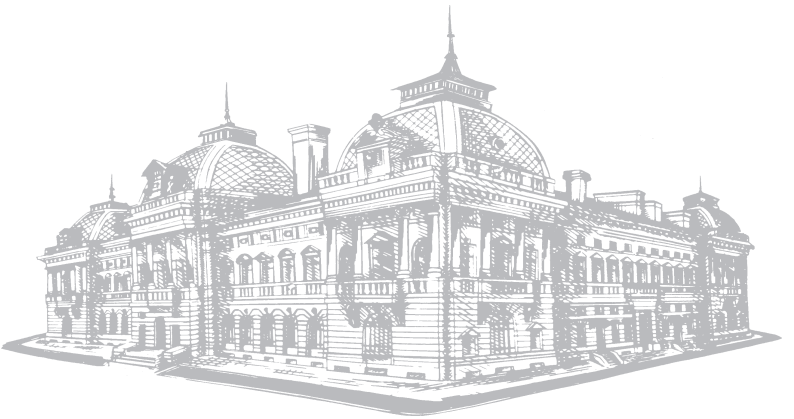
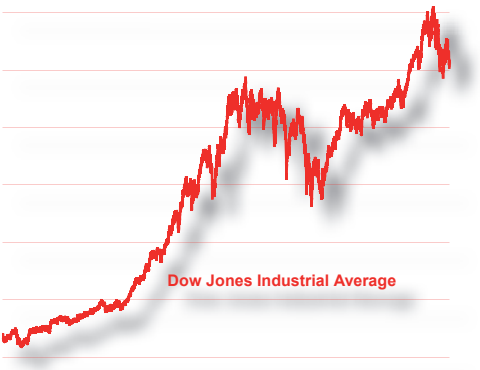
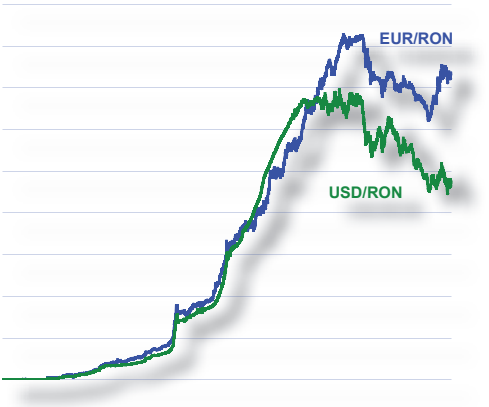
National Bank of Romania



Regional Seminar on Financial Stability





Sinaia

September 22-24, 2010

National Bank of Romania

REGIONAL SEMINAR ON FINANCIAL STABILITY

IMPLICATIONS OF THE GLOBAL FINANCIAL CRISIS ON THE FINANCIAL STABILITY OF EMERGING EUROPE

Sinaia

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Note

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National Bank of Romania
25, Lipscani Street, postal code 030031 Bucharest – Romania
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Contents

OPENING REMARKS

Cristian Popa*

It's a pleasure to have you here. I hope you have settled in well and that travelling was not too much of a burden. Obviously this is an event that occurs on a recurring basis and it's my pleasure now to have taken over from my colleague Eugen Dijmărescu, whom I'm sure that quite a number of you have met and worked with in continuing the tradition of these seminars that we organize together with the International Monetary Fund. I would like to say only a few words, without exhausting the agenda, because we have a very good line-up today and tomorrow.

There is, or rather there was before the crisis, a tendency to look at countries' financial systems as isolated entities and I think that was unrealistic then. We know, for example, from freely flowing capital how difficult it was for Romania during the boom period to restrain lending in foreign exchange. But there is also right now, because of the presence of common lenders and common parents in a regional context, in Central and Eastern Europe in general and elsewhere, a need to look at things from a greater perspective, i.e. let's say from a bigger height, and to go into more detail as well.

One of the connections that we see made nowadays is between integrating financial stability concerns into price stability actions of the central bank as the main mandate of modern, independent central banks and that is something where a lot of work has been done.

The second thing is that, obviously, something as hazy perhaps as the notion of macroprudential risk – because structural reform can mean very, very many things –, is coming (and very rightly so) to the forefront. People are looking increasingly at this and you will see it at every level, be it within the EU or G20 or elsewhere (the Fund itself is very vocal on this) and I think it has been given the right place and the attention that it deserves.

* Deputy Governor, National Bank of Romania

I also think that an exchange of information and an analysis involving independent observers of what is going on in the region (of a status check) and a look at the directions in which we are moving is extremely important. Primarily, what is short term movement from the bigger perspectives? And we have questions that I don't think fall within the scope of this seminar, they are too big to exhaust. Will growth resume? Will there be a probability of a differential? Probably yes. What about potential GDP compared to developed economies? Will capital be flowing as massively and in the same time structure as it did before? Possibly not, but in this context it is important to realize how the financial sector will be contributing to sustainable growth and how growth will be moving. Let me stop here and pass the floor to Mr. Crowley, Senior Economist with the IMF, who will be delivering his remarks and then we will be proceeding with the agenda.

OPENING REMARKS

Joseph Crowley*

Thank you, Mr. Popa. I am very happy to be here. Allow me to say a few words: Hello everybody! Welcome to Sinaia and welcome to the joint IMF – NBR seminar on financial stability issues. Those of you who were here last year had been introduced to me already, but for those of you who are new, I am Joseph Crowley, Senior Economist in the IMF's Monetary and Capital Markets Department.

I had a great time at the joint seminar last year and I am very happy to be here again and to be working with the NBR in hosting this useful and interesting seminar. And while I'm glad to return to Sinaia, I can't say I'm happy that the crisis, that was the focus of last year's seminar, remains worrisome enough to again qualify as the topic of discussion this year. There are some positive signs that for some countries the worst could be over, but not for all, and a great deal of uncertainty and anxiety remains. The crisis is ongoing and new threats are appearing, that could cause another round of distress. But while the crisis is not over, it's not too early to look backwards and to think about what actions could have been taken to make financial systems more resilient and whether greater attention should have been paid to risks.

One element of the crisis in emerging European nations that has come under particularly heavy scrutiny is the reliance on large capital inflows to finance investment and support growth, which enhanced the economic boom of the last decade but also worsened the impact of the crisis. There are many who suggest that this strategy was a mistake, because it was really risky, and there are others who challenged this view and proposed that the risky strategy yielded higher returns and was at least *ex ante* and possibly even *ex post* desirable.

The author Ernest Hemingway wrote a famous story called *The Old Man and the Sea*. The story received the Pulitzer Prize and helped Hemingway earn the Nobel Prize in literature and, like other great works, it may offer lessons that are valued outside the world of the characters in the story. In the story, Santiago is an elderly fisherman who goes far out to sea one day into deep water and catches an enormous marlin, the largest fish he's ever caught. He kills it after a long

* Senior economist, International Monetary Fund

struggle that pulls him far out to sea. Unfortunately, the fish is too large to fit into his boat. So he has to tow it alongside his boat in the water and before he could return to shore sharks devoured it entirely. After the story ends, Santiago may have considered what measures he could have taken to get back to shore with at least part of his fish. The most obvious preventative step would have been to remain close to shore, but the fishing was less good there. Besides, his decision to go so far out to sea was not entirely his own, as he was dragged part of the way out to sea by the fish. There were two key measures he could have taken. First, he could have better prepared himself to manage the problems of the deep water. For instance, he could have had a sturdier boat that could have carried most fish he was likely to catch and endured more storms he was likely to encounter.

Secondly, he could have improved his ability to navigate so as to have maintained a more desirable distance from shore at all times and to have been able to move quickly to a safer area when sharks arrived.

And finally, whatever measures he took, he had to decide how to balance the risks he was willing to take against the opportunity for greater rewards.

Now, it may be fun to play with metaphors, but let's not lose sight of the fact that this is serious business, that the crisis is causing widespread loss and suffering. Hopefully, this metaphor is also informative. Also let's note an important way in which policymakers face a different situation than Santiago; they are not deciding only for themselves how sturdy a boat to build, where to sail it and how much risk to accept in exchange for chances of greater rewards; they must make these choices on behalf of entire populations.

Next, my colleague Yulia Makarova and I will elaborate on the lessons of capital flows in a presentation entitled *Recent Macroeconomic Trends and Management of Capital Flows in Emerging European Countries*. We will look at the question of whether the capital flows were desirable and how they might have been managed differently. We also have two other IMF staff members here to give presentations.

Heiko Hesse will give a presentation on stress testing after the global financial crisis, including the recent stress testing exercise in Western Europe, the new focus on liquidity stress testing, and some observations on stress tests in Eastern Europe.

Mark Allen will give a presentation on the impact of the withdrawal of fiscal and monetary stimulus of the developed countries on emerging European countries, a topic that the Vice-governor raised concerns about in his introductory remarks last year. I hope you will find these presentations helpful.

SESSION 1

TO WHAT EXTENT HAS THE CRISIS AFFECTED THE EMERGING EUROPEAN COUNTRIES' FINANCIAL SYSTEM? HAS IT HAD A UNIFORM IMPACT ON THE REGIONAL COUNTRIES?

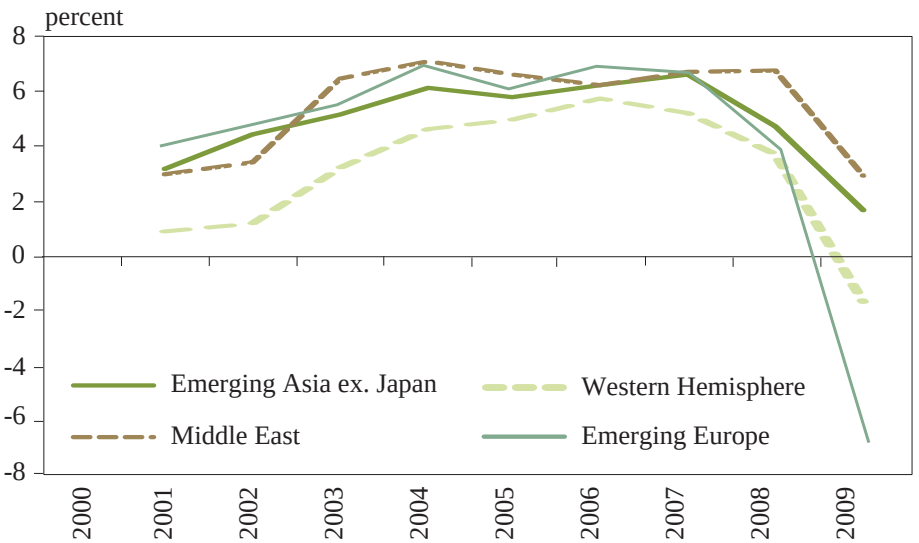
RECENT MACROECONOMIC TRENDS AND MANAGEMENT OF CAPITAL FLOWS IN EMERGING EUROPEAN COUNTRIES

Joseph Crowley* **and Yulia Makarova***

Current Macroeconomic Trends in Emerging Europe

Emerging Europe was affected by the crisis more than other emerging regions …

GDP growth in emerging economies



Source: IMF – World Economic Outlook

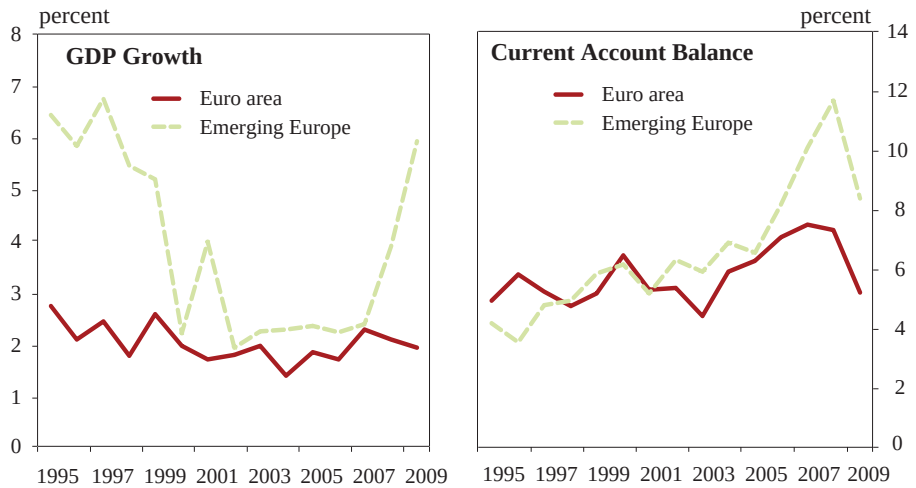
... and its recovery has been weaker than in other parts of the world

The differential impact of the crisis across countries reflected variations in the factors that attracted excessive foreign capital before the crisis: the countries hit most had pre-crisis inflows that were the most in excess of what can be explained by structural factors, such as degree of income convergence or the size or structure of their economies.

* International Monetary Fund

Variations within the region

European economies: cross-country standard deviation of GDP growth and current account balance, 1995-2009



Source: IMF – World Economic Outlook and IMF staff calculations

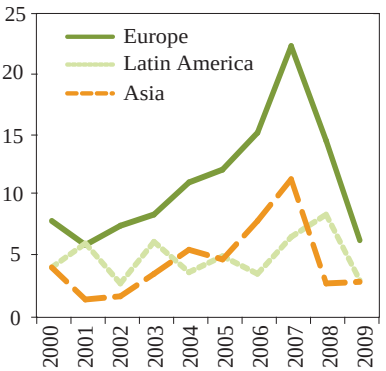
Variances in the speed of recovery in emerging Europe have been due to:

- Country-specific vulnerabilities
- Differences in external financing access
- Differences in reliance on export demand
- Differences in exchange rate regimes and economic structures.

Emerging Europe originally benefited from large inflows more than other regions did:

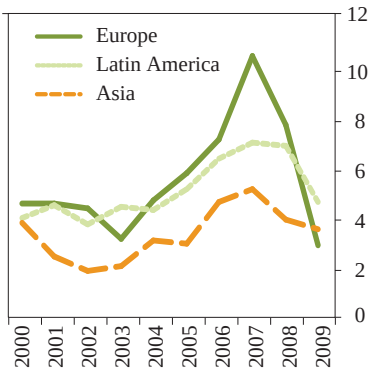
(percent of GDP)

Total inflows 1/



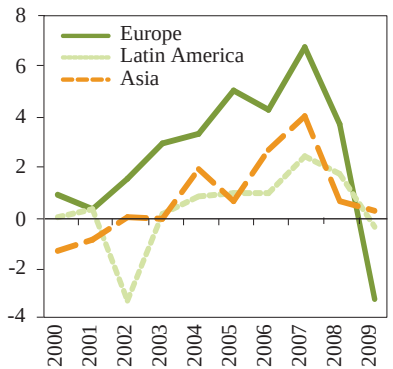
1/ Total FDI, portfolio debt and equity, other investment liabilities of banks and corporates (loans and currency & deposits)

Total FDI inflows 1/



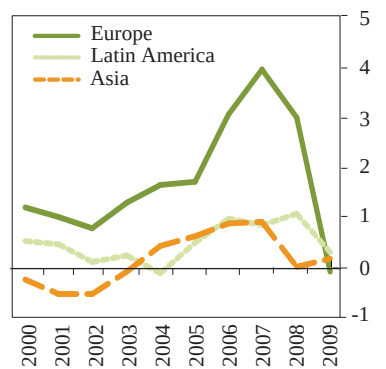
1/ Direct Investment in reporting economy, net

Other investment bank inflows 1/



1/ Other investment liabilities, loans and currency & deposits, banks, net

Other investment non-bank inflows 1/



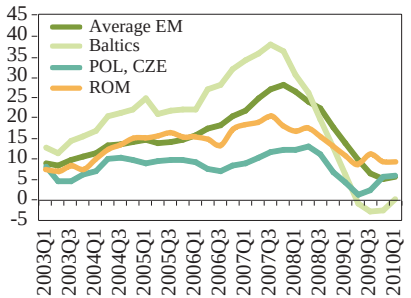
1/ Other investment liabilities, loans, other sectors (non-government, non-monetary authorities), net

Source: IMF – International Financial Statistics and IMF staff estimates

There were variations in inflows across countries

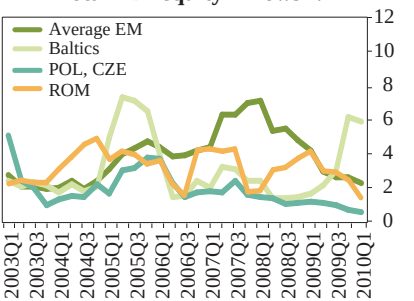
4-quarter rolling sum of inflows in percent of 4-quarter rolling sum of GDP, 2003Q1 – 2010Q1

Total inflows 1/



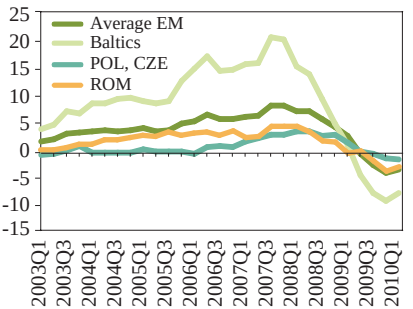
1/ Total FDI, portfolio debt and equity, other investment liabilities of banks and corporates (loans and currency & deposits)

Total FDI equity inflows 1/



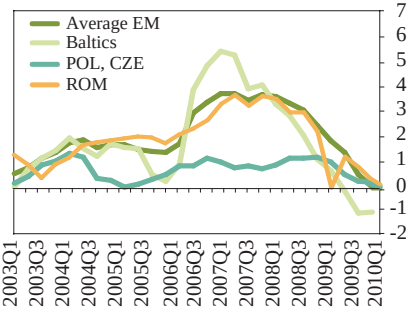
1/ Direct Investment equity capital in reporting economy, net

Other investment liabilities of banks inflows 1/



1/ Other investment liabilities, loans and currency & deposits, banks, net

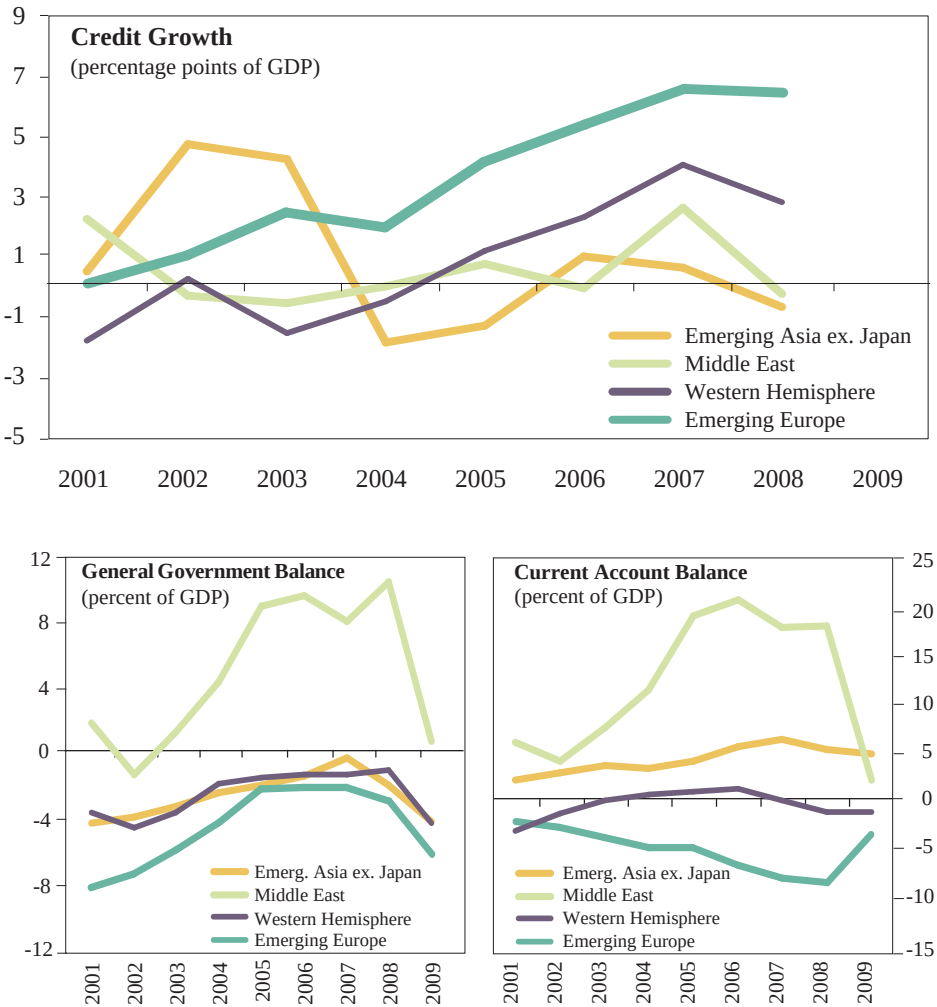
Other investment liabilities of non-banks inflows 1/



1/ Other investment liabilities, loans, other sectors (non-government, non-monetary authorities), net

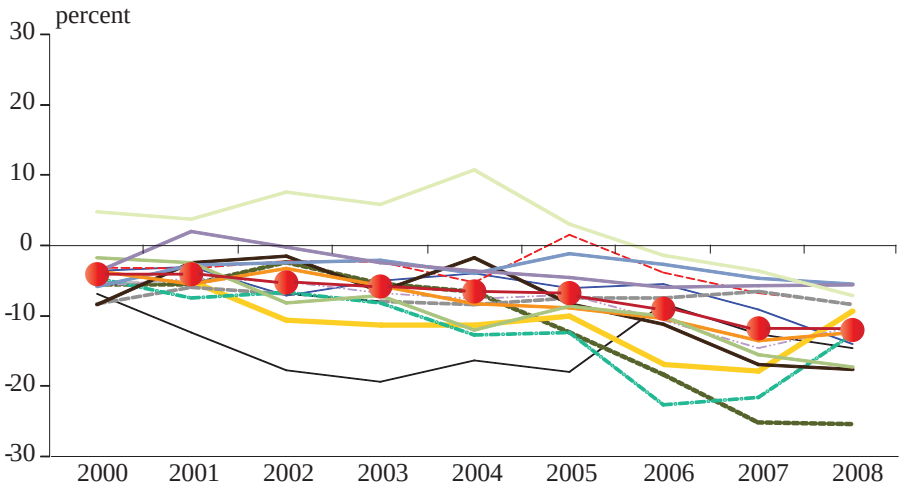
Source: IMF – International Financial Statistics and IMF staff estimates

Emerging European economies: macroeconomic performance by region, 2001-2009



Source: IMF – International Financial Statistics, IMF – World Economic Outlook and IMF staff estimates

Current account/GDP for Emerging Europe countries, 2000-2008

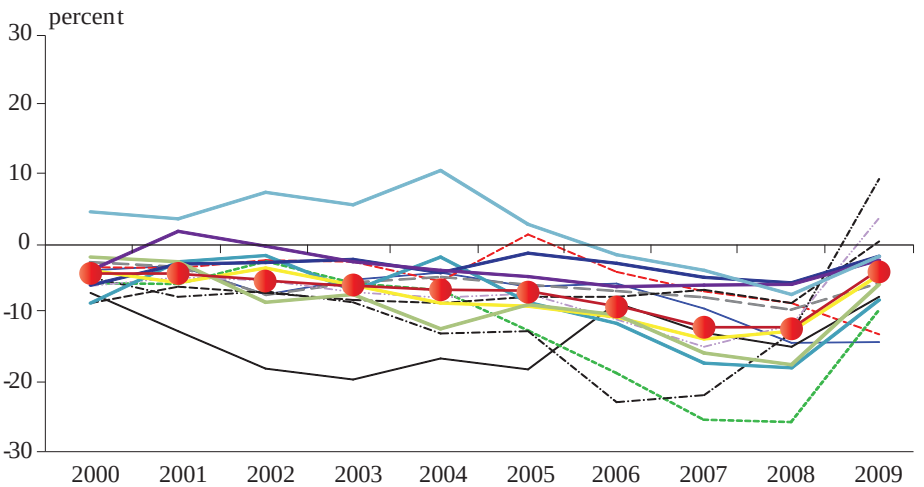


Source: IMF – International Financial Statistics

The counterpart of large capital inflows into Emerging European countries was a decline in current accounts during the past few years, albeit from a wide variety of levels.

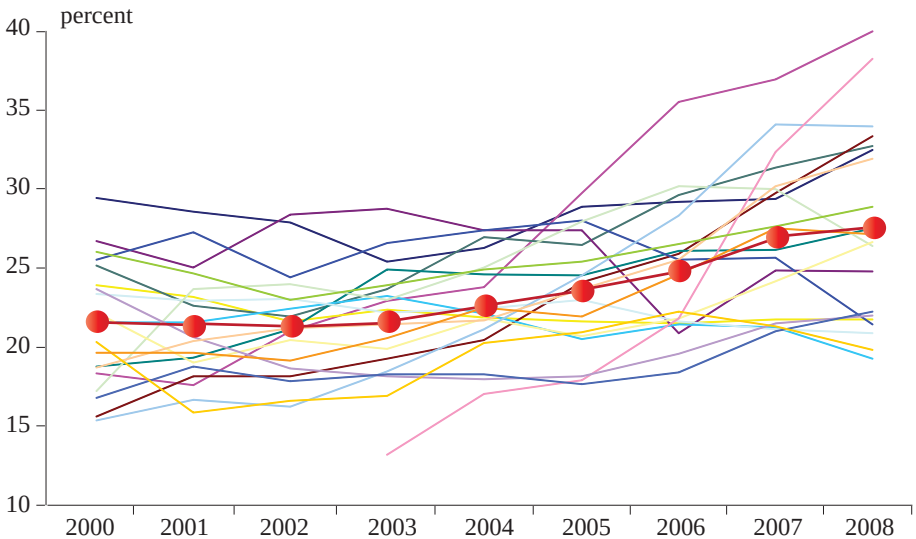
In 2009 current accounts improved significantly … is this good news?

Current account/GDP for Emerging Europe countries, 2000-2009



Source: IMF – International Financial Statistics

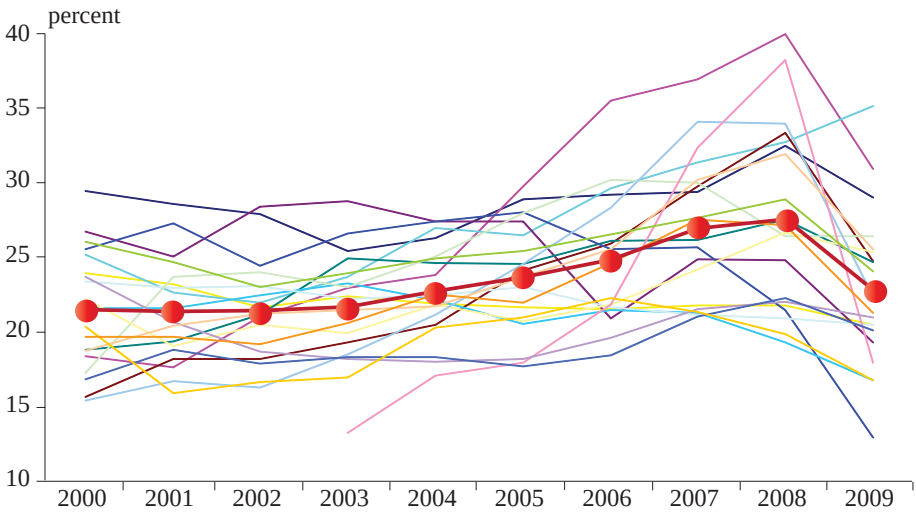
Investment/GDP for Emerging Europe countries, 2000-2008



Source: IMF – IFS. Countries include those on the seminar invitation list

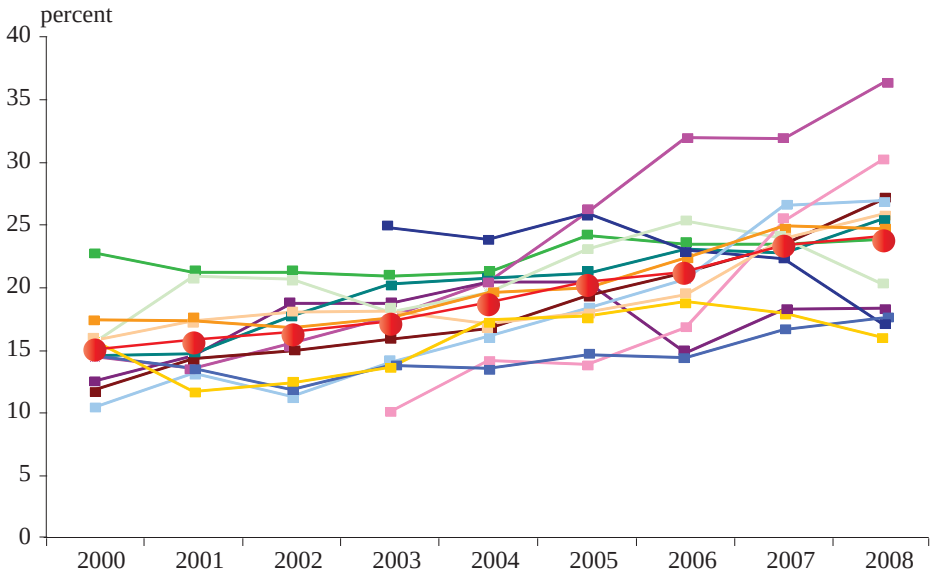
The initial inflows financed an increase in investment to GDP ratios.
The decline in inflows has been matched by an even larger decline in investment.

Investment/GDP for Emerging Europe countries, 2000-2009



Source: IMF – IFS. Countries include those on the seminar invitation list

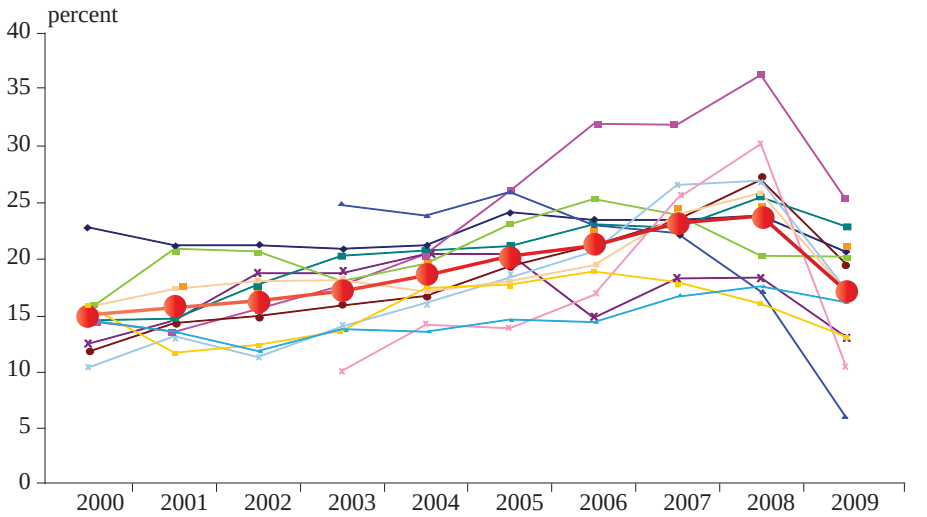
Private investment/GDP for Emerging Europe countries, 2000-2008



Source: IMF – IFS. Countries include those on the seminar invitation list

The initial increase in investment ratios came from the private sector ...

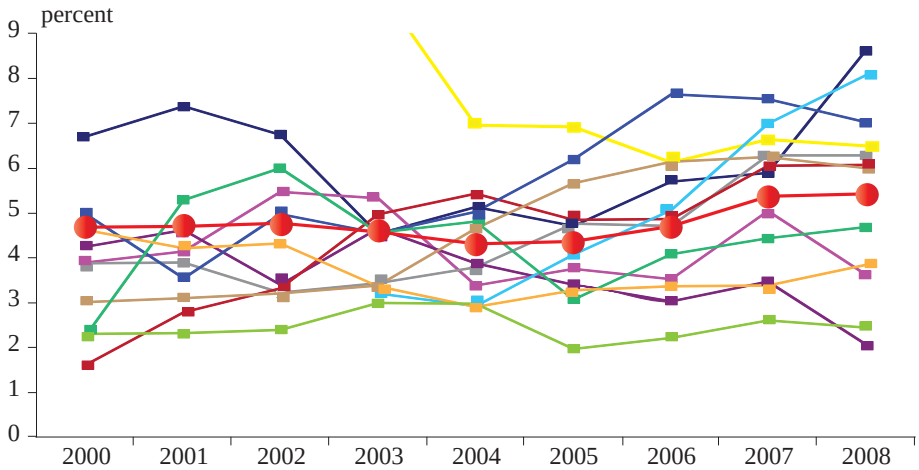
Private investment/GDP for Emerging Europe countries, 2000-2009



Source: IMF – IFS. Countries include those on the seminar invitation list

… and most of the fall has come from the private sector as well.

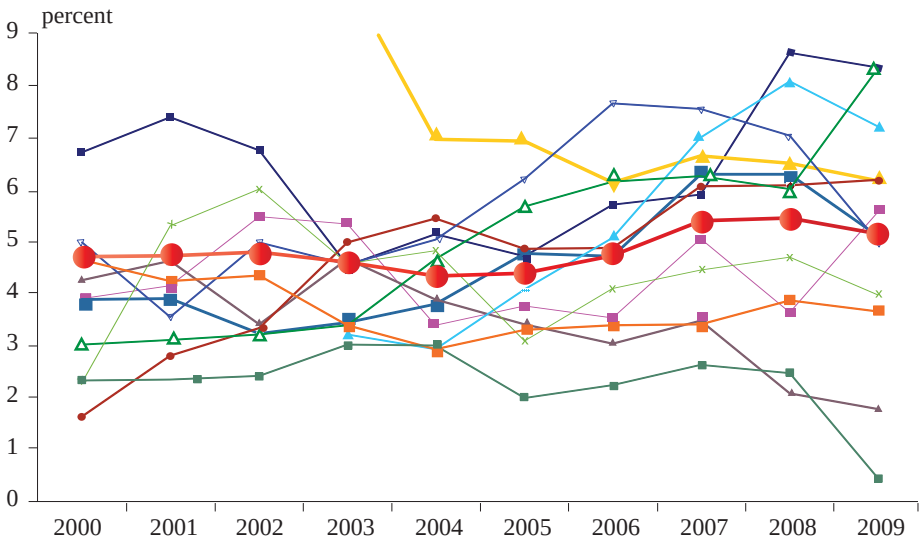
Public investment/GDP for Emerging Europe countries, 2000-2008



Source: IMF – IFS. Countries include those on the seminar invitation list

The public sector did not contribute as much to the increase in investment …

Public investment/GDP for Emerging Europe countries, 2000-2009



Source: IMF – IFS. Countries include those on the seminar invitation list

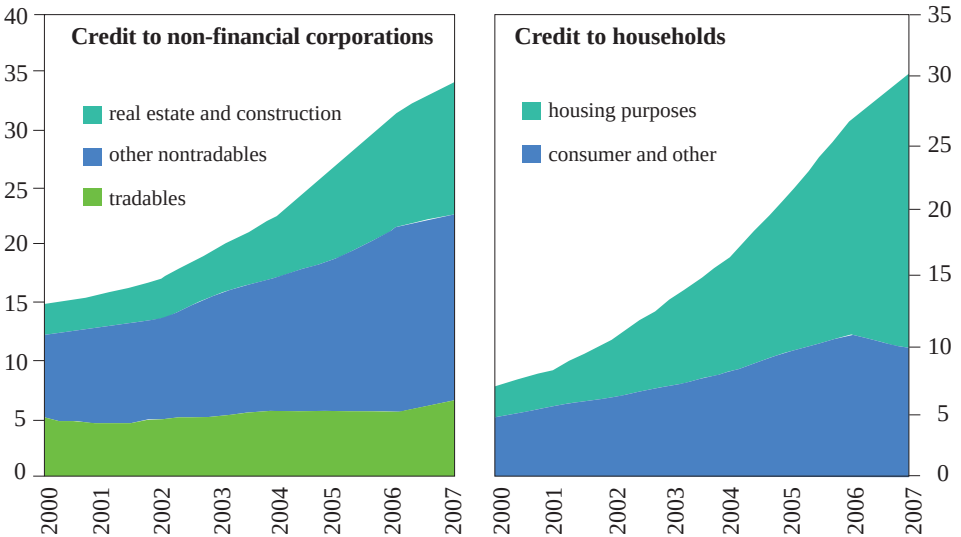
It has also made a small contribution to the decline, though this contribution could increase as budget constraints become more serious.

