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# Assessing EU-10 Banking Sectors' Resilience to Credit Losses

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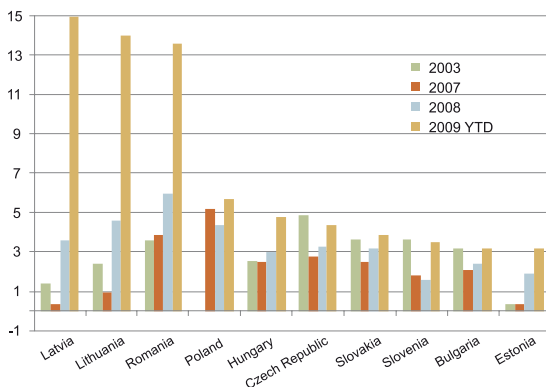
More than a year after the collapse of Lehman Brothers, the vulnerabilities of the banking sector in the EU-10 seem to have subsided. Earlier concerns about the strength of the commitment of parent banks in the region to their local subsidiaries have diminished. As a result, the risk of a sudden withdrawal of foreign financing is now lower. Concerns about li-

quidity and solvency of the sector have also lessened, largely owing to forceful interventions by central banks, governments and international institutions.

However, the banking sector is not out of the woods yet. In particular, there still a concern about the impact of increases in banking credit losses on the stability of the banking sector. Bank losses are increasing as corporations and households are facing difficulties in servicing their debts. Banks are seeing their loan portfolio deteriorate as firms are hit by the collapse of demand and higher costs of financing, while households are affected by rising unemployment and increased debt burden following currency depreciation pressures. In Latvia, the hardest hit country among the new EU member states, non-performing loans (NPLs) have increased from 3.6 percent at end-2008 to 15 percent in October 2009 (Figure 1). On a broader definition that includes substandard, doubtful and lost loans, NPLs in Latvia as of end-October exceeded 25 percent (and 15 percent in Romania), not far from earlier banking crises in Asia, Russia, and Latin

FIGURE 1

**Non-performing loans in EU-10 countries, 2007-2009 YTD, in percent of bank loans**



Source: *Global Financial Stability Report*, International Monetary Fund, October 2009, and national central banks.

America where NPLs exceeded 30 percent (Table 1). Given that the economic recovery in the region is likely to remain tepid, NPLs are set to rise further. This is no doubt the key challenge entering a new decade.

Rising bank losses may undermine the impending economic recovery, as banks reduce lending to companies and households to secure their capital base, improve liquidity, and reduce new risks. Banks in the region have already substantially tightened lending criteria, increased credit margins, and reduced access to credit, particularly for small and medium enterprises. Even in Poland, the country in the region that was least affected by the global financial crisis, banks continued to tighten credit lending criteria for enterprises throughout 2009, although fewer banks than before expect to further tighten credit policy in the near future<sup>6</sup>. The uncertainty about future developments in the corporate and household market, especially as regards the impact of rising unemployment, additionally constrains bank funding available in the economy.

### Estimating banking sector's credit losses

While the full impact of the crisis on asset quality in the region is still unknown, past banking and currency crises offer a rough guide to assess underlying risks. What follows in this section should be viewed as an illustration of the possible risks if economic conditions were to deteriorate, for instance in the event of a double dip in the global economy, including risks arising from a currency crisis that would exacerbate further the stresses in banks' balance sheets.

