



FINANCIAL STABILITY REPORT



MAY
2024

'...a nation is strong where property and independence are guarded by free hands.'

Ferenc Deák



FINANCIAL STABILITY REPORT

MAY
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Financial stability is a state in which the financial system, including key financial markets and financial institutions, is capable of withstanding economic shocks and can fulfil its key functions smoothly, i.e. intermediating financial resources, managing financial risks and processing payment transactions.

The Magyar Nemzeti Bank's fundamental interest and joint responsibility with other government institutions is to maintain and promote the stability of the domestic financial system. The role of the Magyar Nemzeti Bank in the maintenance of financial stability is defined by the Central Bank Act.

Without prejudice to its primary objective - to achieve and maintain price stability -, the MNB shall support the maintenance of the stability of the financial intermediary system, the enhancement of its resilience, its sustainable contribution to economic growth; furthermore, the MNB shall support the economic policy of the government using the instruments at its disposal.

The MNB shall establish the macro-prudential policy for the stability of the entire system of financial intermediation, with the objective to enhance the resilience of the system of financial intermediation and to ensure its sustainable contribution to economic growth. To that end and within the limits specified in the Central Bank Act, the MNB shall explore the business and economic risks threatening the system of financial intermediation as a whole, promote the prevention of the development of systemic risks and the reduction or elimination of the evolved systemic risks; furthermore, in the event of disturbances to the credit market it shall contribute to the balanced implementation of the function of the system of intermediation in financing the economy through stimulating lending and by restraining lending it in the event of excessive credit outflow.

The primary objective of the Report on Financial Stability is to inform stakeholders about the topical issues related to financial stability, and thereby raise the risk awareness of those concerned as well as maintain and strengthen confidence in the financial system. Accordingly, it is the Magyar Nemzeti Bank's intention to ensure the availability of the information needed for financial decisions, and thereby make a contribution to increasing the stability of the financial system as a whole. The scope of the report broadened in parallel with the MNB's new macro- and microprudential supervisory mandate.

The analyses in this Report were prepared by the Financial System Analysis, the Macroprudential Policy and Resolution and the Monetary Policy Instruments Foreign Exchange Reserves and Risk Management directorates and the Financial Institutions Supervision Executive Directorate, under the general direction of Márton NAGY, Executive Director. The Report was approved for publication by Dr. Ádám BALOG, Deputy Governor.

The Report incorporates the Financial Stability Council's valuable comments and suggestions following its meetings on 5 and 19 May 2014, and those of the Monetary Council following its meeting on 13 May 2014. However, the Report reflects the views of the contributing organisational units and does not necessarily reflect those of the Financial Stability and the Monetary Council or the MNB.

This Report is based on information in the period to 30 April 2014.

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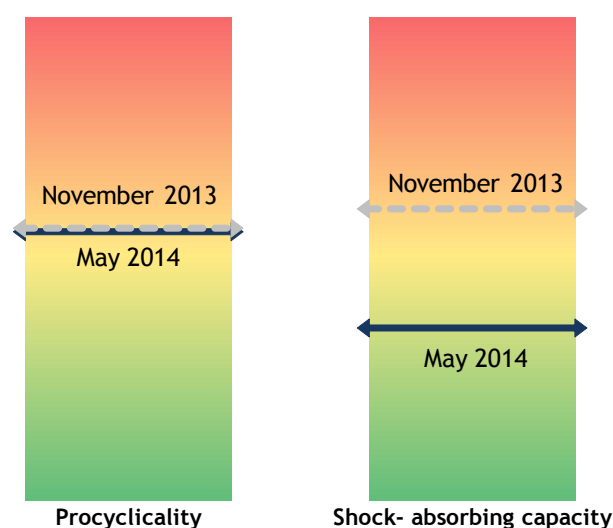
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1. EXECUTIVE SUMMARY

The stability of the domestic financial intermediary system remains adequate. The banking system's liquidity is sufficient even in a stress scenario, and the liquidity stress index shows improvement. The banking system's vulnerability in terms of funding decreased further in the second half of 2013. The capital position of the banking sector continued to improve, with capital injections by foreign banks substantially improving the capital stress index.

The procyclicality of the financial system eased markedly in the second half of 2013, owing to the Magyar Nemzeti Bank's Funding for Growth Scheme (FGS) and cuts to the policy rate. Nevertheless, the banking sector still does not adequately support sustainable growth, and a rebound in market-based corporate lending and more easing of credit supply constraints are needed. The main reasons lie in the unsound structure of the banking sector's asset side.

Financial stability heat map¹



Numerous measures of the MNB are aimed at changing the asset composition of the banks. The first pillar of the FGS stimulates SME lending, while the second pillar helps refinancing the foreign currency debt of companies without natural hedge. In the household segment, the central bank can mitigate the risk of unsustainable lending by applying macroprudential regulation (PTI, LTV). Steps are needed to boost portfolio cleaning, in order to reduce the portfolio of non-performing corporate loans. The restructuring of the central bank toolkit to support self-financing is aimed at mitigating external vulnerability.

¹ Note: The indices for procyclicality measure the contribution of the banking sector and financial conditions to GDP growth and potential overheating in the credit market. The indices measuring resilience to shocks analyse the vulnerability of the banking sector in terms of liquidity, capital adequacy and systemic stress. Contrary to previous practices, the measures of procyclicality presented in this *Report* reflect conditions for the third quarter, given the significant change in financial conditions due to the FGS. For more details: Holló, D. – Körmendi, Gy. – Szegedi, R. – Világi, B. (2014, forthcoming): The macroprudential analytical toolkit of the MNB. MNB WP.

Preferred directions in the change in banking sector asset structure and steps supporting them

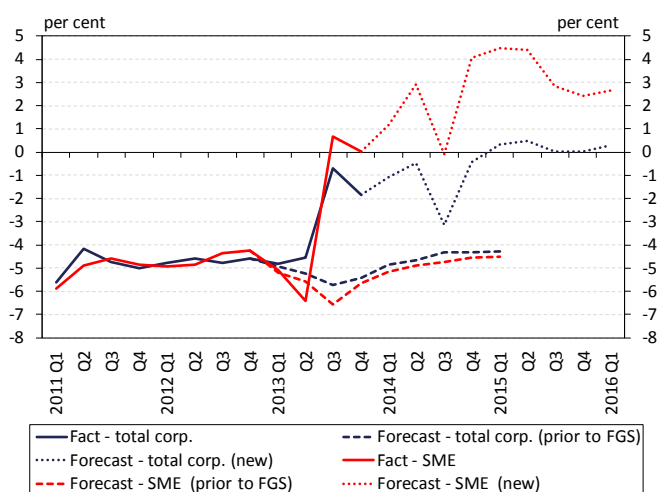
	Asset side of banks		Measures
Loans	SME lending is increasing	↑	FGS pillar I
	Contraction in loans to companies without natural hedge	↓	FGS pillar I
	Household lending increases, risk of imprudent lending may increase	↑	LTV, PTI regulation may contribute to more sound lending practices
Problem/ risky loans	FX household debt is shrinking, risks are decreasing	↓	Government, Supreme court decision
	Household NPL is decreasing	↓	National Asset Management Agency mitigates the problem
	Corporate NPL is decreasing	↓	Regulatory steps are needed to boost portfolio-cleaning
Liquid assets	The volume of 2-week central bank instruments is decreasing	↓	Self-financing concept gives incentives
	Government securities holding in increasing	↑	

Persistently low profitability is impeding a financial intermediary system which supports sustainable growth and exhibits a sounder asset structure, and is also accelerating consolidation. Due to weak profitability prospects and subdued capacity of generating income, cost efficiency may gain ground. In case it leads to with rising concentration, then that may exacerbate the systemic risk of major banks (too-big-to-fail problem) and may distort competition.

1. Turnaround in SME lending

Corporate lending, in particular to SMEs, improved substantially in the second half of 2013, mainly driven by the Funding for Growth Scheme, which was also supported by the rate-cutting cycle underway since August 2012. With long-term HUF loans gaining ground, lending shifted towards a more sound structure. However, market-based lending has not seen a material turnaround and banks' supply constraints remain tight. As a result of lasting economic growth, household lending may rebound over medium term, the introduction of LTV, PTI regulation is necessary in order to avoid excessive, imprudent borrowing.

Chart 1: Forecast of lending to non-financial corporates (YoY changes, based on transactions)



Source: MNB.

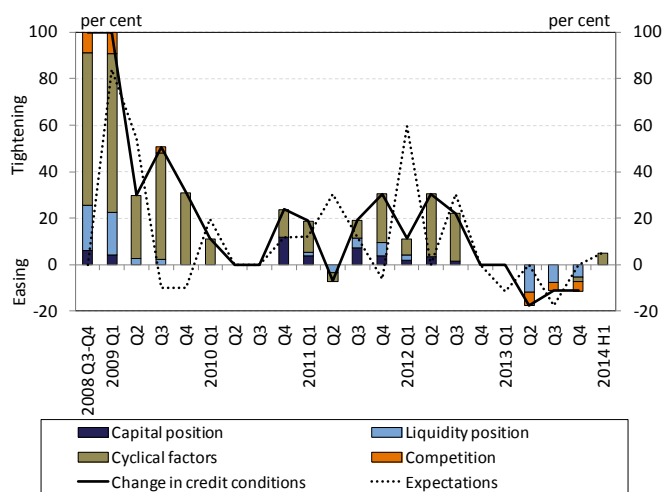
A positive turnaround in corporate lending occurred in the second half of 2013.

The Funding for Growth Scheme boosted long-term forint lending to SMEs, which led to substantial improvement throughout the corporate segment. This was also supported by policy rate cuts. Based on our forecast prior to the FGS, the credit crunch would have continued (Chart 1). Within corporate lending, the ratio of long-term forint loans expanded, resulting in an improvement in the maturity and currency structure, thanks to the FGS. The lending rate on market-based forint loans fell further on account of the central bank's policy rate cuts, declining to 5 per cent.

The contraction in corporate lending since the onset of the crisis mainly affected foreign currency lending.

The contraction in foreign currency lending is largely a natural and thus favourable trend stemming from the downsizing in

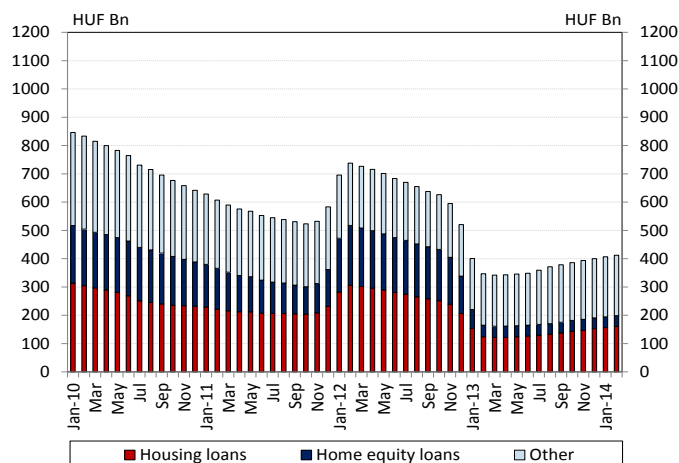
Chart 2: Contribution of individual factors to changes in banks' lending conditions in the corporate segment



Note: The difference between banks that tightened and eased their conditions, weighted by market share. Contribution of specific factors to the tightening/easing normalised in proportion to tightening/easing.

Source: MNB, based on the answers of responding banks.

Chart 3: New loans granted in the household segment (12 month sum)



Source: MNB.

2. Sluggish portfolio cleaning is a key macroprudential risk

The proportion of non-performing loans is high and the exchange rate risk exposure of debtors with no natural hedge continues to be a key risk. Household portfolio quality is continuously deteriorating, while the number of new entrants to the exchange rate cap scheme has dropped significantly. Market-based portfolio cleaning among non-performing loans is essentially unfeasible. The number of properties backing non-performing loans is one and a half times higher than property transactions and the total debt owed by debtors substantially exceeds the total value of properties. Even though portfolio quality has improved in the corporate segment, on the whole a large share of non-performing loans has remained stuck in banks' balance sheets for years ("ageing"), owing to sluggish portfolio cleaning. To accelerate portfolio cleaning, regulatory steps are needed with a focus on the most troubled segment of commercial real estate loans.

project financing and the reduction of the pre-crisis borrowing spree of firms without natural hedge. This trend has been supported by the second pillar of the FGS. At the same time, the decline is a negative trend for firms with FX income, which are able to repay their foreign currency loans from their foreign currency revenues with no exchange rate risk.

Market-based lending needs to pick up as well. The role of the central bank in corporate lending increased substantially in 2013, and may also expand this year owing to the FGS. At the same time, banks' credit conditions remain tight (Chart 2), only allowing a narrower range of enterprises to access loans. For the banking system to be able to support sustainable growth, supply constraints need to be eased. The poor quality of bank portfolios, however, poses an impediment to this, coupled with their persistently weak profitability since 2010.

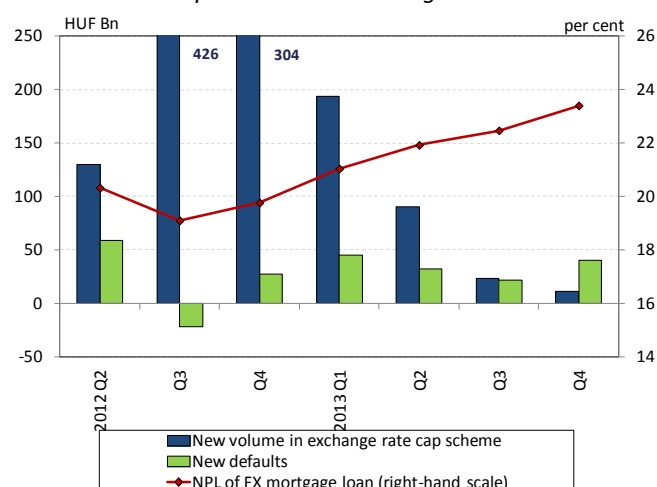
Future build-up of risks may be mitigated by the LTV and PTI regulation. Household lending shows signs of improvement, but due to the deleveraging of indebted households and precautionary motives of those without loans, new loan volumes are still low (Chart 3). With easing in credit conditions and more robust economic growth, household lending may rebound over the medium term. Prudent forint lending and the avoidance of excessive household borrowing can be ensured through Loan-to-value (LTV) and Payment-to-income (PTI) regulation using the macroprudential regulatory powers of the MNB.

Table 1: Household loans at the end of 2013

		Banks (incl. Foreign branches and savings co-operation)			Financial enterprises		
		Total loans	Mortgage loans	Other loans	Total loans	Mortgage loans	Other loans
Total	Outstanding amount (HUF Bn)	6 833	5 483	1 339	789	266	523
	Number of contracts (thousands)	5 904	1 157	4 731			
	NPL (HUF Bn, outstanding amount)	1 267	1 041	226	243	101	142
	NPL (thousands, nr of contracts)	833	139	695			
	NPL ratio	18.5%	19.0%	16.9%	30.7%	37.9%	27.2%
HUF	Outstanding amount (HUF Bn)	3 142	2 097	1 045	306		
	Number of contracts (thousands)	5 170	673	4 481			
	NPL (HUF Bn, outstanding amount)	457	284	173	122		
	NPL (thousands, nr of contracts)	683	55	628			
	NPL ratio	14.5%	13.5%	16.6%	39.8%		
FX	Outstanding amount (HUF Bn)	3 692	3 387	305	483		
	Number of contracts (thousands)	733	484	249			
	NPL (HUF Bn, outstanding amount)	810	757	53	121		
	NPL (thousands, nr of contracts)	150	83	67			
	NPL ratio	21.9%	22.4%	17.3%	25.1%		

Source: MNB.

Chart 4: Portfolio quality and utilization in the exchange rate cap in the household segment



Source: MNB.

2.1 A solution to the household FX debt problem must be found

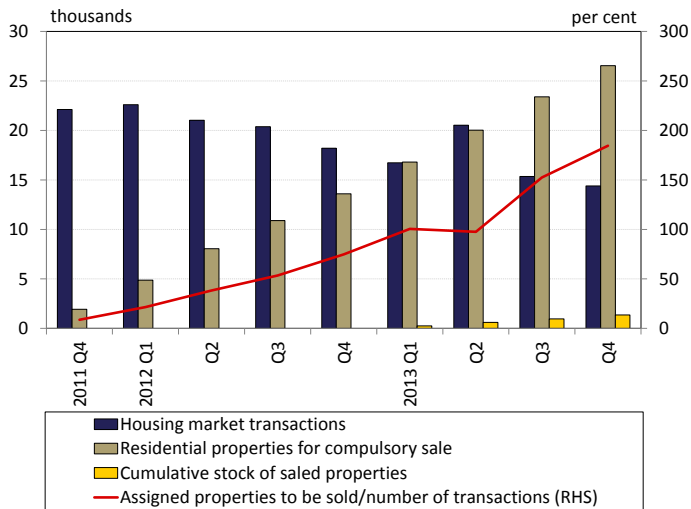
Portfolio quality continued deteriorating in the household segment. The ratio of non-performing loans is highest among foreign currency denominated mortgage loans (Table 1). Utilisation of the exchange rate cap scheme intended to curb the deterioration in portfolio quality has barely increased (Chart 4). According to our earlier survey, the majority of clients not taking part in the scheme are waiting for even more public assistance. These signs suggest that the risk of further decline in willingness to pay may remain till the resolution of the household FX debt problem, which is also confirmed by the market survey carried out among banks.

Market-based portfolio cleaning does not work for mortgage loans. Credit institutions only managed to sell a fraction of the properties forming the collateral for mortgage loans even given the low foreclosure sales quotas. As a result of these factors, the total value of the properties designated as collateral far exceeds quarterly housing market turnover and the volume of properties backing non-performing loans is over one and a half times the annual number of transactions (Chart 5). The proper operation of National Asset Management Company is crucial. It has purchased a large amount of properties backing non-performing loans, but this effort will only clean less than one-fifth of such loans from the balance sheets of financial intermediaries.

The uncertainty stemming from the situation of foreign currency debtors must be eliminated. A definitive decision on the resolution of the issue of foreign currency debtors would mitigate general market uncertainty and boost the willingness to pay of solvent debtors. The issue needs to be resolved jointly for both non-performing and performing foreign currency debtors, as intervention for only non-performing debtors would undermine willingness to pay and benefit those who had stopped servicing their loans, despite being solvent. Finally, it is important to emphasise that this final decision would only concern government intervention, and that individual debtors may still appeal to the courts for legal remedy.

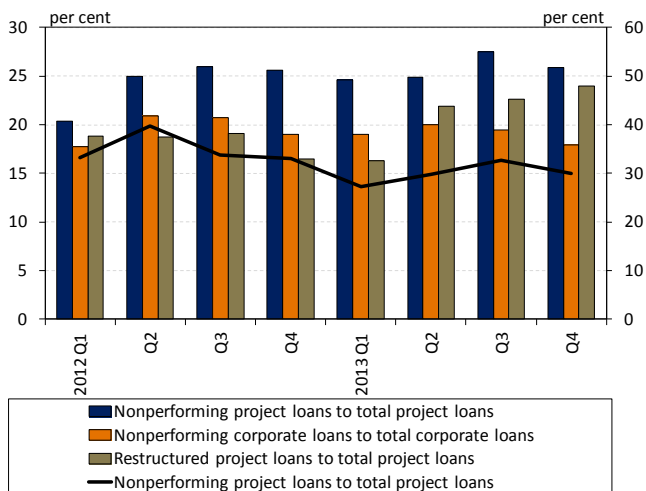
In the case of performing loans, expansion of the exchange rate cap scheme and curbing banks' market power may help. Credit risk would be significantly mitigated if utilisation of the exchange rate cap scheme would increase, which would be supported by its reform to benefit debtors better. In addition to exchange rate

Chart 5: The ratio of repossessed residential properties to be sold on auctions to the housing market transactions



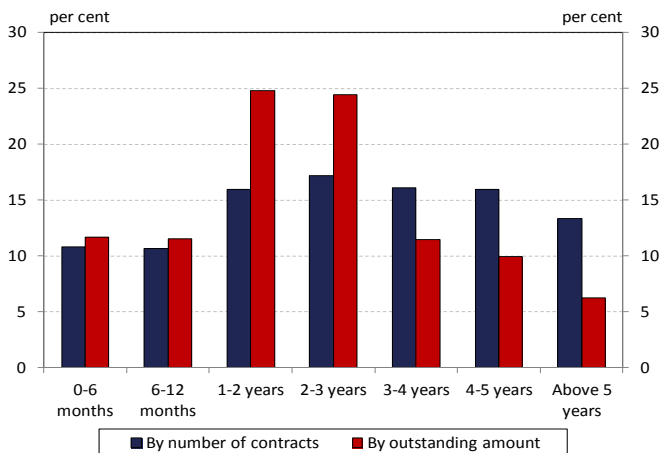
Source: MNB.

Chart 6: Portfolio quality in the corporate sector



Source: MNB.

Chart 7: Distribution of corporate NPL according to time elapsed since becoming non-performing



Source: CCIS.

weakening, banks' exercise of their market power (unilateral interest rate hikes and the conversion margin) substantially increased the burdens of customers, while as a result of falling reference interest rates and rising risk premia, banks' funding costs declined overall. These practices undermine willingness to pay in their own right and also curb domestic demand. Transparent pricing (fixed spread above the reference interest rate) or interest rates on loans fixed for at least five years would limit banks' market power.

The objective should be restoring solvency and willingness to pay, instead of resorting to foreclosures. Outstanding principal exceeds the collateral value of property by over 30 per cent among foreign currency mortgage loans as a result of the weaker exchange rate, while properties under foreclosure generally sell at half their value. In light of this, the objective should be to restore solvency and willingness to pay. This can be achieved by forgiving a more significant part of the debt, which could become effective if coupled with payment discipline.

2.2 In the corporate segment, commercial real estate lending is the most troubled sub-segment

Despite a decline, the ratio of non-performing corporate loans remains high. The ratio of non-performing loans shrank by 2 percentage points to 17.9 per cent during the second half of the year. The issue is most acute among project financing loans within the corporate portfolio: project loans account for nearly 40 per cent of non-performing loans within the total corporate segment and nearly 60 per cent of restructured loans, mainly commercial property loans (Chart 6). Given the large exposures and problems in the real estate market, the banking system is strongly motivated to keep non-viable projects alive in this segment through restructuring, and consequently, the 30 per cent loan loss coverage may pose a risk in the case of restructured loans.

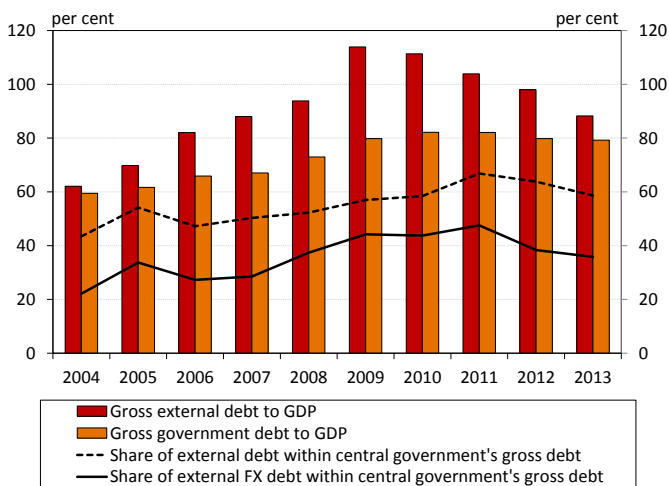
There continue to be significant obstacles to portfolio cleaning. Although portfolio cleaning reached record levels in the final quarter of 2013, it is questionable whether this rate can be sustained. Effective portfolio cleaning is still impeded by factors such as lengthy, costly and opaque winding-up procedures, and as a result a substantial portion of non-performing loans have been stuck in the portfolio for several years (Chart 7). There is no real market for factoring: domestic players lack sufficient liquidity to purchase larger stocks of NPLs, and offers by prospective buyers are much lower than banks' asking prices for these items. To accelerate cleaning, intervention should seek to

remove any legal and regulatory obstacles to portfolio cleaning on the one hand, and banks should be motivated by making it more expensive to keep non-performing loans in their books and by making portfolio cleaning cheaper on the other. Cleaning is facilitated by the FGS, as it now provides refinancing for the purchase of commercial properties for leasing purposes, when in connection with a non-performing or cancelled loan.

3. The self-financing concept is aimed at reducing external vulnerability

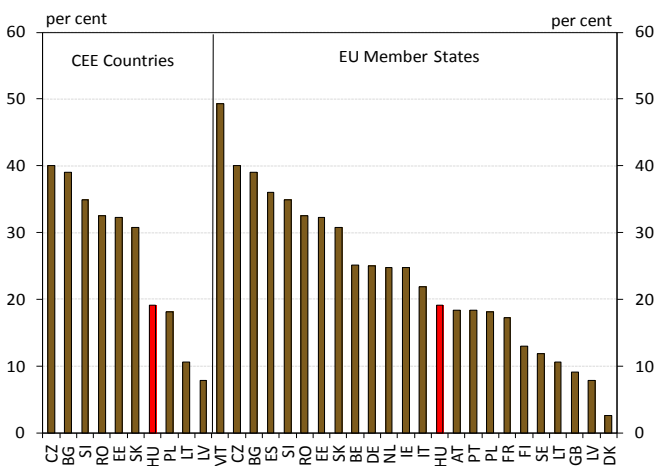
Although the external environment has improved since our last Report, there continue to be considerable risks to the global financial and economic outlook. Despite the adjustment in external financing capacity in recent years, Hungary's gross external debt remains high, rendering the domestic financial system vulnerable to external shocks. The high share of foreign currency-denominated and foreign-held government debt could be reduced through higher holdings of government securities by banks, and there is room for such a development in an international comparison. The central bank is attempting to provide incentives in this direction by reforming its instruments.

Chart 8: Development of gross external debt and the gross government debt relative to GDP, and the funding structure of gross central government debt



Source: GDMA, HCSO, MNB.

Chart 9: The banking system's share in the financing of government debt



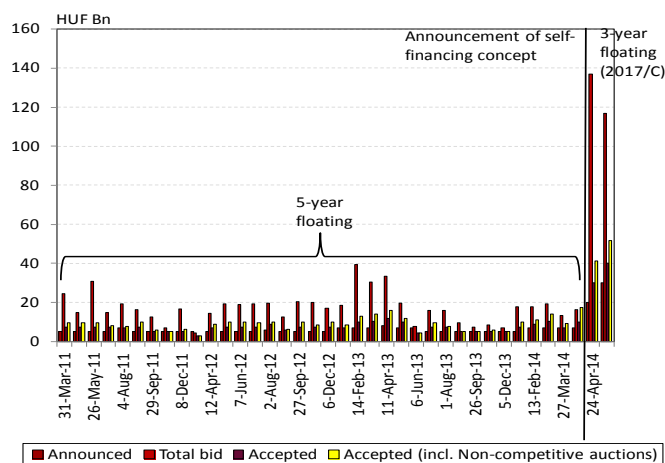
Source: ECB, Eurostat.

External vulnerability can be further mitigated by reducing gross external debt. The improving external environment still involves numerous risks, to which Hungary remains sensitive given its high gross external debt and roll-over needs. The balance of payments position may continue to improve, in parallel with a further decline in net external debt, but a larger reduction in external debt can be achieved only by higher savings of certain domestic sectors, which would entail additional real economic adjustment. However, there is the possibility to reduce gross external debt, and current foreign exchange reserve trends provide adequate leeway in this regard.

A reduction in gross external debt could be facilitated by domestic financing of government debt. Since foreign currency debt is held predominantly by foreign investors (Chart 8), an increase in forint financing opens up the possibility of reducing gross external debt. In order to achieve this, it would be necessary for domestic agents, and not just households but also banks, to hold more forint-denominated government securities. Based on international comparison, there is room for banks to do so: the share of the banking sector in domestic government financing in many countries is higher than in Hungary (Chart 9). If banks moved from the sterilisation stock towards investing in government debt, then without a change in sovereign exposure, the share of central government securities would rise.

Restructuring of the central bank's instruments may provide incentives for banks to hold more government debt. In the course of this reform, the two-week MNB bills will be converted into two-week deposits, which are

Chart 10: Hungarian government securities auctions



Source: GDMA.

4. Persistently low profitability is impeding a financial intermediary system which supports sustainable growth

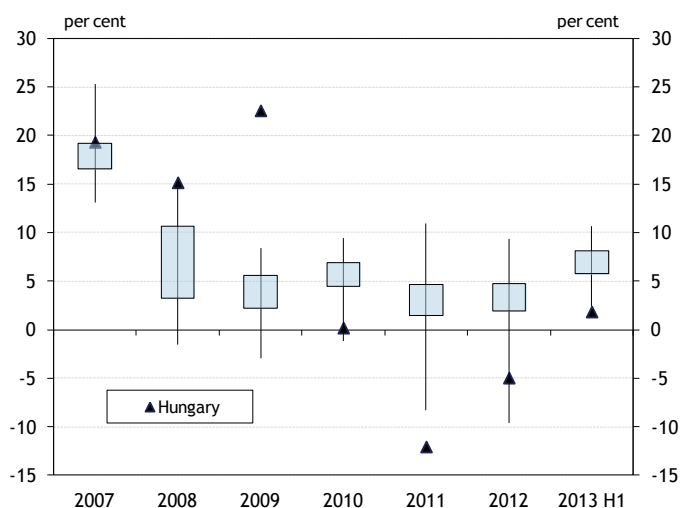
The Hungarian banking system continues to be characterised by low profitability, and there is substantial uncertainty about when profitability is expected to recover. Although the current anaemic profitability does not compromise the banking system’s resilience to shocks, it does impede the evolution of a banking sector with a sounder asset structure, and thus the ability to support sustainable economic growth over the long run. Persistently low profitability may lead to consolidation in the banking sector, which may severely impair market-based lending until other banks can fill the gaps left by banks which are downsizing or possibly exiting the market. Over the longer term, risks may emerge, if, following consolidation, an unsound structure evolves, which may exacerbate the too-big-to-fail problem and distort competition.

4.1 Weak profitability hampers lending in support sustainable growth

The Hungarian banking system continues to be characterised by weak profitability. The outstanding profitability of the pre-crisis period vanished following the onset of the crisis, and the Hungarian banking sector has been booking losses year after year. On the whole, the Hungarian banking sector was profitable in 2013, but this was the result of a one-off item, specifically the relief of external liabilities by a parent bank. Without this item, the banking sector’s profit was near zero. Profitability remains very low by international standards (Chart 11). The primary causes of this low profitability are loan losses and the fiscal burdens to some degree, and banks mainly attempt to compensate for this through high interest margins in the household sector. Looking ahead, no material improvement in profitability is anticipated due to the credit risks in the portfolios, the remaining fiscal burdens, subdued lending activity and the low interest rate environment.

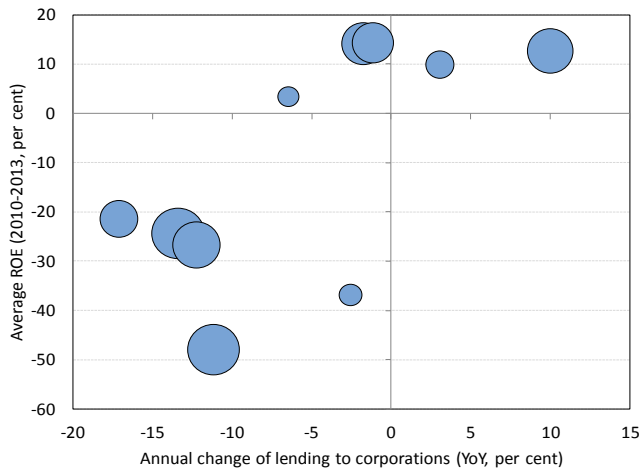
Subdued profitability poses risks to growth. Although current profitability does not represent a systemic threat to resilience to shocks, it does represent a risk over the longer

Chart 11: Return on equity in an international comparison



Note: After taxation. The chart depicts the 40–60, 20–80 percentile value of the member states’ banking sectors together with the Hungarian banking sectors’ ROE.

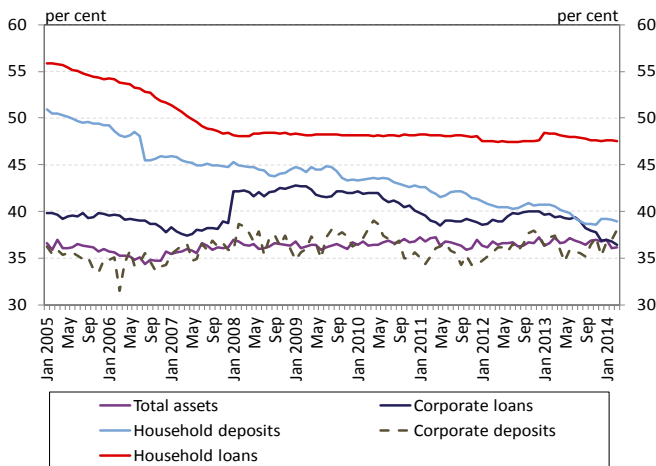
Chart 12: Return on equity (2010-13) and decline in the corporate loan portfolio (2013) by bank



Note: Commercial banks with total assets exceeding HUF 100 billion, with size of circle indicating a given bank's weight.

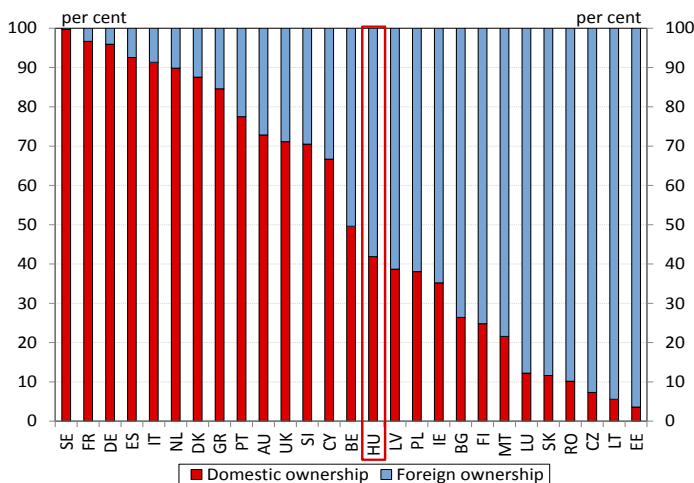
Source: MNB.

Chart 13: Market share of the three most active banks in certain sub-markets



Source: MNB.

Chart 14: Market share of domestic and foreign controlled banks in international comparison



Source: ECB.

term. For one, it reduces the Hungarian banking system's capacity to attract international capital and funding, while keeping domestic capital accumulation low. For these reasons, the banking sector is unable to sufficiently support economic growth. Banks are only able to boost profit on the asset side to a limited extent: although loan loss provisioning is expected to decline, the stock of outstanding foreign currency loans featuring high margins is steadily contracting. Thus, the focus may shift towards cost savings, which can be achieved by cutting operating costs, and to a larger extent by exploiting synergies from mergers and acquisitions.

4.2 Consolidation of the banking system carries numerous risks

Larger banks might be more active in mergers and acquisitions during the inevitable consolidation.

The banking system's profitability shows significant heterogeneity. Several major foreign-owned banks have been posting heavy losses for years (Chart 12), which may lead to consolidation within the banking sector. While this may provide an opportunity to restructure the banking sector, it does not come without risks. One source of risk is that certain banks may strongly curb their lending activity in the context of consolidation, while no new customers with stronger activity emerge in the uncertain environment. Moreover, enterprises already established in the Hungarian market may play a greater role in mergers and acquisitions, as they are able to leverage local synergies and economies of scale.

An increase in concentration entails numerous risks.

In light of the above, there is a risk that the decline in concentration which has been observed for many years (Chart 13) may reverse and that highly concentrated market structures may emerge in certain segments, which might undermine competition and aggravate the problem of banks which are "too-big-to-fail". In addition to synergies, the possibility of decreasing competition may also make M&A more attractive for larger banks. Finally, during the process of consolidation, an additional relevant aspect in terms of market structure is sufficient geographic diversity of ownership (Chart 14), as both a dominant role of domestic or foreign ownership, and in particular excessive reliance on the banking sector of one country, may pose risks and increase vulnerability.

Key risks		Risk mitigating measures	
(1) The Hungarian banking sector still does not support sufficiently economic growth through lending		<p>More active involvement by credit guarantee schemes — the largest guarantee organisation has lowered its fees and streamlined its processes.</p> <p>The increasing activity of venture capital funds (from EU funds) could benefit small businesses with greater growth potential</p> <p>PTI, LTV regulation for prudent household lending</p>	<p><i>Phase 2 in the Funding for Growth Scheme can help provide financing to the SME segment.</i></p>
(2a) Through deteriorating portfolio quality, household debt entails significant stability risks	<p>Paying increased attention to banks' resilience in issues affecting the banking sector</p>	<p>Adjusting the exchange rate cap scheme so that the exchange rate risk is mitigated more than previously or completely for households without a natural hedge</p> <p>Partial cancellation of debt for non-performing loans, taking effect when clients regain their ability to pay and exhibit payment discipline. If this solution does not work, extending the asset manager's scope of authority might help</p> <p>Final decision on solving the problem of foreign currency borrowers</p>	
(2b) Share of non-performing corporate loans is high	<p>Striving to establish a more predictable regulatory environment, while maintaining a prudent fiscal policy and facilitating sustainable economic growth</p>	<p>Legal and regulatory environment: (1) more creditor rights in case of defaults (2) improving the efficiency of liquidation and bankruptcy proceedings, eliminating red tape</p> <p>Regulatory steps are necessary to accelerate portfolio cleaning</p>	<p><i>The Funding for Growth Scheme now provides refinancing for the purchase of commercial properties for leasing purposes, when in connection with a non-performing or cancelled loan</i></p>
(3) High vulnerability of the country owing to high external debt		<p><i>Self-reliance concept: With its latest measures (conversion of two-week bonds into deposits, interest rate swaps and the introduction of long-term repo and asset swaps for crisis management purposes), the MNB intends to achieve reductions in gross external debt, in the reliance of public debt on external financing and in foreign currency debt as well.</i></p> <p><i>Tightening the foreign financing adequacy ratio (FFAR) mitigates roll-over risks at sectoral level</i></p>	
(4a) Persistently weak profitability in the banking sector			
(4b) Inadequate market structure may emerge during consolidation		<p><i>For the "too-big-to-fail" problem: Basel 3 regulation over supplementary capital requirements of systemically important financial institution</i></p> <p><i>Competition may be boosted by facilitating refinancing in the household segment, while promoting alternative financing forms in the corporate segment</i></p>	

Note: Orange: high risk, Red: severe risk.

2. MACROECONOMIC AND MONETARY MARKET ENVIRONMENT – THE IMPROVING EXTERNAL ENVIRONMENT CONCEALS NUMEROUS RISKS

While the EU Member States are emerging more and more from the recession, the recovery remains fragile and uneven, and the threat of deflation has emerged. There are also still risks related to fiscal sustainability. The euro-area banking sector continues to be characterised by deteriorating portfolio quality and weak profitability, and risks are still concentrated in the southern (Club Med) countries. Although access to funding by banks and governments has improved markedly in these countries since publication of the last report, they would be negatively affected by the risk of higher volatility and rising yields during the normalisation of monetary conditions.

Real economic trends in Hungary point towards growth and a decline in money market risks. The continued improvements in Hungary's external balance position reduce the country's vulnerability. At the same time, the country's net external debt remains high, and thus Hungary remains vulnerable to external shocks. In order to mitigate these risks, the MNB has restructured its toolkit in support of self-financing, with the direct goal of incentivising higher holdings of government debt by Hungarian banks, instead of central bank sterilisation instruments.

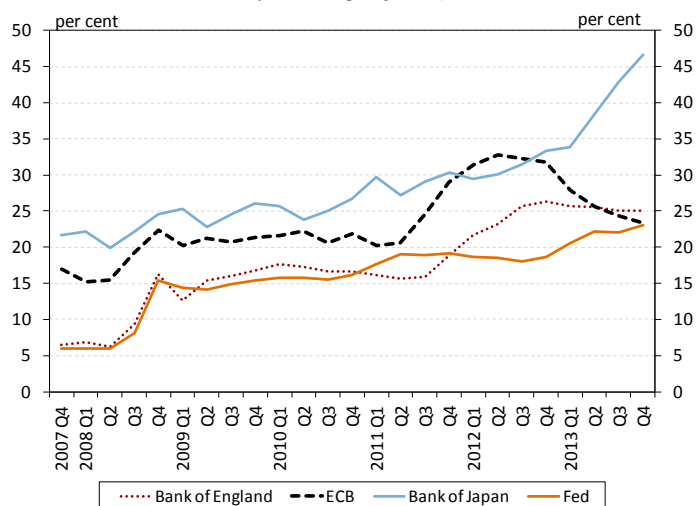
House prices continued to decline in 2013, coupled with a historical low in newly built homes and the total number of market transactions. At the same time, purchasing property has become more affordable, thanks to the low interest environment and house price levels. On the supply side, the property behind non-performing loans exerts significant pressure on the housing market. This represents an issue over the medium term, as banks could clean out only a small portion of collaterals from their books. The commercial property market was characterised by an overall fall in prices and low utilisation of capacities, similarly to the housing market. The global spike in yields poses a threat, and could further erode the value of commercial property.

2.1. Global recovery still exposed to significant risks

The Fed has started to taper its third quantitative easing programme (QE3). Developed countries are still characterised by loose monetary conditions. With policy rates at levels close to zero, the Fed's QE3 and the "quantitative and qualitative" liquidity programme of the Bank of Japan (BoJ) continued. The Fed, however, began to taper its quantitative easing programme at the end of 2013, with asset purchases in the context of QE3 falling to USD 55 billion by March 2014. Last November, the ECB cut its policy rate to 25 basis points, but did not use its government securities purchase programme. Banks have repaid a portion of three-year central bank loans (LTRO), leading to further contraction of the ECB's balance sheet total (Chart 1). At the same time, in light of the risks to the euro area outlined below (deflation, weak lending), further measures by the ECB cannot be ruled out: the launch of a new LTRO, ending the sterilization of LTRO, introducing negative interest rate, or purchasing ABS have been raised as possible instruments.