What will be the consequences of a decline in investment?

- Depends on the nature of the investments. Fewer houses will be built, but this doesn't impact productivity
- Lower investment in productive resources would be more damaging
- Much of the credit extended during the boom years was for real estate and nontradables.

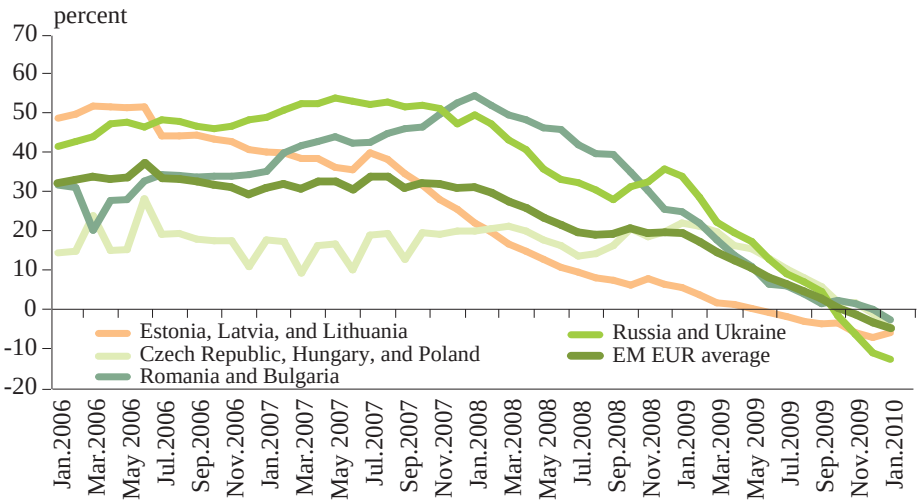
Composition of credit (2000-2007)

Credit (percent of GDP)



Countries: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Macedonia FYR, Romania, Serbia, Slovak Republic, Slovenia.

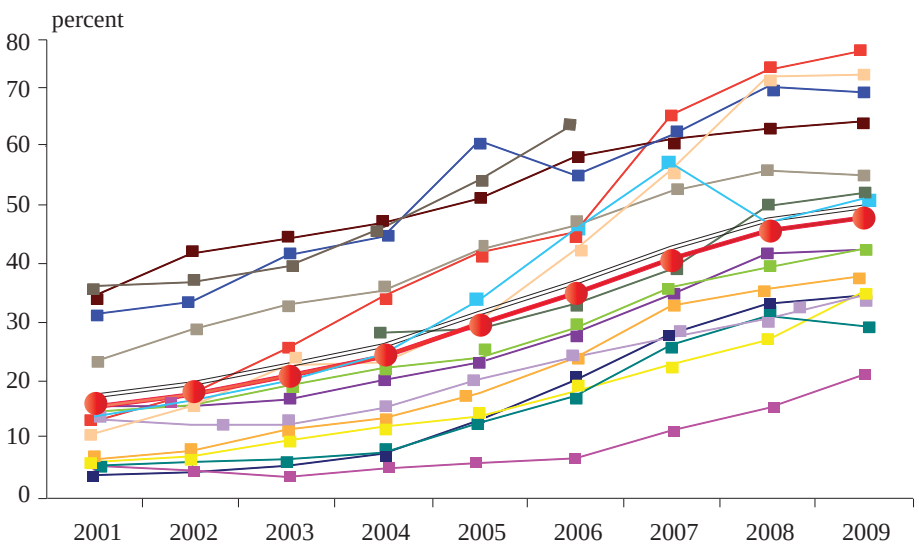
Growth of real credit to private sector, 2006 – Jan. 2010



Source: IMF – International Financial Statistics

The credit growth has dropped off steeply in 2009 …

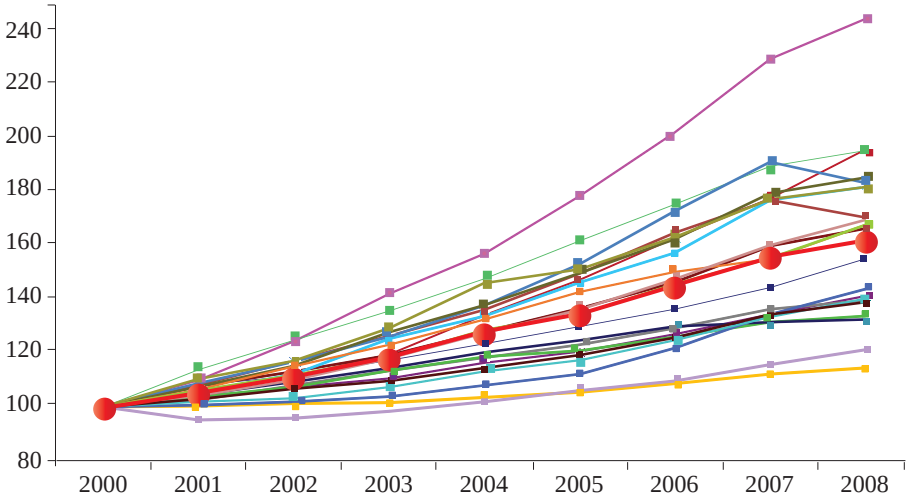
Credit to the private sector/GDP for Emerging Europe countries, 2001-2009



Source: IMF – IFS, IMF – World Economic Outlook

However, credit to GDP ratios have mostly continued to rise during the crisis (even if this is due to a reduction in the denominator in some cases) …

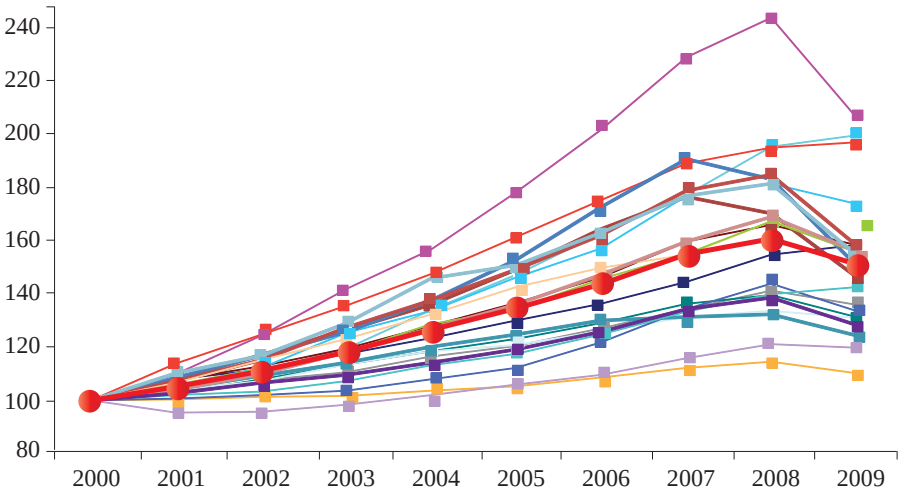
Real per capita GDP (2000 = 100) for Emerging Europe, 2000-2008



Source: IMF – IFS, IMF – World Economic Outlook

There were large gains in per capita GDP. Every country improved during 2004-2008.

Real per capita GDP (2000 = 100) for Emerging Europe, 2000-2009

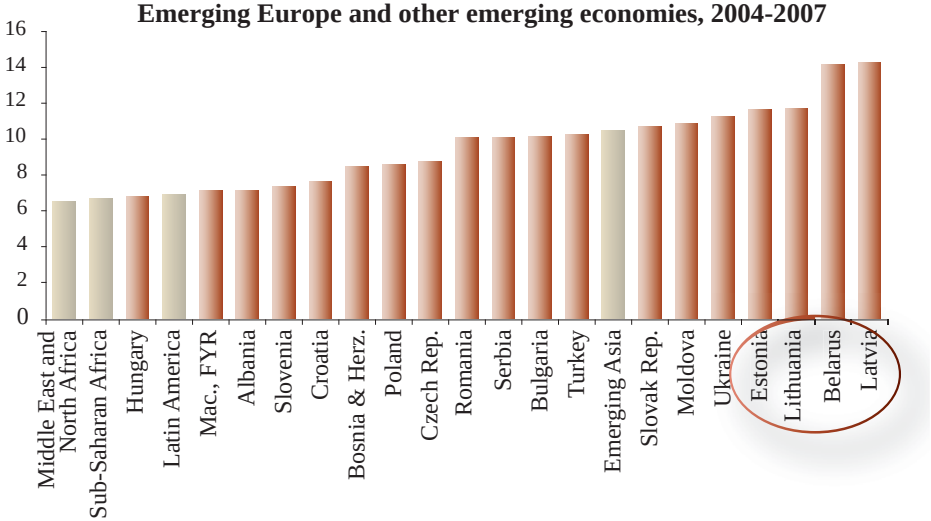


Source: IMF – IFS, IMF – World Economic Outlook

In 2009 many of the gains were lost, but even at the end of 2009 all countries had made substantial gains in per capita GDP relative to 2000 or even later.

Rapid precrisis growth in EM EUR: What about the Baltics?

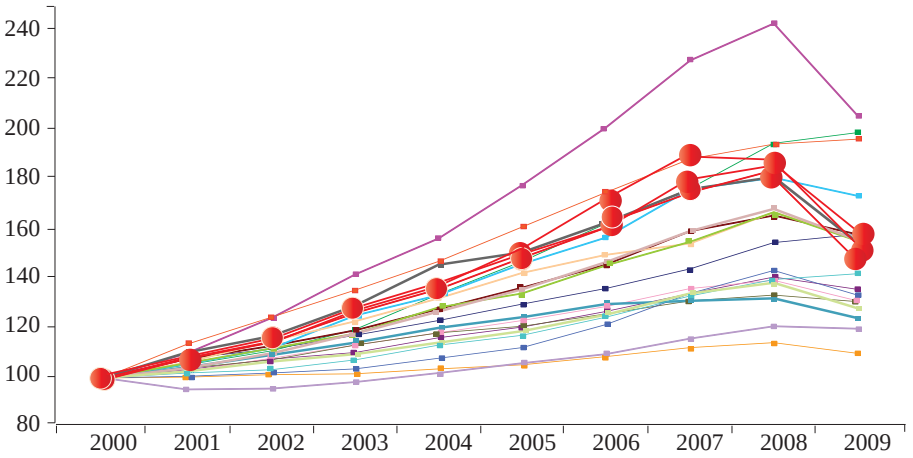
PPP per capita growth, annual average in percent, Emerging Europe and other emerging economies, 2004-2007



Source: IMF – World Economic Outlook

Real per capita GDP (2000 = 100) for Emerging Europe, 2000-2009

Baltic countries highlighted

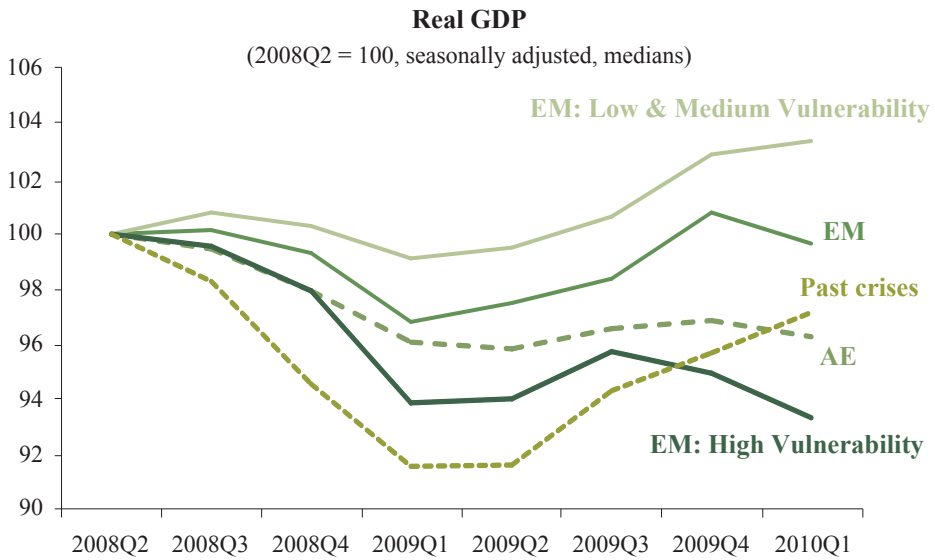


Source: IMF – IFS, IMF – World Economic Outlook

The Baltic countries had a fast rise and then a hard fall. But even after falling they were far ahead of where they started, and had improved more than many less risky countries.

Incomes increased, but unfortunately the story is not over …

Emerging market countries (world-wide, not just in Europe) that had higher vulnerability not only had harder falls, but are on a downward growth path as opposed to an upward growth path for other countries.



Source: "How Did Emerging Markets Cope in the Crisis?", IMF (2010), www.imf.org.

So was the boom of the 2000s undesirable?

- Per capita incomes increased significantly
- Investment to GDP ratios were still higher in 2009 than in 2003
- Countries with the most overheated growth experienced the same or higher increases as other countries, on average, in GDP per capita by 2009 (Baltics)
- Financial markets were more developed. Credit to the private sector as a ratio to GDP roughly tripled during the decade.

Questions:

How many of these benefits would have been realized anyway without inflows?

How harmful is income instability?

Can we do better?

Managing Capital Flows in Emerging Europe

Capital inflows are resuming

The question of whether or not countries benefitted or not from them is important.

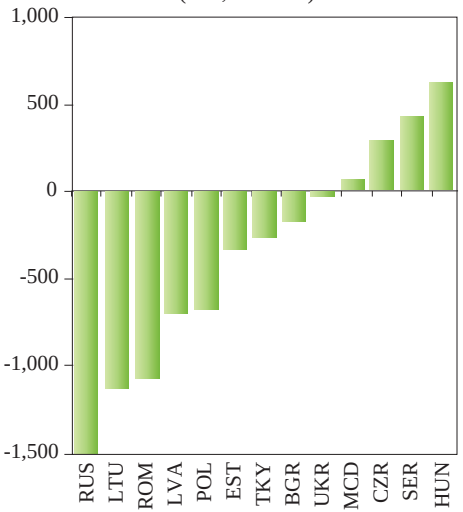
Advanced country liquidity measure

Source: "How Did Emerging Markets Cope in the Crisis?", IMF (2010), www.imf.org.

Current inflows to Emerging Europe vary across countries, with FDI recovering better than cross border bank loans:

Picture is mixed: crossborder loans in banks and corporates Dec. 2009 – Feb. 2010

(sum, EUR mn) 1/

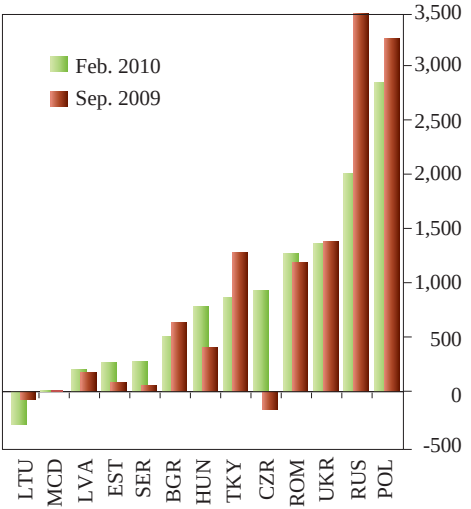


1/ Other investment liabilities of banks and corporates, net; Oct. 2009 – Dec. 2009 for HUN, MCD, SER, RUS, UKR; RUS: -4005 (banks & corporates), -6004 (banks)

Source: IMF – International Financial Statistics; Haver Analytics; various central bank websites and IMF staff calculations

Holding up: FDI inflows Sep. 2009 and Feb. 2010

(sum of previous 3 months, EUR mn) 1/



1/ Total FDI inflows, net; latest is Dec. 2009 for HUN, MCD, SER, RUS, UKR; RUS: 8617 (2009Q3)

Source: IMF – International Financial Statistics; Haver Analytics; various central bank websites and IMF staff calculations

Globalization has been associated with an increase in world imbalances

These imbalances originated recently from:

- China's export-oriented policies
- The boom in oil prices
- High savings in some Western Europeans countries with aging populations

Capital Inflows (ratio of world GDP)

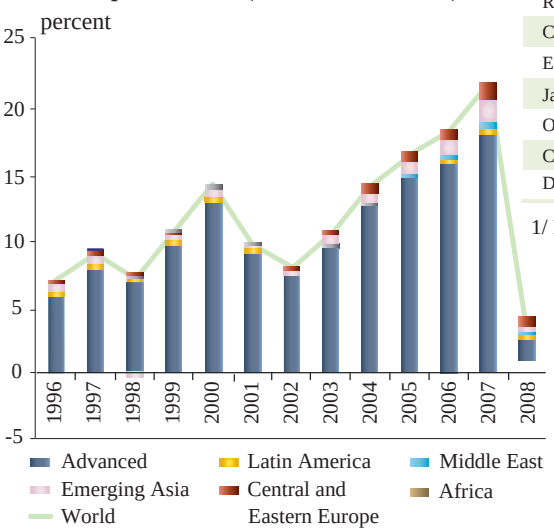


Table 1. Average current account balances
(percent of world GDP)

	1996-2000	2001-2004	2005-2008
United States	-0.8	-1.4	-1.4
Peripheral Europe 1/	-0.1	-0.4	-0.8
Rest of the World	-0.3	0.0	-0.3
China	0.1	0.1	0.6
Emerging Asia 1/	0.1	0.2	0.2
Japan	0.3	0.3	0.3
Oil exporters 1/	0.2	0.4	1.0
Core Europe 1/	0.2	0.4	0.7
Discrepancy	-0.3	-0.3	0.4

1/ Peripheral Europe - Greece, Ireland, Italy Portugal, Spain, United Kingdom, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic Turkey, Ukraine.

Global Imbalances: In Midstream?

Blanchard-Feretti, December 2010

There are good imbalances that can emerge from economic fundamentals:

- A country with **attractive investment opportunities** may finance part of its investment through foreign saving, and thus run a current account deficit
- **Deeper and more liquid financial markets** can attract investors, generating currency appreciation and a current account deficit. (Recent deepening in Emerging Europe)
- Countries whose **population is aging** faster than their trading partners' should save and run current account surpluses in anticipation of the dissaving that will occur once the workforce shrinks and the number of retirees rises … and vice-versa

- High private saving may reflect poor **social insurance** (so people need to save) or poor **firm governance**, which allows firms to retain and reinvest most of their earnings. Conversely, improvements in these areas can reduce savings.

Imbalances are not fully the fault of one country. If another large country (China, Germany, Saudi Arabia, …) has large imbalances it may be hard to resist counterpart imbalances.

Should a country engage in competitive export orientation?

However …

"Even if the factors behind current account balances are 'good', they may interact with other distortions to create inefficient outcomes or increase risks".

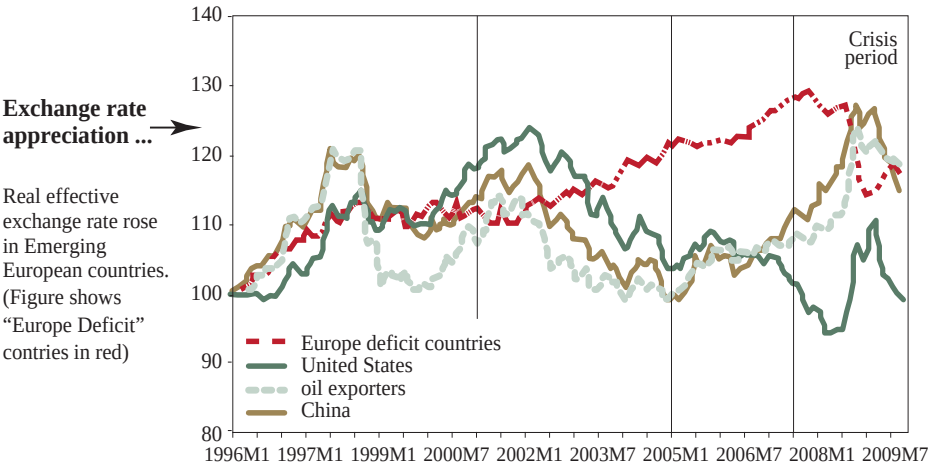
Risks:

- **Dutch Disease**: large current account deficits and real exchange rate appreciations can be difficult to unwind without a protracted real depreciation. This can be very painful when the exchange rate is fixed and partner country inflation is low
- **Capital flows** – particularly for smaller economies – may be volatile, leave in a hurry, and be disruptive.

Responses:

- **Address underlying distortions**: tradable sector externalities leading to Dutch Disease or underestimation of foreign exchange or liquidity risk by domestic borrowers
- **Correct the externalities through taxes or subsidies**, and limit the risks taken by domestic borrowers through prudential regulation or controls on capital flows.

Emerging European countries were exposed to both types of risks:



Source: Author's calculations based on IMF data

And rapid shifts in capital flows …

Average capital inflows Emerging Europe declined from about 20 percent of GDP in 2007Q4 to almost none in 2009Q3.

The drop was particularly abrupt for bank and corporate overseas borrowing.

The composition of capital flows varied across countries. In general, inflows to lower income countries were relatively more oriented towards FDI, with bank loans going to higher income countries.

Capital flows to Emerging Europe were similar to those in other emerging regions, with the exception of parent bank loans, which were much higher.

Assessment:

"**Current account deficits in emerging Europe were an example of an initially good thing later turning bad**, particularly in those countries where current account deficits as a ratio of GDP were in double digits, driven by credit and asset price booms".

Medium term outlook is for lower imbalances:

- Lower oil prices mean less savings by oil exporters
- Asset price busts, leading to a sharp contraction in domestic demand, including in Emerging Europe
- Global increase in home bias by investors = diminished willingness of foreign investors to finance large net external imbalances
- Reduction in demand for durable consumption and investment goods, a sharp contraction in exports in some surplus countries (Germany, Japan, …), and large reduction in their current account surplus.

Long term factors that will lower imbalances:

- Higher private savings rates as asset prices remain low
- Lower investment rates due to tighter regulation and more cautious lender behavior
- Higher risk premia on cross border flows.

But:

- Some Asian countries are showing a tendency to resist exchange rate appreciation and accumulate reserves
- Oil prices have been rising.

Capital inflows can be beneficial if managed properly

For emerging Europe, the key policy challenge will be attracting and harnessing healthy capital inflows to restore economic growth.

A healthy level of capital inflows requires a balance between domestic and external sources of economic growth.

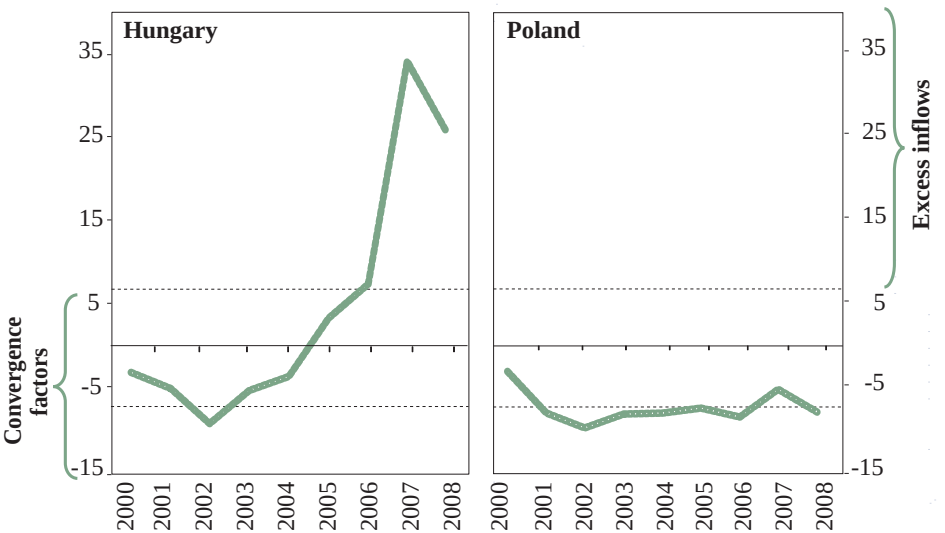
The main factors determining capital inflows are:

- Convergence factors (income, urbanization, services, reforms)
- Macroeconomic policies (exchange rate policies, monetary policies, fiscal policies)
- Macroprudential policies (capital outflow and inflow restrictions).

Lessons from the crisis

In some countries, inflows sometimes exceeded healthy levels that would correspond to convergence, often reflecting non-sustainable asset and credit booms.

Inflows into Hungary exceeded the range that could be explained by convergence factors, while inflows into Poland did not.



Note: The residuals are derived from a regression of overall inflows on convergence-related factors growth in real per capital income, urbanization, size of the service sector, progress on reforms, and privatization revenue.

Source: IMF staff calculations

Policy messages

Countries with insufficient inflows should address the underlying causes:

- Reorient the economy toward the tradable sector
- Support the private sector by
  - ⇨ Promoting good inter-sectoral labor mobility
  - ⇨ Addressing skill-mismatches
  - ⇨ Maintaining adequate infrastructure.

Countries already benefitting from adequate inflows should:

- Allow exchange rate flexibility where possible
- Maintain tight fiscal policies, in particular if the exchange rate is fixed

- Use prudential tools (e.g., capital requirements on foreign borrowing) to curb excessive risk-taking by banks
- Resort to *temporary* capital controls, if necessary.

All Emerging European countries should strengthening their financial stability frameworks.

Outlook for Recovery and Key Policy Challenges

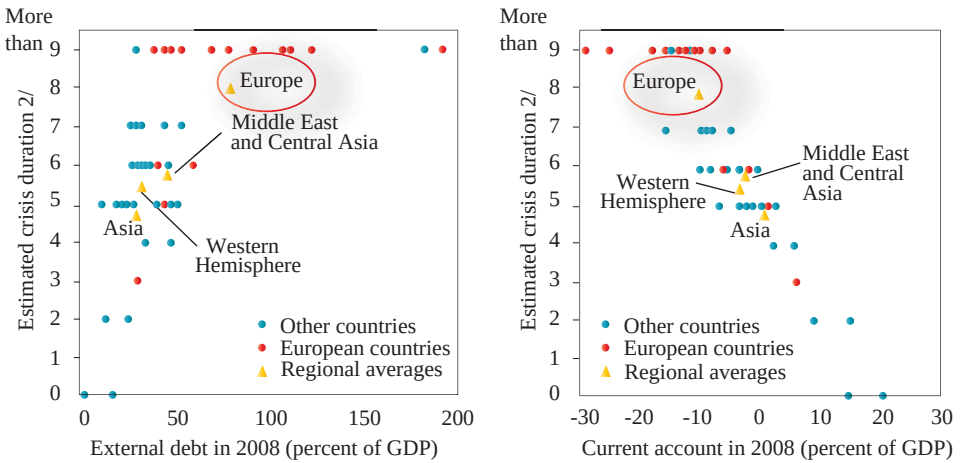
Outlook for Recovery

Model of crisis duration

Mecagni et al. (2007)

There is a strong negative relationship between current account to GDP and estimated crisis duration (ECD), and a strong positive relationship between debt and ECD.

Emerging markets: estimated crisis duration and initial conditions 1/



1/ Duration model is estimated in Mecagni and others (2007).
2/ Measured as number of quarters in which probability of exiting from the crisis reaches 0.5.

Source: IMF – World Economic Outlook and International Financial Statistics; Bloomberg L.P. and IMF staff estimates

Mecagni et al. estimate that countries with larger current account deficits would have longer crises, and that the average duration of the present crisis in Europe would be longer than in other regions, at about two years on average, but longer in some countries.

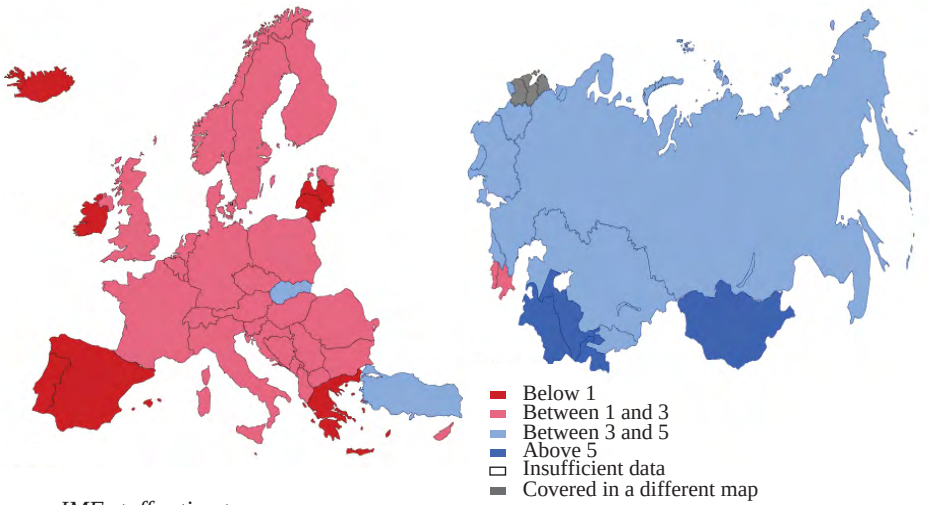
IMF world economic outlook forecast

Selected European Economies: real GDP, consumer prices and current account balance

(annual percent change unless noted otherwise)

	Real GDP				Consumer prices				Current account balance			
			Projections				Projections				Projections	
	2008	2009	2010	2011	2008	2009	2010	2011	2008	2009	2010	2011
Europe	1.0	-4.0	1.3	1.9	4.0	1.2	2.0	1.7	-0.7	0.2	0.3	0.4
Emerging Europe	2.9	-3.8	2.9	3.4	8.0	4.7	5.3	3.6	-7.3	-2.0	-3.3	-3.6

Average real GDP growth during 2010-2011



Source: IMF staff estimates

- Modest growth for most of Emerging Europe, below pre-crisis levels
- Unemployment will remain elevated or increase in many countries
- Worsening of current account deficits, but not to pre-crisis levels
- Modest inflation
- Downside risks more pronounced than a year ago.

Credit will likely be constrained by:

- Banking sector issues, including continued deleveraging and capital buffers
- Uncertainty about future bank restructuring
- Need to absorb additional write downs.

Final conclusions and recommendations

Emerging Europe's exposure to the crisis has been exacerbated by vulnerabilities related to the large capital inflows earlier in the decade.

However these inflows generated benefits in early years that at least partly counterbalance the losses experienced recently. Capital flows can be good.

The challenge moving forward is to manage capital flows in a responsible way so that benefits continue to be realized while minimizing risks.

When capital flows exceed levels that can be explained by economic fundamentals, the underlying causes of the imbalances should be addressed rather than the imbalances themselves.

In all cases, risk should be reduced by strengthening financial stability frameworks.

Looking forward:

The costs and limits of crisis interventions are a growing concern. Countries need to plan strategies based on a limited amount of available stimulus funding.

Exit strategies are needed. The persistence of blanket crisis measures in the financial sector can allow banks to postpone restructuring and prolong fragilities. Blanket guarantees and liquidity support must be gradually replaced by specific interventions in individual institutions.

CORPORATE LENDING DURING THE CRISIS IN THE CEE REGION

Fábián Gergely*

Did/Could Banks Give Helping Hands in the CEE Region?

Source: Economist, printed edition, August 28, 2010

What determines credit aggregates?

Supply ⟶ price and non-price credit conditions

- Lending capacity (Capital, Access to market finance, Liquidity)
- Lending inclination (risk appetite)
- Parent bank behavior.

* Financial Stability Department, Magyar Nemzeti Bank

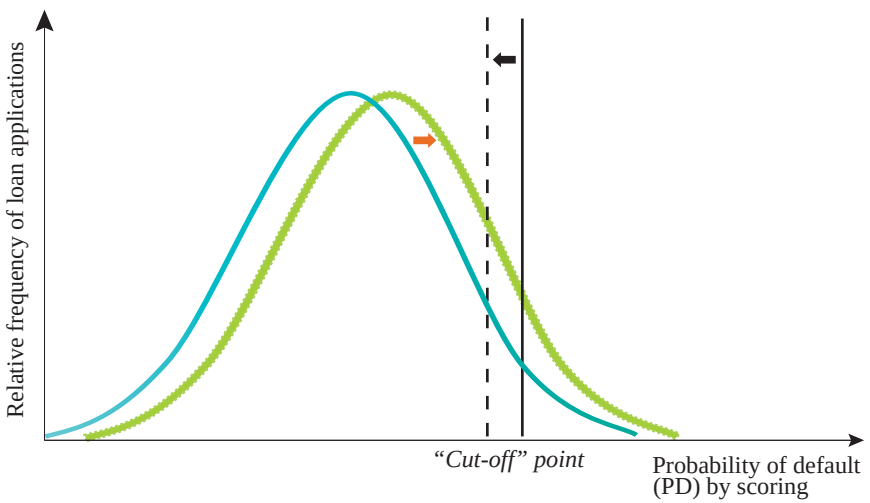
Demand

- Economic growth/outlook ⟶ **Endogenity**
- Substitution

Other?

- Distribution of PD

Risk taking and portfolio deterioration

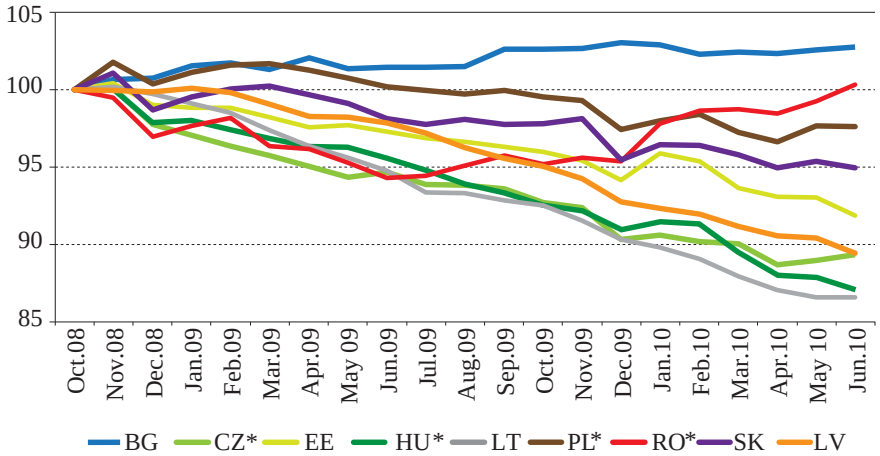


Source: Based on Michel Crouhy, Dan Galai, Rober Mark (2006): The essentials of risk management, McGraw-Hill

Stylized facts

The drop in banks' corporate lending is one of the largest in Hungary ...

(The outstanding amount of non-financial corporate loans by banks (Oct. 2008 = 100) in the CEE region)

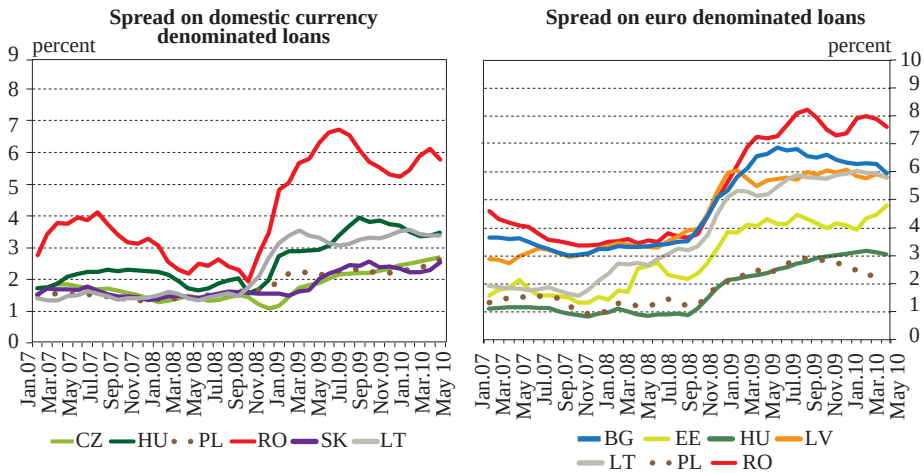


* refers to exchange rate adjustment

Source: central banks of the countries

... while interest rate spread is one of the lowest in the case of euro denominated loans ...