Specifically, the focus is on banking crises where declines in GDP in the year following the onset of the crisis exceeded 5 percent and that were accompanied by a currency crisis. In such cases, the NPLs on average rise to 30 percent (Table 1),

TABLE 1

#### List of Banking and Currency Crisis Countries

Country	Crisis year	NPLs (% of all loans)
	Banking and Currency Crisis	
Argentina	1980	9.0
Argentina	1989	27.0
Argentina	2001	20.1
Brazil	1994	16.0
Bulgaria	1996	75.0
Chile	1981	35.6
Dominican Republic	2003	9.0
Ecuador	1998	40.0
Estonia	1991	7.0
Indonesia	1997	32.5
Jamaica	1996	28.9
Korea	1997	35.0
Malaysia	1997	30.0
Mexico	1994	18.9
Philippines	1997	20.0
Russia	1998	40.0
Sweden	1991	13.0
Turkey	2000	27.6
Ukraine	1998	62.4
Uruguay	2002	36.3
Venezuela	1994	24.0
<b>Average</b>		<b>28.9</b>
<b>Median</b>		<b>27.6</b>
Country	Banking Crisis Only	
Argentina	1995	17.0
Bolivia	1994	6.2
Colombia	1982	4.1
Colombia	1998	14.0
Croatia	1998	10.5
Czech Republic	1996	18.0
Finland	1991	13.0
Japan	1997	35.0
Latvia	1995	20.0
Lithuania	1995	32.2
Nicaragua	2000	12.7
Norway	1991	16.4
Paraguay	1995	8.1
Sri Lanka	1989	35.0
Thailand	1997	33.0
Vietnam	1997	35.0
<b>Average</b>		<b>19.4</b>
<b>Median</b>		<b>16.7</b>

Source: Based on Laeven L., Valencia F., *Systemic Banking Crises: A New Database*, International Monetary Fund, Working Paper WP/08/224, 2008.

TABLE 2

**Credit Losses – Extrapolating from Past Crisis Events**

	Share of lending to		Outstanding private credit		Alternative assumptions	Losses (w/ NPLs)	
	HH	Firms	in bill. LCU	in % GDP		in bill. LCU	in % GDP
Belarus <sup>2)</sup>	0.25	0.75	37159	29	NPLs <sup>3)</sup>	8632	7
Bulgaria	0.35	0.65	50	74	29.50	11	17
Croatia	0.50	0.50	222	65		48	14
Czech Republic	0.40	0.60	1947	53	LRGD-HH <sup>4)</sup>	431	12
Estonia <sup>1)</sup>	0.50	0.50	245	99	0.40	52	21
FYR Macedonia	0.40	0.60	175	44		39	10
Hungary	0.40	0.60	18527	69	LRGD-Firms <sup>5)</sup>	4099	15
Kazakhstan <sup>2)</sup>	0.25	0.75	7972	50	0.15	1852	12
Latvia <sup>1)</sup>	0.50	0.50	15	90		3	19
Lithuania <sup>1)</sup>	0.45	0.55	70	63		15	14
Montenegro	0.40	0.60	3	81		1	18
Poland	0.40	0.60	633	50		140	11
Romania	0.40	0.60	194	38		43	9
Russia <sup>2)</sup>	0.30	0.70	17102	41		3910	9
Serbia	0.40	0.60	1072	38		237	8
Turkey <sup>2)</sup>	0.30	0.70	310	33		71	7
Ukraine <sup>2)</sup>	0.30	0.70	700	74		160	17
<b>Average</b>				<b>58</b>			<b>13</b>
<b>Median</b>				<b>53</b>			<b>12</b>

1) Assumes somewhat higher role of mortgage lending given developments in housing prices.

2) Assumes a lower share of HH lending; loans corporates still dominate.

3) NPLs are assumed to match the levels observed in the Laeven and Valencia database for cases with a currency crisis; in effect this is broadly equivalent to cases where the decline in GDP in period t+1 is at least 5 percent.

4) Assumes loan-to-value ratios of one and a loan recovery rate of only 40 percent given the decline in housing prices.

5) The loss recovery given default (LRGD) is set at the average level observed during the Asian crisis.

