 Introduction

Since the onset of the global financial market turbulence in mid-2007 there have been concerns whether and to what extent the unfolding liquidity squeeze may affect banks in Central, Eastern and Southeastern Europe (CESEE). Spillover effects were feared given the strong reliance of most of these countries' banking sectors on foreign financial resources (in part from foreign parent banks), which had played a major role in financing the rapid expansion of credit to domestic residents over the past few years. These fears have additionally been fueled by large external imbalances, which have made several CESEE countries susceptible to a change in investor sentiment and a sudden stop or reversal of foreign capital inflows. In fact, big Nordic banks, the major foreign creditors to the three Baltic countries, have reportedly turned more cautious in their lending activities since the beginning of 2007. This has been associated with a marked slow-

down in domestic credit activity in the three Baltic countries.

In this note, we present systematic regional and cross-country information about the refinancing structure of the banking sectors in selected CESEE countries<sup>2</sup> as at end-2007 and mid-2008 (most recent data<sup>3</sup>, depending on data availability). Thus, we focus on the situation of banks in these countries before external funding conditions deteriorated significantly for some of them, which happened in the second half of 2008 and has become particularly evident since mid-September. We benchmark the region against the euro area, and – where appropriate – against non-European emerging market economies. This exercise is to contribute to a better understanding of the risks to these countries emanating from the global liquidity squeeze, which may turn out to be more persistent and more relevant for the CESEE region than assumed when the turbulence began to unfold in mid-2007.

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<sup>2</sup> With a focus on Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia.

<sup>3</sup> Cut-off date: November 5, 2008.

## 2 Impressive Financial Deepening

Financial deepening has advanced dynamically in the CESEE region for the past few years. In most countries under review, the ratio of bank credit to households and nonbank corporations to GDP increased by 15 to 25 percentage points between end-2004 and mid-2008; in Bulgaria and Slovenia the increase was even higher at nearly 40 percentage points. In fact, the speed of financial deepening was broadly comparable to that seen on average in the euro area (+27 percentage points).<sup>4</sup> However, given the lower starting level of the credit-to-GDP ratio, the relative increase was much bigger in CESEE than on average in the euro area. Notwithstanding this impressive development, the private sector credit-to-GDP ratios in the countries under review continue to lag the euro area average by a substantial margin (between 37% and 85% vs. 140% as of mid-2008). The ratios of some CESEE countries in the sample (Slovenia, Croatia and Bulgaria, posting ratios between 75% and 80%) were already close to the lowest ratio of euro area countries (Finland and Greece, whose ratios range from 85% to 95%) in mid-2008. Looking at more recent developments, credit growth slowed moderately in some countries of the region during the third quarter of 2008, but available lending surveys suggest a substantial tightening of lending conditions and a marked deceleration of credit demand in the foreseeable future.

In general, financial deepening was a welcome phenomenon in the Central and Eastern European EU Member States during the past decade. There is a large body of literature about a

finance-growth nexus that emphasizes the positive relationship between credit-to-GDP levels and economic development, with most results suggesting that causality runs from financial deepening to economic growth (for a literature overview, see e.g. Terrones and Mendoza, 2004, or Rajan and Zingales, 2001). Credit growth in the CEE EU Member States has improved access to credit for both households and corporations, thus making intertemporal substitution easier, and has also likely led to a more efficient use of financial resources through the reallocation of credit from the public to the private sector (see e.g. EBRD, 2006, or Égert et al., 2006).

However, some related risks should not be overlooked. From a macroeconomic point of view, strong credit growth has contributed to an output boom in several countries, leading to capacity constraints in some branches, higher inflation and current account deficits. Moreover, latest estimates (Eller et al., 2008) showed that private sector credit levels in Bulgaria and Croatia had already been well within the estimated equilibrium range by the first quarter of 2008, while private sector credit levels in the other countries reviewed here continued to be in the lower part of the equilibrium range (Hungary, Slovenia and Croatia) or even marginally below the equilibrium range (Czech Republic, Slovakia, Poland and Romania). From a financial stability perspective, the high share of foreign currency lending, the increasingly insufficient domestic funding base and risks to the underlying quality of banks' assets (due to, e.g., banks increasingly accessing "marginal" customers, rising

<sup>4</sup> It should be noted that the euro area average masks big differences between individual euro area countries (ranging from a decline in the private sector credit-to-GDP ratio in Germany to a very strong expansion of the ratio in Luxembourg, Ireland, Cyprus and Spain).

loan-to-value ratios, customers' rising debt burdens and increasing exposure to the property market) have been among the most prominent concerns.

### 3 Stylized Facts about CESEE Banks' Main Assets

Before turning to the refinancing structure of banks, it is instructive to take a closer look at selected items on the asset side of their balance sheets. At mid-2008, credit to households accounted for a substantial portion of total credit to the nonbank private sector ("non-government nonbanks") in Poland (57%), Croatia (55%), Romania (48%), the Czech Republic and Hungary (both around 43%). In addition, private sector credit growth in these countries – with the exception of Hungary – between end-2004 and mid-2008 was mainly driven by credit to households. In comparison, the share of household credit in the outstanding stock of credit to nongovernment nonbanks stood at 36% to 40% in Bulgaria and Slovakia and at only 25% in Slovenia at mid-2008. While in Slovakia credit to households was the major driver of the expansion of private sector lending in recent years, in Bulgaria and Slovenia, credit growth was fuelled by credit to nonbank corporations.

Within household credit, housing loans dominated in the Czech Republic (71%) and Slovakia (67%). By contrast, in Romania consumer loans were the prevalent type of credit (80%), while in the remaining countries household credit was roughly evenly split between housing loans on the one hand as well as consumer loans and other purpose loans on the other.

However, it needs to be borne in mind that the classification into consumer loans and housing loans does not necessarily reflect the actual utilization of these loans. The case of Hungary provides a good illustration. In fact, Magyar Nemzeti Bank (MNB, 2008) estimates that as much as 30% of subsidized housing loans have been used for consumption purposes, while foreign currency-denominated home equity loans (freely usable mortgage loans) have more recently often been used for housing purposes, because the administration related to taking out and utilizing these loans is much simpler; moreover, price differences between the two types of loans have been diminishing. Similarly, anecdotal evidence suggests that the delineation between loans to households and to corporations may be blurred if the owners of small enterprises take out personal loans (i.e. household loans), but make the funds available to their businesses.<sup>5</sup> Such behavior may be motivated, for example, by the fact that the administrative burden is lower for household loans than for corporate loans or that fierce competition in the household segment leads to lower interest rates than in the corporate segment. If reaching a sufficient scale, such developments may have an impact on the economic interpretation of the sectoral breakdown of loans.

