Report on financial stability (autumn 2011 update)

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MAGYAR NEMZETI BANK

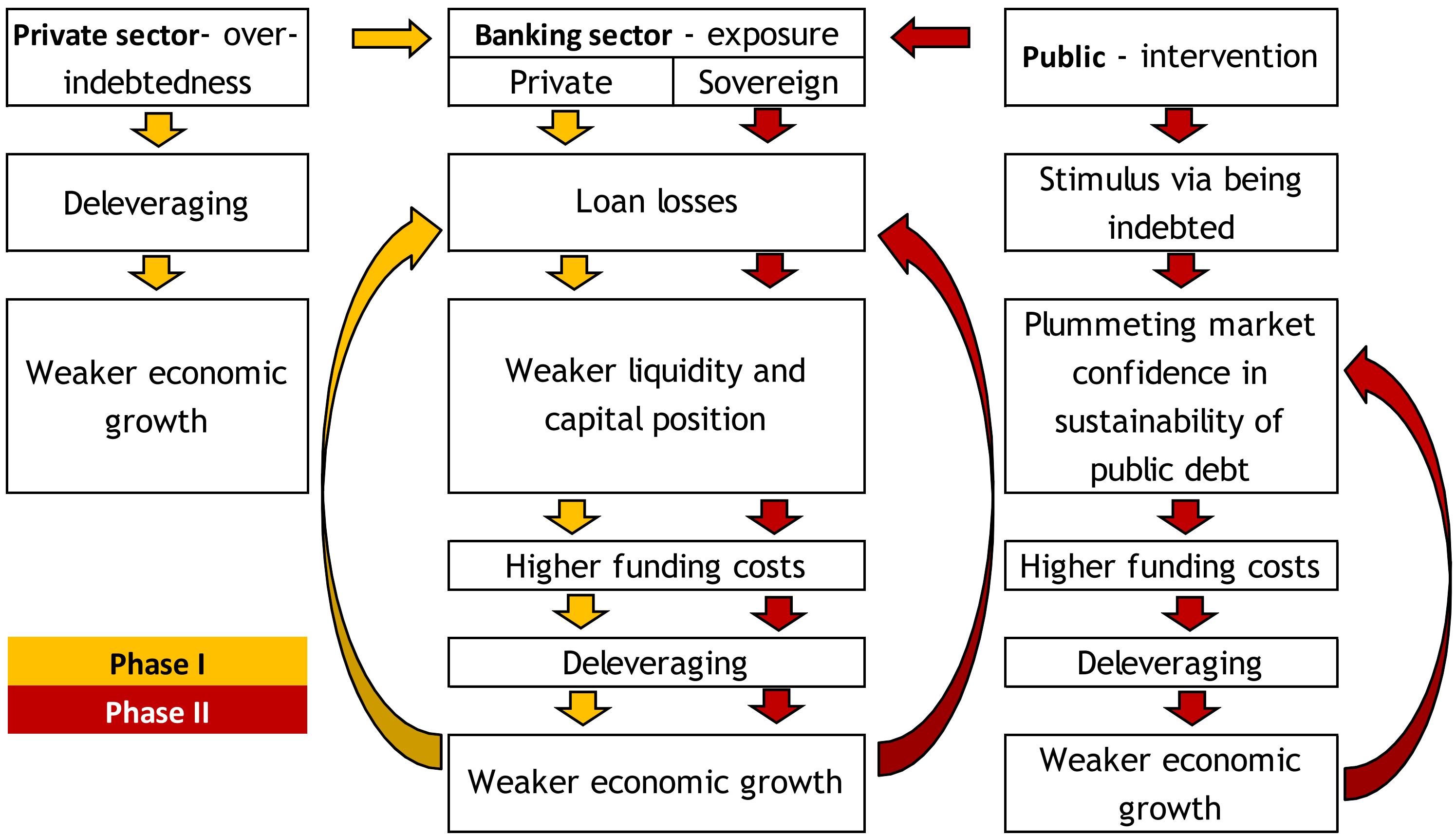
Key risks

- **Sovereign debt crisis in the euro area peripheral countries** has been escalating
- Although **early repayment at preferential exchange fixed rates** will reduce the debts of those participating in the scheme and reduce the exchange rate risk,
  - foreign currency demand at the time of the conversion may weaken the exchange rate of the forint
  - which, in turn, may increase the burdens of debtors unable to participate in the program,
  - and weaken the lending capacity of the banking sector through the sector's increasing losses,
  - if the central bank assumes the exchange rate position of the households, the level of foreign exchange reserves will decline
- Management of the **increasing non-performing loan portfolios** is inefficient
- Due to decrease in capital buffers banks are forced to **restrain corporate lending even more** than earlier, the market of corporate loans may dry up
- **Weak price competition in the household sector** conserves the high interest burdens of debtors

(1) Sovereign debt crisis in the euro area peripheral countries has been escalating

The correlation between the sovereign debt crisis and the global financial crisis may pose a high risk → Global recession, global financial instability?

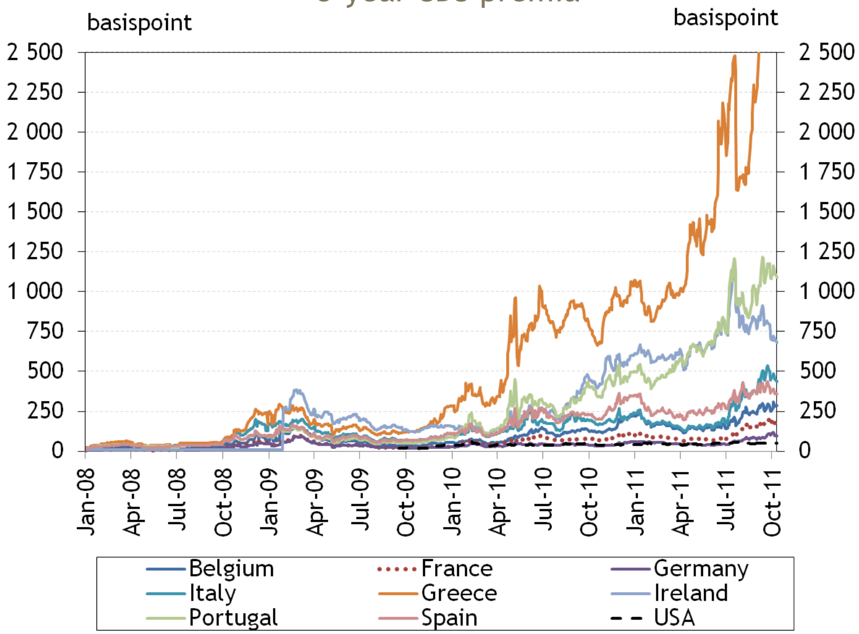
Correlation between the global financial crisis (phase I) and the sovereign debt crisis (phase II)



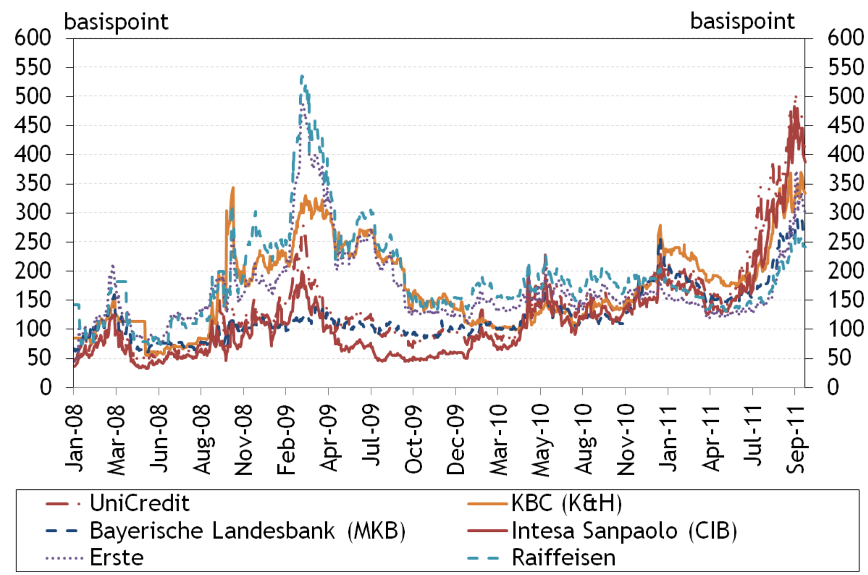
Source: MNB.