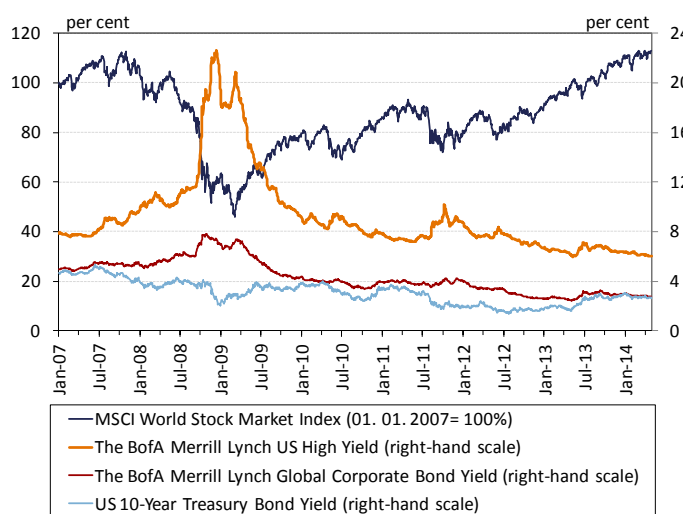
A sudden rise in global yields represents a significant risk. Tapering has not caused any real problems apart from the initial tensions (Chart 2). A shift away from ultra loose monetary policy is positive on the one hand, as artificially depressed risk-free returns over a longer period may entail risks, such as rising risk appetite due to search for yields,

Chart 1: Central banks' balance sheet in developed countries (as a percentage of GDP)



Source: Central banks.

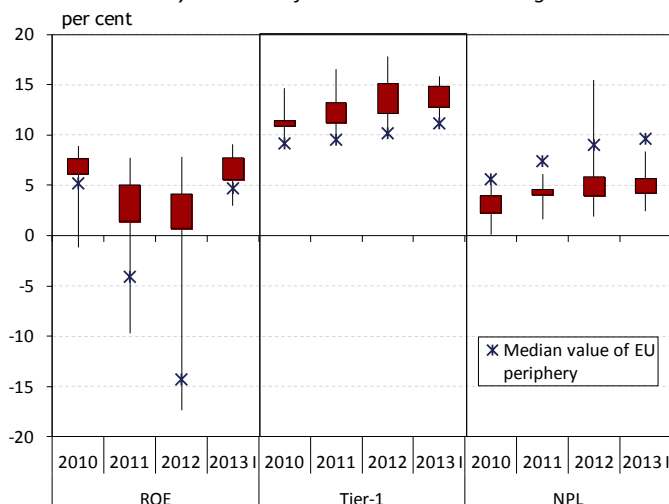
Chart 2: Changes in share prices and bond yields in Europe and the USA



Note: Yield on investment-grade corporate bonds = the BofA Merrill Lynch Global Corporate Bond Yield, yield on high-yield corporate bonds = the BofA Merrill Lynch US High Yield.

Source: Bloomberg.

Chart 3: Key indicators for the euro-area banking sector



Note: In addition to the 40-60 and 20-80 percentile values of the banking sectors of the Member States, the chart shows the median value for the periphery countries. Southern countries: Greece, Italy, Spain and Portugal.

Source: ECB CDB.

for example. On the other hand, a potential correction stemming from a change of direction in monetary policy may come too early in some regions, as it could jeopardise the recovery from recession. Nearly half of the debt securities issued by euro area financial institutions are variable rate or have short maturities, subject to rapid repricing as interest rates increase. Financial turmoil may affect emerging markets, which are typically characterised by lower liquidity.

Portfolio quality could deteriorate further in countries with vulnerable banking systems and weak economic fundamentals. Although the profitability of the euro-area banking system improved during the first half of 2013, its internal capital accumulation capacity remains weak. At the same time, credit risk issues were exacerbated as the recession dragged on, and the banking systems of several countries suffered substantial losses in the past two years. The greatest risk is faced by the southern countries, where the weaker-than-average capital position is already coupled with a high NPL ratio, deteriorating portfolio quality and significant losses (Chart 3). At the same time, there continues to be considerable uncertainty throughout the entire euro area in relation to bank asset quality, due to restructuring and forbearance by banks. Doubts about bank balance sheets may be dispelled by the asset quality review (AQR) and publication of the stress test results (see Box 1).

BOX 1: ASSET QUALITY REVIEW AND STRESS TESTS IN EUROPE

Within the framework of the Single Supervisory Mechanism, the European Central Bank (ECB) will take over direct supervision of 128 euro-area banks and banking groups from national supervisory authorities in November 2014. In order to commence bank supervision with a clean slate, the ECB will perform a Comprehensive Assessment (CA) of all 128 institutions prior to taking on their supervision. The Comprehensive Assessment consists of three key elements: an Asset Quality Review (AQR), a stress test performed using data from the AQR and an assessment of the institutions' risks.

The riskiest portfolios have been identified in the context of the AQR, which are then subject to strict scrutiny. Some of the deficiencies identified by the review are remedied immediately, and thus greater provisioning for impairment losses can be expected in the reviewed portfolios. The findings are then extrapolated to the rest of the portfolio and enforced by authorities under the second pillar of the supervisory capital requirement. Capital shortfalls are identified following comprehensive

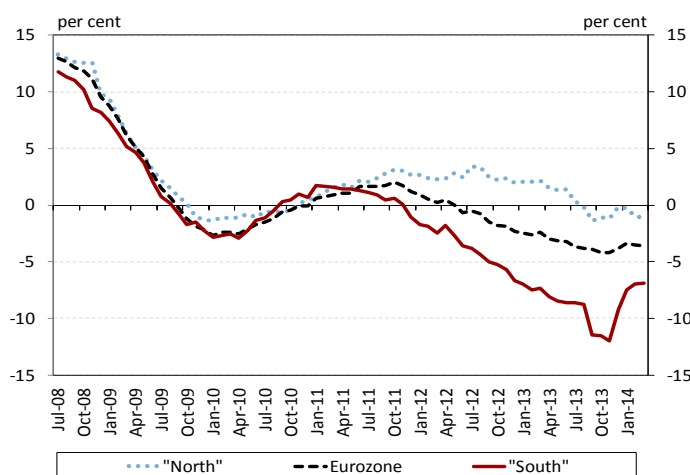
assessment at the entire banking group level, rather than for individual banks. The allocation mechanism will only be specified in October-November.

Hungary is affected by the AQR by way of the subsidiary banks of the largest euro-area banks. In addition, the AQR is also conducted in respect of one large Hungarian bank – with no strategic foreign owner – based on the ECB’s methodology. The supervisory authorities of parent banks are primarily responsible for assessing subsidiary banks, but the Magyar Nemzeti Bank (MNB) has concluded bilateral agreements with all partner authorities, guaranteeing the MNB’s active participation and full information on the process. This is necessary because once the CA is completed, the ECB will only define any capital shortfalls at the banking group level, and it will be the MNB’s task to ensure that a sufficient portion is allocated to Hungarian subsidiary banks.

The stress test will constitute the direct continuation of the AQR, with output data from the latter (capital, PD, LGD, etc.) forming input data for the stress test. The stress test will also be carried out at a group level, but the MNB will carry out a stress test for all significant Hungarian banks following the same methodology.

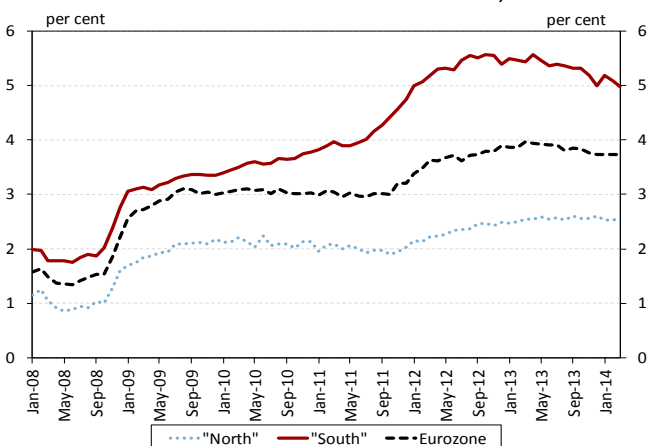
A credible review and a stress test may dispel doubts regarding the euro-area banking system, thereby improving its capacity to attract capital and funds. However, the outcomes could have a negative impact on banks and banking system, if the findings of the portfolio quality review reveal further risks or the stress test results show a weak capital position. Negative outcome may spill over the Hungarian subsidiaries, impairing their lending capacity.

Chart 4: Transaction based annual growth rates of corporate loans in euro area



Note: "North": Austria, Germany, the Netherlands and Finland. "South": Greece, Spain, Italy, Portugal. Source: ECB.

Chart 5: Corporate interest rate spreads in euro-area countries (long-term loans under EUR 1 million)



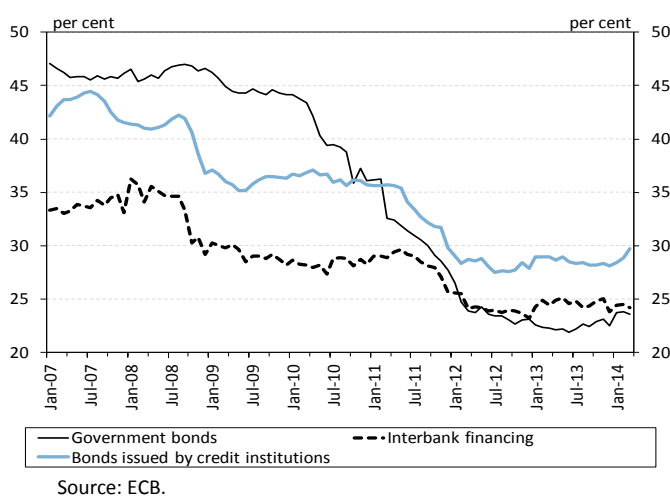
Lending remains weak in the euro area. In the ECB’s January lending survey, euro-area banks reported further, albeit slight tightening of credit conditions in corporate lending. Firms’ loan demand remains weak in the euro area, and loans outstanding to enterprises continue to shrink. Despite a slight slowdown in the rate of decline, its extent still showed substantial divergence: the rate was significant – at 7.5 per cent – in southern countries, but a mere 0.3 per cent in northern countries (Chart 4).

The euro area’s banking system remains fragmented. The interest rate spreads on corporate loans remain highly divergent, which is related to sovereign debt problems. Consequently, companies in the Club Med countries can borrow at rates as much as 3 percentage points higher than their northern counterparts (Chart 5). In addition, cross-border euro-area activity has also waned significantly since the onset of the crisis, and this continued to be the case in recent months (Chart 6). The creation of the banking union may loosen the sovereign-bank linkages which have grown very strong and mitigate fragmentation: the institutional system will commence partial operation in mid-2014, with the launch of the SSM.

Improving economic prospects, but risks remain in the real economy. Sovereign debt problems may improve substantially in Europe, and according to the IMF forecast, euro-area GDP may begin growing in

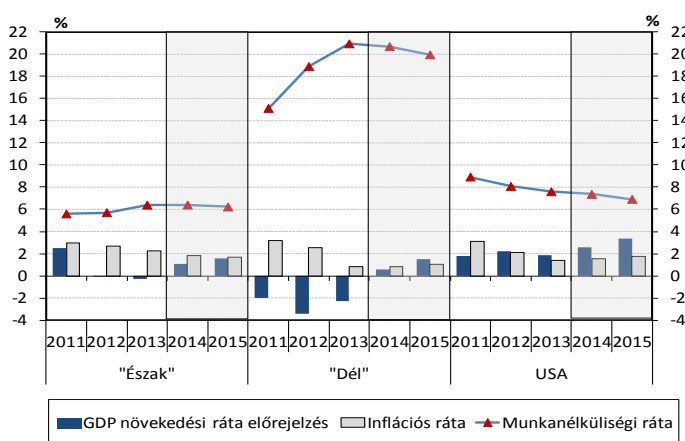
Note: North: Austria, Germany, the Netherlands and Finland. South: Greece, Spain, Italy, Portugal.
Source: ECB.

Chart 6: Proportion of cross-border activities within the euro area banking sector



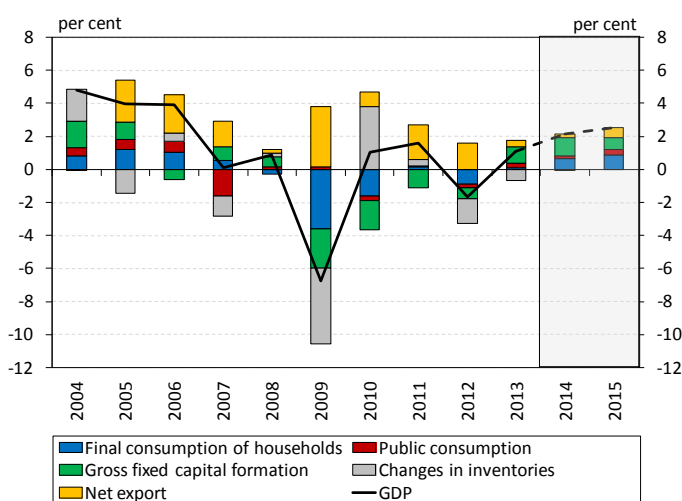
Source: ECB.

Chart 7: Macroeconomic environment in Europe and the USA



Note: IMF forecast for 2014 and 2015.
Source: IMF WEO.

Chart 8: Changes in Hungarian GDP growth (year-on-year)



Source: Quarterly Report on Inflation, March 2014, MNB.

2014 (Chart 7). At the same time, government debt and the restoration of growth to a sustainable path remain surrounded by substantial risks. Positive investor sentiment stemming from *ultra loose* monetary policy has exerted a negative impact from this perspective, due to the postponement of key structural reforms. High unemployment remains a severe challenge. The risk of deflation has increased in the region, and the latest monthly statistics have revealed falling prices in several countries in southern Europe. These factors, coupled with a weak banking system and an ageing population, increases the risk of Japanisation of the euro-area economy (deleveraging by banks, deflation, lasting low interest rate environment, lack of growth).

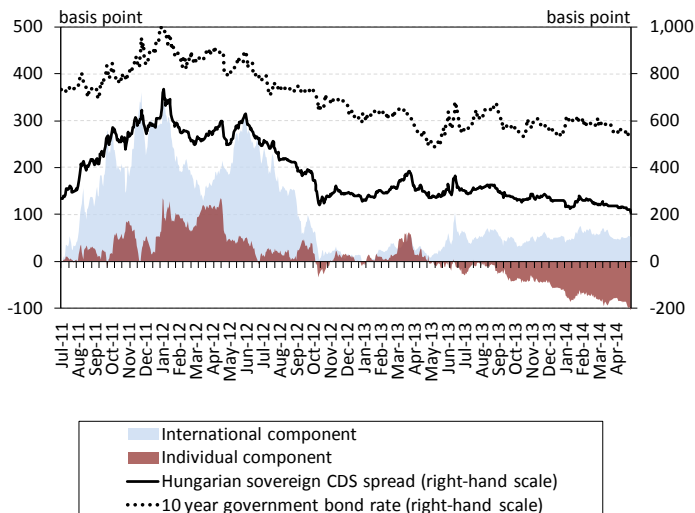
Mounting risks in emerging countries. Issues affecting the economic fundamentals of emerging countries, which are considered as the drivers of the global economy, came to the fore (in Brazil, India, Indonesia, South Africa and Turkey), in parallel with the beginning of tapering. There is still concern regarding China, with doubts as to whether it can move on a sustainable growth path and successfully manage the risks arising from lending. Some worrying geopolitical tensions have also emerged, the most severe being the Russian-Ukrainian conflict. These all present risks to financial stability through negative real economic impacts and deteriorating market sentiment.

2.2. Improving Hungarian growth outlook

Economic growth shows improvement in Hungary. The Hungarian economy emerged from recession in 2013 Q1 and posted GDP growth of 1.2 per cent last year, with a forecast rate of 2.1 per cent for this year (Chart 8). The primary source of growth is an upturn in investments, along with exports as another major factor, which have been facilitated by the improving external environment. Low inflation engendering rising real household income points towards growing household consumption. The improving economy supports an increase in the volume of corporate investment, also bolstered by the FGS and EU-funded projects.

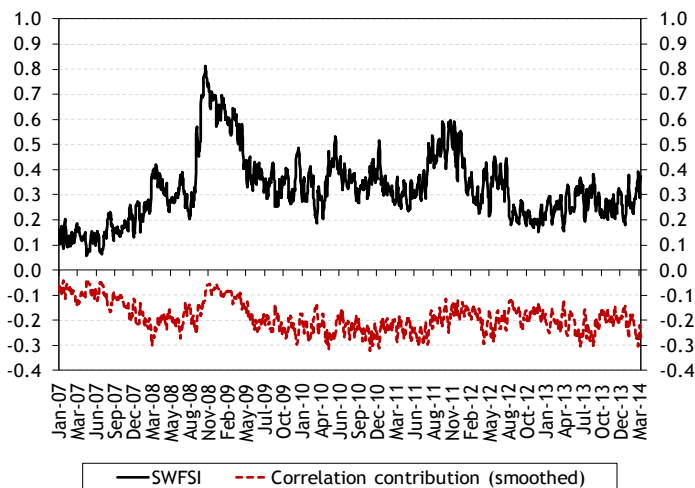
Lasting, large-scale volatility did not emerge on the Hungarian money market. While external turmoil also had a negative impact on Hungary's risk perception, Hungarian risk spreads only rose temporarily and by March CDS premia had returned

Chart 9: Hungarian sovereign 5-year CDS spreads and decomposition of its change 2011 versus 10-year government bond yields



Source: Thomson Reuters, MNB.

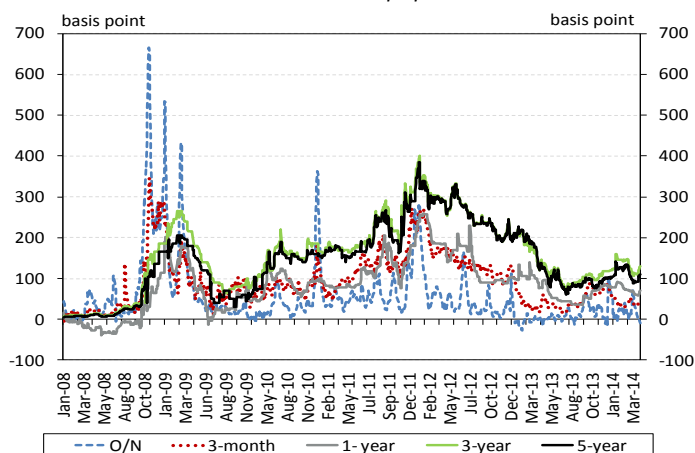
Chart 10: System-Wide Financial Stress Index (SWFSI)



Note: A higher value of the SWFSI denotes higher stress. The correlation indicator of the SWFSI measures co-movement among markets.

Source: MNB.

Chart 11: FX swap spreads



Note: Premia calculated based on HUF/EUR stock exchange listings. Exponential moving averages are included in case of short-term maturities.

Source: MNB, Bloomberg.

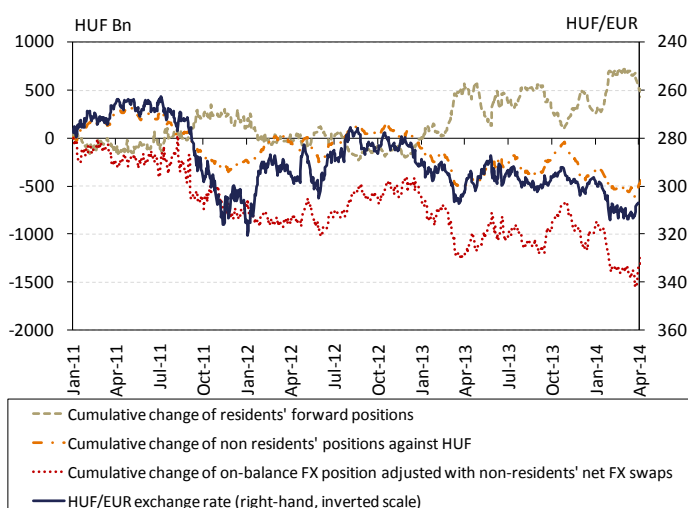
to levels more favourable than those registered in late October (Chart 9). The sharp volatility in the forint exchange rate proved to be only temporary, but the forint stabilised at a weaker level of around 310 versus the euro by the end of March. The yield of long-term government securities only rose slightly overall, but displayed stronger volatility: the yield of 10-year bonds increased from around 5.45 per cent at the end of October to 5.8 per cent by the end of March.

The stress level in domestic financial markets remains low. Behind this lack of change, however, sub-market shifts of opposing direction were observed (Chart 10). The second half of 2013 saw a rise in the bank component of the System-Wide Financial Stress Index (SWFSI) and in the stress level of the foreign exchange swap market, offset by the improving stress levels of the spot foreign exchange market, the government securities market and the capital market. By contrast, 2014 Q1 saw growing capital market stress coupled with declining foreign exchange swap and uncollateralised interbank market stress, adding up to an overall unchanged level of aggregate stress. Covariance among sub-markets in the period under review remained low throughout the period, mitigating financial market risks.

The liquidity of key financial markets improved on the whole. The uncollateralised interbank depot market saw approximately the same number of transactions as in the first half of 2013, but the transaction size increased, suggesting a pick-up in the market. The second half of 2013 saw continuous improvement in the liquidity index of the government securities and spot foreign exchange market, followed by stagnation in early 2014. The improvement in liquidity was reflected in the narrowing bid-ask spreads in both cases. Swap market liquidity deteriorated in the second half of 2013, mainly due to widening bid-ask spreads and falling market resilience approaching the end of the year. This can be attributed to the usual end-of-year swap market tensions entailing deleveraging, as evidenced by the improvement in conditions by early 2014.

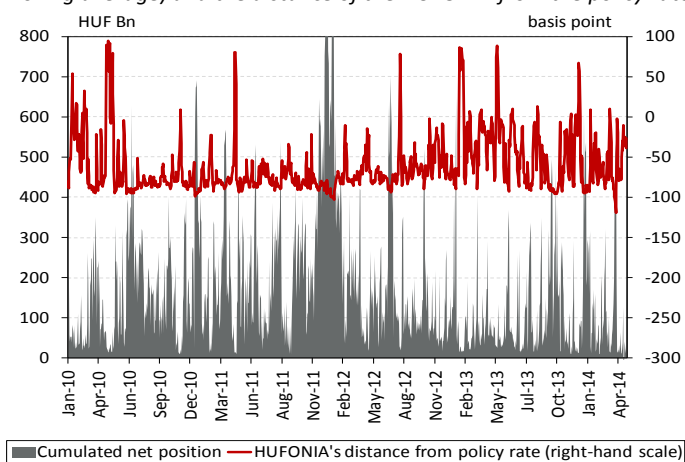
Foreign exchange swap premia rose for long maturities. Overnight FX swap market liquidity deteriorated continuously in the second half of 2013, reflected mainly in the bid-ask spread and the rising price effect. This coincided with the rise in longer maturity premia, in part as a correction of the fall in

Chart 12: Cumulative changes in the short forint positions of residents and non-residents (January 2011 = 0)



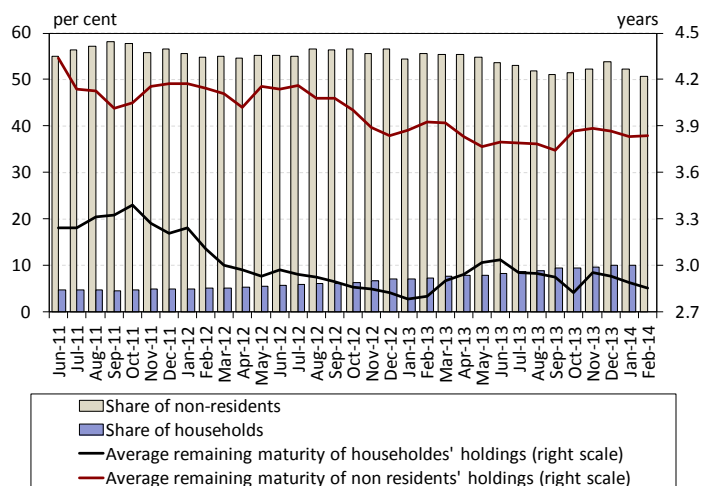
Source: MNB, Bloomberg.

Chart 13: Central bank overnight deposits outstanding (one-month moving average) and the distance of the HUFONIA from the policy rate



Source: MNB.

Chart 14: Share of households' and non-residents' holdings in the domestic government bond market and the average remaining maturity



Source: GDMA, MNB.

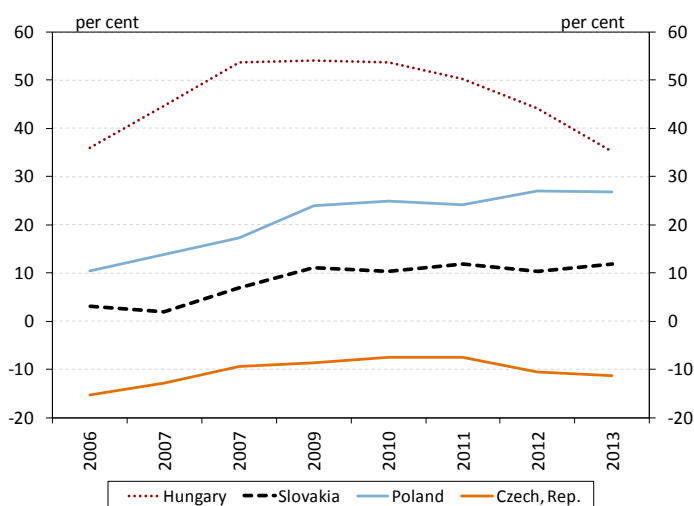
premia in the first half of the year and in part stemming from end-of-year seasonality. Premia started decreasing once again in early 2014 (Chart 11). Hungarian premia deteriorated relatively somewhat in a regional comparison, especially with regard to longer maturities.

Non-residents' short forint position increased, which was countered by resident' long forint position. Non-residents built up significant synthetic forward short forint positions using spot and FX swap transactions (equivalent to HUF 500 billion) between end-October 2013 and end-March 2014 (Chart 12). In the meantime, resident actors substantially increased their long forint (generally within one-year maturity) forward positions by approx. HUF 500 billion (bringing their total forward stock to HUF 1.1 trillion). The latter behaviour, observed previously in several cases as well, acts as an automatic stabiliser, defending the HUF.

The forint interbank market stills shows signs of active liquidity management. In 2013, the overnight interbank unsecured interest rate (HUFONIA) diverged from the bottom of the interest rate corridor more markedly and more frequently compared to the average of the past two years, suggesting more active liquidity management than in the past (Chart 13). All this is corroborated by the fact that in 2013 the banking system's overnight deposits with the MNB shrank, while the turnover of the interbank forint depot market increased slightly. At the same time, liquidity management within the banking system became somewhat more prudent in the second half of 2013, in a trend that continued in the first quarter of 2014. The HUFONIA moved nearer to the bottom of the interest rate corridor and also showed smaller volatility.

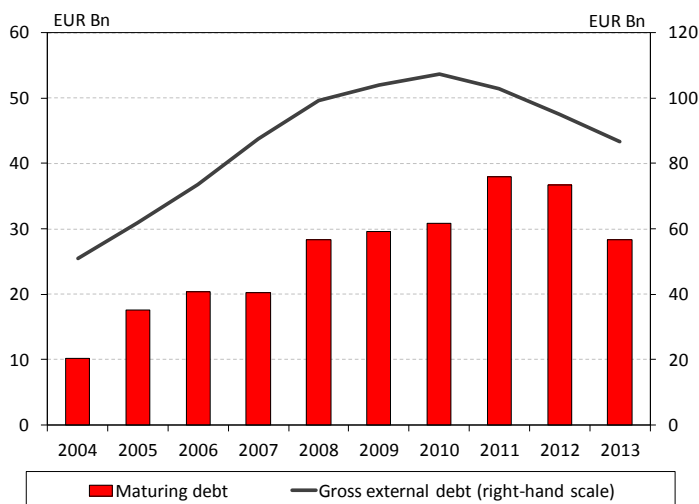
Households' share of the government securities market increased further. Household government securities, which are attractive in terms of both taxation and return, remained a popular form of savings among households. As a result, their share within the total issued amount increased to 10 per cent by the end of the year (Chart 14). Although households prefer short-term government securities, on a positive note their increased share did not entail a shortening of the stock of domestic government securities in 2013. The ratio of non-resident investors did not decline further from September 2013 and remained elevated around the 52 per cent mark. In

Chart 15: Net external debt as a percentage of GDP in a regional comparison



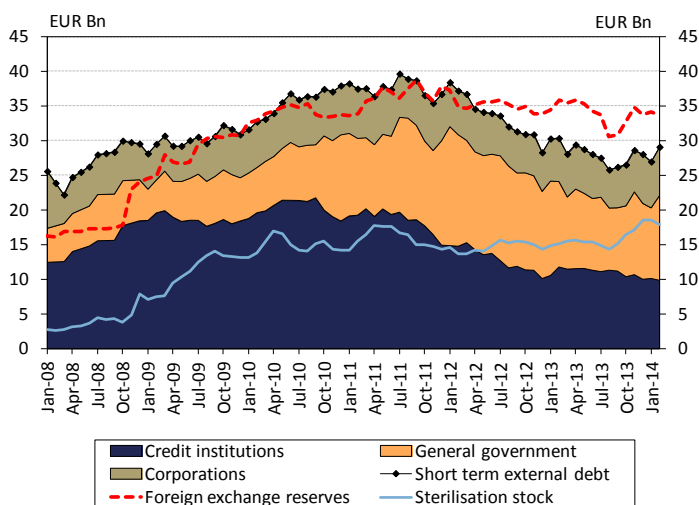
Source: Eurostat.

Chart 16: A Gross external debt and maturing debt



Source: MNB.

Chart 17: Short-term external debt by remaining maturity and foreign exchange reserves



Source: MNB.

addition, this was paired with high ownership concentration, meaning that the government securities market remains highly vulnerable in case of a potential market shock.

2.3. Strengthening self-financing reduces external vulnerability

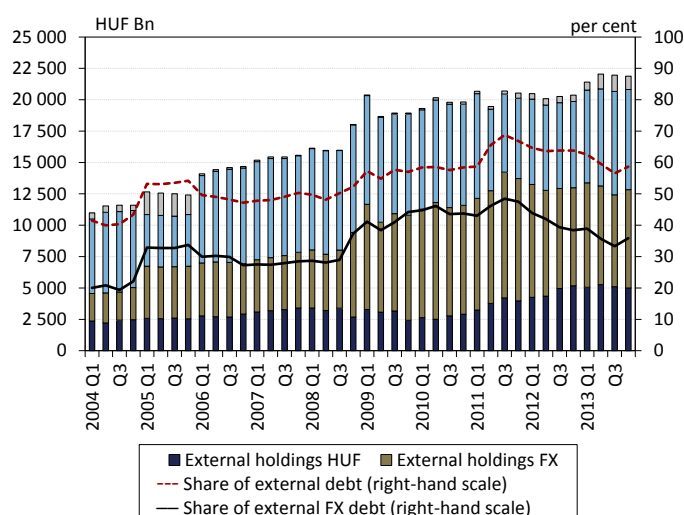
The favourable balance of payments position may prove to be lasting. The external surplus of the Hungarian economy increased further in 2013. This improvement is attributable to the increased use of EU transfers, along with net exports. The balance of payments position may continue to improve, in parallel with a further decline in net external debt (Chart 15), reducing the country's external vulnerability. Nevertheless, despite approaching the regional level, Hungary's net external debt-to-GDP ratio remains the highest in the region, rendering it vulnerable to external shocks. Additionally, external vulnerability is exacerbated by the high gross external debt given the tremendous foreign roll-over needs. (Chart 16)

External vulnerability can be further mitigated by reducing gross external debt. Since external debt can be reduced only by higher savings of certain domestic sectors, which entails additional real economic costs, room for mitigation is possible predominantly in the case of gross external debt. If net external debt is given, gross debt reduction can be achieved only by cutting foreign claims in parallel, which entails a drop in foreign exchange reserves in every case. As the foreign exchange reserve needs decrease with the reduction in short-term external debt, the declining foreign exchange reserves translate into a lower sterilisation stock.

Current foreign exchange reserve trends provide adequate leeway for the reduction of gross external debt. The so-called Guidotti-ratio which is frequently used indicator to evaluate foreign exchange reserve adequacy shows that foreign exchange reserves well exceeded short-term external debt at the end of 2013. Foreign exchange reserves stood at EUR 34 billion as opposed to the EUR 28 billion of short-term external debt with remaining maturity (Chart 17).

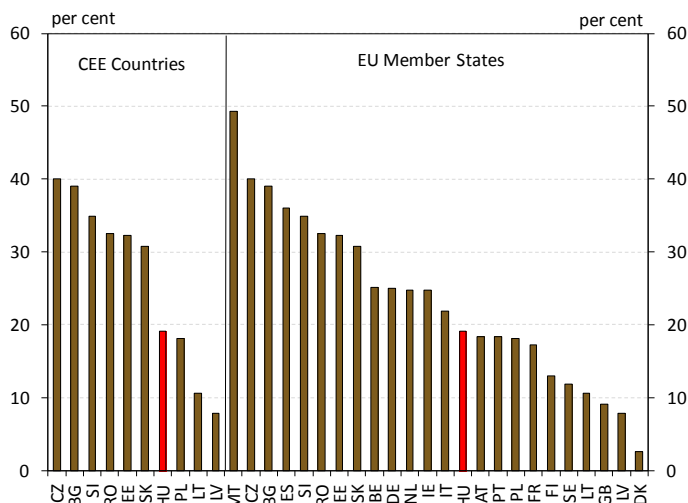
A reduction in gross external debt could be facilitated by domestic financing of government debt. To this end, it would be desirable for domestic sectors, including the government, to follow more domestic, forint-based funding model. Since foreign

Chart 18: Gross debt of the central government and the share of external debt



Source: GDMA, MNB.

Chart 19: The share of domestic banks in government financing in international comparison



Source: ECB, Eurostat.

currency debt is held predominantly by foreign investors, more forint financing translates into a reduction in gross external debt (Chart 18).

The potential in the liquid asset structure of banks might help in the shift towards forint funding.

Compared to some CEE countries, the share of the banking sector in domestic government financing in Hungary is relatively low (Chart 19). Moreover, within sovereign exposure, claims with central bank account for higher share in Hungary, while in regional peers, claims with central government are dominant. If banks would move from the sterilisation stock towards investing government debt, then without change in sovereign exposure, the share of central government securities would rise. The restructuring of the central bank toolkit may incentivise banks to hold more government debt (see Box 2).

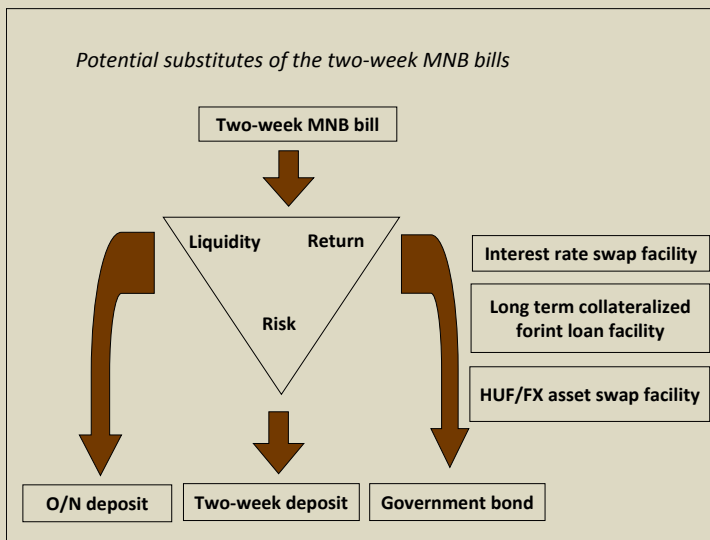
BOX 2: THE BANKING SYSTEM MAY CONTRIBUTE TO HUNGARY'S SELF-FINANCING BY PURCHASING GOVERNMENT SECURITIES

On 24 April 2014, the MNB announced changes to its monetary policy instruments, one of the objectives of which is to reinforce the funding of government debt from domestic funds in an effort to reduce Hungary's external vulnerability. Scaling back external debt can contribute to reducing debt-service costs by improving a country's risk perception and decreasing the risk premium, thus also indirectly fostering more sustainable economic growth.

The central bank announced the following amendments to its monetary policy instruments:

- From August 2014, the current main policy instrument, two-week MNB bills will be converted into two-week deposits, which are excluded from the range of eligible collateral for the central bank's lending operations.
- From June 2014, a forint interest swap facility will be introduced allowing the mitigation of the interest rate risk on long-term forint-denominated assets.
- From June 2014, the Bank's potential instruments will include a floating-rate long-term collateralised forint loan facility (long-term repo), which will improve access to forint liquidity.

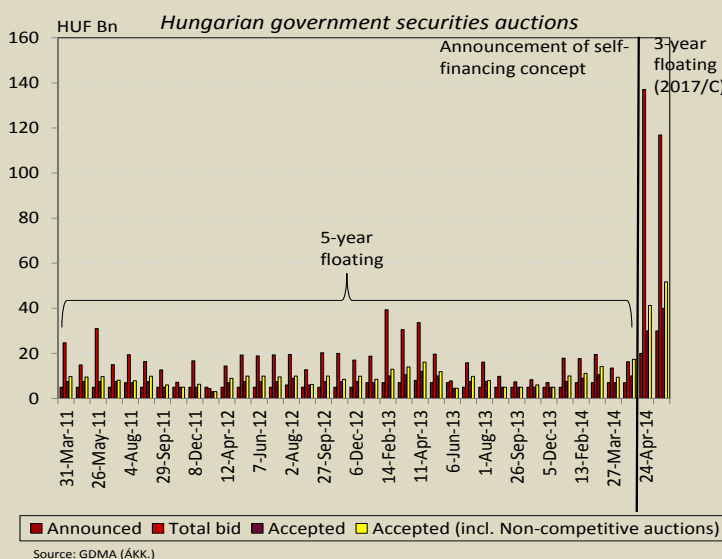
- From June 2014, the Bank's potential instruments will include an asset swap facility allowing the Bank's counterparties to obtain foreign currency-denominated securities in exchange for long-term forint-denominated securities, which will improve access to foreign exchange liquidity.



Restructuring of the central bank's toolkit features two phases aimed at encouraging banks to purchase long-term government securities, instead of the main policy instrument. The first step, converting two-week MNB bills, the main policy instrument, may result in an outflow of a portion of what is originally non-bank, mainly foreign liquidity from these instruments. The second step could channel a portion of this bank liquidity into long-term government bonds. Liquidity can fundamentally flow into three types of

instruments: two-week deposit facilities, O/N deposits and government securities. The rechanneling of liquidity is determined by parent banks or the limit decisions of banks if such apply, and based on their liquidity, yield and risk preference. The central bank's interest rate swap, long-term repo transactions and asset swaps are the instruments to channel a large portion of liquidity into government securities.

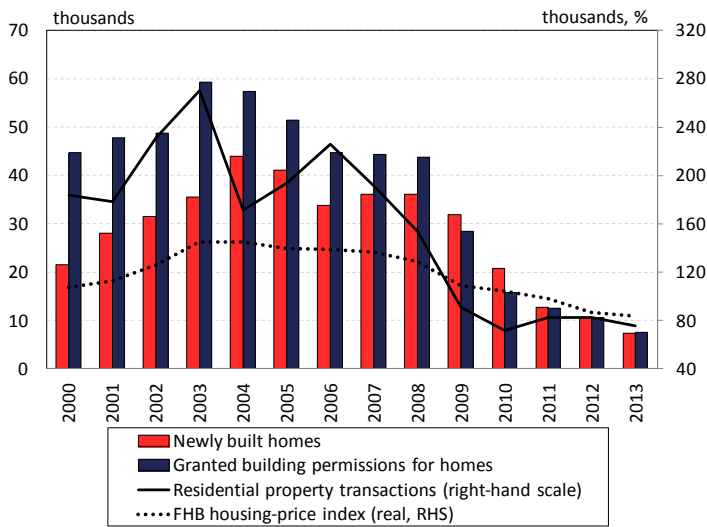
Government securities with higher yields represent greater interest rate risk compared to bank deposits on account of their longer maturity, but banks can substantially mitigate their interest rate risk using interest rate swaps. These swap transactions will reduce the repricing period for government securities to under one year, shifting their interest rate risk closer to that of two-week instruments. Repo transactions and asset swaps could be helpful in the event of market turmoil, avoiding a scenario where banks attempt to access forint liquidity by selling government securities and/or using swaps to access foreign currency liquidity. These instruments are therefore geared towards mitigating liquidity risk on government securities during times of turmoil. By adding central bank instruments to the available set of instruments, banks could reduce their costs of preparing for crisis.



With the impact of banks' government securities purchases, the state can increase its issuance of forint government securities. In this scenario, the MNB can fund the government's foreign currency debt maturing during the year from its foreign exchange reserves. The level of reserves required by investors can still be guaranteed alongside their gradual and prudent reduction, freeing up a portion of foreign exchange reserves for use in further reducing Hungary's external vulnerability. It is encouraging that demand for government securities increased sharply after announcement of the strategy.

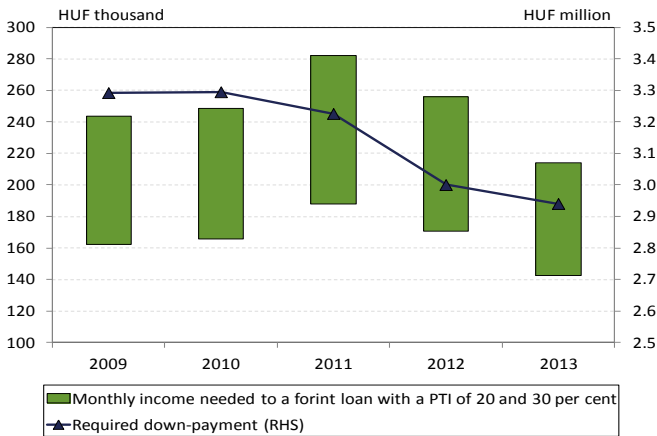
These changes to the central bank's set of instruments is neutral in terms of the banking system's short-term liquidity, but could deteriorate its LCR indicator if the regulator assigns a weight lower than 100 per cent to the inflow of deposit liabilities. Institutions can mitigate this impact if they keep a larger share of their liquid assets in O/N deposits or government securities. The former would entail a fall in their interest income, while the latter would entail a rise in liquid asset maturities. At the same time, the marked reduction in the eligible collateral accepted by the central bank on the banking system's balance sheet resulting from the phasing-out of two-week bills could also drive higher demand for government securities.

Chart 20: Key housing market indicators in Hungary



Source: HCSO and FHB.

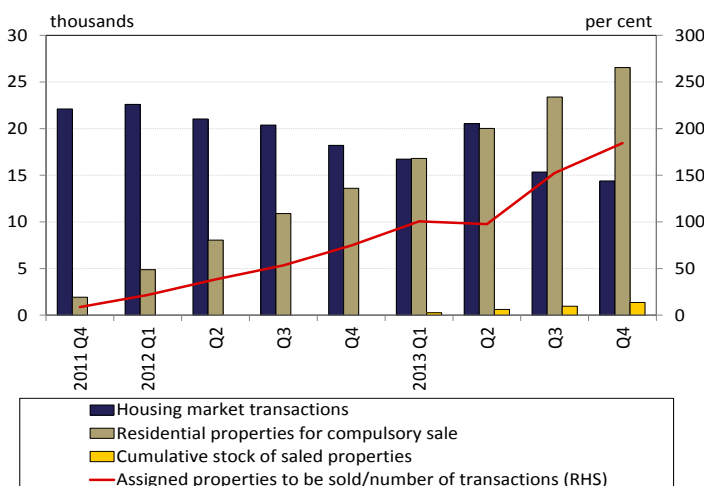
Chart 21: Income and savings necessary for home purchases



Source: MNB, FHB, own calculations based on CCIS data.