Net credit to the general government<sup>6</sup> played an important role in the Czech Republic, Hungary, Poland and Slovakia and was associated with intermediate to somewhat elevated public debt ratios in these countries (between 29% and 66% of GDP; euro area average: around 65%). Claims on the cen-

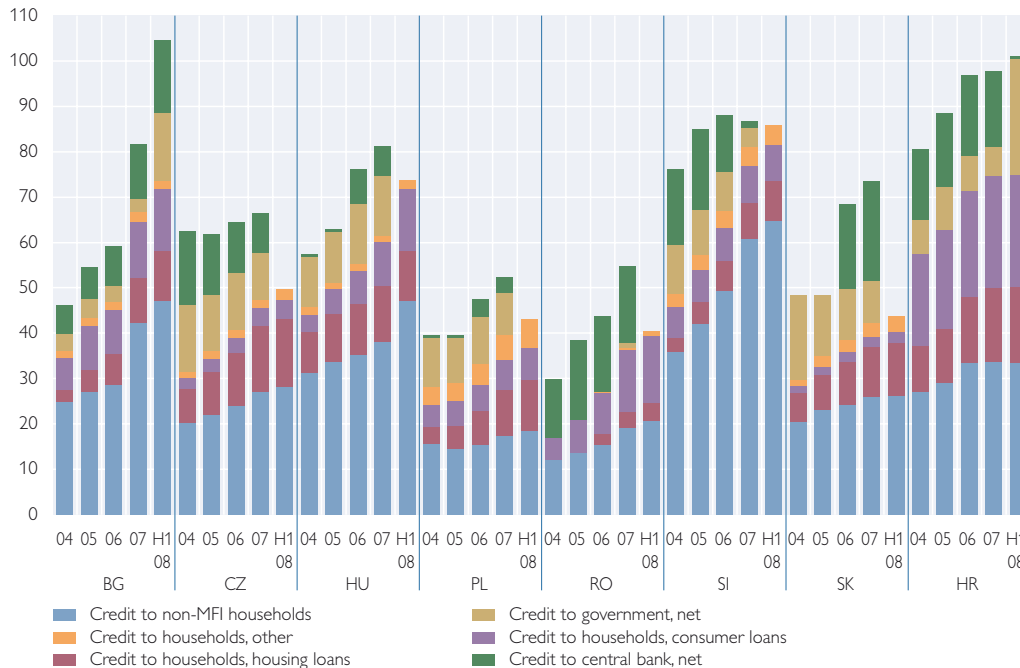
<sup>5</sup> This potential source of distortion is in addition to the difficulties of and cross-country differences in the sectoral delimitation between households and nonfinancial corporations as far as individual entrepreneurs are concerned.

<sup>6</sup> Net of central government deposits (in line with the monetary survey approach).

Chart 1

## Structure of Domestic Credit

Stock at end of period as a percentage of GDP



Source: National central banks, OeNB.

Note: In Croatia consumption credit to households include credit for other purposes. In Romania consumption credit represents total household credit in 2004 and 2005.

tral bank were substantial in Romania and Slovakia, and – albeit to smaller extent – also in Bulgaria, Croatia and the Czech Republic, followed by Hungary and Poland. In this context, however, it needs to be pointed out that while banks in the Czech Republic, Hungary, Poland and Slovakia can – to some extent – dispose freely of their claims on the central bank (i.e. of the funds which are “parked” in central bank sterilization facilities), in Bulgaria, Croatia and Romania these claims are attributable to a large extent to high mandatory reserve rates and similar mandatory central bank instruments (which have often been imposed to stem credit growth).

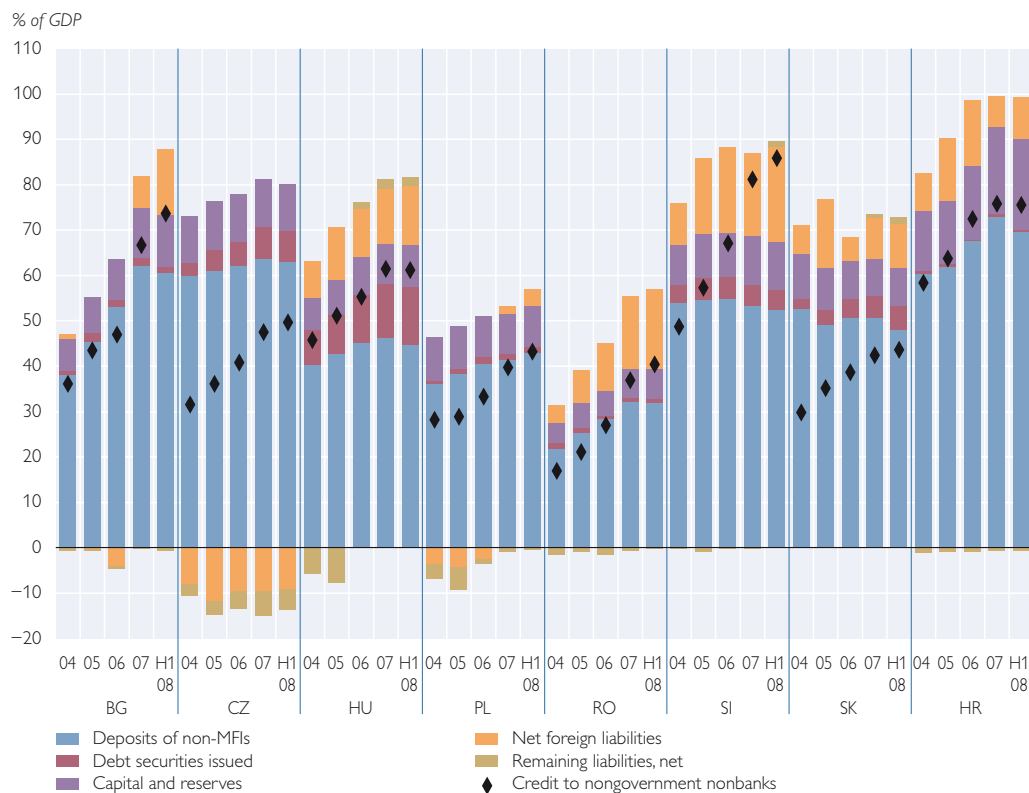
## 4 Net Foreign Liabilities: An Important Refinancing Item

At mid-2008, domestic deposits<sup>7</sup> did not fully cover the stock of credit to the private nonbank sector, leading to a “funding gap” in the majority of countries (Bulgaria, Croatia, Hungary, Romania and Slovenia). In Croatia, Hungary and Slovenia this had been the case already for a longer period, while in Bulgaria and Romania strong credit growth pushed the level of credit above the level of domestic deposits only from 2007 onwards.

At the same time, banks in these five countries typically recorded large (Croatia: around 9% of GDP) or very large (Bulgaria, Hungary, Romania and

<sup>7</sup> Deposits of nongovernment nonbanks plus deposits of local governments and other general government entities outside the central government.

## Private Sector Credit and Its Financing



Source: National central banks, OeNB.

Slovenia: between 13% and 21% of GDP) net external liabilities. This was in stark contrast to the euro area average, where banks maintained a small net external asset position at mid-2008. This euro area average is the result of the banking systems of most euro area countries maintaining positive (in some cases even huge) net external asset positions as a percentage of GDP. The most notable exemptions were the Portuguese and Italian banking systems with net external liabilities of around 40% and 10% of GDP, respectively, while the Greek and Spanish banking sectors had small net external liability positions at mid-2008.

Interestingly, however, funding gaps have not necessarily gone hand in hand with large net external liability posi-

tions in some countries. For example in Romania banks' net external liability position was substantially larger than the funding gap. Taking into account the high level of claims on the central bank it seems conceivable that the net liability position was in part a reflection of Romanian banks channelling through nonresident deposits into (high-yielding and low risk) central bank instruments. In a similar way, this may also be true for Slovakia, where banks had large claims on the central bank along with a large net external liability position despite domestic deposits that more than covered the domestic credit stock. By contrast, the net external liability position of banks in Slovenia was substantially smaller than the funding gap at the end of 2007.