Funding costs of sovereign debts and banks are significantly rising in the euro area

5-year CDS premia



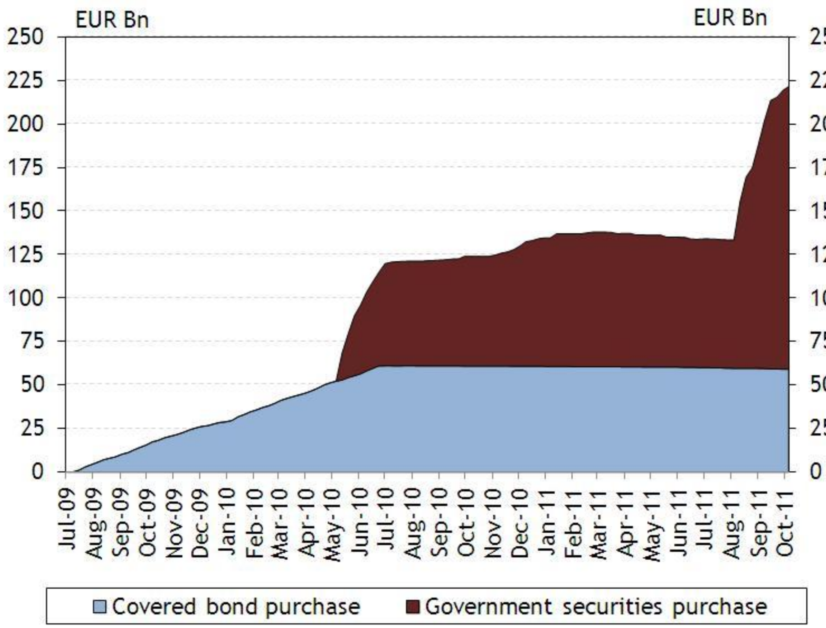
5 year CDS spreads of parent banks



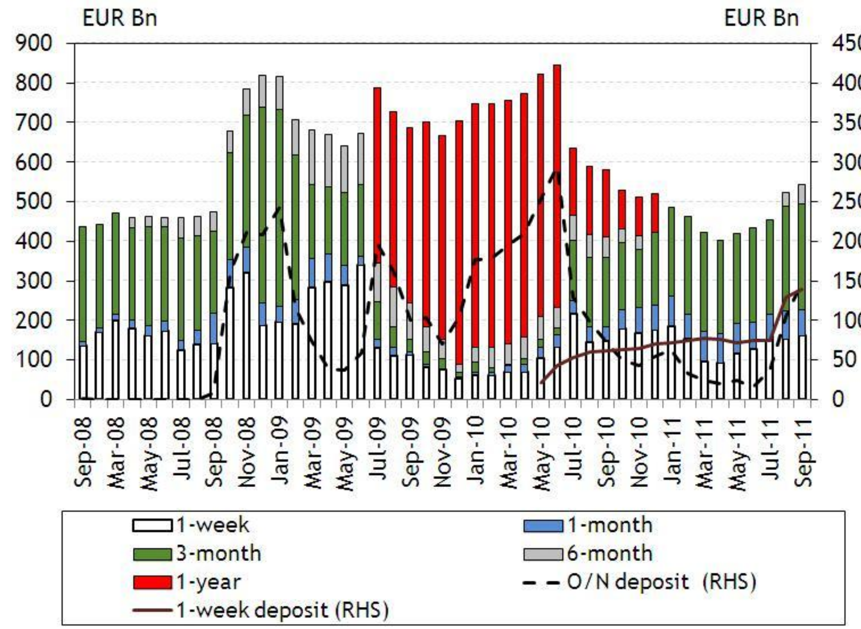
Source: Thomson-Reuters, Bloomberg.

The measures of the ECB mitigate the contagion between the sovereign and the financial sector

Securities purchase programme of the ECB

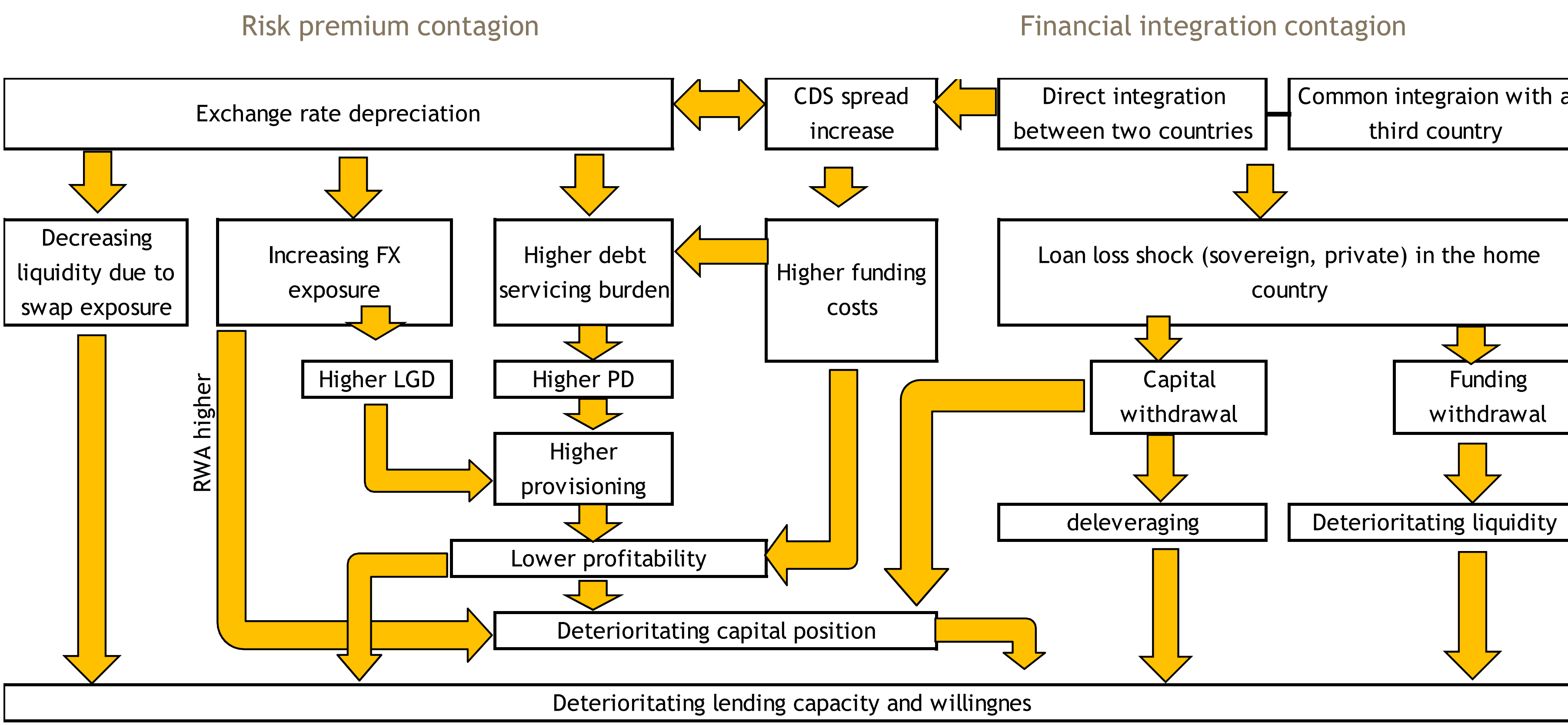


Average monthly usage of ECB instruments



Source: ECB, own calculations.

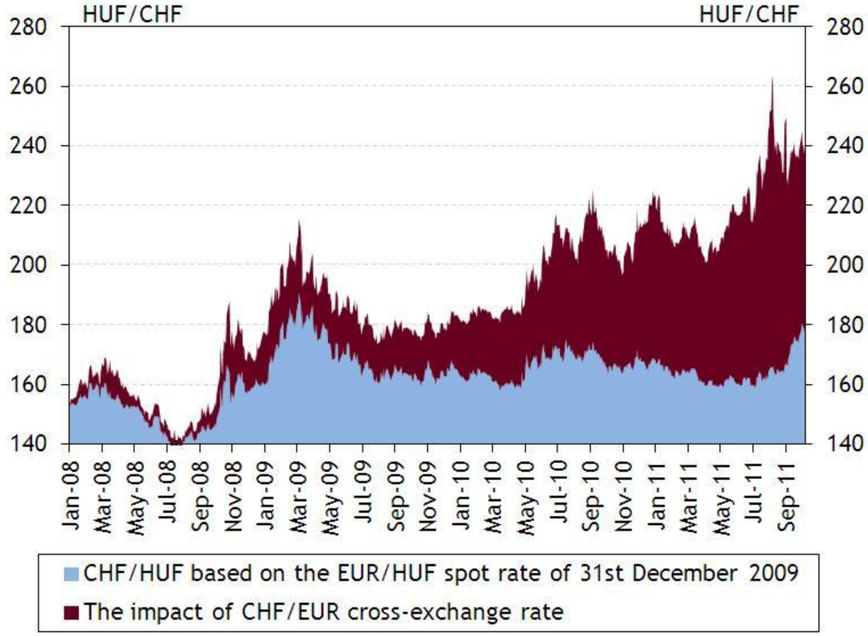
Hungary may be quickly and strongly affected by an external crisis



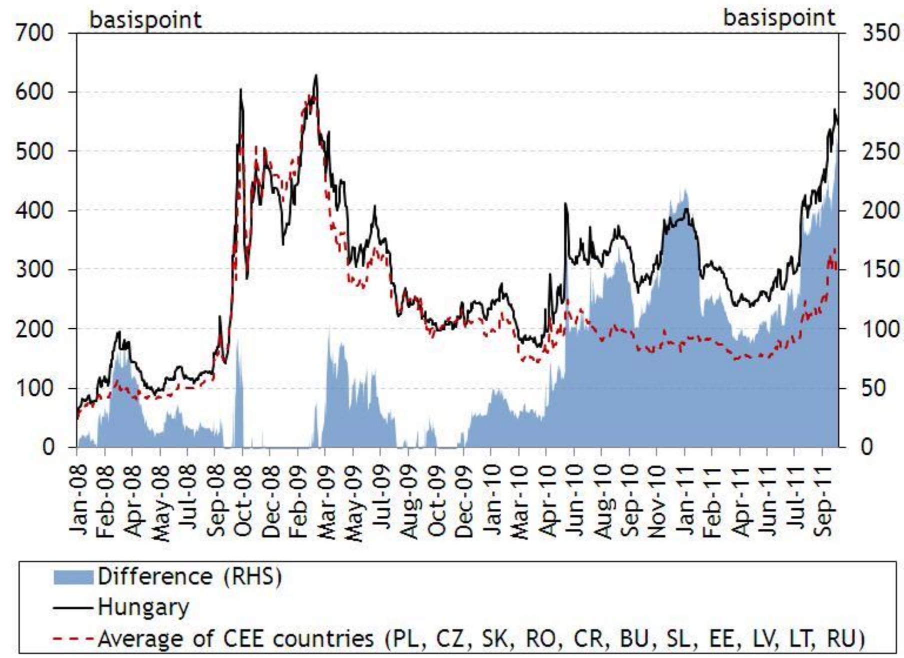
Source: MNB.