Note: Median home purchase from credit, with 20-30 per cent payment-to-income ratio (PTI) and 60 per cent loan-to-value ratio (LTV), i.e. own contribution of 40 per cent according to the Housing Affordability Index.

Chart 22: The ratio of repossessed residential properties to be sold on auctions to the housing market transactions



2.4. Housing market fails to emerge from its trough

Property prices continued to fall, demand and supply side frictions also hinder a reversal of the trend

Key housing market indicators sank to a historic low in Hungary. The record low number of new construction permits issued, housing starts and total market turnover in 2013 reflect a slump on the market. The total number of housing market transactions in 2013 was around 73,000, which is significantly lower than the values registered in the previous two years. Additionally, transactions were almost entirely existing home purchases. House prices fell steadily in this context of low market turnover and have dropped by 35 per cent in real terms since the end of 2008, with the downward trend continuing in 2013 (Chart 20).

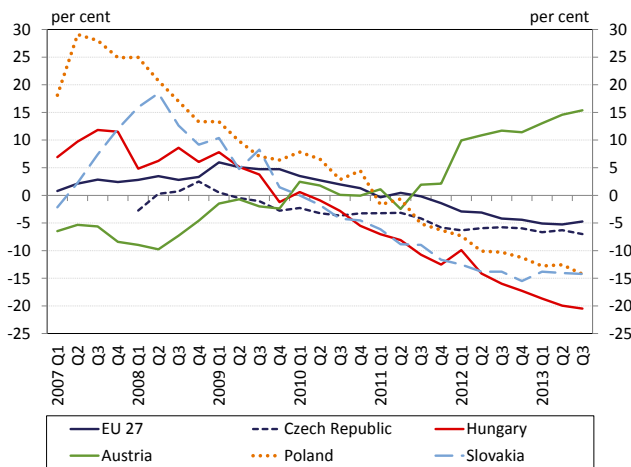
Determinants of housing market demand show an improving tendency. The anemic housing market is mainly the result of weak credit demand, but the affordability of house purchases is also limited by the current tight credit conditions in the banking sector. Nevertheless, housing affordability has improved significantly in recent years due to falling house prices and interest rates on loans, coupled with rising wages. The lending rate of new housing loans has fallen by nearly 4 percentage points since 2012, while house prices have dropped by 10 per cent. Considering a 60 per cent loan-to-value ratio (down-payment of 40 per cent) and tighter income-based monthly instalments, in order to purchase a home with credit at the present it is sufficient to have household income which is 30 per cent lower compared to late 2011 (monthly net income of HUF 140,000-200,000) and savings of less than HUF 3 million (Chart 21).

Foreclosures on collateral backing non-performing loans are exerting substantial pressure on the housing market.

Cleaning up the portfolios of problem mortgage loans is being hindered by low market turnover, and at the same time the high number of properties pledged as collateral may also exert pressure on the market. The number of homes designated within the eviction quota fell short of the quarterly quota, and still, by the end of 2013 banks and debtors had only sold a small portion (somewhat more than 1,300) of repossessed homes. Accordingly, the stock of homes up for sale under foreclosure based on designations is 1.5 times higher than the quarterly number of housing market transactions (Chart 22). The National Asset Management Agency (NAME) also supported the sales of property pledged as collateral. NAME has reported the listing of 15,000 homes so far, has

Source: MNB.

Chart 23: Percentage deviation of nominal house prices/per capita nominal GDP from its long-term average



Source: ECB, Eurostat, MNB.

Note: The long-term average of the house price index/GDP per capita was calculated between 2005 and 2013. A positive value may indicate an overvaluation of house prices, while a negative value may indicate undervaluation.

purchased somewhat over 4,000 of these and has announced plans to purchase 25,000 homes by the end of 2014. It should be noted that banks have only collected 48 per cent of the appraised value of the collaterals through foreclosures, due to low housing market demand and historically low house prices (based on data for 2013 Q3).

Hungarian house prices seem to be relatively undervalued. Prior to the 2008 crisis, house prices were dynamically rising, even outstripping the growth in wages in most countries within the region, including Hungary, which suggests that house prices may have been overvalued at the time (Chart 23). At present an overall decline in house prices can be observed within the region, and the ratio of house prices compared to GDP per capita is far below the long-term average value in most countries within the region, suggesting that house prices are undervalued (Box 3).

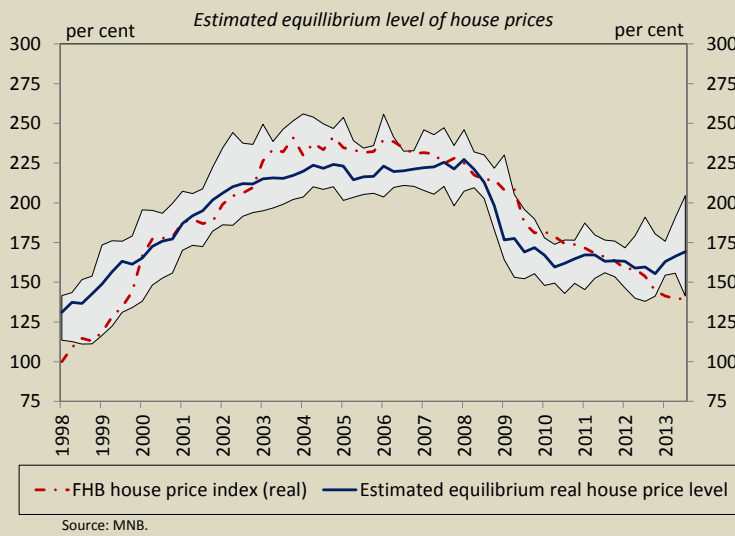
BOX 3: THE LEVEL OF EQUILIBRIUM HOUSE PRICES JUSTIFIED BY FUNDAMENTALS

Monitoring the housing market and in particular house prices based on financial stability criteria is essential. Housing is used as collateral to back mortgage loans, and therefore their pricing developments affect bank portfolios. During times of economic boom, rising and potentially overvalued house prices exacerbate the banking system's procyclicality, as higher house prices inflate the value of collateral, allowing customers to borrow larger amount. In the event of a recession, the correction of house prices erodes the value of collateral, which is reflected in the form of credit losses. From a macroeconomic perspective, it should be noted that dwellings generally account for the largest part of households' wealth, and thus house price volatility can affect households' saving and consumption decisions. Determining the equilibrium level of house prices is particularly important for emerging countries, as rising (real) house prices may be part of the convergence process in these economies. The accumulation of wealth in emerging countries occurring during convergence may result in revaluation of house prices, which does not constitute a deviation from the equilibrium. Overall, it is important that house prices be in line with economic fundamentals even in the short run, as an excessive rise (and the subsequent bursting of the bubble) may compromise financial stability through several channels.

The European Central Bank's (ECB) current toolkit contains four methods for identifying a divergence of house prices from the equilibrium. The toolkit includes two simple statistical indicators and two model-based indicators, and the methods follow two different approaches. One approach measures the equilibrium value of house prices compared to rents, while the other approach provides an estimate of the justified level of house prices based on housing market demand indicators. The four calculation methods are:

- (1) The development of the house price-to-rent ratio is computed relative to its long-run average.
- (2) The ratio of per capita GDP to the house price index is computed relative to its long-run average.
- (3) The residual of an error-correction model with the price-to-rent ratio regressed on the real long-term interest rate.

- (4) The residual of an error-correction model with real house prices regressed on the determinants of housing market demand.



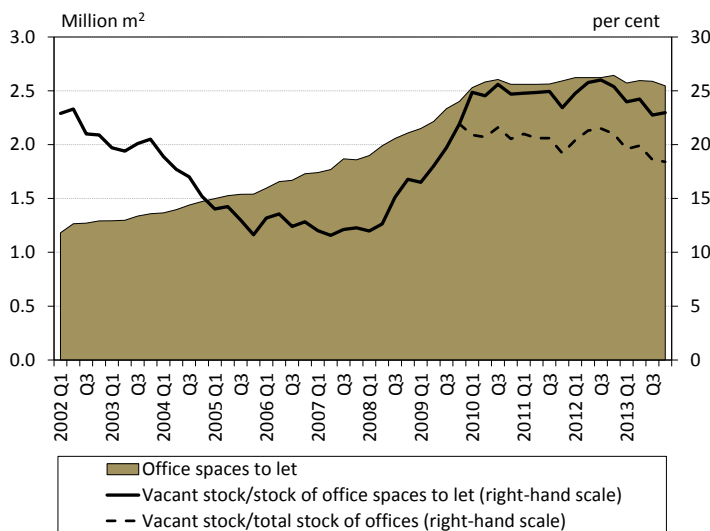
In examining the Hungarian housing market, using an estimate based on demand-side determinants may prove to be the most suitable approach. Comparing house prices to rental prices may provide a distorted picture of equilibrium, as (1) the rental market exhibits numerous frictions. The Hungarian housing market has structural specificity (2) consisting of an ownership ratio of over 90 per cent, suggesting that households have lower preference for renting.

In light of the above, we estimate equilibrium house price using demand-side housing market determinants in an error-correction framework.² The results of the estimate reveal that real income per capita, the effective real interest rate of housing loans, unemployment, the stock of housing loans and the CPI significantly impact real house price levels in Hungary over the long run. The misalignment of house prices from fundamentals is followed by significant correction in the opposite direction, i.e. house prices converge over the long run towards their equilibrium value defined by fundamentals. The findings of the model indicate an overvaluation of house prices between 2002 and 2007, which is not surprising in light of the dynamic lending prevailing at the time. Following the onset of the crisis, the real house price level justified by fundamentals dipped sharply, leading to a delayed correction in house prices. House prices are currently below their equilibrium level according to the estimate, primarily stemming from weak housing market indicators. Therefore based on the model, house prices would need to increase to move back into alignment with the justified level. The estimated short-term dynamics suggest that house prices would reach the current equilibrium level over a one and a half year period. Rise in house prices can only be expected in the longer run due to issues stemming from the high stock of properties backing non-performing loans and low credit demand.

In examining the Hungarian housing market, using an estimate based on demand-side determinants may prove to be the most suitable approach. Comparing house prices to rental prices may provide a distorted picture of equilibrium, as (1) the rental market exhibits numerous frictions. The Hungarian housing market has structural specificity (2) consisting of an ownership ratio of over 90 per cent, suggesting that households have lower preference for renting.

In light of the above, we estimate equilibrium house price using demand-side housing market determinants in an error-correction framework.² The results of the estimate reveal that real income per capita, the effective real interest rate of housing loans, unemployment, the

Chart 24: Vacancy rate and office space to let



Source: BRF, MNB.

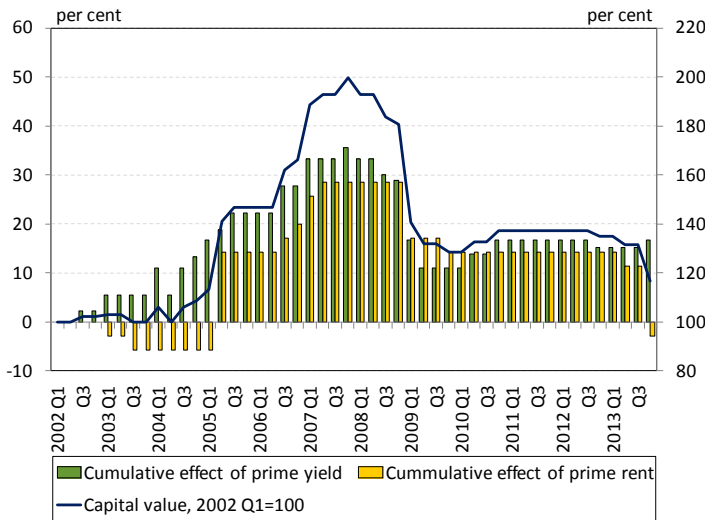
High vacancy rate among commercial properties

The vacancy rate among leasable office area in Budapest shows a slight improvement. The trends shaping the leased office market have remained essentially the same in the past two years. The stock of leasable office space has basically been stagnating since 2010, and the vacancy rate has only decreased slightly in the recent period. The vacancy rate of leasable office space in Budapest is currently 23 per cent, which is still very high compared to the 12-13 per cent prevailing before the crisis (Chart 24). Vacancy rates are also high in other segments (although their weight within banks' balance sheets is much lower): the vacancy rate for modern industrial and logistic properties was 22 per cent in 2013.

Most sub-segments exhibit a decline in the capital value

² Methodological notes: the long-term cointegration relationship between house prices and macro-fundamentals is estimated using a dynamic OLS. Explanatory variables used: real GDP per capita, effective real interest rate on housing loans, CPI, unemployment (total and long-term), BUX index, stock of exchange rate adjusted housing loans, labour force, real wages. We tested the existence of the cointegration relationship using two different error-correction equations. The uncertainty band stems from the various model specifications describing the long-term relationship and includes the middle 80 per cent of estimates. For more detailed methodological information, see: ECB, Financial Stability Review 2011, Box 3.

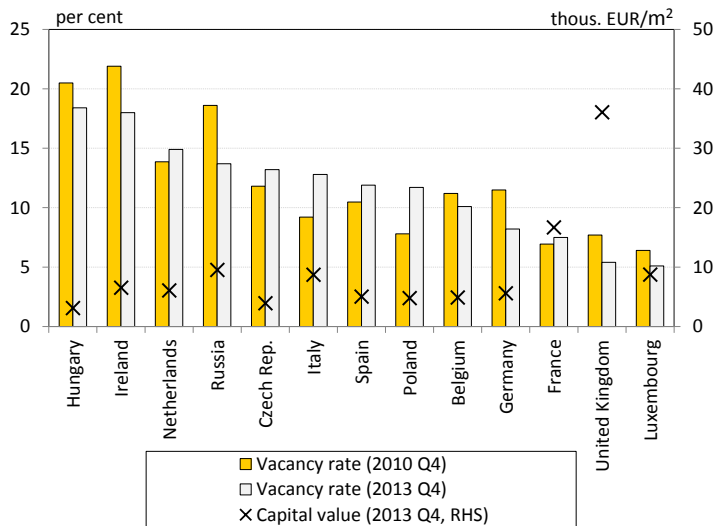
Chart 25: Estimated capital value of offices in Budapest



Source: Jones Lang LaSalle, MNB.

Note: Property value is computed as the ratio of rents to yields. Thus, a rise in rents increases value, while a rise in yields decreases value.

Chart 26: Vacancy and property prices of the office market in an international comparison



Source: Jones Lang LaSalle.

of commercial property. In the wake of the crisis, expected returns rose sharply on the Budapest prime office market, from 6 to 8 per cent, knocking 20 per cent off the value of properties on average (Chart 25). Prime offices saw only a slighter downward drift in prices overall since 2009, however in reality the low rental prices stemming from high vacancy rate may have further lowered the value of properties in the non-premium segment. A general drop in the value of property took place in other commercial segments, with the exception of a few sub-segments.

The rise in yields represents a risk. A further decline in property prices could exert a substantial negative affect on bank portfolios. The rising yield level could markedly decrease the value of commercial property, computed as the ratio of rental price to expected return. A general rise in expected return of one percentage point could lower the prices by nearly 11-12 per cent, assuming unchanged rental prices.

Office space vacancy is high in a European comparison. Office space vacancy in Budapest is among the highest in an international comparison (Chart 26). The fact that property value computed as the ratio of rent and expected return is the lowest among the capitals of the countries under review also testifies to the weakness of the Hungarian prime office market. The expected nominal yield of the premium office market in Budapest is 7.5 per cent, compared to 6.25 per cent in Prague and 6 per cent in Warsaw. If we examine the premium above long-term bond yields, the yield spread of 1.6 per cent for Budapest is lower compared to the 4.1 per cent spread for Prague and the 2 per cent spread for Warsaw. At the same time, low property prices and rents could make Budapest attractive in the medium term.

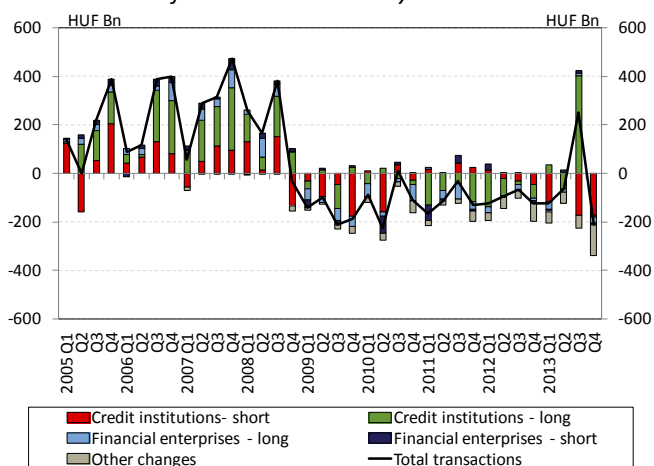
3. DOMESTIC TRENDS IN LENDING – THE FGS RESULTED IN A SIGNIFICANT IMPROVEMENT IN CORPORATE LENDING

The contraction in corporate loans outstanding decelerated substantially in the second half of 2013, while the contraction in SME lending came to a halt, thanks to the central bank’s Funding for Growth Scheme. The decreasing lending rates following policy rate cuts also contributed to that. FGS contributed to sounder lending structure through long-term HUF loans gaining ground. Looking ahead, economic growth coupled with low interest rate environment support a pick-up in credit demand. Tight bank credit conditions may ease as economic prospects improve, but this appears to be a slow process, and thus the credit demand of firms with weaker credit ratings still faces limitations. The second part of the FGS also supports pick-up in lending. Altogether, we expect the decline in corporate lending to come to an end in 2015, while lending to SMEs may increase.

The contraction in corporate lending since the onset of the crisis is mainly attributable to the decline in foreign currency loans, which can be considered as a favourable process in the case of corporations without natural hedging, and also in the case of commercial real estate loans, which expanded markedly prior to the crisis. At the same time, it is unfavourable that frictions in foreign exchange financing can be identified in the case of (mostly creditworthy) corporations with natural hedging (exporters). Banks' access to foreign funding has narrowed and become significantly more expensive, while foreign banks providing FX loans have significantly reduced their lending.

Household loans outstanding declined further in the second half of 2013, while new lending departed from its historical low. The excessive indebtedness of borrowers is decisive in terms of trends in lending, as is households' extreme caution despite the improving economy. The Annual Percentage Rate (APR) on loans to households fell further in line with the central bank's base rate cuts, but premia remain high and the lack of competition also plays a major role. Non-price credit conditions eased slightly. The improving macroeconomic environment and the easing of credit conditions suggest a pick-up in household lending. The MNB may ensure the prudence of lending and avoidance of build-up of future risks via applying loan-to-value (LTV) and payment-to-income (PTI) cap.

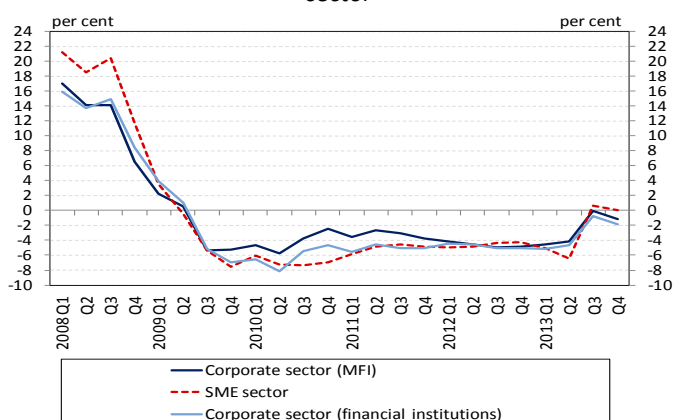
Chart 27: Transactions of non-financial corporations with the entire financial intermediary sector



Note: Seasonally unadjusted data with rolling exchange rate adjustment.

Source: MNB.

Chart 28: Annual growth rate of lending to corporates and the SME sector



Note: The last data point of the SME time series is computed based on estimated transactions. The SME time series is based on data from the banking system and foreign branches.

3.1. Turnaround in lending to SMEs

Corporate loans outstanding continued to contract in 2013, but the rate of decline slowed significantly. Fostered by the Funding for Growth Scheme, the financial intermediary sector's lending to corporations expanded substantially in the third quarter, with the change in outstanding loans stemming from transactions amounting to HUF 252 billion (Chart 27). Following the scheme's first phase, the stock of loans increased further by late-November but then turned sharply downward in December. Such a drop in transactions in December is due in part to the normal seasonal effect, but the repayment of a loan by a non-financial subsidiary to its domestic parent bank also played a significant role. For the year as a whole, the decline in corporate loans outstanding seen since late 2008 slowed substantially: the annual decrease in outstanding loans stemming from transactions was 1.15 per cent in the case of credit institutions (1.8 per cent in the case of total financial intermediary system) at the end of 2013 compared to the 3-5 per cent rates of the previous years (Chart 28).

The Funding for Growth Scheme fostered expansion in the stock of SME loans and longer maturities in the second half of 2013. While outstanding SME loans within the banking sector had been contracting at an annual rate of 5-7 per cent in previous years, the growth rate reflecting the estimated impact of transactions returned to the positive domain in 2013 (Chart 28). The Funding for Growth Scheme also resulted in positive changes in the structure of outstanding borrowing: (1) the ratio of forint loans increased; and (2) the ratio of long term loans also increased within total outstanding loans.³ The ratio of 5-year and 10-year loans rose

³ In addition to the FGS, the latter is also attributable to the fact that the majority of the decline in volume in the fourth quarter occurred in short-term loans.

Source: MNB.

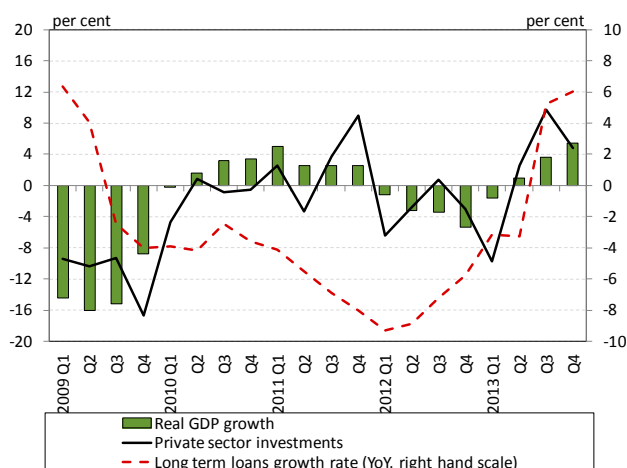
Table 1: Main characteristics of the first and second phases of the Funding for Growth Scheme

	FGS I. stage	FGS II. stage (End of April 2014)
Contracting period	June 2013 - August 2013 (3 months)	October 2013 - December 2014 (15 months)
Period for disbursements (investment loans)	June 2013 - September 2013 (June 2014)	October 2013 - December 2014 (June 2015)
Contracted amount	701 billion HUF	125.7 billion HUF
- new loans	290 billion HUF	123.4 billion HUF
- new investment loans	177 billion HUF	89.6 billion HUF
Number of contracts	9844	4188
- new loans	5964	4133
- new investment loans	3679	3547
Proportion of new loans	41.4 per cent	98 per cent
New investments loans to new loans	61 per cent	73 per cent
Sectoral distribution	Trade, repair (23.9%) Agriculture (14.6%) Manufacture (17.6%)	Trade, repair (24.9%) Agriculture (28.3%) Manufacture (19.2%)

Source: MNB.

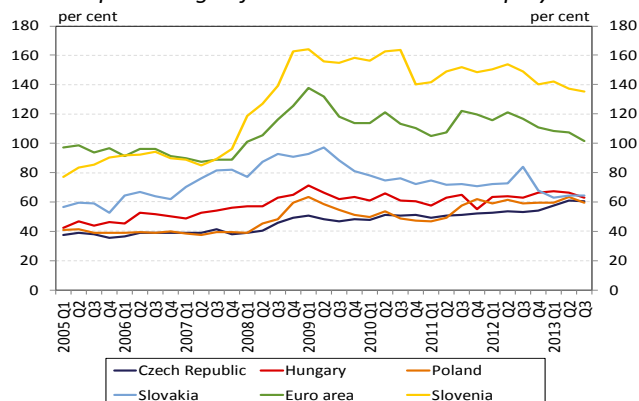
Note: Loans granted for prefinancing EU-funds are included in the investment loans.

Chart 29: Annual change in gross domestic output and investment volume



Source: MNB.

Chart 30: Net borrowing of non-financial corporations as a percentage of net shares and other equity



Note: Non-consolidated data, net loan and bond volume/net shares and other equity indicator.

Source: ECB, MNB financial accounts.

significantly, while the ratio of loans with maturities of under three years fell. The decline in the ratio of foreign currency loans reduces vulnerability among firms with no natural hedge, while the shift towards longer maturities lowers refinancing risks. New business volumes decreased as a technical effect of the FGS. On the one hand, this is attributable to the regrouping of borrowing to the third quarter, while on the other hand longer-term working capital loans lower the volume of new contracts by decreasing the need for refinancing.

By the end of April 2014, contracts amounting to HUF 126 billion had been concluded in the second phase of the FGS.

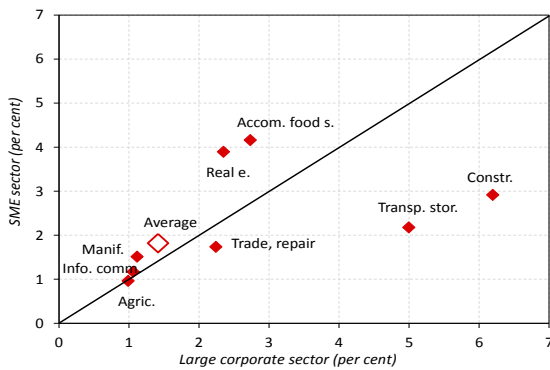
By April 2014, contracts had been concluded for some 25 per cent of the available framework amount in the context of the second phase of the FGS. Compared to the first phase of the FGS, the second phase features greater emphasis on the disbursement of new loans, with almost 98 per cent of contracts falling into this category (Table 1). The majority (over 80 per cent) of firms taking phase the second phase did not take part in the first phase. In terms of sectoral breakdown, the share of agriculture, the manufacturing industry, trade and repair is still outstanding, but the share of real estate transactions fell during the second phase. The ratio of exporting firms among borrowers was low in both the first and second phase.

Real economy developments suggest a pick-up in credit demand. In 2013, the Hungarian economy emerged from recession, with GDP expanding 2.7 per cent year on year in the fourth quarter (Chart 29). The investment ratio broke out of the downward trend from recent years, with private and fiscal sector investments rising compared to the previous year. Based on the answers in the lending survey, banks are expecting an upturn in credit demand for both short-term and long-term loans. Increasing capacity utilisation also suggests rising investments and credit demand.

The leverage of Hungarian firms is at the level of the Visegrad Group on aggregate. The net outstanding debt of the Hungarian non-financial corporate sector – which includes non-bank debt – has fallen from 70 per cent as a percentage of net capital during the crisis to close to 60 per cent. Overall, the sector's indebtedness is markedly lower compared to the euro area and is in line with the regional level, while net borrowing from the banking sector has been positive in the past year in the Visegrad Group (Chart 30).

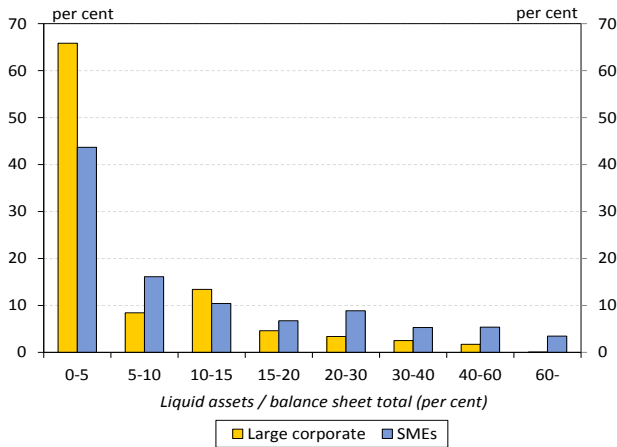
The indebtedness of Hungarian firms features marked asymmetry. Although the Hungarian corporate sector's aggregate indebtedness is relatively low by international standards, there are sharp differences in terms of company

Chart 31: Average gross debt / equity ratio (leverage) of various sectors (2012)



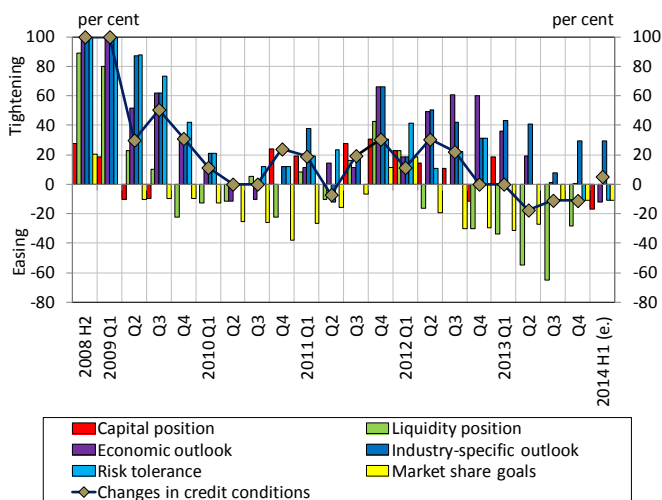
Note: The elements of debt are taken into account on the corporate level, on a gross basis. Excluding inter-company loans and commercial loans from liabilities.
Source: National Tax and Customs Administration.

Chart 32: Distribution of liquid assets as a proportion of the balance sheet total of Hungarian firms



Note: Liquid assets and securities held for trade to firms' balance sheet total.
Source: National Tax and Customs Administration.

Chart 33: Changes in credit conditions and factors contributing to the changes in the corporate segment



Note: Net percentage balance of respondents tightening/easing credit conditions weighted by market share.

size and industry classification. Among the key sectors, agricultural, communication and manufacturing firms are less indebted than the national economy average, irrespective of their size. By contrast, enterprises in the real estate segment in the SME sector and construction industry firms among large corporations are highly indebted, partly stemming from large-scale project financing accumulated prior to the crisis. Among large corporations, transportation and warehousing firms show high indebtedness, while accommodation and catering firms are highly indebted in the SME segment. Based solely on indebtedness, we can assume that firms with the highest loan absorption capacity could be the firms with low leverage (agricultural, manufacturing and info-communications firms) (Chart 31).

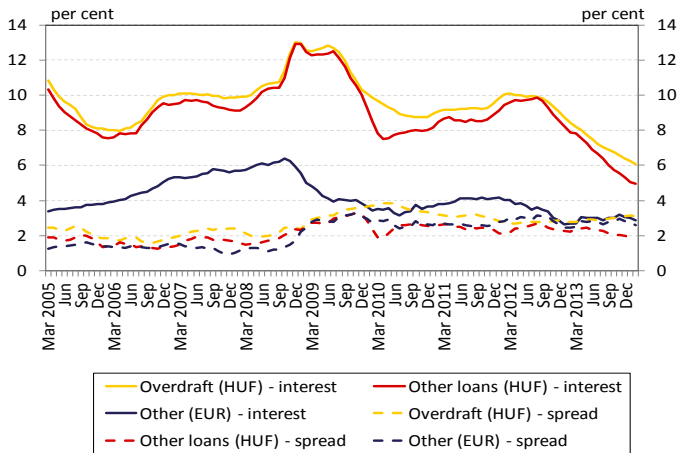
In the SME sector, the ratio of liquid assets is higher on average compared to the large enterprise sector. The weight of liquid assets is also a determining factor in creditworthiness and demand. Large enterprises hold 6 per cent of “free reserves” on average compared to 14 per cent for SMEs. This may be attributable to the fact that large corporations presumably manage working capital and liquidity more efficiently, and also to the accumulation of a liquidity buffer among SMEs which have more limited access to credit or tend to postpone investments. Nevertheless, the distribution shows that the vast majority boast low liquidity and thus do not have sufficient funds to expand capacities (Chart 32).

No broad easing of non-price credit conditions has yet materialised. Banks' credit conditions remain tight, with only a small group of banks easing their conditions (Chart 33). Based on banks' replies, waning risk appetite, uncertain economic prospects and industry-specific issues contributed to the tightening observed since the onset of the crisis. By contrast, tightening linked to capital and liquidity and funding difficulties only played a smaller role. In light of this, it can be seen as favourable that in 2013 the change of risk tolerance and economic outlook did not contribute to the tightening of credit conditions, and some banks even suggest these factors will contribute to easing of conditions in the period ahead. The negative effects of banks' low willingness to take risks may be mitigated by increased activity of state-backed guarantee institutions. In this regard, one positive aspect is that the largest Hungarian guarantee institution sharply cut its fees and announced a strengthening of its activities in 2014.

Funding costs fell further in the case of forint loans and remain essentially unchanged in the case of euro-denominated loans. As the central bank policy rate decreased in the second half of 2013, interest rates on

Source: MNB based on banks' responses.

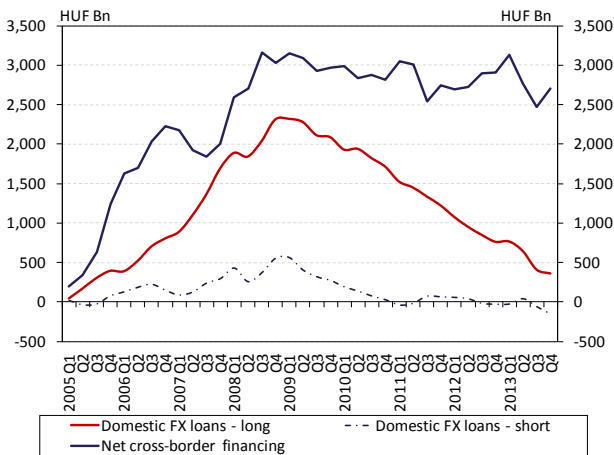
Chart 34: Average interest rate and interest rate spread of newly issued loans



Note: Other loans with floating interest rates or up to 1-year initial rate fixation. Smoothed using a 3-month moving average.

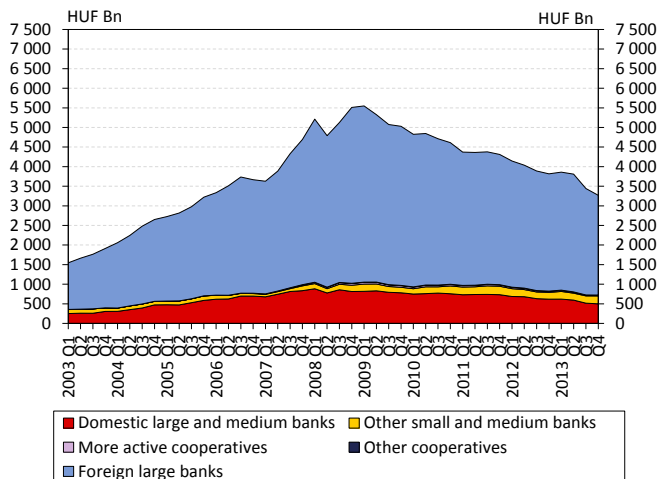
Source: MNB.

Chart 35: Cumulative change in the foreign currency loans and net external funding of non-financial corporations



Source: MNB.

Chart 36: Development of corporate foreign currency loans within the sub-groups (clusters) of the Hungarian credit institution sector



corporate forint loans fell further, reaching 5 per cent by the end of the year. The interest rate spread has also followed a downward trend since mid-2013: by January 2014 the spread stood at 1.9 per cent, and had not previously been this low since the onset of the crisis (Chart 34). Declining interest rates affected both large and small loans. Interest rates on overdraft fell to a smaller extent than the reference rate, and therefore the spread followed a slightly rising trend in recent months. The preferential interest rate of at most 2.5 per cent on loans disbursed in the context of the second phase of the Funding for Growth Scheme represents a form of cheap financing for the creditworthy SME's. However, the composition effect is still reflected in trends in funding costs: due to tight supply constraints, spreads reflect interest conditions for firms with better credit ratings.

Frictions in foreign currency denominated lending could result in tensions for companies with natural hedging

The contraction in corporate lending observed since the onset of the crisis mainly affected foreign currency loans.

While cumulative transactions in forint loans since October 2008 excluding the second pillar of the FGS have already reached the positive range, foreign currency loans in Hungary shrank by more than HUF 2,200 billion (Chart 35). Overall many companies could not substitute with HUF borrowing, as they were not creditworthy following tightened credit supply, or their demand fell as a higher level of HUF interest rates. Overall, this can be regarded as positive, as foreign currency lending was coupled with excessive risk-taking prior to the crisis in several loan segments, such as foreign currency loans disbursed to companies with no natural hedge and excessive lending for commercial properties. At the same time, the decrease is an unfavourable development for net exporters with natural hedge, which play a major role in the economy and are essential for potential growth. These firms have demand for foreign currency financing on account of their foreign currency revenues, and their underrepresentation in the FGS reflects this.

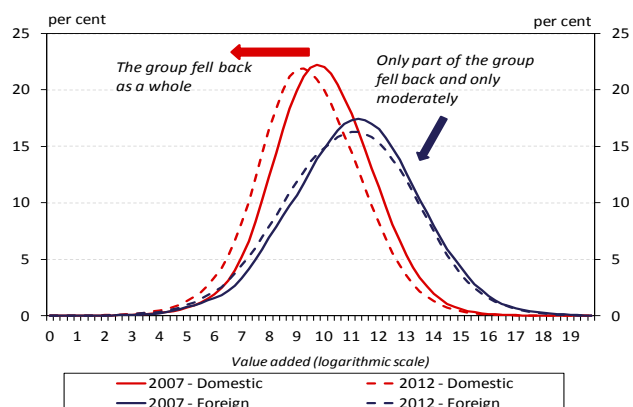
Frictions characterise corporate foreign currency lending, due to the scarcity of long-term foreign currency funding.

As foreign currency lending was scaled back in Hungary, firms' net external funding only contracted to a smaller degree, which prompts the question of whether there are frictions within foreign currency lending. The bulk of the stock of corporate foreign currency loans is linked to large foreign banks, which reacted to the crisis with steady and massive deleveraging, generally following lending using parent bank funds prior to the crisis (Chart 36). Looking ahead, this risk may not only be sustained, it may also be exacerbated if certain foreign banks continue to substantially curb their

Note: Based on the publication "Hungarian Banking System in Transition".

Source: MNB.

Chart 37: Performance of exporting firms and its distribution between 2007 and 2012



Source: CCIS, NTCA.

Table 2: Summary table of the main features of exporting firms within the non-financial corporate sector

	All corporations		Domestic corporations	
	Exporter	Net exporter	Exporter	Net exporter
Number	32 501	7 888	25 965	5 585
- SME	30 039	7 109	24 507	5 204
- large corporations	2 462	779	1 458	381
Macroeconomic weight				
- value added	61%	32%	21%	11%
- employment	46%	23%	25%	11%
- export volume	100%	74%	25%	21%
Corporations with loans				
- number	10 088	3 184	8 643	2 488
- amount of HUF loans (HUF Bn)	1 133	460	868	357
- amount of FX loans (HUF Bn)	936	554	500	276
- HUF investment loans (HUF Bn)	844	488	452	248

Note: The macro data included in the table show the currently available status (2012).

Source: Hungarian Tax and Financial Control Administration, CCIS.

BOX 4: FINDINGS OF THE CORPORATE QUESTIONNAIRE

In March and April 2014, a questionnaire-based survey was commissioned by the MNB covering a representative corporate sample in an effort to assess developments in financing, business and investment activity and the determinants thereof. The questionnaire covers both financing and investment decisions for the period elapsed since July 2013, alongside plans for the upcoming six months to one year. In selecting the sample, it was also ensured that the included firms were representative not only in terms of frequency, but also in terms of their macroeconomic significance (economic value added, employment) by applying a supplementary (importance) weighting.

The survey was not focused exclusively on bank loans, as it covered a wider range of corporate financing options and aimed to assess the relevant motivations, difficulties and purposes of borrowing needs. In the sample, eighteen per cent of respondents had never used external financing or it is not relevant to their needs. At the same time, bank loans, various types of credit lines (overdraft facilities, credit cards) and subsidised loans are predominant within the debt profile of firms accessing external finance, while financial leasing, factoring, trade credit and inter-company loans are less prominent. Nearly 40 per cent of respondents reported a rise in their borrowing requirements between July 2013 and March 2014, stemming mainly from investment plans (18 per cent) and working capital financing needs (12 per cent). The macroeconomic share of indebted firms

activity. The other friction that can be identified stems from costly and restricted access to scarce funding, especially long-term foreign currency funding, which also makes substitution more difficult of these foreign banks. As a result, banks can only provide long-term foreign currency loans at a significantly higher premium.

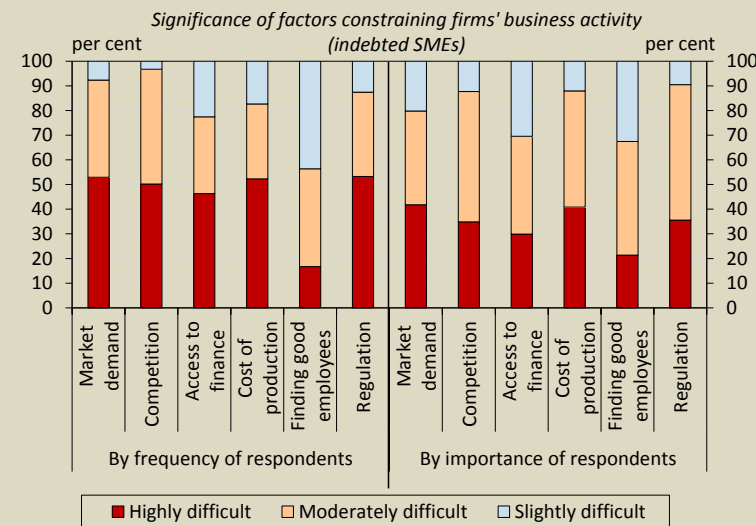
The fall in foreign currency lending may disproportionately impact Hungarian-owned firms. Foreign-owned exporting companies can access external funds through their own company group or loans with favourable conditions from foreign banks. These companies only suffered a smaller drop due to the crisis, affecting only a smaller part of the group (Chart 37). Although Hungarian-owned exporting firms play a significant role within the real economy, they were generally characterised by declining performance between 2007 and 2012 (Table 2), in which the scarcity of foreign currency loans may have played a significant role.

reporting a decline in their borrowing requirement was only 3 per cent.

