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Financial Crisis in Central and Eastern Europe

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Central and Eastern European Countries have been severely affected by the 2008 financial crisis. Several ways of contagion of the financial turmoil worked at different strengths in the different countries. Although the disparities of the effects of the financial crisis are rather large, there are a number of common explanatory features. Mechanisms of transmission of the global financial crisis to the CEECs and its effects on these countries are discussed in this paper

1 Introduction

This memorandum deals with the transmission and effects of the worldwide financial crisis in Eastern Europe. It is not about the origins of the crisis in the US and the direct impact on the industrialized countries. However, some remarks on the beginning of the financial meltdown are provided.

The second section deals under the heading "Contagion: mechanisms and effects" with the ways of contagion to the Central and Eastern European Countries (CEECs). Firstly, the information about external debts, liabilities of the banking system and the assessments of the credibility is provided. In particular the domestic FX-debts played an important role as a mechanism of contagion in Eastern Europe. The transmission of the financial turmoil through the foreign trade sector is further covered in the following subsection "Foreign trade". This subsection documents the decline of external demand as another mayor mechanism of contagion. "Production and forecasts" discusses the production effects of the crisis, i.e. the effects on the real domestic economy. Finally, other transmission mechanisms, such as changes in remittances and changing risk aversion are considered.

2 Financial crisis

The financial crisis started with the so-called subprime crisis in the US housing markets (July/August 2007). For some reasons banks started to provide mortgages to creditors who were hardly able to fulfil the debt service. Moreover, the mortgages and other debts were packed in new financial instruments in order to distribute (sell) the risks. The banks who initially gave the credits were no longer responsible and interested in the monitoring of the debtors. Through the new financial instruments the risks were distributed worldwide in particular in the US and the industrialized West. Once it became clear that a large amount of these credits would not be paid banks became problems because their assets deteriorated and were not backed by enough equity. The banking system stopped to lend among them and the whole financial system came at the verge of illiquidity. Several banks in US were bailed out by the US government. But this did not happened with Lehman Brothers which declared bankruptcy in September 2009. Afterwards a liquidity and credit crunch developed in many countries forcing governments all over the world to intervene with bail-outs and guarantees for the banking system. The government and Central Banks stated to provide the necessary money and assets such that the debts of the States exploded. In some cases, as Iceland, the state itself went bankrupt.

Since many banks in Western Europe had bought so called toxic assets which were bundles of credits of doubtful value, the crisis immediately hit the banking system and the economy of these countries. This was not the case in Eastern Europe.

3 Contagion: mechanisms and effects

Although the countries of EE were not affected directly through the toxic assets, the crisis reached EE also in autumn 2008. There were several ways of contagion which worked at different strengths in the different countries. The direct link between the outside world and the domestic economy are the flows summarized in the balance of payments; more precisely, the trade balance and the capital flows.