Instalments of debtors with foreign exchange loans are increasing stemming from weakening of the HUF exchange rate and interest rates rising due to external funding costs

The role of the CHF/EUR cross exchange rate within the HUF/CHF exchange rate



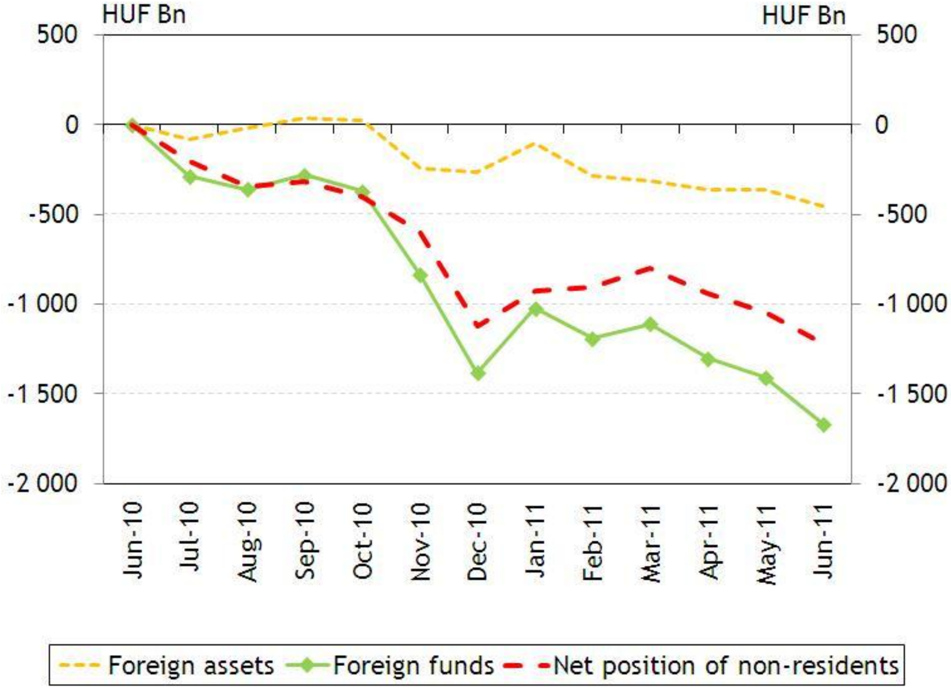
Relative risk assessment of Hungary based on the 5-year CDS spread



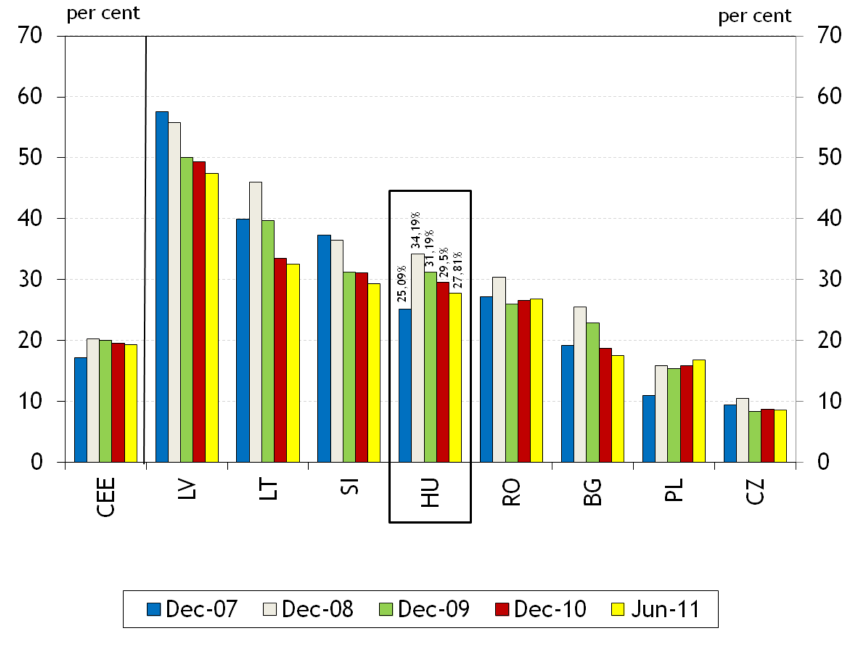
Source: Thomson-Reuters, MNB.

Due to adjustment the reliance on external funds of banking sector diminished substantially, but its volume is still high

Change in the stock of foreign assets and foreign funds of the banking sector



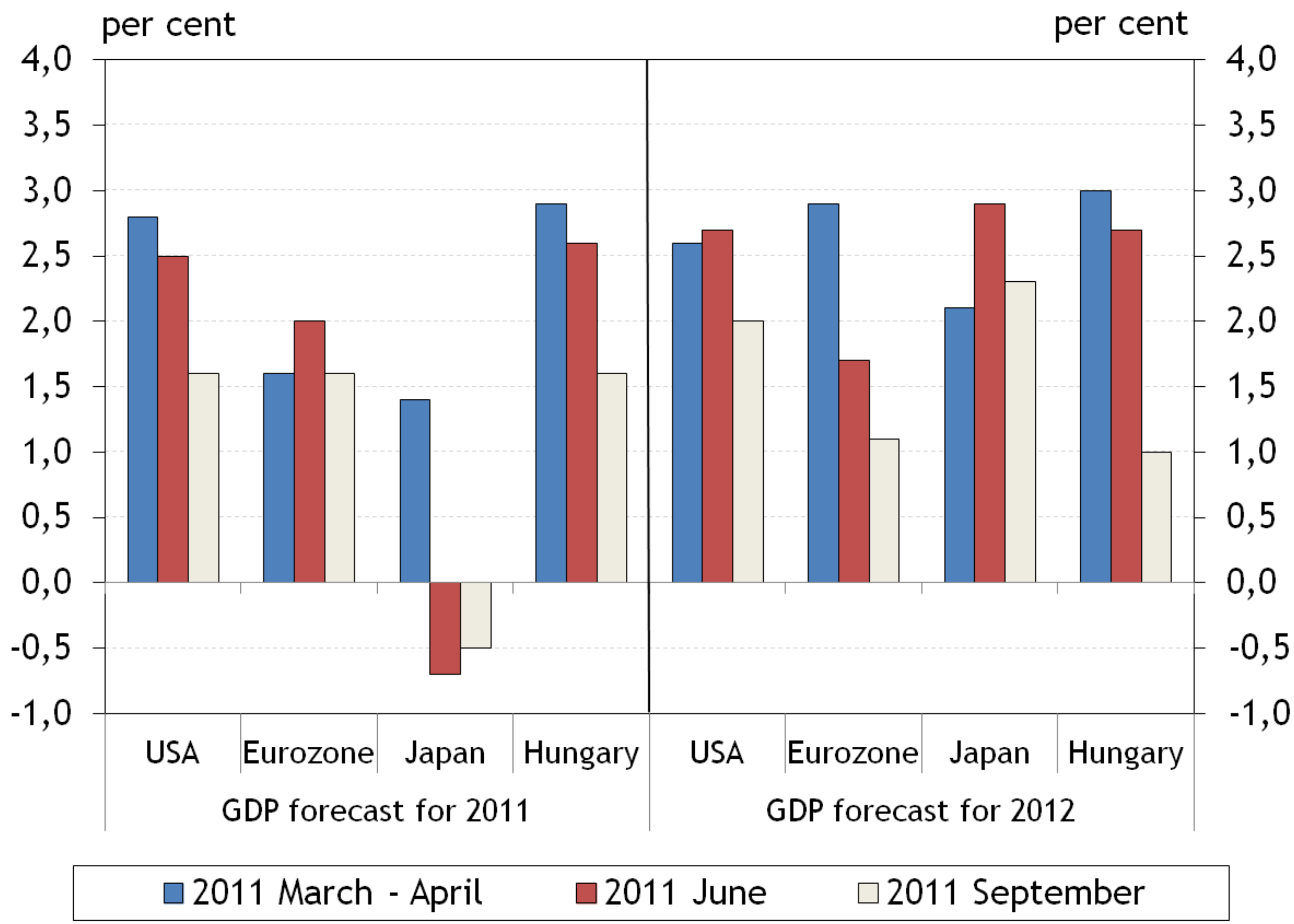
The banking sector's ratio of external funds to the balance sheet total in regional comparison



Note: The volume of external funds was HUF 10 000 billion in June 2010, while it was only HUF 8 300 billion in June 2011. In total, the banking sector's external funds declined by HUF 1 700 billion (17 per cent).