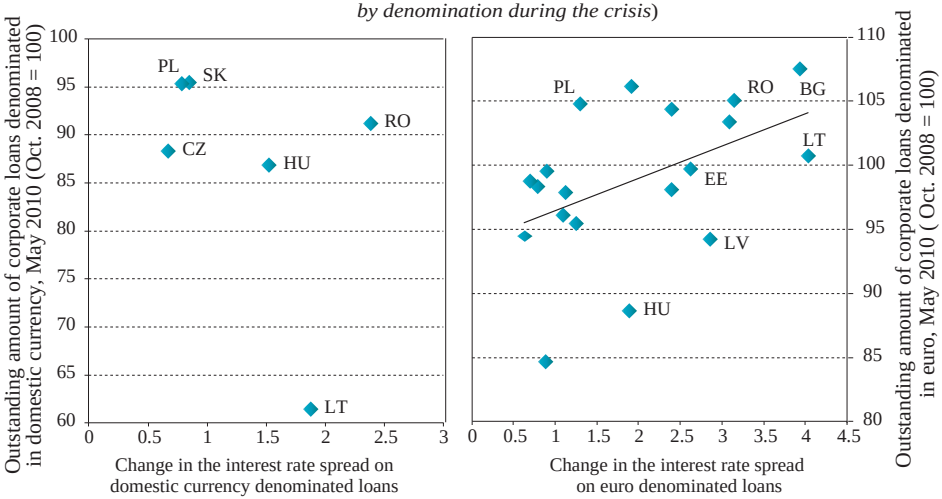
(Interest rate spread on new loan volumes denominate in euro and domestic currency)



Source: central banks of the countries

... which points to a flight-to-quality rather than classic negative demand shock!

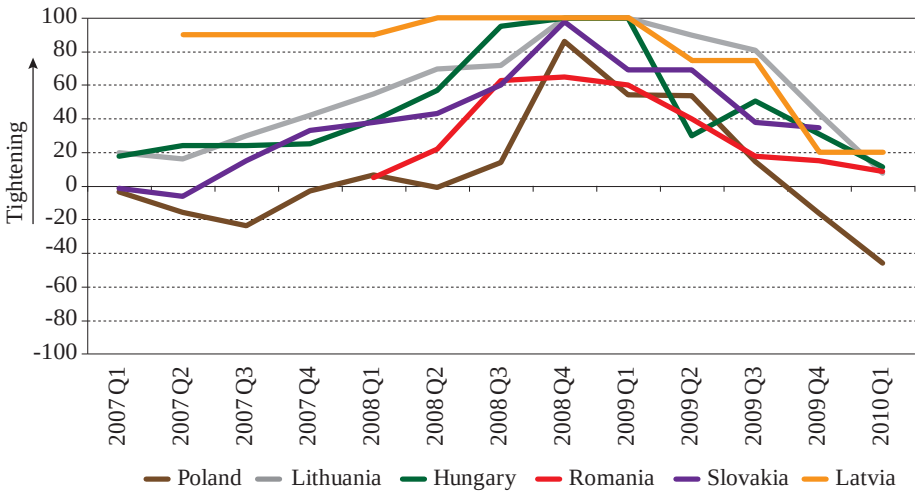
(*The relation between the interest rate spread change and corporate lending contraction by denomination during the crisis*)



Source: central banks of the countries

On the supply side banks tightened their credit conditions ...

(*Change in credit conditions - net percentage balance of banks reporting tightening and easing)*

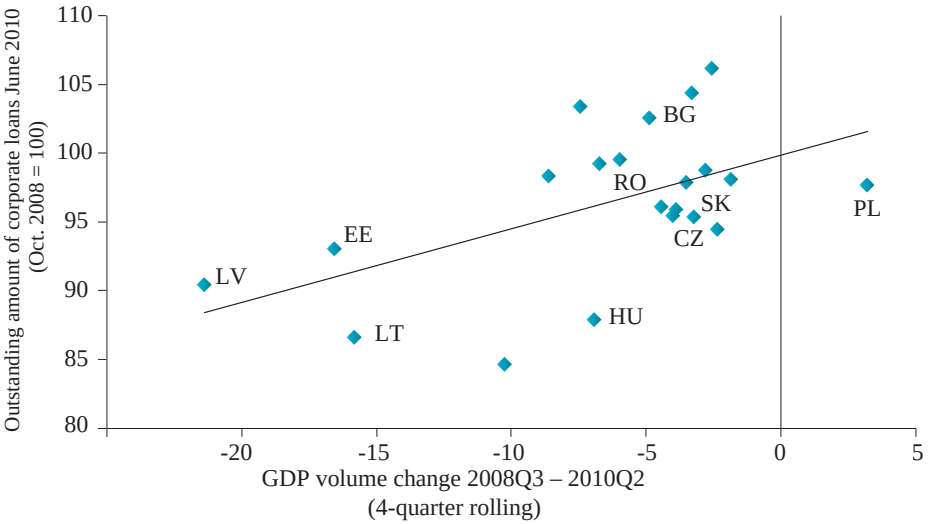


Note: Data only shows the direction not the magnitude of the tightening

Source: central banks of the countries

... and demand for loans decreased as well due to the contraction in economy ...

(*The relation between the GDP growth rate and corporate lending contraction during the crisis*)



Source: ECB, central banks of the countries

… but in Hungary banks perceived increasing demand

(*Change in perceived demand - net percentage balance of banks reporting increase and decrease*)

Countries		2007-2008 Q2	2008 H2	2009	2010 H1
Poland		increase	increase	unchanged	increase
Lithuania		increase	decrease	decrease	decrease
Romania		-	increase	decrease	decrease
Slovakia		increase	decrease	decrease	-
Latvia		unchanged	decrease	decrease	-
Hungary	Total	unchanged	increase	increase	increase
	Investment loans	-	decrease	decrease	increase

Source: ECB, central banks of the countries

The lending survey, macroeconomic data and price-quantity relation point to a flight-to-quality behavior especially in Hungary, but what can explain this sort of supply behavior?

Marked differences in the NPL ratio, profitability and loan-to-deposit ratio ...

(Characteristics of the banking sectors in 2009)

	Loan-to-deposit ratio	ROA	ROA (domestic banks)	Tier 1 ratio	Tier 1 ratio (parent banks)	NPL	Change in NPL 2008 - May 2010
Bulgaria	126.0	1.1	1.4	17.5	10.6	8.2	9.0
Czech Rep.	75.0	1.4	1.1	17.2	10.3	5.7	2.8
Hungary	143.0	1.7	1.3	11.9	10.4	7.4	4.4
Estonia	190.0	-3.4	-0.1	9.4	10.4	4.1	2.8
Latvia	255.0	-4.0	-2.9	10.8	8.6	19.6	15.2
Lithuania	169.0	-3.9	-0.8	8.0	9.4	4.6	14.7
Poland	105.0	0.8	1.1	12.1	10.0	8.0	4.7
Romania	118.0	0.5	0.6	12.9	10.0	11.6	9.2
Slovakia	87.0	0.5	1.1	11.6	10.4	5.4	4.0
Euro area	107.0	0.2	-	10.1	-	4.2	2.0

Source: ECB, Autonomous Research, Bankscope

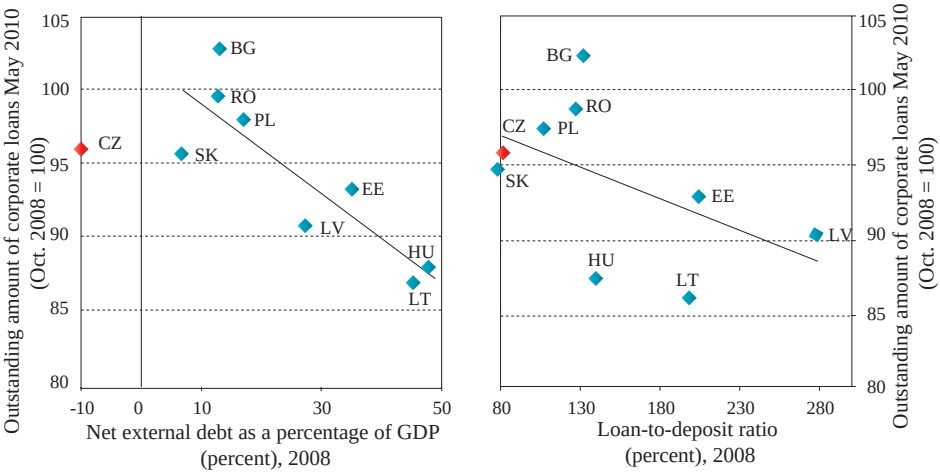
... and marked differences on the liability side

	External liabilities/ Total liabilities (2008)	External liabilities/ Total liabilities (June 2010)	Change in external liabilities (as a percentage of total liabilities)	Private sector deposits/Total liabilities (2008)	Private sector deposits/Total liabilities (June 2010)	Change in private sector deposits (as a percentage of total liabilities)
Bulgaria	26.2	19.8	-6.4	52.9	55.7	2.8
Czech Rep.	9.8	8.1	-1.7	55.9	58.8	2.9
Hungary	25.4	26.1	0.7	35.8	35.2	-0.6
Estonia	43.4	40.5	-3.0	34.4	38.6	4.2
Latvia	58.6	49.3	-9.3	23.8	26.5	2.7
Lithuania	45.8	36.3	-9.5	38.3	42.5	4.2
Poland	14.9	15.6	0.7	52.9	54.5	1.6
Romania	29.7	26.3	-3.4	44.2	46.6	2.4
Slovakia	4.6	3.9	-0.7	52.4	61.9	9.5
Euro area	15.0	13.7	-1.3	29.3	31.6	2.3

Source: ECB, central banks of the countries

All clues lead to the vulnerability of the banking sector and the country

(The relation between the loan-to-deposit ratio/net external debt and corporate lending contraction during the crisis)



Source: ECB, central banks of the countries

Conclusions

- One of the biggest drop in the outstanding amount of corporate loans occured in Hungary within the CEE region during the recent crisis
- Supply had a more pronounced role in corporate lending contraction in Hungary than in other CEE countries
- It can be attributed to the financing vulnerability of the banking sector and the country.

Characteristics of corporate lending, 2009

	Corporate loans by banks (as a percentage of GDP)	Corporate loans total (as a percentage of GDP)	FX denominated corporate loans/total corp. loans	FX denominated loans/total loans	Average credit growth (2007-2008)
Bulgaria	46	120	75.3	58.1	49.6
Czech Rep.	21	41	18.1	8.2	15.2
Hungary	27	67	57.7	64.5	14.9
Estonia	52	47	91.5	86.9	15.9
Latvia	50	75	94.4	92.2	23.2
Lithuania	35	46	74.9	73.4	24.0
Poland	15	36	23.7	32.8	25.3
Romania	20	48	59.5	60.3	33.7
Slovakia	22	28	2.4	1.1	17.1
Euro area	52	74	n.a.	n.a.	10.0

Source: ECB, Eurostat, central banks of the countries

TO WHAT EXTENT HAS THE CRISIS AFFECTED THE ROMANIAN BANKING SYSTEM?

Florin Bălăuță*

During 2009 and 2010 H1 there were not significant changes of the number of credit institutions, their shareholding and the concentration degree of the banking system

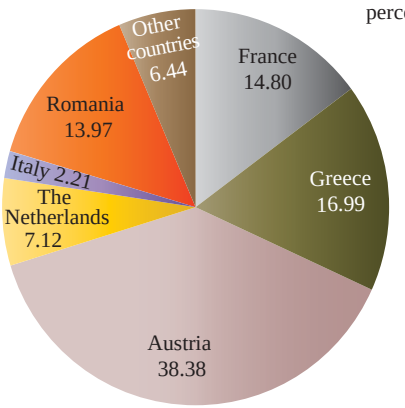
Indicators of the Romanian banking system

	2007	2008	2009	2010 Q1	2010 Q2
Number of credit institutions	42	43	42	42	42
Number of banks with majority private capital	40	41	40	40	40
Number of banks with majority foreign capital	36	37	35	35	35
Assets of banks with majority private capital/Total assets (%)	94.7	94.6	92.5	92.8	93.2
Assets of banks with majority foreign capital/Total assets (%)	88	88.2	85.3	85.7	86.1
Assets of top five banks/Total assets (%)	56.3	54.3	52.4	53.2	53.1
Herfindahl-Hirschmann Index	1,046	926	857	865	874

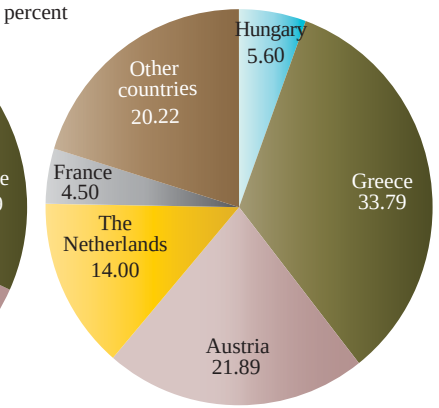
Source: NBR

The large presence of foreign banks in the Romanian banking system was maintained

Market share of credit institutions by structure of shareholding



Credit institutions' share capital by country of origin as at 30 June 2010



Source: NBR

* Financial Stability Department, National Bank of Romania

Over the last six months (end-June 2010 compared to end-December 2009) the capital adequacy ratio decreased by 0.4 pp, ROE decreased by 4.5 pp, while the NPLs/total loans increased by 2.3 pp

percent

Financial condition (all banks)	2010 Q2	2010 Q1	2009	2008
Capital adequacy ratio	14.3	15.0	14.7	13.8
Return on equity [1)]	-1.6	6.0	2.9	17.0
Non-performing loans [2)]/ Total loans	10.2	9.1	7.9	2.7

1) Net income (annualized) to average equity capital

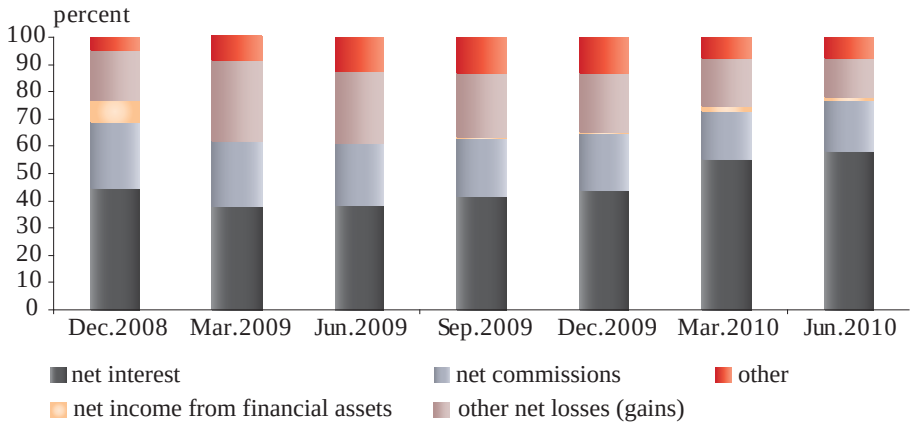
2) Non-performing loans (loans and interest to non-banking debtors overdue by more than 90 days and/or with judicial proceedings initiated) as a percentage of total loans and interest.

The Romanian banking system remained adequately capitalized

- The Romanian banking system remained adequately capitalized with a capital adequacy ratio of 14.7 percent in December 2009, 15 percent in 2010 Q1 and 14.3 percent in 2010 Q2 (significantly higher than the minimum regulated level of 8 percent), with all banks having this ratio above 10 percent
- Credit institutions' own sources increased due to: (i) capital increases performed by shareholders, (ii) new subordinated loans granted by parent undertakings and (iii) the channelling of a substantial share of the 2008 profits into reserves
- The nine largest foreign-owned banking groups have complied with the terms of the European Bank Co-ordination Initiative, broadly maintaining their exposure at March 2009 levels and making new capital injections in order to conserve a minimum solvency ratio of 10 percent.

The main sources of operating income were interest, foreign exchange transactions and commissions

The share of main sources in total operating income



Source: NBR

Even if operating profit increased, the large growth of the loan loss provisions mainly caused the losses of the banking system at end-June 2010

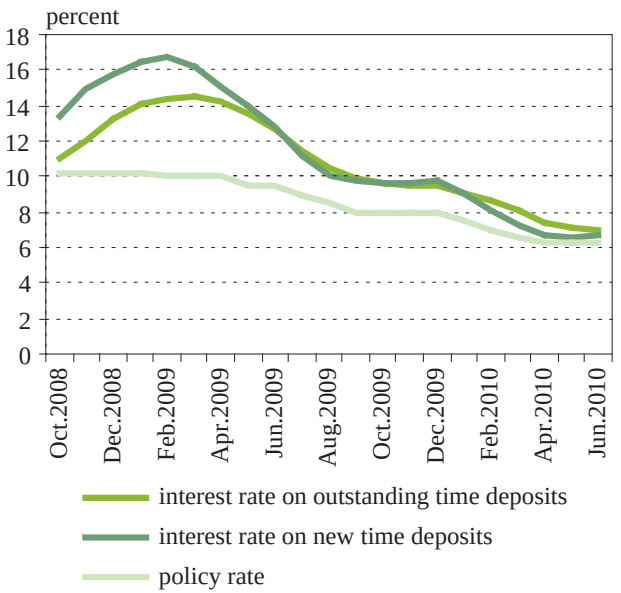
- In June 2010, operating profit stood 21 percent above the figure recorded in the same year-ago period, with operating income decreasing at a slower pace than operating costs (-3 percent and -15 percent respectively)
- Net interest income increased by 20 percentage points year on year reaching 58 percent in operational revenues, under a 47 percent rise of interest income and a 47 percent reduction of interest expense
- Non-interest income contracted by 20 percentage points year on year
- The increase of the loan loss provisions by 71 percent year on year mainly caused the losses of the banking system as of end-June 2010.

Bank asset quality recorded some worsening, with credit risk remaining the main vulnerability of the banking sector

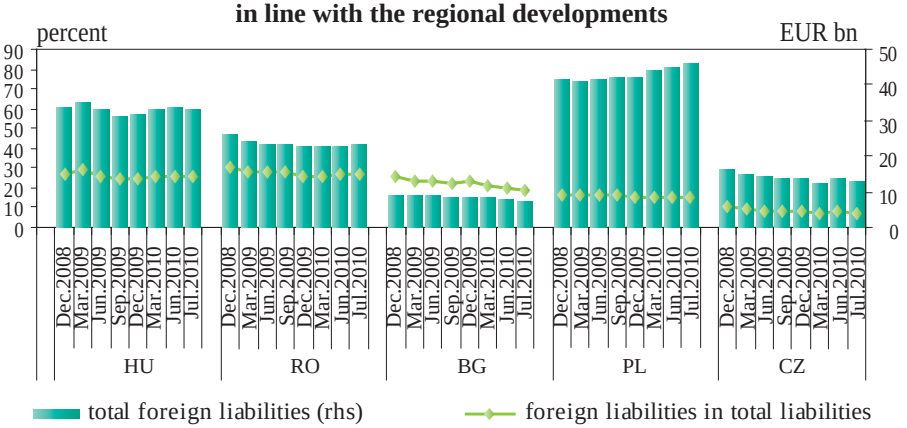
As a general trend, asset quality continued to deteriorate in 2010, due to the delay in economic recovery. The share of loans classified in "Loss 2" (defined as loans and interest to non-banking debtors overdue by more than 90 days and/or with judicial proceedings initiated) grew from 7.9 percent in December 2009 to 9.1 percent in 2010 Q1 and 10.2 percent in 2010 Q2 respectively.

Loan/deposit ratio in the non-government sector improved. Deposits attracted from households and companies remained the main source of assets' financing

The competition among banks as concerns limited saving resources was reflected by the increase in interest rates on new leu-denominated deposits, which were about 7 percentage points higher than the policy rate as of February 2009, then followed a slight downward trend.



Although the share of foreign liabilities in total liabilities of the banking system exceeded further those recorded by some CEE states, the reliance on external financing was lower than in the same year-ago period, in line with the regional developments



Source: ECB

Liquidity risk was lower than in the same period a year earlier

- Domestic interbank deposits further held a small share in total liabilities, i.e. 2.4 percent, the transmission of the contamination risk in the banking system via this channel being contained. The results of interbank contamination test reveal a low systemic risk, with interbank bilateral exposure being generally small as compared with equity and liquid assets of banks
- The immediate liquidity[1] – of the banking system rose by 2.2 percentage points to 35.9 percent at end-June 2010, the liquid assets/short-term liability ratio stood at 146.7 percent, whereas the liquidity indicator calculated in compliance with regulations in force[2] – was of 1.35, exceeding the minimum regulated level of 1
- According to regulations in force, the NBR required credit institutions to draw up in-depth strategies on liquidity risk management in the context of crisis. The NBR ensured the appropriate management of liquidity in the banking system by the active use of money market operations.

To what extent has the financial crisis affected the financial stability of the Romanian banking system?

- Financial stability remained robust although confronted with significant challenges
- Banks' capitalization increased to comfortable levels
- Credit risk remains our banking sector major vulnerability
- In 2010 H1, profitability entered negative territory, owing particularly to higher expenses related to provisions
- The maturities of up to one year prevailing in the case of deposits taken from households and non-financial corporations, as well as the external short-term debt of banks are further potential vulnerabilities to the possible global liquidity shortages and to those specific to parent banks. Liquidity risk was lower than in the same year-ago period, given the commitments assumed by the parent banks of the nine largest foreign credit institutions to maintain their exposure to Romania, the external financing arrangement, the NBR liquidity supply via monetary policy operations and banks' efforts to preserve and increase domestic sources.

[1] Holdings and deposits with banks + unpledged securities / Total liabilities.

[2] As a ratio of effective liquidity to required liquidity, by each maturity band, in compliance with NBR Norms No. 1/2001 on banks' liquidity, as subsequently amended and supplemented, and NBR Norms No. 24/2009.

SESSION 2

THE IMPACT OF THE GROWING REGIONAL BANKING SYSTEMS' INTERCONNECTIONS

STRESS TESTING AFTER THE GLOBAL FINANCIAL CRISIS

Dr. Heiko Hesse*

Problems with stress tests prior to the crisis

- Scenarios were not severe enough and (sometimes) lulled policymakers into a false sense of security (Borio and Drehmann, 2009)
- The focus was predominantly on solvency risk and not liquidity risk. During the crisis even solvent financial institutions have become vulnerable to a *rapid* evaporation of their bank liquidity with the closure of funding markets (BCBS, 2008)
- Liquidity stress tests often did not adequately take into consideration key off-balance sheet positions, and stress test scenarios often did not consider the possibility of liquidity tail risk events
- In hindsight, it has become evident that regulators in the pre-crisis period focused their supervisory efforts on individual financial institutions and not their contribution to overall systemic risk.

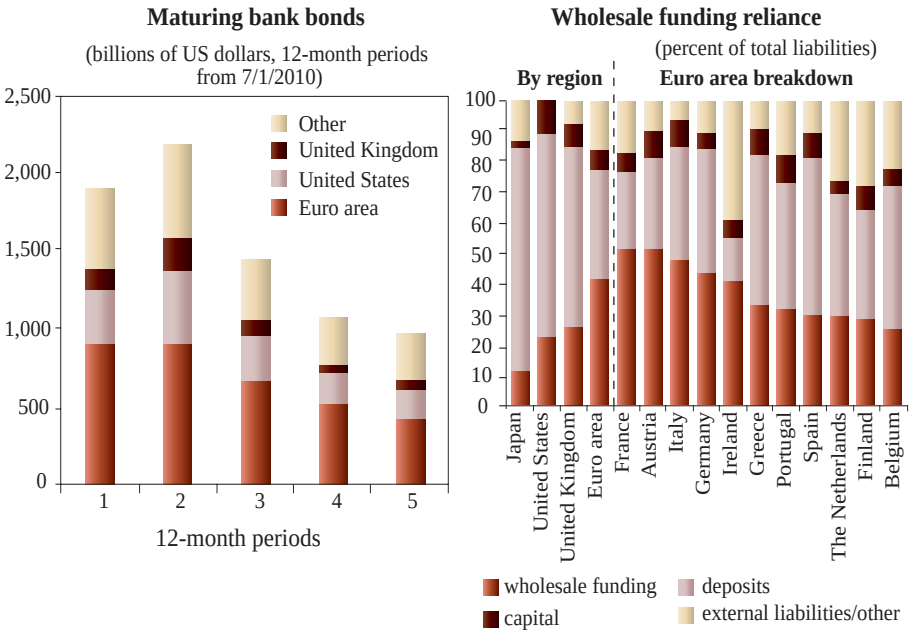
Liquidity risks and the global financial crisis

- While liquidity risks have traditionally played a less important role than solvency risks, they have come to the forefront during the global financial crisis
- Evaporation of funding and market liquidity; liquidity spillovers
- Run on retail deposits (e.g. Northern Rock) and wholesale funding (interbanking squeeze in different countries including Eastern Europe)
- Illiquidity problems turning into insolvency and vice-versa

* International Monetary Fund
Note: The views expressed here are those of the authors and should not be attributed to the IMF, its Executive Board, or its management. Any errors and omissions are the sole responsibility of the authors.

- Strong policy measures (blanket deposit guarantees, CB liquidity provisions)
- Besides finalized Basel III capital standards, new proposed minimum liquidity standards including liquidity coverage ratio and net stable funding ratio
- Focus on stress testing liquidity risks.

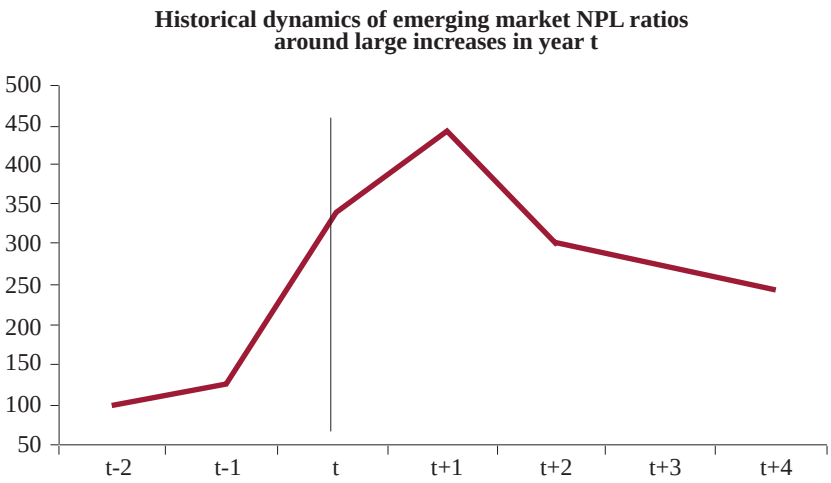
Funding pressures and wholesale funding reliance



Source: Moody's

Source: Bank of Japan, European Central Bank, Federal Reserve

Countries that experienced increases in NPLs can expect to see higher levels for years to come

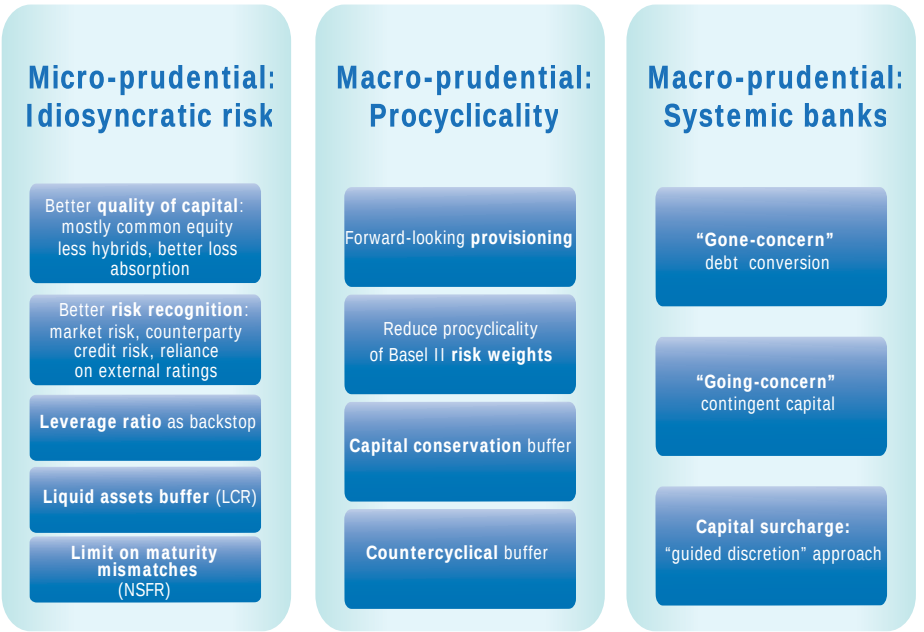


Note: Average of indices for Argentina, Chile, Colombia, Dominican Republic, Indonesia, Malaysia, Philippines, Turkey, and Uruguay

Source: IMF staff estimates

"The data reveal that emerging market NPL ratios tend to rise rapidly in a crisis, and remain more than twice as high as before the initial shock for more than four years. … Simulations suggest that NPL ratios will peak during 2010 in most CEE countries under the WEO baseline scenario for GDP growth" – IMF April 2010 GFSR.

Overview of Basel proposals



European Stress Tests

Outline of the European stress testing exercise

91 banks from 20 countries tested

Goal – to restore market confidence by providing:

- Credible and transparent assessment of remaining vulnerabilities, and
- Meaningful backstopping measures to strengthen the financial system.

Threshold to pass the test:

- Post-shock Tier 1 Capital Ratio > 6 percent
  (Basel II Minimum: 4 percent; US Test: 4 percent Common/Core Tier 1 & 6 percent Tier 1)

Three scenarios:

- Benchmark (Baseline)
- Adverse macroeconomic development
- Adverse & Sovereign Risk Shock.

Results:

- 7 banks failed the test, capital needs EUR 3.5 bn
- 5 Spanish banks, 1 German bank, 1 Greek bank
- 11 banks were "near misses" (Post-shock T1 Ratio below 6.6 percent).

What were the benefits of the European stress tests?

1. Positive market reaction

Markets appreciated the increased transparency and the absence of unexpected negative outcomes, including large sovereign exposures.

The tests provided market participants with a more transparent view of systemic vulnerabilities.

Market participants can and will do their own tests. If some tests were too benign, the data are publicly available for performing stricter tests.

2. Recapitalization opportunities for failed banks

It was announced that banks that failed the tests would be given needed recapitalization.

Lessons from the tests

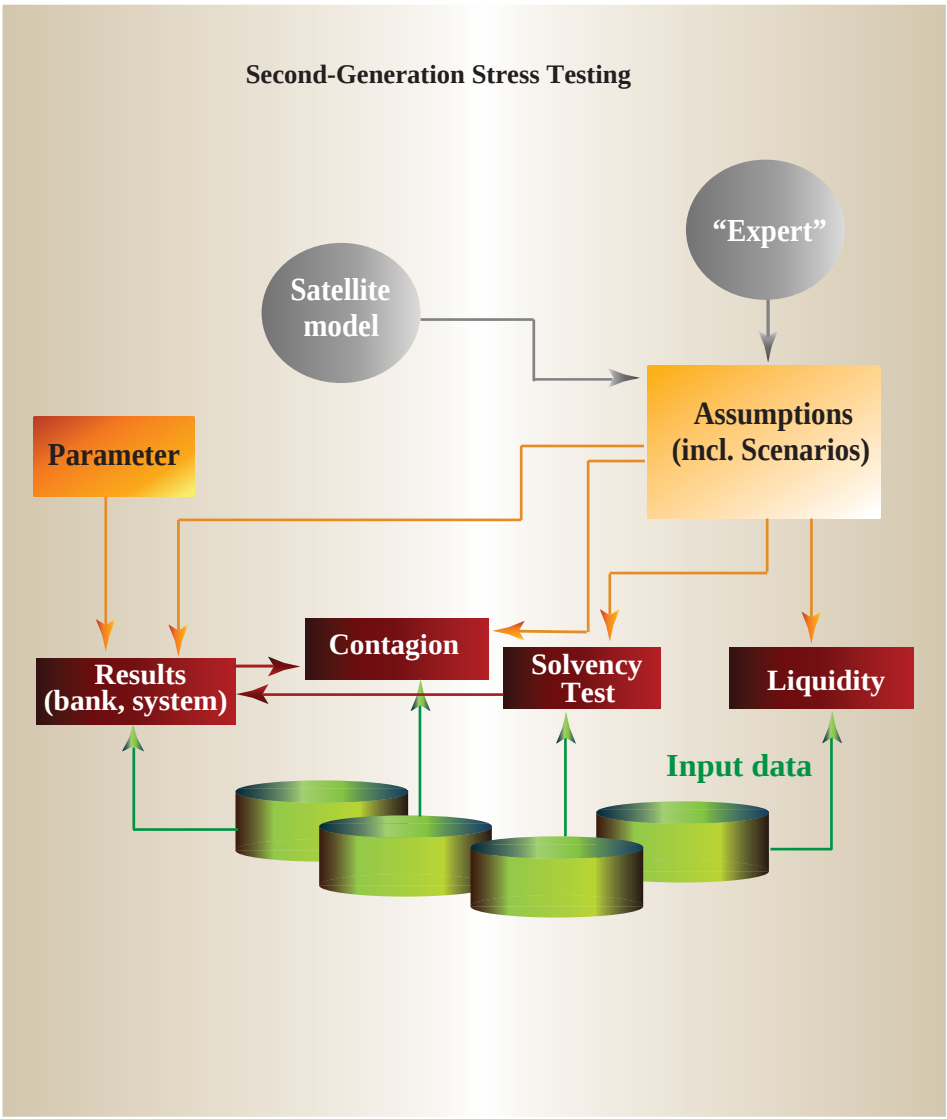
1. Missed opportunity to recapitalize more banks?