4 Debts and ratings

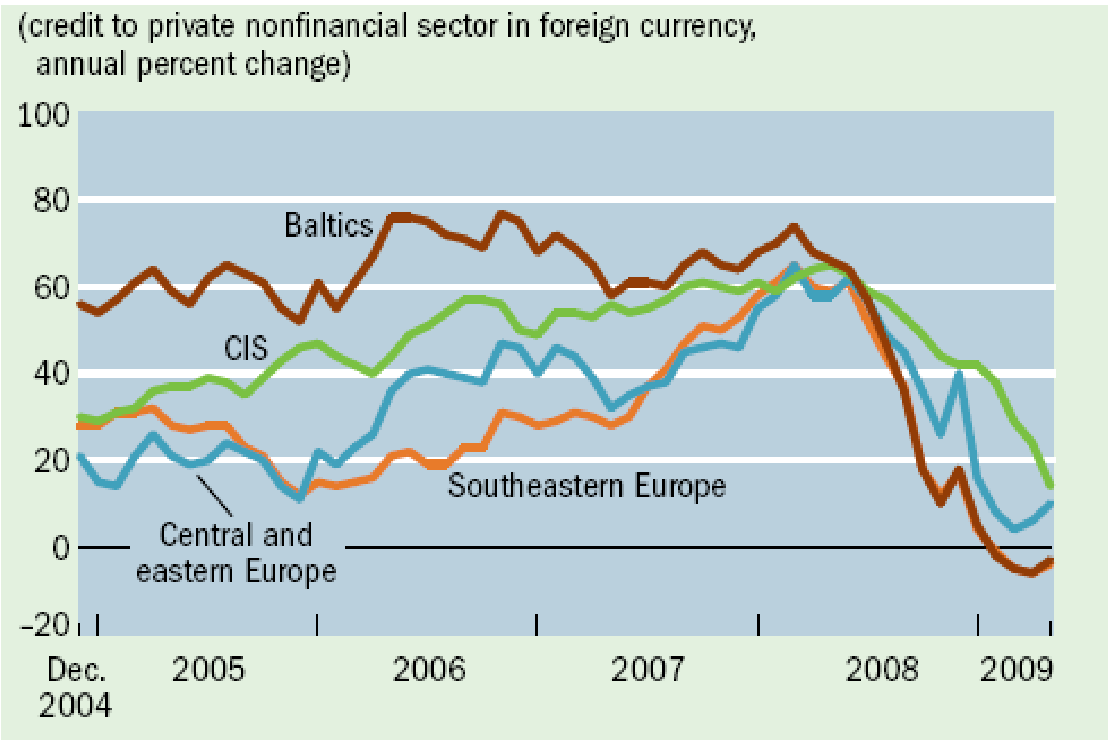
The financial crisis spread through various channels to Eastern Europe which is closely integrated in the world financial system especially due to the fact that a large share of East European banking system consists of subsidiaries or daughters of Western banks.

The financial crisis led to a reversal of the capital flows to Eastern Europe. This sudden stop of capital inflows caused a variety of problems. The reduction of Western banks' provision of credits to Eastern Europe led to a general reduction of credit growth in Eastern Europe. This change in foreign capital inflow affected the exchange rate, the prices in the asset markets, interest rates, and of course, the final demand, particularly investment

Many banks in Eastern Europe are owned by foreign banks, as the following graph shows. In particular Swedish, Italian and Austrian banks engaged in Eastern Europe.

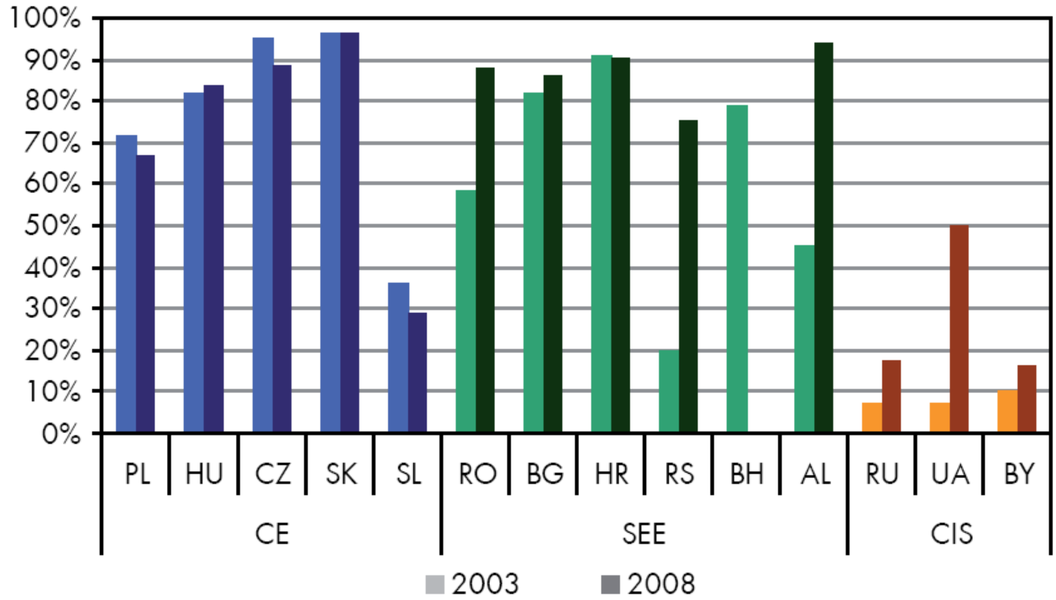
As the financial crisis hit the Western banking system, the fear grew that banks in trouble could try to draw off assets from their East European subsidiaries to refinance the mother banks. However, this danger did not realize at a large scale, it turned out that the dominance of Western banks in EE rather mitigated the reversal of capital flows. The changes in capital flows were at least less dramatic than in the financial crisis of 1997/98 in Southeast Asia.