Financial acceleration may develop yet again between the global economy and the financial system

The GDP forecast of the IMF and the MNB for 2011 and 2012



Source: IMF WEO, MNB.

Proposals for mitigating risks arising from the sovereign crisis

- Maintaining prudent national fiscal policy, further reduction of government debt in a way that the market considers credible
- Strengthening of the banking system's long-term FX funding and capital position
- Introduction of a foreign exchange funding adequacy ratio aimed at improving the maturity mismatch in the domestic banking system
  - Composition of the indicator:
    - **Numerator:** sum of stable foreign exchange funds and net foreign exchange swap stock with a maturity over a year
    - **Denominator:** weighted foreign currency denominated assets outstanding with a maturity over a year to be financed
  - It manages the maturity mismatch problem of the on-balance-sheet and off-balance-sheet foreign exchange positions at the same time

(2) Early full repayment at preferential exchange fixed rates

Program participation ratio may be around 20 per cent

Main characteristics of foreign exchange mortgage loans in the banking sector at the end of June 2011

HUF Bn	Outstanding amount	In the share of the outstanding amount
Total outstanding amount of FX mortgage loans	4 867	100
from which EUR	422	9
from which, paid out at an exchange rate lower than 250 HUF/EUR	34	8
from which CHF	4 300	88
from which, paid out at an exchange rate lower than 180 HUF/CHF	4 209	98
from which JPY	145	3
from which, paid out at an exchange rate lower than 200 HUF/100JPY	145	100
from which combinated product	577	12
from which in 30-90 days delay	549	11
from which in up to 90 days delay	256	5
from which restructured well performing	491	10
from which LTV over 90 per cent	1 759	36

- Banks are not likely to compete for debtors with low creditworthiness (around 60-70 per cent)
- 30-40 per cent of the portfolio of foreign currency debt could benefit from the scheme through loan refinancing (HUF 1,500-2,000 billion)
- Our estimates suggest that a 20 per cent participation ratio is expected
- Participation ratio is expected to be higher at the beginning and at the end of the available period

Source: MNB.

Participation rate is greatly affected by the conditions of the replacing forint denominated loans

Change in instalments of mortgage loans depending on remaining maturity and the APRC by HUF-denominated loans*

		APRC by HUF-denominated loans					
		9%	10%	11%	12%	13%	14%
Remaining maturity (year)	5	-47 244	-43 639	-39 985	-36 281	-32 529	-28 728
	10	-25 252	-21 214	-17 083	-12 863	-8 555	-4 161
	15	-17 878	-13 427	-8 854	-4 164	636	5 542
	20	-14 186	-9 369	-4 414	668	5 868	11 176
	25	-11 991	-6 864	-1 596	3 798	9 302	14 903
	30	-10 564	-5 183	332	5 960	11 683	17 487

*Note: 10 million HUF loans, exchange rate of the Swiss franc: 244 HUF, Swiss franc loan APRC=7,5%

Source: MNB.

From financial stability viewpoint the proportion of repaid loans to outstanding amount is of importance, which is expected to be higher than the transaction based ratio

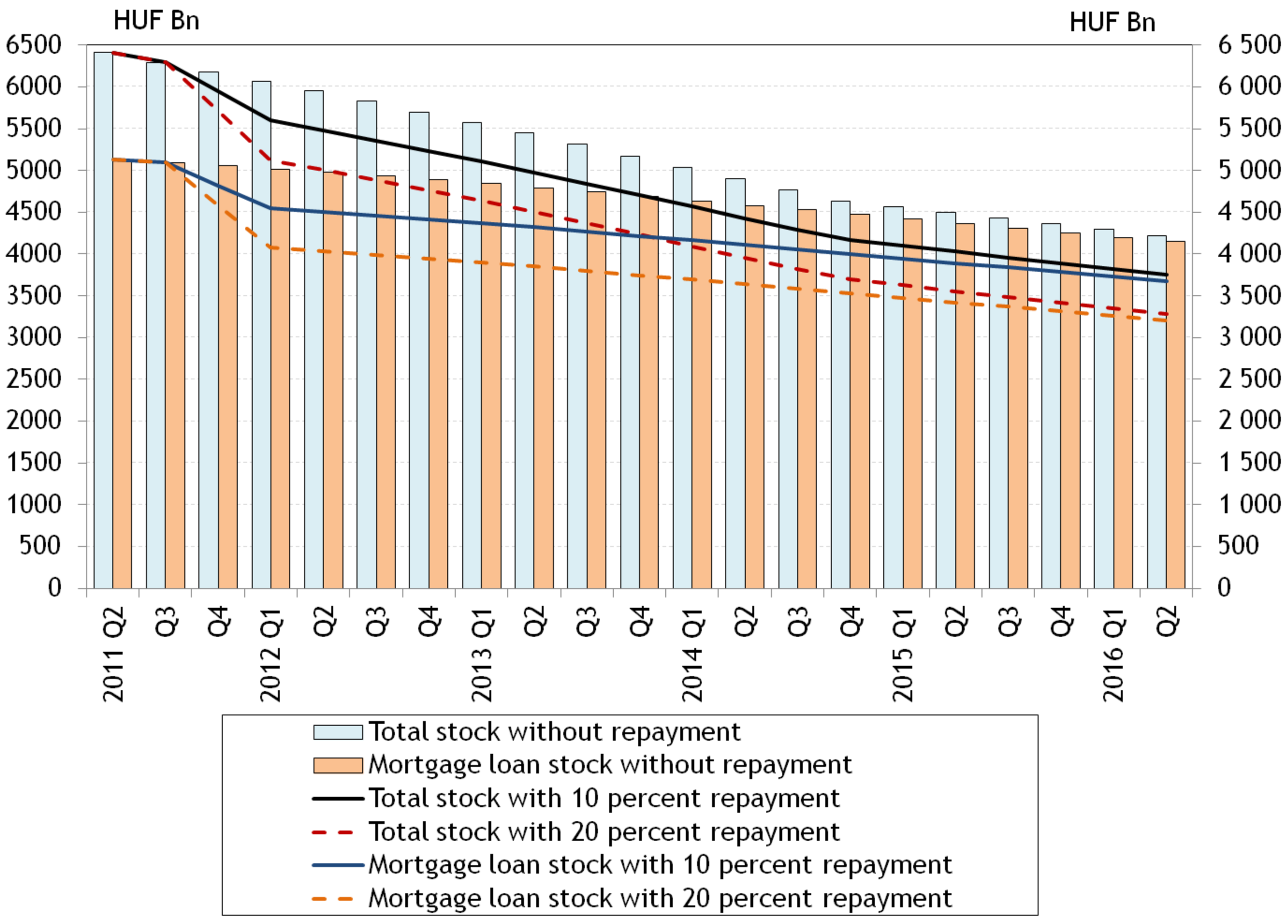
Distribution of FX mortgage loans according to the outstanding amount

Outstanding amount of FX mortgage loan	Contracts		Outstanding amount	
	share	pcs	share	HUF Bn
under 2.5 million	14.4%	114 867	3.4%	167
between 2.5-5 million	31.9%	255 046	17.69%	857
between 5-7.5 million	24.1%	192 706	22.6%	1 100
between 7.5-10 millin	12.3%	98 220	16.4%	797
between 10-15 million	11.0%	87 900	20.0%	973
between 15-20 million	3.7%	29 714	9.6%	466
between 20-30 million	2.1%	16 628	7.2%	351
above 30 million	0.6%	4 919	3.2%	156
Sum	100.0%	800 000	100.0%	4 867

Source: MNB.

Early repayment at preferential exchange rate speeds up the amortization of foreign exchange loans, reduces the debts and exchange rate exposure of households

Amortization of Hungarian households' FX loans and mortgage FX loans



* Note: total FX loans in banking sector and financial enterprises

Source: MNB.

Early full repayment involves rearrangement of costs and risks within and between sectors of the economy

- **Cost transfer:**
  - Households can convert their loans at more favourable levels than current exchange rates. Costs arising from the exchange rate difference must be incurred by the banking sector.
  - Rising foreign currency demand because of early full repayment may increase the burdens of debtors unable to participate in the scheme.
- **Exchange rate transfer:**
  - Non-residents would provide such quantity of foreign exchange to resident participants only with higher interest rates or at a weaker exchange rate.
  - The central bank can assume this position without exchange rate effects. This action reduces foreign exchange reserves.