**Source:** Mitra P., Selowsky M., Zalduendo J., *Turmoil at Twenty: Recession, Recovery, and Reform in Central and Eastern Europe and the Former Soviet Union*, The World Bank Press, Washington DC 2009.

which in turn may be viewed as a proxy for the *probability of default*. In addition, *recovery rates* may be assumed to be roughly 40 percent on mortgages, in line with the marked declines that have occurred in housing prices, and 15 percent on loans to firms, which broadly matches the average assumption made by the Swedish Riksbank on the exposure of Swedish banks to the Baltic States<sup>2)</sup>. The shares of households and firms in the total loan portfolio – a *measure of exposure* – are provided by broad characterization of the consolidated banking sectors in EU-10 countries. A preferable approach no doubt would be to calibrate the recovery rate by sector and country de-

pending on country-specific bankruptcy resolution frameworks and other institutional characteristics that impact recovery rates, but such data are only available to banking supervision authorities of each individual country and collected with diverse methodologies.

The result of the analysis suggests that the credit losses in the EU-10 countries may be substantial but overall remain manageable. In a scenario based on the experience around the world with past episodes of joint banking and currency crises (as defined earlier, that is where GDP declines by more than 5 percent), the estimated losses vary from 9 percent of GDP in Romania to

21 percent of GDP in Estonia, with an average of some 13 percent of GDP for emerging Europe as a whole, comprising EU-10 and other countries in the region (Table 2). The variation across countries is largely accounted for by the size of the loan portfolio; in other words, the share of credit in GDP. Of course the scenario could be more optimistic about recovery rates. For example, housing prices in many countries in the region have not declined as much and banks might choose not to proceed immediately to sell these assets to avoid worsening housing market conditions. In fact, in a scenario in which recovery rates in mortgages average 75 percent, credit losses would range anywhere from 6 to 16 percentage points of GDP – and of course this still assumes worsening economic conditions that today seem more likely to be avoided.

Importantly, NPLs in the EU-10 at this stage of the crisis are much lower than was the case during earlier banking crises, where NPLs peaked quite rapidly at 32 percent in Indonesia, 35 percent in Korea, 30 percent in Malaysia during the East Asian crisis, and at 40 percent in Russia and 36 percent

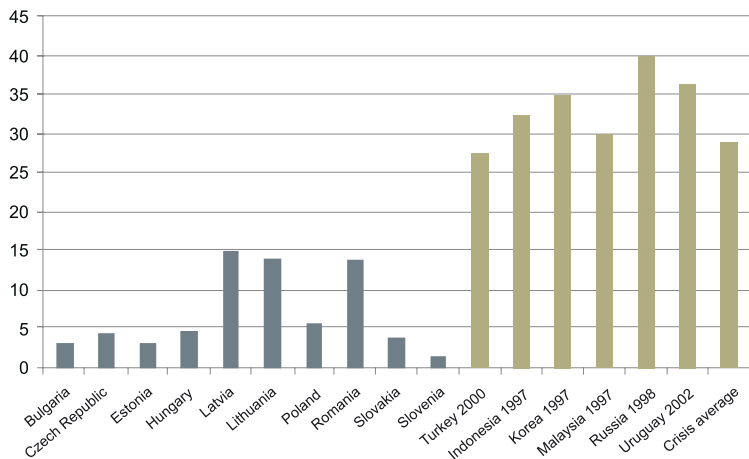
in Uruguay during their crises in the late 1990's and early 2000's (Figure 2). The increases observed in past capital account crises reflect a combination of both increased and widespread corporate distress. One possible factor behind this difference is that currency crises have been avoided in the EU-10, perhaps because of the abundant provision of official financial and the opportune international coordination effort put forward by the EC and international financial institutions.

### Factors mitigating banking credit losses

Banking sector credit losses in the CEE region may be mitigated by a number of factors. First, companies in EU-10 have relatively low corporate leverage. Debt leverage of non-financial companies, as measured by the ratio of total debt to total assets, is lower in EU-10 countries than in emerging markets three years prior to, during, and three years following the year in which they experienced a crisis<sup>5</sup>. The leverage is also lower than in the four EU cohesion countries

FIGURE 2

#### Non-performing loans in the EU-10 in 2009 and Historical Data for Banking and Currency Crisis Countries (in percent of bank loans)



Note: Crisis average taken from Table 1.