Graph 1: **Credit growth in Eastern Europe**



Source: IMF, Finance&Development, September 2009, p. 57

Graph 2: **Market share of majority foreign-owned banks**
Per cent of total banking assets



Source: Raiffeisen Research, CEE Banking, Sector Report, June 2009

More dangerous was that a significant share of credits was denominated in foreign currency. In particular in the Baltic States, foreign credits made almost half of total credits of the banking system. In fact, the loans taken by CEECs in foreign currency are central for the transmission of the financial crisis.

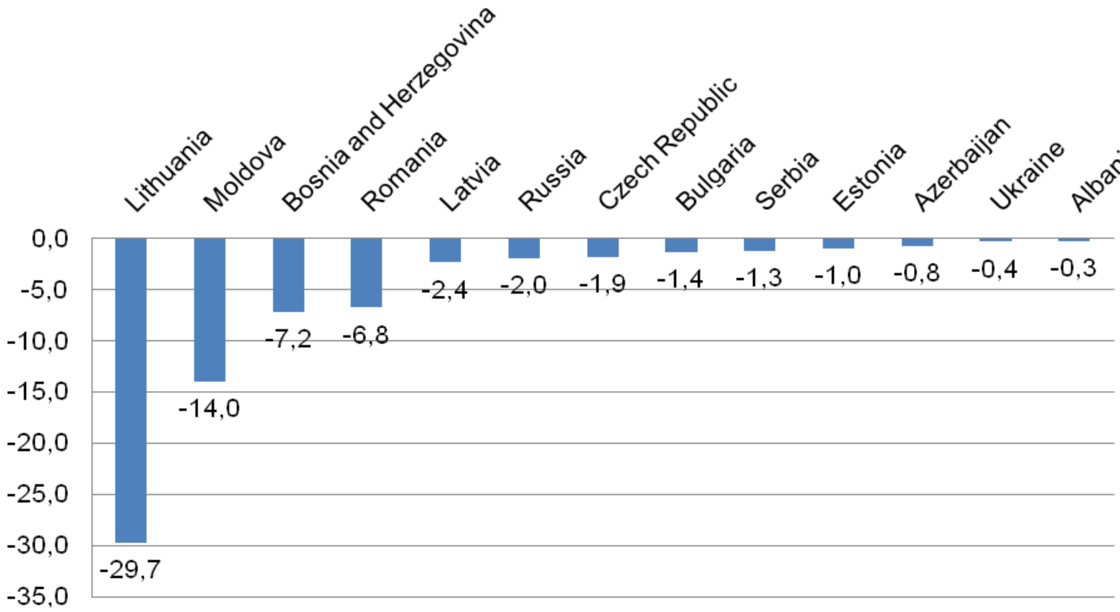
There are many reasons why households and companies switched to foreign currency credits. Primarily, the interest rates for foreign currency credits were generally much lower than for credits in domestic currency. The risk from exchange rate volatility was considered low, not least because an accession to the euro area was expected in the near future. Secondly, the foreign banks often refinanced themselves abroad and tried to pass the currency risk to their clients. Thirdly, many firms had foreign currency income from exports and households in some countries could count remittances in foreign exchange. This deemed the risk of foreign currency loans manageable. Finally, the regulatory policies, which could have prevented or contained high foreign currency exposure, e.g. by higher reserve requirements for foreign currency loans, were not very effective in most countries.