This can be explained by the fact that Slovenian banks have financed the strong expansion of credit to domestic nongovernment nonbanks since early 2007 by financial resources that had been set free after the expiry of maturing sterilization instruments of Banka Slovenije in the wake of the adoption of the euro. In fact, since part of this additional liquidity was invested abroad, Slovenian banks' net foreign liabilities remained broadly unchanged between end-2006 and mid-2008 in spite of the sharp rise in the funding gap.

Two additional features distinguish the liability sides of CESEE banks' balance sheets from those of euro area banks.

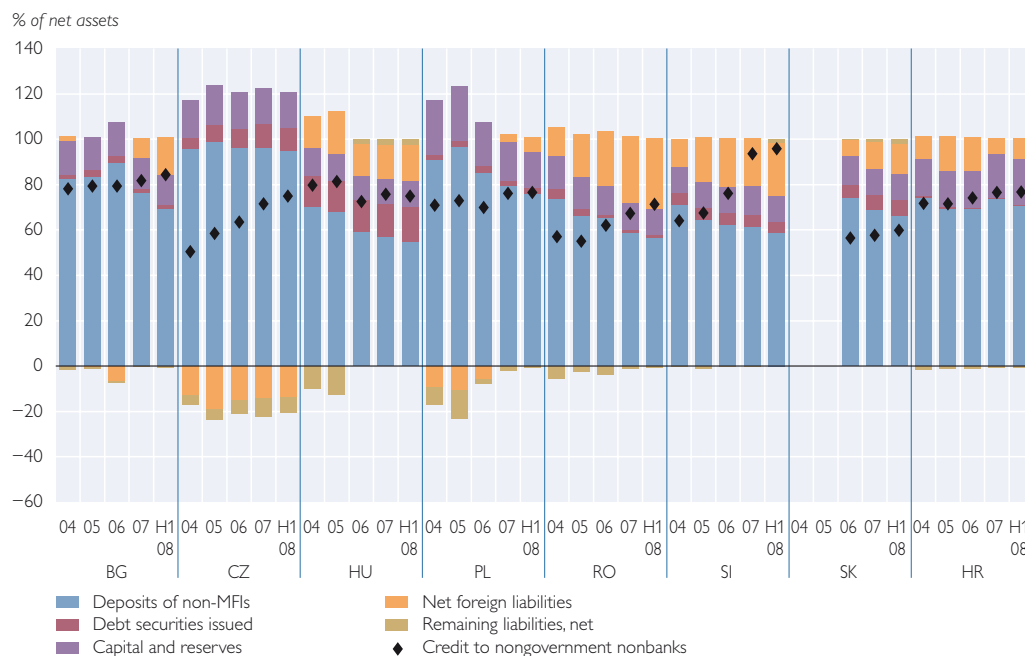
First, financing through capital and reserves plays a much more important role in several CESEE countries (most notably in Croatia, Poland and the Czech Republic) than in the euro area. The share of equity and reserves is somewhat higher than in the euro area in Bulgaria, while it is comparable to the euro area in Hungary, Slovakia and Romania. The stronger capital position in part reflects higher capital adequacy requirements in some CESEE countries compared to the euro area and should also be seen against the background of the presumably higher risks faced by CESEE banks. In addition, higher capital-to-asset ratios may be the result of the high level of foreign ownership in the CESEE banking sectors (except for Slovenia), with foreign owners providing a portion of financing to their subsidiaries in the form of equity capital.

Second, the issuance of debt securities is negligible in most CESEE countries, in sharp contrast to the euro area, where these instruments account for roughly one-third of banks' net

assets.<sup>8</sup> This is an interesting feature, considering that in several CESEE countries (the Czech Republic, Poland, Slovakia and Croatia) housing loans, which can be assumed to be – to a large extent – mortgage-backed, accounted for roughly the same portion (22% to 30%) of total nonbank nongovernment credit as in the euro area (28%) at mid-2008, and even in the remaining four CESEE countries the share stood at 10% to 18%; in other words, the gap between these countries and the euro area in this field is much smaller than the difference in terms of the importance of issued securities. Again, this may very much be attributable to the high level of foreign ownership: Since foreign parent banks can probably issue debt securities on more favorable terms than their subsidiaries in CESEE, it is very likely that debt securities issuance is centralized within these banking groups at the headquarters. Debt securities issuance plays a more important role only in the Czech Republic and Hungary, but even in these two countries its relevance is much smaller than in the euro area. In addition, the relatively sizeable share in Hungary – where roughly two-thirds of the debt securities issued represented external debt of banks at end-2007 – can presumably be explained by the fact that the country's largest bank (OTP Bank) has no strategic foreign owner. By contrast, in the Czech Republic, banks' bond issuance has concentrated almost completely on the domestic market and it is deemed likely that it has been connected to the rapid development of housing loans (in our sample, the share of housing loans in total credit to households is highest in the Czech Republic, and its housing loans-to-GDP ratio is second only to

<sup>8</sup> *Net assets include credit to the general government net of central government deposits, net foreign liabilities and net remaining liabilities.*

### Private Sector Credit and Its Financing



Source: National central banks, OeNB.

Note: Net assets include credit to the general government net of central government deposits, net foreign liabilities and net remaining liabilities.

Croatia). According to Česká národní banka, the issuance of mortgage bonds, which accounted for around 85% of total debt securities issued by banks at end-2007, has been motivated by tax benefits rather than asset liability management requirements (ČNB, 2007).

### 5 Banks' External Liabilities Are Dominated by Loans and Deposits

Turning more specifically to banks' external liabilities,<sup>9</sup> the following observations can be made. At end-2007<sup>10</sup> foreign liabilities were dominated by currency and deposits and/or loans in all countries under review. Long-term

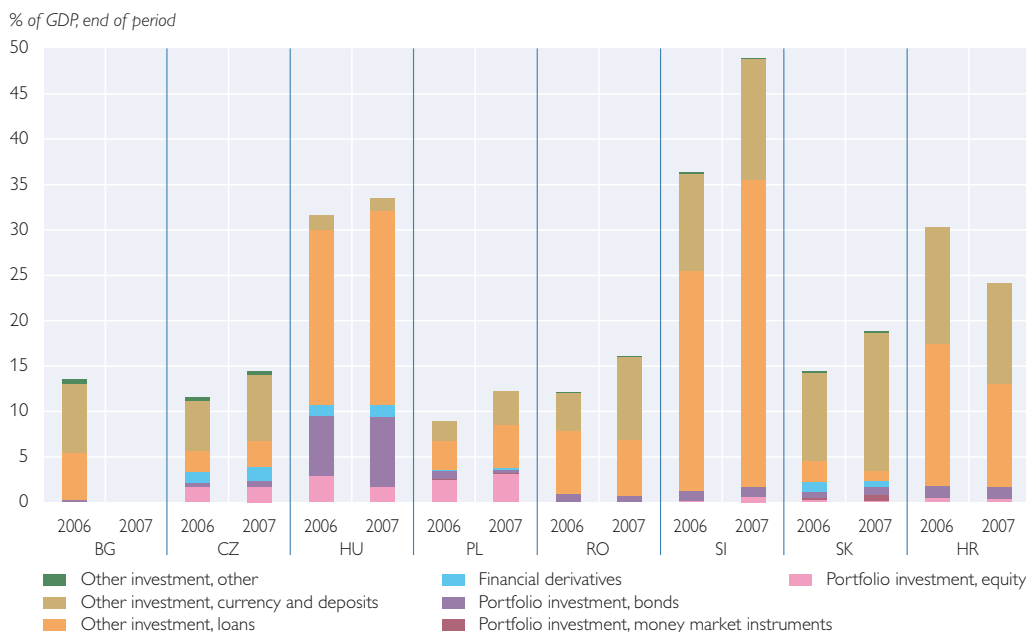
portfolio debt securities (bonds and notes) as a percentage of total external liabilities played a somewhat more important role only in Hungary. The country's biggest bank accounted for a significant portion of this debt, again probably due to the dispersed ownership of this bank. The low dependence on portfolio debt securities clearly distinguishes the countries in our sample from other emerging markets (e.g. Russia, Kazakhstan). This aspect should be borne in mind when assessing the potential adverse impact on the region's banks of increased risk premia and more difficult access to the international eurobond markets since mid-