Firms' assessment of the factors impacting their business activities is a key component of the survey, as these factors also significantly shape their borrowing requirements. The assessment of the sample, taking into account macroeconomic (importance) weight, identified the following factors restraining firms' activity: market competition, the regulatory environment, production and labour costs and market demand. There is no significant difference between indebted and non-indebted firms in terms of these factors. One interesting finding is that although difficulties stemming from macroeconomic and regulatory factors are quite substantial compared to financing constraints, the latter features stronger polarisation, which is also influenced by company size. Nearly half of respondents considered financing constraints as a severe difficulty and 20 per cent as a slight one, while the rate is 30 per cent for each based on respondents' economic weight. In other words, larger

firms with ample internal funding are less impeded by financing constraints, but the relevant ratio of those considering these to be a severe difficulty is significant.

During the period under review, the MNB's Funding for Growth Scheme also played an important role in firms' financing conditions. Over 70 per cent of the SMEs included in the survey were familiar with the programme, while eight to nine per cent of eligible firms were already taking part in the scheme. The relevant credit applications primarily had the purpose of acquisition of assets, inventory funding, property purchases or renovation of assets. Eighty-five per cent of these applications were granted, and only twelve per cent were rejected, reflecting a similar pattern to those in the sample in general. Nevertheless, half of



Source: MNB.

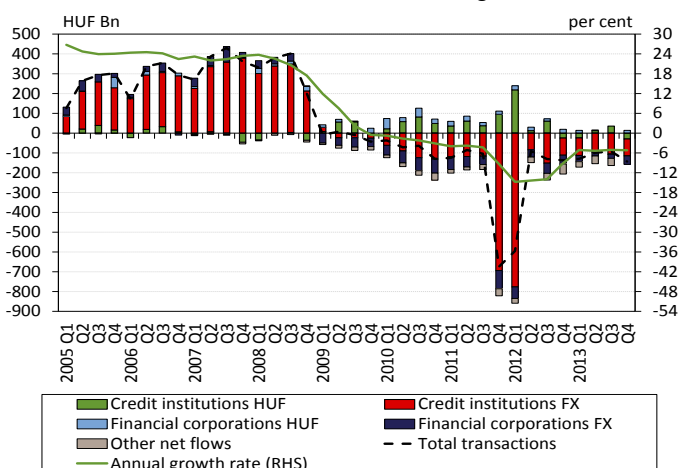
the firms participating in the FGS stated that they would not have borrowed in the absence of the scheme, while 10 per cent stated that they would have borrowed only a smaller amount.

3.2. Lending to households is restrained due to indebted and precautionary motives

Household loans outstanding continue to shrink. As has been the case in recent years, the balance of household borrowing and payments was negative in 2013 (Chart 38). This decline affected primarily the excessive portfolio of foreign currency loans accumulated in pre-crisis years, while the level of forint loan disbursements in the second half of the year nearly corresponded to that of payments. The annual contraction in lending transactions by credit institutions reached a rate of 5.2 per cent in Q4, a value similar to what was observed in previous months.

Retail lending slightly picked-up compared to 2012. After a steady rise in the first half of the year, lending to households by the overall credit institution sector stabilised at around HUF 35 billion per month in 2013 H2 (Chart 39). Although this is a significant improvement compared to the historical low of last year, the volume of new loans to households is still significantly lower than in 2010–2011, despite the fact that economic growth and the increase in the real wages of households both point to an upswing in credit demand. The

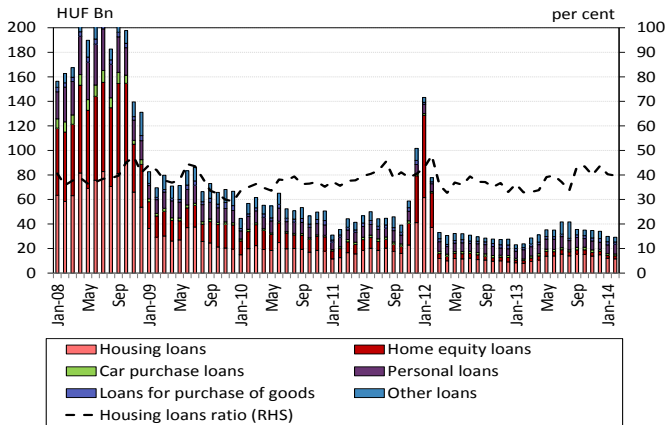
Chart 38: Quarterly changes in the financial intermediary system's household loans outstanding



Source: MNB.

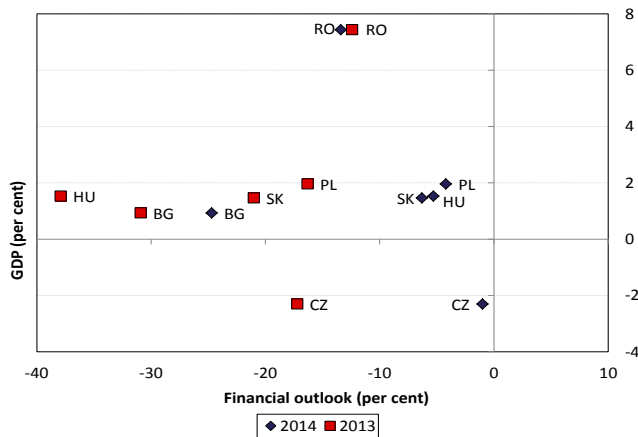
Note: Seasonally unadjusted data with rolling exchange rate adjustment.

Chart 39: New household loans in the credit institution sector



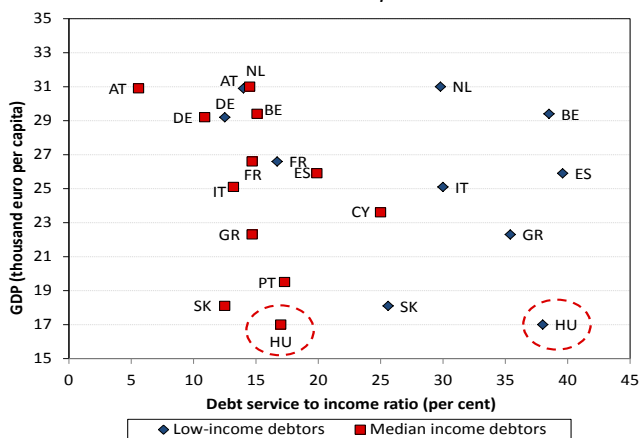
Source: MNB.

Chart 40: Financial outlook of households (for 2013 and 2014) and GDP growth in selected CEE countries (2013)



Source: European Commission, Eurostat, MNB.

Chart 41: Debt service-to-income ratio and GDP per capita in international comparison



Source: The Eurosystem Household Finance and Consumption Survey, MNB.⁴

weak demand may be attributed to the high payment-to-income ratio and households' precautionary motives.

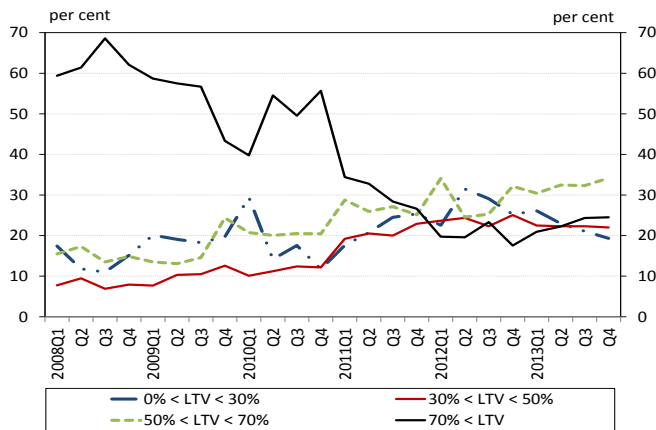
Precautionary considerations may play a major role in the restrained credit demand of households. In December 2012, in net terms 38 per cent of Hungarian households expected deterioration in their financial conditions in 2013; this percentage is strikingly high by regional standards (Chart 40). This explains the precautionary motives determining the behaviour of households, which is also reflected in the steady rise in households' net savings. In December 2013, Hungarian households, on the whole, expected a further deterioration in their financial conditions for the coming year, although in net terms only 5 per cent of the respondents made statements in this regard.

The debt service burden of low-income households is very high even in international comparison. Although the total outstanding debt of households has declined significantly since the outbreak of the crisis and may no longer be considered excessive even in international comparison, households with loans are over-indebted. The median debt service burden as a proportion of disposable income is 17 per cent and as high as 44 per cent for households with lower income. Both of these values are considered high in international comparison. Since the same debt service ratio represents a higher burden on lower-income households, the predicament of Hungarian households is exacerbated by the fact that the payment obligation they face is combined with a far lower GDP per capita value compared to the rest of the countries under review (Chart 41). This has an impact even on households with no borrowing; indeed, the problems of indebted households only heighten their caution. The MNB as the macroprudential regulatory authority can limit the future development of over-indebtedness (Box 5).

Non-price conditions in retail lending are easing, albeit only slightly. In 2013 Q4, banks reported the easing of the conditions of consumer credit in general and unsecured loans in particular. According to the Lending Survey, the easing of conditions is reflected primarily in price terms, i.e. the reduction of fees and margins; in addition, however, tight non-price conditions have been also eased perceptibly. The latter is confirmed by the fact that an increasing share of new housing loans were granted with a loan-to-value (LTV) ratio of over 50 per cent in 2013 (Chart 42).

⁴ Note: GDP per capita is expressed in PPS. Low-income debtors belong to the lower 20 per cent income quintile. The reference period for Hungarian data is 2013. The values of euro-area member states refer to 2010, except for the Netherlands (2009), Greece (2009) and Spain (2008). The GDP per capita of Luxembourg is EUR 77,000, while the debt service-to-income ratio is 17 per cent for median and 20 per cent for low-income debtors. The debt service-to-income ratio of low-income households in Portugal and Cyprus is 80 per cent and 96 per cent, respectively.

Chart 42: Distribution of new housing loans by LTV



Source: MNB.

BOX 5: PREVENTING EXCESSIVE HOUSEHOLD INDEBTEDNESS USING MACROPRUDENTIAL REGULATORY TOOLS (PTI, LTV)

The global financial crisis revealed that microprudential regulation of financial institutions is not sufficient to prevent the build-up of systemic risks and must be supplemented with macroprudential instruments. The lessons learned from the crisis show that excessive credit boom dynamics can not only lead to the accumulation of severe imbalances (such as asset price bubbles), but can also result in substantial deterioration in banks’ portfolio quality, which can potentially exacerbate the economic downturn in the wake of bank deleveraging.

The substantial stock of foreign currency loans among households which was accumulated between 2003 and 2008 became a source of major concern following the onset of the crisis. This is primarily due to the fact that many households became indebted close to their maximum possible extent of debt servicing capacity, and as most of these loans were denominated in foreign currency, the exchange rate volatility emerging during the crisis led to spikes in their instalment payments. This not only compromised customer’s subsistence, but also harmed banks’ capital adequacy via deteriorating portfolio quality, and represented a significant constraint on sustainable economic growth overall. Creating regulations conducive to balanced household lending while preventing customers from becoming indebted beyond their actual debt servicing capacity is

therefore crucial.

	Payment-to-Income (PTI)	Loan-to-Value (LTV)
Definition	Sum of monthly installments / monthly net certified income	Gross loan / property value
Objectives of the regulation	Preventing over-indebtedness of clients and ensuring their debt servicing capacity	The property provide adequate collateral for the loan (even in the event of depreciation)
Who are protected by the action?	Primarily the debtor is protected by preventing against excessive debt service burden	Primarily the lender is protected by minimizing the loss given default
What type of loans are involved?	All types of loans and finance lease are involved	Only mortgages, vehicle financing loans, and finance lease are involved
Effects on lending cycle	In the case of economic growth income increases slower than asset prices so the smoothing effect is stronger on tht cycle	In the case of economic growth due to the asset price bubbles it is less able to directly restrain credit booms
Positive externalities	The fallback of the illegal economy may be promoted (at borrowing it takes into account only the legal, certified income)	

Under the new Act on the Magyar Nemzeti Bank effective as of 1 October 2013, the MNB was vested with macroprudential powers to establish regulations on payment-to-income (PTI) and maximum loan-to-value (LTV)

ratios in the form an MNB Decree equivalent to a government decree, based on its legislative hierarchical ranking.⁵ Based on international experience (South Korea, Hong Kong, Lithuania, Romania), these tools might be the most effective to prevent excessive household indebtedness, as they impact the entire financial intermediary sector and therefore cannot be circumvented with cross-border financial services or lending through local branches. In the Bank’s assessment, the current period is very appropriate for the introduction of caps on PTI and LTV: the measure would not restrain lending excessively, but could prevent debt overhang in mortgage and uncovered lending should lending pick up.

⁵Government Decree 361/2009 (XII.30) on the requirements for responsible consumer lending and the assessment of creditworthiness still regulates this domain.

Table 1: Regulation of the payment-to-income and loan-to-value ratio as a macroprudential tool

The cornerstones of the new legislation set to take effect in 2014 were defined by the Financial Stability Council in the spring of 2014:

1. Payment-to-Income (PTI):

- An upper limit was defined, restricting the rate of indebtedness of customers. This regulatory tool would apply to all types of loans (mortgage loans, consumer credit, car purchase finance, etc.), affecting the entire spectrum of household lending.
- The regulation takes all redemption elements linked to all credit held by the customer into account, and only certified, legitimate net income is considered as disposable income.⁶
- Both the incomes and debt servicing of co-debtors are added up when determining the limits.

2. Loan-to-Value (LTV):

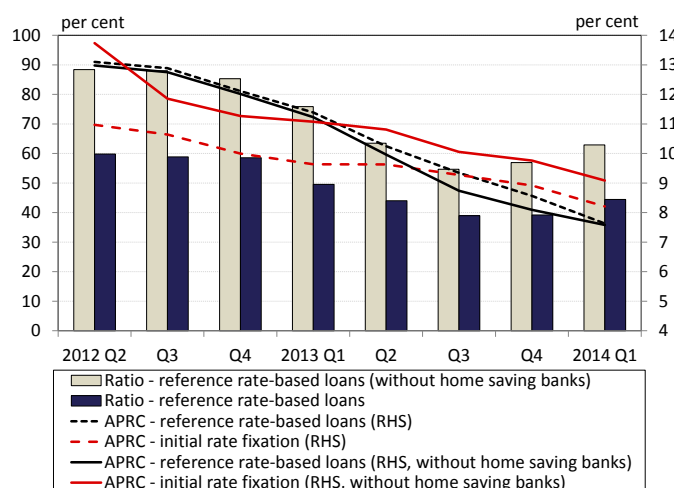
- The MNB Decree would leave current regulation unchanged in terms of loan-to-value ratios.⁷
- For financial leasing, somewhat laxer regulation is warranted in light of the idiosyncrasies of the arrangement (e.g. higher LTV limits by 5 percentage points).

3. Stricter conditions when setting PTI and LTV limits on foreign currency denominated loans:

- Instalments on foreign currency denominated loans are also shaped by an additional risk factor, namely the rising debt servicing burden due to the exchange rate depreciation. Accordingly, much stricter regulation of PTI and LTV limits is set for introduction for both euro and other foreign currency denominated loans.

The calibration of PTI and LTV limits should be guided by a dual objective: to prevent excessive indebtedness, but without being restrictive in terms of impeding growth. To minimise real economic costs, the central bank held consultations with market participants and carried out simulations on the restrictive effect of various PTI and LTV limits on lending. One key element of the regulation is allowing the dynamic amendment (fine-tuning) of limits as required by lending cycles, which could contribute to the conduct of a successful anti-cyclical macroprudential policy.

Chart 43: Share of reference rate-based and fixed interest loans and the annual percentage rates charged



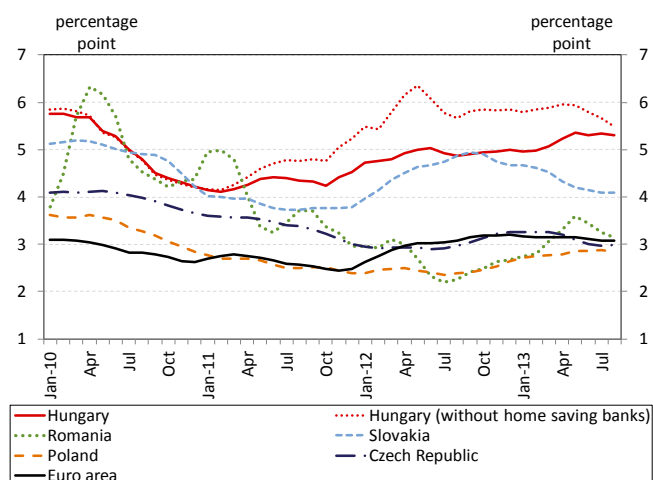
Source: MNB.

The trend of declining APR levels continued for mortgage-based housing loans. By the end of 2013, parallel to the MNB's reductions of the central bank base rate, the Annual Percentage Rate (APR) on housing loans fell to 7.9 per cent. Loan products with an interest rate fixation of at least five years were less prone to track the downward path of the policy rate and accordingly, they became more expensive compared to loans with reference interest rates. This is because to cover long-term fixed interest rates, banks must obtain expensive straight or synthetic long-term fixed-rate funding, while there is no need to do so in case of reference-rate schemes. Nevertheless, within housing loans the weight of products offering long-term fixed-rate interest options increased significantly despite the higher interest rate (Chart 43), as households may prefer borrowing even with an initially higher interest rate because in return the minimum

⁶As a main rule, income would refer to income specified on the payment statement or tax authority (NAV) certificate, but creditors could also take into account all regular transfers credited to current accounts from wages, as well as regular transfers from general government bodies (pensions, family allowance, etc.).

⁷See Government Decree 361/2009 (XII.30) on the requirements for responsible lending and the assessment of creditworthiness for more detail.

Chart 44: International comparison of the interest margin on new housing loans (in case of APR) extended in domestic currency

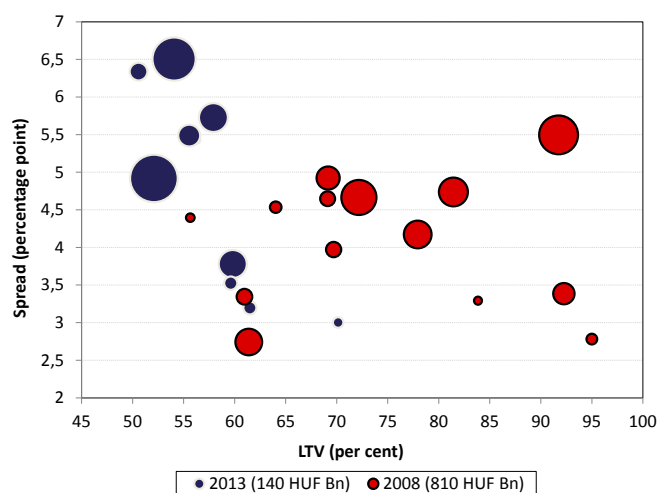


Source: ECB, national central banks, MNB.

5-year interest rate fixation ensures predictability.

In the household segment, the interest margin (APR less reference interest rate) has been permanently above the regional average. The average 5.4 per cent margin on new loans is markedly high in regional comparison (Chart 44). Banks may attempt to offset the deterioration in their profitability stemming from credit losses and fiscal burdens by achieving higher interest income. At the same time, this does not generate substantial extra revenues against the backdrop of sluggish economic activity, while the overly high margin has a detrimental effect on demand (and indirectly, on the real estate market). The outstanding Hungarian margin may partly reflect the domestic yield curve, which is steeper than the regional average, but this can only justify a higher margin in the case of fixed-rate products, while in case of reference-rate based loans the interest rate risk is borne by the customer.

Chart 45: Average interest margin and collateral value of mortgage-based housing loans extended by selected banks in 2008 and 2013



Source: MNB.

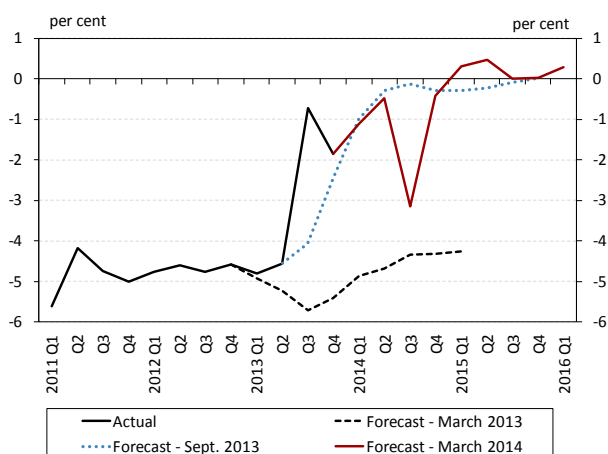
Note: 2008 data reflect the average interest margin on foreign currency loans, while the average margin on HUF-denominated loans is shown for 2013. Banks reported LTV according to collateral value in 2008 and according to market value in 2013. The surface areas of the spheres indicate the banks' share from the housing loans extended against collateral of the given year.

Weak competition may significantly contribute to the high margins. The higher margins may be also explained by higher credit risks, but this is contradicted by the fact that, presumably, only lower-risk, more creditworthy customers have access to loans in the context of tight lending conditions. The reduction of interest margins may be impeded by the higher concentration observed in the area of new housing loan disbursements, which can restrict bank competition. Lending conditions at the level of individual banks are characterised by significant heterogeneity: besides stringent down-payment requirements (a higher down-payment indicates better creditworthiness), more active banks typically determine higher margins, which points to market dominance (Chart 45). The possibility of cross-financing between the corporate and the household sectors may arise due to subdued competition and the lower margins defined in the corporate segment.

3.3. Decline in corporate lending may stop

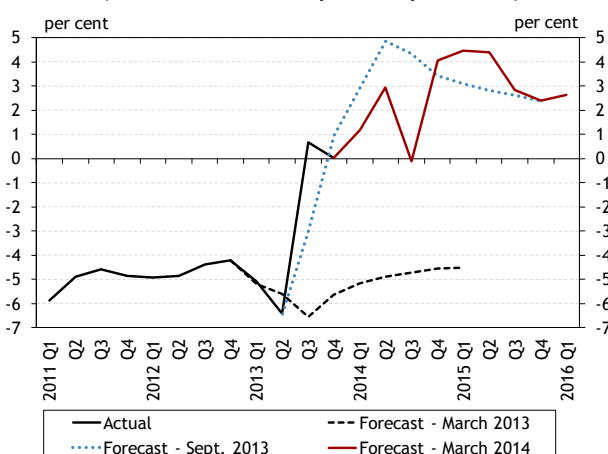
Our expectations about the developments in corporate lending have remained broadly the same. In respect of lending in H2, FGS disbursements resulted in a different time profile than indicated in our previous forecast; on the whole, however, there was no significant difference in terms of the stock. Based on the Lending Survey, the vast majority of banks did not change their price and non-price conditions, and looking forward they do not anticipate any major changes in conditions. Over a longer time horizon, improving growth prospects – also boosted by the FGS – may gradually ease constraints, but owing to weak bank profitability this outlook is surrounded by risks. Nominal interest rates on corporate loans were repriced in line with

Chart 46: Forecast for lending to non-financial corporations (transaction-based, year-on-year data)



Source: MNB.

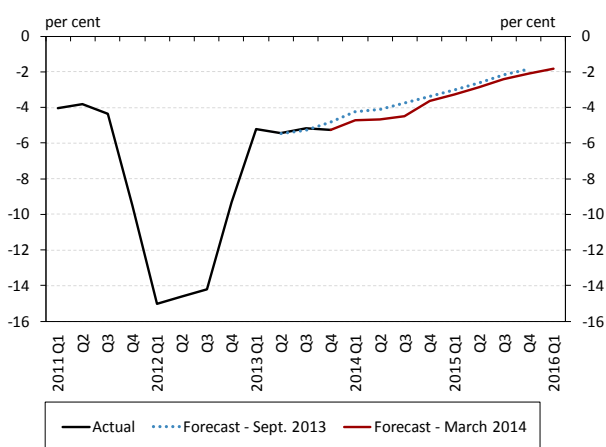
Chart 47: Forecast for lending to the SME sector (transaction-based, year-on-year data)



Note: The forecast was derived from the model-based forecast of total corporate lending, taking into account the weight of SME lending and the FGS programme.

Source: MNB.

Chart 48: Forecast for lending to households (transaction-based, year-on-year data)



Source: MNB.

the central bank base rate cuts, while the applied average margin remained broadly unchanged. Overall, therefore, our forecast did not change in respect of trends in corporate lending:⁸ as opposed to the continuous decline we envisaged a year earlier, lending to the overall corporate sector is expected to stagnate from the end of 2014 (Chart 46).

Lending to the SME sector may steadily increase over the entire forecast horizon. The FGS has a more pronounced impact in the SME segment; in 2014 and 2015 lending to SMEs may increase by 2–3 per cent in total. This period will already see the emergence of the second-round effects of the FGS, such as higher demand for short-term loans stemming from the capacity expansions in the context of FGS investment loans and the improved lending capacity associated with the low interest rates. Furthermore, modification of the business terms may improve the allocation efficiency of the programme. For instance, commercial real estate loans may support banks in cleaning up their portfolios, while the refinancing of factoring transactions may improve the current asset (in particular, trade receivables) management of some SMEs. All things considered, we have not revised our assumptions about the short-term and long-term effects of the FGS on lending trends (Chart 47).

Contraction in loans outstanding continues in the household segment, albeit more slowly. Loans to the household segment declined to a larger extent in 2013 than foreseen in our forecast, but based on new disbursements, this larger-than-expected contraction is more likely attributable to transient factors, such as portfolio sales and prepayments by households. On the supply side, banks' conditions are expected to ease slightly in the case of consumption product types and be maintained in the case of housing loans. Looking forward, the essentially precautionary attitude of households may remain predominant; and thus a slow decline in new disbursements is projected over the forecast horizon. The persistently weak forint exchange rate, however, will increase the monthly repayments of households; therefore, as a technical effect, a steeper decline in loans outstanding can be expected than originally foreseen in our last forecast (Chart 48).

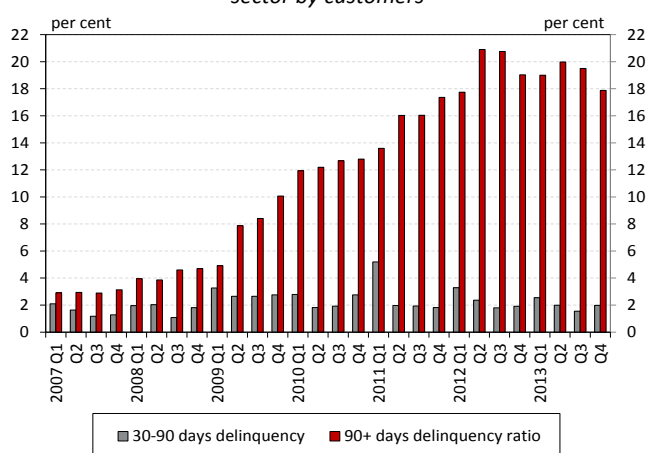
⁸ At the same time, based on incoming data, FGS disbursements in 2014 will be restructured between individual quarters while assuming that the total volume of the programme remains the same; in other words, the utilisation of the FGS may shift even more markedly to the second half of the year.

4. PORTFOLIO QUALITY – THE PORTFOLIO QUALITY REMAINS A KEY MACROPRUDENTIAL RISK

During the second half of 2013, the 90+ day delinquency rate declined to 18 per cent in the corporate portfolio by year-end, dropping significantly below the historical peak. While the improvement is mainly attributable to vigorous portfolio cleaning, non-performing loans outstanding would not have increased further without cleaning as well. Although portfolio cleaning reached record levels during the final quarter, this is not expected to be a lasting trend: the stock of non-performing loans outstanding remains high, which requires intervention. On the one hand, these interventions should seek to remove any legal and regulatory obstacles to portfolio cleaning, and on the other hand, banks should be motivated by making it more expensive to keep non-performing loans in their books and by making portfolio cleaning cheaper. As a result of the improvement in the non-performing portfolio, the cost of provisioning decreased considerably during H2. Nevertheless, even this level of provisioning was sufficient to ensure 60 per cent collateral coverage in the context of a declining NPL ratio.

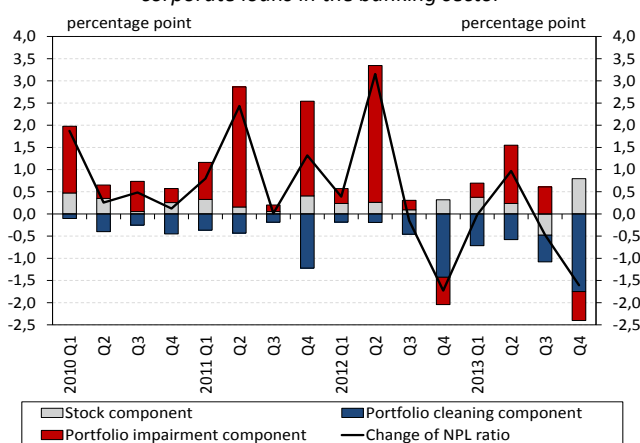
Within the household portfolio the NPL ratio increased further, reaching 18.6 per cent at the end of the year. Foreign currency denominated mortgage loans continued to be the main problem as the quality of this portfolio deteriorated significantly, while the utilization of the exchange rate cap scheme barely increased. Expectations about possible solutions to the FX debt problem are likely to reduce the willingness to repay. In the case of foreign currency denominated mortgage loans, portfolio cleaning is proceeding slowly, and the biggest problem is that the outstanding debt considerably exceeds the value of the real estate. Following a slight increase, the cost of provisioning amounted to 2.8 per cent. This was sufficient enough to boost the loan loss coverage to above 53 per cent.

Chart 49: Share of non-performing corporate loans in the banking sector by customers



Source: MNB.

Chart 50: Factors affecting changes in the ratio of non-performing corporate loans in the banking sector



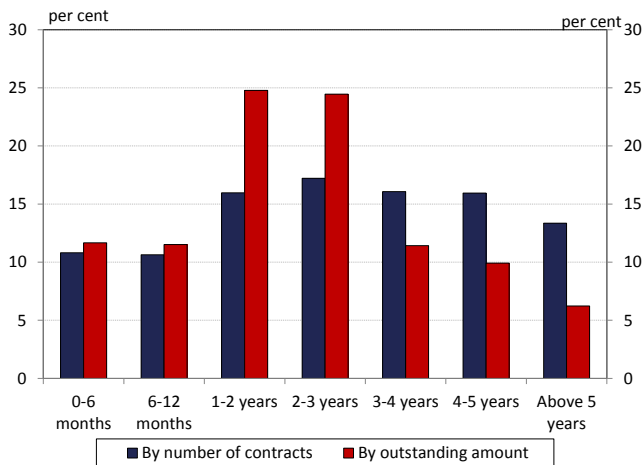
Source: MNB.

4.1. Corporate loan quality improved in 2013 H2

In the corporate portfolio, the share of non-performing loans decreased in H2 and is now well below the historical peak. The share of non-performing loans within total loans outstanding was 18 per cent at the end of 2013 (Chart 49). This is significantly lower than the 21 per cent peak during the crisis. The decline during H2 was typically seen at most banks which play a major role in corporate lending. Meanwhile, the share of loans 30–90 days overdue remained stagnant throughout H2, and thus no significant increase is expected. The decomposition of the change reveals that the impact of the portfolio deterioration component on the indicator was still increasing in Q3, but then declined in Q4. On the whole, the impact of the component on the NPL ratio was negative in the past half year; accordingly, *ceteris paribus*, the NPL ratio would have declined in any event (Chart 50). The cleaning component reached a historical peak and appears to have mostly accounted for the significant decline in the indicator. On balance, bad loans of around HUF 140 billion were removed from banks' balance sheets in H2. The stock component shifted the indicator slightly upward during the past half year; in Q3, however, its impact became negative for the first time since the outbreak of the crisis. This was attributable to the boost in outstanding borrowing from the FGS.

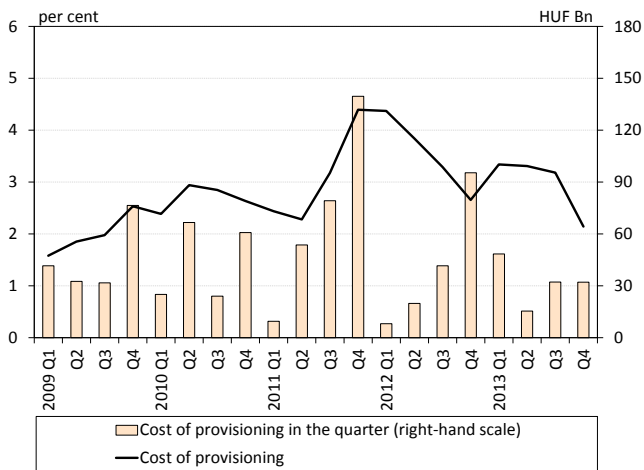
Although portfolio cleaning accelerated in 2013, the share of older defaults within the non-performing portfolio is still significant. In 2013, the average quarterly cleaning

Chart 51: Distribution of corporate NPL according to time elapsed since becoming non-performing



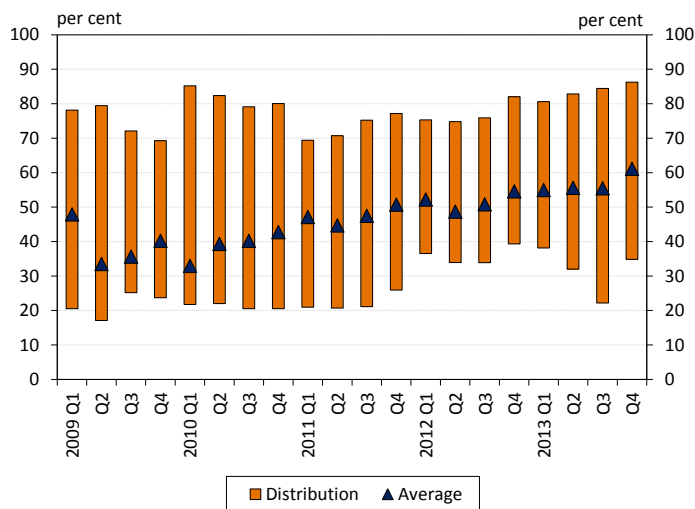
Source: CCIS.

Chart 52: Cost of provisioning to total loans in the corporate segment



Source: MNB.

Chart 53: Loan loss coverage of corporate loans



Note: Banks with at least 2 percent share in corporate lending.

Source: MNB.

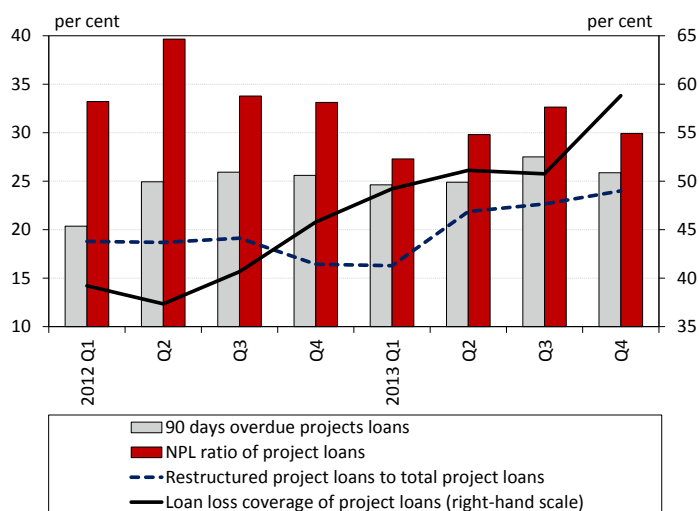
ratio approached 5 per cent compared to the previously recorded value of 4 per cent, which contributed to the improving performance of the corporate portfolio. This notwithstanding, the ratio of non-performing loans is still around 18 per cent. In addition, a significant portion of the impaired loans in banks' balance sheets have been non-performing for a long time. Nearly 30 per cent of non-performing loans outstanding have been held in the banking sector's balance sheet for at least 3 years since default, and this ratio approaches 50 per cent in terms of contracts (Chart 51). This may be explained by the fact that larger debtors continued to perform longer during the crisis, and, in view of the far larger loan size (and hence, potential loss), banks took a more active part in their restructuring. Consequently, these loans defaulted at a later point in time. For this reason, the accelerated cleaning of the non-performing portfolio is important from the perspective of debtors and the banking sector alike (see Box 6).

The cost of provisioning for corporate loans decreased considerably in 2013 Q4. In September, the ratio of loan loss to total loans stood at 3.2 per cent, i.e. it had not changed significantly compared to the end of H1. By the end of the year, however, it had decreased to 2.1 per cent. One reason for this significant fall was the high level of provisioning in the corresponding period of the previous year; thus the decline was to be expected because of the base effect alone. In addition, it should be stressed that the improvement in the portfolio is another explanation for the decline in loan losses (Chart 52).

Loan loss coverage increased for the whole portfolio in Q4. Loan loss coverage increased, as even a minor degree of provisioning was sufficient to improve the coverage of non-performing loans against the backdrop of a marked decline in the non-performing portfolio. On a sectoral level, the indicator stood at 55.4 per cent in September and exceeded 60 per cent by the end of the year. Despite a slight decline, the dispersion across banks is still significant, which continues to pose a risk (Chart 53).

The performance of project loans remains far worse than that of the total corporate portfolio. Project loans mainly consist of commercial real estate loans and account for nearly 40 per cent of non-performing corporate loans and close to 60 per cent of restructured corporate loans. The share of non-performing loans within the project loan portfolio did not change significantly in 2013 H2. Since this overall corporate segment showed signs of improvement, even the slight deterioration observed for project loans accentuates the difference between the performance of

Chart 54: Changes in the performance of project loans



Source: MNB.

the segment and that of the total corporate portfolio. At the end of the year, 26 per cent of project loans were non-performing. Moreover, it should be noted that 24 per cent of the portfolio is restructured (compared to 11 per cent in the corporate segment as a whole), with an even higher ratio of non-performing loans (30 per cent). This also means that 17 per cent of the project loan portfolio is restructured and performing; hence, these loans have a higher default risk. The loan loss coverage of the non-performing loans is as high as that of the corporate segment; i.e. nearly 60 per cent (Chart 54). Nevertheless, in view of the large exposures and problems in the real estate market, the banking system is strongly motivated to keep non-viable projects alive in this segment through restructuring, and consequently, the 30 per cent loan loss coverage may pose a risk in the case of restructured loans.

BOX 6: OPTIONS TO ACCELERATE THE REDUCTION OF NON-PERFORMING CORPORATE LOANS

While the existence of non-performing stocks is a natural feature in financial intermediation, their drastic increase or prolonged existence may pose a severe risk to financial stability. Although portfolio cleaning accelerated substantially in the Hungarian banking sector in 2013 Q4, even at this rate it would take a long time to work off the portfolio of currently non-performing loans. In order to reduce stability risks and accelerate portfolio cleaning, a more proactive regulatory intervention may become necessary.

Before outlining the possible regulatory directions, the channels through which the high NPL ratio poses a threat to financial stability need to be clarified. An increase in the NPL ratio can generate losses both directly and indirectly, through the following main channels:

- The increase in non-performing stocks raises the need for provisioning, which has a direct, negative impact on the profitability of financial intermediaries, thus reducing the capital accumulation capacity of market participants.
- Since the remuneration of management depends, in part, on the profitability of banks, in general, management has a vested interest in recognising a lower need for loan loss provisioning. In the past, this led to insufficient loan loss provisioning, or the distribution of the required provisions across several years. Non-prudent provisioning carries the risk of future losses.
- Moreover, non-performing loans outstanding may generate additional provisioning needs even in the case of prudent loan loss provisioning. Changes in collateral value and, in respect of foreign currency loans, the weakening of the forint may call for repeated provisioning. In consideration of the dynamic decline in real estate prices observed in recent years, changes in the value of real estate collateral deserve special attention. In extreme cases, a crisis hitting a specific sector more severely may push down the collateral value of the sector to a fraction of the original value.
- The financing requirement of the non-performing portfolio is associated with long-term costs. A portion of the non-performing portfolio is not covered by provisioning and must be financed by the bank continuously, without being offset by corresponding revenues. The higher the nominal interest rates, the greater the losses of financial intermediaries through the financing of non-performing stocks.
- The high ratio of non-performing loans may also increase the costs of obtaining funds. Although the indicator is defined differently in individual countries, investors tend to take it seriously in their risk assessment. Accordingly, a large stock of non-performing loans raises the risk premium on banks' funding.
- The management of non-performing loans ties down substantial organisational resources which, besides significant potential profitability consequences, may have a negative impact on lending activity.
- Since non-performing stocks have no repayments, they may remain in the balance sheet longer, which could deteriorate maturity match and exert a negative impact on banks' liquidity.
- As non-performing loans absorb funds to the detriment of new loans, in the case of liquidity constraints, the lending capacity of the banking system may weaken, leading to subdued lending.
- As NPL stocks also tie down capital from new lending, thus lending capacity may be impaired.

- A high NPL ratio may restrain lending not only through lending capacity, but may also have a negative impact on the banking sector's willingness to lend. The poor quality of the outstanding portfolio requires banks to exercise caution, thereby reducing their risk appetite.

The long list of risks above demonstrates that both market participants and regulatory authorities have a vested interest in cleaning up the non-performing portfolio as soon as possible. This would facilitate an improvement in the banking sector's profitability and capital adequacy, helping the sector to fulfil its role in financial intermediation.

An important prerequisite for portfolio cleaning is the adequate functioning of the legal and institutional environment. A substantial amount of information has been accumulated at the central bank in this regard already. The facts available so far call for reconsideration of taxation rules, the rationalisation, transparency and cost-efficiency of liquidation and enforcement procedures, and rules ensuring the faster takeover of assets serving as collateral.

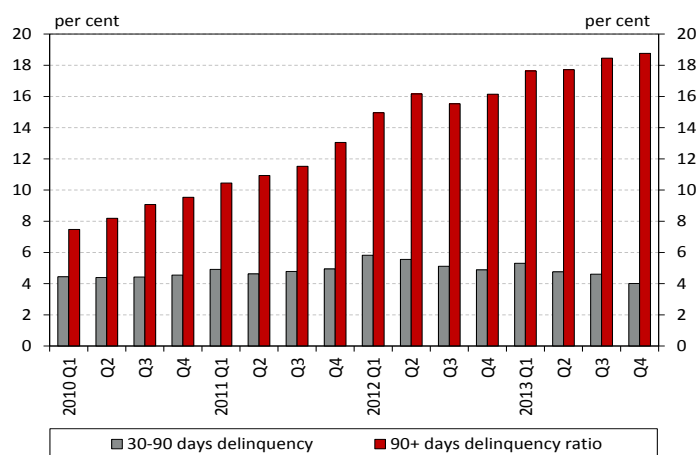
Besides the existing obstacles in the regulatory environment, another key factor that impedes portfolio cleaning is the fact that commercial property has no notable market today, which poses difficulties particularly in the case of project-financed loans, because in the absence of demand real estate collateral cannot be sold. The size of the debt purchasing market implies another constraint. Among other things, for lack of sufficient liquidity, small domestic players do not generate notable demand in the market. Liquid non-resident debt buyers are not currently active in Hungary. The price offered by foreigners is considered too low by domestic banks and over the medium term, they try to achieve higher returns by waiting for the stabilisation of the Hungarian real estate market.