The exposure to foreign currency credits was an important channel to transmit the crisis to Eastern Europe. In general, foreign credits had contributed substantially to the high credit growth in many East European countries. Some of them, as the Baltic States, were already overheated in 2007. This meant that the total demand, spurred, among other factors, by high credit growth, increased faster than the supply. The result was labour shortage and increasing inflation.

The situation was aggravated by the danger of actual devaluation of the domestic currency. Devaluation means that the interest payments and the principal for the foreign currency credits in domestic currency increase proportional to the devaluation. The size of debt service and refinancing needs for mature loans varies with the exchange rate. Devaluations have dramatically increased these debt burdens in the first half of 2009. Unfortunately, it is not easy to get a quantitative estimate of the relevant debts. Mostly data from the Bank for International Settlement is used.

Graph 3: **Countries with net asset outflows in Q1 2009, in bn USD**

Change to previous quarter, exchange rate adjusted



Source: BIS locational dataset 6A; external assets of BIS-reporting banks

Two data sets are available. One reports direct credit, i.e. by BIS headquarter banks, which are geographically outside the debtor country (locational reporting). Another set of statistics counts direct and indirect credits from foreign banks outside the debtor country plus the credits from foreign banks inside the debtor country, i.e. cross-border lending by local subsidiaries (consolidated reporting). In Eastern Europe, where a large part of the domestic banking system belongs to foreigners, the credits on the consolidated basis are much larger than the direct (locational) credits.[1] A third measure is the external debt which includes several other items apart from bank credits, e.g. inter-company loans.[2]

The graph shows that BIS-banks reduced their net assets in many countries significantly compared to the previous period. The value of outstanding credits from BIS-banks declined in all regions of Eastern Europe, but at the same time the East European deposits in the BIS-banks also declined, so that the net effect on the net debt of Eastern Europe is ambiguous. Over the period September 2008 - March 2009, the following picture emerges for the different regions. Net assets of BIS-banks vis-á-vis the EU-10 (new members) fell between September 2008 and March 2009 by 7%, while the outflow from the Baltic States was slightly higher. This happened mostly because of reduced asset holdings of BIS-banks in (credits to) the region.

The situation is different in the CIS region. While the CIS states, in particular Russia, were still net creditors to BIS-banks in September 2008, they became net debtors afterwards. In total, the net assets of BIS-banks increased in this time by 68 bn USD. While gross assets of BIS-banks were reduced, the deposits of the CIS in the BIS-banks declined more. Similarly in the Balkans, net assets of BIS-banks increased by more than 20%. As a result, indebtedness against BIS-banks increased in the CIS and the Balkans while it fell in the EU-10 countries.

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[1] For a discussion about the usefulness of these different concepts in assessing the debt burden of East European countries see: Erste Group, The real picture of CEE debt, Special report, March 6, 2009

[2] Data on external debt are provided by the Joint External Debt Hub: http://www.jedh.org/jedh_creditor.html

Table 1: **Ratings East European countries with a non-investment grade long-term credit rating (foreign currency) from S&P** (latest update: Jun, 10, 2010)

Country	Rating	Outlook
Romania	BB+	stable
Latvia	BB	stable
Serbia	BB-	stable
Ukraine	B	stable

Source: Standard & Poor's

5 Foreign trade

The crisis led to a worldwide recession with rapidly declining economic activity in the major economies. As a result, also the foreign demand in Eastern Europe declined. For the open highly internationally integrated small countries the reduction of exports had strong negative effects on production and employment. Since it is a worldwide crisis, there is no way to compensate declining foreign demand of one country by exporting more to another country. The strong dependence on exports did not only lead to production losses but also meant a loss in foreign currency earnings which in turn affected the exchange rate.