<sup>9</sup> Concerning data issues it should be noted that while the stylized facts about banks' assets and liabilities were based on the aggregated balance sheets of monetary financial institutions (except monetary authorities), the detailed analysis of banks' external assets and liabilities draws on balance of payments, international investment position and BIS international banking statistics. Some differences between the two major datasets (aggregated balance sheets and international investment positions) concerning sectoral and instrumental delineation or accounting practices may exist, but this does not materially impede the major messages of the present analysis.

<sup>10</sup> For Bulgaria the latest available data are from end-2006.



Chart 4

**Structure of Banks' External Liabilities<sup>1</sup>**

2007. Banks' portfolio equity liabilities reached a non-negligible amount only in the Czech Republic, Hungary and Poland (i.e. the countries with the most liquid bank equity markets), which made these banks somewhat more exposed to equity price developments. Finally, according to IIP data, financial derivatives played a limited role in banks' external financing in most countries; only banks in the Czech Republic, Hungary and Slovakia relied somewhat more on these instruments.

The large currency and deposits and loan liabilities positions also include the financing of local subsidiaries by foreign parent banks. It is widely acknowledged in the financial literature that financing by parent banks plays a substantial role in the refinancing structure of banks in the CESEE region. Unfortunately, it is often not easy to substantiate these statements as there is

no centralized, structured, publicly accessible dataset on this issue, and in most countries there is even a lack of information from national sources (such as financial stability or bank supervision reports). Sporadically available data (e.g. for Croatia, Hungary and Romania) suggest that financing from parent banks accounts for around 50% to 70% of the banking sector's external liabilities (HNB, 2007, MNB, 2008, and BNR, 2008). Some other central banks may not even possess more detailed information on what part of liabilities are liabilities against parent banks (e.g. NBP 2008).

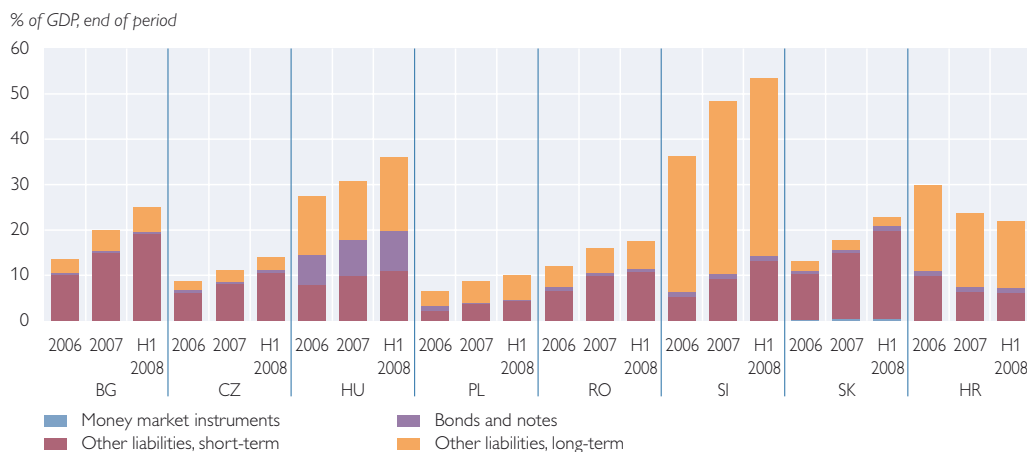
## 6 Short-Term Funds Dominating in Some Countries

As far as the maturity structure of CESEE banks' external liabilities is concerned, short-term instruments (on the basis of original maturity)<sup>11</sup> had a

<sup>11</sup> Information on banks' external debt on a residual maturity basis is not available.



### Structure of Banks' External Debt



Source: IMF, national central banks, OeNB.

very high share in banks' total external debt in Slovakia (87%), Bulgaria, the Czech Republic (both at around 75% to 77%) and Romania (62%) in mid-2008. The share was elevated also in Poland (45%), but comparably low in Hungary, Slovenia and Croatia (25% to 30%). Taking into account the overall level of debt, the high level of short-term indebtedness as a percentage of GDP seems a particularly relevant issue in Bulgaria and Slovakia (nearly 20% of GDP), followed by Slovenia (13%), the Czech Republic, Hungary and Romania (all three at around 11% of GDP). The share is rather low in Poland and Croatia (5% to 6%). Between end-2006 and mid-2008, the share of short-term debt both in banks' total external debt and as a percentage of GDP increased in all countries in our sample with the exception of Croatia. This increase, however, needs to be seen in a wider perspective, since it followed a decrease seen in 2006 in several countries with the exception of Bulgaria and Romania, where the short-term debt ratio has been on the rise since 2005. Moreover, the levels reached at mid-2008 were by no means "exceptional" in a multi-year

comparison, with the notable exception of Slovenia, where similar levels had last been observed in 2000/01.

Any assessment of CESEE banks' external debt sustainability needs to be qualified very carefully due to serious data limitations. In addition to deficiencies regarding timeliness, the lack of important information in particular about residual maturities, the currency structure, interest rate fixation periods, risk hedging behavior with respect to market risk or the existence of ownership relations with creditors (e.g. parent banks) represent serious drawbacks to a fully-fledged analysis.