The central bank is able and ready to reduce risks arising from early repayment at preferential exchange fixed rates

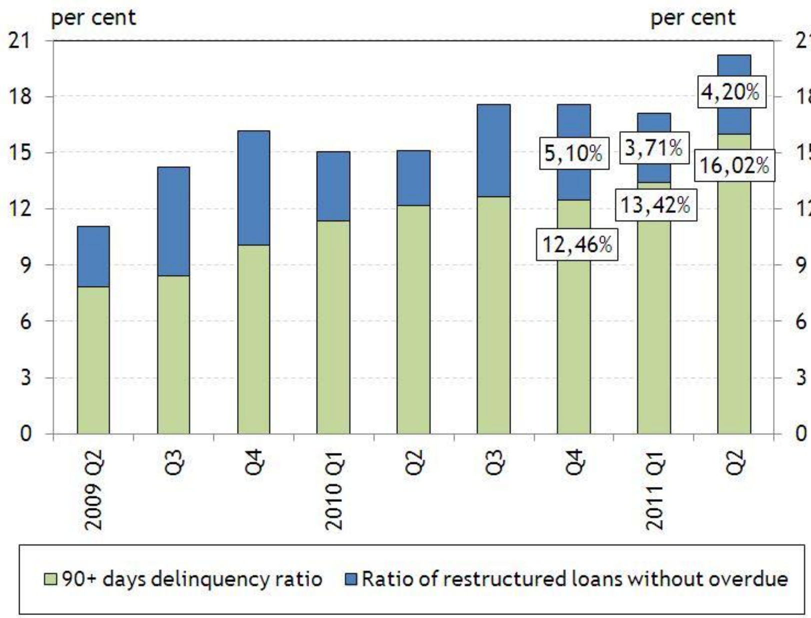
The central bank will provide the amount of foreign currency needed fpr early repayment to the banks from the country's foreign exchange reserves:

- dampen the impact of higher demand for foreign currency arising from the early repayment of FX loans on the exchange rate of the forint,
- reduce the increasing burdens of debtors unable to participate in the scheme,
- the losses that the banking system is likely to incur also depend on the market rate prevailing at the time of the conversion; the latter uncertainty will subside,
- although there will be a drop in country's foreign exchange reserves, short-term foreign debt will also decrease; thus, vulnerability expected not to be significantly higher.

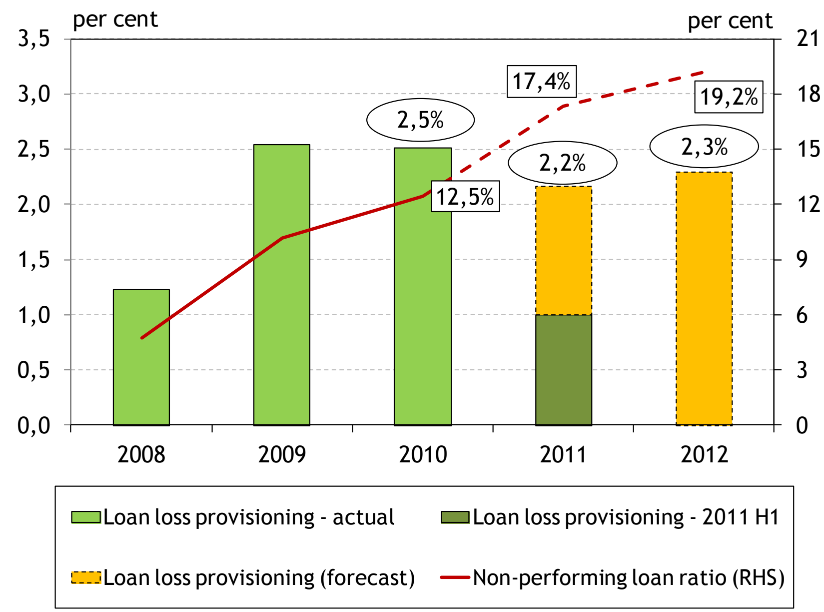
(3) Management of the increasing non-performing loan portfolios is inefficient

Ratio of non-performing corporate loans reached 16 per cent

Ratio of impaired corporate loans within total loan portfolio



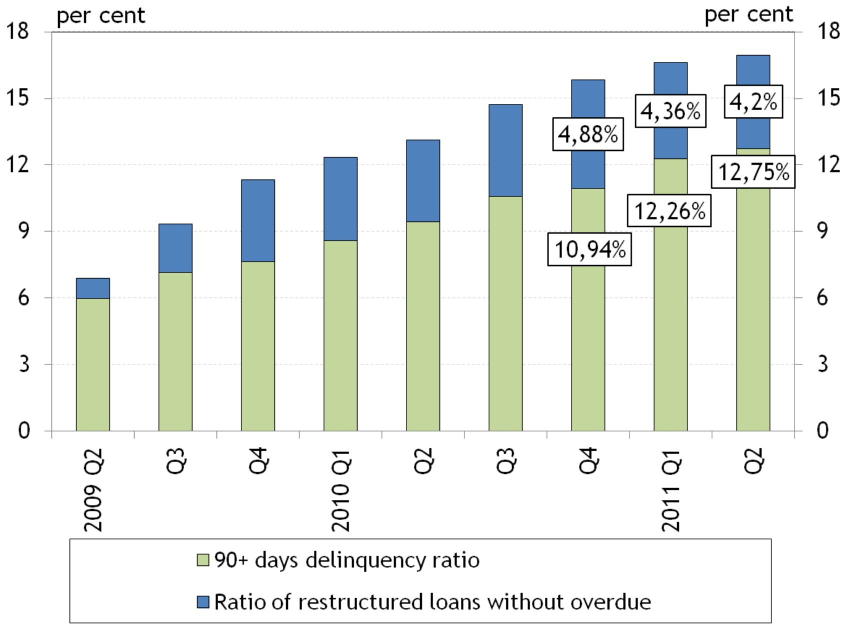
Ratio of non-performing loans and forecast cost provisioning in the corporate segment



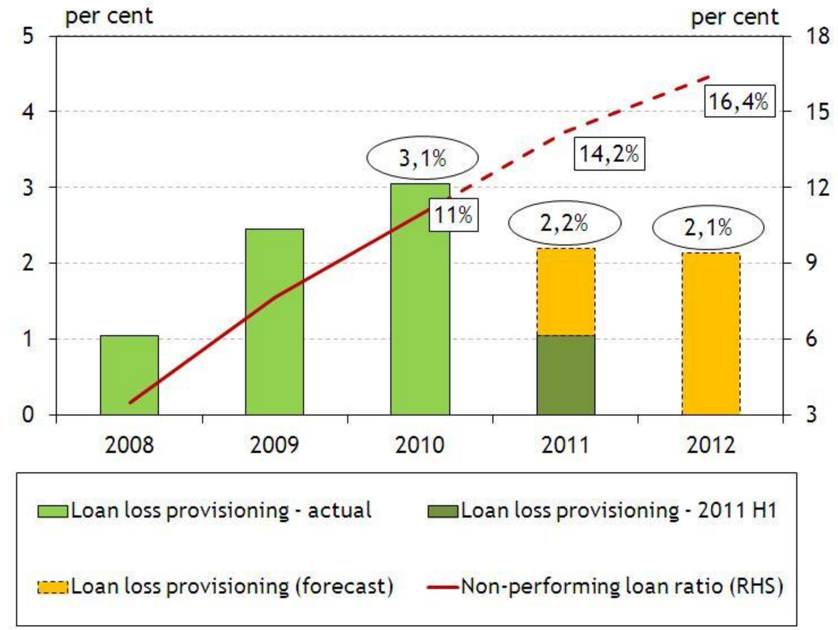
Source: MNB.

Ratio of non-performing loans in the household segment is approaching 13 per cent

Ratio of non-performing household loans in the banking sector



Ratio of non-performing loans and forecast cost of provisioning in the household segment *