In addition to the decline of foreign demand for exports, the declining economic activity in all major economies led to a drop in the prices of most raw materials (in particular of energy) in mid 2008. The price of oil dropped from 140 $/barrel in summer 2008 to 40 $/barrel at the end of 2008. The big energy producer in the CIS, as Russia, Turkmenistan or Kazakhstan, lost a large part of their export revenues due to the deterioration in prices.

Table 2: **Growth of GDP and Exports**

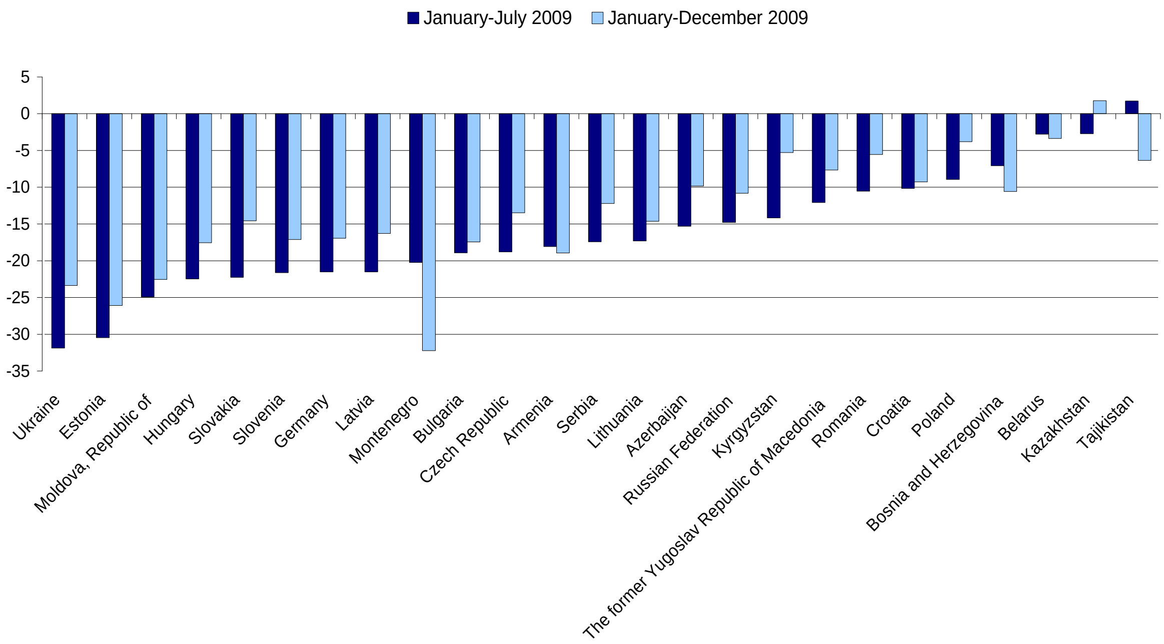
	2007	2008	2009*	2010**
GDP growth in %				
Euro area	2.8	0.6	-4.1	1.0
CEE	5.5	3.0	-3.7	2.8
CIS	8.6	5.5	-6.6	4.0
Growth of Exports in %				
Euro area	6.1	0.9	-14.8	4.7
CEE	10.0	6.8	-10.8	5.5
CIS	6.5	1.0	-9.4	7.2

*Estimates; ** Projections
Source: IMF, World Economic Outlook Database, April 2010

The reduction of export increased the deficit of the current account, which was already high before the crisis. On average, the CEE runs a current account deficit of 8% of GDP in 2008. The decline of exports initially increased this gap further. Together with the shrinking availability of credits, a stark adjustment of imports was required and actually happened. Imports were reduced even more than exports such that the deficit of the current account, which could not be financed any longer, actually declined to about 3% of GDP in the CEE region. The CIS countries, which had a surplus before the crisis because of the energy and raw material exports also adjusted imports but less vigorously such that the surplus in the current account declined in 2009.