### 7 No Major Disruption of Foreign Capital Flows between Mid-2007 and Mid-2008

Apart from a rise in refinancing costs (which has been substantial in Bulgaria, Hungary, Romania and Croatia) and the shift towards short-term maturities, CESEE banks are also assumed to have been exposed to a potential reduction in capital inflows as a result of the recent international financial market turbulence. According to available balance of payments data (focusing on

Table 1

**Selected Financial Account (BoP) Indicators<sup>1</sup>**

	Q2 2008		Q1 2008		Q4 2007		Q3 2007	
	in % of GDP <sup>2</sup>	as a percentile of range <sup>2</sup>	in % of GDP <sup>2</sup>	as a percentile of range <sup>2</sup>	in % of GDP <sup>2</sup>	as a percentile of range <sup>2</sup>	in % of GDP <sup>2</sup>	as a percentile of range <sup>2</sup>
<b>Other investment net, banks</b>								
CZ	-4.8	28.2	1.0	76.1	-3.6	38.2	6.5	> than range
HU	6.6	60.5	2.5	38.8	-0.5	22.6	2.2	37.3
PL	7.8	99.1	1.1	27.8	3.5	53.0	4.2	60.7
SI	..	..	4.4	55.0	12.1	82.3	5.7	59.7
SK	..	..	..	..	2.6	43.3	0.8	40.4
BG	17.9	> than range	13.4	> than range	4.2	66.8	12.7	99.9
RO	6.0	87.8	5.7	83.5	5.7	82.4	14.8	> than range
HR	..	..	11.6	73.1	-1.3	47.2	-25.1	< than range
<b>Other investment assets, banks</b>								
CZ	-10.6	< than range	-5.7	18.7	-6.4	13.1	2.1	76.4
HU	-3.7	30.5	-4.4	25.4	-4.9	21.9	-1.2	48.0
PL	2.4	79.3	-1.3	4.5	0.2	35.5	-0.9	11.7
SI	..	..	-2.9	43.3	-10.2	< than range	-9.7	< than range
SK	..	..	..	..	-6.3	25.5	-2.0	55.5
BG	-6.4	39.7	10.4	> than range	-12.2	15.3	2.1	75.7
RO	-1.2	29.3	1.5	92.1	-1.8	15.6	3.1	> than range
HR	..	..	7.1	73.2	-6.1	22.7	-10.6	5.4
<b>Other investment liabilities, banks</b>								
CZ	5.8	> than range	6.7	> than range	2.8	75.7	4.5	89.9
HU	10.3	> than range	6.9	84.8	4.4	47.2	3.4	33.8
PL	5.4	> than range	2.4	57.1	3.2	74.5	5.1	> than range
SI	..	..	7.3	45.8	22.3	> than range	15.4	76.6
SK	..	..	..	..	8.9	52.0	2.9	42.1
BG	24.3	> than range	3.0	45.8	16.5	> than range	10.6	83.2
RO	7.2	> than range	4.2	55.6	7.5	> than range	11.7	> than range
HR	..	..	4.6	66.0	4.7	66.6	-14.5	3.8

Source: IMF, national central banks, OeNB.

<sup>1</sup> The table presents capital flows with the sign customarily used in the financial account: In the case of assets a positive figure represents a decrease in holdings, and a negative figure represents an increase; for liabilities, a positive figure shows an increase, and a negative figure shows a decrease. Values in percent of GDP were calculated using four-quarter moving average GDP data to smooth out the seasonality of GDP.

<sup>2</sup> In % of quarterly GDP and as a percentile of the range of quarterly flows between Q1 2005 and Q2 2007.

“other investment” flows as the most important item in CESEE banks’ refinancing structure), no major peculiarities can be detected between mid-2007 and mid-2008, however. In fact, as far as data are available, net capital flows into the region arising from changes in banks’ external assets and liabilities held up generally well during this period. Disaggregating net capital flows into flows in external assets and liabilities shows a satisfactory pattern as well.

In particular, the increase in banks’ external liabilities remained strong in the second half of 2007 and in the first half of 2008 (especially in the second quarter of 2008). At the same time it is remarkable that the accumulation of external assets was rather strong in several countries in the sample. This was particularly the case in the Czech Republic, where the accumulation of external assets was the major reason for the net outflow of other invest-

ment capital in the second quarter of 2008.

### 8 Will Capital Continue to Flow into CESEE Countries?

Information available for the second half of 2008 suggests that foreign capital inflows into some of the countries in our sample may have slowed or stalled.<sup>12</sup> For example, the collapse of the Hungarian government bond market, including a substantial decrease in foreign investors' holdings of government securities (between mid-September and end-October 2008 by around EUR 3.6 billion), the substantial decline in equity prices and the malfunctioning of the foreign exchange swap market (which is an important vehicle for Hungarian banks to obtain foreign currency liquidity and for foreign investors to obtain forint liquidity) in September and October 2008 can be taken as an indication of a slowdown in capital inflows. Furthermore, measures taken in other countries of the region (e.g. the activation of liquidity-providing repurchase operations in the Czech Republic or the Polish central bank's introduction of foreign exchange swaps to provide banks with foreign currency liquidity) may also reflect a decline in foreign capital inflows.

More generally, in order to ascertain the risk of a major slowdown or reversal of capital inflows into the CESEE region, it is crucial to identify

potential triggers; four major areas may be distinguished:

First, a worsening in the assessment of the *region's risk-reward prospects*, in terms of both macroeconomic and financial aspects, could be one domestic reason for a slowdown or reversal of capital inflows. As to the macroeconomic prospects, according to the IMF's fall 2008 World Economic Outlook, the medium-term prospects have remained solid.<sup>13</sup> Following a cyclical slowdown in 2008/09, economic growth in the region is expected to pick up again from 2010 onwards and approach 5% on average. At this rate, output growth in the region would be roughly double as high as in the euro area and would be in line with world growth. More recent projections by various other forecasters (e.g. European Commission) have broadly confirmed this outlook.

Turning more specifically to banking sector prospects, the outlook for banking sector stability has not changed substantially since the outbreak of the financial market turbulence in mid-2007, according to Fitch Ratings' Banking System Indicator (BSI).<sup>14</sup> The BSI scores remained unchanged from the publication of the Bank Systemic Risk Report of March 2007 (i.e. before the crisis started) to the Report of October 2008 (latest available), with the exception of Slovakia, where the score was raised from "D" to "C" in September

<sup>12</sup> For a further description of recent financial market developments in the CESEE region see the Reports section of this Financial Stability Report.

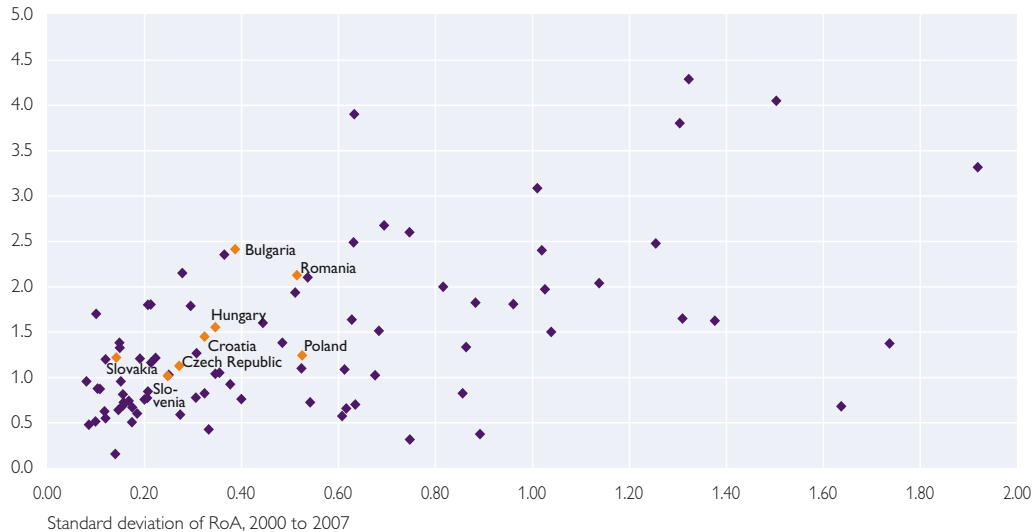
<sup>13</sup> It should be noted that in its November 2008 Update of the WEO, the IMF lowered its forecast for 2009. This update, however, does not include any projections for the year 2010 and beyond.