2. Banks that only narrowly passed the tests will come under pressure to raise capital.

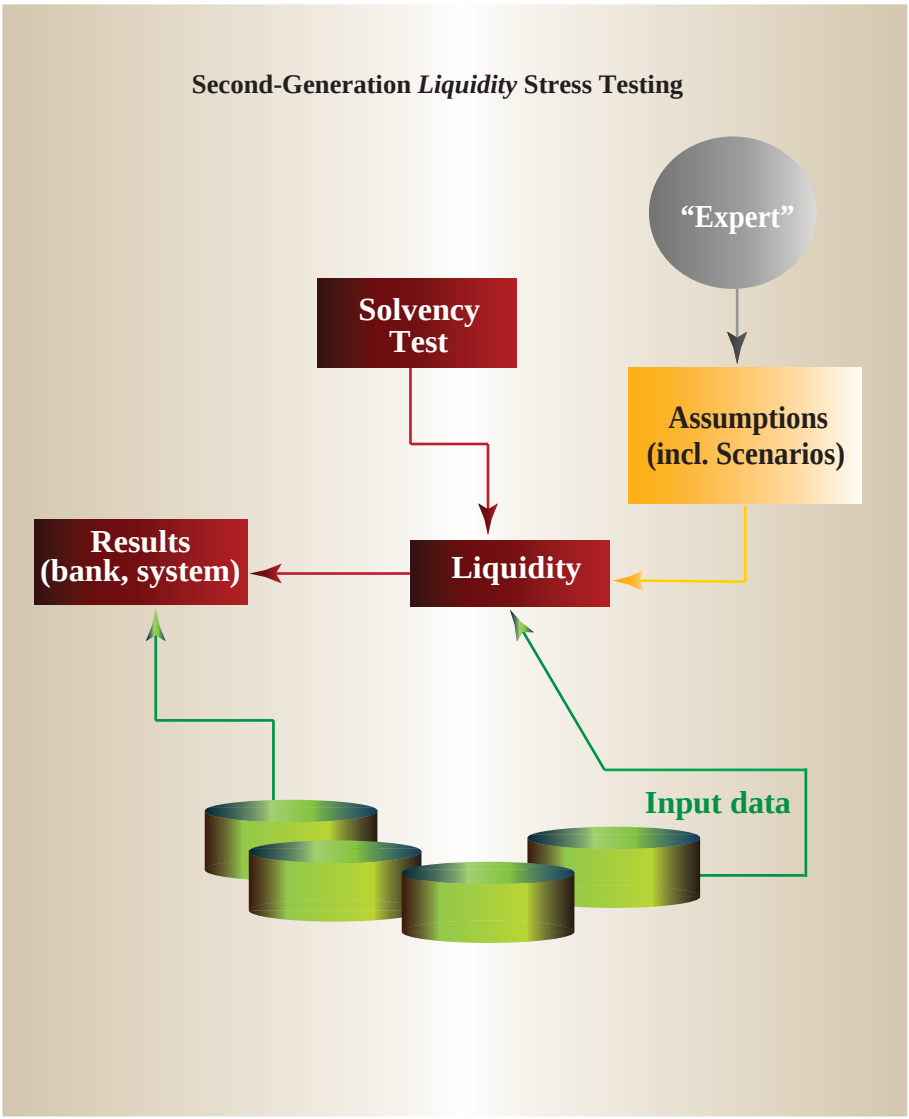
3. There were questions regarding the design of the tests

- Should sovereign debt holdings have been subject to haircuts?
- If profits for banks with benign profit assumptions were instead assumed to be the same as the average for the 91 banks: **Two more banks fail**
- If 1) the hurdle rate is increased or 2) stress of banking book debt holdings by applying the same haircut: **Failures and capital needs increase substantially.**

4. The stress test may not be a key "turning point" for the European banking sector.



Source: Schmieder et al., 2010a



Source: Schmieder et al., 2010b

General considerations on stress testing liquidity risks

- **Liquidity stress tests are usually less developed than solvency tests:**
  - ⇨ Less of an issue before the crisis
  - ⇨ Liquidity crises are low frequency – high impact events
  - ⇨ They are different so standardized stress testing rather difficult.
- **Framework incorporates stylized nature of liquidity crises:**
  - ⇨ Liquidity crises originate from sudden drain of funding sources
  - ⇨ Wholesale funding is the most "vulnerable"
  - ⇨ "Classical" bank runs rare but silent deposit withdrawals more common
  - ⇨ Limited time for banks to react to sudden liquidity outflows
  - ⇨ Fire sales of assets costly due to haircuts and sometimes illiquidity
  - ⇨ Maturity mismatches between assets and liabilities crucial
  - ⇨ Central bank as lender of last resort and role of parents banks.

Overview of liquidity stress testing tool

Type of Test	Description	Outcome
Implied Cash Flow Analysis (ICFA)	Simulates banks' counter balancing capacity in case of a "classical" deposit run for a period of (i) 5 days and (ii) 30 days. High level of granularity with different haircuts of liquid assets in case of a fire sale	Does bank remain liquid under the specific assumptions? (Yes/No)
	Liquidity Coverage Test, which is a regulatory Basel III test assessing banks' counterbalancing strategy for the next 30 days	Does bank meet regulatory requirements (i.e. ratio)? (Yes/No)
Maturity Mismatch/Rollover Stress Test	The explicit liquidity gap simulation matches liability and asset maturities and identifies liquidity gaps at each maturity and under different scenarios	Does bank remain liquid under the specific assumptions? (Yes/No)
	The regulatory net stable funding ratio (NSFR, to be introduced as part of Basel III) assesses the stability of a bank's funding sources in more structural terms	Does bank meet regulatory requirements (i.e. ratio)? (Yes/No)
Integrated Liquidity and Solvency Test	Simulates the impact of changes of solvency, rating downgrades and concentration risks on funding costs (some of the assumptions are derived from a credit risk model)	Does bank remain liquid under the specific assumptions? (Yes/No)

Implied cash flow stress test

- The global financial crisis has shown that a deposit run on a non-systemic financial institution such as Northern Rock can have serious implications not only domestically but also cross-border
- Simulation of a classical deposit run (5 and 30 days) on retail and wholesale deposits
- Introduction of high-level of granularity on asset and liability side as well as haircuts of liquid assets in case of a fire sale
- Break down into deposits into demand/time, retail/wholesale and domestic/foreign currency as well as interbanking wholesale
- Assumptions for all banks uniformly or manually

  ⇨ **How long can any bank withstand a shock to their retail/wholesale deposits?**
- Components of liquidity coverage ratio test (Basel III proposals).

Maturity mismatch/rollover stress test

- Many of the failed institutions during the crisis suffered from a liquidity maturity mismatch with often illiquid LT assets but ST liabilities

  ⇨ Making these banks vulnerable to loss of confidence, counterparty credibility and eventual liquidity squeeze
- This stress test matches liability and asset maturities and identifies liquidity gaps at each maturity and under different scenarios
- Potential liquidity gaps can be closed by free assets at lower maturities
- High asset granularity with asset-specific and maturity dependent haircuts
- Possibility to include additional available central bank funding.

Integrated solvency and liquidity test

- **There is a natural link between solvency and liquidity, and they can reinforce each other. Here solvency concerns impact liquidity**
- **Three different complementary perspectives:**
  - ⇨ Increase in funding costs from a change in solvency (based on a credit risk model) and then a rating downgrade
  - ⇨ Closure of funding markets (both LT/ST) depending on the level of tier 1 capital
  - ⇨ Impact of concentration risk on funding, i.e. no intragroup funding and default of liquidity providers
- Sale of liquid assets subject to haircuts can compensate for liquidity drain.
- Possibility of additional central bank funding.

How to build stress testing scenarios?

- Importance of "extreme but plausible" scenarios
- Alternatively, "stress test till it breaks" (Ong and Cihak, 2010)
  - ⇨ Identify set of scenarios under which the system reaches a pre-defined threshold, low level of liquidity
- **Scenarios could be defined as follows:**
  - ⇨ Derived from model
  - ⇨ Based on expert judgment/ past empirical evidence
  - ⇨ Assessment of the limit of each bank.

Recent Examples for Emerging Europe

Recent stress test efforts in emerging European countries

Individual Emerging European countries are already conducting independent comprehensive stress tests.

Complementary and new stress tests are being undertaken in collaboration with central banks and the IMF (FSAP and TA missions).

Recent FSAPs in the region include 2009 Belarus, 2009 Bulgaria, 2008 Estonia, 2008 Macedonia, 2009 Romania, 2008 Russia, 2010 Serbia.

Most common stress test types involved sensitivity tests on credit quality, interest rate movements, direct foreign exchange and foreign-exchange induced credit risks, liquidity risks, and multi-factor macro scenarios.

Using Stress Tests as a Crisis Management Tool

	Belarus	Latvia	Hungary	Romania	Ukraine
Objective	To provide the authorities with an estimate of a potential capital reduction in the event of adverse shocks	To assess the potential need for capital increase to ensure solvency of banks and determining their liquidity	To assess the banking sector's shock–absorbing capacity	To ask banks to secure sufficient resources to cover any shortfalls revealed by the stress tests	To assess capitalization needs of banks
Methodology	Bottom up approach stress testing for credit risk, interest rate risk, and foreign exchange risk was conducted	Scenarios based on significant PD and real estate prices decline. In 2009, supplemented stress testing was also conducted based on uniform input parameters (macro + PD etc.) from supervisors	Credit, market, and liquidity risk stress testing exercises	Scenarios relying on program macroeconomic assumptions and more severe assumptions. Bottom up analysis on credit, liquidity, interest rate and foreign exchange	Stress test based on soft landing and hard landing scenarios in the areas of credit, interest rate and foreign exchange risks
Timing	Before and during the crisis. Currently, it is conducted every 3 months. The framework was developed with the MCM technical assistance recommendations	Stress tests were done by the central bank updated quarterly and results were shared with supervisor	Both the Hungarian Financial Supervision Agency (HFSA) and the central bank carried out stress test on a regular basis	The NBR conducted stress tests on the balance sheets of banks as a prior action under SBA, building on the stress testing conducted during 2008 FSAP Update	The NBU and Fund staff conducted preliminary scenario analysis at the time of preparing Stand-By Arrangement in October 2008
Usefulness	Useful to assess the trends in stress test results. Useful to assess possible capital shortages in individual banks	The outcome of stress test based on uniform parameters was used for Pillar 2 discussions and most banks ended up preemptive recapitalizing. However, stress test based on very tough scenarios would be difficult to implement preemtive recapitalization because it could jeopardize the stability of the system	Integration between the HFSA and central bank stress test exercises would be beneficial, as market and credit risks may reinforce each other and generate large losses	Based on the outcome of the stress tests, the NBR could estimate the increase in funds that each bank would need to ensure that its capital adequacy ratio remained above the required level throughout program periods	Preliminary stress test results were useful to estimate recapitalization needs. The authorities also formulated a bank recapitalization scheme for viable banks. Later, individual banks were diagnosed/stress tested according to a specific methodology with some forward looking elements which were also important elements in stress testing of a banking system

Liquidity Stress Testing in Recent FSAPs in Emerging Europe

Country	Year	Methodology/ Type of Risk	Scenarios
Belarus	2008	- Top-down - Testing liquidity ratio	1) A withdrawal of 10, 20, and 30 percent of deposits of domestic customers (households and corporates). A withdrawal of 25, 50 and 75 percent of funding through non-residence (households and corporates) 2) Full withdrawal of the parent bank's refinancing is assumed
Lithuania	2007	- Top-down - Testing for Liquidity Ratio, number of illiquid banks after shock, and impact on CAR (Liquidity-Solvency Link)	1) Withdrawals of parent funding up to 50 percent of liabilities to parent 2) Bank runs by depositors overnight up to – Overnight withdrawals of: 20 percent of residents deposits, 80 percent of non-residents deposits, 80 percent of foreign banks deposit, 100 percent of domestic interbank deposits – Overnight withdrawal of 20 percent of resident deposits, 80 percent of non-resident deposits (incl. foreign bank deposits), and 100 percent of domestic interbank deposits 3) Combination of 1 and 2
Serbia	2009	- Top-down - Testing banks' ability to withstand a deposit run over a period of five days without external financing	1) Daily withdrawals of 7 and 2 percent of household and corporate deposits, respectively, over a period of five days 2) Withdrawal of parent bank funding (loans, deposits, and subordinated debt) with maturity of less than one year
Russia	2008	- Top-down and Bottom-up - Testing liquidity ratios and solvency (assumed haircuts on the asset sale)	1) Reduction of retail and current corporate deposits by 30 percent and withdrawal of corporate time deposits by 5 percent 2) Scenario 1 plus 5 percent haircut on highly liquid assets and 20 percent haircut on liquid assets 3) Limited (no) access to the interbank market 4) Contagion risk via counterparties in the interbank market
Romania		- Top-down and Bottom-up - Testing liquidity ratios and liquidity shortfall	1) A withdrawal of up 25 percent of deposits 2) Scenario 1 plus limited access to committed and uncommitted credit lines, including those from parent banks 3) Scenario 2 plus reduction of banks' access to central bank's refinancing by assuming a 5 percent haircut on the government paper and a 20 percent haircut on stocks and bonds, while other collateral is not accepted at all

Conclusions

1. **Stress tests are important for surveillance of the banking system and feedback mechanisms**

2. **The assumptions and the results must be deemed credible ("extreme but plausible")**

3. **Stress tests can be a useful tool in (managing systemic) crises:**

   - A comprehensive remedial action plan must be announced in conjunction with the results. Recapitalization plans need to be realistic and implemented quickly to draw a line in the sand
   - If public sector funds are required, resources must be available to ensure credibility

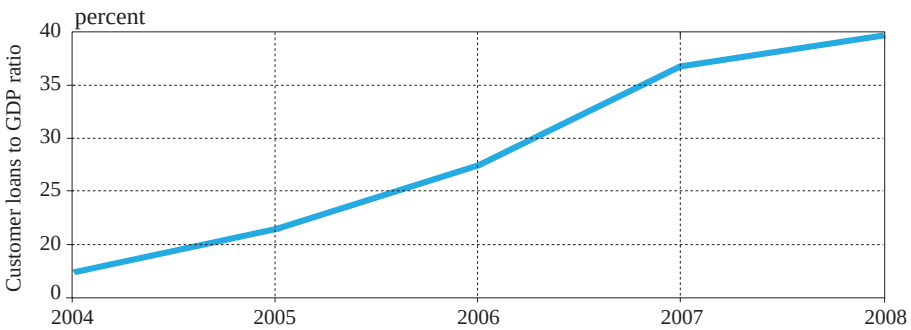
4. **But without a readily available mechanism, either at the national or regional level, to help weaker banks raise capital, stress tests may increase volatility and nervousness rather than decrease it.**

ISSUES ON EVALUATING THE VULNERABILITIES OF THE BANKING SYSTEM

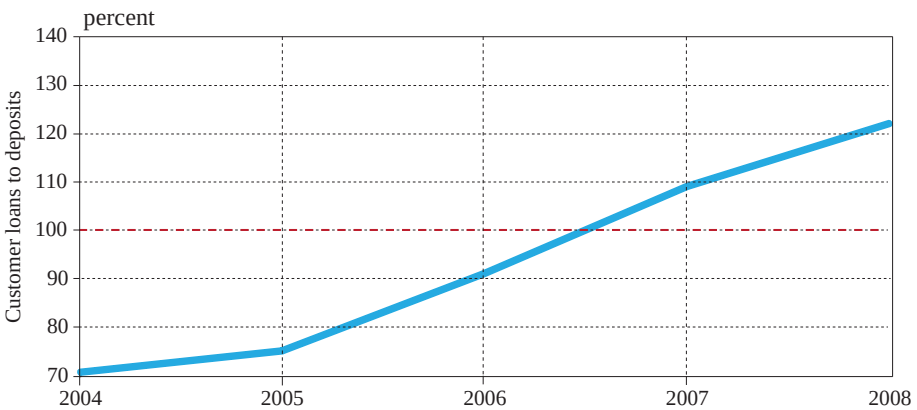
Virgil Dăscălescu*

Romanian environment before the crisis:

- Credit was booming, despite some measures taken by the NBR to slow down the lending activity



- Increasingly more funded by external sources, as reflected by the Loans to Deposits Ratio



* Financial Stability Department, National Bank of Romania

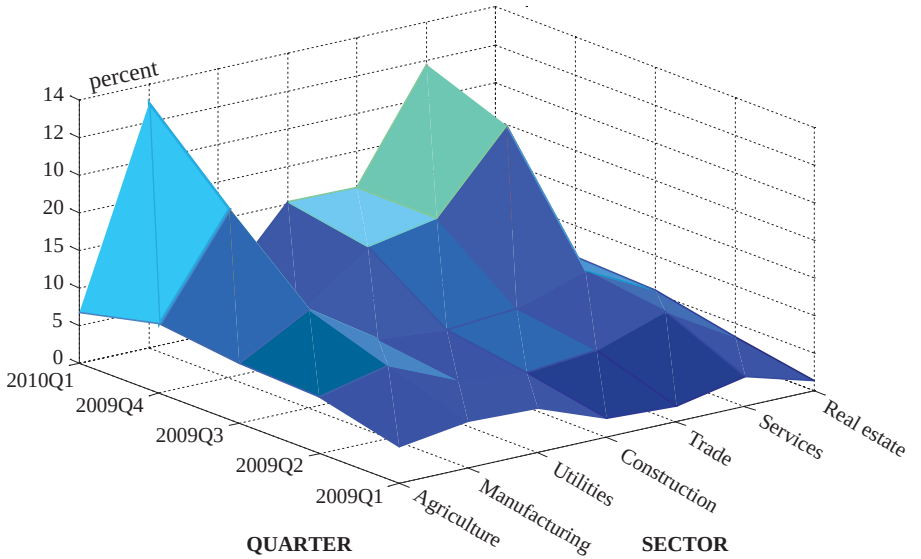
- Formation of a real estate bubble of an unprecedented size (large inflows of capital due to a considerable number of Romanian nationals working abroad, partially fuelling the bubble)
- Lack of credit discipline due to excess liquidity provided by parent banks, some of which might seem hilarious in the aftermath
- An overheated economy driven by demand for non-durables with large increases in the wage levels with a lower productivity increase counterpart.

And then, comes bad news: we are in crisis

- External demand drops significantly; imports adjust even more
- Expectations related to future earnings are revised, unsecured lending all but ceases, partially due to credit demand
- Real estate collateral value is on a downward trend; however, in respect to figures, estimations vary, as the vast majority of transactions are not made at arm's length
- The labour market is now far from undersupplied, the low-skilled are hit hardest, a historically low level of households NPL's starts to catch-up with those registered in the corporate sector, with unsecured loans paving the way. Unemployment reaches 7.2 percent (June 2010), as compared to 4.4 percent (December 2008)
- Faced with possible funding problems, local banks increased dramatically their deposit rates, partially offsetting the cost on the asset side.

No or little exposure to derivatives, lack of sizeable mark-to-market assets, no depression of asset prices as a consequence of increasing "margin calls" it was left to "the good old" NPLs to do the job of threatening the profitability and solvency of the credit institutions.

Evolution of the NPL in the corporate sector



Measures taken in order to prevent a banking crisis

- A managed floating exchange rate during the peak of the credit lending translated into a less dramatic depreciation of the local currency during the crisis
- In order to ensure a buffer against unexpected losses that would allow banks to cope with the new environment, at the initiative of IMF and the WB, a credit risk stress test was conducted in the second quarter of 2009, based on a macroeconomic scenario then considered "extreme", involving an economic growth of -4.1 percent and a strong domestic currency depreciation
- Meetings between NBR staff and officials of each bank took place in April 2009, confronting the results of the top-down approach with some of the bottom-up approaches

- Following the meetings, increases in capital levels were made; in addition, subordinated loans as well as off-balance sheet commitments eased the pressure
- Financial distress was somewhat alleviated as agreements were made with the major foreign parent banks to maintain a minimum agreed level of credit exposure to Romania, agreements that were fulfilled.

On the way to recovery

- Liquidity was also envisaged by the NBR, when it gradually reduced the level of required reserves for both domestic and foreign currency; long-term funding was also encouraged by establishing a 0 percent requirement for deposits with an initial maturity of more than 2 years
- At the end of 2009, all of the banks were above 10 percent solvency ratio, despite the deep recession
- Even more importantly, this was achieved with no public intervention: the role played by the parent banks was essential in this respect
- The crisis is not over yet: market value of the real estate collateral is likely to be at its lowest; fear of a double-dip recession affecting external demand as well as capital inflows are present not only in Romania ... stress test scenarios are built around them throughout Europe.

Current approach to stress testing the credit institutions

- A benchmark, most probable macroeconomic scenario is built and deviations from it are used to create adverse scenarios, usually over a two-year horizon
- Estimates of the way in which macroeconomic scenarios impact on banks are divided into effects over the P&L:
  - ⇨ On the revenue side, through market risk
  - ⇨ On the expense side, through impairment losses due to reclassification of loans in higher-risk categories as well as larger adjusted exposures (exposures that are taken into consideration for impairment losses under the national regulation) requiring additional LLP due to collateral value changes

- Financial performance of the corporate sector is evaluated both before and after a shock, through changes in the financial ratios according to the macroeconomic scenario. Data on the financial statements of the corporate sector and the Credit Register is used for the purpose. Changes in the LLP for the households is linked to projections on the final expenditure consumption and unemployment
- An estimate of the financial result of a credit institution is made by summing it all, assuming that unless there is a shift in the macroeconomic environment, the P&L positions of a bank would show the past monthly median values. Impact on bank's own fund is then estimated
- Despite running an interbank contamination simulation (based on the paper of Eisenberg&Noe, 2001), results are not included due to low interbank exposures, leading to "fundamental" defaults only.

Drawbacks and current progress

Drawbacks:

- The use of a constant balance sheet assumption (in reality, banks do react by changing their overall risk-taking profile)
- Lack of revenue data for the households as well as data on the corporate sector which is available with a considerable lag
- Lack of banks own estimates on the PDs and LGDs due to dominance of the standard framework over the IRB approaches.

Work is in progress to:

- Build a model linking the financial performance of the corporate sector to "hard default" occurrence, over the economic cycle
- Improve the model used for estimating the LLP change for the households
- Incorporate a changing balance sheet assumption into the stress test.

Is good solvency enough to safeguard against financial turbulences with system – wide repercussions?

- It has been proved at a great price that this is not the case: liquidity plays an important role and it should not be taken for granted. Regardless of how big ("systemically important"), well-rated or interconnected, liquidity can render a credit institution bankrupt before shareholders can react
- Even more than credit risk, having a system in place to evaluate liquidity risk under stress should not be taken lightly, as liquidity is usually not a reason for concern under "normal" conditions.

Rather than a residual maturity based framework, we would like to develop a stress test based on cash-flows:

- Expected values for cash inflows and outflows could be reported for all items comprising the balance sheet as well as other off-balance sheet items
- Expected cash-flows could then be separated into time buckets depending on their time of occurrence
- When a potential negative liquidity bucket is estimated (after taking into consideration excess liquidity from all buckets for which the time to the actual inflows and outflows is smaller), estimate all available collateral to meet the liquidity requirements
- Apply haircuts depending on the particular distribution of cash-flows expected (the actual stress test scenario).

SYSTEMICALLY IMPORTANT PARTICIPANTS WITHIN ReGIS PAYMENT SYSTEM – A STRESS TEST APPROACH –

Horaţiu Lovin*

Systemic risk and systemically important participants

- "Systemic risk can be described as the risk that financial instability becomes so widespread that it impairs the functioning of a financial system to the point where economic growth and welfare suffer materially"
- A systemically important participant can be assessed as a combination of 3 factors: (i) size (absolute or relative); (ii) interconnectedness (linkages with the rest of the system); (iii) substitutability (other component of the system can provide the same services in the event of failure).

ECB (Financial Stability Review, June 2010)

Data available for the analysis

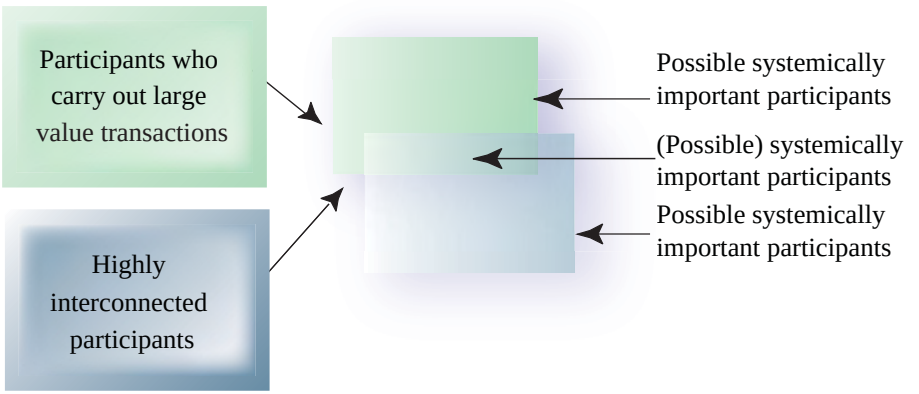
- Period : January-May 2010
- Participants: 41 credit institutions (including foreign branches)
- Transactions carried out within ReGIS (Romanian RTGS) payment system
- Daily balance for participants
- Interbank money market transactions
- Source: National Bank of Romania.

* Financial Stability Department, National Bank of Romania

Who are the systemically important participants?

A systemically important participant is sustained by 2 main pillars:

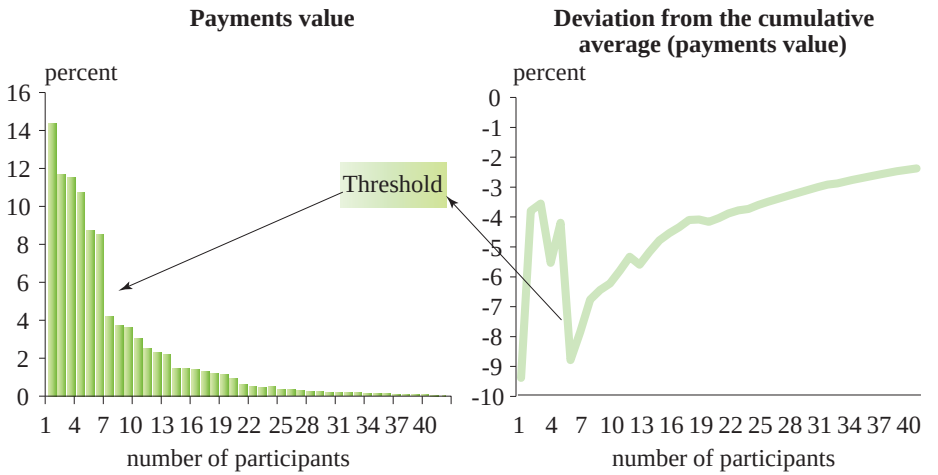
- Large value of submitted and received payments (size criteria)
- High connectivity with the other participants (interconnectedness criteria).



The substitutability criteria is assessed by running stress test scenario with BoF-PSS2 Simulator.

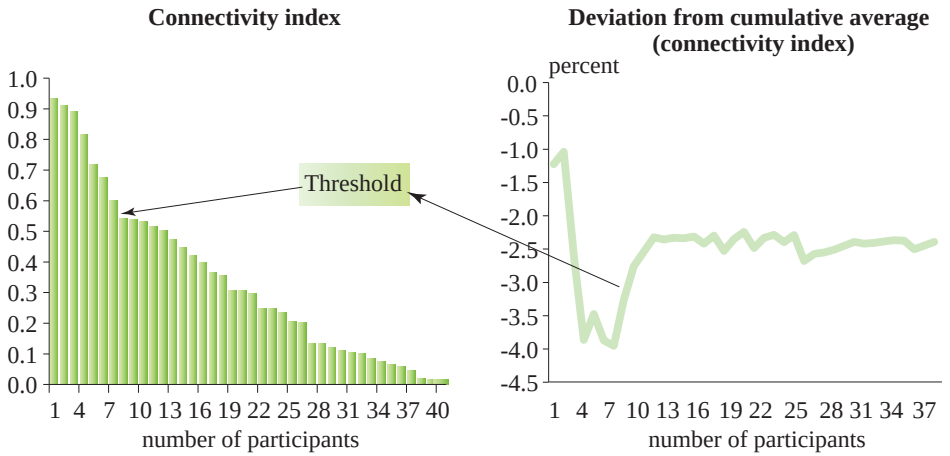
Size criteria:

- Total value of payments submitted
- Total value of payments received.



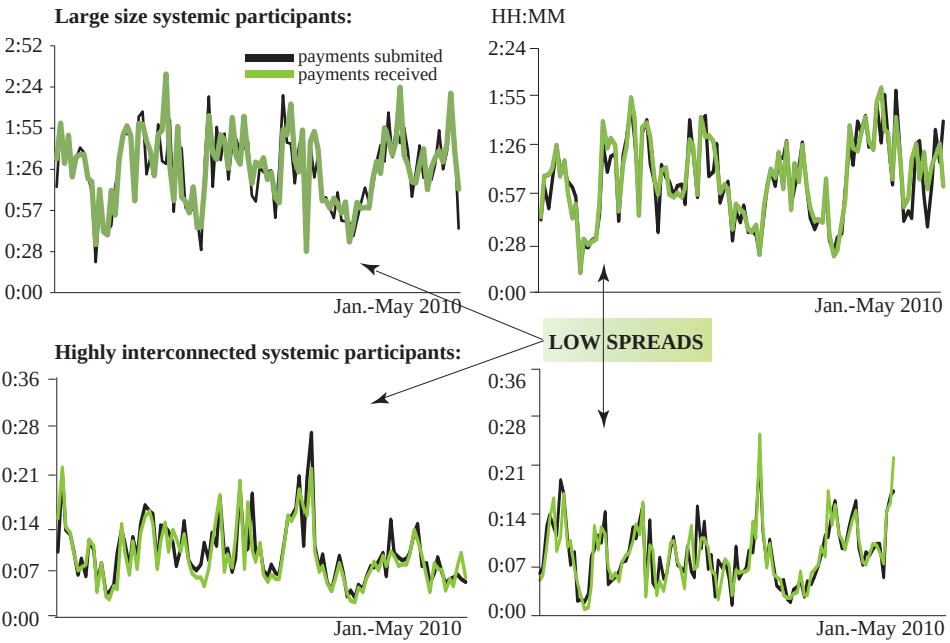
Interconnectedness criteria:

- Total value of interbank money market transactions
- Daily average of connections number.



How systemically important participants behave

Daily average transaction time



Stress test scenario involving systemically important participants

Scenario hypothesis:

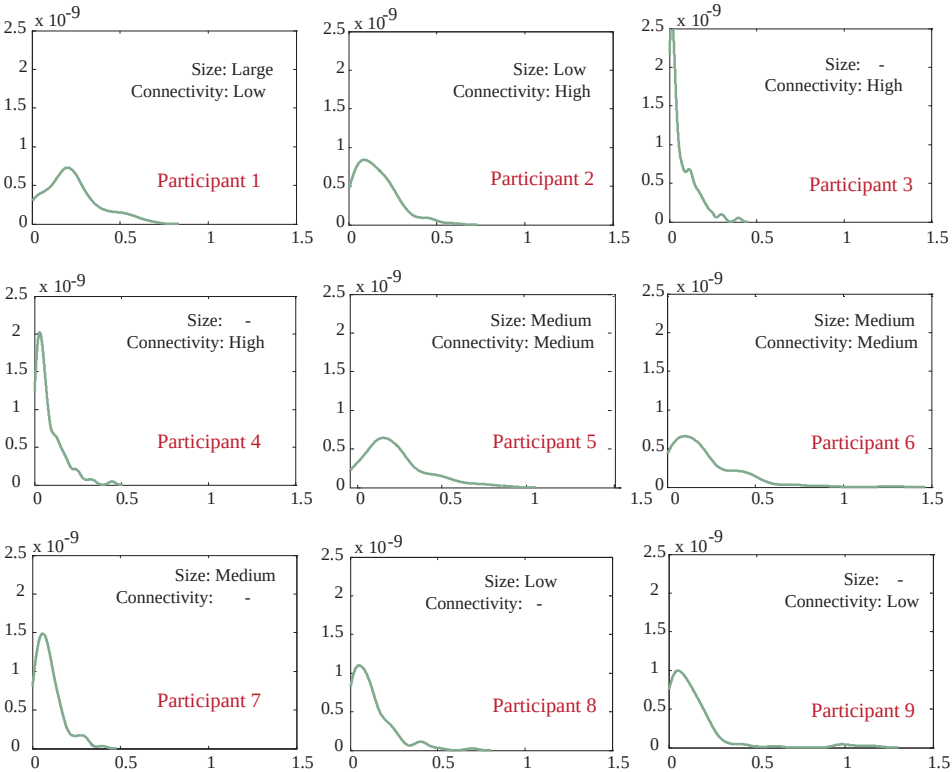
- A (possible) systemically important participant faces a sudden liquidity shortage and starts the day with no liquidity reserves
- Payments received from the other participants become the only liquidity source for the systemic participant to settle his own payment orders
- Participants do not change their behavior and continue to submit payments as usual.

Objectives:

- To validate the substitutability criteria for (possible) systemically important participants
- To assess the contagion risk and payment system resilience to severe liquidity shocks.

Tool: Simulator BoF-PSS2

Daily maximum queue values (kernel distributions)

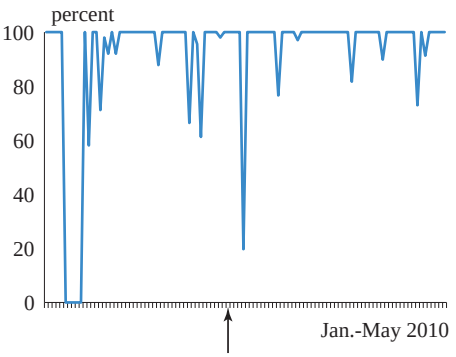


Contagion risk

Large size participants seem to trigger low contagion risk

Possible explanation: they quickly release into the system the received liquidity; queues are mainly their own payment orders submitted and not settled

The largest participant

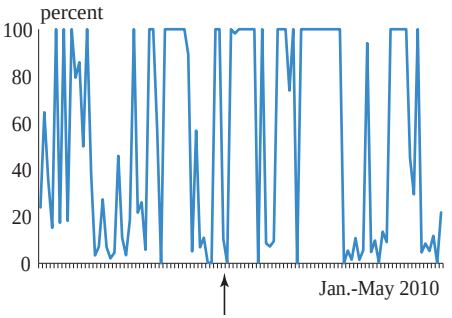


100 percent = all queued transactions into the system are his own queued transactions (no contagion risk)

High interconnected participants seem to trigger higher contagion risk

Possible explanation: they have strong liquidity connection with specific excess/deficit participants (their impact is rather specific then general)

The highest interconnected participant



100 percent = all queued transactions into the system are his own queued transactions (no contagion risk)

Conclusions

- A participant who both carries out large value transactions and is highly interconnected with the other participants is systemically important
- A participant who either carries out large value transactions or is highly interconnected with the other participants is unlikely to be systemically important
- Systemically important participants experiencing liquidity disruptions may jeopardize the payment system financial stability
- Large size participants trigger lower contagion risk compare to high interconnected ones, still the overall impact is stronger.

SESSION 3

ISSUES RELATED TO THE FOREIGN CURRENCY LENDING – POSSIBLE MEASURES TO DECREASE IT

ISSUES RELATED TO FOREIGN CURRENCY LENDING – POSSIBLE MEASURES TO DECREASE IT

Julia Uebeleis*

Motivation for initiatives regarding FC lending in CESEE & CIS

FC lending – a factor of economic vulnerability in CESEE & CIS

- Linking depreciation to systemic risks
- Restricting the shock absorbing function of the exchange rate
- Limiting the overall effectiveness of monetary policy.

But FC lending had also led to faster growth

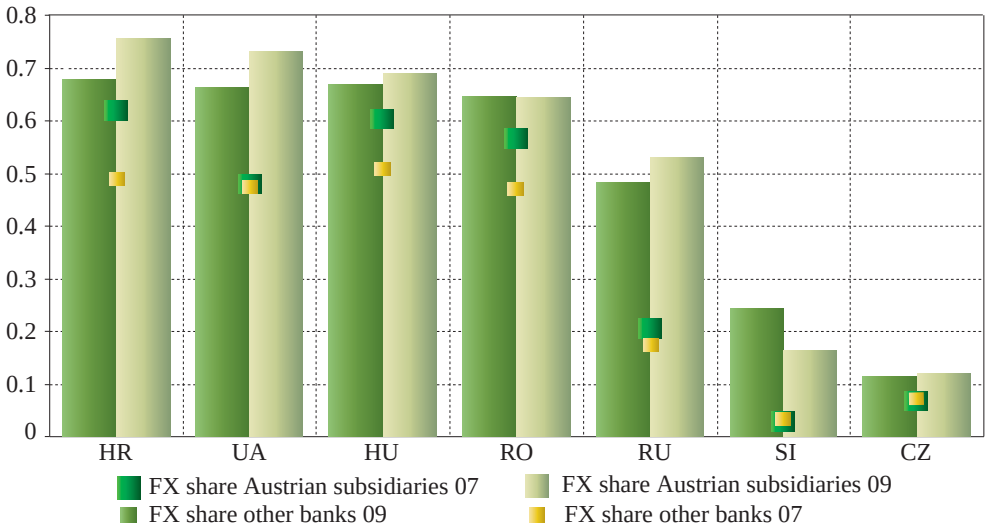
- Relaxed the financial constraint of small non-tradable firms
- Increased growth of small non-tradable firms
- Increased employment (more than productivity)**.

* Financial Markets Analysis and Surveillance Division, Oesterreichishe Nationalbank

** Ranciere, R., Tornell, A. and Vamvakidis, A., 2009. "Currency Mismatch and Systemic Risk in Emerging Europe", draft prepared for the 51st Panel Meeting of Economic Policy in Madrid.