6 Production and forecasts

Graph 4: **Growth of industrial production over preceding period**



Source: unece, Eurostat, national statistics

Industrial production is, on average, still about 15 per cent below the level of 2008. Ukraine and Estonia experienced the biggest losses in industrial output. Export oriented countries like Germany, which is given for comparison, suffer all over the world. Industrial output bottomed in most CEECs at the beginning of 2009. Industrial production of most countries started to grow again in the second quarter.

While the GDP forecasts for the OECD countries became more optimistic as early as the latter half of 2009, CEECs' projections did not improve much until the beginning of 2010.

The Baltic States, showing double-digit decline in 2009, are obviously hit most by the crisis. The Baltic GDP growth is still expected to fall in 2010. Russia and Romania also seem to suffer more from the crisis than average Eastern Europe. Poland belongs to very few countries that avoided a reduction of GDP in 2009. [3]

[3] An earlier track of the fast changing forecast of economic growth in Eastern Europe is given in the OEI memorandum Nr. 38 (in German) Michael Knogler, Wolfgang Quaisser *Wachstumsprognosen Mittel- und Osteuropas unter dem Einfluss der Finanzmarktkrise*, März 2009

Table 3: **GDP Growth Estimate 2009** (year over year percent change)

	EBRD	Deutsche Bank	Bank Austria	EU Economic Forecast	IMF
	Oct 09	**Feb 10**	**Jan 10**	**Oct 09**	**Apr 10**
Albania	3				2,8
Armenia	-14,3				-14,4
Azerbaijan	5				9,3
Belarus	-3				0,2
Bosnia and Herzegovina	-3,1		-3		-3,4
Bulgaria	-6	-5,1	-5,2	-5,9	-5
Croatia	-5,4		-6	-5,8	-5,8
Czech Republic		-4,3	-3,9	-4,8	-4,3
Estonia	-13,2		-15,5	-13,7	-14,1
Georgia	-5,5				-4
Hungary	-6,5	-6,2	-6,5	-6,5	-6,3
Kazakhstan	-1,3	1	-0,9		1,2
Kyrgyz Republic	1,5				2,3
Latvia	-16		-17	-18	-18
Lithuania	-18,4		-16	-18,1	-15
Moldova, Republic of	-8,5				-6,5
Montenegro	-4,1				-7
Poland	1,3	1,7	1,7	1,2	1,7
Romania	-8	-7,2	-7	-8	-7,1
Russian Federation	-8,5	-7,9	-8,6	-7,2	-7,9
Serbia	-4		-3,2		-2,9
Slovakia	-6		-5	-5,8	-4,7
Slovenia	-7,8		-7,8	-7,4	-7,3
Tajikistan	2				3,4
FYR Macedonia	-1,6			-2	-0,7
Turkmenistan	6				4,1
Ukraine	-14	-15	-14		-15,1
Uzbekistan	7				8,1

Table 4: **GDP Growth Forecast 2010** (year over year percent change)

	EBRD	Deutsche Bank	Bank Austria	EU Economic Forecast	IMF
	Oct 09	Feb 10	Jan 10	Oct 09	Apr 10
Albania	1,6				2,2
Armenia	1,3				1,2
Azerbaijan	7,1				7,4
Belarus	0,9				1,8
Bosnia and Herzegovina	0,8		-1		0,5
Bulgaria	-1,5	-1,5	-1,5	-1,1	-2,5
Croatia	1,5		-1	0,2	0,4
Czech Republic		2	1,6	0,8	1,3
Estonia	0,1		-3,9	-0,1	-2,6
Georgia	2				2
Hungary	-0,9	0,3	-0,3	-0,5	-0,9
Kazakhstan	1,6	2	2,5		2
Kyrgyz Republic	3				3
Latvia	-1,2		-4	-4	-4
Lithuania	-3		-5,5	-3,9	-4
Moldova, Republic of	1,5				0
Montenegro	0,1				-2
Poland	1,8	2,4	2,3	1,8	2,2
Romania	1	1,5	0,4	0,5	0,5
Russian Federation	3,1	3,8	2,7	2,3	3,6
Serbia	1		-0,5		1,5
Slovakia	3,5		2,6	1,9	3,7
Slovenia	2,6		0,6	1,3	0,6
Tajikistan	3				3
FYR Macedonia	2			1,5	2
Turkmenistan	13				15,3
Ukraine	3	2,7	2		2,7
Uzbekistan	7				7