<sup>14</sup> The Banking System Indicator is a measure of a banking system's intrinsic quality or strength, abstracting from potential support from shareholders or governments. The scale ranges from "A" (very high quality) to "E" (very low quality).

Chart 6

### Historical Bank Return-on-Assets and Its Volatility

%, average RoA, 2000 to 2007



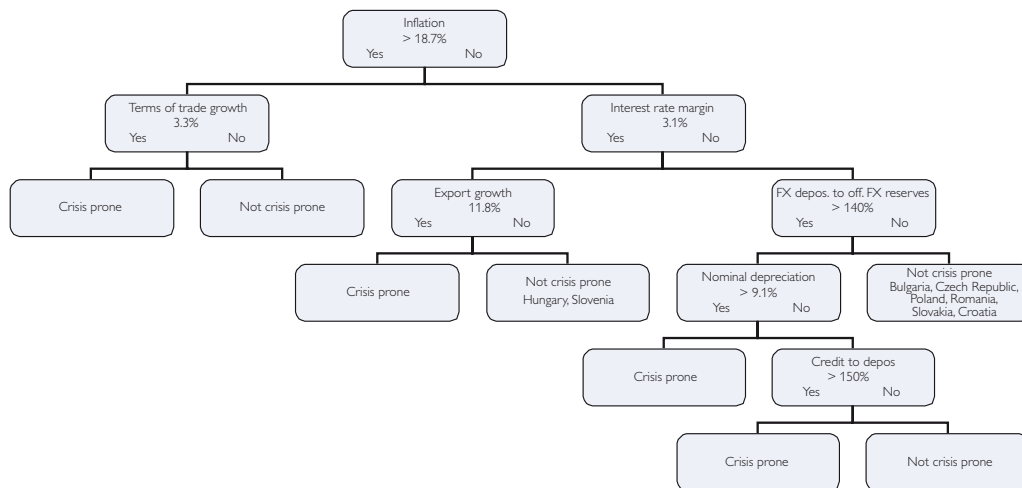
Source: IMF, OeNB.

Note: A very small number of outliers to the right have been cut off to facilitate better presentation. Data for 2007 represent the latest available values.

2007, and Poland, where the score was raised from “D” to “C” in October 2008. According to the BSI, the banking sectors in the countries under review were attested low to medium strength (i.e. “D” and “C”) in October 2008, with the exception of the Czech Republic, which was attributed high strength. This put the former at level with banking sectors in countries like Belgium, Brazil, China, Cyprus, India, Indonesia, Israel, Luxembourg, Malaysia, Malta, and Taiwan. In this context, it should be noted that the BSI scores do not take into account potential support from parent banks in the case of distress. However, with the foreign owners of most CESEE banks being generally regarded as pursuing long-term strategic goals, such support seems to be realistic, as long as parent banks are capable of providing such support (see below for a more detailed discussion).

Second, the banking sectors in the CESEE region need to be seen in a *global* context. Banks in the region may suffer directly from increased *risk aversion*, higher funding costs and lower liquidity in international financial markets even if the assessment of their individual risk-reward prospects remains unchanged. With the CESEE countries still being considered as emerging markets, they may also fall victim to a crisis elsewhere in the emerging market universe, which actually materialized for some CESEE countries during October 2008. Fortunately, however, insofar as historical performance can be taken as a yardstick, the medium-term outlook for the financial systems in the countries under review appears rather reassuring. Plotting return-on-assets against its volatility for the period 2000 to 2007 in a sample of around 100 countries worldwide puts the countries under review into a comfortable posi-

### Early Warning System for Banking Crises



Source: Dutttagupta and Cashin (2008), national central banks, Thomson Financial, OeNB.

tion of solid profitability with relatively low volatility.

Similarly, taking Austrian banking groups as an example, the profitability (return on assets) of CEE business constantly exceeded the profitability of business in Austria and the rest of the world by a large margin in the past five years, even as measured against risk-weighted assets (as opposed to total assets). As a result, the share of the CEE business segment in the operating result of Austrian banks by far surpassed the share of the CEE business segment in the total banking sector assets in the past few years. Finally, the application of an early warning system for banking crises developed by Dutttagupta and Cashin (2008) indicates that the countries under review will not face a banking crisis in the near term (based on end-2007 data).<sup>15</sup> However, it needs to be borne in mind that

early warning models for banking crises sometimes deliver conflicting results with respect to the signaling power of individual indicators. At the same time, it is difficult to evaluate the comparative performance of these models, given that they use different historical datasets, different dependent variables and methodologies (compare Dutttagupta and Cashin, 2008, and Davis and Karim, 2008).

Third, another trigger for a sudden stop or a reversal of capital flows to CESEE banks could emanate from *difficulties arising at local institutions' foreign parent banks*. In this respect, BIS data on consolidated foreign claims (i.e. cross-border claims plus local claims of local subsidiaries in all currencies) of BIS reporting banks on the countries under review reveal a high concentration of creditors in only a few Western European countries and con-

<sup>15</sup> Based on 2007 data; the model is designed to predict a banking crisis in the year of the data and the year after.

Table 2

**Consolidated Foreign Claims<sup>1</sup>**

	CZ	HU	PL	SK	SI	BG	RO	HR
<b>Common Creditor Matrix</b>								
<i>In %, mid-2008</i>								
CZ	100.0							
HU	69.8	100.0						
PL	46.0	69.4	100.0					
SK	72.5	74.4	56.1	100.0				
SI	63.9	89.2	62.3	70.0	100.0			
BG	53.2	65.9	54.7	59.3	59.2	100.0		
RO	63.8	53.7	42.1	69.8	51.6	61.6	100.0	
HR	54.5	74.6	46.8	65.4	76.7	60.3	52.3	100.0

**Contribution of Austrian Banks to Common Creditor Values<sup>2</sup>**

	<i>In percentage points, end-2007</i>							
CZ	30.2							
HU	25.1	24.7						
PL	4.6	4.2	5.3					
SK	28.6	23.1	3.0	39.0				
SI	26.3	24.7	2.7	26.4	24.6			
BG	18.0	16.8	3.4	16.9	14.7	14.5		
RO	29.3	24.1	3.6	38.5	27.2	18.0	38.6	
HR	28.6	24.3	3.3	28.1	25.2	16.3	29.0	28.2

Source: BIS, OeNB.

<sup>1</sup> Cross-border claims plus local claims of local subsidiaries in all currencies on an ultimate risk basis.

<sup>2</sup> The values in italic represent the share of Austrian creditors in total consolidated foreign claims on the respective country.

siderable common creditor issues.<sup>16,17</sup> In particular, residents of the Czech Republic, Croatia and Hungary tend to share creditor countries with residents of other countries in the region (e.g. around 89% of claims on Hungarian

and Slovenian residents are owed to banks in the same countries). Not surprisingly, Austrian creditors account for a considerable portion of total claims on residents of these countries.

<sup>16</sup> The data refer to consolidated foreign claims on an ultimate risk basis on all residents in the respective countries. Data broken down by borrowers' economic sector are not available. The data are consolidated so that intra-group financial claims are netted out. Nonetheless, the figures can be taken as indicative of the existence of common creditor issues for the banking sectors of the region as well.