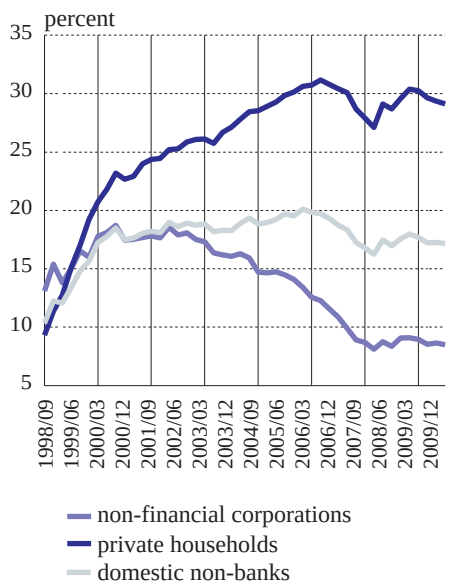
AT-banks' role … FC lending above country-averages

Comparison FX loan share Austrian subsidiaries vs. other banks (Dec.07 - Dec.09)

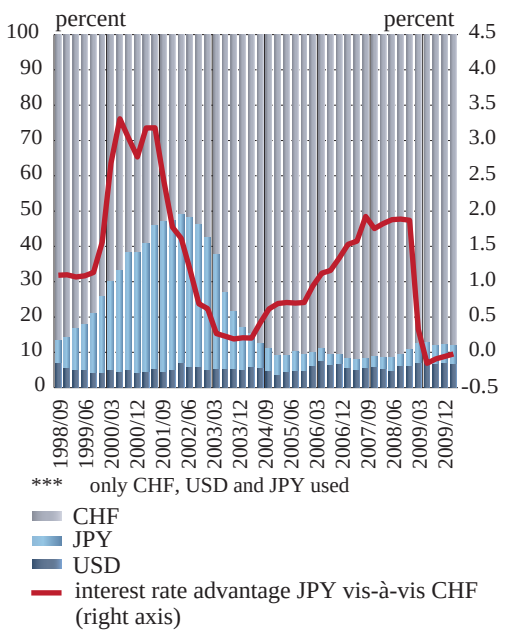


Size of the problem: FX lending is both a domestic issue in Austria …

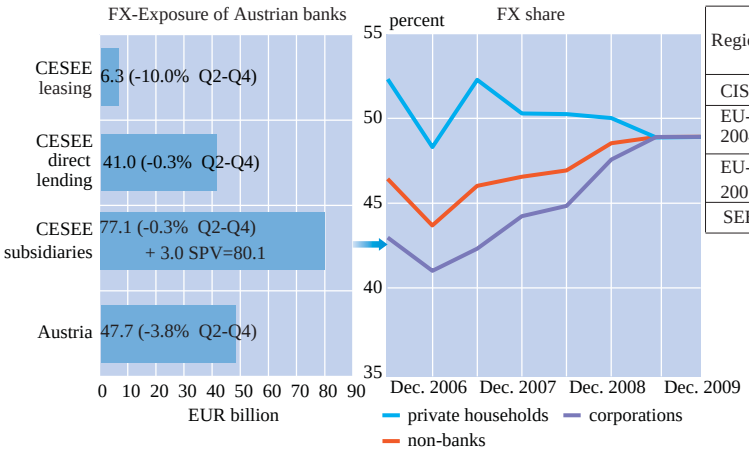
Share of foreign currency lending



Currency composition***



… as well as an even larger issue in CESEE and CIS



Region	FC - indirect loans in EUR bn	Main FC
CIS	19	USD
EU-2004	20	EUR/ CHF
EU-2007	18	EUR
SEE	23	EUR

Indirect FC loans:

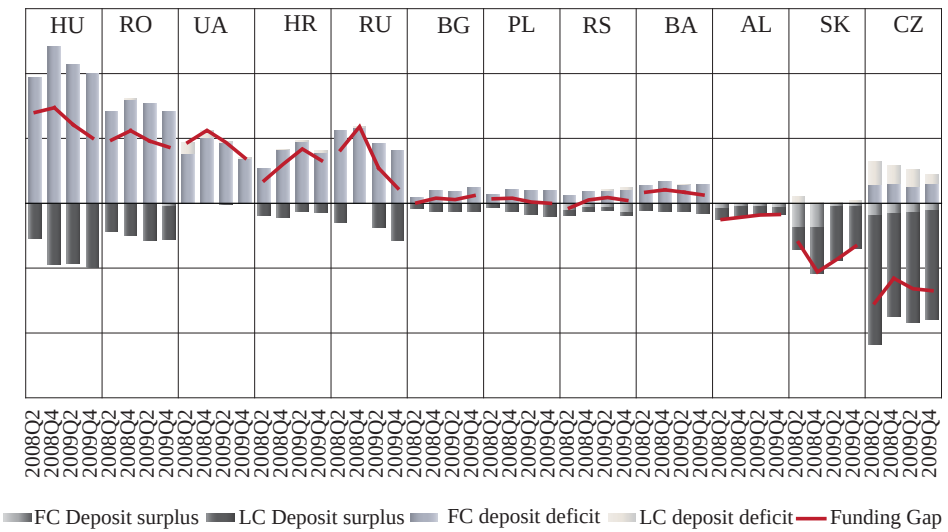
EUR: 57%
USD: 23%
CHF: 20%

customer segmentation:
private households: 41%
nonfin. corporations: 59%

Source: OeNB; FX adjusted

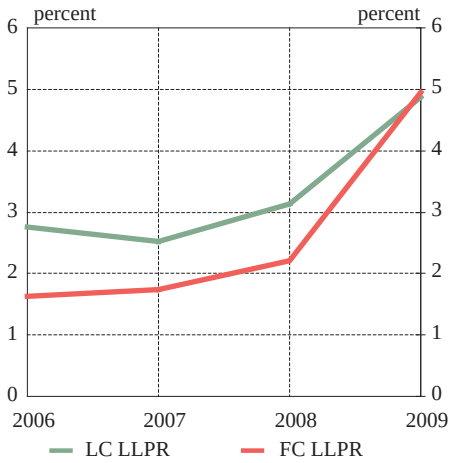
The unfolding of funding risk and ...

Currency mismatches on country level

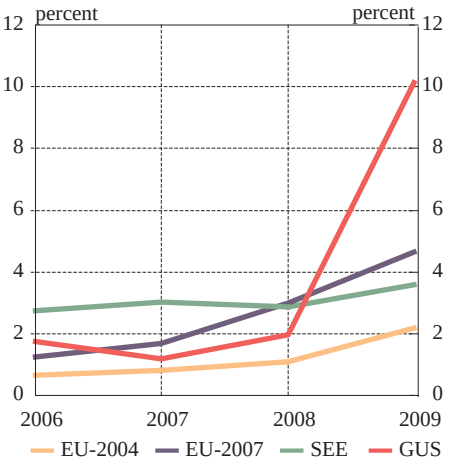


... credit risk clearly raised awareness of all parties involved

Loan loss provision ratios for LC and FC loans



FC loan loss provision ratios in CESEE and CIS



Source: OeNB survey

How should host and home regulators step in?

- Macro: safeguarding financial stability by improving individual banks' prudential behaviour
- Micro: reinforcement of risk management incentives of individual banks
- Consumer protection/financial education

  ⇨ FC lending regulation embedded within macroeconomic policies to avoid credit freeze.

Questions to address ...

- Bank on the product category or focus on sound practice of FC lending
- How to tailor-make regulations for different institutional set-up and economic stage of countries (key word: organic LC development).

National regulator's measures for discouraging FC lending

	Countries with fixed/ pegged exchange rate				Countries with floating exchange rate			Euro area countries			
	BG	EE	LT	LV	HU	PL	RO	AT	CY	GR	SI
Monetary policy tools: Higher reserve requirements on bank liabilities in FX							VIII 2004 VIII 2005 I & III 2006				
Regulatory measures: Higher risk weights					V 2008[1] V 2009	I 2008					
Higher provisioning rate							IX 2005				
Restrictions on LTV for FX loans					III 2010						
Quantitative restrictions on FX lending							IX 2005		X		
Administrative measures: Eligibility criteria for borrowers					VI 2011						
Restrictions on payment-to-income ratio					VI 2011		VIII 2008				
Guidelines/recommendations for banks or customers				I 2007 VII 2007 X 2008	IX 2006	VII 2006		X 2003 X 2008	XI 2006	III 2007	VII 2006 XII 2007

[1] For JPY loans and total foreign currency risk under Pillar 2 of the Capital Requirements Directive (CRD); The dates in the boxes denote the time of the implementation of the measures.

Source: BSC's WGMA Survey (November 2009) and information collected from national central banks (February 2010)

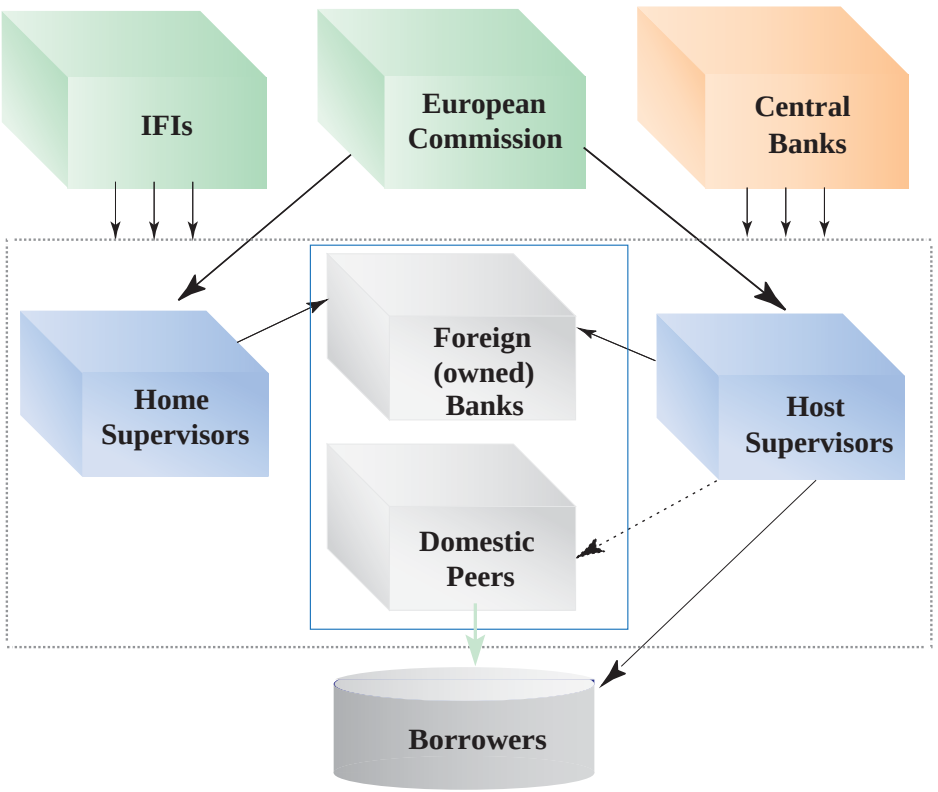
Country Characteristics

Country	Country risk (EIU rating)	Currency	Currency regime	FX share of total loans Source: IMF	Main currency Source: OeNB	Regulatory measures adressing FCLs
Albania		ALL	Floating	n.a.	EUR	Yes
Belarus		BYR	PEG USD (2009)	n.a.	USD	
Bosnia and Herzegovina	B	BAM	PEG EUR	n.a.	EUR	
Bulgaria	BB	BGN	PEG EUR	68	EUR	No
Croatia	B	HRK	PEG EUR	70	EUR (CHF)	Yes
Czech Republic	BBB	CZK	Floating	13	EUR	
Hungary	B	HUF	Floating	68	CHF	Yes
Kazakhstan	B	KZT	PEG USD (2009)	49	USD	
Kyrgyz Republic		KGS	Managed Float	n.a.		
Latvia	B	LVL	PEG EUR	65	EUR	No
Macedonia	B	MKD	PEG EUR	n.a.	EUR	Yes
Montenegro		EUR	Floating	n.a.	CHF	
Poland	BB	PLN	Floating	37	EUR (CHF)	Yes
Romania	B	RON	Managed Float	58	EUR (CHF)	Yes
Russia	BB	RUB	PEG USD/(EUR) (2009)	29	USD	
Serbia	CCC	RSD	Managed Float	62	EUR (CHF)	Yes
Slovakia	BBB	EUR	Floating	n.a.	CHF	
Slovenia	BBB	EUR	Floating	n.a.	CHF	No
Turkey	B	TRY	Floating	27	USD	Yes
Ukraine	CCC	UAH	PEG USD (2008)	40	USD	Yes

Source: FMA and OeNB

Coordination of major stakeholders

Coordinated efforts of different agents vital ...



The roles of specific players

- **Governments, IMF** (**EC** where appropriate) – helping with macroeconomic policy
- The **IMF & World Bank** – advising on public debt management that relies increasingly on longer term local currency bond issues
- **European Commission** – macro-prudential regulation of FCL exposures (but takes time)
- **Home and host regulators** – harmonizing regulatory approaches to FC lending to avoid jurisdiction shopping (no rapid EU-wide approach)
- **WB and EBRD** – advising on legal and institutional changes to develop longer term local currency capital markets
- **Investing IFIs** (EBRD, EIB, IFC (IBRD)) – supporting this by issuing LC bonds, also helping with derivatives markets when needed; initiating local currency pilot projects if above happens
- **ECB** – helping manage FC risks related to speculation onto euro zone
- **ESRB** – will have FCL as top priority
- **Banks** – committing to reduce FC loans.

Main Elements of the Austrian Initiative

History of FC loan initiative in Austria

October 2003: Financial Markets Authority (FMA) issued the minimum standards for Granting and Managing Foreign Currency Loans.

October 2008: FMA issued a recommendation to **stop new domestic FC lending to private households** as defined in the Consumer Protection Act.

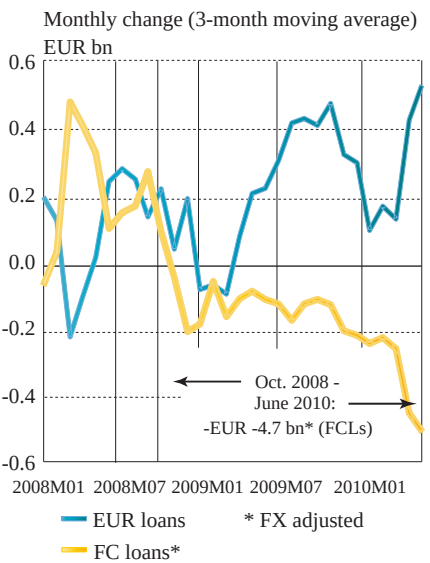
March 2010: FMA issued an extension to the minimum standards for Granting and Managing Foreign Currency Loans and Loans with Repayment Vehicles.

New minimum standards on FC loans

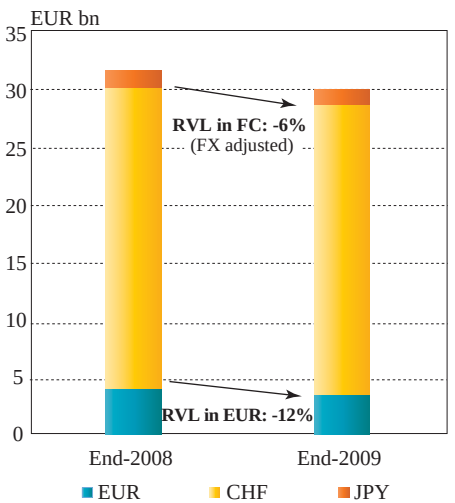
- New FC loans only to private households of highest creditworthiness or if they dispose of currency congruent income respectiv assets
- Heightened risk awareness regarding EUR repayment vehicles FC loans
- Strategies for sustained reduction of the overall volume of FC loans and loans with repayment vehicles
- Strategies for limiting the refinancing risk arising from FC loans
- Credit assessment and information obligations vis-à-vis consumers.

Decrease of FC loans in Austria

Loan growth of FC vs. EUR loans



Repayment vehicle loans



Source: OeNB

Recent Austrian Supervisory Initiative for Curbing Foreign Currency Lending in CESEE & CIS

The CESEE Foreign Currency Loan Initiative addresses:

- High currency induced credit risk of banks active in CESEE
- Competitive distortions: Cooperation with Home- and Host-supervisors as well as IFIs shall ensure a level playing field for all banks in CESEE.

Aim: curbing foreign currency lending in CESEE & CIS by restricting new lending to unhedged borrowers ⇨ lower currency rate volatility induced credit risk.

Recent AT-supervisory initiative for curbing foreign currency lending in CESEE & CIS

First step – unilateral agreement of Austrian banking groups

1. No new lending in non-EUR foreign currencies (e.g. CHF, JPY), USD denominated debt remains an open issue

2. No FC bullet loans combined with repayment vehicles

3. Consumer loans only to borrowers of highest creditworthiness – avoiding adverse selection.

Second step – stepped-up development of local capital markets

Substream 1: general framework to be agreed upon by home authorities and IFIs

Substream 2: coordination of this agreement to CESEE & countries.

… however, achieving a level playing field and functioning local currency markets will prove the real test

- Self restraint can only be of relevance if **level playing field**
- Development of a LC capital markets for bonds and/or savings products is a key element.

Second step

- Extension to other loan types (e.g. mortgage) in the medium term.

Reasons for foreign currency lending in CESEE & CIS

Reasoning on the supply side ...

- "Original sin" – incomplete LC money and capital markets
- Deposit euroization
- Easy and cheap access to interbank refinancing
- No currency mismatches
- Easier loan pricing (as LCY benchmarks are not available)
- Higher margins (?)
- Expected appreciation of LC vis-à-vis the FC of the loan (EUR-adoption commitment)
- Familiarity with the product "FC loan"
- Moral hazard.

… on the demand side

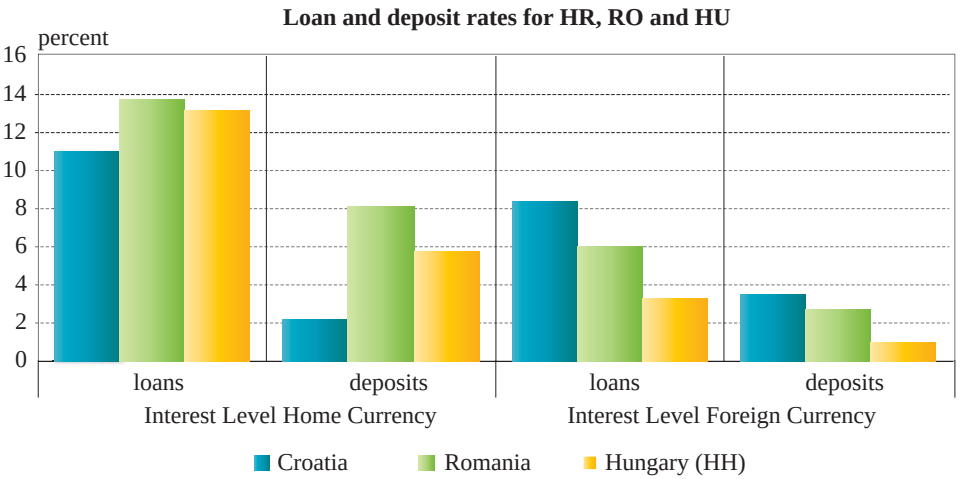
- Loan rate differential
- Ledges of borrowers (FC assets and/or FC income)
- Expected appreciation of LC vis-à-vis the FC of the loan (EUR-adoption commitment).

Local Capital Market development needs to be addressed – a task for local Governments and IFIs

	3M	6M	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	15Y	20Y	30Y	Note
Poland	4.13	4.23	3.31	4.97	4.90	5.29	5.41	5.49	-	5.66	-	6.00	6.15	6.06	6.16	Liquid
Hungary	5.55	5.55	5.45	5.80	6.13	6.53	6.75	6.99	7.18	7.20	-	7.34	7.30	-	-	Relatively high liquidity
Czech R.	1.43	1.69	1.43	1.62	2.13	2.59	3.26	3.33	3.74	-	4.01	4.13	4.79	-	4.92	Medium liquidity
Romania	7.32	8.05	7.24	7.06	7.55	7.14	7.10	-	-	7.70	-	7.80	-	-	-	Small domestic market but regular auctions since 2010
Lithuania	-	-	-	4.75	5.25	-	-	5.85	-	-	-	-	-	-	-	Low liquidity, more active in the Eurobond market
Latvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No domestic market. Only one issuance since 2008
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No domestic market
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Very small non-liquid market
Croatia	2.00	3.00	3.50	-	-	4.97	-	5.87	-	5.99	-	6.55	-	-	-	Very rate trading activity, but established yield curve
Bosnia-H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No market
Serbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No market, only T-bills

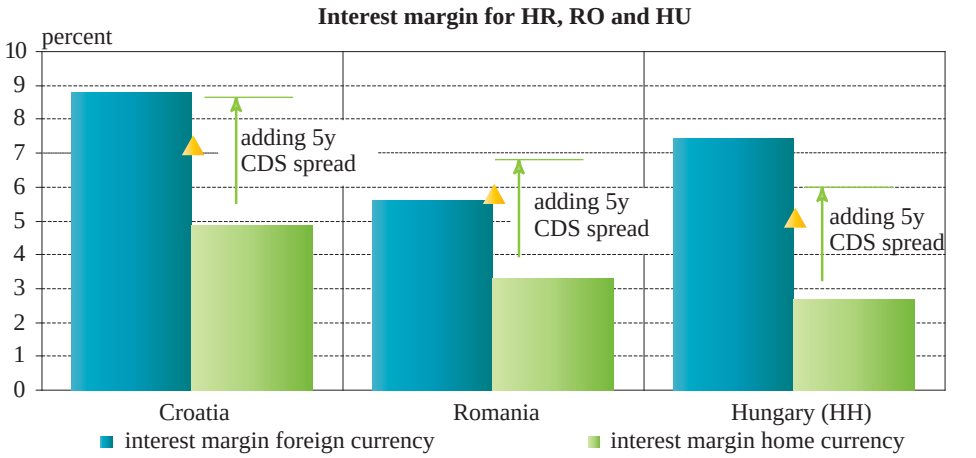
Source: UniCredit Group CEE Research

Loan and deposit rates in selected countries



Source: Central banks; All data is for "new business" January 2010; in Hungary rates depicted are for households; Croatian FX rates are for "linked" deposits/loans; margins (next slide) are deposits to loans except for Hungary where the 6M Libor was used as substitute (no CHF deposits)

Higher margins for FC loans?



Source: Central banks; All data is for "new business" January 2010; in Hungary rates depicted are for households; Croatian FX rates are for "linked" deposits/loans; margins are deposits to loans except for Hungary where the 6M Libor was used as substitute (no CHF deposits)

Key findings from ECB stock-taking exercise:

Measures taken to slow down overall domestic credit growth in EU member states

	Countries with fixed/pegged exchange rate				Countries with floating exchange rate			Euro area countries					
	BG	EE	LT	LV	HU	PL	RO	CY	ES	GR	IE	MT	SI
Monetary policy tools:													
Interest rate increase				III & XI 2004 VII & XI 2006 III & V 2007			2004-2008	IX 2006					
Reserve requirements	2004 2005 VII 2007	X 2006	V 2002	VII 2004 I 2005 XII 2005 V 2006			VI 2006					X	
Regulatory measures:													
Higher risk weights	X	III 2006	II 2007	I 2008	V 2008[1]	I 2005	I 2007			X	I 2006 I 2007		
Restrictions on LTV	IV 2006			VII 2007	V 2009		II 2004	XI 2003 VII 2007					
Provisioning rate	XI 2005			I 2008									2006
Tighter regulation on higher risk/large exposures	IV 2006												XII 2007
Quantitative restrictions on lending growth	IV 2005 XII 2006												

(continued)

	BG	EE	LT	LV	HU	PL	RO	CY	ES	GR	IE	MT	SI
Limits on inclusion of bank profits into capital	IV 2005		I 2008										
Rules on collateral value of mortgage backed covered bonds									XII 2007				
Administrative measures:													
Eligibility criteria for borrowers	X				VI 2011						IX 2007		
Restrictions on payment-to-income ratio	X						II 2004 VIII 2005			XII 2005			
Introduction of first down-payment				VII 2007									
Submition of income statement from State Revenue Service				VII 2008			VIII 2008						
Tighter rules on taxes related to real estate transactions and government-subsidised mortgage conditions		2003 2004	X 2006	IV 2006	2003 2009								
Guidelines/ recommendations for banks or customers	II 2006	2003 2004	X	I & VII 2007					2004		VIII 2006		

[1] For JPY loans and total foreign currency risk under Pillar 2 of the CRD; the dates in the boxes denote the time of the implementation of the measures.

Source: BSC's WGMA Survey (November 2009) and information collected from national central banks (February 2010)

FOREIGN CURRENCY LENDING IN CROATIA

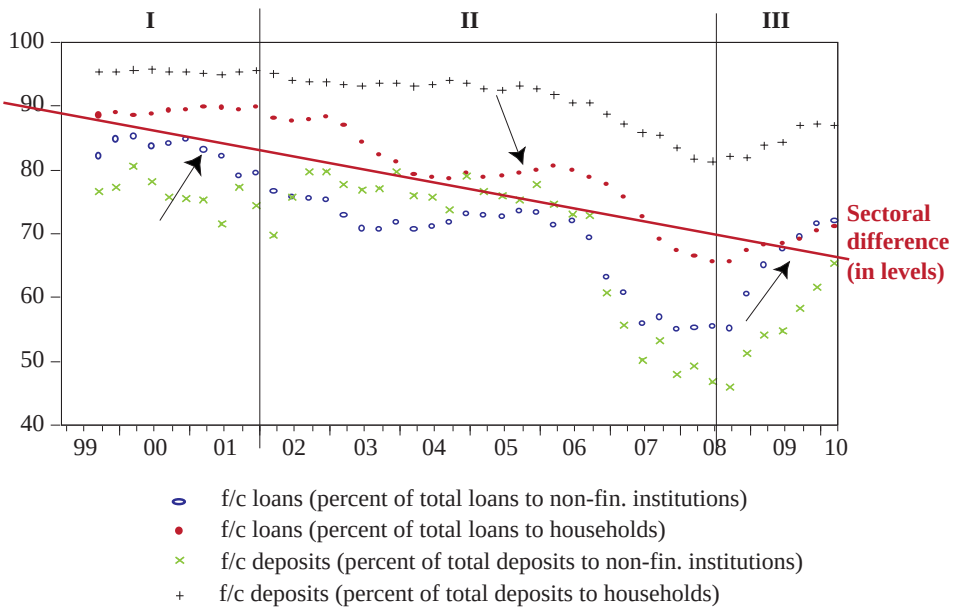
Saša Cerovac*

Eurisation in Croatia

- **Last 15 years of eurisation history in Croatia**
  1. continuous eurisation (until 2001)
  2. de-eurisation (2002-2008)
  3. re-eurisation (2009-)

On average above 70 percent (loans and deposits in f/c)

Share of f/c loans and deposits: eurisation swings across sectors



* Financial Stability Department, Croatian National Bank

Main causes ("literature review")

- Lack of credibility (of policy makers and institutional vulnerabilities, as well as history of banking crises)
- History of high inflation
- Price (interest rate) differential (and implicit guarantee: stable exchange rate policy)
- Availability and low cost of foreign capital (more so if foreign banking sector ownership)
  - ⇨ Underdeveloped financial derivative market to help reduce currency risk
  - ⇨ Policy measures aimed at reducing f/c risk exposure.

Croatian case

All of the above?

- Almost. Specially for **small, transitional and open economy.**

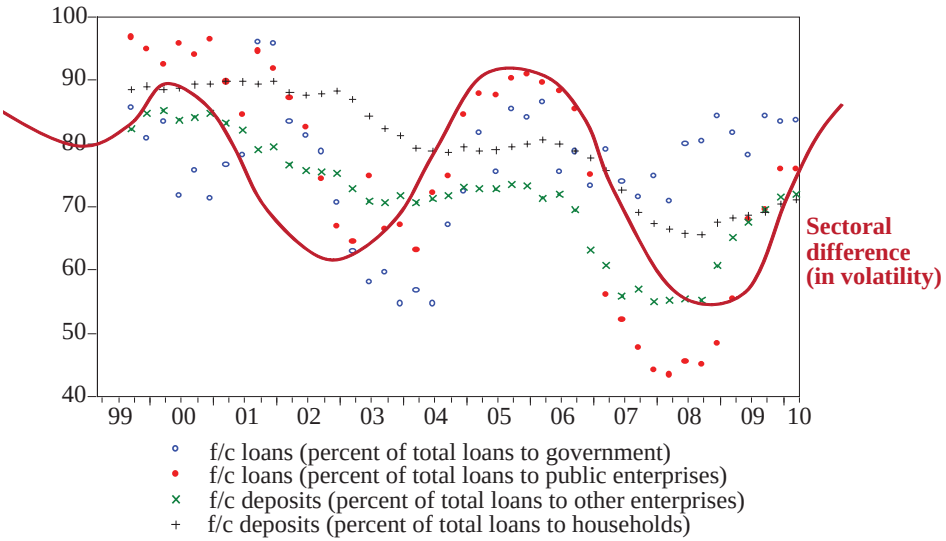
Risks?

- In general: the economy with continuous pressure on foreign reserves exposed to **high currency risks, vulnerabilities rise in crises, limited implementation of optimal policy measures to respond.**

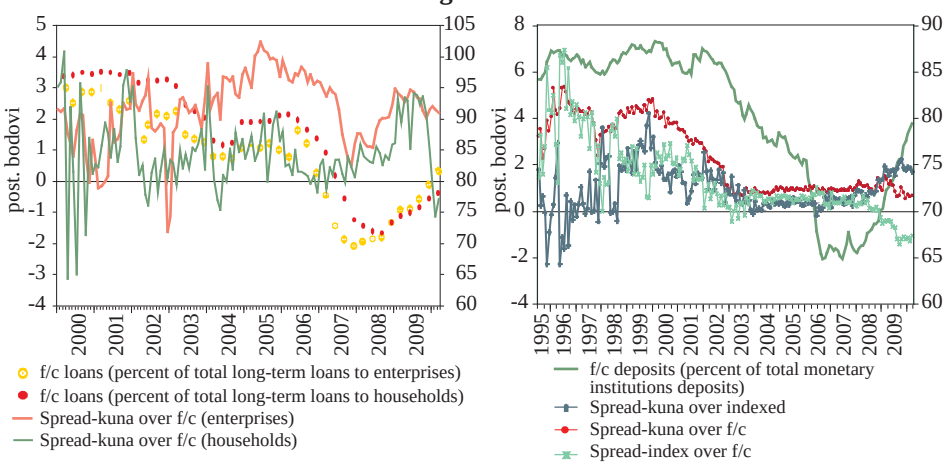
What are possible measures for de-eurisation?

- Assuming stable exchange rate policy, two approaches arise:
  a) **development of financial markets** based on domestic currency (important role of government borrowing)
  b) **inducing price differential** in favor of domestic currency (both through loans and deposits).

a) Share of f/c loans to the government is quite large – there is room for substitution and de-eurisation policies…



b) Lending and deposit rates clearly negatively correlated with a degree of eurisation



However

Risks?

a) ineffectiveness of measures in the environment that has long history of eurisation

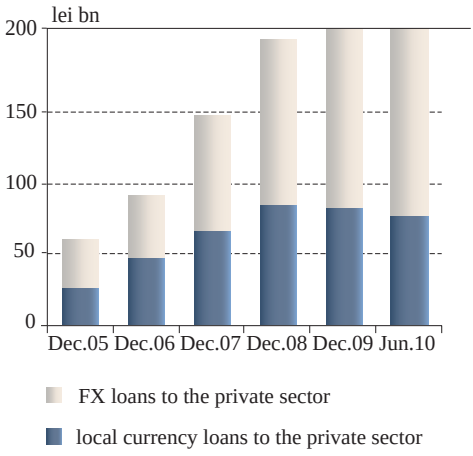
b) reduced lending rates to some sectors.

NATIONAL BANK OF ROMANIA'S EXPERIENCE WITH CURBING FX LENDING RAPID GROWTH

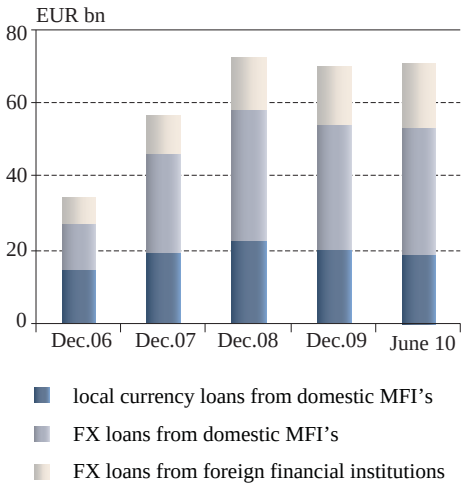
Luminița Tatarici*

Where do we stand?

FX loans are a material part of the Romanian banks' portfolio ...



... and a significant component of the private sector debt



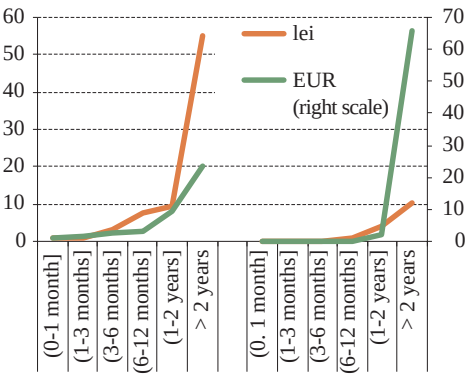
Source: NBR

* Financial Stability Department, National Bank of Romania

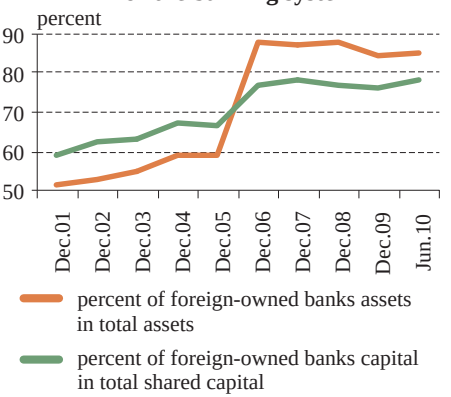
What are the factors that can explain this evolution?

Both the lack of (i) an appropriate domestic saving and (ii) high presence of foreign owned banks in the Romanian banking system contributed to an increase of supply of foreign currency loans ...

Loan to deposit ratio (June 2010)



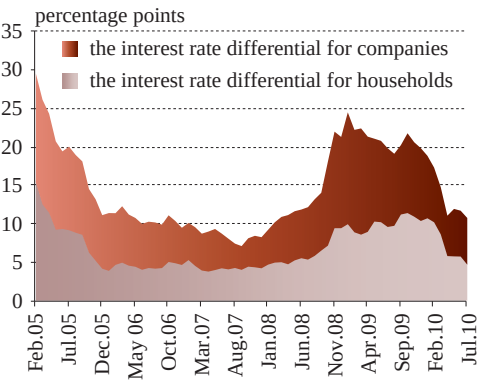
Foreign owned banks importance for the banking system



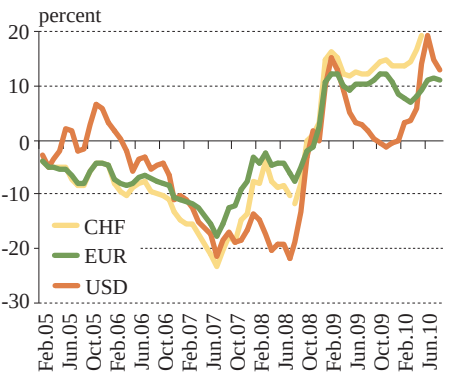
Source: NBR calculations

…as well as (iii) interest rate differentials and (iv) previous appreciation of local currency created the incentive for the demand for foreign currency loans.

Interest rate differentials were persistent ...