Sources: UniCreditGroup, CEE Quarterly Q1/2010; Deutsche Bank Research Country Infobase; European Commission, European Economic Forecast, autumn 2009; IMF reports and publications, Country information; EBRD, Economic statistics and forecasts.

7 Other transmission mechanisms

7.1 Remittances

Table 5: **Remittances as a share of GDP, 2007**

Armenia	9.2%	Albania	13.6%
Azerbaijan	4.1%	Croatia	2.7%
Georgia	6.8%	Bosnia & Herzegovina	17.8%
		Macedonia, FYR	4.5%
Estonia	2.0%	Serbia	13.9%
Latvia	2.0%		
Lithuania	3.7%	Moldova	34.1%
Bulgaria	5.4%	Tajikistan	45.5%
Hungary	1.8%		
Poland	2.5%		
Romania	5.1%		
Slovak Republic	2.0%		

Source: The World Bank, Migration and Remittances

For some countries in central Asia and the Balkans a substantial source of income comes from the citizens who work abroad and send money to their families. Due to the recession in the economy of the host countries it is expected that the foreign workers will be first to be laid off when the declining demand leads to a reduction of labour force. As a result, the flow of remittances is expected to decline significantly in 2009 and 2010.[4] As can be seen from the table, this would affect the income of the sending countries substantially.

7.2 Asset prices and increasing risk aversion

The outflow of capital to foreigners started with the sale of East European bonds and stocks. The stock markets in Eastern Europe are mostly driven by US and West European investors. The stock markets in Eastern Europe collapsed even more than its West European and US counterparts. Despite the high foreign share in the stock market, the decline of stock prices was also felt in the domestic economy. Banks, companies and households had to adjust to declining wealth, which by and large exacerbated the general decline of demand.

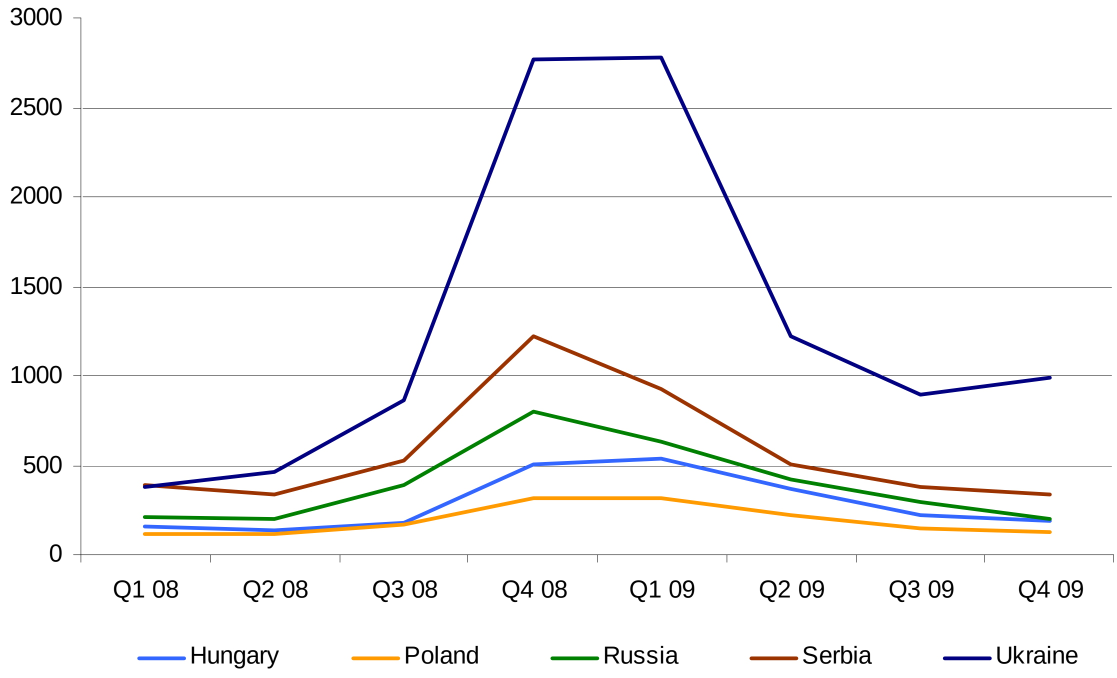
In some countries, in particular the Baltic countries, the vast credit growth were correlated to rapid increase in house prices. Although it remains unclear whether the real estate price level shows some overshooting, in the wake of the ongoing crises, the prices for housing dropped in Latvia more than 60% from its peak-level, and 25% in Lithuania. Declining real estate prices triggered other risks as the ability to repay loans and a decreasing value of collateral.