Source: EU-10 Regular Economic Report: From Stabilization to Recovery, The World Bank Group, October 2009, based on IMF (2009), and national central banks for the EU-10.

– Greece, Ireland, Spain and Portugal – that have been hard hit by the current financial crisis (Table 3). Overall leverage in Poland and Czech Republic remained moderate throughout the period. Leverage was much higher in Hungary, but it was still about half of the high levels seen in East Asia during its crisis in 1997-98 and was also generally lower than in Argentina (2001), Brazil (1998), Mexico (1995), and Turkey (2001) in the years of their crises. In addition, corporate interest rate coverage in the EU-10 region is also high, helping to reduce risks of losses, although not for all countries<sup>1)</sup>.

Second, although household debt may be vulnerable to default, following rapid expansion of credit throughout the last decade (Table 4) and risks of exchange rates and interest rates shocks, as well as falling real estate prices<sup>7)</sup>, household indebtedness

is in most cases moderate. Household debt in the EU-10 countries represents on average over a quarter of GDP, though there is significant cross-country variation, with the figure reaching above 40 percent in some countries (Figure 3). These ratios are below the present average of about 65 percent of GDP for the EU15 and closer to those for Ireland, Italy, Portugal and Spain during the late 1990s. Moreover, the mortgage interest service burden among the poorest households, which are presumably the most vulnerable to a credit default, are on a moderate level and range from 7 to 13 percent of household income. In addition, the fraction of households with mortgages in the poorest quintile is quite small<sup>7)</sup>.

Third, household debt defaults may also be mitigated by measures adopted by governments. Hungary has introduced legisla-

TABLE 3

**Non-Financial Corporate Leverage – Recent History for Selected EU-10 Countries and Crisis Years for Comparator Countries (median values)**

	Number of Firms <sup>1)</sup>	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Czech Republic	31	23.9	18.0	12.8	10.3	8.9	10.1	10.8	9.7	8.9	11.6
Hungary	33	11.1	17.4	11.7	12.8	17.2	17.1	15.7	21.1	13.2	27.6
Poland	167	11.7	13.0	16.5	17.7	18.3	15.9	15.6	15.9	15.5	17.1
Turkey	182	25.5	27.5	26.2	21.1	19.7	16.7	16.7	19.2	16.5	21.7
Greece	268	20.2	20.4	26.8	28.0	29.5	29.2	31.9	30.2	32.6	34.4
Ireland	68	25.5	27.4	30.6	29.3	28.7	23.5	27.0	29.3	28.4	34.7
Portugal	64	29.3	32.4	35.6	37.1	35.2	35.2	34.8	38.9	40.8	46.3
Spain	163	20.4	23.2	24.0	26.0	27.7	28.1	31.9	33.0	33.3	34.1
Period ('t' represent the year of the crisis) <sup>2)</sup>											
		t-3	t-2	t-1	t	t+1	t+2	t+3			
Korea (1997)	442	44.1	45.1	46.1	50.5	44.6	33.4	31.1			
Thailand (1997)	273	32.6	37.7	40.9	53.1	45.1	41.1	43.4			
Indonesia (1997)	171	28.6	31.6	34.7	51.8	61.3	50.3	47.1			
Argentina (2001)	78	33.4	30.6	31.2	27.7	31.4	25.8	23.1			
Brazil (1998)	257	18.0	24.3	26.1	27.3	26.2	26.1	31.4			
Mexico (1995)	82	28.7	29.9	31.1	31.9	28.3	28.7	28.0			
Turkey (2001)	158	24.1	25.5	27.5	26.2	25.1	19.7	16.7			

Notes:

1) Average over period.

2) Crisis year is defined as "t" and is indicated in parenthesis next to the corresponding country.

**Source:** *EU-10 Regular Economic Report: From Stabilization to Recovery*, The World Bank Group, October 2009, based on DataStream.