... and the exchange rate was on a downward path (January 2005=100)



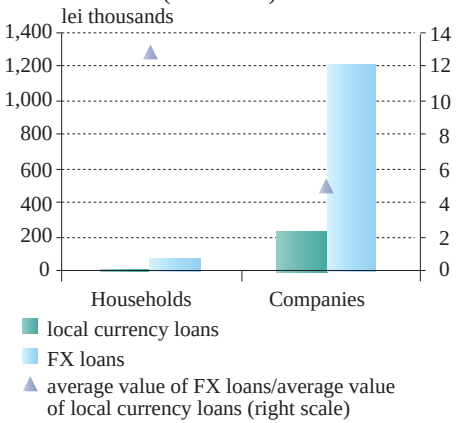
Interest rate diferentials represent the difference between nominal local currency interest rates and nominal EUR interest rates

Source: NBR calculations

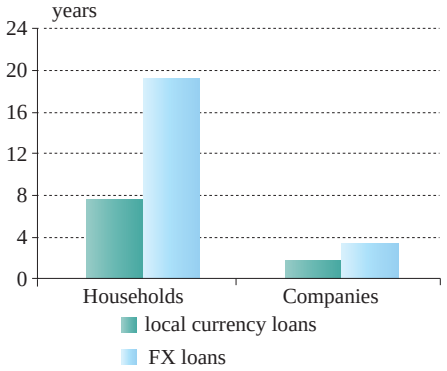
What are the vulnerabilities and the risks for the banking sector?

Besides large exposures that contributed to the increase of private sector degree of indebtedness …

FX loans have on average a larger value compared to local currency loans ... (June 2010)



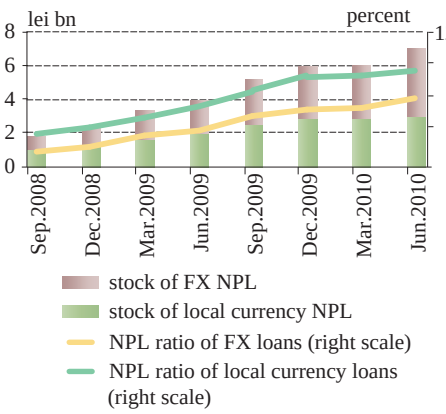
... and are granted on much longer maturities (June 2010)



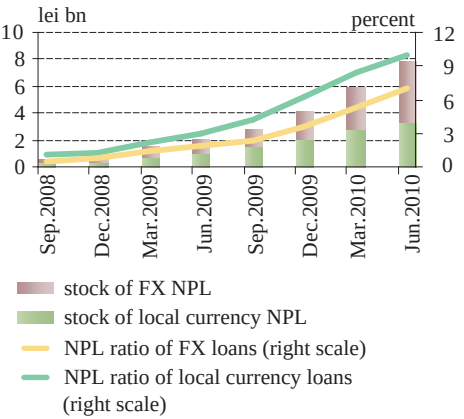
Source: NBR calculations

… the credit risk stemming from households and non-financial companies materialized

Households' portfolio



Non-financial companies' portfolio

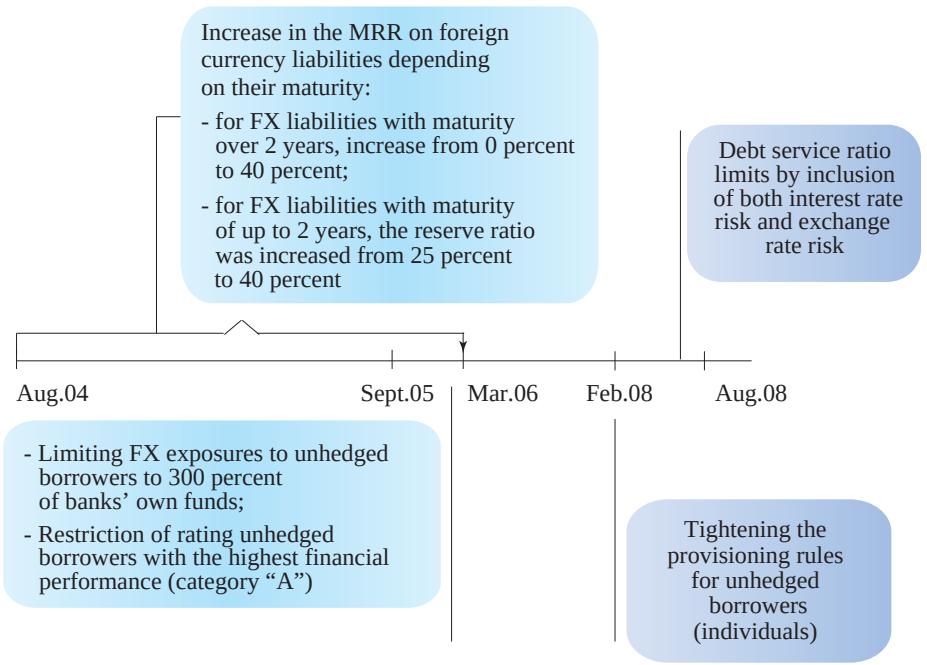


NPL = non-performing loans (loans with more than 90 days overdue)

Source: NBR calculations

What measures have been taken?

NBR took very early precautionary measures to contain rapid growth of FX lending



What are the challenges for future measures?

- High FX exposure delivers risks to the banking sector, but measures should be tailored by loans types, and with an unhedged borrower approach
- In order to counteract banks appeal to avoid regulation, an EU "level playing field" is desirable
- Stimulation of domestic savings
- Rising awareness for both lenders and borrowers in what regards the risks associated with foreign currency lending.

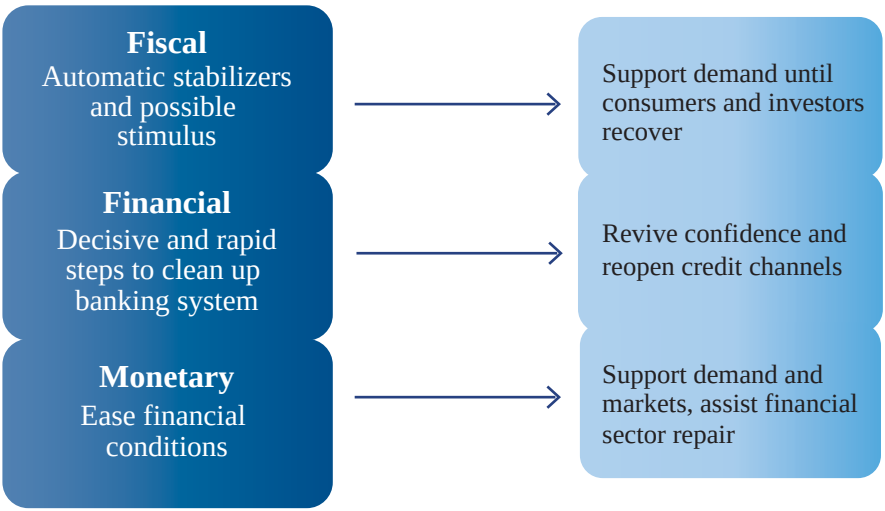
SESSION 4

THE IMPACT OF THE WITHDRAWAL OF FISCAL AND MONETARY STIMULUS OF THE DEVELOPED COUNTRIES ON THE EUROPEAN EMERGING COUNTRIES

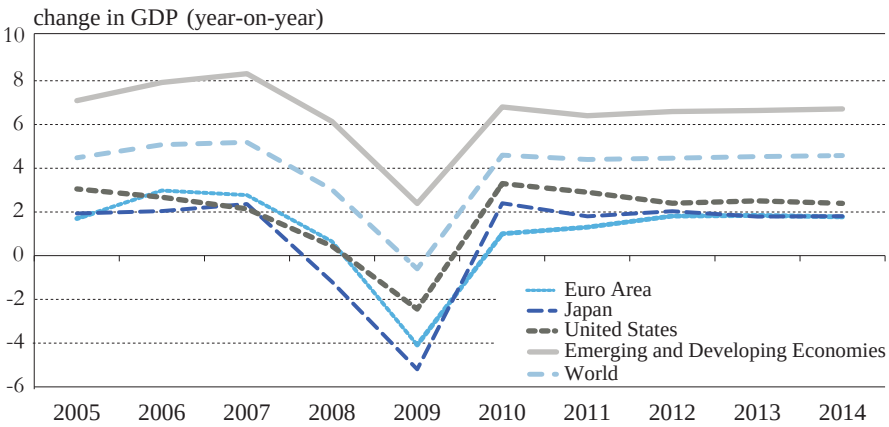
IMPACT OF FINANCIAL DEVELOPMENTS ON EMERGING EUROPE

Mark Allen*

How to Resolve a Financial Crisis



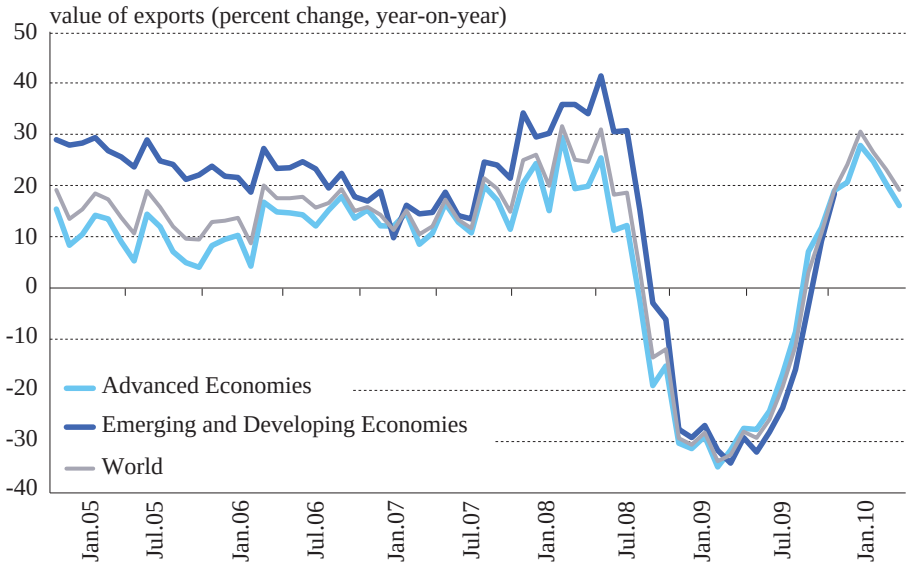
The world economy is recovering, but slowly



Source: World Economic Outlook, June 2010

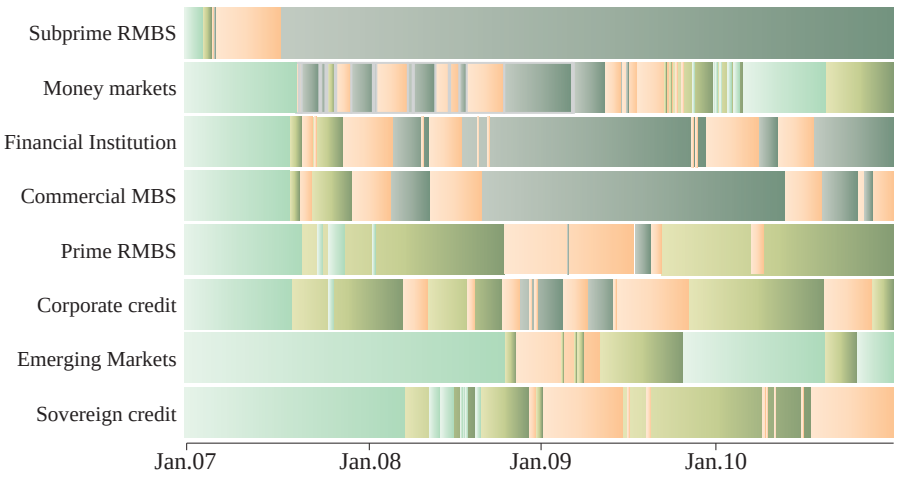
* Senior IMF Resident Representative for Central and Eastern Europe

Rebound in world trade has been supportive



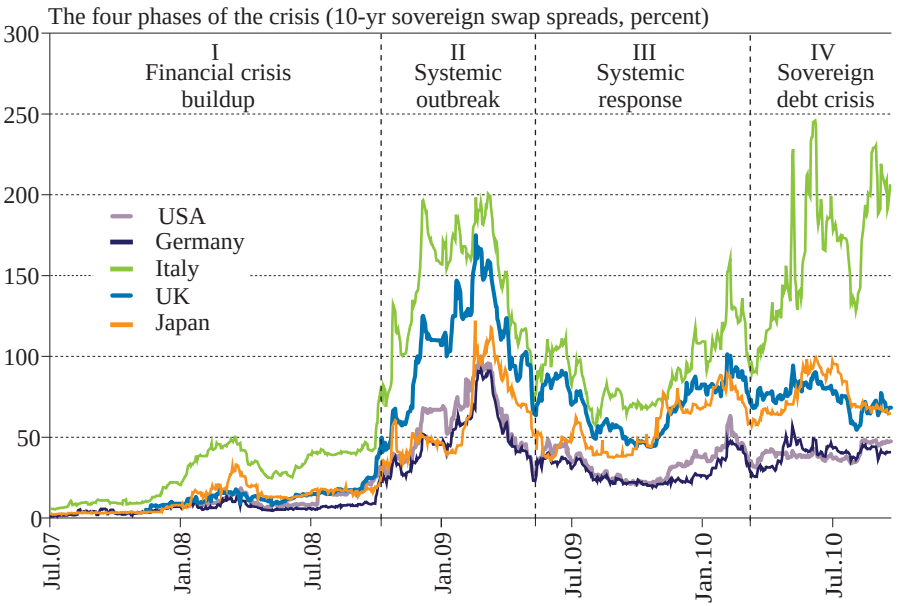
Source: International Financial Statistics

Most financial markets are returning to normal



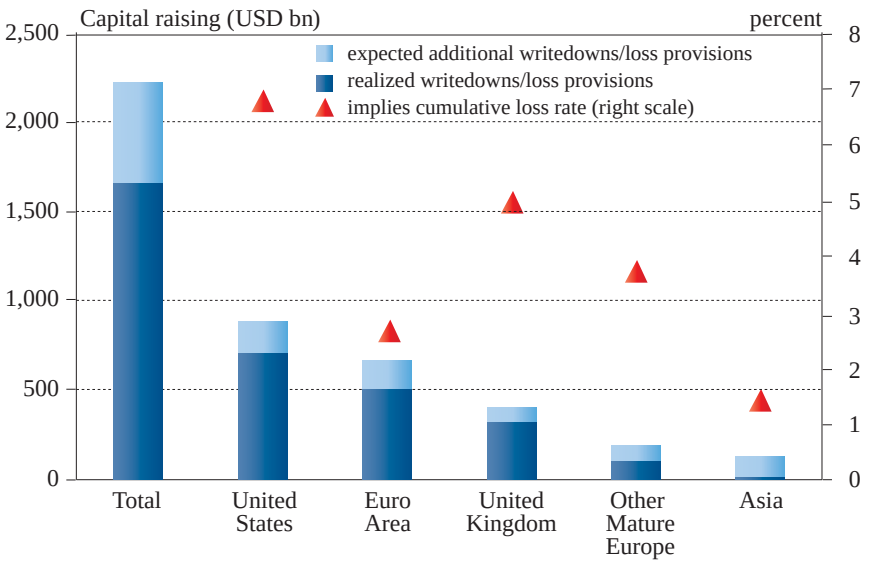
Source: Global Financial Stability Report, April 2010

The crisis is becoming one of public finances



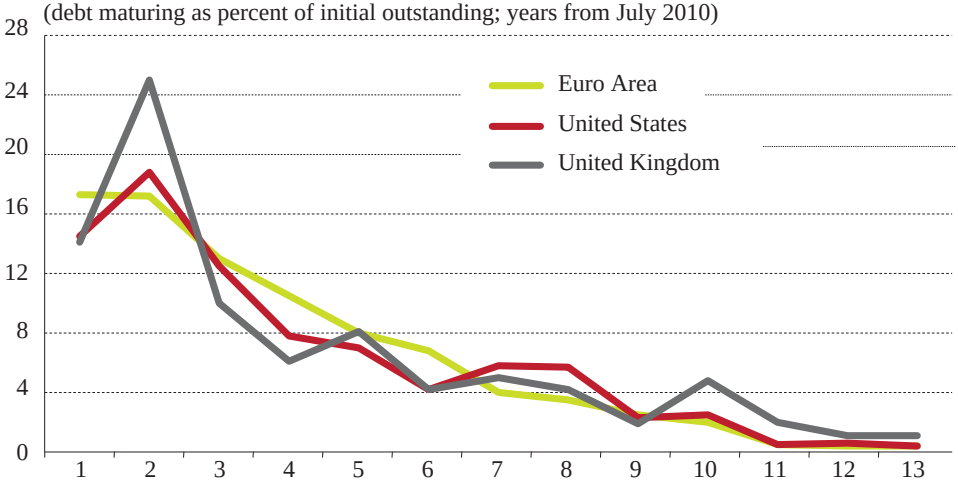
Source: Bloomberg

Bank balance sheets are under repair ...



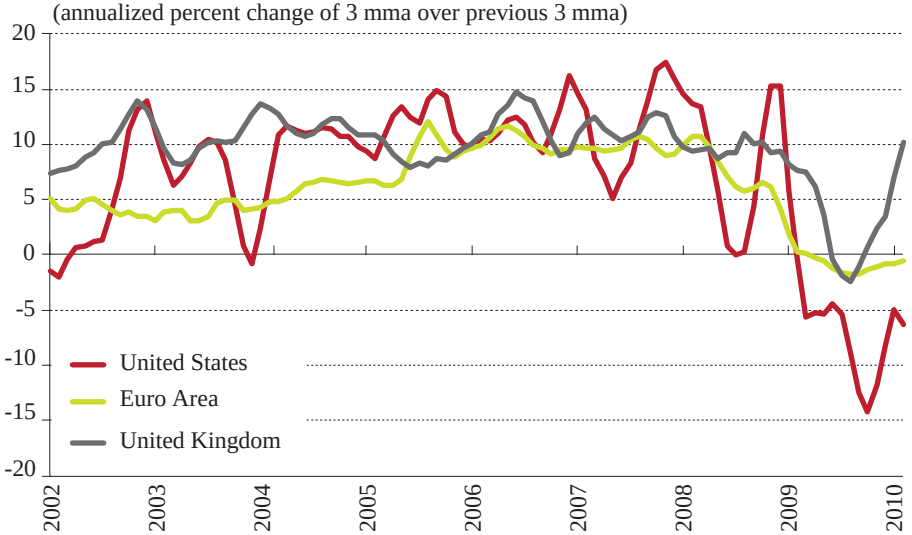
... but bank funding is tight ...

Bank bond maturity profile
(debt maturing as percent of initial outstanding; years from July 2010)



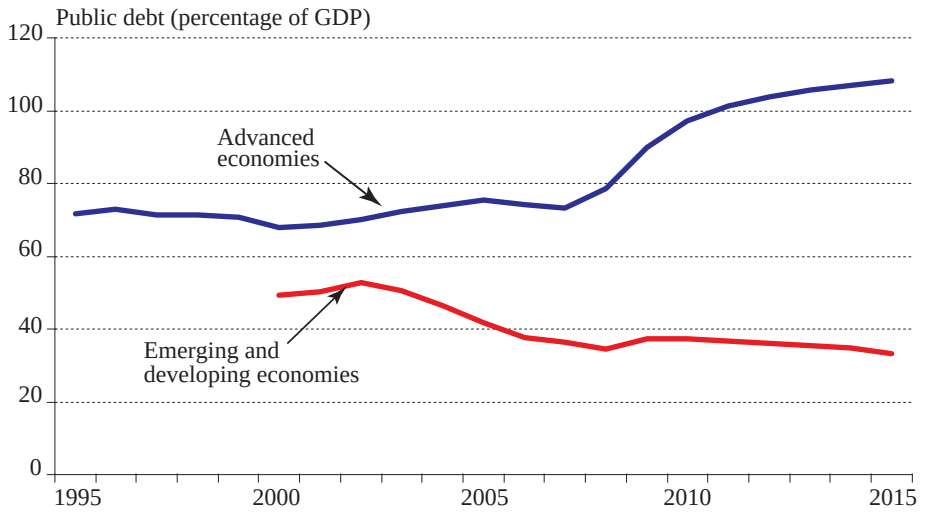
... and credit expansion subdued

Private credit growth
(annualized percent change of 3 mma over previous 3 mma)



Source: Bank of England, European Central Bank, and the Federal Reserve Board

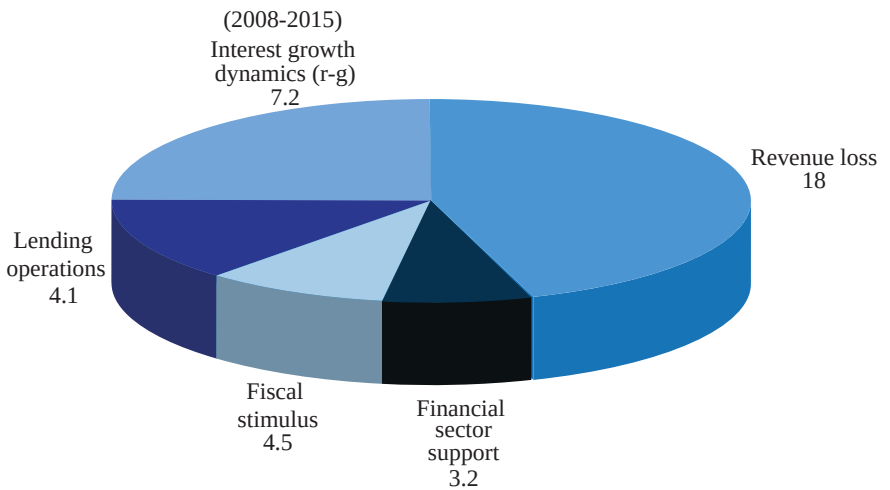
Fiscal risks have appeared in some economies



Source: World Economic Outlook, April 2010

... although the jump is largely due to the recession

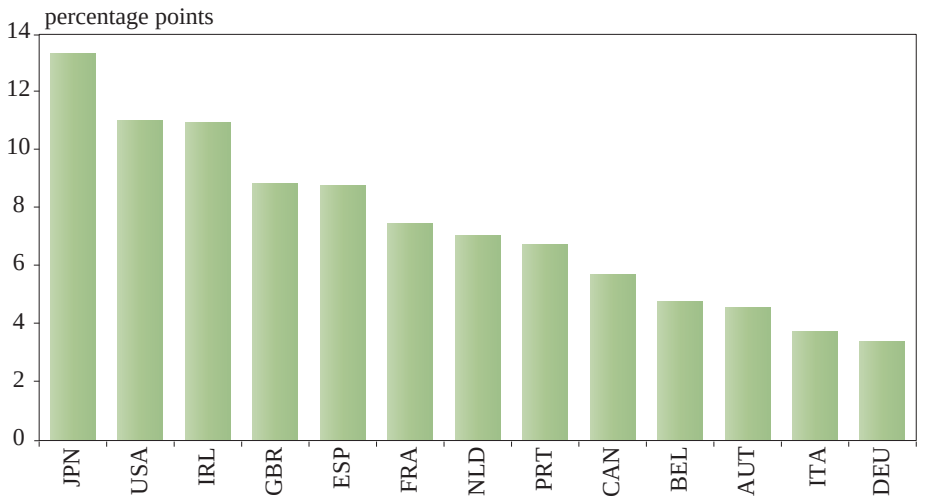
G-20 Advanced Economies: increase in public debt, 2008-2015
(total increase: 37 percentage points of GDP; 2009 PPP weighted GDP)



Source: World Economic Outlook, April 2010; Staff estimates

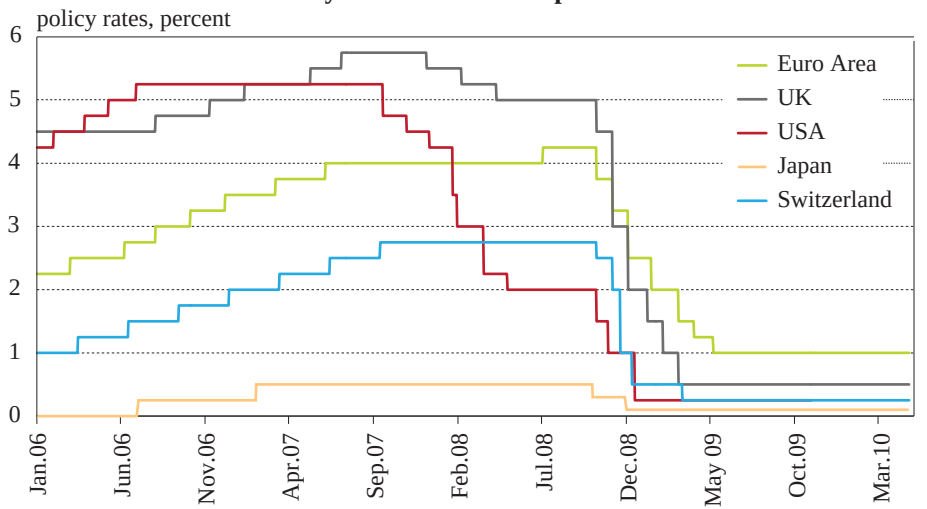
Many advanced economies need large fiscal adjustment

Required Change in Structural Primary Balance Ratio to GDP 2010-2020 1/



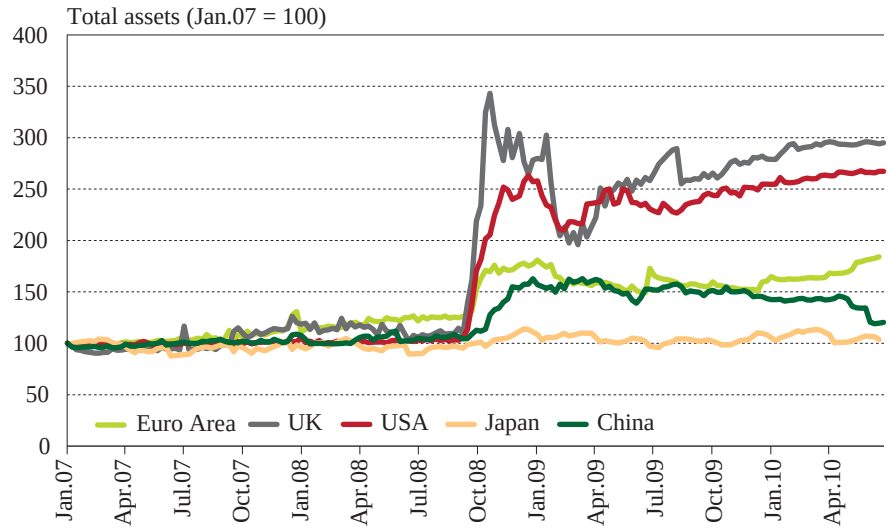
1/ Debt to GDP target: 60 percent in 2030 (for Japan, net debt target of 80 percent). Linear adjustment of primary deficit over 2011-2020, constant thereafter

Policy rates have been kept near zero



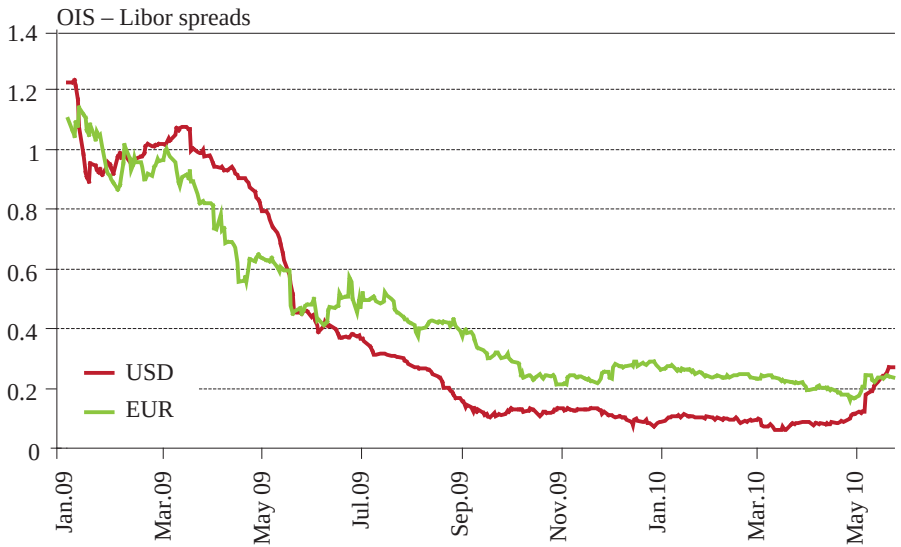
Source: Bloomberg

... and Central Banks have provided unconventional market support



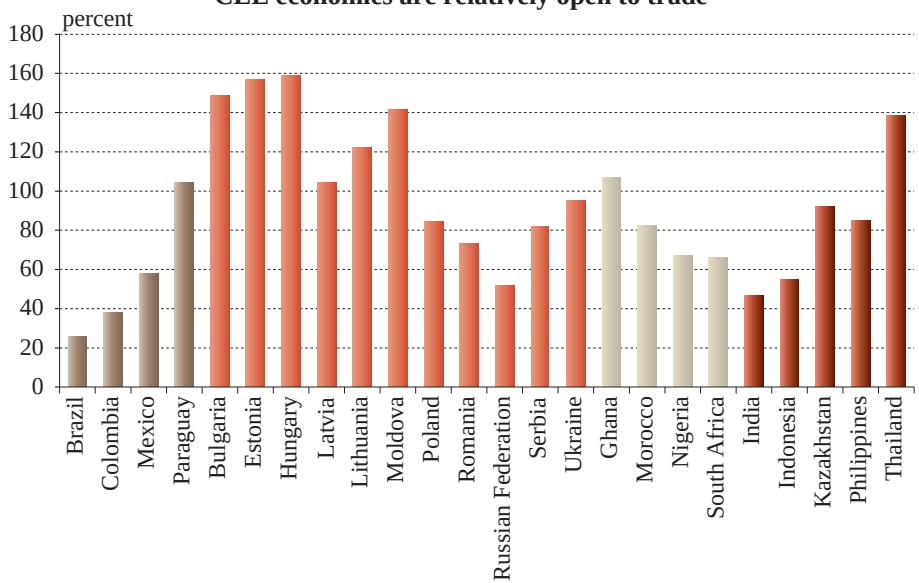
Source: Bloomberg

But market liquidity is under strain again

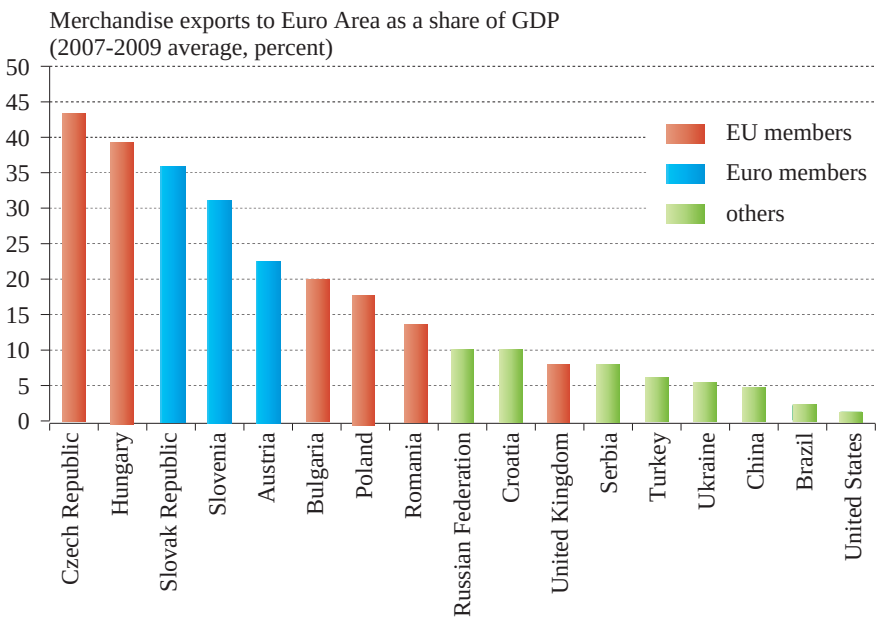


Source: Bloomberg

CEE economies are relatively open to trade

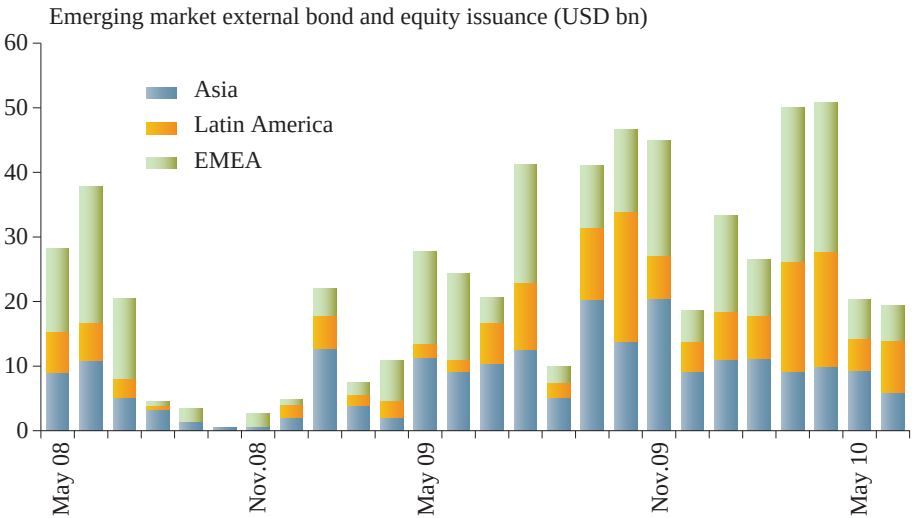


CEE is highly dependent on eurozone conditions

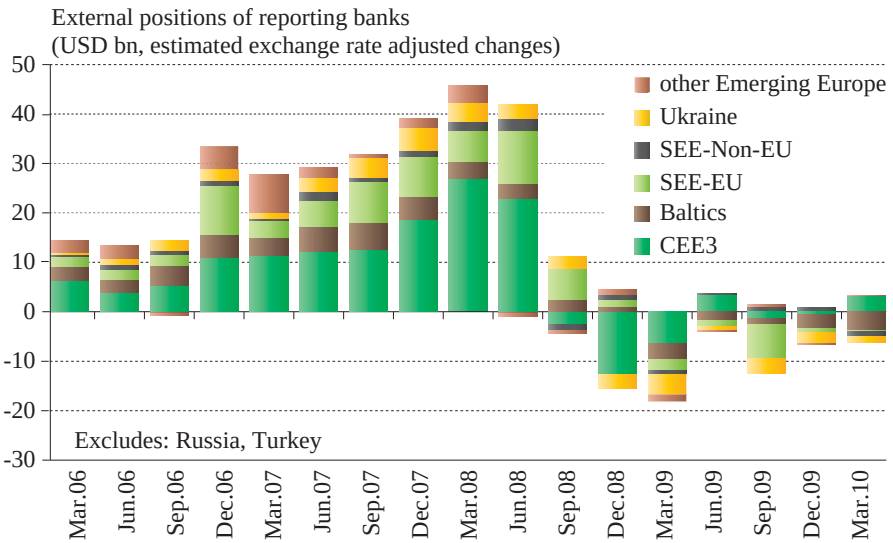


Source: Direction of Trade Statistics; World Economic Outlook, April 2010

Capital flow to emerging markets have resumed

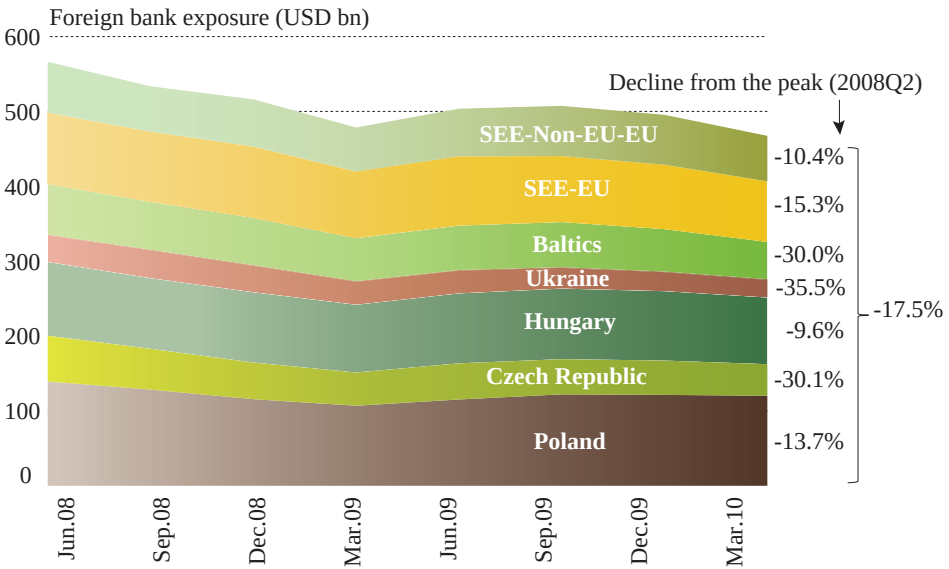


Bank flows into the region are stagnating ...