Although not as dramatic as in the US and Western Europe, declining asset prices also fostered the recession in Eastern Europe.

On a more general level asset prices were influenced by an increase in risk aversion. Investors worldwide reassessed the risks and tried to invest their money in safe assets. The flight to safety was at the expense of the emerging economies since assets were shifted from these countries to more stable currencies and assets. The higher risk aversion demands show up in a risk premium which has to be paid on top of a normal (risk free) asset. It works like an increase of the interest rate.

[4] A detailed account of the situation is given in the OEI memorandum Nr. 42 Barbara Dietz, *Migration, remittances and the current economic crisis: implications for Central and Eastern Europe*, July 2009

Graph 5: **Yield spreads of selected East European countries in basis points**
(100 basis points = 1 percentage point)



Source: IMF, Global Financial Stability Report, April 2010, Statistical Appendix, Table 13

This development can be quantified by different measures. The simplest way is to calculate the spread between a yield of a risky asset and a risk free one. For example, the difference of yield for an East European government bonds and a US Treasury bond of same maturity. The higher the yield or the bigger the yield spread the riskier is the East European bond. Graph 5 shows the development of the yield spread in the last 1.5 years. As can be seen, the yield of the Ukrainian bond was 27 percentage points (= 2700 basis points) higher than a US bond at the end of 2008/beginning of 2009. At this time, the chance that the Ukraine defaulted on their debts was considered pretty high.[5] But also the risk of other east European countries increased at that time significantly.

The data also demonstrate that it became more and more difficult or costly for the East European countries to get credit from outside. They had to pay a high risk premium for the credits. Mid-2009 the situation on the financial markets began to ease; the risk premium declined.

8 Concluding remarks

In the light of the rather large differences of the effects of the financial crisis in Eastern Europe, one might wonder if they can be explained by the above mentioned factors. An additional explanation of the data relies on the domestic economic development before the crisis. As mentioned before, many countries, in particular the Baltics had experienced a credit-driven boom which was already on the downturn. Policy in these overheated countries (meaning the demand was higher than the production capacity) had already started to reduce demand when the crisis hit. The external factors aggravated the internal policy in such a way that the compounded effect led to the crisis results. This explanation states that the already existing boom-bust cycle in the countries was just amplified by the outcomes of the worldwide crisis.

[5] Since 2008 the OEI-website provides monthly updated information (in German) about the Ukrainian economy in the section "Spotlight Ukraine".

Papers on the effects of the financial crisis in Ukraine and policy recommendations can be found at http://www.sigmableyzer.com/publications/presentations.

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