Besides improving the regulatory environment, the MNB sees room for the application of both positive and negative incentives to accelerate the process of portfolio cleaning. As part of the positive incentives, within the framework of the FGS the MNB opened up the opportunity for the purchase of commercial property serving as collateral for non-performing or terminated loans for leasing purposes, which can contribute to easing tensions in financing.

For banks, a negative incentive would be the introduction of stricter loan loss provisioning obligations, which could be implemented based on the time elapsed since becoming non-performing. Due to higher provisioning, additional losses would be smaller even in case of a weak real estate market during a sale, and banks are reasonably expected to be more willing to dispose of these loans as soon as possible.

It is important to mention the concept of a "bad bank", which offers the most efficient and fastest solution to the problem of the non-performing portfolio. By separating a part of risk management, banks can better focus on their fundamental function.

Chart 55: Share of non-performing household loans in the banking sector by contracts



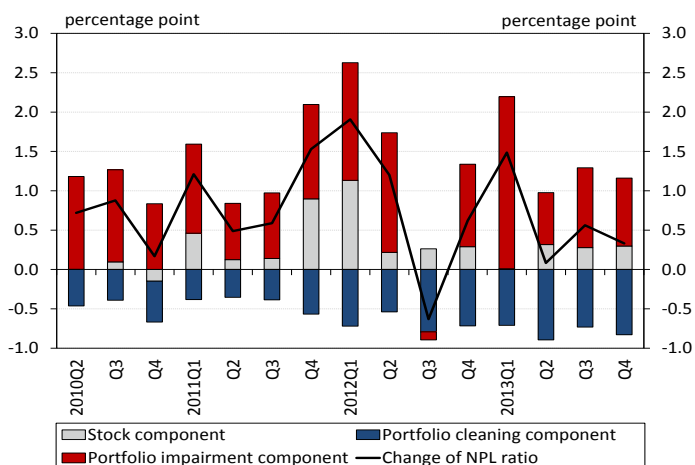
Source: MNB.

4.2. The household portfolio deteriorated further, albeit at a slower rate

In 2013 H2, the ratio of non-performing loans increased slightly in the household segment. As in Q3, the share of non-performing loans within the portfolio of household loans outstanding increased in 2013 Q4. In H2, the ratio of loans 90 days past due (NPLs) within household loans rose to 18.6 per cent from 17.7 per cent (Chart 55). Looking at the components of the change, it is apparent that the portfolio deterioration component remained at a level similar to that observed in recent years both in Q3 and Q4, despite a continuous improvement in the macroeconomic environment, including employment and income. Moreover from quarter to quarter, the value of the indicator increases slightly due to the steady decline in the outstanding amount of loans.

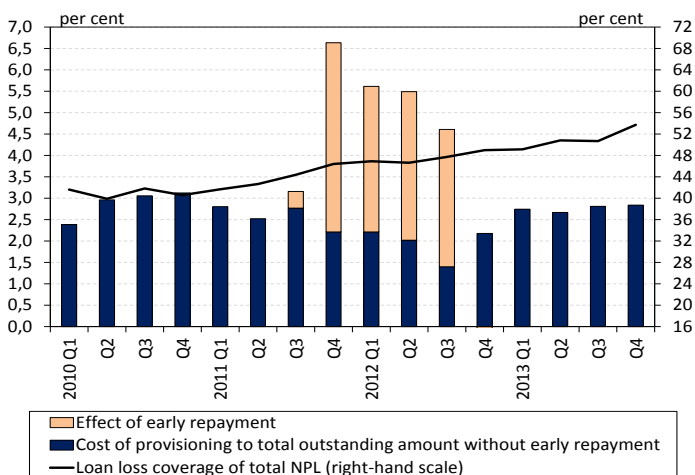
Moral hazard is reflected in the portfolio quality of households. Uncertainty over the solution of the problem of foreign currency debtors can deteriorate the willingness

Chart 56: Factors affecting changes in the ratio of non-performing household loans in the banking sector



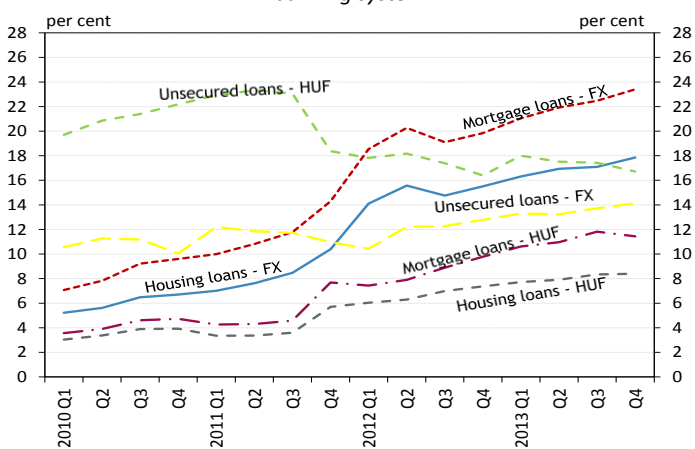
Source: MNB.

Chart 57: Cost of provisioning to total loans and coverage in the household segment



Source: MNB.

Chart 58: Ratio of non-performing household loans by products in the banking system



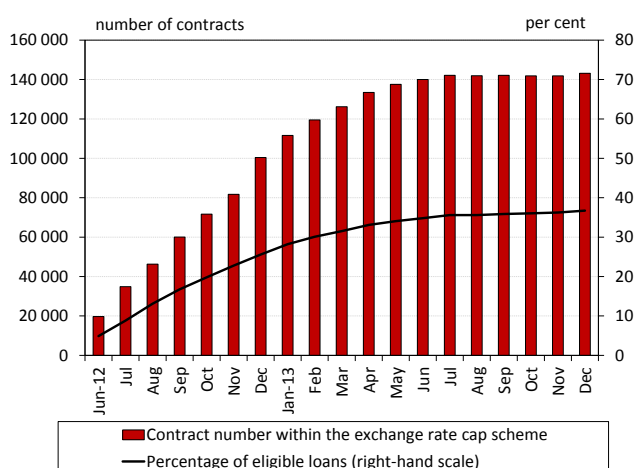
Source: MNB.

of debtors to pay; therefore it is key to eliminate the uncertainty. A final decision would end the uncertainty concerning a possible government intervention, while individual debtors may still appeal to the courts for legal remedy. In addition, the degree of the cleaning was only slightly higher than usual and it was unable to offset the impact of the two former factors. The 3.7 per cent cleaning rate seen during these six months does not reach the historical peak observed in the second half of the year, which was 4.2 per cent (Chart 56). Examining the changes in portfolio quality at the institutional level, a largely homogeneous picture emerges: the portfolio deteriorated at all but two banks that play an important role in household lending.

Increased provisioning improved the loan loss coverage ratio for non-performing loans. The cost of provisioning rose slightly, with the ratio exceeding 2.8 per cent by the end of the quarter which can be considered historically high. Against the backdrop of the moderately increasing non-performing portfolio, high provisioning led to higher coverage. Consequently, at the systemic level coverage exceeded 53 per cent by the end of Q4, which is a historically high value. At the same time, the asymmetry observed among banks remained high. While the coverage ratio is less than 37 per cent for the worst-performing bank, it is close to 70 per cent for the best-performing one (Chart 57).

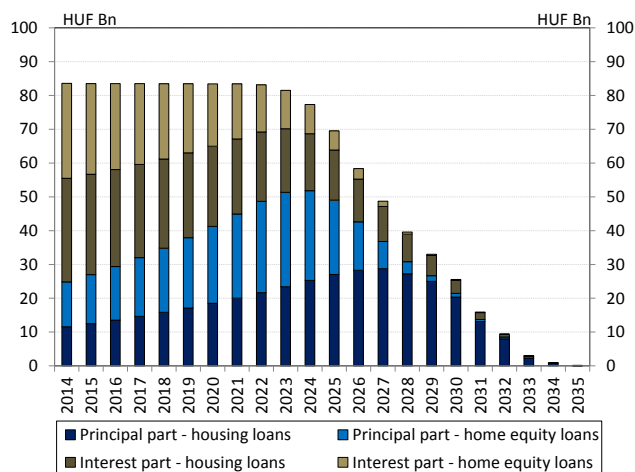
The increase in the non-performing portfolio can be primarily attributed to the portfolio deterioration of foreign currency denominated mortgage loans. Although the NPL ratio has been on the rise since the outbreak of the crisis in the household portfolio as a whole, significant differences can be observed in respect of individual products. In 2013 H2, quality deterioration affected almost exclusively foreign currency mortgage loans, with an increase of 1.5 percentage points in the NPL ratio during the period. At the same time, the change in forint-denominated mortgage loans was less than 0.5 percentage points (Chart 58). Thus, the difference between the levels of these two product types increased further. Based on the household survey of the MNB, those borrowing home equity loans took more risk with worse savings and labor market position. As for unsecured loans, the share of non-performing loans within forint-denominated loans outstanding decreased in H2, while a slight increase can be observed in the case of unsecured foreign currency loans. The more favourable trend affecting unsecured lending is partly explained by the fact that unsecured loans have a considerably better debt purchase market and accordingly,

Chart 59: Changes in the utilisation of the exchange rate cap (credit institution sector)



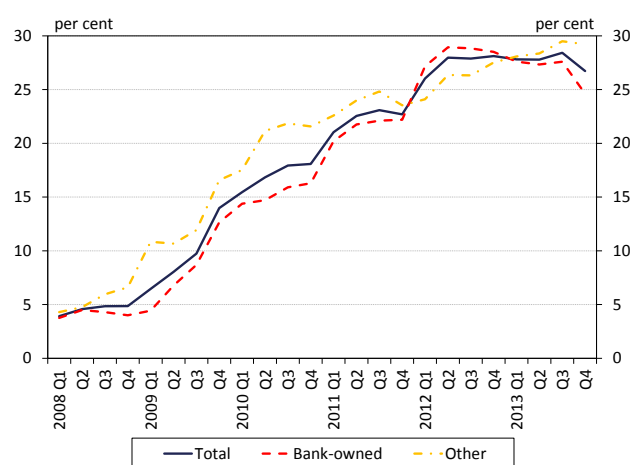
Source: MNB.

Chart 60: Distribution of exchange rate cap costs in the case of full utilisation



Note: Projected to the current average exchange rate and interest rate.
Source: MNB, own calculations based on CCIS data.

Chart 61: Ratio of non-performing loans at financial enterprises by ownership



bad loans can be disposed of far more easily.

Utilisation of the exchange rate cap has not increased noticeably. At the end of 2013, 38 per cent of the total FX mortgage loan portfolio participated in the programme (one third based on number of contracts), and the increase in utilisation was negligible in H2 (Chart 59). Although eligibility was extended to defaulted debtors and debtors with original loan size over HUF 20 million, this had no perceivable effect. Based on our previous household survey, a large share of borrowers is characterised by distrust, while for many borrowers, the product is not suitable due to its temporary nature; finally a large share expect more substantial state assistance. Credit risk would be significantly mitigated if the exchange rate cap scheme was reformed to benefit debtors better. A longer, preferential payment period (lasting even up to the end of the loan's maturity), or the (partial) relief of the principal part between the market rate and the preferential rate⁹ would imply manageable and protracted cost (Chart 60).

The outstanding principal of non-performing foreign currency mortgage loans is more than 30 per cent higher on average than the collateral value. Considering the magnitude of the problem from a social perspective as well, and taking into account the poor results of forced sales, partial debt relief aimed at maintaining debt servicing discipline may be helpful (i.e. the customer would pay smaller instalments under the debt relief scheme, with actual debt forgiveness applied only after a period of regular payments). Partial debt relief would be covered, given that debt reduced by provisioning on average is only 80 per cent of collateral value.

The portfolio of other financial intermediaries improved

In 2013 H2, the share of non-performing loans within total loans declined at financial enterprises. While the deterioration of the portfolio came to a halt in 2012 H2, there was a steep decline in 2013 H2 in the ratio of non-performing loans (Chart 61). In H2, the provision coverage of the total non-performing portfolio improved somewhat and exceeded 65 per cent. This ratio is significantly higher than the indicator in the banking sector. Considering that, for the most part, financial enterprises hold loans not covered by mortgage in their balance sheets, it is important to maintain this high level.

⁹It has to be taken into account that in case of burden sharing, if banks have to bear the costs of principal relief, then according to the accounting rules advance provisioning would be required for all expected losses.

Source: MNB.

Table 3 Key indicators of corporate portfolio quality at cooperative credit institutions

per cent	2011 H1	H2	2012 H1	H2	2013 H1	H2
90+ days delinquency ratio	25.0	25.9	26.9	28.8	28.7	22.4
Loan loss coverage	30.4	32.2	35.6	36.1	36.8	38.6
Cost of provisioning	2.2	2.0	1.9	1.9	1.8	0.5

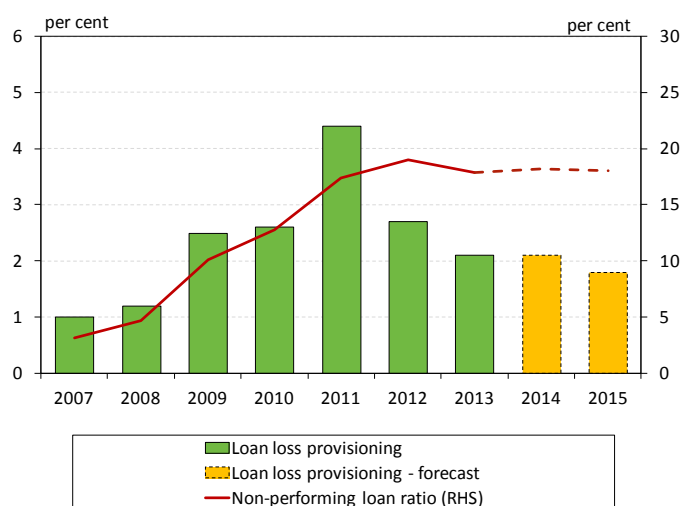
Source: MNB.

Table 4: Key indicators of household portfolio quality at cooperative credit institutions

per cent	2011 H1	H2	2012 H1	H2	2013 H1	H2
90+ days delinquency ratio	16.9	17.0	15.5	16.5	16.1	15.1
Loan loss coverage	45.3	46.2	47.0	47.2	50.2	53.1
Cost of provisioning	1.1	1.7	1.3	1.6	1.5	0.3

Source: MNB.

Chart 62: Ratio of non-performing loans and cost of provisioning in the corporate segment



Source: MNB.

The portfolio of cooperative credit institutions improved on the corporate side and on the household side as well.

After a period of stagnation in H1, the NPL ratio improved significantly in the corporate portfolio of cooperative credit institutions. However, the 22 per cent figure recorded at the end of the year is still higher than the banking system average. In addition, the improvement is largely due to a single institution. The cost of provisioning declined considerably in H2, but was still sufficient to slightly increase coverage. Loan loss coverage is much lower than the banking sector average, which may pose a risk. The household portfolio improved somewhat. On balance, the share of non-performing loans within the sector was 15 per cent at the end of the period. In line with the slight improvement, the cost of provisioning declined. At the end of the year, loan loss coverage amounted to 53 per cent, the same figure as reported by banks (Tables 3–4).

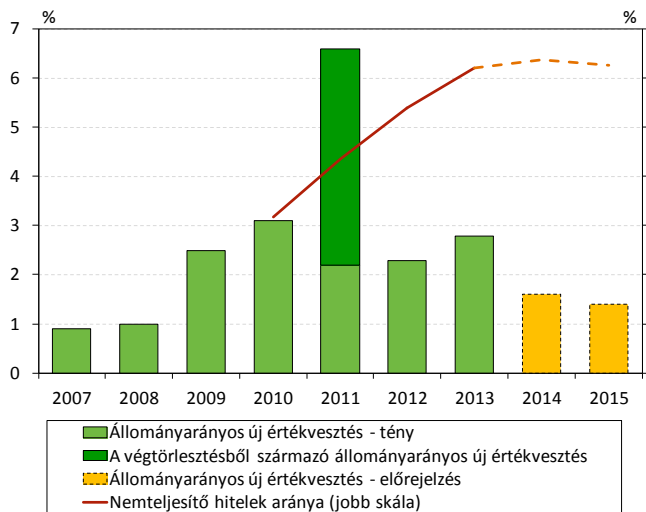
4.3. Portfolio quality is not expected to deteriorate significantly over the next two years

In view of the more favourable trend last year and the improving macroeconomic forecast, the corporate NPL ratio is expected to stagnate.

Although the share of non-performing loans within the corporate portfolio showed signs of improvement in 2013 H2, this reflected the extreme value of the cleaning ratio for the most part. The growth outlook improved, benefiting the income position of the corporate sector by reducing the probability of default. In addition, we foresee some improvement in other factors affecting the NPL ratio. Although the cleaning ratio is still not high overall, it clearly increased during the past one year and accordingly, we have adjusted the ratio slightly upwards in our forecast. The size of the corporate portfolio is expected to be maintained in the next two years, which also benefits the ratio. Thus, on balance, the NPL ratio may remain close to the currently observed 18 per cent level over the next two years.¹⁰ (Chart 62). With the slow increase in the NPL ratio the cost of provisioning may be lower than in previous years, provided that the loan loss provisioning behind currently non-performing loans is adequate thus no additional loan loss provisioning is required. Still, it is

¹⁰ Obviously, in the case of significant acceleration of portfolio cleaning, the NPL ratio may well embark on a gradual decline. Our assumptions regarding the cleaning process are based on historical data.

Chart 63: Ratio of non-performing loans and cost of provisioning in the household segment



Source: MNB.

not expected to drop to pre-crisis levels.

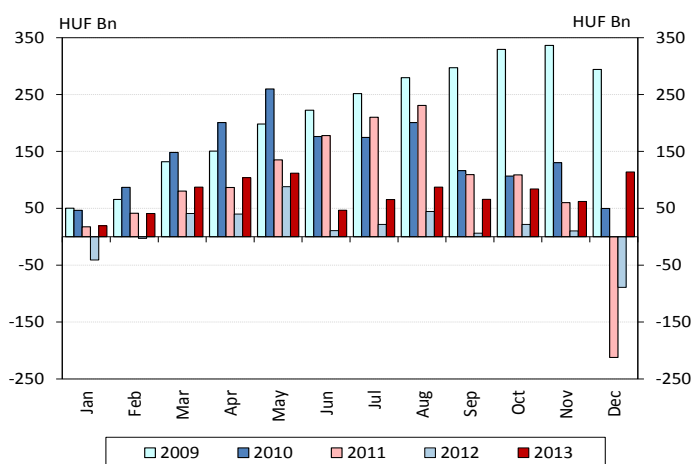
We expect a slight increase in the household segment in the coming two years. In order to curb the trend-like deterioration in the portfolio, a final decision is needed to address the problem of foreign currency debtors. This in itself would improve willingness to repay, thereby preventing a further increase in the NPL ratio. Our forecast was based on the assumption that the utilisation of the exchange rate cap will not increase further and that the portfolio cleaning rate will remain at the average level seen in the past two years. Thus, on balance, we still expect a slight increase in the NPL ratio this year, before it embarks on a gradual decline next year. The indicator may fall close to 18 per cent by the end of the period (Chart 63). If another programme is launched to reduce foreign currency indebtedness or utilisation of the exchange rate cap increases again, a major improvement can be expected in customers' ability to pay. As a result, the NPL ratio may reach an even better value. With only a slight rise in the NPL ratio the cost of provisioning may improve. At the end of the two-year horizon, the indicator may drop below the level of 1.5 per cent, assuming that the loan loss provisioning on current outstanding non-performing loans is adequate, and thus no additional provisioning is necessary.

5. PROFITABILITY OF THE BANKING SECTOR – PERSISTENTLY LOW PROFITABILITY IS AN OBSTACLE TO A BANKING SECTOR WHICH SUPPORTS SUSTAINABLE GROWTH

At the end of 2013, the cumulative pre-tax profit of the banking sector amounted to HUF 114 billion, which – after a significant one-off effect is excluded – declines to around zero. The profitability of the banking sector has been persistently low since 2010, while the asymmetry within the sector is extremely high. Looking ahead, profitability prospects also remain weak, and thus further operating cost reductions may come to the forefront, which can be achieved by exploiting synergies from fusions during consolidation of the banking sector. Given that the decline in risk-weighted assets (RWA) and the rate of capital injections carried out to offset accumulated losses exceed the growth in negative profit reserves, the capital adequacy ratio has reached a multi-annual high. Also in this respect, there appears to be a similarly pronounced level of concentration, as the three banks with the largest buffers account for over 60 per cent of the banking sector's free capital buffer, whereas their market share by total assets barely exceeds 40 per cent.

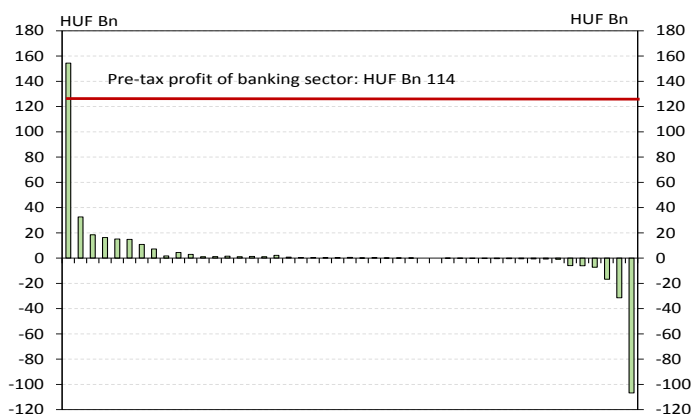
Cooperative credit institutions have continued to post pre-tax profits, amounting to HUF 2 billion overall. However, this figure reflects a steep year-on-year decline, which was brought about by reduced interest income and the conversion of more profitable cooperative credit institutions into banks. At the sectoral level, the adequate capitalisation of cooperative credit institutions conceals a strong asymmetry, the underlying risks of which are practically eliminated by the Integration Organisation's system of cross-guarantees. After four years of losses, financial enterprises posted a profit, albeit well below pre-crisis levels. To a significant extent, this was also due to the fact that some of the largest enterprises with massive losses under bank ownership have been merged into banks.

Chart 64: Pre-tax profit/loss of the banking sector and branches



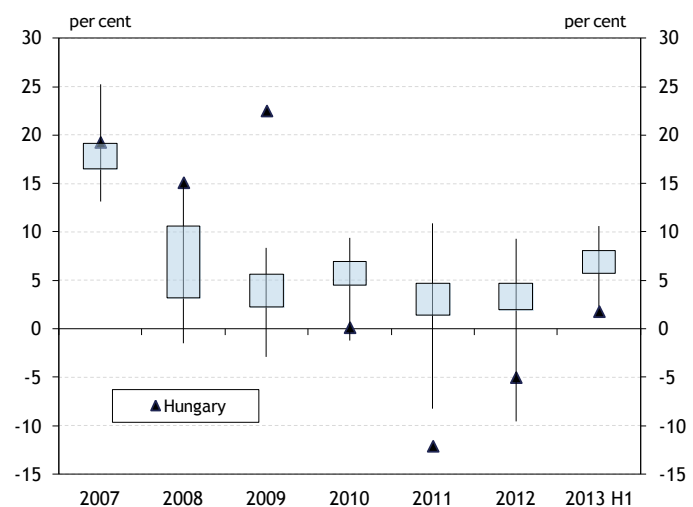
Source: MNB.

Chart 65: Pre-tax loss and profit of banks and branches at the individual level (data as of December 2013)



Source: MNB.

Chart 66: Profit after tax ROE in international comparison



Note: After taxation. The chart depicts the 40–60, 20–80 percentile value of the Member States' banking sectors together with the Hungarian banking sector's ROE.

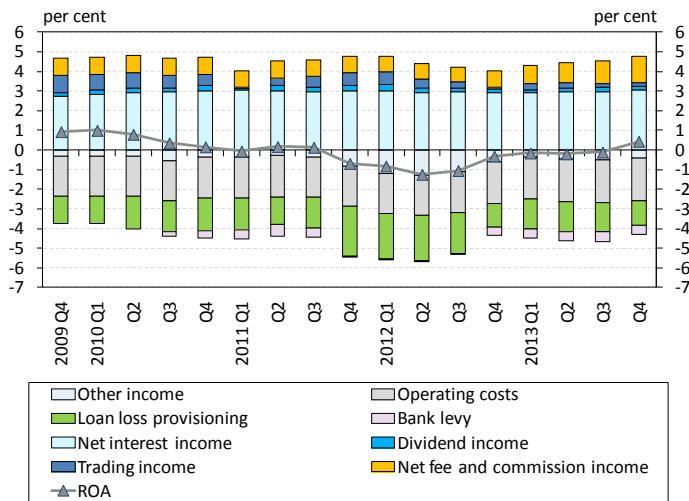
Excluding a one-off effect, the profitability of the banking sector was around zero, as opposed to the losses posted in previous years. At the end of 2013, the cumulative pre-tax profits of the banking sector amounted to HUF 114 billion (Chart 64). It is nevertheless important to keep in mind that such positive figures resulted from a parent bank's waiver on its receivables totalling HUF 120 billion, without which the banking sector would have seen its profitability reduced to around zero, which is substantially higher than the losses recorded over the past two years. The sector's pre-tax ROA and ROE indicators, were 0.4 and 4.2 per cent, respectively, which, in an international comparison, continues to indicate a competitive disadvantage in terms of profitability (Chart 66). As a result, domestic subsidiary banks are falling behind their peers in the region both in capital and fund allocations, which might lead to further balance sheet adjustments.

The asymmetry of profitability within the banking sector is extremely high. At the end of 2013, there were a total of 16 loss-making banks in Hungary (as opposed to 18 a year before). Their market share by total assets amounted to nearly 35 per cent, only slightly below the 40 per cent registered in December 2012. As mentioned before, an extremely high level of concentration is observed in pre-tax profits. On the whole, the banking sector's pre-tax profit of HUF 114 billion represents the balance of losses amounting to HUF 179 billion and profits amounting to HUF 293 billion. Of the total profit, 70 per cent originates from three banks, while considerable concentration is observed in the case of loss-making banks as well: the three banks with the highest losses account for 87 per cent of the gross loss of the banking sector as a whole. With the exception of three banks, loss-making applies mostly to large banks in foreign ownership, with the majority posting near-zero pre-tax profits (Chart 65).

Interest income represents the most stable source of revenue for the banking sector. Interest income to total assets has remained virtually unchanged. By contrast, net profit from commissions and fees has increased, due in part to the fact that these are the items under which banks tend to compensate for the transaction tax. Meanwhile, the tax actually being paid is listed under other costs. There has also been growth in trading income, mainly attributable to the exchange rate effect. This, however, was reduced by a parent bank's provisions for impairment concerning the sale of its subsidiaries, and a goodwill write-off by another bank in the amount of HUF 40 billion. There were significant losses last year that were not repeated in 2013, resulting in a decrease in other profits/losses, which

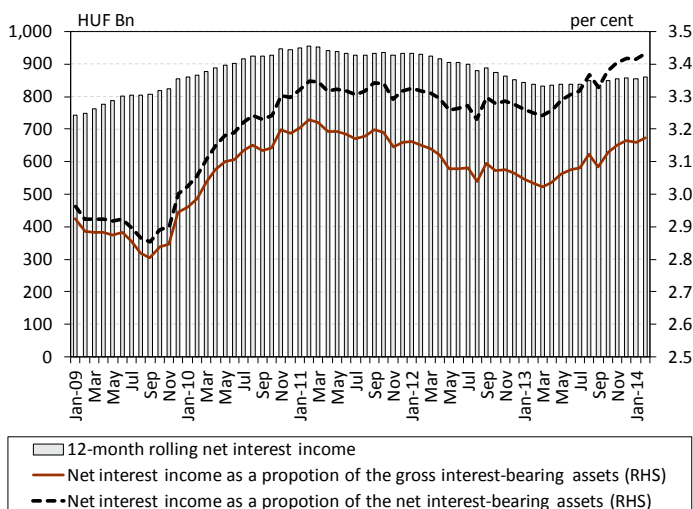
Source: ECB CBD database.

Chart 67: Aggregate 12-month main rolling profit items of the banking sector and branches as a proportion of the 12-month average balance-sheet total



Source: MNB.

Chart 68: Net interest income as a proportion of the gross and net interest-bearing assets of banks and branches



Source: MNB.

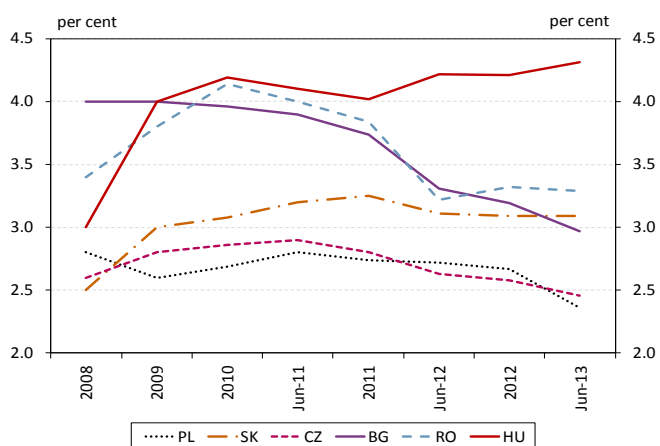
the aforementioned transaction tax only increased to a lesser extent. Moreover, other profits/losses were also reduced by the above mentioned waiver by a parent bank on its receivables. On the cost side, the level of operating costs declined slightly, but there was no material change in this figure compared to the level observed one year earlier. Provisioning during 2013 cost approximately HUF 360 billion (Chart 67).

Fiscal burdens rose in 2013. The bank levy on the banking sector during the year amounted to approximately HUF 128 billion, and there were no options to reduce the base last year. Added to this was the transaction tax, representing about HUF 200 billion in expenses overall, including the extraordinary transaction tax. As noted before, the rise in commission income and other expenses indicated that the tax was being passed on to customers, but this was a process difficult to reconstruct from profit statement data due to the banks' different settlement and charging practices. Looking at pricing, it became apparent that the tax had been passed on almost without exception. However, the extraordinary transaction tax was being collected by banks on a permanent basis – with a slight delay following payment – and not in a campaign-like fashion.

The interest margin has increased, primarily due to a decline in the volume of interest-bearing assets. In 2013, following a modest, but steady decrease in Q1, 12-month cumulative interest income stagnated, and then slightly rose during Q4. On an annual level, interest income has remained virtually unchanged, while interest income from both gross and net interest-bearing assets began to rise during Q4. Overall growth for the year was due to significant declines in the volume of gross and net interest-bearing assets (by HUF 750 and 970 billion, respectively), which means that banks are able to maintain steady interest income levels on a dwindling loan portfolio (Chart 68). Based on international data (consolidated with foreign subsidiaries and domestic financial enterprises), interest income by total assets – contrary to other countries – not only remains excessively high, but has even risen lately (Chart 69). Although the persistently high and rising level of the interest margin serves to offset provisioning and fiscal burdens (comprising the bank tax and the transaction tax), it might also indicate the dominance of banks in pricing and insufficient competition in the banking sector.

The future profitability of the banking sector is weakened by several factors. Loan losses and a high fiscal burden remain the primary causes of low profitability rates.

Chart 69: Interest income as a proportion of the balance sheet total of selected banking sectors (consolidated data)



Note: Total banking sector.
Source: ECB CBD database.

Looking ahead, profitability is expected to remain at subdued levels given the existing credit risks and fiscal burdens, while at the same time relatively muted activity and a low interest environment both suggest weaker profitability rates as well (see Box 7), even though the latter is somewhat offset by a rise in the volume of overnight deposits. Finally, profitability was further diminished by the MNB's increasingly stringent consumer protection measures imposed in early 2014, which in the future are expected to put limitations on the dominance of banks. As a result, further operating cost reductions may come to the forefront, which can be achieved by exploiting synergies from fusions during consolidation of the banking sector.

BOX 7: IMPACT OF CENTRAL BANK INTEREST RATE REDUCTIONS ON BANK PROFITABILITY

Since the summer of 2012, the MNB has steadily cut the key policy rate. The impact of the easing cycle on bank profitability is an important issue. In consideration of the fact that changes in bank profitability are of key importance from a stability perspective, we attempt in the following to summarise and quantify this impact mechanism. The cut in the key policy rate affects profitability through a number of direct and indirect channels. Banks' deposit and lending rates are the items most directly affected; in particular, the interest rates on outstanding portfolios (as opposed to new contracts) have special significance.

Overnight deposits and current account balances represent a substantial part of deposits. Since the interest rates on these are extremely low, they cannot be lowered in line with the key policy rate; therefore, the deposit margin is contracting. This is one of the most important negative effects of the interest rate cut on profitability. The impact of the easing cycle on fixed interest rate deposits is similar to that seen in the case of overnight deposits and current account balances as in their case, again, the interest rate margin decreases in tandem with the policy rate. As regards deposits pegged to a reference rate, the interest rate on the deposit tracks the key policy rate, leaving the interest rate margin unchanged which, therefore, does not affect profitability. As is the case with deposits, loans include both fixed and reference rate structures. In their case, the impact mechanism of key policy rate cuts is the same as in the case of deposit interests, but it works in the opposite direction. Fixed interest rate loans play an important role in the unsecured loan portfolio, and their profitability is affected favourably by interest rate cuts.

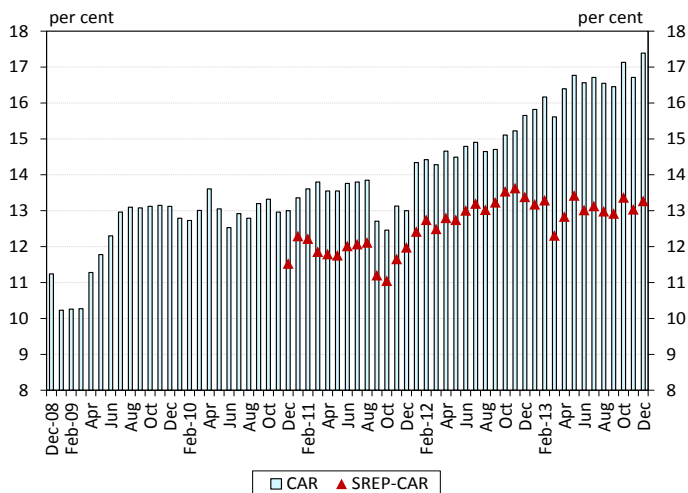
Changes in bank lending and deposit rates may influence profitability not only through the interest margins, but also through the loan and deposit portfolio. Interest rate changes have an impact on banks' financing structure through the propensity to save, which is also reflected in profitability. Likewise, interest changes affect demand for loans, which also influences profitability. In addition to the above, profitability is affected by the interest rate cuts through the repricing of certain balance sheet items. Finally, it is important to stress that (via the exchange rate) changes in the interest rates have both a direct and an indirect effect on loan losses.

We quantified the effect of the interest rate reduction using the method of stress testing. The review period was defined as the period lasting until 2013 Q2. The baseline scenario is a macroeconomic scenario that simulates the effects of a monetary policy which, after the interest rate cuts taking place up until 2013 Q2, leaves the key policy rate unchanged (at 4 per cent) over the entire forecast horizon. As an alternative path, we used a scenario where the interest rate level falls by another 100 basis points in two quarters, and subsequently remains unchanged until the end of the two-year time horizon. We calculated the profitability of the banking sector in both scenarios, and attribute the difference between the two paths to the effect of

the policy rate cuts.

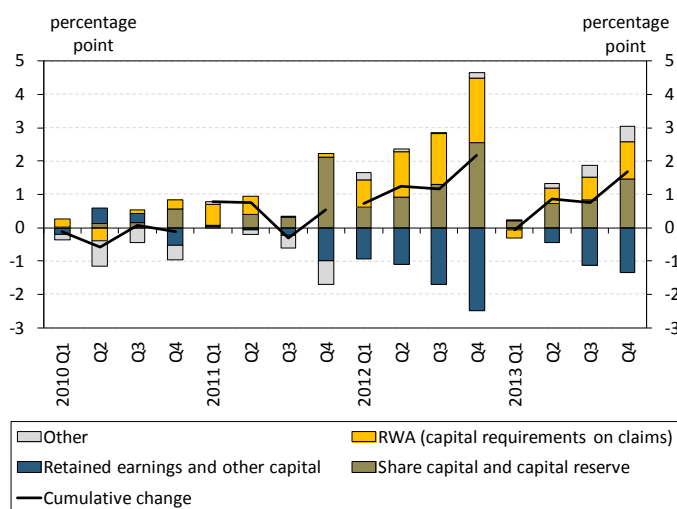
The findings show that the difference between the two scenarios is not overly large; in a period of two years, the profit generated by the banking sector in the alternative scenario was only HUF 14 billion lower. While this is not a negligible amount, it does not have a material impact on the transmission of monetary policy. It is important to note, however, that banking sector figures conceal a great deal of heterogeneity. The positive effect of valuation changes is predominantly linked to a single bank, while negative items affected several banks. It is also important to emphasise that the results are not independent of the basis, as the initial interest rate is also an important factor in developments in the alternative scenario.

Chart 70: CAR and SREP CAR of the banking sector



Source: MNB.

Chart 71: Factors affecting the cumulative changes in the capital adequacy ratio of the banking sector



Source: MNB.

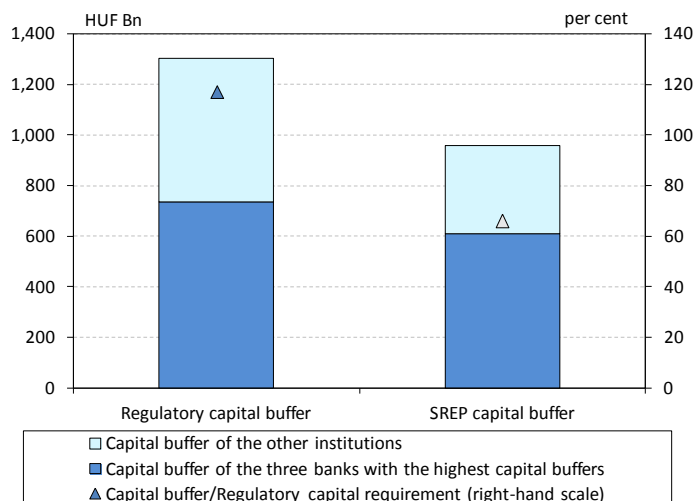
Capital adequacy is robust at the sectoral level, but capital buffers are concentrated.

From 15.6 per cent registered in December 2012, the capital adequacy ratio (CAR) rose to 17.4 per cent by December 2013. At the systemic level, capital adequacy remains satisfactory, with all banks registering CAR values above 9 per cent at the end of December 2013 (Chart 70). A decomposition of the change last year reveals that an increase in available capital and capital reserves – along with a decline in RWA – raised the indicator, while losses reduced it to a lesser extent. The rise in available capital and capital reserves was concentrated at a few major banks. Last year, the banking sector saw capital injections amounting to nearly EUR 800 million and, through the already mentioned waiver of receivables, negative profits that reduce regulatory capital were significantly lowered (with this latest figure, capital injections into banks since the onset of the crisis have amounted to nearly EUR 4 billion) (Chart 71). Also in this regard, there appears to be a similarly strong level of concentration, with the three best-cushioned banks disposing over 60 per cent of the banking sector’s capital buffer, while their market share by total assets barely exceeds 40 per cent. The total regulatory capital buffer exceeds the minimum capital requirement by 117 per cent.

As supervisory requirements are becoming more stringent, the SREP CAR indicator stands at a considerably lower level. As part of the ICAAP-SREP dialogue, supervision may, based on its dialogue with banks, impose additional capital requirements over and above the regulatory capital, if necessary. These are referred to as Pillar II capital requirements. As a result, the expected CAR indicator at the end of 2013 stands at 13.3 per cent for the banking sector as a whole, which indicating a tighter yet sufficiently solid capital position. The significant deviation between the SREP CAR and regulatory indicators is largely due to the need for impairment provisioning that has been revealed (Chart 72).

Consolidation has had a major impact on the profits of savings cooperatives and financial enterprises as well

Chart 72: Capital buffer of the banking sector (end December 2013)



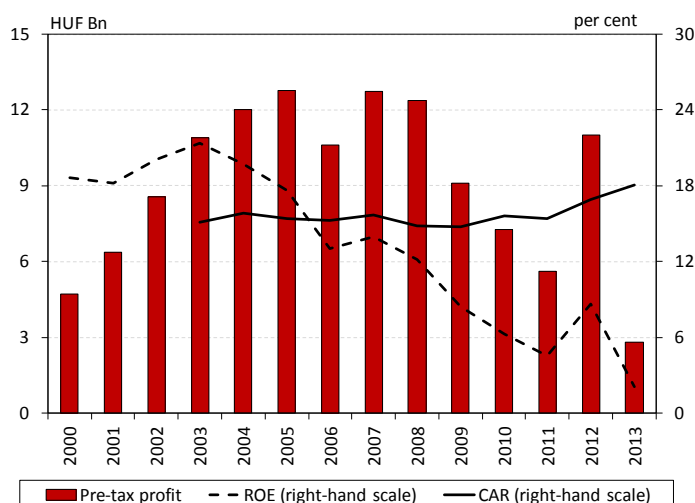
Source: MNB.

Table 5: Pre-tax profit/loss of financial enterprises

HUF Bn	Financial enterprises owned by banks	Financial enterprises without bank ownership	Sector total
2008	17,7	25,7	43,5
2009	-14,4	4,7	-9,9
2010	-39,9	-2,8	-42,5
2011	-38,7	-15,2	-54,1
2012	-30,0	-17,0	-47,0
2013	-11,0	15,0	4,0

Source: MNB.

Chart 73: CAR and ROE indicators and pre-tax profit of cooperative credit institutions



Source: MNB.

Financial enterprises posted a profit for the first time after four years of losses. Although pre-tax profits stood at HUF 16 billion after H1 and fell to HUF 4 billion by the end of the year, this was still the first time in four years that the segment was able to post a profit. Within the segment, enterprises under bank ownership continued to make a loss, even though this was due to significant provisions by a single enterprise (Table 5). However, a comparison with previous years' figures would be deceptive, as financial enterprises have restrained considerably their activity and some banks have merged their subsidiaries; therefore, all large loss-making financial enterprises are now listed in the balance sheets of respective banks.