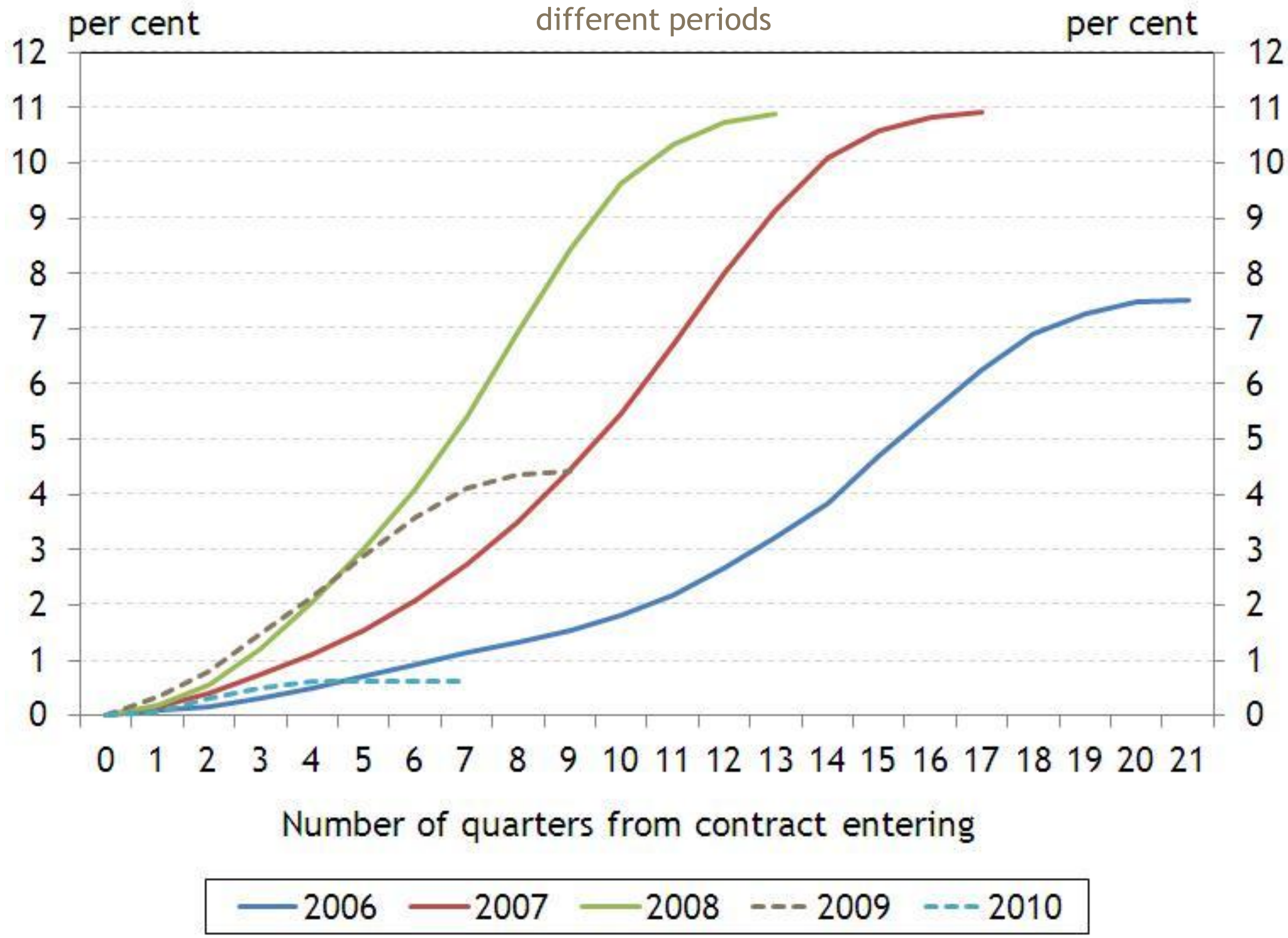


* Data do not contain the effects of the exchange rate limit and early repayment.

Source: MNB.

Household loans extended from 2007 to 2008 perform weakest

Ratio of non-performing household foreign exchange mortgage loans drawn in different periods



Source: MNB.

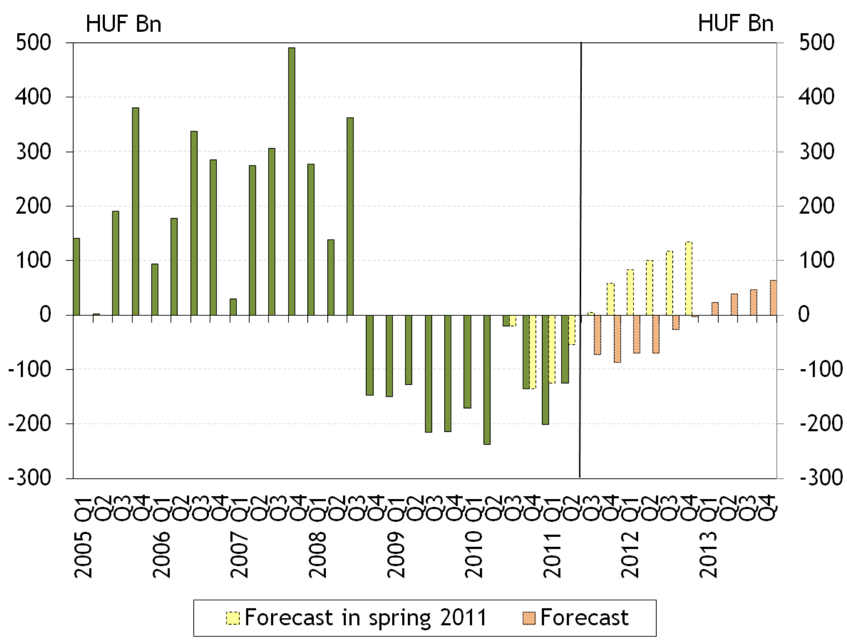
Proposals for management of non-performing loan portfolio

- **Tightening loan loss provisioning regulations for restructuring:**
  - Banks may incur substantial loan losses on the restructured loans
  - Banks should be encouraged to clean their portfolios fast, apply selective partial debt relief
  - Thereby free up capacity for new lending
- **Introduction of personal bankruptcy:**
  - Regulated debt settlement which would coordinate the collection activity of various creditors
  - A regulation would be created by majority decision, binding all creditors
  - It would provide the possibility of acquiring a “clean sheet” for effectively failed, but cooperating debtors

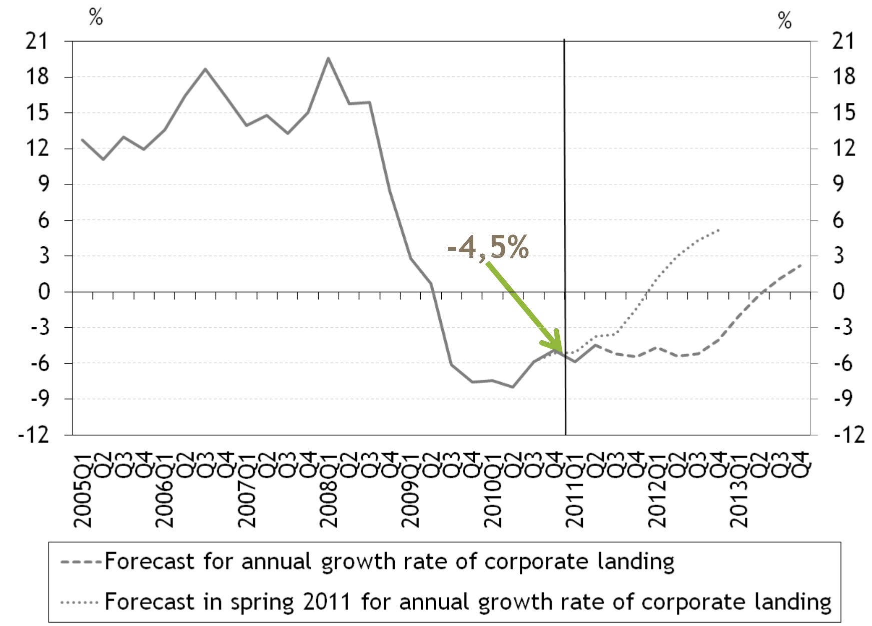
(4) Due to decrease in capital buffers banks are forced to restrain corporate lending even more than earlier

A turning-point in corporate lending can only expected in 2013, since…

Forecast for lending to non-financial corporations



Annual growth rate of corporate lending*

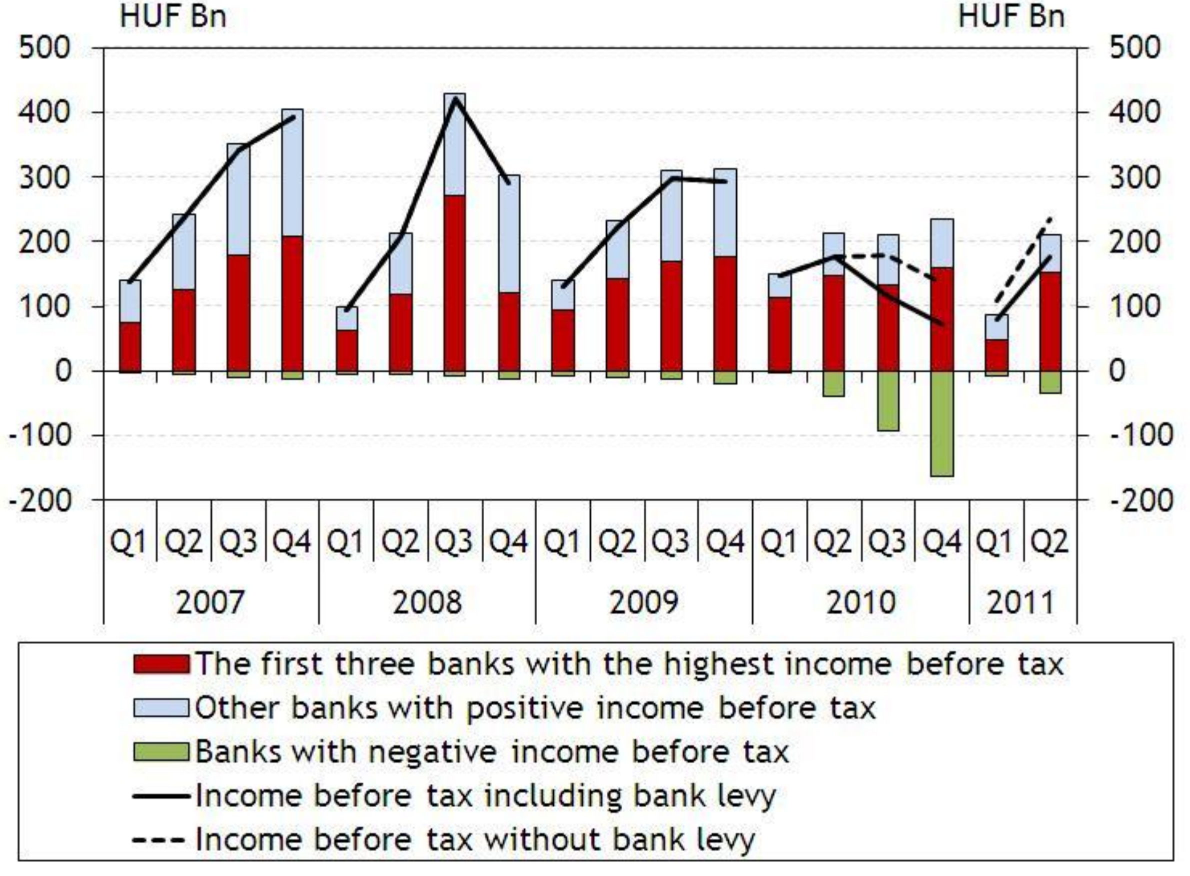


*yoy percentage change, adjusted for exchange rate.