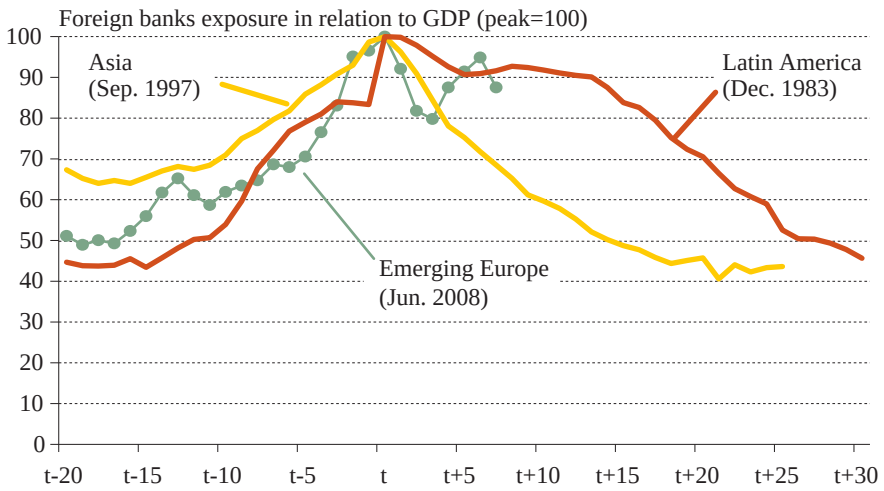
Source: BIS

... and exposure has fallen from its peak ...



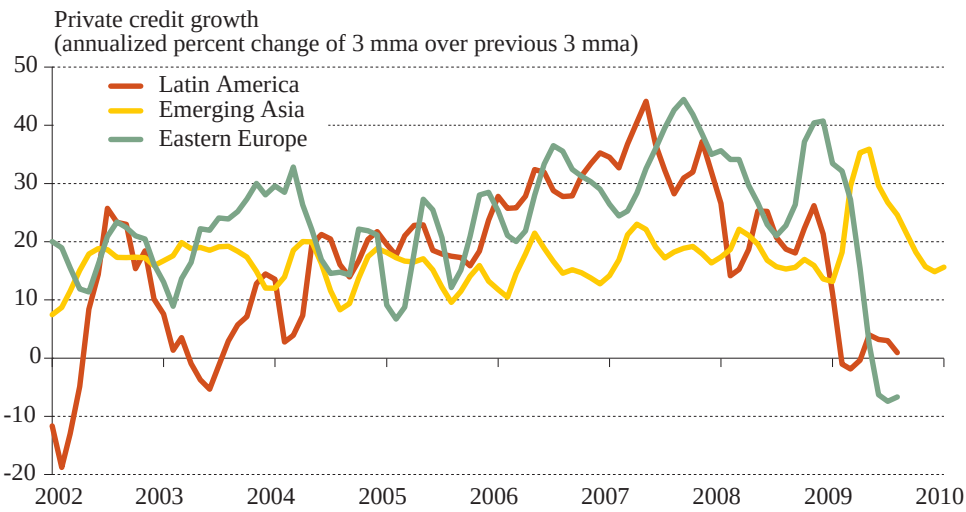
Source: BIS

... as part of post-crisis deleveraging



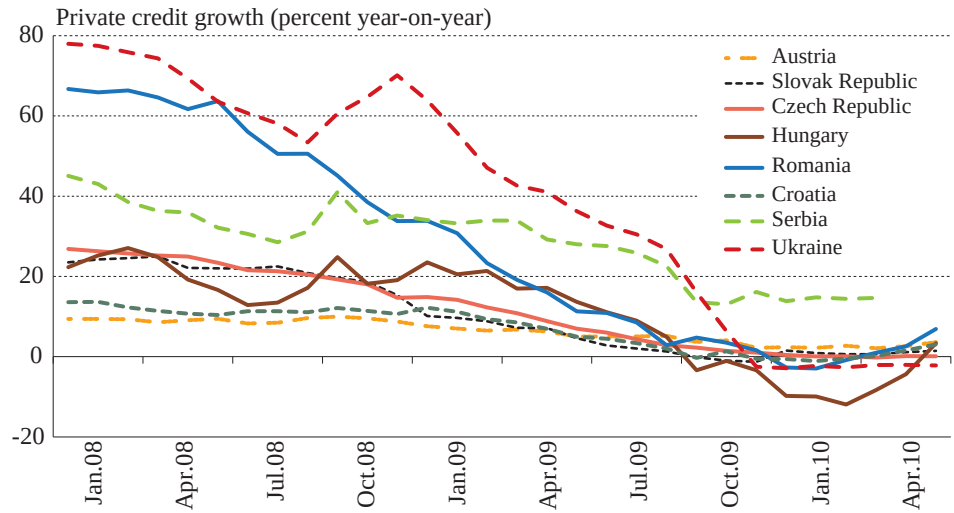
Source: BIS; IMF – International Financial Statistics

Bank credit supply remains poor in CEE ...



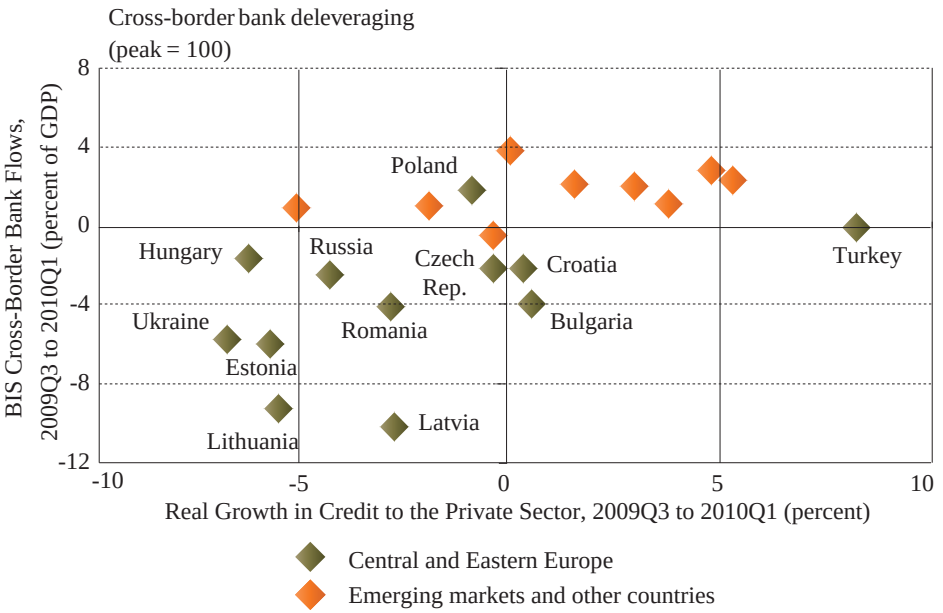
Source: Bank of England, European Central Bank, and the Federal Reserve Board

... and credit growth remains very restrained

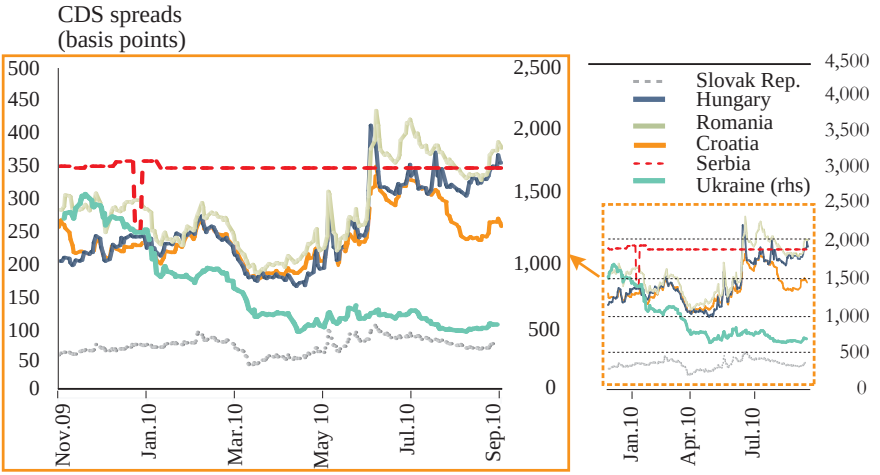


Source: IMF – International Financial Statistics

CEE credit growth is tied to cross-borders flows

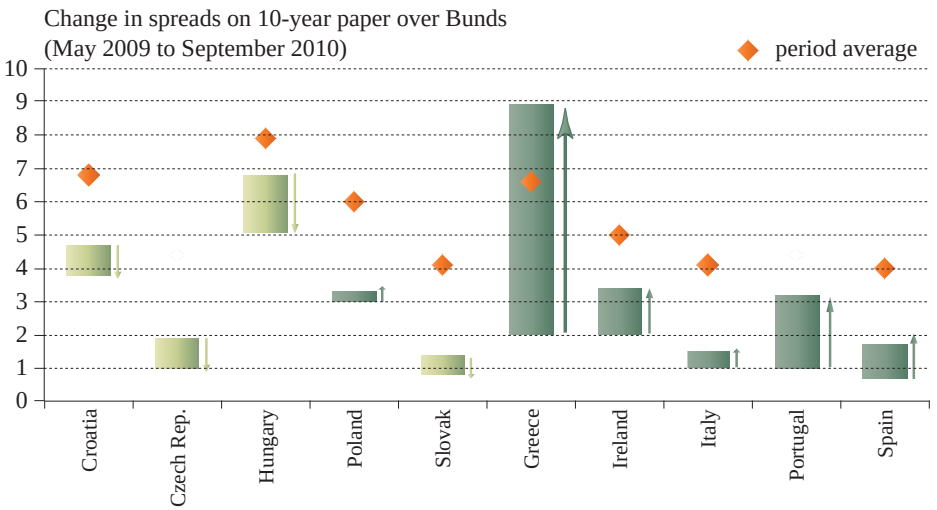


Spreads in CEE have fallen until recently,



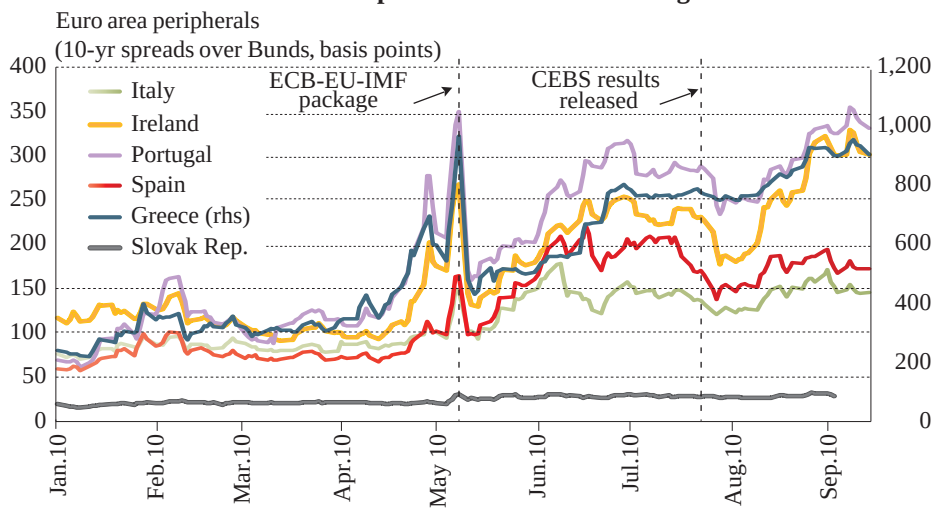
Source: Bloomberg

when market concerns have shifted to GIIPS,



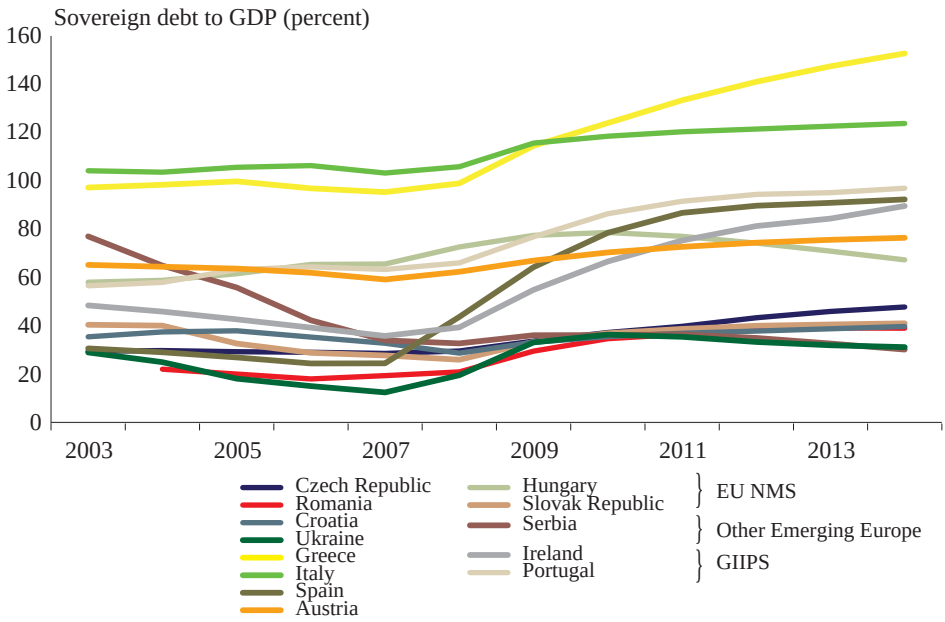
Source: Bloomberg

since spreads for GIIPS are rising



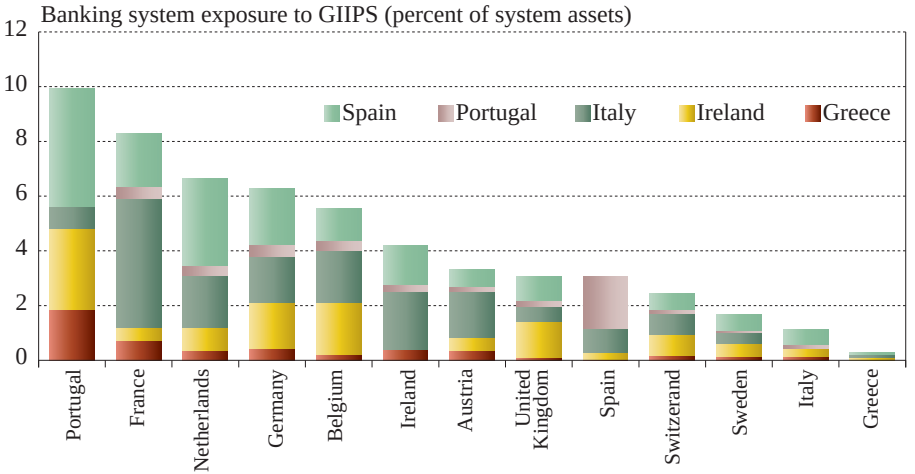
Source: Bloomberg

Sovereign debt is lower in CEE than in GIIPS



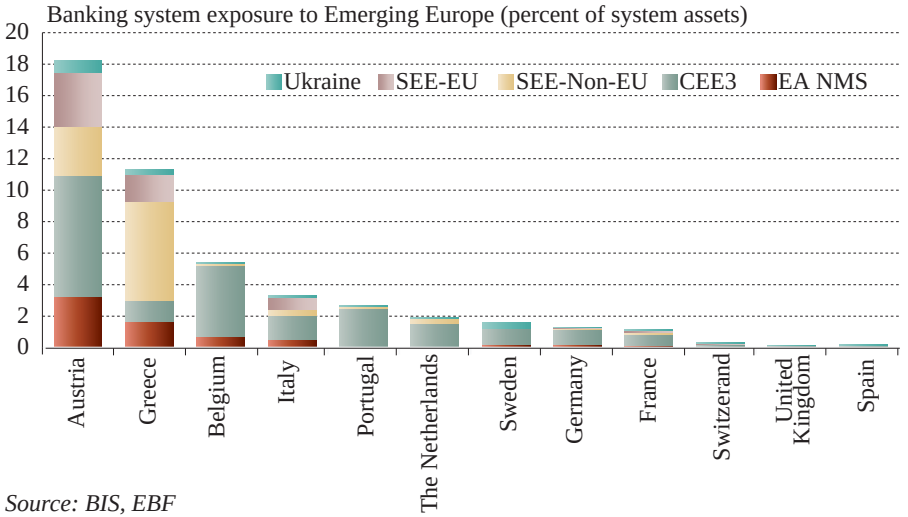
Source: World Economic Outlook, April 2010

Some banking systems are exposed to GIIPS ...



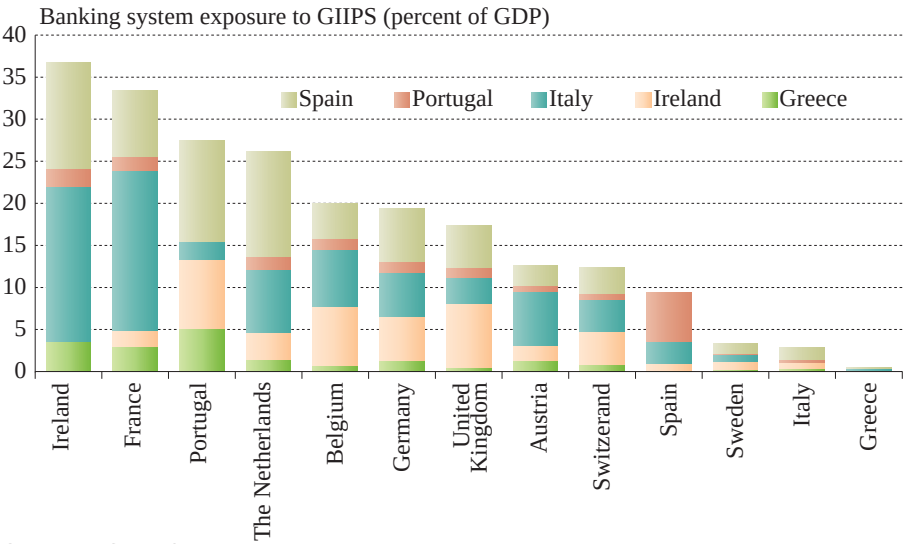
Source: BIS, EBF

... and others to CEE



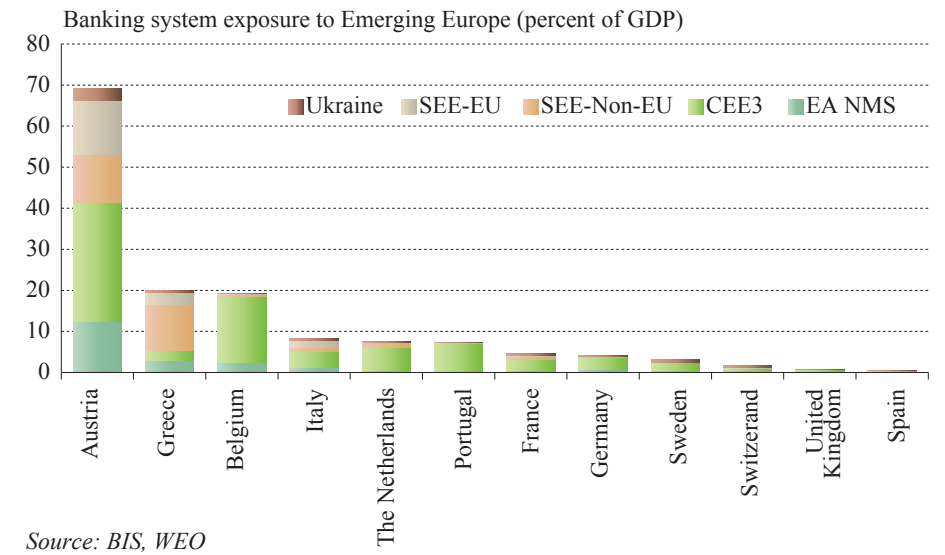
Source: BIS, EBF

These can be large shares of GDP (1)



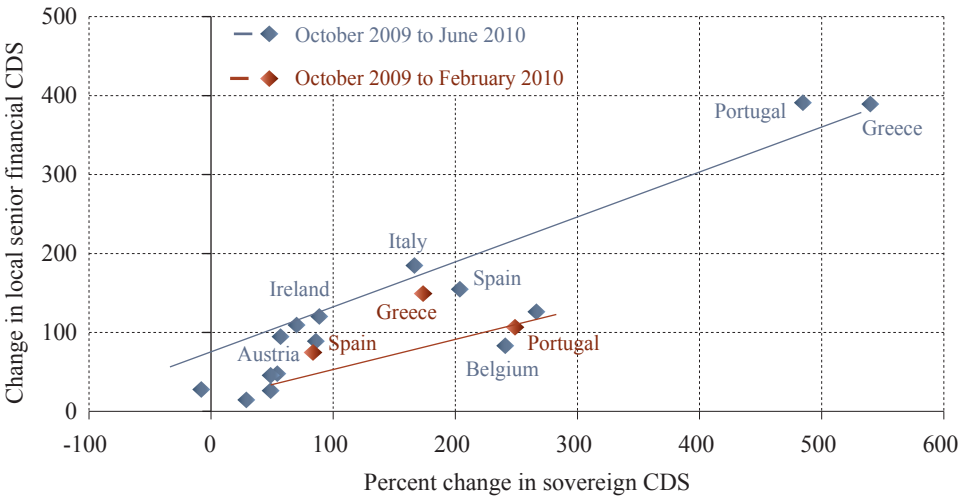
Source: BIS, WEO

These can be large shares of GDP (2)



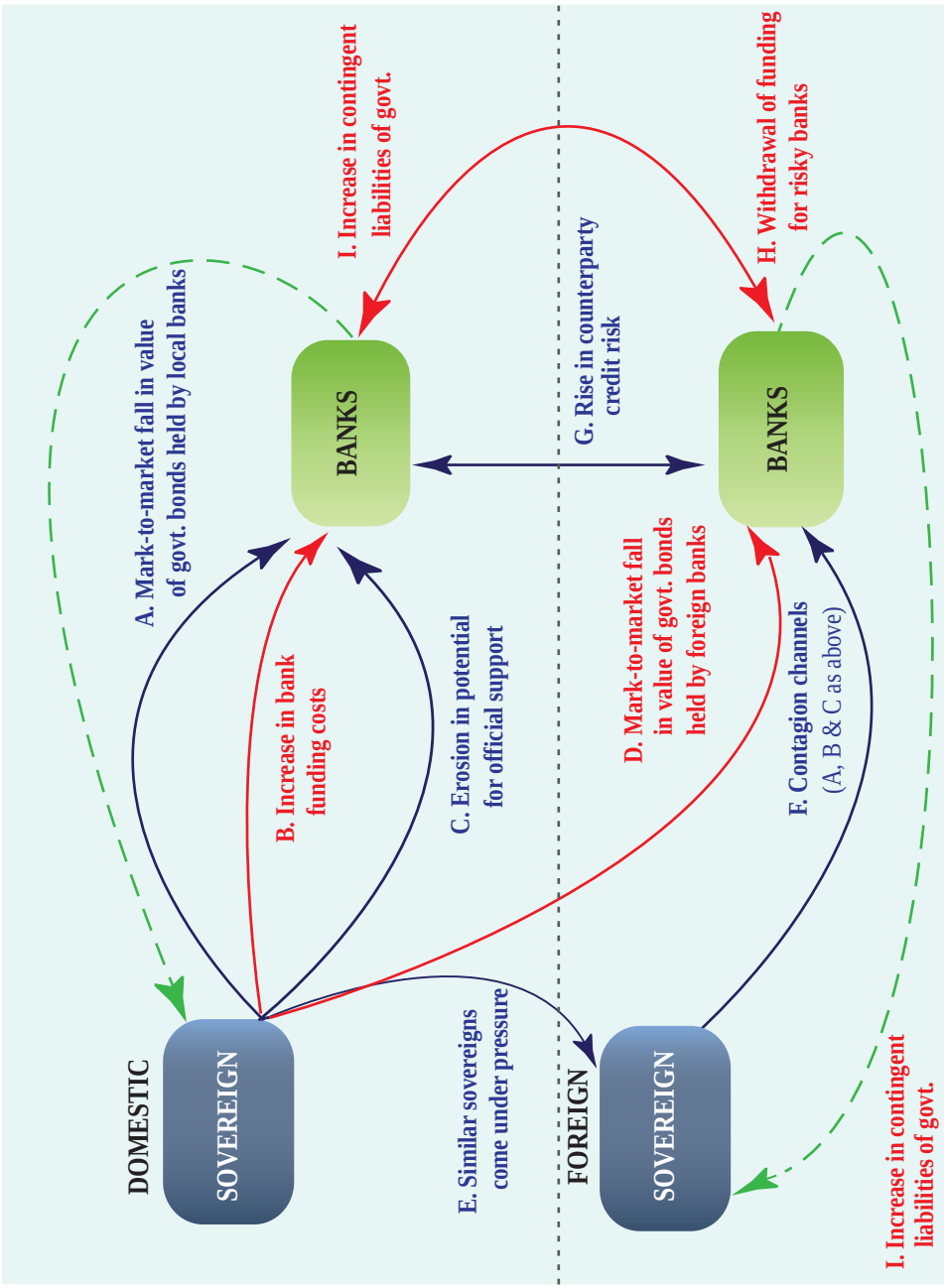
Source: BIS, WEO

Sovereign creditworthiness directly affects that of banks ...



Source: Bloomberg

… and a feedback loop ties sovereign strains to banking system



THE IMPACT OF THE WITHDRAWAL OF FISCAL AND MONETARY STIMULUS OF EUROPEAN AREA COUNTRIES

Irina Mihai*

ECB monetary stimulus – exit strategies discussions are postponed to after the end of 2010 …

I. New Liquidity providing instruments and methods:

- **USD, JPY, and CHF funds**

10 May 2010: "The Governing Council of the ECB decided to reactivate, in coordination with other central banks, the temporary liquidity swap lines with the Federal Reserve, and resume US dollar liquidity-providing operations at terms of 7 and 84 days".

- **LTRO on 6 and 12 months**

2 September 2010: "The Governing Council has also decided to carry out three additional fine-tuning operations when the remaining 6-month and 12-month refinancing operations mature (…). The fixed rate tender procedure with full allotment will also be used in these three operations, the rate being the same as the MRO rate prevailing at that time".

- **Fixed rate tender procedure with full allotment:**

2 September 2010: "European Central Bank (ECB) has today decided to continue to conduct its main refinancing operations (MROs) as fixed rate tender procedures with full allotment for as long as necessary, and at least until the end of this year's twelfth maintenance period on 18 January 2011".

* Financial Stability Department, National Bank of Romania

II. Extended list of eligible collateral:

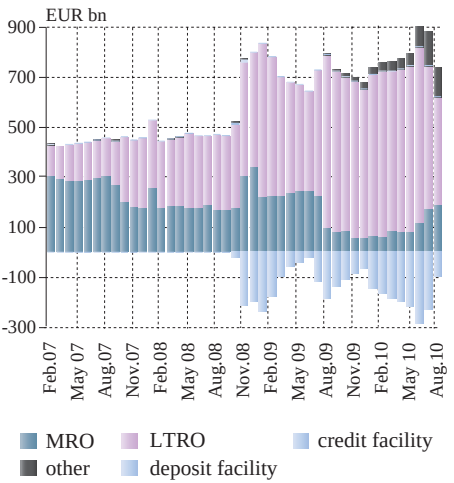
8 April 2010: "(…) the Governing Council has decided to apply, as of 1 January 2011, a schedule of graduated valuation haircuts to the assets rated in the BBB+ to BBB- range (or equivalent). This graduated haircut schedule will replace the uniform haircut add-on of 5 percent that is currently applied to these assets". The schedule was published on 28 July 2010.

III. Assets purchasing programme – Securities Markets Programme

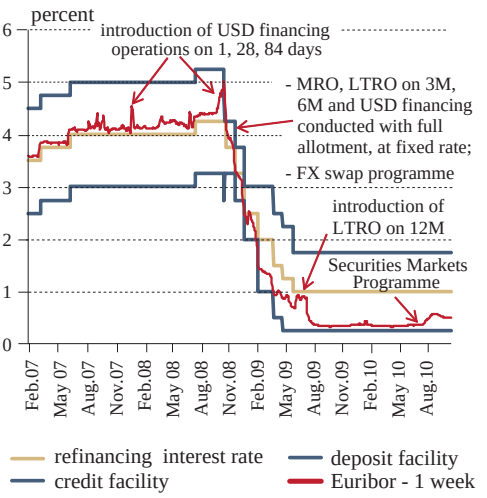
10 May 2010: "The Governing Council decided to conduct interventions (…) to ensure depth and liquidity in those market segments which are dysfunctional".

... meanwhile some programs are concluded (Covered Bond Purchase Programme) or will be phased out as the loans mature (LTRO on 6M and 12M maturities)

ECB refinancing operations



Interest rates on European money market



Source: ECB

The distribution of injected funds was asymmetric, but in correlation with government bailout programs

ECB funding and EU Governments' guarantees programs

	ECB	Germany	France	Italy	The Netherlands	Austria	Greece
Refinancing (EUR bn, as of Dec. 2009)	795	277	134	50	35	23	38
% of Central Bank's total assets	39	45	24	19	30	27	54
% of GDP	9	11	7	3	6	8	16
Government Guarantee Program (EUR bn)		400	320	n.a.	200	100	28
% of GDP		17	17	n.a.	35	37	12

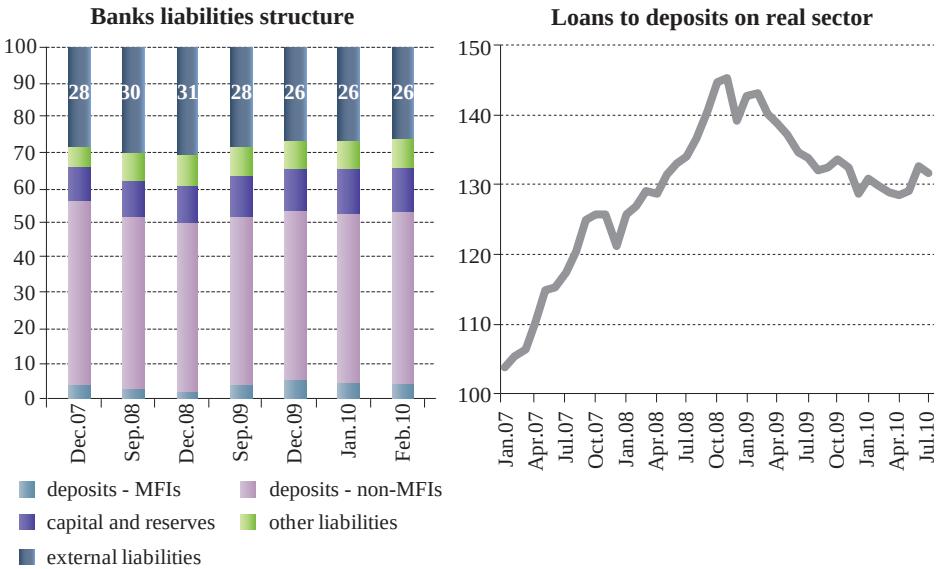
Source: Petrovic and Tutsch (2009), ECB, Central Banks' websites, Bloomberg

European Financial Institutions – Losses and capitalization

		Dec. 2007	Dec. 2008	Dec. 2009	Mar. 2010
Writedowns/Losses	EUR bn	72	323	417	419
Capitalization – All sources	EUR bn	29	249	421	421
Capitalization – Government	EUR bn	2	161	255	255
	% Total	6	65	61	60

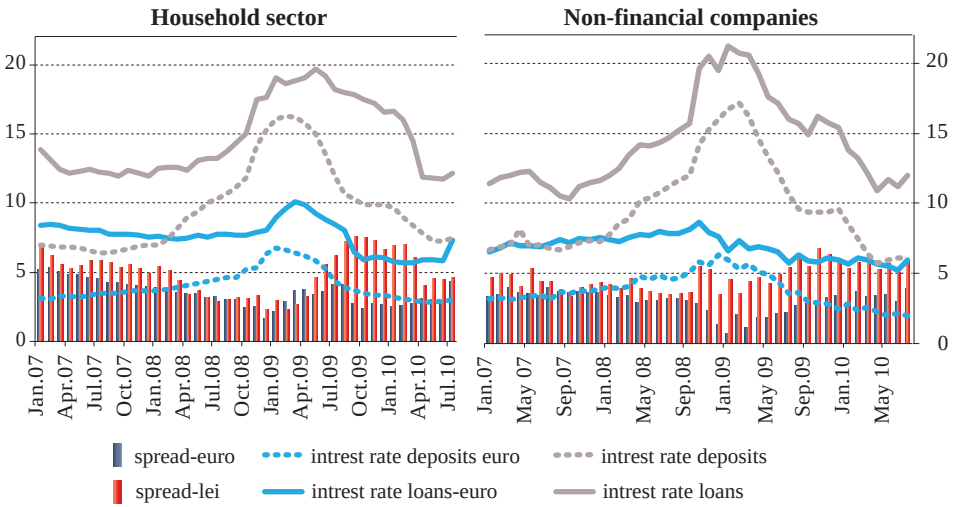
Source: Bloomberg

Banks recourse to shareholders for additional capital as well as to local market for financial resources ...



Source: NBR

... this was also reflected by interest rates dynamics



Source: NBR

Fiscal stimulus – exit strategies are under way as pressures build up due to large public deficits and public debt

	Exports (%)	Bank assets (%)	Economic growth		Public deficit (% of GDP)		Public debt (% of GDP)	
	2009	2009	2009	2010f	2009	2010f	2009	2010f
EU	74.5	84.5	-4.2	1.0	-6.8	-7.2	73.6	79.6
Germany	18.8	0.3	-5.0	1.2	-3.3	-5.0	73.2	78.8
France	8.2	13.5	-2.2	1.3	-7.5	-8.0	77.6	83.6
Italy	15.4	7.7	-5.0	0.8	-5.3	-5.3	115.8	118.2
The Netherlands	3.3	7.0	-4.0	1.3	-5.3	6.3	60.9	66.3
Austria	2.4	35.1	-3.6	1.3	-3.4	-4.7	66.5	70.2
Greece	1.9	16.9	-2.0	-3.0	-13.6	-9.3	115.1	124.9

f = forecast

Source: European Commission, May 2010

SESSION 5

THE IMPACT OF THE EU CHANGING REGULATORY FRAMEWORK ON THE EMERGING EU MEMBER STATES

BASEL III AND IMPACT ON EMERGING EUROPE

Nikolaos Tsaveas*

Basel III – an overview

Committee's package of reforms will

- Increase the minimum common equity requirement from 2 percent to 4.5 percent
- Require banks to hold a capital conservation buffer of 2.5 percent to withst and future periods of stress, bringing the total common equity requirements to 7 percent
- Shift the focus to "better quality" capital, such as common equity, leaving aside capital of lesser supportive capacity.

The Basel III agreement, apart from the increased capital requirements reform, includes a timeline describing the necessary transitional arrangements.

Capital conservation buffer

- **Level**: The 2.5 percent capital conservation buffer (CCB) will be met with common equity, after the application of deductions
- **Phase-in arrangements**: CCB will gradually increase from 0.625 percent of RWAs on 1 January 2016 to 2.5 percent of RWAs on 1 January 2019 by being increased each year by an additional 0.625 percentage points
- **Objectives**: CCB will be used to absorb losses during periods of financial and economic stress
  - ⇨ While banks are allowed to draw on the buffer during such periods of stress, the closer their regulatory capital ratios approach the minimum requirement, the greater the constraints on earnings distributions
  - ⇨ This framework will address the collective action problem that has prevented some banks from curtailing distributions.