Cooperative credit institutions show a pre-tax profit, albeit at a significantly lower level. The pre-tax profits of cooperative credit institutions amounted to HUF 2.8 billion, indicating a marked decline that was brought about mostly by a decline of HUF 9 billion in interest income. This was due to the fact that the decline in interest income far exceeded interest expenditures, given that the sector is traditionally characterised by its holdings of liquid assets whose rate of return has diminished lately. 2013 saw a number of mostly larger and more profitable savings cooperatives transform into banks, which deteriorated pre-tax profits even further. The sector's profitability ratio dropped considerably and the ROE was 2.1 per cent (Chart 73).

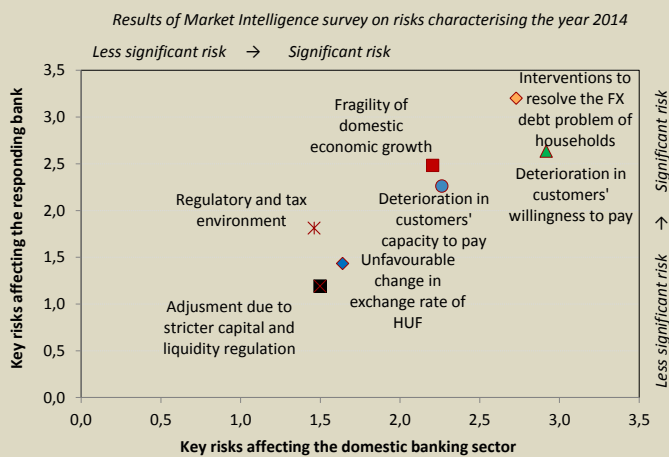
At the sectoral level, cooperative credit institutions show adequate capitalisation, with individual asymmetries practically being eliminated by the Integration Organisation. At 18.1 per cent, the capital adequacy ratio for the sector of cooperative credit institutions as of December 2013 indicates an adequate capital position at the aggregate level for the sector (Chart 73). At the same time, significant asymmetry is observed in capital adequacy at individual level, the relevant risks of which will be essentially eliminated by the Integration Organisation's system of cross-guarantees. This is further confirmed by the fact that the Integration Organisation was granted state subsidies in the amount of HUF 135.5 billion at the end of last year, greatly improving its capital position. At present, the sector's SREP CAR of 13.8 per cent also indicates strong shock-absorbing capacity. One of the underlying reasons for the high capital adequacy ratio is that the proportion of loans is low on the asset side of the balance sheet of cooperative credit institutions, while the ratio of government securities and interbank loans with low capital requirement is high.

BOX 8: BUSINESS EXPECTATIONS OF HUNGARIAN BANKS FOR 2014

In early 2014, as part of its 'Market Intelligence' survey, the MNB contacted Hungary's nine largest commercial banks and another two branches of foreign banks deemed significant in order to assess, through questionnaires and personal interviews, the financial institutions' relevant business concepts for this year as well as the risks they consider to be most important. Since the 2014 survey was the first to take place after the Hungarian Financial Supervisory Authority's integration into the MNB, supervisory personnel were also involved. While business planning continues to be characterised by a high degree of uncertainty, the survey's findings can be summarised as follows.

Boosting SME lending, promoting self-reliance in financing and improving the indicators of profitability and efficiency were equally listed as priority goals by all respondents. Those participating in the Funding for Growth Scheme all agreed that the programme had had a positive impact on SME lending. However, only a very few banks plan to step up their lending activity in other segments, with several major players continuing to expect contractions in the market this year as well. On the whole, total assets for the sector are estimated to be 3 per cent below the previous year's figure. The highest rate of contraction in lending will be in the retail segment. This year will see the banks' self-financing capacity improve, and while the high loan-to-deposit ratio of previous years will continue its downward trend, the sectoral average is still expected to remain above 100 per cent. As for the components of improvement, the contraction in lending is more pronounced, as only minimal growth in deposits is forecast at the sectoral level. It is encouraging that the Hungarian banking sector boasts positive liquidity ratios despite a decline in external funds. For the majority of banks that had been actively engaged in foreign currency lending, the ratio of non-performing loans is still very high and their portfolio cleaning is only progressing at a slow pace. The poor loan portfolio has a distinct impact on banks' profitability rates, which remain at depressed levels. According to banks' estimates, the need for impairment provisioning on the total loan portfolio might be somewhat smaller this year. This in part can foster improvements in profitability, enabling the sector to post a modest profit for 2014. Capital adequacy ratios remain well above prescribed levels, but some banks will have to rely on additional capital injections this year again. Owner commitment remains strong, a fact that is also confirmed by their capital injections. In general, the use of downsizing (branch closure, layoffs) as a means of reducing operating costs is not typical of the banking sector, even though some banks do have this tool

in their plans.



Note: Participants were required to select and rank top 5 risks threatening domestic banking sector, and being most challenging from point of view of their bank. In the case of risks threatening domestic banking sector, values were weighted with balance sheet total based market share of responding financial institutions.

Source: MNB.

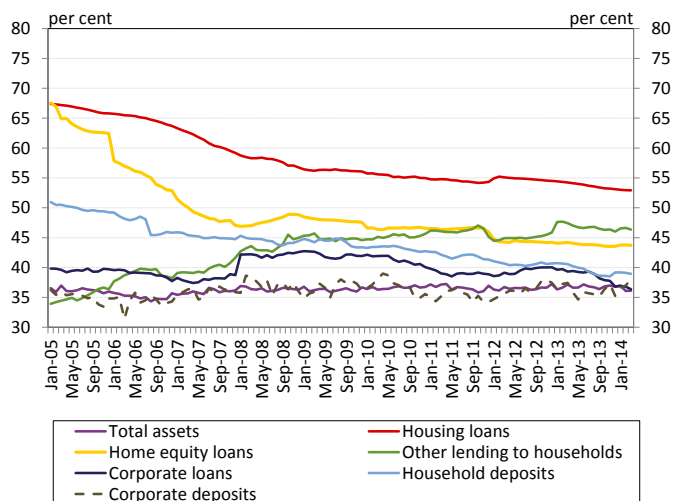
From the perspective of the banking sector and their own perspective, the risks most frequently cited by banks include the deterioration in customers' willingness to pay and the impacts of interventions to resolve the FX debt problem of households. Other important risks the deterioration in customers' capacity to pay and fragile growth in the domestic economy.

6. MARKET STRUCTURE – THE BANKING SECTOR CONSOLIDATION MAY POSE RISKS

Calculated on the basis of the outstanding portfolio, the level of concentration in the Hungarian banking sector is low; the aggregated market share of the three most active banks is below 50 per cent. Owing to the persistently low profitability of certain banks, a consolidation process may commence in the banking sector, in which major banks already present on the market may have a greater interest in acquisitions, as they are able to exploit cost savings via synergies in order to improve profitability. As a result, there is a risk that in certain segments highly concentrated market structures emerge, which might undermine competition and aggravate the problem of "too-big-to-fail" banks. Finally, an important aspect is

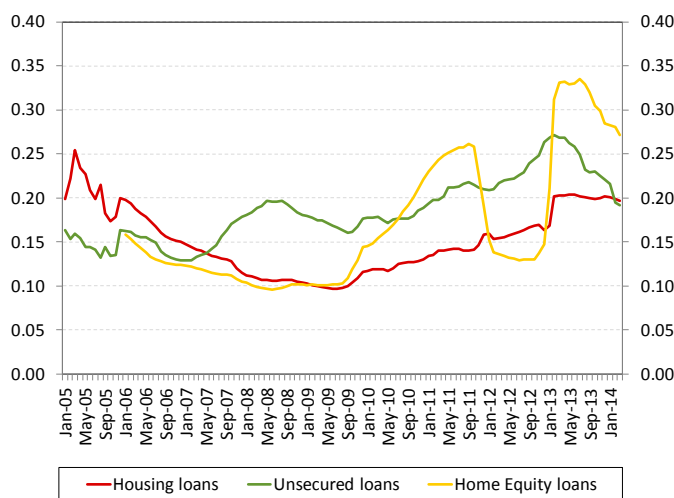
that the banking system shall remain sufficiently diversified in context of domestic and foreign ownership after the consolidation.

Chart 74: Market share of the three most active banks in certain sub-markets



Source: MNB.

Chart 75: Herfindahl-Hirschmann-index based on new business volumes in certain sub-markets



Source: MNB.

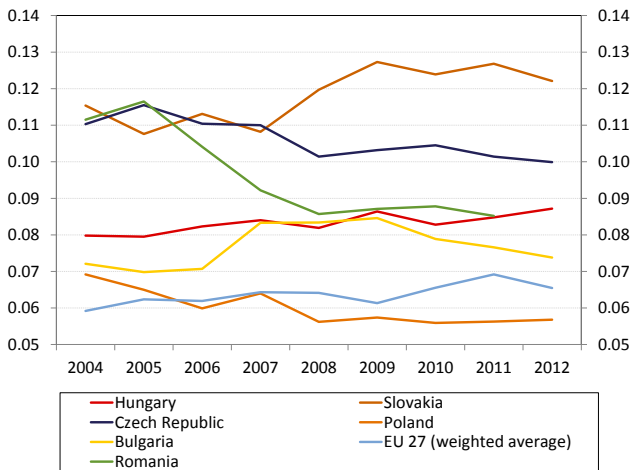
Note: Based on 12-month moving sums. The value of the HHI-index indicates low concentration under 0.15; between 0.15 and 0.25 it indicates concentrated, and above 0.25 highly concentrated market structure.

In most sub-markets, the market share of the three most active banks is below 50 per cent. While the share of the three largest banks (based on balance sheet total) has steadily hovered around 35 per cent in recent years, concentration in certain sub-markets exceeds this value (Chart 74). Moreover, the degree of concentration has changed significantly over time, which was most apparent in the household segment. At the beginning of 2014, the share of the three largest banks (based on outstanding portfolio) in the market of mortgage loans was 53 per cent for housing loans and 44 per cent for home equity loans, compared to values above 65 per cent recorded at the beginning of 2005.

Following the outbreak of the crisis, the level of concentration increased in the segment of new household loan contracts. Starting from the beginning of 2009, the increase in concentration was apparent in the new contracts of the main household loan segments (Chart 75). However, in the case of consumer credit this trend broke in 2013, and the concentration ratio started to drop. Nevertheless, the Herfindahl-Hirschmann-index (HHI-index) did not change materially during the year in the segment of housing loans. Since this high level of concentration prevails amid low volumes, for the time being, the concentration observed in new loans does not induce any changes in the concentration ratios based on loans outstanding. If the concentration ratio remains persistently high following the recovery of new contracts, it will give rise to the risk of banks' excessive market power and the emergence of low competition.

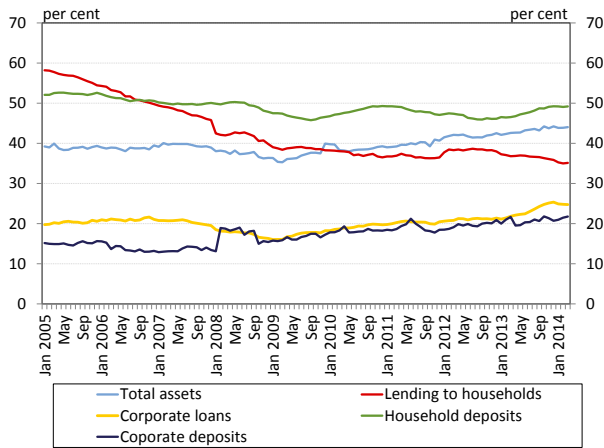
The concentration ratio of the Hungarian banking system is in line with the regional average. According to the HHI-index calculated on the basis of total assets, most European Union Member States are considered to have low concentration levels. Since the outbreak of the crisis, no clear trends can be discerned from changes in banking sector structures: while banking system consolidation was accompanied by an increase in concentration in certain countries, the value of the HHI-index dropped in nearly one half of EU Member States. Based on 2012 values, banking markets showed medium concentration ratios only in the Baltic states (Latvia, Lithuania, Estonia) and the Netherlands, while other regional countries recorded low concentration ratios (Chart 76).

Chart 76: Herfindahl-Hirschmann-index in international comparison



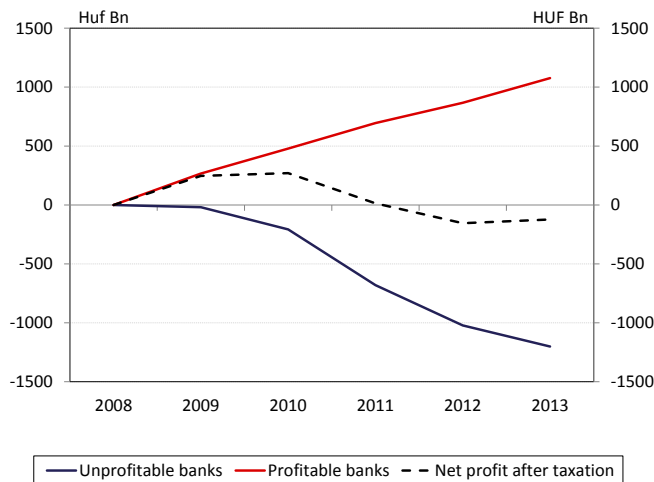
Source: ECB.

Chart 77: Market share of domestic banks in certain sub-markets



Source: MNB.

Chart 78: Cumulated net profits of profitable and unprofitable banks and the banking system since 2008



As regards ownership, it is important to have adequate diversification in the banking sector. The share of foreign¹¹ banks in Hungary is not excessively high by European standards. However, in the case of foreign-owned banks it may pose a risk that, when problems arising in the parent bank's country that could also be contagious to the host country's financial system. That is why it is important for parent bank countries to be sufficiently diversified in terms of geographical location and for Hungarian banks to maintain an adequate share in the banking system of the country. As regards sub-segments, the share of domestic banks in the corporate credit market can be considered somewhat lower, but since the outbreak of the crisis, a gradual increase has been observed in parallel to deleveraging by foreign-owned banks (Chart 77).

Low profitability may lead to consolidation and higher concentration of the banking system. A significant share of the banking system has been in the red for years (Chart 78), which might lead to consolidation within the banking sector. While it could present the opportunity of a more prudent and less procyclical banking system, it does not come without risks. Major participants already present on the market may have a greater role in acquisitions, as they are able to exploit synergies in order to improve cost efficiency. The uncertain economic environment and the burdens faced by banks may pose barriers to entry to the market for new institutions. Smaller domestic participants do not have enough capacity, while it may takes time for the integration of cooperative credit institutions to function as an integrated organisation from operational aspects as well. As a result, there is a risk that in certain segments highly concentrated market structures may emerge, which could undermine competition and aggravate the problem of "too-big-to-fail" banks.

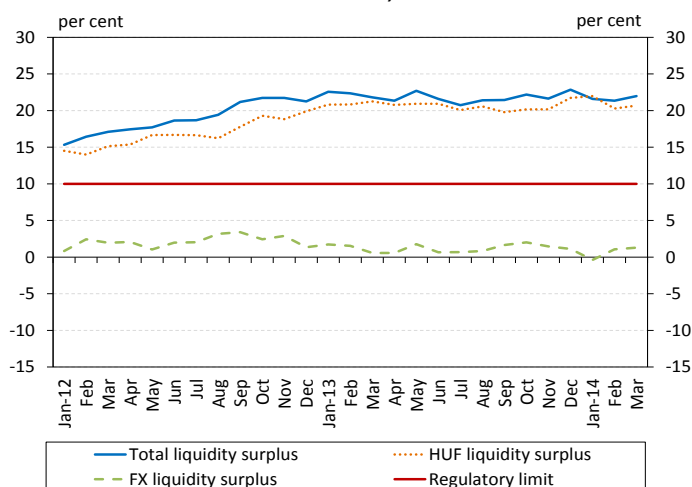
¹¹ The expression 'foreign/foreign-owned banks' refer to institutions with a strategic foreign owner. It does not include majority foreign owned banks held in shares scattered among owners on the stock market.

Source: MNB.

7. BANK LIQUIDITY –VULNERABILITY IN FINANCING DECLINES FURTHER, AMIDST HIGH LIQUIDITY

In 2013 H2, banks' already substantial liquid assets expanded further, thereby reducing systemic liquidity risks. The banking sector's balance sheet adjustment continued on the liability side: reliance on external funds decreased further and in line with this decline the loan-to-deposit ratio dropped below 110 per cent. At the same time, owing to outflows of deposits, the ratio decreased at a far slower rate than in previous years. The share of overnight deposits and current account balances in household deposits increased significantly, which raises liquidity risks. Over the long run, the continuing outflow of household deposits may present a challenge for a (more self-financing) banking system that relies on domestic funds.

Chart 79: 30-day liquidity surplus as a proportion of balance sheet total broken down by currencies



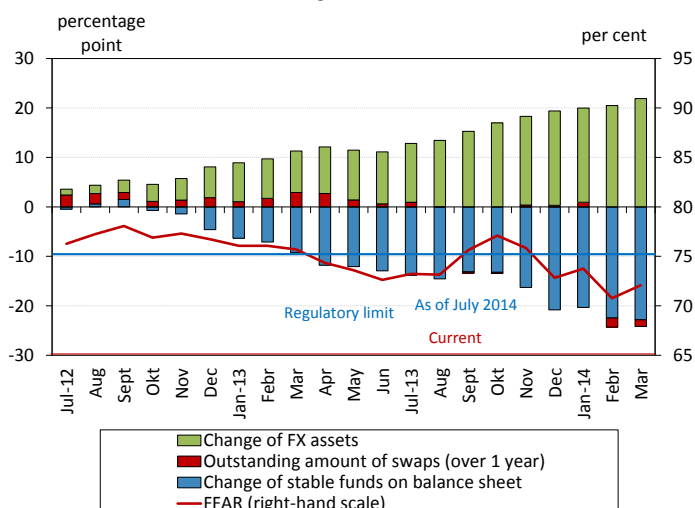
Source: MNB.

Vulnerability declines further on the liability side

While the banking sector continues to have ample liquidity, most of this is denominated in forint. The liquidity buffer of the banking sector¹² increased by HUF 200 billion to HUF 5,720 billion in 2013 H2, while the balance sheet total contracted. This raised the balance sheet coverage ratio by 1 percentage point to 23 per cent. At the end of 2013, all institutions easily met the regulatory requirement of 10 per cent. However, the majority of this liquidity is still denominated in forint, and the average level of foreign currency liquidity in 2013 barely reached 1 per cent of the balance sheet total (Chart 79). From 2015 will see the introduction of the Basel liquidity coverage ratio (LCR)¹³, which uses substantially higher net outflows, with the intention of preparing the banking system for a more severe liquidity shock. Although the exact computation method of the ratio to be introduced in the EU is not known for the time being, the LCR is expected to be defined as minimum 60 per cent for 2015 and be gradually raised to 100 per cent by 2018. At the end of 2013, the LCR ratio computed based on the Basel methodology was 70 per cent for larger domestic banks.

The longer-term FX financing of the banking sector is still stable. The banking sector's Foreign Exchange Funding Adequacy Ratio (FFAR) remained practically unchanged compared to the value recorded at the end of June 2013, and continues to be well above the required level (Chart 80). At the end of 2013, all banks met the regulatory minimum of 65 per cent. The FFAR value computed for the banking sector as a whole stood at 74 per cent. As a result, banks are capable of complying with the even stricter

Chart 80: Changes in the Foreign Exchange Funding Adequacy Ratio (FFAR) and the decomposition of the change under the current regulation



¹² Liquidity buffer means the portfolio of liquid instruments as defined in Government Decree 366/2011 (XII. 30.) and the balance of the net outflow of funds within 30 days.

¹³ As opposed to the Hungarian balance sheet coverage ratio, the LCR is intended to regulate the quotient, rather than the difference, of liquid assets and net outflows.

BOX 9: REVISION OF THE FFAR BASED ON THE EXPERIENCE IN THE PERIOD SINCE ITS INTRODUCTION

During the financial crisis, the short-term foreign currency indebtedness of the domestic financial intermediary system contributed significantly to the external vulnerability of the Hungarian economy. The foreign currency indebtedness of the private sector in general and households in particular during the pre-crisis years, along with the related financing practices of banks, led to excessive maturity and foreign currency mismatches in the balance sheet of the banking system. The negative macroprudential effects of this trend did not subside during the crisis either, as – driven in part by profitability considerations – banks attempted to ensure their foreign currency needs by instruments of increasingly short maturity (including short-term FX swaps).

In order to alleviate the related systemic liquidity risks, in July 2012 the Foreign Exchange Funding Adequacy Ratio (FFAR) was introduced, requiring banks to cover at least 65 per cent of their long-term foreign currency instruments with stable foreign currency financing. The ratio is the quotient of stable foreign exchange funds plus net foreign exchange swap stock with a maturity of over one year and the weighted portfolio of the foreign currency denominated assets to be financed. Accordingly, the ratio is suitable for managing the maturity mismatch problem of both on-balance sheet and off-balance sheet foreign exchange positions simultaneously.

Experience in the period since its introduction has shown that, despite having been able to halt the deteriorating trend in respect of the shortening of external funds' maturities, the ratio was unable to prompt a substantial and gradual improvement in the maturity mismatches of the banking system's foreign exchange positions.

As of October 2013 the MNB, as a macroprudential authority responsible for measures aimed at the mitigation of systemic liquidity risks, is entitled to adopt decrees with a view to regulating the maturity and denomination mismatches of banks. Exercising this mandate, in the context of a comprehensive revision of the Foreign Exchange Funding Adequacy Ratio (FFAR), effective from 1 July 2014, the MNB is to adopt a new decree to regulate the maturity mismatches of credit institutions' foreign exchange positions.

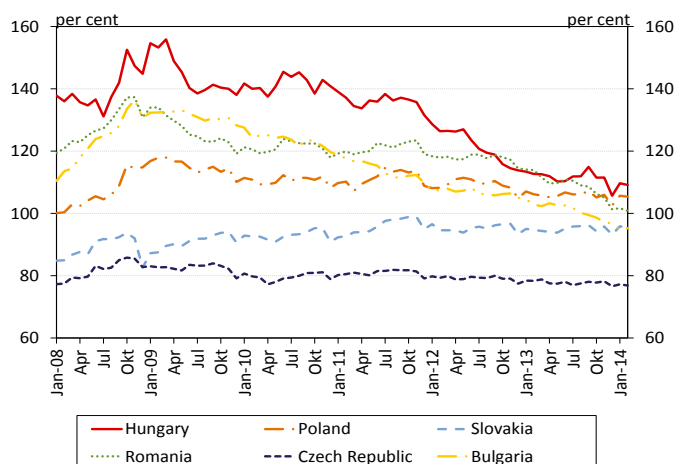
The new MNB decree is intended to mitigate the systemic risks arising from the excessive maturity mismatches of the banking system's foreign exchange positions, to prevent the emergence of such risks and to improve the resilience of the financial system. A further consequence of the regulation is to ensure that the costs incurred by the national economy due to the excessive maturity mismatches of foreign exchange positions are gradually taken over from the MNB (and hence, indirectly, from the general government) by the banking sector.

Based on previous experiences and consultations between the central bank and the relevant market participants, the MNB has reviewed the FFAR, including its expected level and the personal scope of the regulation. The MNB Decree on the maturity mismatch of the foreign exchange positions of credit institutions includes three important changes, which are not only more consistent with international regulations but also warranted by economic considerations: (1) in calculating the stable funding requirement, the regulation prescribes net accounting instead of gross accounting; (2) deposits are classified into stable and less stable categories, with a respective weighting of 90 per cent and 80 per cent instead of the uniform 80 per cent applied previously; (3) the previously applied 100 per cent weighting on foreign exchange denominated interests in assets is reduced to zero.

Moreover, the required minimum FFAR is being modified. The ratio, which is currently set at 65 per cent, is raised to 75 per cent as of 1 July 2014, followed by 5 percentage-point increases every six months until it reaches 100 per cent by 1 January 2017. The required level is justified by the easing of conditions arising from substantive changes, while the gradually rising trajectory facilitates participants' smooth adjustment to international stable funding requirements. Before each adjustment to the required level, the MNB will review the prevailing market conditions and modify the announced trajectory if necessary.

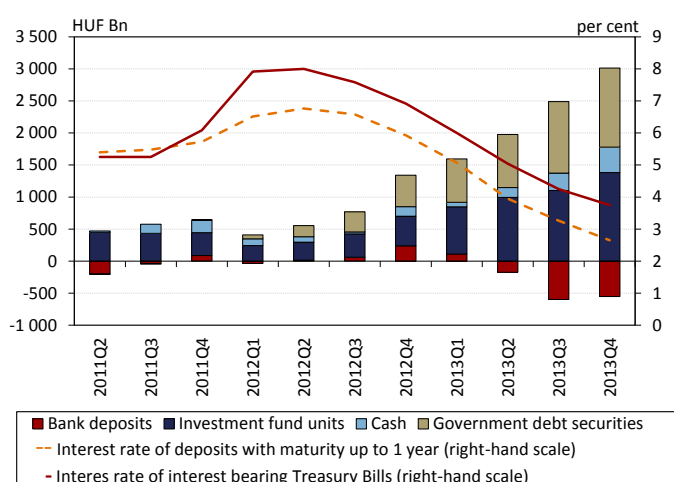
Finally, the scope of the regulation will be extended to the Hungarian branch offices of foreign credit institutions. The extension of personal scope will improve the efficiency of the FFAR as a macroprudential instrument and reduce the possibility of regulatory arbitrage.

Chart 81: Changes in the loan-to-deposit ratio in international comparison



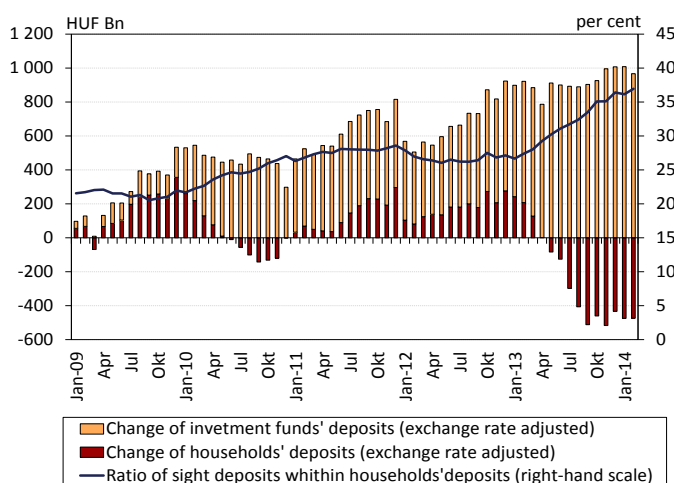
Source: MNB.

Chart 82: Cumulated transactions of households' financial accounts versus interest rates on household deposits and Treasury bills



Source: MNB.

Chart 83: Cumulative change of deposits and the ratio of sight deposits



Decline in the loan-to-deposit ratio was only moderate.

The banking system's loan-to-deposit ratio fell sharply during the crisis, dropping from its peak of nearly 160 per cent to around 110 per cent (Chart 81). This decline, however, slowed sharply in 2013 H2 and, following a moderate fall, the value stood at 107 per cent at the end of February 2014. The deposit outflow of households owing to low deposit rates contributed to this moderation, while improving lending trends also decelerated the decline in the ratio.

Over the long run, the reallocation of households' savings may present a challenge for a (more self-financing) banking system that relies on domestic funds.

In the context of low yields, instruments promising higher return are becoming more attractive. Moreover, besides their more favourable tax treatment, returns on household Treasury bills are 1 percentage point higher than the average deposit rates. Households are investing a larger portion of their savings in government securities and mutual funds; in 2013 H2 both forms of savings recorded inflows in the range of HUF 400 billion, respectively. The funding risks of this phenomenon are likely to emerge over the long term, as banks can rechannel a large portion of mutual fund inflows into their balance sheets currently, while they can also exert a significant impact on the demand for government securities through their own commission structure. Due to their commission, banks are particularly active in the distribution of these products (Chart 82).

The share of overnight deposits and current account balances in household deposits increased significantly, therefore raising liquidity risks.

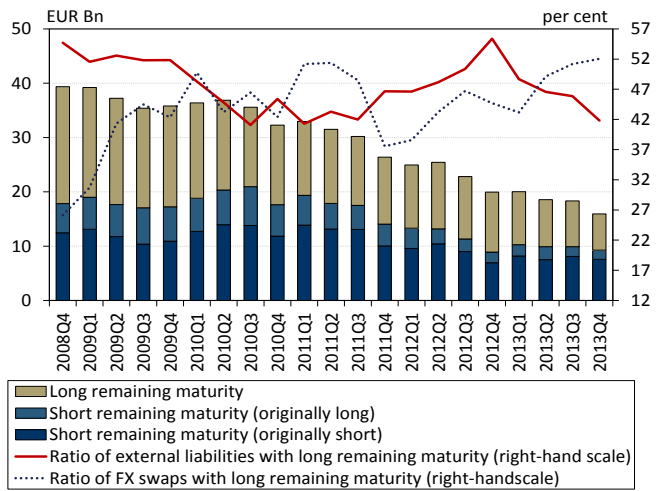
In addition, the low interest rate environment increase the willingness to hold cash, which is further encouraged by the transaction levy and the option of free cash withdrawal. As a result of these latter incentives, cash holdings increased significantly at the expense of bank deposits, and the share of overnight and current account balances increased in bank deposits. While the former raised financing risks, the latter increased liquidity risks (Chart 83). It is also clear that, while the increase in households' government securities holdings is driven by the interest spread between short-term bank deposits and Treasury bills, the trend growth in cash savings can be linked to the introduction of the financial transaction levy in 2013.

The role of external funds in banking sector financing is steadily waning.

External funding has fallen to more than half of its pre-crisis level, in one of the largest adjustments

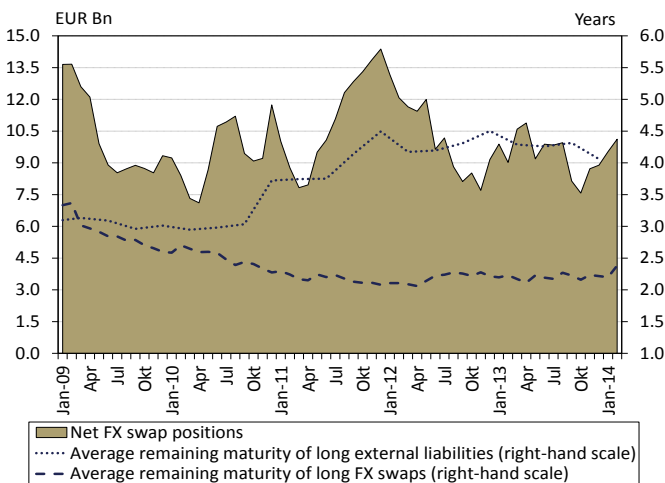
Source: MNB.

Chart 84: Changes in the external funds of the banking sector and the share of long-term financing



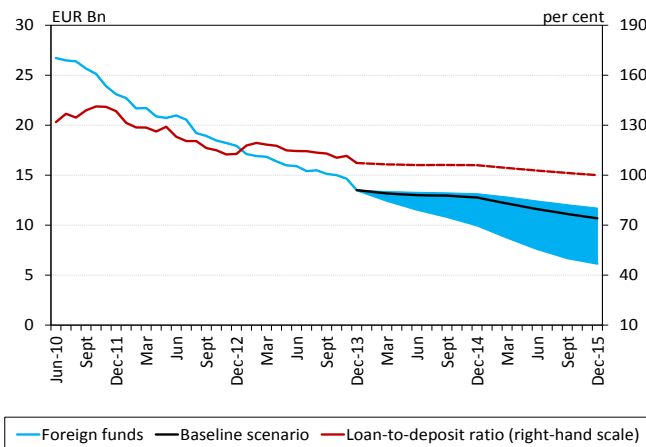
Source: MNB.

Chart 85: Net FX swap position of the banking system and the average remaining maturity of long term external liabilities and FX swaps



Source: MNB.

Chart 86: Development of banking system's foreign funds and the loan to deposit ratio through the forecast horizon



in the region, which decreased by another EUR 2.6 billion in 2013 H2. Consequently, reliance on external funding has moved toward the regional average, but as a percentage of GDP it still exceeds that average by nearly 5 percentage points. The decline since the outbreak of the crisis affected both short-term and long-term funds. In 2013, however, the rate of decline was far more pronounced for long-term funds, which fell from a level of 50 per cent to 42 per cent (Chart 84). The share of long-term funds within interbank transactions was very modest in the last year, while the volume of transactions with a maturity of over five years fell to one seventh of the value recorded in the previous year. Taken together, these factors point to the contraction and increasing costs of long-term funding (see Box 10).

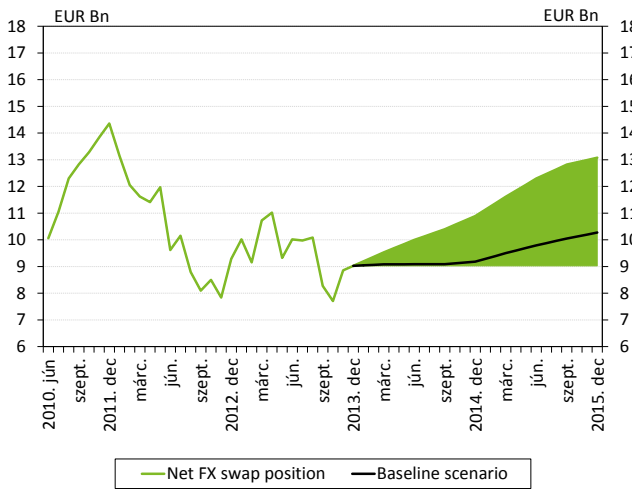
The swap exposure of the banking sector remains in the range of EUR 9–10 billion. Although the foreign exchange swap exposure of the banking sector remained unchanged overall in 2013, the share of swaps with a maturity of over a year has increased significantly since end-2012. It should be noted, however, that the expansion of long-term swaps does not fully offset the shortening of external funds, given that the average remaining maturity of long-term swaps is significantly shorter in the balance sheet items (Chart 85).

In the next two years, the decline in the loan-to-deposit ratio is expected to be moderate. By the end of the two years forecast horizon, the loan-to-deposit ratio is expected to drop to 100 per cent from 107 per cent at end-2013. Reflecting improving lending activity and lower deposit holdings, therefore the decline in the loan-to-deposit ratio is expected to slow further. In parallel to this, the outflow of external funds may decelerate considerably compared to previous years: in the baseline scenario, in the next two years the gross reduction of external funds is expected to be in the range of just EUR 2.8 billion, which would reduce external funds to EUR 10.8 billion, a level last observed before 2004. In the baseline scenario, we assume that banks use the entire (forint and foreign currency) liquidity inflow for the repayment of external funds in such a manner that repayments do not exceed the total amount of funds maturing in the above period. If banks use only foreign currency liquidity inflows for the repayment of external funds (the optimistic scenario), the expected reduction of external funds by the end of 2015 amounts to EUR 1.8 billion (Chart 86).

Owing to the relatively high stock of external funds, a more substantial outflow of external funds may continue to pose a risk. The outflow of external funds can take place in two different ways: on the one hand, banks may restrain

Source: MNB.

Chart 87: Forecast of net FX swap position of the banking sector

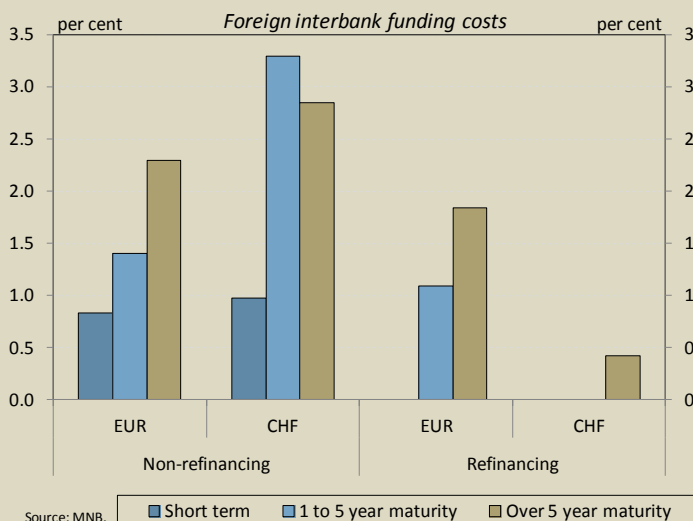


Source: MNB.

their lending to corporations or, on the other hand, they may take recourse to their liquidity reserves through swaps in order to repay external funds. In the latter case, assuming that they use only one half of their liquidity buffer and that banks are still willing to hold a substantial amount of excess liquidity, banks could reduce their external funding by more than one half. Thus, in the worst case scenario, the external liabilities of the banking system could be reduced by EUR 7.4 billion in two years, while swap holdings may rise sharply, increasing liquidity risks (Chart 87).

BOX 10: THE PRICING OF EXTERNAL INTERBANK FUNDS

At the end of 2013, nearly one half of the external liabilities carried in the balance sheet of the banking sector (HUF 4,730 billion) was unsecured interbank funding,¹⁴ in the amount of HUF 2,330 billion. Given that a large portion of these funds comes from foreign group members (parent banks, subsidiary banks or other members), through intra-group income transfers, their pricing may significantly impact the profitability of the Hungarian banking sector. As regards the foreign currency structure of these funds, at the end of 2013, 45 per cent of the stock was EUR-denominated funding, while the share of CHF, forint and USD-denominated funds was 30, 13 and 12 per cent, respectively, with other currencies accounting for less than 1 per cent of the stock. In respect of remaining maturities, short-term liabilities account for nearly 60 per cent of the total portfolio (around HUF 1,330 billion), roughly two-thirds of which (HUF 1,000 billion) matures within the next three months. The vast majority of forint and USD funds is included in the latter maturity category.



Source: MNB.

According to original maturity, the cost of short term loans is below 100 basis points, i.e. significantly higher than the near zero per cent EUR and CHF benchmark interest rates. For longer maturities, the cost of external funding is 1.5 per cent, while in the case of original maturities of over 5 years the cost amounts to 2.3 per cent. The cost of CHF-denominated funds is much higher at 3 per cent which, however, can be attributed to the higher transaction fees associated with CHF borrowing. Based on the benchmark yield curves of EUR and CHF-denominated government bonds and the Hungarian sovereign credit risk (the latter of which is 100 basis points for a one-year horizon and over 200 basis points for a horizon of five years), the pricing of long-term funds is high in nominal terms; on the upside, however, it only

partly reflects the Hungarian sovereign credit risk.

This can be partly explained by the fact that these are mostly parent bank funds received by subsidiaries in previous periods

¹⁴ Unsecured interbank funding: with the exception of interbank loans and deposits extended as subordinated debt, interbank loans and deposits not secured by collateral.

when foreign currency funding was still favourable. Parent banks barely provide new, long-term external funds; indeed, in 2013 domestic banks borrowed long-term external funds from the unsecured interbank market in an amount worth just HUF 200 billion, the total of which was provided by their parent banks. Of this, funding with a maturity of over five years was negligible and extremely expensive. On the whole, it appears as though banks perform cross-pricing: they price short-term loans relatively more expensively to ensure that, taken together with the long-term loans extended previously with more favourable conditions, both liquidity risk and sovereign risk premia are reflected in the cost of funds.

In the case of EUR and CHF-denominated funds, including especially along longer maturities, a significant stock provided for refinancing purposes (HUF 490 billion), which reduces the premium over the total portfolio. The funding provided for refinancing purposes is far more favourable, primarily comprising preferential loans from multilateral institutions, which do not include any sovereign risk premia.

8. LIQUIDITY AND SOLVENCY STRESS TESTS – LOWER CAPITAL REQUIREMENTS IN THE STRESS SCENARIO DUE TO CAPITAL INJECTIONS BY FOREIGN BANKS

Banks' short-term liquidity is mainly available in forints, and the level of this liquidity amounts to more than twice the regulatory requirement. The stressed liquidity surplus of banks also exceeds the regulatory minimum, but only consists of forint reserves. As a result, smooth functioning of the swap market is essential in a protracted stress situation. The Liquidity Stress Index is 5.6 per cent, which means that, in the stress scenario, only a few actors in the banking sector would fall below the regulatory minimum. By late 2013, available liquidity buffers showed a modest increase. Moreover, another favourable aspect is that at the individual level all banks would remain liquid even in a stress situation.

In addition to the stress scenario which was previously used, we have prepared our calculations with a new stress scenario in this report. This new scenario includes materialisation of the risks which are currently considered to be the most significant, while the earlier stress scenario is now only used for the Solvency Stress Index. Capital injections at the end of last year and the beginning of 2014 not only compensate for the negative impacts of the significant losses recorded in 2013, they also reinforce the capital position of weakly performing banks. This is confirmed by the Solvency Stress Index, which yielded the lowest figure seen in the last four years. In the stress scenario, expected losses have increased somewhat since the previous stress test, mostly due to a weaker exchange rate path. Nevertheless, only one major bank continues to show a need for capital over a two-year horizon, whereas the systemic need for capital would only amount to HUF 16 billion. The systemic need for capital is low, primarily as a result of capital injections in the first quarter.

Table 6: Main parameters of the liquidity stress test

Assets			Liabilities		
Item	Degree (per cent)	Currencies affected	Item	Degree (per cent)	Currencies affected
Default on interbank assets	20	HUF	Withdrawals in household deposits	10	HUF/FX
Exchange rate shock on swaps	15	FX	Withdrawals in corporate deposits	15	HUF/FX
Depreciation of assets eligible at the central bank	10	HUF			

Note: The forward-looking treasury gap assumes no active treasury management on the part of the bank; hence, it does not take into account rollovers of maturing interbank and foreign funds.

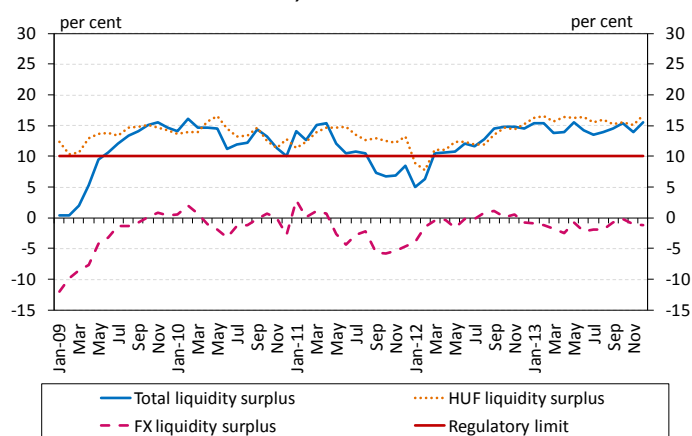
Source: MNB.