Source: MNB.

… alongside willingness to lend, ability to lend has also decreased

Pre-tax profit/loss of the banking sector and branches cumulated within the year



Note: At end-June 2011, the pre-tax profit of the banking sector amounted to HUF 178 billion (HUF 235 billion, excluding the bank levy). The profit of the banking sector was HUF 176 billion in the first half of 2010.

The stress test's scenarios consider a sudden depreciation of the forint and an increase in funding costs…

Macroeconomic scenarios in the stress test

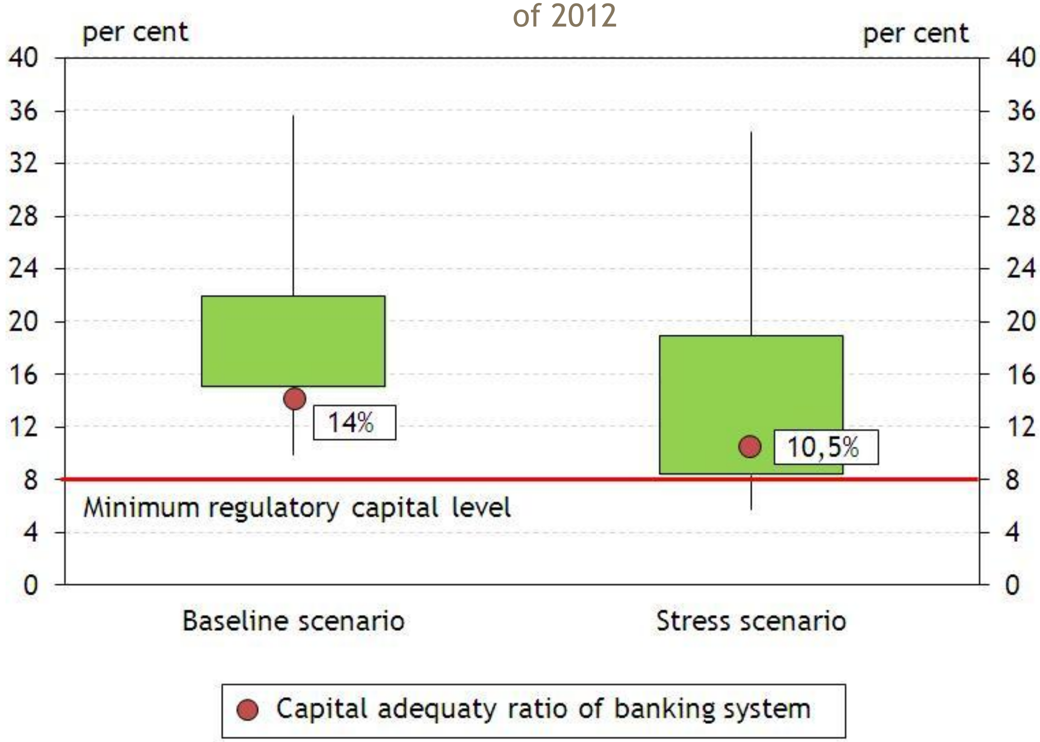
	Baseline scenario		Stress scenario	
	2011	2012	2011	2012
GDP*	1.6	1.0	1.5	-1.2
Sovereign CDS spread (bp)	450	450	580	740
Yearly average HUF/EUR exchange rate	273	284	282	329
Yearly average HUF/CHF exchange rate	223	237	231	275
Employment*	0.5	0.9	0.4	-0.5
House prices**	0	0	0	-10

*yoy percentage change
** percentage change to the end of the year before

Source: MNB.

… and less and less banks are prepared for greater shocks.

CAR distribution based on number of banks at the end of 2012



Results of stress test based on 8 per cent regulatory capital requirement

	Baseline scenario	Stress scenario
Capital need of banks (HUF Bn)	0	196
Banks with positive capital buffer (HUF Bn)	1 016	658
Tolal capital buffer (HUF Bn)	1 016	462

Source: MNB.

The increase of capital adequacy ratio was realized partially through raising capital and partially through balance sheet adjustment

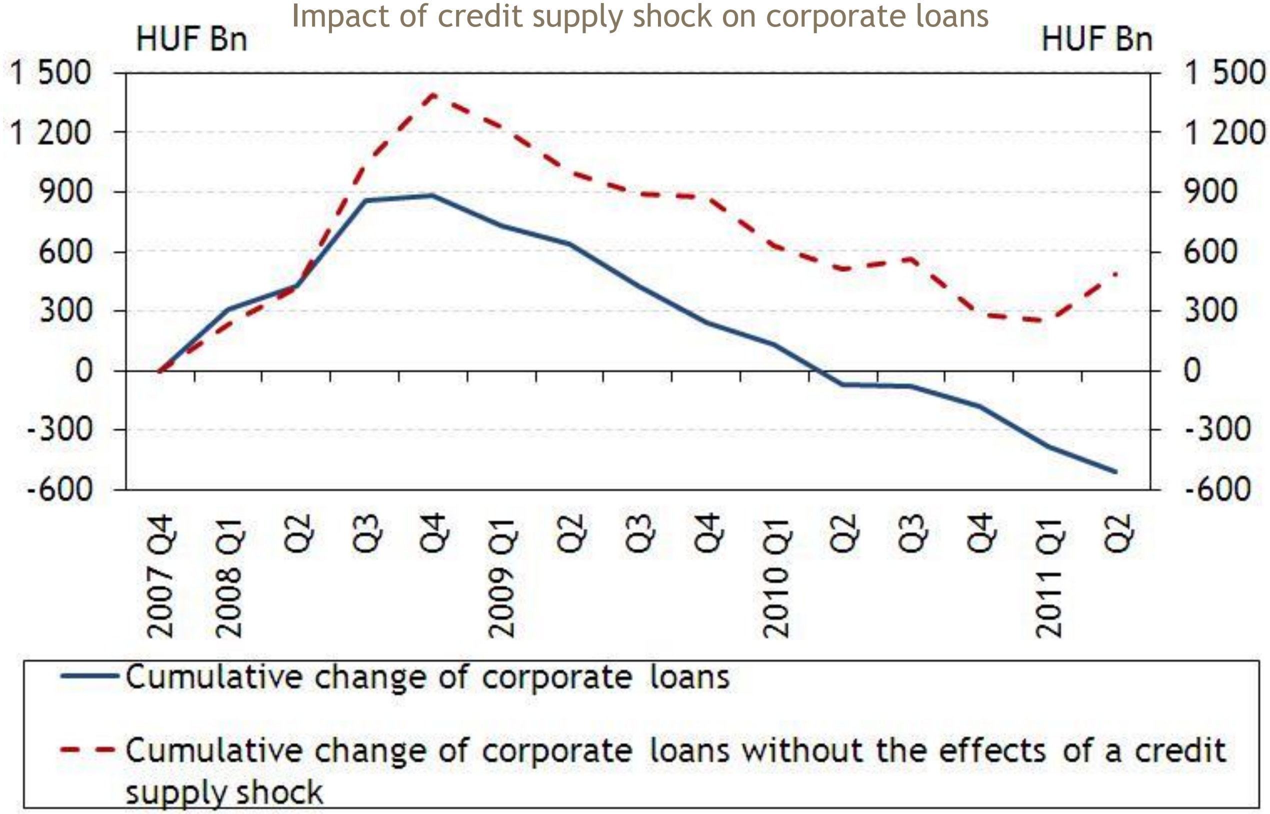
Scenarios of former MNB credit risk stress tests

	April 2009	October 2009	April 2010	November 2010	April 2011	November 2011
HUF/CHF exchange rate baseline/stress scenario	192/221	180/209	188/220	203/234	212/257	237/275
CDS spread baseline/stress scenario (basis point)	540/740	220/420	190/390	320/520	260/500	450/740
Average of GDP growth rate in stress scenario (per cent)	-10.5	-6.3	-1.6	0.1	0.9	-0.4
Capital need in stress scenario (HUF Bn)	**300**	**170**	**50**	**50**	**83**	**196**
End of stress test horizon	End of 2009	End of 2010	End of 2011	End of 2011	End of 2012	End of 2012

Source: MNB.

The banking sector has already made significant growth sacrifices

Impact of credit supply shock on corporate loans



Note: between early 2008 and 2011 Q2 the new volume of corporate loans would have been some HUF 1,000 billion greater without the negative credit supply shocks. That amounts to 11 per cent of the total corporate loans outstanding in early 2008. In 2011, the level of real GDP would have been around 1 percentage point higher without the fall in credit supply.

Source: MNB.