<sup>17</sup> The calculation of common creditors follows the methodology of Rijckeghem and Weder (1999) and Glick and Rose (1998). The index is calculated as

$$I_{0,i} = \sum_{k=1}^n \left( \frac{B_{0,k} + B_{i,k}}{B_0 + B_i} \right) \left[ 1 - \left( \frac{\frac{B_{0,k}}{B_0} - \frac{B_{i,k}}{B_i}}{\frac{B_{0,k}}{B_0} + \frac{B_{i,k}}{B_i}} \right) \right]$$

where  $B$  is the nominal value of claims,  $0$  indicates the reference country,  $i$  indicates another target country and  $k$  indicates common creditor countries. The index can take values between 0 and 1, with a higher value representing greater commonness in creditors. The calculation was made on the basis of 18 creditor countries (Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States).

For contagion issues to become relevant in the region the financial standing of parent and sister banks as well as the ability and willingness of parent banks to finance their subsidiaries is of crucial importance. For example, if parent banks faced financial difficulties they might opt to reduce financing to their foreign subsidiaries, for instance, to have sufficient resources for their home business; or they may even have no other choice. Also, parent banks may channel funds from a foreign subsidiary to other parts of the banking group (to the parent bank or to another subsidiary).<sup>18</sup>

According to available information, the direct exposure of the major players in the CESEE region to the U.S. subprime market has been low. These large banks could, however, become affected by the international turmoil through the interbank market or the capital market via rising refinancing costs and/or the tightening of liquidity conditions. In this context, it is remarkable that – broadly speaking – the stock prices of banks with a significant exposure to the CESEE region performed roughly in line with the overall FTSE Developed European banks index until late summer 2008. From September onwards, and especially in October, the stock prices of these banks substantially underperformed the overall FTSE Developed European banks index. However, in late October and early November banks with CEE exposure again started to outperform the overall market. This pattern clearly coincided with the spreading of the international

financial crisis to several emerging European economies, as evidenced by the significant rise in sovereign euro-bond spreads and CDS premia as well as exchange rate weakening starting in the second half of September and the fledgling recovery seen in late October (on the back of stepped-up financial support for selected emerging markets from international organizations like the IMF, the EU or the World Bank).<sup>19</sup> A similar pattern could be observed for the CDS premia of banking groups active in the region.

It would go beyond the scope of this paper to discuss the factors driving the stock prices and risk premia of foreign parent banks. It should be noted, however, that a positive feedback loop may arise if a deterioration in the economic environment in the CESEE region leads to a worsening of the refinancing conditions of foreign parent banks, which in turn are forced to cut back lending to the CESEE region, further aggravating economic difficulties, etc.

In this respect, the strategic orientation of most foreign parent banks towards the CESEE region offers some reassurance. Although there is historical precedence that a foreign parent bank walked away from its troubled subsidiary in the region, these cases have been scarce and retrospectively often pitied exceptions (e.g. BayernLB). There are plenty counterexamples, however, such as the Austrian banks that stayed in Russia through the crisis period in 1998. In addition, as pointed out before, the historical performance of CESEE banks over the past few years

<sup>18</sup> Likewise, it may well be that the increase in the banking sectors' foreign assets seen in several countries in our sample during the first half of 2008 was influenced by increased deposits of local subsidiaries at their parent institutions.

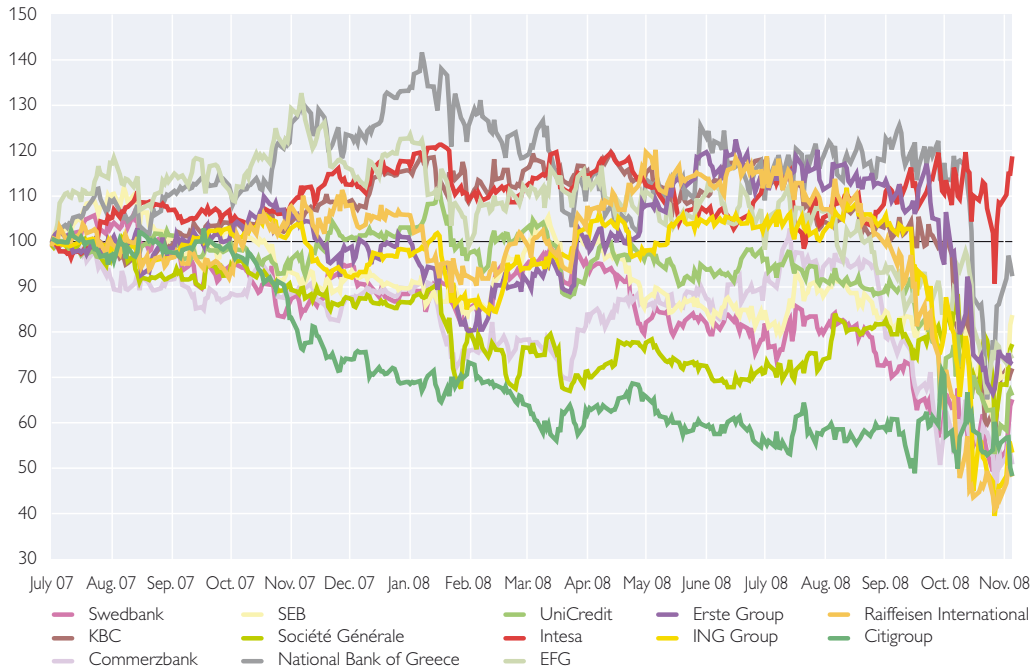
<sup>19</sup> It should be noted, however, that the performance of stock prices of individual banks with the overall FTSE Developed European banks index gives only a rough assessment of the relative performance of individual banks (e.g. the stock prices of individual banks may be influenced by country-specific as opposed to company-specific factors, or the existence of potential outliers in the overall market index).



Chart 8

### Bank Equity Prices

Performance relative to FTSE Developed Europe bank index; June 29, 2007=100.0

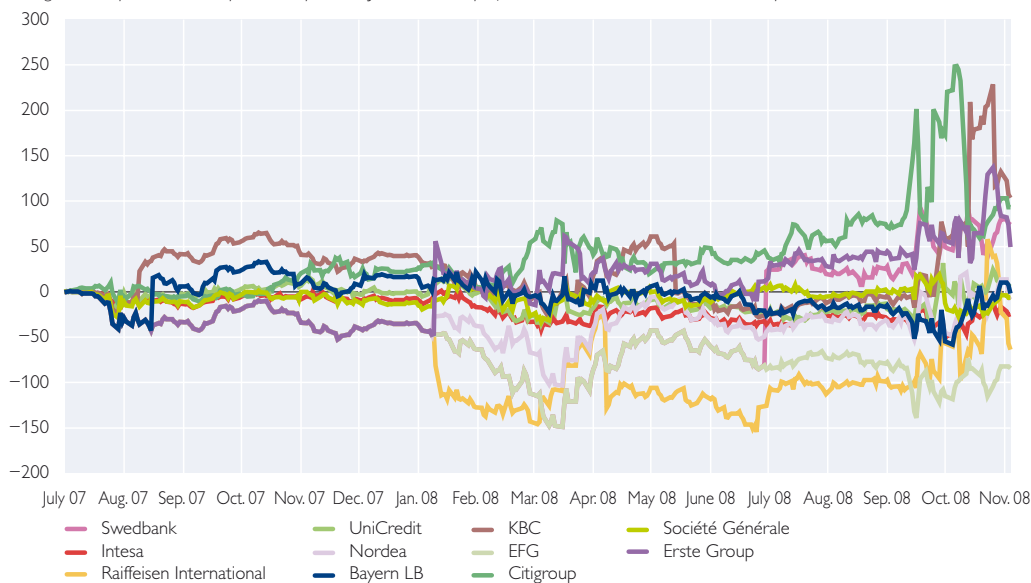


Source: Thomson Financial, OeNB.