8.1. Liquidity position remains solid in the stress scenario

The short-term, complex liquidity stress test measures the effect of an assumed simultaneous occurrence of financial market turmoil, deposit withdrawal and an exchange rate shock. In determining household and corporate deposit withdrawals and the price decline of central bank eligible securities, we applied so-called value-at-risk (VaR) type stresses calculated on the basis of historical data. The magnitude of the exchange rate shock is consistent with the data of our macro stress scenario. Crisis experiences were taken as a basis for determining the other stress measures (Table 6).

The stressed liquidity surplus of banks also exceeds the regulatory minimum, which only comprises forint reserves while the foreign currency shortfall is marginal. The 30-day forward-looking stressed liquidity surplus was above the required minimum and it rose during the year. After the

Chart 88: 30-day stress liquidity surplus as a proportion of total assets by currencies

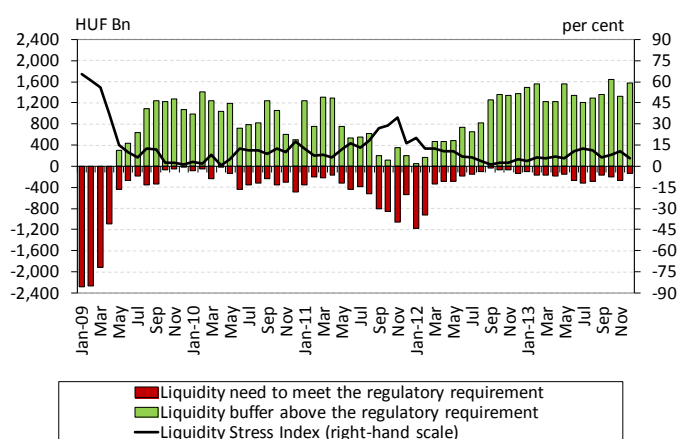


Source: MNB.

stress, however, only forint liquidity remains, and a shortage of foreign exchange evolves, albeit only to a moderate degree (Chart 88). As a result, a smooth functioning of the swap market is essential in a prolonged stress situation.

After a slight increase in the first half of the year, the Liquidity Stress Index began to fall, posting a low year-end value. The Liquidity Stress Index shows the extent to which the liquidity buffer of banks falls short of the regulatory limit of 10 per cent to total assets, and the number of banks experiencing a shortfall. Taking account of the extent of the deviation from the regulatory limit as well and then weighted by banks' total assets, the value of the index amounts to 5.6 per cent. This means that if the stress scenario took place, the banking sector would be only slightly below the regulatory minimum. Compared to the level at the beginning of the year, the available liquidity buffers increased. It is encouraging that no bank would fall below zero, thus each bank would remain liquid even in a stress situation (Chart 89).

Chart 89: Liquidity Stress Index and banks' liquidity surplus or deficit relative to the regulatory level in the stress scenario



Note: The LSI is the sum of normalised liquidity deficits relative to the 10 per cent level, weighted by the balance sheet total. The higher the value of the index, the higher the liquidity risk in the stress scenario.

Source: MNB.

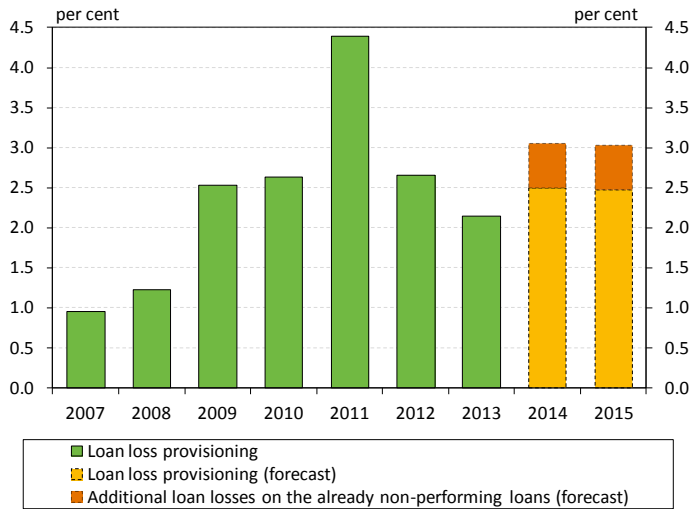
8.2. As a result of significant capital injections carried out at the beginning of the year, the stress scenario only entails minimal needs for capital¹⁵

We examined the shock absorbing capacity of the banking sector in a new, alternative stress scenario.¹⁶ Using the model employed in the *Inflation Report*, we constructed an alternative stress scenario as well, which covers materialization of the most significant current risks. Such risk factors include, for instance, negative developments in global risk appetite in relation to the vulnerability of certain emerging markets and the future use of non-conventional tools (e.g. tapering) by central banks of global significance, as well as worries about recurrence of the European sovereign debt crisis and the vulnerability of the banking system. These risks entail the exacerbation of woes for the real economy and tensions on money markets. This scenario is based on lower external demand and takes into account a gradually increasing and then stabilizing risk premium path caused by external factors. A growing risk premium causes the costs of funding to rise and, despite a

¹⁵ For a detailed analysis on the stress testing framework, refer to: Ádám Banai – Zsuzsanna Hosszú – Gyöngyi Körmendi – Sándor Sóvágó – Róbert Szegedi: Stress testing at the Magyar Nemzeti Bank, MNB Occasional Papers 109, 2013. http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/mnbhu_mnbtanulmanyok/MT109_vegleges.pdf

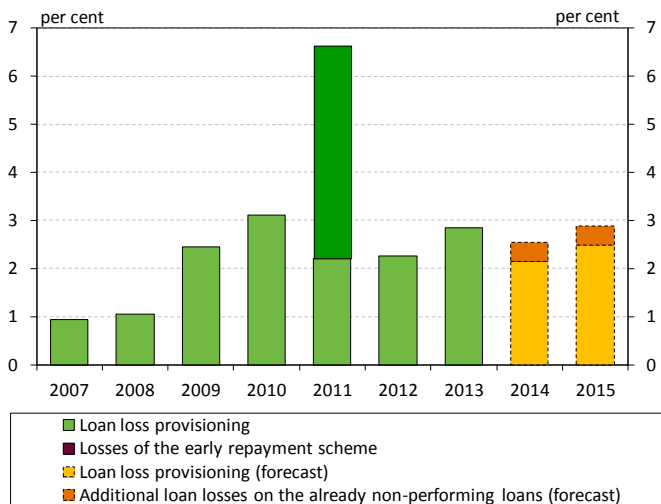
¹⁶ The previous stress scenario was only used for the calculation of the Solvency Stress Index. In this scenario, economic growth over the two-year period falls short of the baseline scenario by 4.3 percentage points, the exchange rate against the euro depreciate by 15 per cent and interest moves upwards by 300 basis points. As a result of intensifying risks and the worsening growth outlook, companies cut the number of employees, leading to a persistent deterioration in households' income position. Finally, we expect that banks will make further loan loss provisioning on non-performing loans, thus increasing their coverage.

Chart 90: Loan loss rate for the corporate portfolio in the stress scenario



Source: MNB.

Chart 91: Loan loss rate for the household portfolio in the stress scenario



Source: MNB.

Table 7: Impact of main risks on the profit of the banking sector in the stress test, over a two-year time horizon

	Main components of losses of banking system in eight quarter horizon (HUF Bn)	
	Baseline scenario	Stress scenario
Loan losses on corporate and household portfolio	467	843
Loan losses on new non-performing corporate loans	247	343
Loan losses on new non-performing household loans	219	366
Additional loan losses on the already non-performing loans		134
Loan losses on local government portfolio	5	11
Exchange rate risk of open position		-60
Interest rate risk		8
Bank levy	234	234
Interest cost of the exchange rate cap scheme	29	39

Source: MNB.

decrease in external interest rates, the exchange rate drops significantly, only showing a moderate recovery at the end of the two-year period. Due to the weaker exchange rate, exports begin to climb from the second year onwards, offsetting in part the setbacks in domestic consumption. As a combined result of these factors, the GDP path is only marginally different from that of the baseline scenario.

The weak profitability seen over the past two years is expected to remain in our stress test. The econometric model used for our profitability forecasts has been modified since our previous Report. Rather than splitting banks into two subsets for forecasting purposes as in the past, our current model leaves them in a single group. Profitability dynamics are explained by a list of balance sheet items scaled by total assets, as well as through market share data and individual interest rates and macro variables. In the stress scenario, earnings before loan losses typically amount to 60-100 per cent of the average of the last three years, depending on the bank concerned. The bank tax was taken into account over the entire forecast horizon.

Due to a deteriorating loan portfolio and a high volume of non-performing loans, provisioning for loan loss is expected to remain at a significant level in the stress scenario. The need for loan loss provisioning stems from two sources: the expected loss on loans that become non-performing and additional provisioning on the outstanding non-performing portfolio. As the baseline exchange rate in the current stress test is considerably weaker than before, the exchange rate path resulting from the exchange rate shocks is significantly weaker compared to our earlier stress tests. The expected losses on the substantial foreign currency loan portfolio are thus very high in the stress scenario. Consequently, additional provisioning for the bad portfolio also exceeded the previous maximum. The expected high loss rates are also confirmed by the fact that the corporate default rate, used as a proxy to illustrate the likelihood of company bankruptcies, resumed its upward trend in the second half of the year. On the whole, our stress scenario generates a relatively high ratio of loan loss to total loans for both households and companies. For companies, this is around 3 per cent, whereas for households it is slightly below this level (Charts 90 and 91).

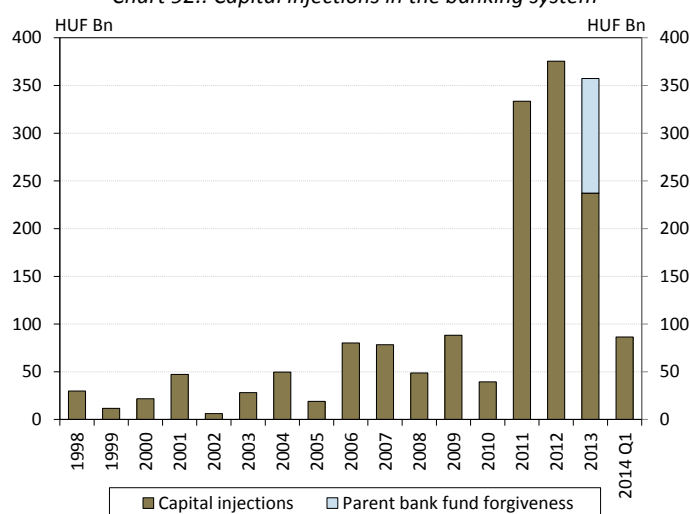
The profit achieved on the open exchange rate position far exceeds the loss on exchange rate shocks in both scenarios. In the market risk stress test, we look at the impact of interest and exchange rate shocks through the immediate revaluation of market exposures. In the case of the interest and exchange rate shocks as well, the average

Table 8: Stress test results with the regulatory capital adequacy ratio set at 8 per cent

	Baseline scenario		Stress scenario	
	End of first year	End of second year	End of first year	End of second year
Capital need of banks (HUF Bn)	0	0	0	16
Capital buffer of banks above 8 percent CAR (HUF Bn)	1 630	1 836	1 243	1 100
Total capital buffer (HUF Bn)	1 630	1 836	1 243	1 084

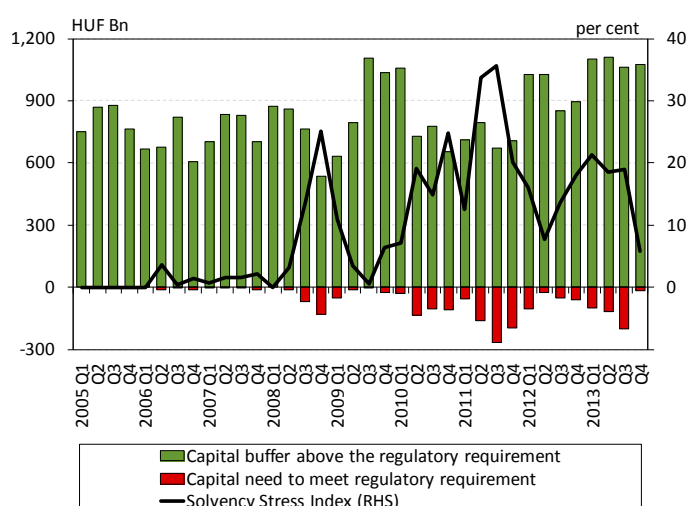
Source: MNB.

Chart 92.: Capital injections in the banking system



Source: MNB.

Chart 93: Solvency Stress Index



Source: MNB.

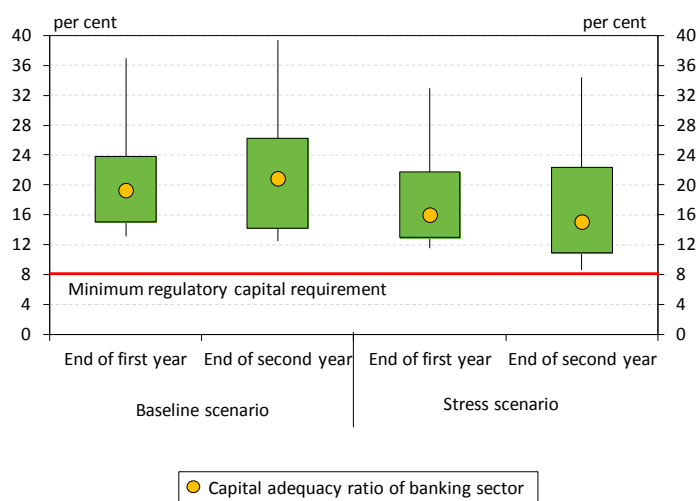
difference between the baseline and stress scenarios was used as the size of the shock. The resulting profit impact was evenly distributed over the two-year forecast horizon. The shift in the yield curve results in a system-level loss of approximately HUF 8 billion, stemming mainly from the revaluation of the government securities portfolio. In the stress scenario, the exchange rate depreciates by more than 15 per cent, which *ceteris paribus* (disregarding higher loan losses due to portfolio deterioration) boosts the profits of banks with foreign exchange surpluses, i.e. the majority of the banking sector, by approximately HUF 60 billion at the systemic level.

In the baseline scenario, every bank is able to meet the 8 per cent regulatory criterion, moreover all of them even exceed 9 per cent. Domestic banks continue to receive further significant capital injections from their parent banks. The losses incurred in 2013 were replenished, and subsidiary banks' capital position was actually strengthened early in the year. In addition, the capital position was improved by a decline in domestic banks' outstanding loans. By contrast, however, according to our forecast the banking sector's profitability potential will remain weak due to the shrinking stock of revenue-generating loans. As a result of these impacts, the banking system does not exhibit any capital shortfall in the baseline scenario, and the capital adequacy ratio of every bank even exceeds 9 per cent (Tables 8).

Despite poor profitability prospects and significant losses, the banking system's need for capital in stress scenario is minimal given the capital injection carried out this year. As usual, in the stress scenario we took into account the capital injections confirmed in the first quarter, which substantially improved the results in the case of two large banks. In the first year of the stress scenario, none of the banks would need a capital injection to meet the regulatory minimum. In the case of a persistent stress over two years, the amount of capital to be injected would rise to HUF 16 billion (Table 8), mainly affecting one large bank. This capital shortfall is historically low, but capital injection early in the year was required to achieve it (Chart 92). Continuous capital needs may reduce parent banks' commitment over the long term, but this commitment continues to be necessary to maintain stability. The Solvency Stress Index thus reached a historic low, and the current 5.8 per cent represents the lowest value in the last 4 years (Chart 93).

Although average capital adequacy is satisfactory, the aggregate indicator conceals significant heterogeneity. The capital adequacy ratio of the banking sector is robust,

Chart 94: Distribution of the capital adequacy ratio based on number of banks



amounting to nearly 21 per cent by the end of the second year in the baseline scenario (assuming no dividend payments), and 15 per cent in the stress scenario (Chart 96). However, this favorable indicator conceals considerable heterogeneity: the capital adequacy ratios of individual institutions are dispersed in a wide range by the end of the two-year stress period. Both stress scenarios feature two large institutions among the poor performers. In their case, it is especially important that parent banks remain committed to maintaining the institutions' stability.

Note: Vertical line: 10–90 per cent range, rectangle: 25–75 per cent range.

Source: MNB.

9. INSTITUTIONAL INVESTORS – SUBDUED ACTIVITY AT INSURANCE COMPANIES AND PENSION FUNDS, WHILE BROKERAGE FIRMS ARE CHARACTERIZED BY INCREASING BUSINESS VOLUMES

The insurance companies faced an ongoing shrinkage in their insurance premia, in parallel, life assurance savings also contracted. This trend, however, might be stopped by the tax allowance on pension insurance policies. Similarly to investment funds, the popularity of single and top-up premium life insurance policies increased. Az egyszeri és eseti díjak népszerűsége a befektetési alapokhoz hasonlóan nő. Within non-life insurance segment, the decline in motor third party liability insurance premia (despite rising risks) in recent years came to a halt; this promotes an improvement in stability of the sector. Changes in the tax regime resulted in an improvement in sector's profitability in 2013, exceeding the half of its level preceding the introduction of extra taxes. The insurance sector's capital position is sound: the solvency ratio, which does not include all dividends, stood at 200 per cent in December.

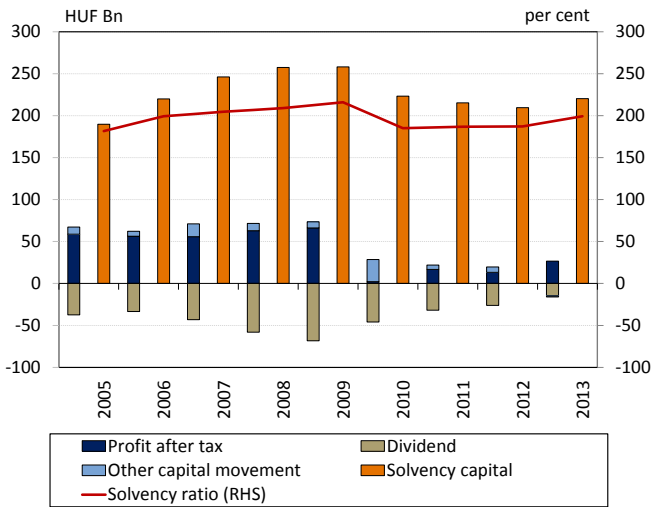
Consolidation of the voluntary pension funds continued, but as a new development, two financial groups also exited from the sector. The assets of voluntary pension funds increased, despite falling membership as a result of yields and member contributions. Due to the relatively low level, the payments after the end of the waiting period do not bear substantial risk in the voluntary pension fund sector.

The capital market picked up in 2013 as investment funds saw their popularity rise, while bank deposits fell amidst the low interest environment, as a result of which the profitability of investment funds improved. In addition to savings, part of the sector may have a role in the financing of emerging small enterprises, as venture capital funds rose markedly, expanding the range of financing alternatives available apart from the banking sector. Brokerage firms and investment funds do not feature any systemic risk on account of both its size and activities.

9.1. Profitability and capital position is adequate, but the motor third party liability insurance market poses risks

Primarily due to the changes in the tax regime, the insurance sector's profitability improved substantially as return on equity increased in 2013. The sector's return on equity after tax was 10.6 per cent in 2013, amounting to

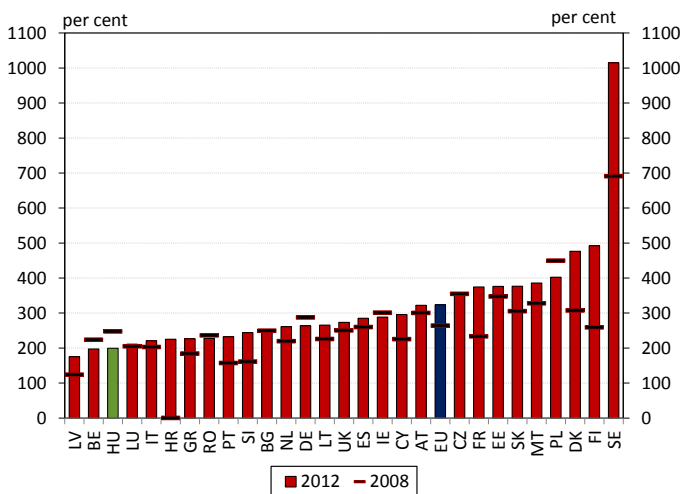
Chart 95: Changes in and determinants of insurance sector capital levels



* Audited data until 2012, with 2013 data not including total dividend.
Source: MNB.

just about one half of the pre-2010 figures. The life insurance segment shows stable profitability, with the 2013 earnings (HUF 17 billion) exceeding the average posted in previous years. Technical losses in the non-life segment (HUF -4.9 billion) stemmed mainly from the tax changes taking effect from the beginning of 2013: the HUF 4 billion fire protection contribution was abolished, while a HUF 27 billion insurance tax was introduced. The stagnation in premia testifies to the fact that the insurance sector tax has essentially not been passed on to customers. The HUF 23 billion investment income on the reserves of the non-life segment (which is not included in technical earnings) offset technical losses several times over. The continuing cuts to the base rate have only affected accounting returns slightly so far, but further slow decreases are expected. The improvement in total net profit in 2013 compared to the previous three years mainly stemmed from the reduction of HUF 33 billion in extra taxes.¹⁷ These changes resulted in a HUF 10 billion improvement in profitability in 2013 (Chart 97).

Chart 96: Capital level of the Hungarian insurance sector and changes therein compared to EU member states



Source: MNB.

The Hungarian insurance market's capital position is adequate, but is among the lowest¹⁸ in international comparison. The drop in net profit was only partially offset by dividends, entailing a decline in the capital position. By 2013, the Hungarian insurance market's degree of capitalisation was one of the lowest within the EU. While insurance sector capitalisation in most member states increased during the protracted crisis, in the case of Hungary it fell sharply (Chart 98). Nevertheless, it is important to note that international comparability is impeded by different accounting rules and methodology. True comparability will be made possible by the introduction of the Solvency II regulations from 2016 (Box 11).

BOX 11: THE EFFECT OF THE FINANCIAL CRISIS ON THE SOLVENCY II PROCESS

The European Parliament and the European Council adopted the Solvency II Directive on 25 November 2009. The directive harmonises and unifies 13 previous insurance sector directives and also sets out a new capital adequacy and prudential regulatory framework. The Solvency II Directive will effectively be applied from 1 January 2016, and insurers will come under or be removed from its scope from 31 December 2015 based on their quantitative indicators, characteristics and expected development. The risk-based approach plays a more central role in the new framework, in terms of establishing of both quantitative elements and corporate governance, along with a greater emphasis on harmonising the different regulatory frameworks applied in each member states. To ensure a smooth transition to live application of the new framework, the

¹⁷ The amount was not recognised within insurance activity, i.e. did not affect the profitability of different sectors.

¹⁸ The ratio of available regulatory capital and capital requirement for the entire market.

legislator drafted a set of transitional rules.

The Solvency II Directive was originally planned to be introduced on 1 November 2012, but introduction of the live system was postponed twice. The onset of the financial crisis in 2008 (followed by the emergence of a sustained low-yield environment and a rise in sovereign risks) and the feature of long-term life insurance policies containing guarantee(s) gave rise to many questions in terms of valuation and solvency capital requirement calculations.

The European Parliament's Committee on Economic and Monetary Affairs (ECON) held a Trialogue with the European Council and the European Commission. Through this discussion, an agreement was reached that the Solvency II framework must deal with the valuation of reserves created for insurance products containing long-term guarantees (common on developed markets) at the regulatory level. As the short-term volatility of market prices and sustained low yield levels on developed capital markets could give rise to adverse impacts upon the launch of the Solvency II framework.

With the participation of national supervisors, EIOPA tested the quantitative impacts of the proposed measures in the first half of 2013: the test was based on an assessment using 31 December 2011 data. As a result, the legislator essentially introduced new regulations on certain elements of Solvency II in the form of the Omnibus II Directive. The European Parliament approved the Omnibus II Directive on 11 March 2014, removing the obstacles to the progress of the Solvency II process in Europe.

The Omnibus II Directive contains various measures to handle adverse quantitative impacts:

- some of the measures are aimed at promoting asset-liability management and buffering the impact of volatility on solvency capital by offsetting the effect of asset-side price volatility when evaluating reserves;
- others are aimed at eradicating impacts arising from the low interest rate environment in transitioning to the Solvency II framework;
- one measure is intended to serve as a measure of "last resort" and would allow the provisional violation of regulatory capital adequacy in the case of exceptionally adverse events.

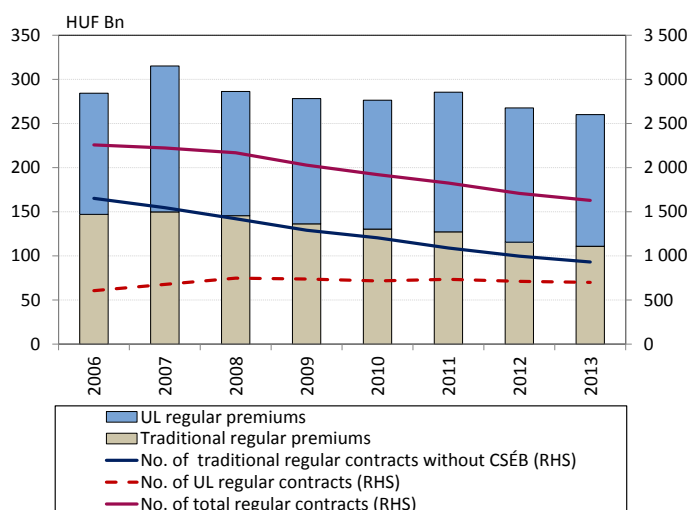
Due to relatively short history of the insurance market in Hungary, long-term products substantially affected by the adverse quantitative impacts have not yet appeared on the market. The impact assessment carried out in Hungary in the first half of 2013 revealed that the measures did not have a significant impact on the Hungarian insurance market's capital position, based on the data for end-2011.

In the first half of 2014, MNB asked Hungarian insurance companies to carry out another quantitative impact assessment based on the data for 31 December 2013, with particular regard to the potential impacts of the macroeconomic changes since 2011 and the changes introduced by the Omnibus II Directive. EIOPA is carrying out stress test studies across Europe from May 2014, supplemented by a low yield environment study. The latter study seeks to assess the impact of various low-level yield curves on insurers' Solvency II financial position and on strategies related to asset composition and the life insurance product range. The current forint yield levels in Hungary – in contrast to the euro yield levels of certain euro-area member states – have no real impact on insurers' financial position at a sector level, but a sustained low forint yield environment could result in (reinvestment) risks under the current accounting rules. On account of the different assessment rules introduced under Solvency II, changes in the yield environment play a bigger role, and at the same time, in order to facilitate transition to Solvency II, the legislator has included special measures to address the issue of a low yield curve.

The contraction in life insurance savings may be halted by the tax allowance on pension insurance policies. Taking into account the tendencies of recent years, the life insurance with recurring premium was driven back both from number of policies as well as from portfolio size point of view. The unit-linked life insurances with recurring premium are stagnating, thus aggregately the life insurance with recurring premium is losing ground among savings. Az elmúlt évek tendenciáit figyelembe véve látható a folyamatos díja életbiztosítások visszaszorulása mind a

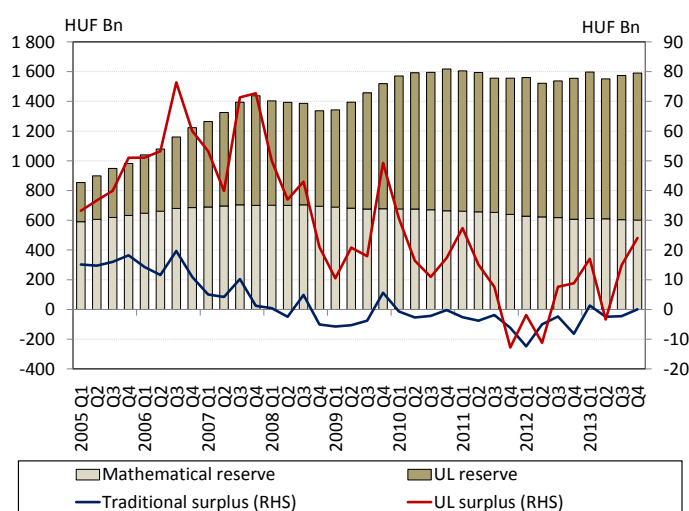
darabszám, mind pedig az állomány tekintetében. A folyamatos díjas befektetési egységhez kötött életbiztosításoknál (unit-linked) stagnálás figyelhető meg, vagyis összességében a folyamatos díjas életbiztosítások teret vesztenek a megtakarítások piacán. Over the past eight years, the gradual phasing out of tax allowances has led to a trend-like decline in net payments (decreased by the services used) in the case of regular-premium life insurance policies (Chart 99). The financial crisis, which hit Hungary in 2008, did not change this trend. In the case of traditional life insurance products, this process started in 2005 and from 2008 it took the form of actual withdrawal of funds. Unit-linked insurance was still shored up by higher yield prospects in 2007, higher commissions and exemption from withholding tax on interest, but the search for financial resources by households prompted from the economic crisis and early mortgage loan repayment scheme led to net outflows in this area as well. The unit-linked insurance market is seeing a revival as bank deposit rates fall, but a real breakthrough in the regular premium life insurance market may come in the wake of the tax allowance effective from the beginning of 2014, similar to the one applied to retirement plan accounts and voluntary pension funds. Revenue on regular and single-premium life insurance policies exhibited greater volatility in the past years, as these products are more sensitive to external impacts such as the economic crisis, final mortgage loan repayment and the low interest rate environment.

Chart 97: Developments in revenues on and number of recurring premium life insurance policies (without CSÉB)



Source: MNB.

Chart 98: Developments in unit-linked savings and the CF balance (net, i.e. payments less services used)



Note: UL – combined products

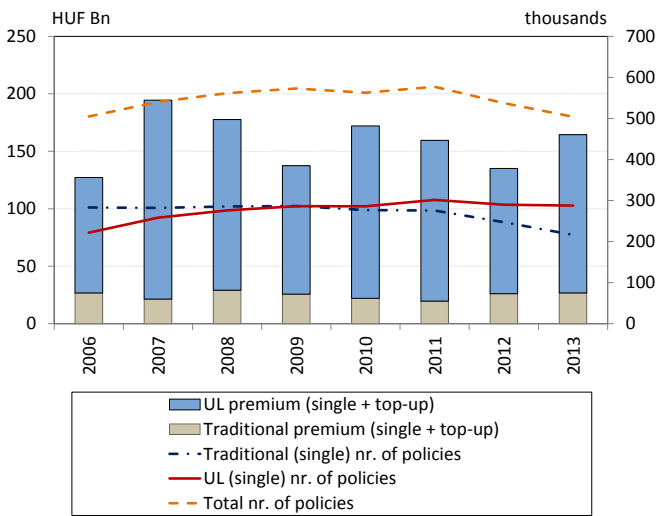
Source: MNB.

The decline in motor third party liability (MTPL) insurance premia observed since 2007 has come to a halt by 2014.

The decline in premium income per contract since 2007 resulted partially from decreasing risks (claims per contract) and intensifying competition. Risks started rising again in 2013, and although the decline in premia slowed significantly, the actual claim ratio estimated by the MNB¹⁹ rose to a level that severely compromises the financial position of certain insurers which are particularly exposed to MTPL. In light of these circumstances, the sustainable management of the MTPL business line and preservation of service quality justified an increase in premia. During the latest campaign period, the premia announced for 1 January 2014 (taking into account the change of insurers) reflected a premium level 1.8 per cent higher than one year earlier. A development of this nature had not been seen since 2007. The increase in the premium alone does not significantly improve insurers' profitability, but the interim

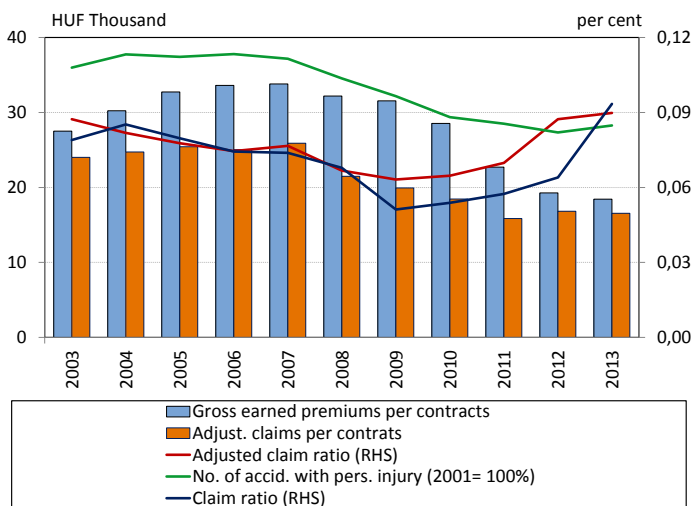
¹⁹ The loss ratio is the difference between the ratios of premiums paid to an insurance company and the amounts set aside for claims (claim reserve) by the company during the period under review. Increasingly prudent reserve accumulation distorts the loss ratio upwards. This distortive effect was eliminated in case of the actual loss ratio.

Chart 99: Gross written premium and number of single and top-up premium life insurance policies



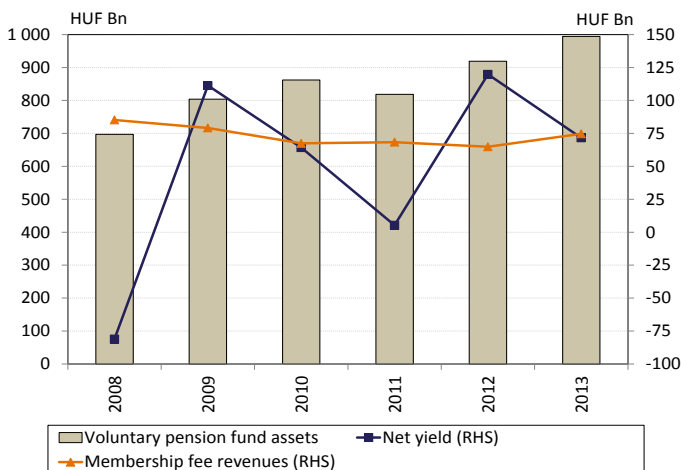
Source: MNB.

Chart 100: Development of MTPL premia



Source: MNB.

Chart 101: Developments of voluntary pension fund assets



premium announcements permitted since 2013 allow for further increases without substantial portfolio losses, and less than half of contracts are affected during campaign periods (47 per cent based on premia). Due to the smaller price differences between the new premia announced by insurers, changing insurer only yields smaller savings on average, and therefore the 2013-14 premium announcement campaign featured far fewer changes of insurer (including on a proportionate basis), and customers only achieved smaller savings on premia compared to the previous years. On the other hand, the average estimated premium levels offered by insurers grew closer to each other (Chart 101).

9.2. Continuing consolidation among pension funds

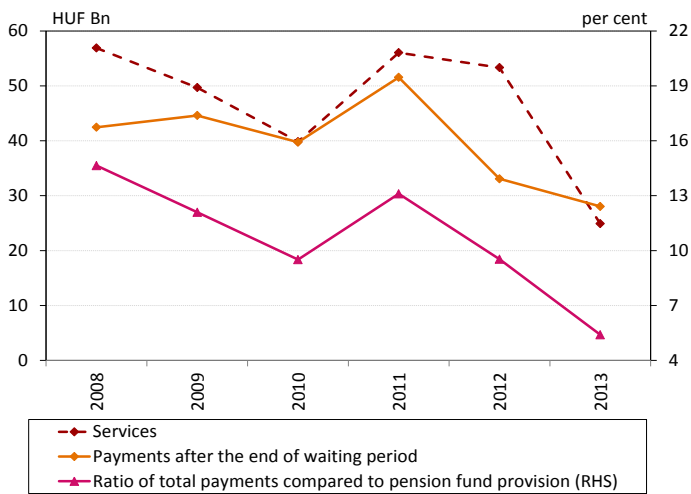
Voluntary pension funds' assets expanded despite the declining membership. Voluntary pension fund membership continued to decline in 2013 as a result of fewer new members and exclusions of non-paying ones. Over the last five years, the number of total members fell by around 200,000 from a level of 1.4 million back in 2008. Enhanced cost-control measures by employers in response to the protracted recession may explain the dip in the number of new members. At the same time, the increase in the ratio of individual membership payments provides evidence of the spread of self-provision. The assets of voluntary pension funds reached a historic high due to member contributions and the realized yields (Chart 102).

Further consolidation may continue in the pension fund sector as a result of unprofitable operation. The number of voluntary pension funds fell by three to 49 in 2013, adding up to a total decline of 17 funds compared to the beginning of the crisis (end of 2008). Consolidation played out across the private pension fund sector in the wake of the crisis and the regulatory environment: three of the eight private pension funds operating in late December were in business dissolution proceedings. One new phenomenon is that two financial groups exited from the pension fund segment. One of the regarding pension funds continues to operate as an independent pension fund, and the other will merge into an another fund.

Decreasing disbursements from the underlying reserves of voluntary pension funds. The degree of disbursements following expiry of the waiting period (10 years), but still within the accumulation period remains a potential risk. At the same time, only a small portion of members entitled to disbursements after the waiting period will take advantage of the payout option. The amount paid out in the past five years is only 4 to 6 per cent of the savings eligible for

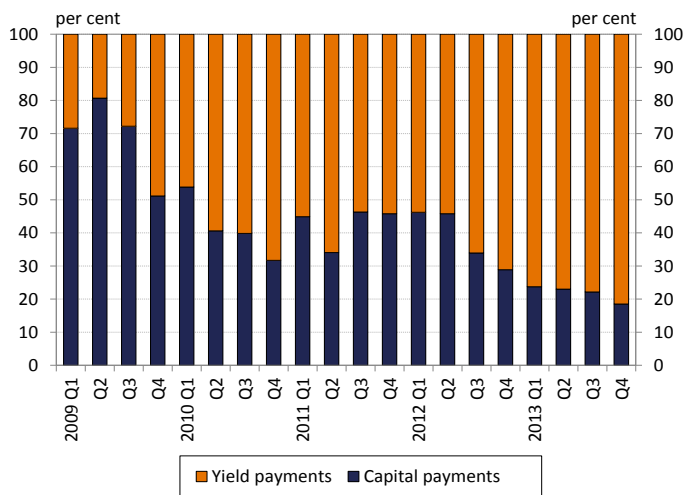
Source: MNB.

Chart 102: Voluntary pension fund disbursements based on service and waiting period



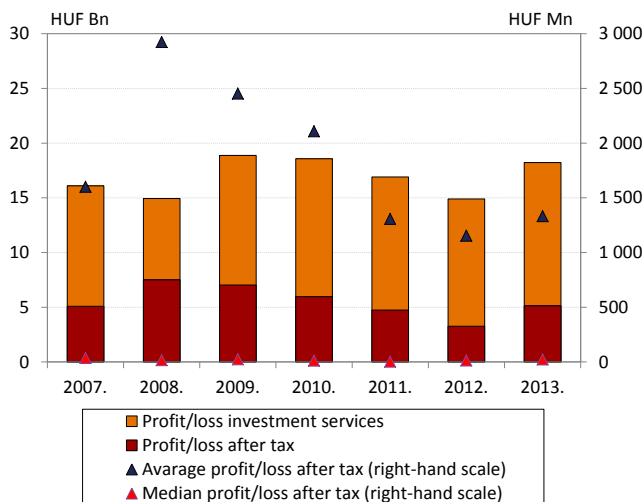
Source: MNB.

Chart 103: Distribution of voluntary pension fund disbursements following expiry of the accumulation period but still within the waiting period



Source: MNB.

Chart 104: Net profit of investment firms



payout (Charts 103-104).

The voluntary pension fund sector realized a loss even in the second half of 2013. Operating charges and expenses dropped by 4 per cent year on year, while membership fee incomes increased. However, a dip in employer contributions and the rising ratio of non-paying members offset that, leading to losses again in the sector. Despite loss-making operations, yield deductions from non-paying members led to an increase in fund reserves compared to the previous period. Annually computed and published fee charge indicators reflect a continuous decline in the sector.

Rising competition from the pension insurance starting from this year represents a moderate risk for pension fund industry fee incomes. The tax allowance on pension insurance policies from the beginning of 2014 increases competition in the retirement savings market. However, it is not expected that this will lead to a significant drop in voluntary pension funds' fee income, since it only represent a real alternative in the case of those voluntary pension fund members, who are characterised by relatively high individual membership fees.

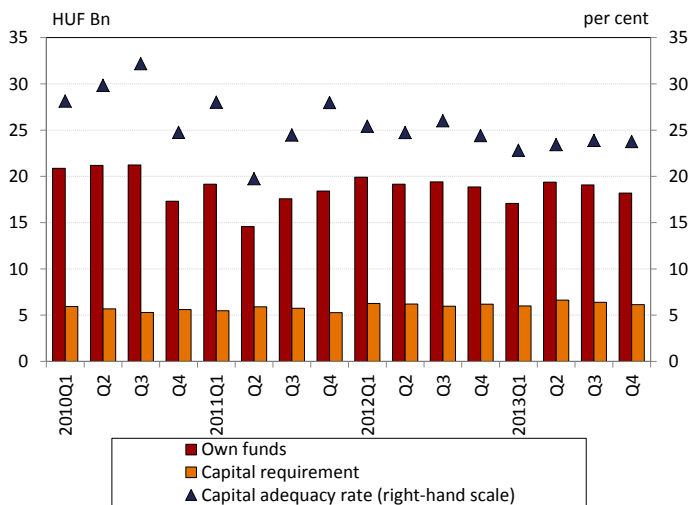
9.3. Low interest rate environment favours investment firms and investment fund managers

Profit after tax improved within the sector and market concentration remains high. The decline in the profit after tax of brokerage firms observed since 2009 reversed in 2013, but only returned to its 2011 level. Six of the 23 brokerage firms closed the year with losses, and two of these were new ventures. Among firms posting losses, the current rate of decline in profitability did not entail their failure, but further dips in turnover could lead to deteriorations resulting in the collapse of smaller players. The earnings generated by brokerage firms are highly concentrated: while the balance sheet total weighted average of earnings stood at HUF 1.3 billion in 2013, the median value fell short of HUF 23 million, and moreover four marketer accounted for 96 per cent of net profit (Chart 105).