TABLE 4

**Growth of Credit to Households and Corporations, 2003-2008**

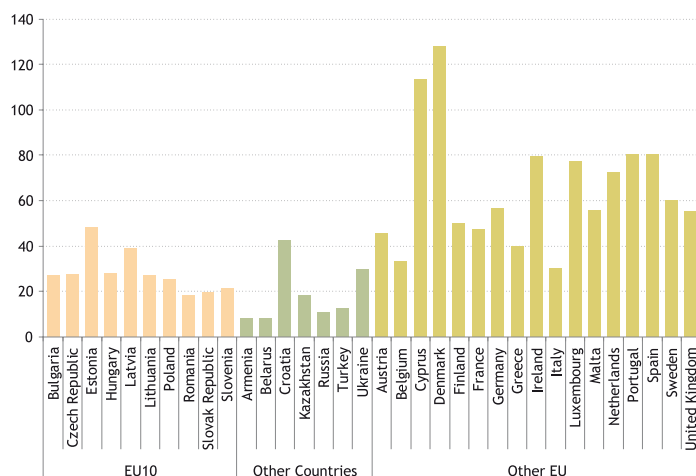
	Average Growth of Credit to Households 2003-2008	Average Growth of Credit to Corporations 2003-2008	Ratios of Lending to Households to Lending to Corporates		Share of Housing Loans in Total Household Lending	
			2003	2008	2003	2008
Bulgaria	40.7%	57.3%	37.2%	59.0%	–	42.8%
Czech Republic	26.5%	11.8%	69.1%	126.2%	65.4%	70.3%
Estonia	38.7%	32.3%	82.5%	103.3%	77.6%	80.5%
Hungary	21.3%	7.2%	52.9%	95.0%	64.3%	50.7%
Latvia	44.1%	28.0%	50.3%	87.8%	64.0%	78.9%
Lithuania	59.1%	30.6%	28.9%	75.1%	76.4%	69.3%
Poland	27.5%	13.3%	101.8%	181.8%	30.1%	52.5%
Romania			–	104.9%	–	21.1%
Slovak Republic	28.2%	9.8%	39.8%	84.3%	68.9%	67.7%
Russia	59.4%	26.6%	11.4%	33.2%	–	27.6%
Turkey	45.4%	23.6%	36.9%	78.9%	27.2%	32.5%
Ukraine	83.8%	46.6%	33.6%	63.2%	24.9%	31.5%

Source: IFS and Central Banks.

tion to provide temporary state guarantees for mortgage payments of the unemployed and submitted legislation to Parliament to expand the partial mortgage debt servicing guarantee scheme for the unemployed to other debtors, whose payment capacity has been temporarily impaired by the financial crisis. Poland introduced a similar scheme for mortgage repayment among the newly unemployed. Romania has sought an agreement with commercial banks to facili-

tate the restructuring of debt contracted in foreign currency, by adjusting the maturity and repayment schedule of the debt, including offering the option to voluntarily convert it into domestic currency. Other countries in the region have contemplated similar programs. Worth noting is that many countries in the region have introduced schemes to facilitate out-of-court loan restructuring efforts, which aim at maximizing good faith efforts of all parties to a loan.

FIGURE 3

**Household Debt, 2008 (percent of GDP, end of period)**

Source: European Central Bank; National Central Banks; IMF; and UniCredit.

Lastly, and equally importantly, banks' balance sheets in the region can accommodate a rise in losses. Capital adequacy ratios are significantly above the mandatory 8 percent floor in all countries in the region. Losses on loans have been so far largely provisioned in a timely fashion. Bank's profitability remained positive in most countries in the region during 2009, providing additional cushion against losses (Table 5). Crucially, foreign parent banks have continued to support their local subsidiaries with injections of both capital and liquidity<sup>3)</sup>. And central banks, governments, and international institutions such as the World Bank, European Investment Bank and the EBRD have put forward financial support operations.