Chart 9

### Five-Year CDS Premia of Banks

Change in CDS premia in basis points compared to June 29, 2007; performance relative to CMA ITRAXX European Union Financial index



Source: Thomson Financial, OeNB.

in terms of risk-adjusted returns puts them into a comfortable position should parent banks be forced to ration credit within the banking group.

Fourth and finally, it should be borne in mind that contagion may also arise if *problems occur at sister banks* and, stress spreads to other institutions within the banking group through the parent bank (e.g. through adverse effects on the parent bank's liquidity or capital adequacy). These interlinkages strongly suggest that a prudential analysis of the banking sector in any of the CESEE countries needs to be complemented by a regional approach, putting special emphasis on the shock-absorbing capacity of parent banks that are active in a large number of countries either by direct cross-border business or via local subsidiaries or branch offices.

### 9 What If Capital Inflows Do Slow Down?

A decline in the amount of external funding to CESEE banks would likely lead to a slowdown in their lending activity. Initially – and if external financing moderates smoothly – this may be a welcome development in those countries that currently face the threat of overheating (e.g. Bulgaria, Romania); a similar development is already underway in the Baltic countries. Insofar as slower credit growth would go hand in hand with a reduction in external and internal imbalances, an orderly decline in capital inflows may provide economic policymakers with the “solution” they lacked before, maybe because they did not have the will or ability to tighten fiscal and wage policies and/or there was not sufficient leeway for monetary and prudential policy action, given explicit or implicit exchange rate policy goals, open capital accounts and – within the European Union – the single banking passport.

However, the risk of a disorderly reduction of external financing increased in early October 2008. In addition, IMF-led rescue packages for a few CESEE countries launched more recently also contain such risks. Nevertheless, a sudden stop or reversal of capital inflows would probably have more serious financial and economic consequences, depending – inter alia – on banks' risk management practices during the preceding domestic credit boom (and thus the quality of their CESEE loan portfolio and the magnitude of the accumulated loss potential including the shock resistance of their clients against an economic slowdown).

At the same time, CESEE banks may also have some buffers to at least partially accommodate decreasing external funding. First, for example, banks in the countries under review – with the notable exception of Romania – possess large volumes of external assets both as a percentage of GDP and relative to external liabilities, at least on an aggregated level. Insofar as holders of external assets and liabilities overlap at the level of individual banks (which would seem to be a reasonable assumption, taking into account liquidity management considerations and regulations), banks could respond to lower external funding volumes by reducing their external assets.

Second, at least in some countries, funds currently held in the sterilization facilities of central banks could be redirected to finance credit to other domestic sectors, if external funding were to decrease. Obviously, however, such restructuring on banks' asset side would have significant implications for their risk profile (most notably concerning credit and liquidity risk) and thus on their capital adequacy, which ultimately poses a limit on such substi-

tution. Still, the current high levels of capital adequacy and good profitability (in itself a source of bolstering the capital base) provide a good starting point.

Third, in countries where the authorities responded to the rapid accumulation of the external debt of banks by administrative measures (e.g. Croatia), a decrease in external funding would kick-start some “automatic stabilization” by freeing up funds from mandatory reserves currently held with the central bank.<sup>20</sup>

Fourth, a more pro-active economic policy reaction to a potential severe disruption of capital inflows – in addition to “preparing for the worst” in the form of contingency liquidity planning – would be a reduction in general governments’ financing needs, thereby freeing up financial resources for credit to the private sector (“crowding-in”). In this respect, the comprehensive measures taken in Hungary since the beginning of October serve as a case in point. In response to substantial market tensions, the government stepped up its fiscal consolidation efforts, while at the same time the central bank took the necessary steps to increase interbank liquidity (both in local currency and in euro). Also, measures have been taken to boost the local government bond market (by easing asset allocation rules for pension funds, government bond purchase auctions by the central bank), and confidence in the banking sector has been bolstered by the increase in deposit insurance limits.

## 10 Concluding Remarks

In this paper, we presented systematic regional and cross-country information

about the refinancing structure of the banking sector in selected CESEE countries, benchmarking the region against the euro area and, where appropriate, against non-European emerging market economies. Our goal has been to present most recent data to focus on the situation of banks in these countries before external funding conditions started to deteriorate significantly for some of them in the second half of 2008.

Our findings confirm that banks in several CESEE countries strongly relied on funding from abroad to finance strong domestic lending activity over the past few years. This is in particular true for Croatia, Bulgaria, Hungary, Romania and Slovenia. This reliance on external resources made banks increasingly vulnerable to global financial turbulence such as the turmoil experienced since mid-2007. The external funding of banks in the countries of our sample predominantly took the form of deposits and loans, while reliance on portfolio capital was rather modest. Portfolio debt liabilities as a percentage of total external liabilities played a more important role only in Hungary, while portfolio equity liabilities reached non-negligible levels in the Czech Republic, Hungary and Poland, i.e. the three countries with the biggest and most liquid equity markets in the sample.

Data until mid-2008 suggest that banks in the countries under review have not faced substantial difficulties in maintaining a solid inflow of foreign capital. The nature of their refinancing structure (e.g. a strong capital base, limited reliance on capital markets,

<sup>20</sup> In fact, the Croatian central bank abolished the so-called marginal reserve requirement (i.e. an additional reserve requirement which had been introduced to curb strong foreign borrowing by banks) on October 10, 2008, to boost banks’ foreign exchange liquidity and enable them to meet commitments to clients without any difficulties.

substantial funding from foreign parent banks with a strong commitment to the region) and solid profitability in an international comparison (apparently also on a risk-adjusted basis) have likely played an important role in this context.

This notwithstanding, there is no room for complacency. There is no end to the global financial market distress in sight, and major international banks continue deleveraging. Substantial increases in risk premia and the deterioration in interbank liquidity suggest that during September and October 2008 financing conditions turned much worse for banks in some countries of our sample – most prominently in Hungary. Today banks in the CESEE region are facing substantially higher refinancing costs than before mid-2007 and – given the large share of short-term instruments in total external debt of banks in many countries – considerable rollover risk. In future the evolution of

the financial standing of foreign parent and sister banks and the ability and willingness of parent banks to finance their subsidiaries in the CESEE region will be key to capital flows into the region. The long-term commitment of foreign parent banks to their (highly profitable) CESEE subsidiaries is reassuring. At the same time, refinancing risks are aggravated by the potential for contagion, as a relatively small number of regionally active Western European banks provide the bulk of external funding to a large number of recipient countries in the region. In an environment of potentially increased rationing of available financial resources, ensuring attractive return prospects remains essential. To this end emphasis should be put on stability-oriented macro-economic and financial market policies. Such policies are also a precondition for financial support from international (financial) organizations, should the need for such support arise.

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