* Financial Stability Department, Bank of Greece

Basel III – An overview on capital requirements reforms

Calibration of the capital framework

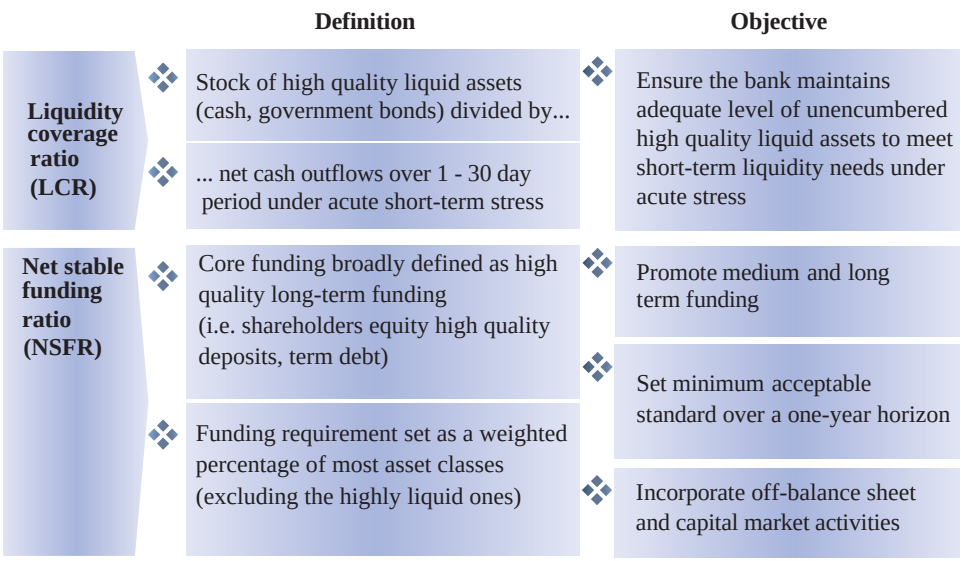
Capital requirements and buffers (all numbers in percent)

	Common Equity (after deductions)	Tier 1 Capital	Total Capital
Minimum	4.5	6.0	8.0
Conservation buffer	2.5		
Minimum plus conservation buffer	7.0	8.5	10.5
Countercyclical buffer range*	0-2.5		

* Common equity or other fully loss absorbing capital

Source: BIS press release on higher global minimum capital standards, 12 September 2010

Basel III - An overview of liquidity standards reforms



Basel III – Phase-in arrangements
(shading indicates transition periods – all dates are as of January 1st)

	2011	2012	2013	2014	2015	2016	2017	2018	As of 1 January 2019
Leverage Ratio	Supervisory monitoring		Parallel run 1 Jan. 2013 - 1 Jan. 2017 Disclosure starts 1 Jan. 2015				Migration to Pillar I		
Minimum Common Equity Capital Ratio			3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital Conservation Buffer						0.625%	1.25%	1.875%	2.5%
Minimum common equity plus capital conservation buffer			3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and financials)				20%	40%	60%	80%	100%	100%
Minimum Tier 1 Capital			4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum Total Capital			8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Minimum Total Capital plus conservation buffer			8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%
Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital			Phased out over 10 year horizon beginning 2013						
Liquidity coverage ratio	Observation period begins				Introduce minimum standard				
Net stable funding ratio		Observation period begins					Introduce minimum standard		

Source: BIS press release on higher global minimum capital standards, 12 September 2010

Things to watch

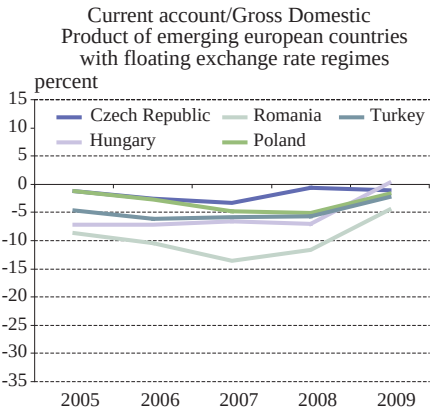
- A "holier than though" spiral that will necessitate ever-tightening standards, and may cut some financial institutions out of the markets
- An uneven application of standards that will distort the playing field
- The bank levy
- The treatment of SIFIs.

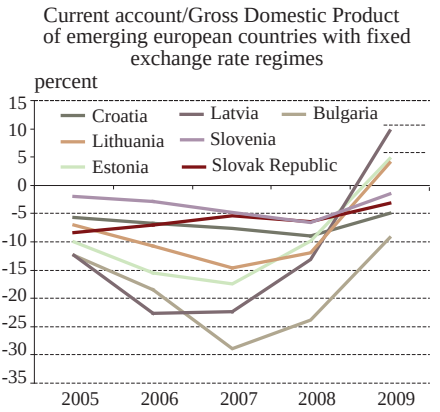
Emerging Europe stylized facts

Current account deficit	Current account deficits widened sharply in the booming period (convergence story)
Foreign banks presence	The banking sector of Emerging Europe countries is dominated by foreign-owned banks
Foreign currency lending	Lending in foreign currency constitutes a large share of total loans in many countries
Savings gap	The loan-to-deposit ratio of many Emerging Europe countries is relatively high and has increased considerably in the booming period prior to the global financial crisis
Strong capital base	Relatively strong capital base with good quality capital

Emerging Europe stylized facts: current account deficits

- Countries with fixed exchange rates exhibited very wide CA deficits in the run-up to the crisis and suffered from a sharp correction afterwards
- Countries with flexible exchange rates faced a significant but less ronounced correction of the CA deficit.





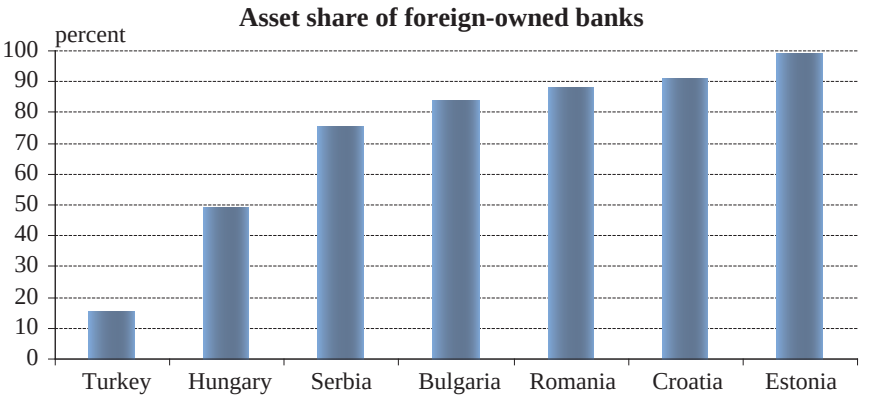
Note: Slovak Republic and Slovenia belong to the Euro area

Source: International Monetary Fund

Emerging Europe stylized facts: predominance of foreign-owned banks

The banking sector of Emerging Europe countries is dominated by foreign-owned banks.

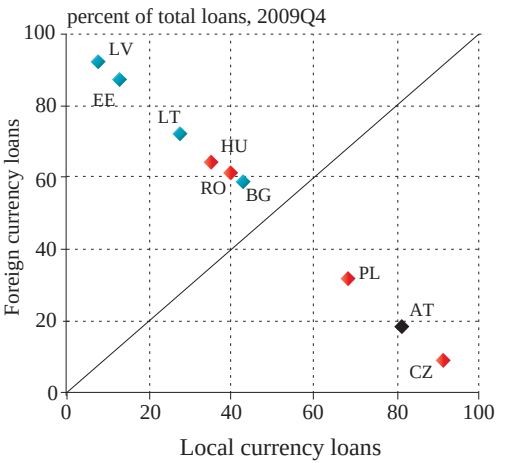
- Privatization and liberalization of domestic banking sectors
- Banking crises in the early phases of the transition
- Lack of domestic inputs
- Attractive markets due to the convergence story.



Emerging Europe stylized facts: foreign currency lending

- The increasing share of FX loans, in particular euro-denominated lending went alongside a strong expansion of overall credit, amid strong inflows of foreign capital attracted by expectations of a dynamic economic convergence
- Partly funded by FX deposits and partly by parent funding
- Banks in a way substituted direct FX risk with indirect credit risk, especially in the case of unhedged borrowers (e.g. households)

Loans in national and foreign currency to the non-financial private sector in selected EU countries



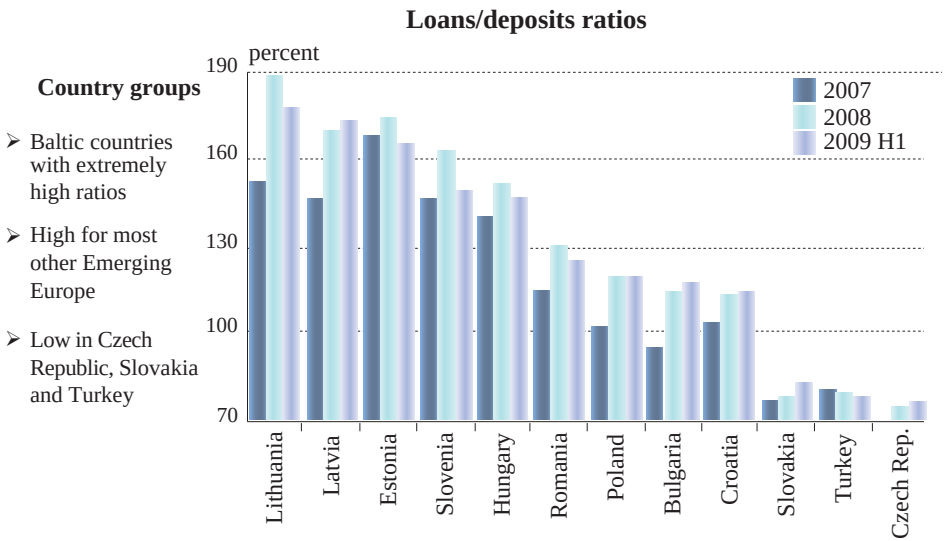
Note: Blue diamonds are used for non-area EU countries with fixed exchange rate regimes and red diamonds are used for non-euro area EU countries with flexible exchange rate. Black diamonds designate euro area countries.

Source: Eurostat, ECB, BSI and ECB calculations

Emerging Europe stylized facts: high loan-to-deposit ratio

The loan-to-deposit ratio of many Emerging Europe countries is relatively high and has increased considerably in the booming period prior to the global financial crisis thanks to:

- Structural savings gap due to stage of development/convergence play
- Availability of parent funding coupled with expansionary strategy of foreign-owned banks.

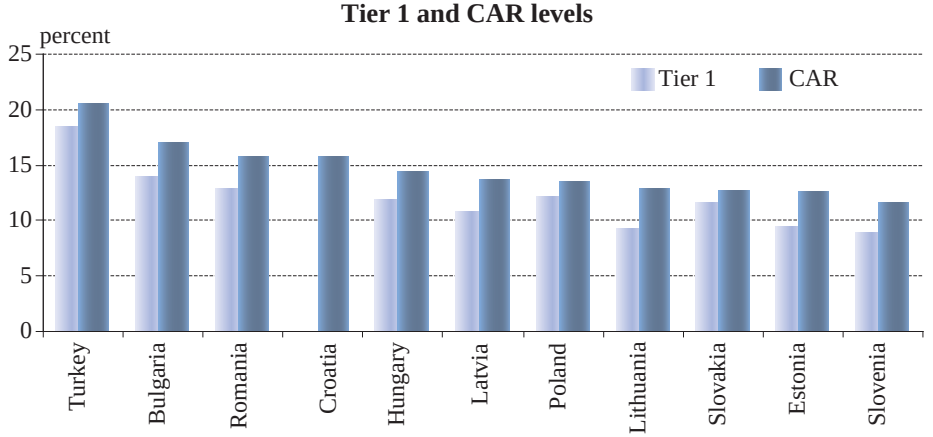


Source: Fitch and national sources

Emerging Europe stylized facts: strong capital base

- The banking sectors in most Emerging Europe countries are relatively well capitalized …
- … more importantly in most cases the share of Tier 1 in total capital is also high.

Tier 1 and CAR levels



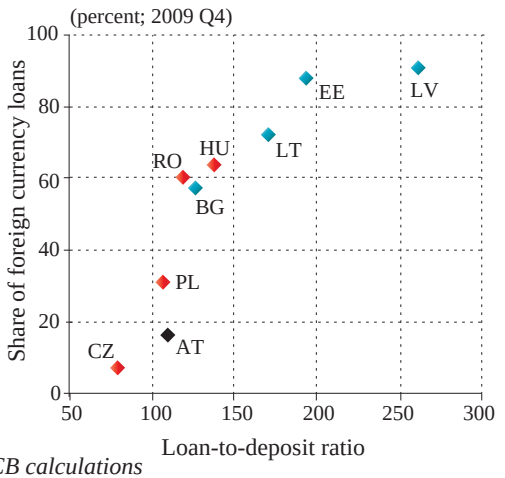
Source: EU Banking Sector Stability

Are these stylized facts linked?

There is some evidence that the aforementioned stylized facts are linked to each other, but intrinsic characteristics of each banking sector also matter.

- Countries with the largest customer funding gaps tended to build up the largest stocks of foreign currency loans (e.g. Baltic's), but …
- … Slovakia and Czech Republic score better despite having predominantly foreign-owned banks

Loan-to-deposit ratio and foreign currency lending in selected EU countries



Source: Eurostat, ECB, BSI, JEDH and ECB calculations

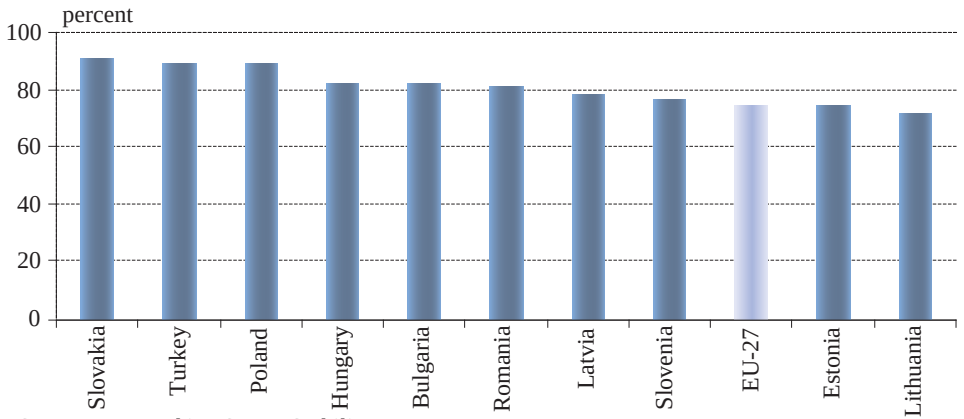
Impact of Basel III on Emerging Europe

	Drivers	Impact on Emerging Europe
Funding pressure	New liquidity requirements	Intensified competition for domestic deposits leading to higher savings interest rates
	Structural savings gap	
	High loan-to-deposit ratios and dependency on parent funding	Subdued credit growth due to reduced availability and increased cost of funding
		Crowding out due to preference for government bonds
Bank restructuring	Strategic re-orientation of parent banks due to new capital (e.g. minorities) and liquidity requirements	Potential investments/ consolidations
		Revised business models
Capital flows adjustment	Reduced availability of parent funding	Difficulty in financing Current Account deficits
	More difficult to attract FDI	

Capital level and quality might mitigate impact

- The share of Tier 1 in total capital is high
  - ⇨ Less impacted by change in equity definition and higher Pillar I minimum requirements
- Capital levels are high but minimum capital requirements are also higher in some Emerging Europe countries.

Share of Tier 1 in total capital



Source: EU Banking Sector Stability

Policy implications for Emerging Europe countries

- Incentives to strengthen domestic deposit base
  - ⇨ Facilitate improvement of loan-to-deposit ratio
  - ⇨ Avoid / contain need for deleveraging
- Encourage financial deepening through a favorable environment for domestic pension funds etc.
- Fiscal consolidation to avoid crowding out
- Orderly introduction of new measures
- How to calibrate the CCB and when to use it.

The wider view

- The end of carry trade?
- A return to a more traditional role for interest rate policy?

IMPACT OF THE BASEL III LIQUIDITY REGULATIONS ON THE POLISH BANKING SECTOR

Piotr Kasprzak*

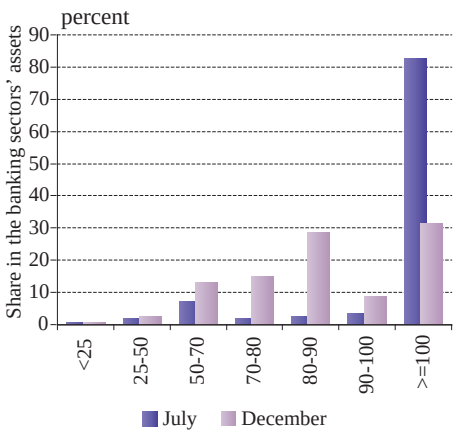
Basel III vs. Polish banking sector

- Definition of capital
  - ⇨ Limited impact
  - ⇨ Over 90 percent of currently held capital is Tier 1
  - ⇨ Potentially important impact of deductions (differed tax) but limited to individual small banks
- Liquidity standards
  - ⇨ Liquidity standards already exist under Polish regulatory regime
  - ⇨ Strong position regarding short-term liquidity (Liqudity Coverage Ratio)
  - ⇨ **Net Stable Funding Ratio (NSFR) may be a concern**

* Financial System Department, National Bank of Poland

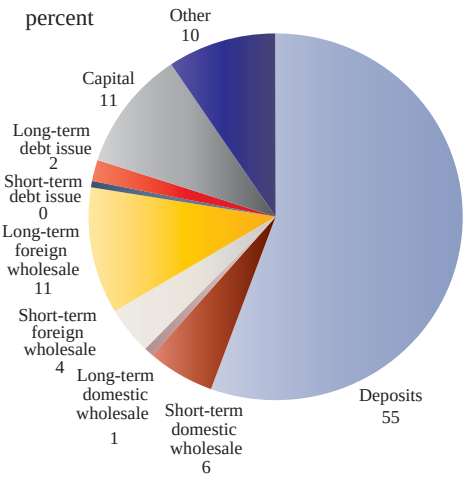
NSFR impact simulation

Met by over 80 percent of banks after amendments in July



Source: Own calculations based on NBP data

Dominant deposit and short-term funding

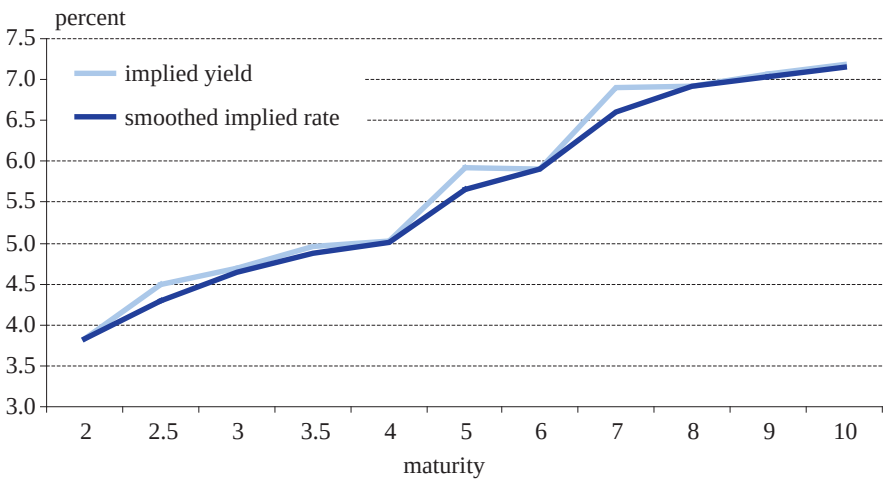


Source: NBP

- Shortage of stable funding sources:
  - ⇨ December proposal: 107 zloty billion (25.7 EUR billion)
  - ⇨ July proposal: 30 zloty billion (7.1 EUR billion)
- How much the needed adjustments would cost?
- Simulation assumptions:
  - ⇨ Asset structure remains unchanged
  - ⇨ Adjustments only in the funding profile
  - ⇨ Balance sheet total remains unchanged
  - ⇨ Immediate (thus static) adjustments
- Three ways of increasing stable funding sources:
  - ⇨ Extending the maturity structure of already held deposits (and acquiring new if necessary) [*Long deposits*]
    - – Aiming at increasing the "stability weight" of already held deposit portfolio from 85/90 percent to 100 percent

- ⇨ Acquiring new (not necessarily long-term) deposits & reducing short-term wholesale liabilities [*New deposits*]
  - – Aiming at substituting debt of 0 percent "stability weight" with 85/90 percent weight
- ⇨ New long-term debt issue & reducing short-term wholesale liabilities [*Debt issue*]
  - – Aiming at substituting debt of 0 percent "stability weight" with 100 percent weight

- Estimating the costs of 3 strategies
  - ⇨ *Long deposits* – interest rate on new households' term deposits > 1 year (NBP/ECB interest rate statistics)
  - ⇨ *New deposits* – interest rate on new households' term deposits < 1 year (NBP/ECB interest rate statistics)
  - ⇨ *Debt issue* – implied theoretical yield on bonds issued in the euro area market by a bank operating in Poland with an A rating



Source: Own calculations based on Bloomberg

- Estimating the current costs of funding
  - ⇨ Effective interest rate approach
  - ⇨ Annualized interest costs on liabilities towards selected sectors are expressed as a percent of annualized stock of liabilities
  - ⇨ Eventually, for each bank we get its' effective interest rates on liabilities towards:
    - – Households
    - – Enterprises
    - – Other financial entities
    - – General government sector
- Estimating the burden of additional costs for 3 strategies
  - ⇨ For each bank with a shortfall of stable funding sources we:

  1. Calculate the difference between:
     a. *Long deposits* costs and effective interest on liabilities towards households
     b. *New deposits* costs and effective interest on liabilities towards financial and general government sector
     c. *Debt issue* costs and effective interest on liabilities towards financial and general government sector
  2. Multiply the above difference and the shortfall of stable funding in order to get the amount of additional interest costs

NSFR Impact Simulation

Results of the simulations:
- December proposal:

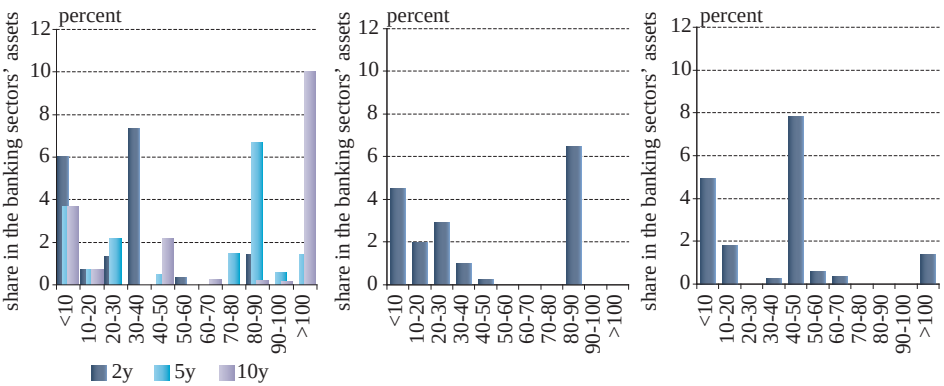
Decrease in percent	Long deposits	New deposits	Debt issue
Interest income	11.9	5.8	4.2 - 14.7
Net profit	34.6	17.0	12.2 - 42.8

- July proposal:

Decrease in percent	Long deposits	New deposits	Debt issue
Interest income	2.7	3.5	2.6 - 7.2
Net profit	8.0	10.2	7.6 - 21.1

Results of the simulation

Distribution of banks' assets by the fall in interest income due to different strategies: *debt issue* (left panel), *long deposits* (centre panel) and *new deposits* (right panel) (July proposal).



Source: Own calculations based on NBP data

Conclusions

- Amendments to the original (December) regulation proposal significantly decreased the potential costs associated with necessary funding adjustments
- However, for some individual banks change in funding profile may be very costly
- Conservative assumptions of the simulation and the recent BC agreement on the timeframe (NSFR to be in power in 2018) seem to make the simulated costs a little overestimated.

LIQUIDITY RISK REGULATION IN THE CONTEXT OF THE FINANCIAL CRISIS

Alexandru Stângă*

Liquidity risk – definition

- Liquidity represents the capacity of a bank to fulfil all payment obligations when they fall due, without incurring unacceptable losses
- Banking business has at the core the principle of maturity transformation thus it has a inherent exposure to liquidity risk
- Solvent banks can default due to liquidity problems with negative impact on the stability of the financial system and the real economy.

Liquidity risk and the financial crisis

- The years preceding the financial crisis were characterized by an ample supply of liquidity and a low risk aversion environment that led to an underestimation of liquidity risk
- The ineffective management of liquidity risk became clear during the financial crisis as banks struggled to maintain adequate liquidity
- Central banks around the world had to intervene with unprecedented levels of liquidity support in order to defend financial stability.

International reaction to the liquidity crisis

- The liquidity crisis triggered a strong reaction at the international level
- April 2009 – G20 recommended that BCBS and national authorities should develop by 2010 a global framework for liquidity risk
- December 2009 – BCBS issued for consultation a set of quantitative standards and monitoring tools for liquidity risk and launched an impact assessment.

* Financial Stability Department, National Bank of Romania

- July 2010 – The Group of Governors and Heads of Supervision, the oversight body of the BCBS, reached a broad agreement on the overall design of the liquidity reform
- The details of the liquidity reform and the results of the impact assessment will be published later this year.

BCBS quantitative liquidity standards

- Liquidity Coverage Ratio (LCR)

  "This metric aims to ensure that a bank maintains an adequate level of unencumbered, high quality assets that can be converted into cash to meet its liquidity needs for a 30-day time horizon under an acute liquidity stress scenario"**.

$$\frac{\text{Stock of high quality liquid assets}}{\text{Net cash outflows over a 30-day time period}} \geq 100\%$$

- LCR implementation
  - ⇨ 2011 – Observation period begins
  - ⇨ 2015 – Introduce minimum standard
- Net Stable Funding Ratio (NSFR)

  "This metric establishes a minimum acceptable amount of stable funding based on the liquidity characteristics of an institution's assets and activities over a one year horizon"**.

$$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} > 100\%$$

- NSFR implementation
  - ⇨ 2012 – Observation period begins
  - ⇨ 2018 – Introduce minimum standard

** BCBS, December 2009, International framework for liquidity risk measurement, standards and monitoring

The EU reaction to the liquidity crisis

- February 2010 – The European Commission launched a public consultation on possible changes to the Capital Requirements Directive ("CRD IV")
- CRD IV includes a set of liquidity requirements that are closely aligned with the BCBS standards (LCR and NSFR)
- The Commission is conducting an impact assessment
- In the second half of 2010 the Commission intends to adopt and publish the legislative proposal.

Liquidity regulation in Romania

- In 2001 the National Bank of Romania (NBR) issued a quantitative liquidity regulation
- Under the regulation banks are required to maintain a ratio greater than one between liquidity adjusted assets (effective liquidity) and volatile liabilities (necessary liquidity), including off-balance sheet items, on a monthly basis
- The ratio is calculated for five maturity bands (<1m; 3-6m; 6-12m; >12m) and at the aggregate level
- The excess liquidity from a lower maturity band automatically spills into the next maturity band and is added to the adjusted assets when computing the liquidity indicator.

Amendments to the liquidity regulation

- As a reaction to the financial crisis the NBR initiated an evaluation of the liquidity regulation with the following objectives:
  - ⇨ Improve the liquidity requirements based on the lessons learned during the financial crisis
  - ⇨ Increase the transparency of the regulation and reduce its complexity
  - ⇨ Align the haircuts methodology to the international approach (fixed coefficients)
  - ⇨ Address specific bank behavior generated by the financial crisis

- Based on the results of the evaluation NBR has introduced two amendments to the liquidity regulation and intends to issue a new amendment in the near future.

Main changes to the liquidity regulation

- New haircuts for:
  - ⇨ Securities
  - ⇨ Loans***
  - ⇨ Demand deposits
  - ⇨ Current accounts***
  - ⇨ Term deposits***
- Additional currency reporting of the balance sheet and off-balance sheet positions included in the liquidity ratio for monitoring purposes (separate reporting of RON and EUR items).

Demand deposits and current accounts

- Maturity band: first band (necessary liquidity)
- During the financial crisis banks started to promote a series of short term saving products that were registered either as demand deposits or current accounts
- Main factors that encouraged this behavior
  - ⇨ The income tax for these accounts was zero compared to 16 percent income tax for the saving instruments with longer maturities
  - ⇨ The liquidity pressures generated by the financial crisis led to a competition for funding between banks that increased short term interest rates
- The saving products became very popular due to the attractive interest rates and the possibility of immediate withdrawal
- The expansion of these products had the potential to increase liquidity risk due to a higher volatility of the account balances generated by clients who searched for higher yields

*** The NBR is evaluating the possibility to change the haircuts in the next amendment.

- July 2009 – The treatment was tightened to discourage the use of the accounts as a saving instrument
  - ⇨ Past treatment: Liquidity adjusted balance = Current account balance – Average account balance in the previous six months
  - ⇨ New treatment: Fixed coefficient: 100 percent (the entire account balance is included in the necessary liquidity)
- December 2009 – The treatment applied to demand deposits was relaxed after a change in bank behavior and a decrease in the liquidity pressures
- New treatment – Fixed coefficient, 40 percent (calibrated by analyzing the account balance behavior during the financial crisis)
- In 2010 the fiscal regime was changed to an uniform income tax (16 percent) for all types of saving instruments thus the incentives to promote saving products registered as current accounts diminished
- For the next amendment to the liquidity regulation NBR is evaluating the possibility to relax the treatment applied to current accounts.

Term deposits

- Maturity band: all maturity bands (necessary liquidity)
- For the next amendment to the regulation, NBR is considering a change in treatment in order to align the haircuts methodology to the international approach (fixed coefficients)
- Current treatment:
  - ⇨ Liquidity adjusted balance = Current account balance – Average account balance in the previous six months
- Alternative treatment:
  - ⇨ Fixed coefficients calibrated based on the dynamics of account balances during the financial crisis.

High quality fixed income securities

- Maturity band – First band (adjusted securities are included in the effective liquidity on the first maturity band regardless of their residual maturity)
- December 2009 – The haircuts applied to the high quality fixed income securities were relaxed based on an analysis of the price behavior during the financial crisis
- Past treatment:
  - ⇨ Securities (maturity ≤1Y): fixed coefficient, 90 percent
  - ⇨ Securities (maturity >1Y): fixed coefficient, 70 percent
- New treatment:
  - ⇨ Securities (maturity ≤ 1Y): fixed coefficient, 95 percent
  - ⇨ Securities (maturity >1Y): fixed coefficient, 90 percent

Loans granted to clients

- Maturity band: all maturity bands (effective liquidity)
- For the next amendment to the regulation, NBR is considering a change in treatment in order to align the haircuts methodology to the international approach (fixed coefficients)
- Current treatment****

Adjusted loans = (Loans with payment delays ≤ 30 days – impairment adj.) x K

$$K = \frac{\text{Loans with payment delays} > 30 \text{ days}}{\text{Total loans}}$$

- Alternative treatment: replacing the haircut (K) calculated by each bank with a fixed haircut calibrated at the system level.

**** Loans with payment delays ≤ 30 days include current loans

Conclusions

- The financial crisis illustrated the negative consequences of the ineffective liquidity risk management prevalent in the previous years and triggered an international reaction at the highest level
- Currently, BCBS and the European Commission are working on a set of quantitative liquidity standards with the objective to strengthen the resilience of the financial system to future shocks
- The NBR improved the national liquidity regulation as an intermediary step in the process of international standardization.

CLOSING REMARKS

Joseph Crowley*

I would like to thank you all for coming and particularly those who made very good presentations. They were very useful and interesting and we had good discussions and I think people enjoyed them. While this seminar's topic was the same as last year's, I think the discussions were different. There were a lot of new topics and we were certainly not going over the same material as the last year. There's enough for us to continue for several more days, I suppose, and next year let's hope that the crisis is over, but if we discuss the crisis again, there will very likely be new issues that will come up.

In Italy, hundreds of years ago they produced all kinds of great works of art, at least this crisis is producing some good papers. There is new focus on liquidity, on stress tests, on Basel III, so there are certainly new topics to be discussed. There is a lot of uncertainty going forward, there is a lot of uncertainty about the capital flows that Yulia and I discussed in our presentation. We don't know what is going to happen to the price of oil and whether there will be a lot of savings in the oil-producing countries that will be seeking productive investments.

There was a headline today about how Obama is getting very tough with China on its exchange rate. We don't know what is going to happen to China's savings rate and the initial point that was raised in the discussions afterwards and that was not mentioned in our presentation is what is going to happen to the sources that were absorbing the savings all along. The US may not be absorbing the savings from China and wealth-producing nations the way it was before. So, who knows whether there are reasons why there may be less capital available or more capital available? Now, whether or not there is more capital available, what is going to happen to world output and therefore what is going to happen to productive investments? Maybe there will be capital available, but maybe there won't be good investments if there aren't good export markets. So, that's another source of uncertainty.

* Senior economist, International Monetary Fund

I think there are two things to do in response to this. One is implementing better regulation, paying much more attention to prudential ratios and trying to build much stronger and sounder financial systems, so that, whatever happens, the building will be stronger when the strong winds come and, also, it would be best to try to be ready to adapt. Secondly, we don't know what is going to happen, so the more flexible you can be, the better off you are. Those countries that are not part of the Eurozone might, as far as possible, look for more exchange rate flexibility. Everyone seems to be doing a better job of monitoring, trying to forecast what is going to happen, so as to be able to react more quickly, and all that is good. I hope you all enjoyed our presentations (ours from the IMF) and all the other presentations.

CLOSING REMARKS

Ion Drăgulin*

I would like to stress the general approach to our seminar this year in the sense that we tried to combine a kind of overview of the region with the necessary links to the international framework, particularly in the context of the crisis, with the specifics of individual countries, which tended to reveal that basic things are similar. Some elements are different among countries and, in some cases, the details generated a lot of comments and need further exploration. However, the general understanding is that developments in the region are homogenous and the perspectives for parent banks and their subsidiaries are complementary. Therefore, participants could understand the situation better if considering, for example, the case of Austria, one of the major countries in terms of investment in banking industry in the region, and our own views, I mean countries with subsidiaries, which should be based on the region's realities and fit into the global understanding of developments. So, while I admit that we should have started with those global views which have offered a chance to position yourself in the discussion and better understand your own country's problems, in the end we have succeeded to mix them and reach the needed understanding of the phenomena.

As Joseph has mentioned, several issues have tended to raise to the surface this year and, as compared with the last year's discussions, things are clearer now and I feel that we have the confirmation of the fact that the crisis could be overcome primarily if your own country pursues sound macroeconomic policies. And this is a precondition which has been forgotten by a number of countries including mine, and now we are paying the price which is significant, as we all know. Even if the situation is similar in terms of complications with the current account or the fiscal policy, this is not an excuse, I think. If we only look at Romania's real context today, with the limited capacity of the authorities to deal with the challenges, we should draw the conclusion that we should have avoided weak policies in particular, because crises or disturbances at the global level always come up.

* Director, Financial Stability Department, National Bank of Romania

Therefore, I think that you and Mr. Mark Allen have both underlined these matters here. I would also stress, apart from the importance of the key speakers' presentations which spurred the discussions, the interest of the colleagues from the participating countries, the quality of their presentations, and the complementarity of their interventions. That suggests that all the countries are highly preoccupied by financial matters. Moreover, the language tended to be homogenous among the colleagues and the level of discussions high around the table.

I therefore thank you all and hope that we will draw lessons and knowledge from this seminar which will hopefully be maintained on the agenda of our management.