There are a number of observations ensuing from this article. First, even if the macroeconomic environment were to worsen, credit losses in the EU-10 banking sector

are likely to be substantial but remain manageable, particularly with continued support from parent banks and the domestic authorities. Second, expected rise in corporate credit losses is likely to be mitigated by a relatively low corporate leverage and high interest cover, although of course some countries are somewhat more vulnerable. Third, household debt is vulnerable to default, but the risk is partly offset by a still low level of household indebtedness, in particular when compared to advanced countries, and governments' efforts to ensure that a menu of options is available to address mortgage debt problems in a timely manner.

However, banking sectors in EU-10 will remain vulnerable to shifts in global market sentiment and potential growth reversals, and risks of a double dip in the global economy materializing. To minimize the risks of the return of market turbulence and to support the impending recovery, foreign par-

TABLE 5

**Banking sector's stability and profitability indicators for the EU-10 and selected countries, 2003-2009**

	Capital adequacy <sup>1)</sup>				Loan provisions <sup>2)</sup>				Return on equity			
	2003	2007	2008	2009	2003	2007	2008	2009	2003	2007	2008	2009
Bulgaria	22.0	13.9	14.9	16.5	50.0	–	–	–	22.7	24.8	23.1	15.7
Czech Republic	14.5	11.5	12.3	13.7	76.7	70.4	67.5	61.3	23.8	25.4	21.7	23.4
Estonia	12.5	10.8	13.3	15.2	214.5	–	–	–	14.1	30.0	13.2	8.7
Hungary	11.8	10.4	11.1	12.3	47.3	58.1	59.6	52.6	19.3	18.1	11.6	15.3
Latvia	11.7	11.1	11.8	12.8	89.4	129.8	61.3	40.7	16.7	24.3	4.6	-19.7
Lithuania	13.2	10.9	12.9	13.9	–	–	–	–	11.4	27.3	16.1	-1.0
Poland	13.8	12.0	11.2	11.7	53.4	–	–	–	5.8	22.4	20.7	15.6
Romania	21.1	13.8	12.3	–	12.6	25.7	28.7	–	20.0	11.5	18.1	–
Slovak Republic	22.4	12.8	11.1	12.2	85.8	93.3	91.4	88.3	10.8	16.6	14.1	4.1
Slovenia	11.5	11.2	10.5	–	81.0	–	–	–	11.9	16.3	9.0	–
Russia	19.1	15.5	16.8	18.5	118.0	144.0	118.4	90.8	17.8	22.7	13.3	3.6
Turkey	30.9	19.0	18.1	19.2	88.6	88.4	81.4	79.4	16.0	21.6	16.6	25.1
Ukraine	15.2	13.9	14.0	14.5	22.3	26.3	29.6	29.8	7.6	12.7	8.5	-24.5
Austria	14.5	11.8	12.7	12.9	68.0	76.4	64.0	63.0	7.0	17.0	2.6	–

Notes:

1) Risk weighted capital assets ratio.

2) Bank provisions to non-performing loans.

Source: *EU-10 Regular Economic Report: From Stabilization to Recovery*, The World Bank Group, October 2009, based on *Global Financial Stability Report*, International Monetary Fund, October 2009.



ent banks should continue to support their subsidiaries in the EU-10 countries, central banks and governments should remain vigilant to liquidity and solvency risks in the banking sector, and governments would be well advised to help minimize credit defaults among the most vulnerable households with targeted interventions that support the needy while ensuring that capacity to repay remains always at the fore. In addition, financial supervision authorities

need to learn from the lessons of the previous banking crises and facilitate orderly restructuring of the corporate and household debt, including through mechanisms that facilitate good faith negotiations between the parties to individual loans. Greater collaboration between home and host supervisory banking authorities would also be helpful to ensure that the build-up of vulnerabilities that preceded this crisis can be avoided in future.

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**Note:** The article largely draws on a focus note published in the *EU-10 Regular Economic Report: From Stabilization to Recovery*, October 2009, The World Bank, and on background work for a World Bank book titled *Turmoil at Twenty*.