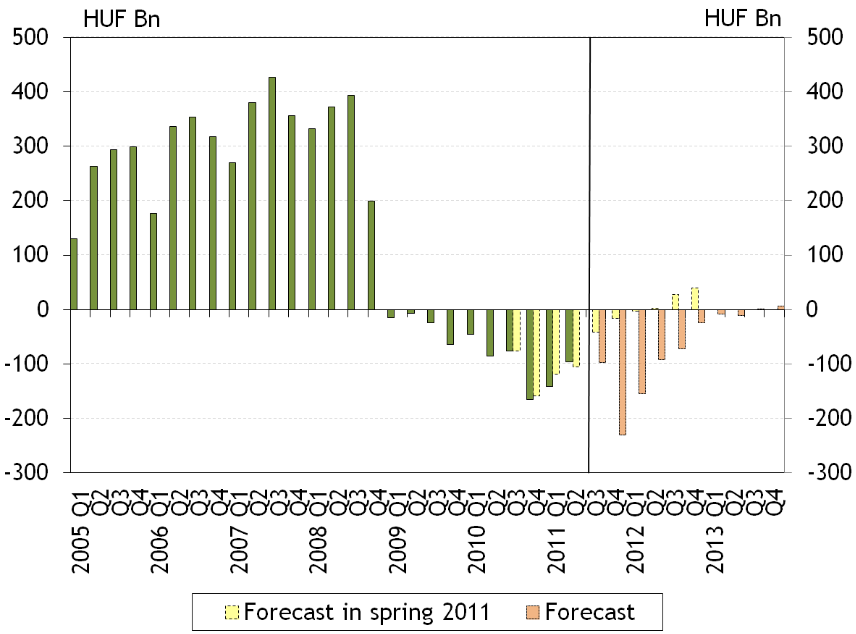
Proposals for stimulating corporate lending

- Increasing the number of state guarantee commitments, by increasing the capacities of guarantee institutions
- The establishment of channels of non-bank financing for corporations, and the preparation of legislation for securitisation
- Capital injection by parent banks improving banks' lending capacity, hence commitment to support lending

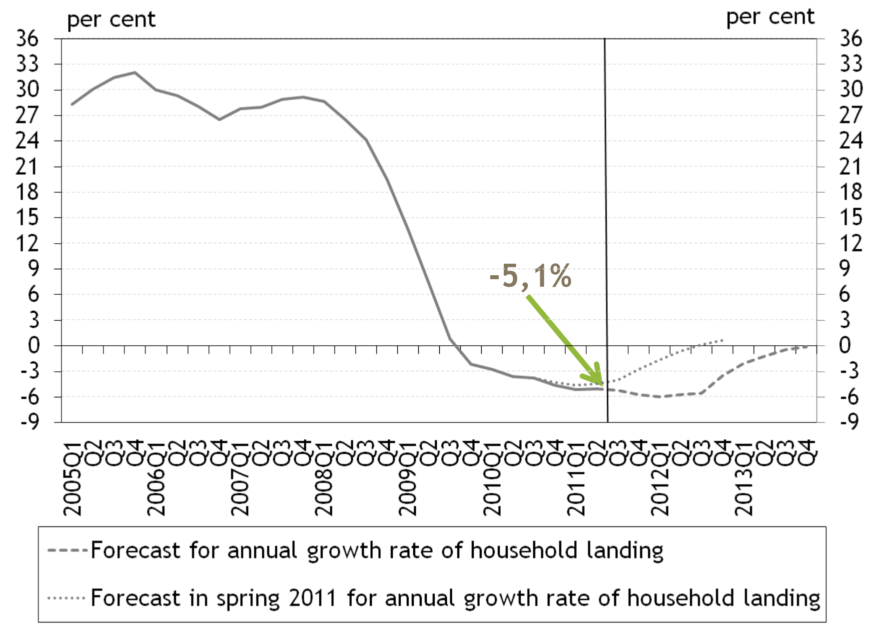
(5) Weak price competition in the household sector conserves the high interest burdens of debtors

The household loan portfolio is also shrinking significantly

Forecast for lending to household sector



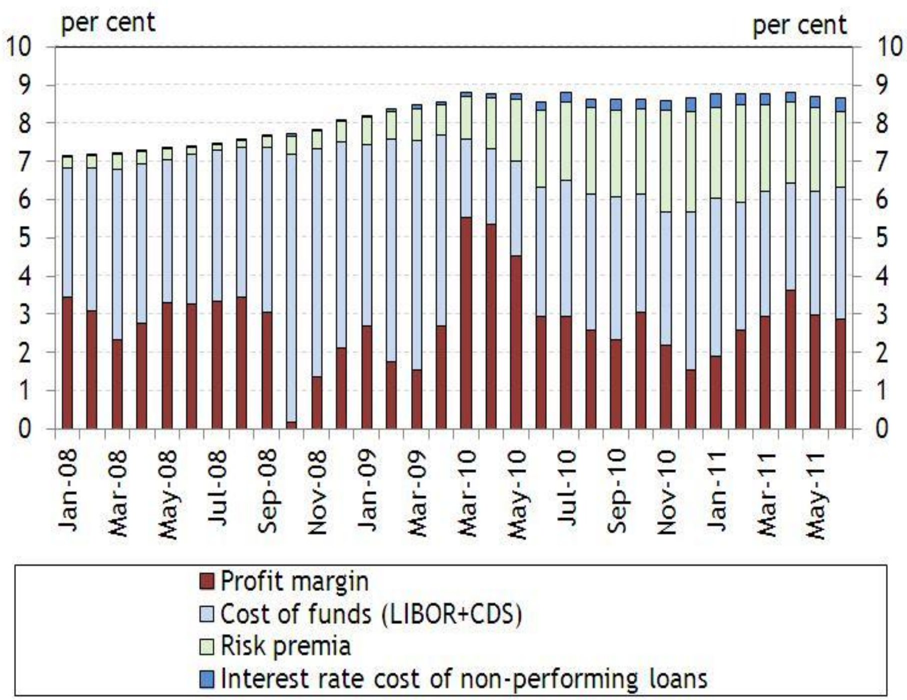
Annual growth rate of lending to household sector*



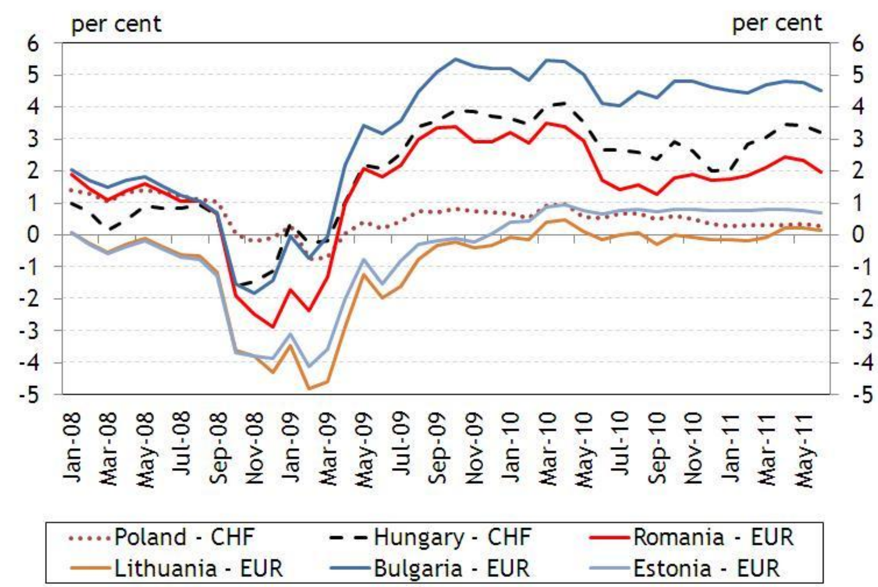
* yoy percentage change, adjusted for exchange rate.

At the same time, interest rate premia are high on the household loan portfolio

Decomposition of APRC applied for FX loans outstanding



Interest margin of FX loans in the CEE region



* Interest margin: the difference between the field of foreign currency denominated housing loans outstanding and the 3-month reference interbank interest rate and the premia above the monthly average 5-year sovereign CDS spread

Proposals to mitigate the problems of pricing dominance on the household lending market

- **Transparent pricing:**
  - introduction of a reference interest rate based credit products with a fixed premium or fixed interest rate
  - these proposals are comprised in the Government's National Protection Plan, as well

- **Complete credit register for households :**
  - the Government accepted the central bank's proposal

Key risks and potential risk mitigating measures

Key risks	Potential risk mitigating measures
Sovereign debt crisis in the euro area peripheral countries has been escalating	• Prudent national fiscal policy • Introduction of a foreign exchange funding adequacy ratio • Strengthening of the banking sector's capital position
Potential inherent risks of prepayment at preferential exchange rates	• Providing the foreign exchange reserves of the central bank to the domestic banking sector
Management of the increasing non-performing loan portfolios is inefficient	• Tightening loan loss provisioning regulations for restructuring • Introduction of personal bankruptcy
Due to decrease in capital buffers are forced to restrain corporate lending even more than earlier, the market of corporate loans may dry up	• State guarantee commitments • Development, improvement of non-bank financing channel • Capital injection by parent banks
Weak price competition in the household sector conserves the high interest burdens of debtors	• Introduction of reference interest rate based credit products with a fixed premium or fixed interest rate • Setup of a complete credit register