The capital adequacy ratio of brokerage firms far exceeds the 8 per cent level. The capital adequacy ratio of the 23 brokerage firms is exceptionally high compared to credit institutions, averaging over 23 per cent (Chart 106). Brokerage firms covered their capital requirements using Tier 1 capital for the most part, but some supplemented their incurred losses over the years using Tier 2 capital. Overall, brokerage firms have high quality and sufficient

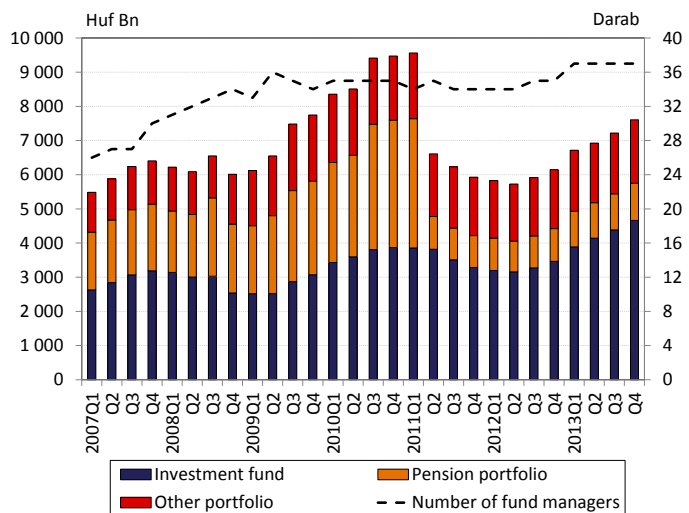
Source: MNB.

Chart 105: Capital adequacy ratio of investment firms



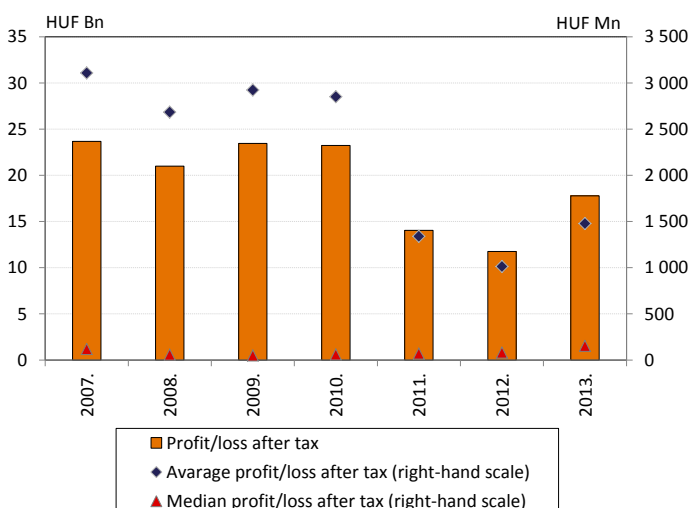
Source: MNB.

Chart 106: Number of investment fund managers and the assets managed by them



Source: MNB.

Chart 107: Net profit of investment fund managers



capital.

The popularity of investment funds is on the rise.

Investment funds had emerged as a key actor on the capital market by the mid-2000s, as the number of institutions and funds managed by them grew significantly. Growth in number of funds slowed down, but new funds appear on the market every year. Money market and bond funds remained the most popular choices in 2013, jointly accounting for over 35% of the market. The share of capital protected funds, at over 10 per cent, clearly shows the moderate exposure of the Hungarian investment market.

The central bank's loosening cycle and declining bank deposit rates led to a rise in investment fund assets over the past year and a half, and this trend is expected to continue or strengthen.

At the same time, investors' yield expectations did not move hand-in-hand with rising risk appetite, as a substantial part of the capital inflows of the funds was invested in liquidity and money market funds, which are characterised by low risk profiles (Chart 107). However, the low interest rate environment also decreases the yields of these funds, and therefore we can expect an increase in the popularity of absolute yield funds in the medium-term. Thus, the market share of 8 per cent may grow even further. The traits of these funds is that they attempt to beat risk-free returns under all circumstances, but it cannot be stated that overall they pursue a risky strategy in terms of systemic risks. In the case of individual funds with higher risks, more circumspect information of clients is justified, and the MNB will pay attention in this regard.

Turnaround in the profitability of investment funds.

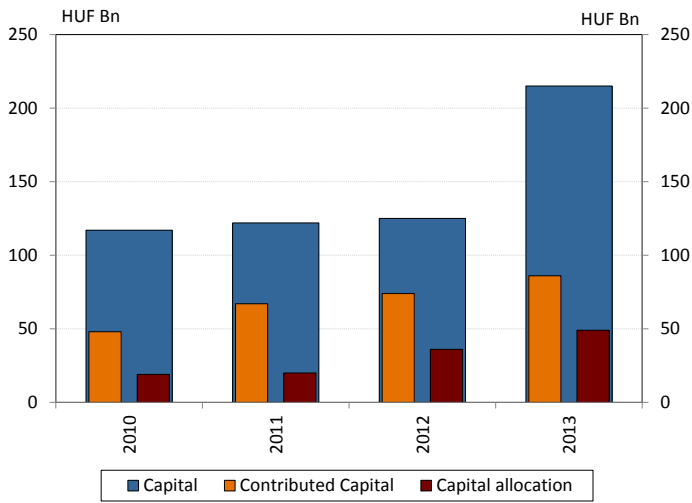
Although the reform of the private pension fund system significantly dampened the profitability of investment funds managers, the net inflow of capital in investment funds resulted in a positive turnaround in 2013. At the same time, the more than 10-fold difference between asset-weighted average earnings and median earnings clearly indicates the sector's concentration (Chart 108), despite return-on-equity being between 0 and 1 per cent for nearly all market players. Despite the sector's exceptional profitability, business operations of several market players will likely be reshaped, mainly due to implementation of the EU directive on the establishment of a single market through the simplification of cross-border activities.

Venture capital funding available to SMEs increased substantially, expanding the range of alternative funding.

The assets managed by venture capital fund managers have expanded spectacularly since 2010, thanks primarily to the

Source: MNB.

Chart 108: Capital and capital allocation of venture capitals 2010-2013



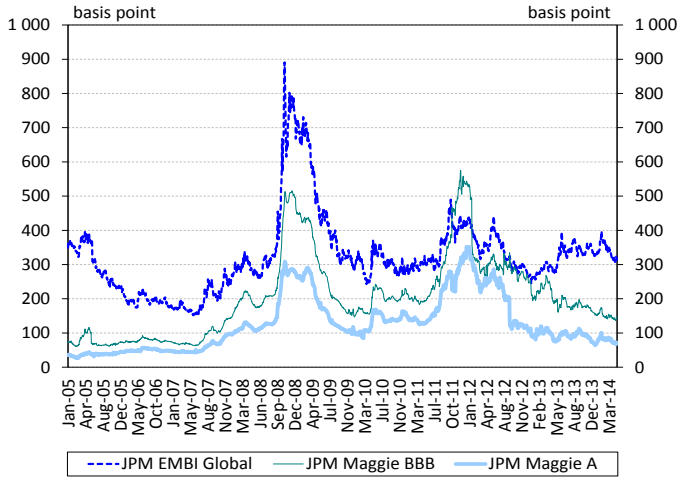
Source: MNB.

JEREMIE I fund launched in 2010 (HUF 48 billion) and the new JEREMIE funds introduced in late 2013 (HUF 43 billion). The value of new allocation of these funds approached HUF 50 billion as 2013 drew to a close. The short time available for capital allocation may put capital fund managers under pressure, compelling them to make investments presenting higher risk (Chart 109).

Appendix: Macroprudential indicators

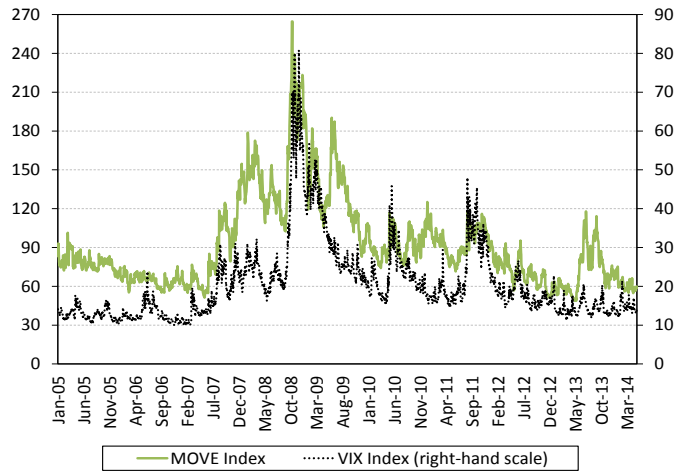
1. Risk appetite

Chart 1: Primary risk indicators



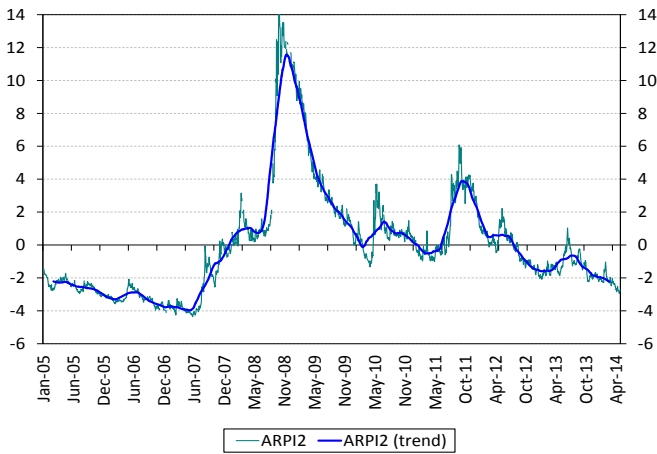
Source: Datastream.

Chart 2: Implied volatility of the primary markets



Source: Bloomberg.

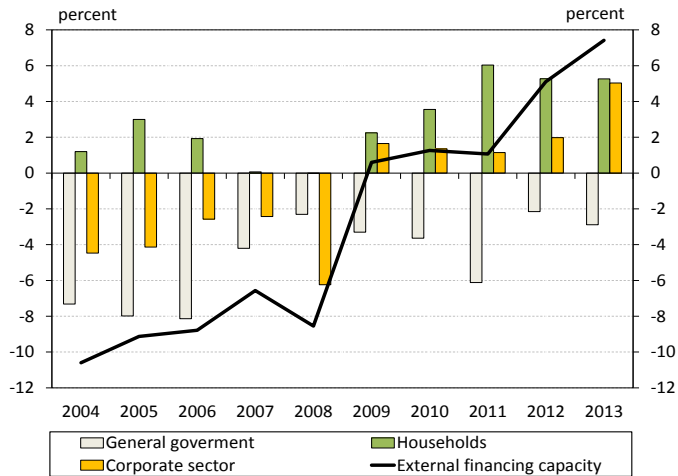
Chart 3: Dresdner Kleinwort indicator



Source: DrKW.

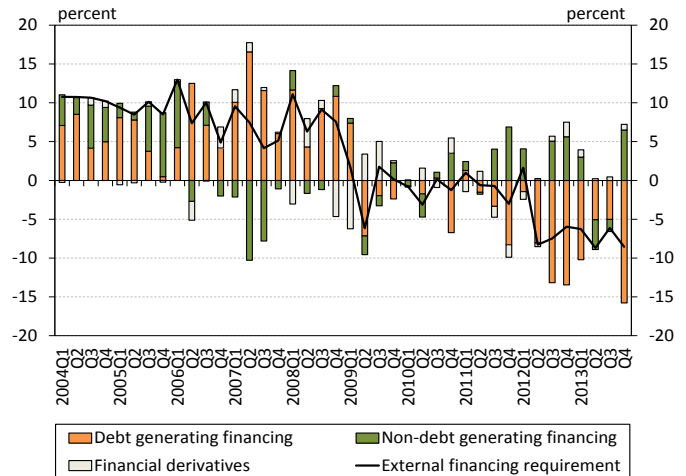
2. External balance and vulnerability

Chart 4: Net financing capacity of the main sectors and external equilibrium as percentage of GDP



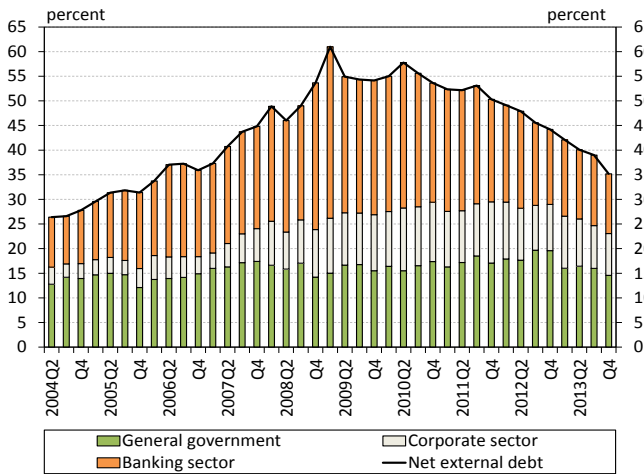
Source: MNB.

Chart 5: External financing requirement and its financing as percentage of GDP



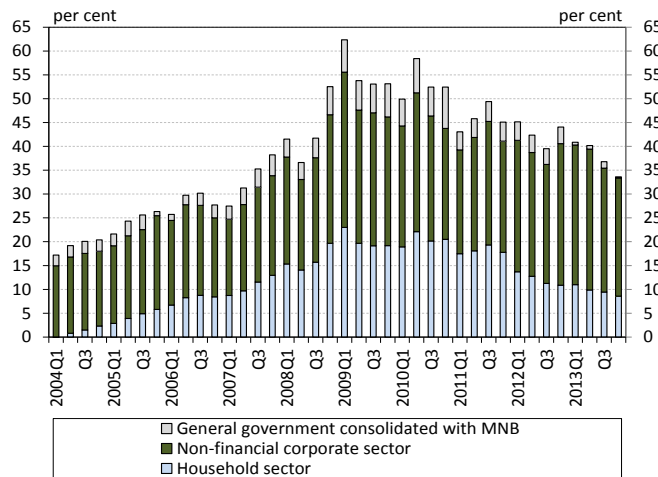
Source: MNB.

Chart 6: Net external debt as percentage of GDP



Source: MNB.

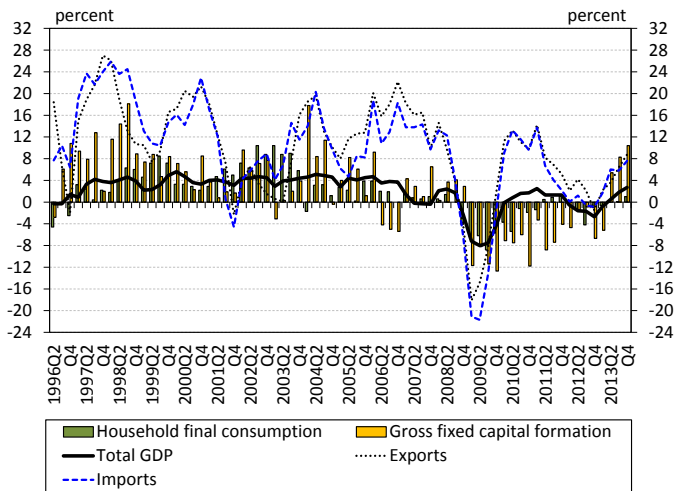
Chart 7: Open FX position of the main sectors in the balance sheet as percentage of GDP



Source: MNB.

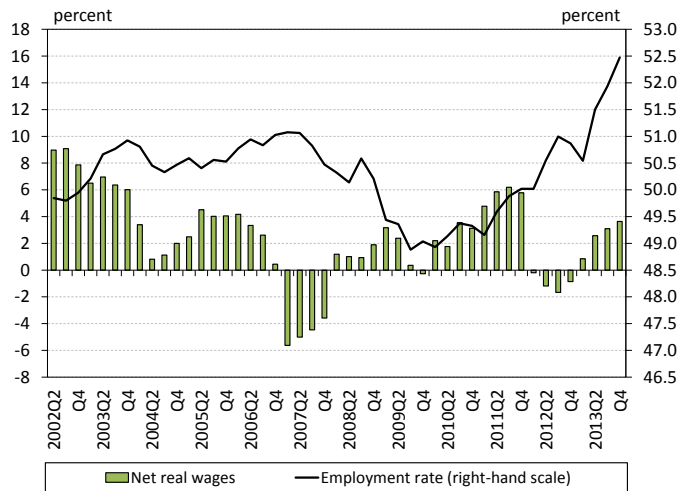
3. Macroeconomic performance

Chart 8: GDP growth and its main components (annual growth rate)



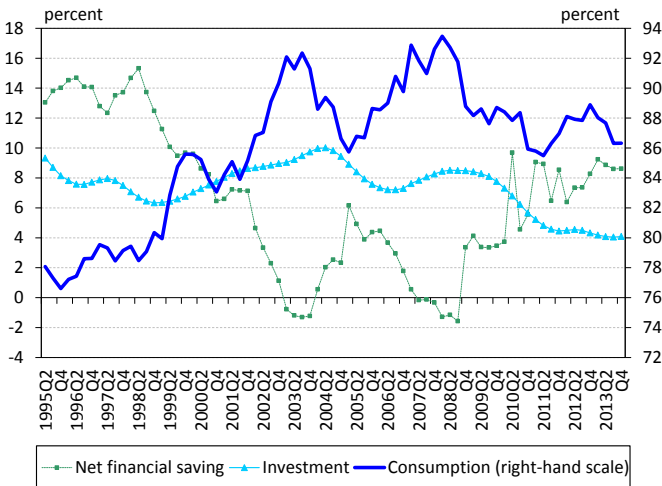
Source: KSH.

Chart 9: Employment rate and net real wage developments (annual growth rate)



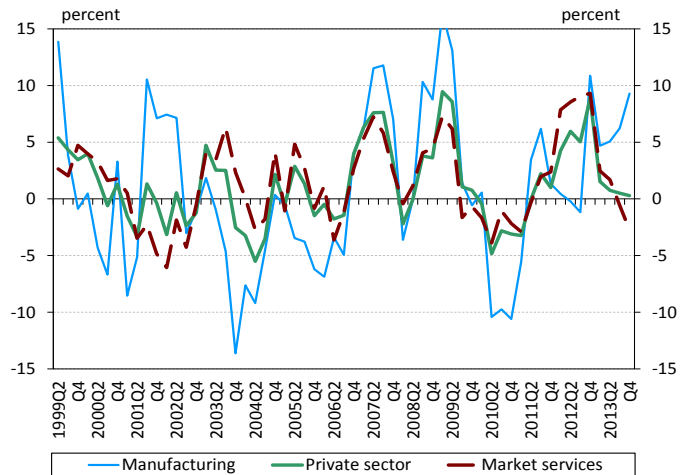
Source: KSH.

Chart 10: Use of household income as a ratio of disposable income



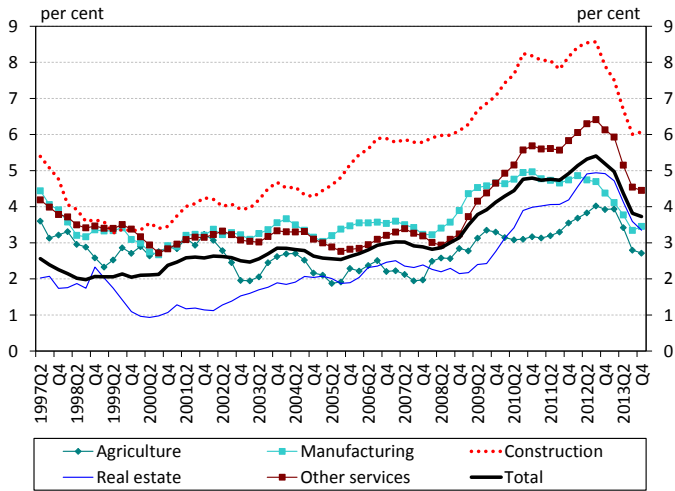
Source: KSH, MNB.

Chart 11: Corporate real unit labour cost in the private sector (annual growth rate)



Source: KSH, MNB.

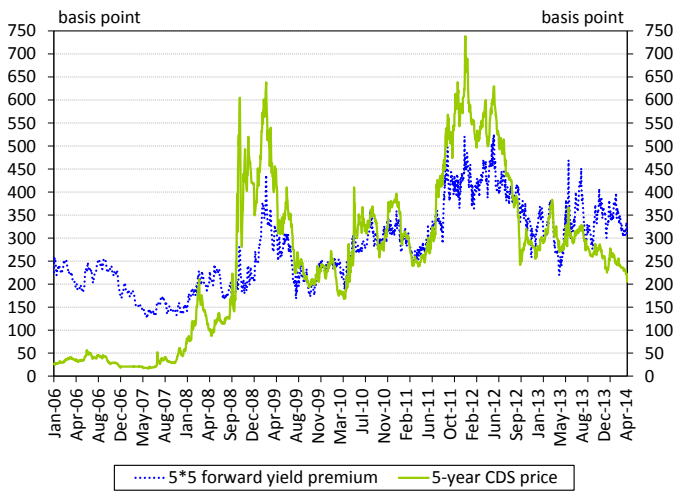
Chart 12: Sectoral bankruptcy rates



Source: Opten, KSH, MNB.

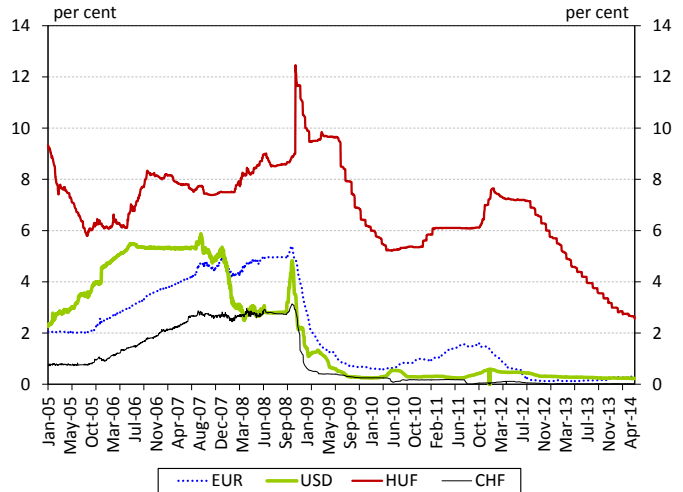
4. Monetary and financial conditions

Chart 13: Long-term default risk and forward premium of Hungary



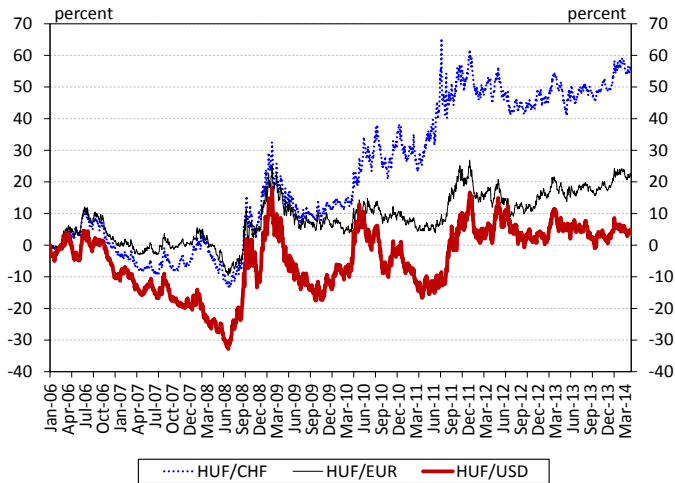
Source: Datastream, Reuters.

Chart 14: Three-month EUR, USD, CHF and HUF money market interest rates (LIBOR and BUBOR fixing)



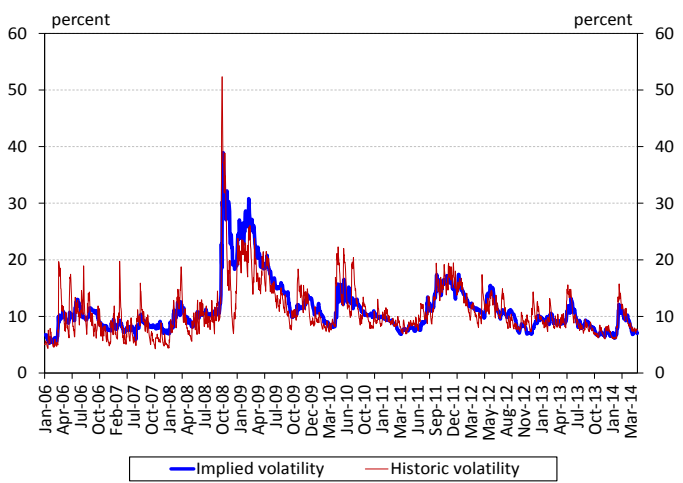
Source: Reuters.

Chart 15: HUF/EUR, HUF/USD and HUF/CHF exchange rates compared to January 2, 2006



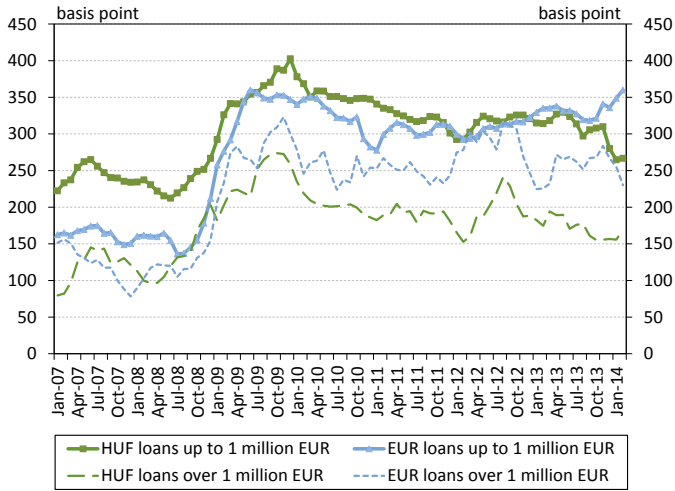
Source: Reuters.

Chart 16: Volatility of the HUF/EUR exchange rate



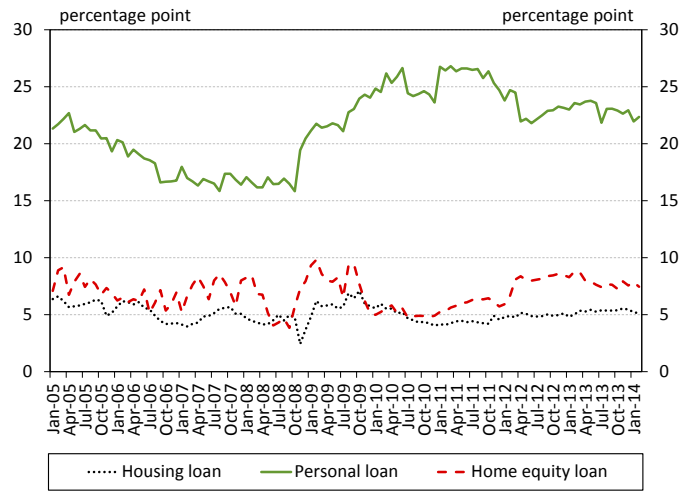
Source: Reuters, MNB.

Chart 17: Interest rate premium of new loans to non-financial enterprises (over 3-month BUBOR and EURIBOR, respectively, 3-month moving average)



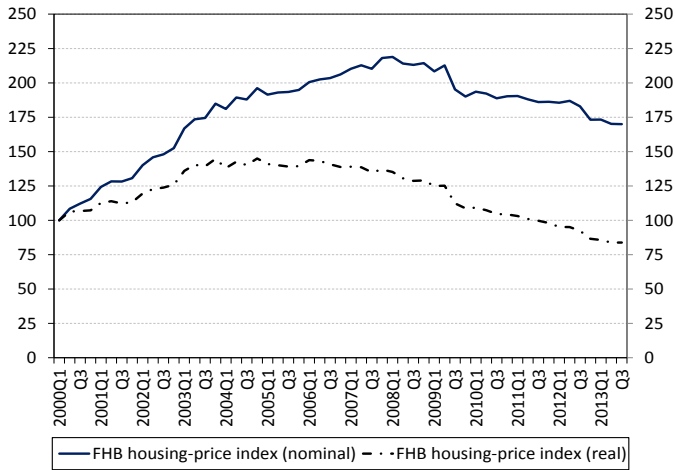
Source: Euribor, MNB.

Chart 18: Interest rate premium of new HUF loans to households (over 3-month BUBOR)



Source: MNB.

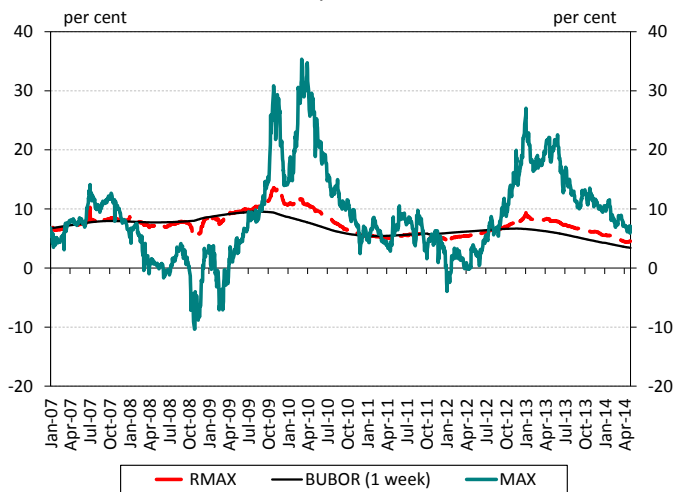
Chart 19: FHB housing-price index (2000=100)



Source: FHB.

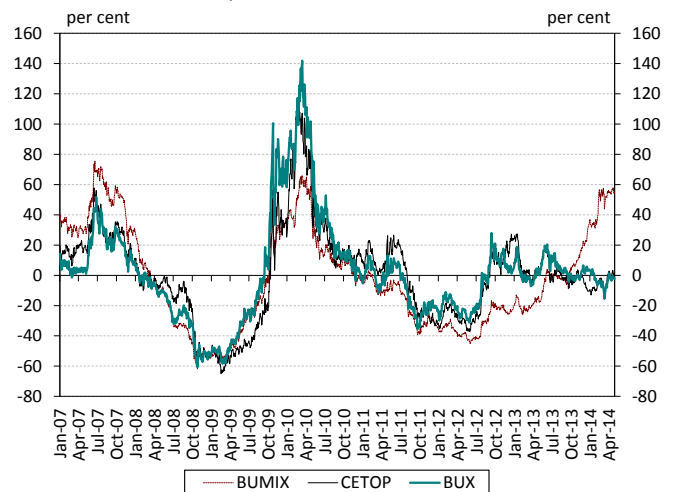
5. Prices of instruments

Chart 20: Annualised yields on government securities' indices and money markets



Source: ÁKK, MNB, portfolio.hu.

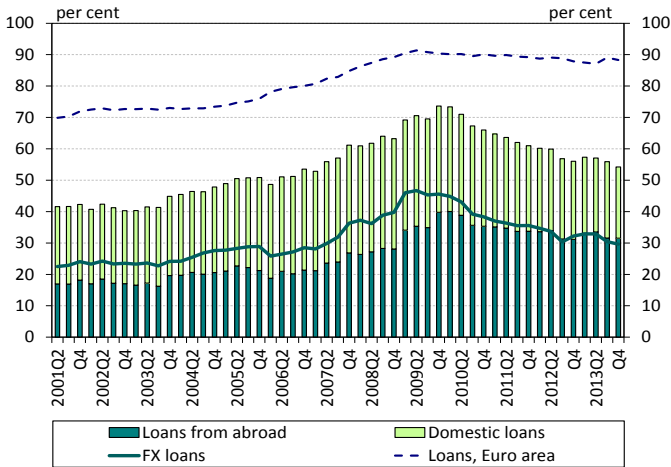
Chart 21: Annual yield of key Hungarian and Central and Eastern European stock market indices



Source: BÉT/BSE, portfolio.hu.

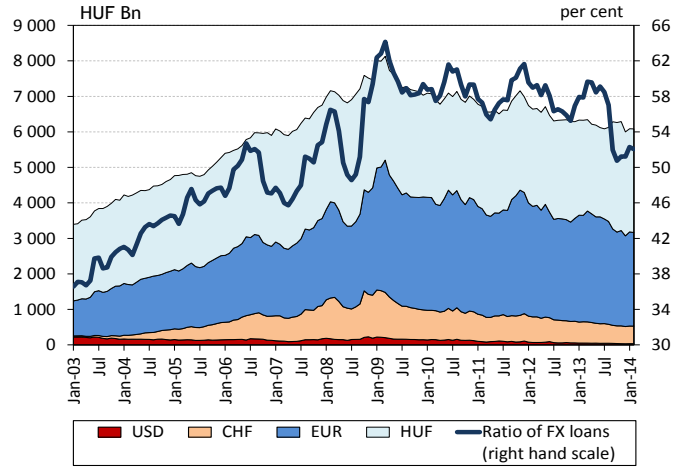
6. Risks of the financial intermediary system

Chart 22: Indebtedness of non-financial enterprises as a percentage of GDP



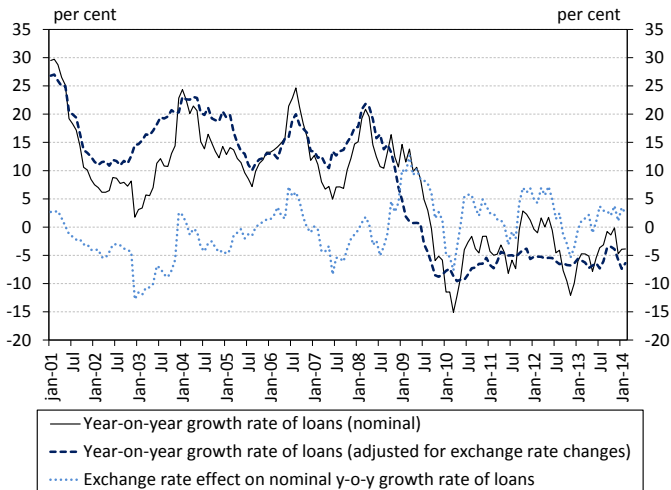
Source: Eurostat, ECB, MNB.

Chart 23: Denomination structure of domestic bank loans of non-financial enterprises



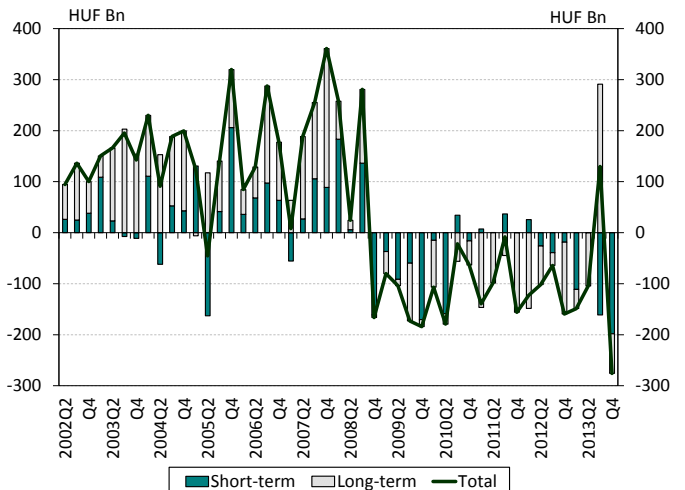
Source: MNB.

Chart 24: Annual growth rate of loans provided to non-financial corporations by domestic banks



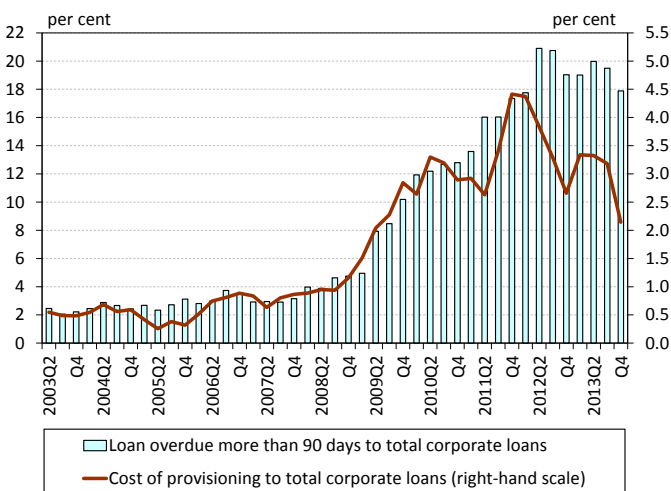
Source: MNB.

Chart 25: Net quarterly change of bank loan volumes of non-financial enterprises



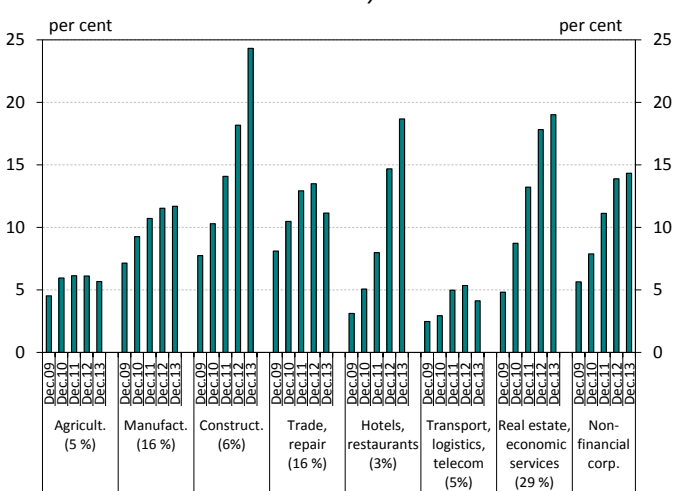
Source: MNB.

Chart 26: Quality of the corporate loan portfolio



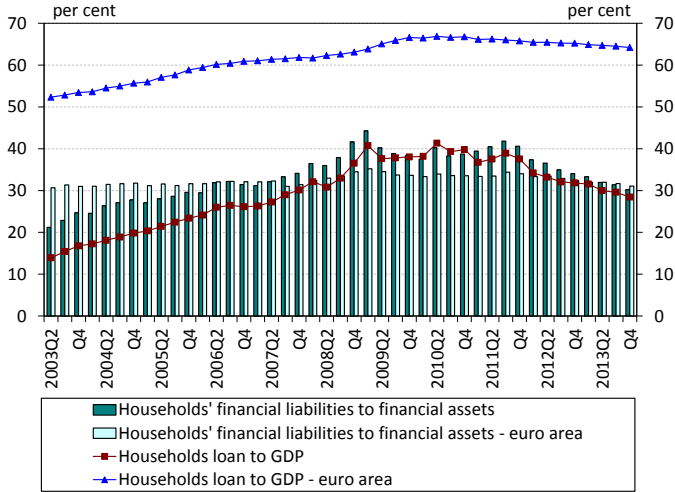
Source: MNB.

Chart 27: Provisioning on loans of non-financial corporations by industry



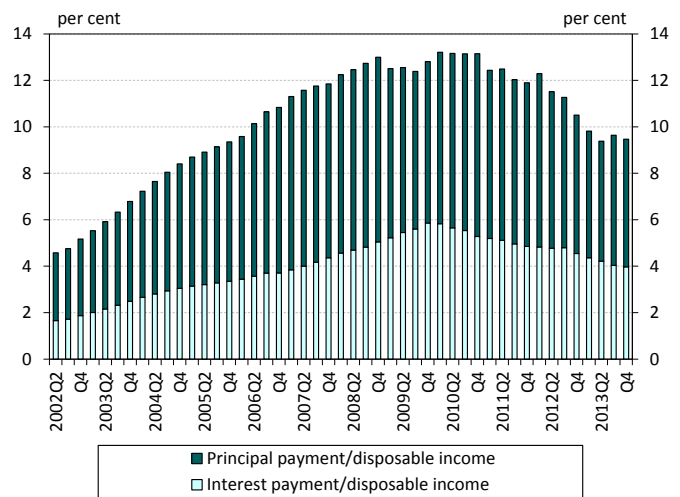
Source: MNB.

Chart 28: Indebtedness of households in international comparison



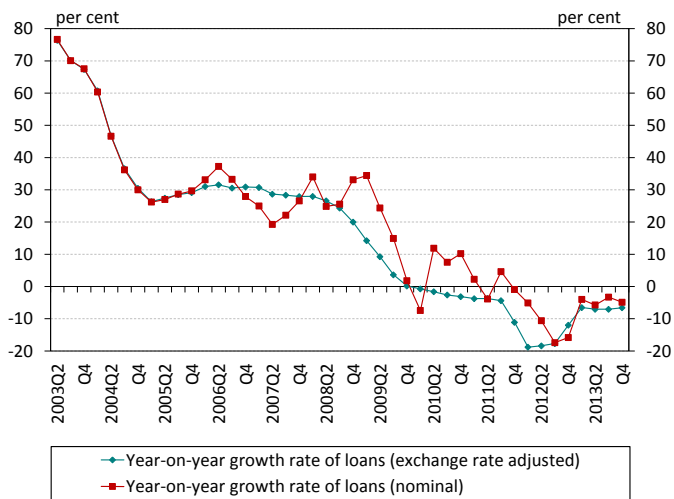
Source: MNB, ECB.

Chart 29: Debt service burden of the household sector



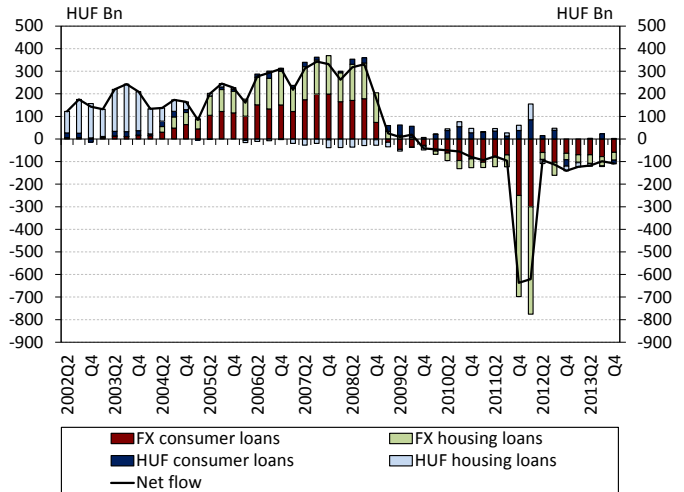
Source: MNB.

Chart 30: Annual growth rate of total household loans



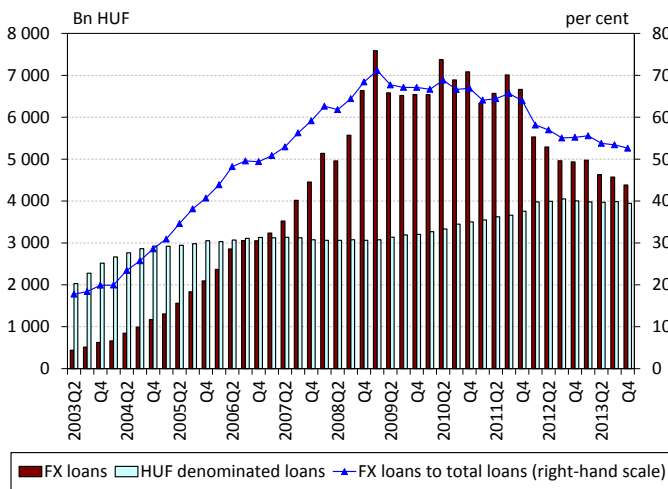
Source: MNB.

Chart 31: Net quarterly change of bank loan volumes of households by main products and currencies, adjusted for exchange rate changes



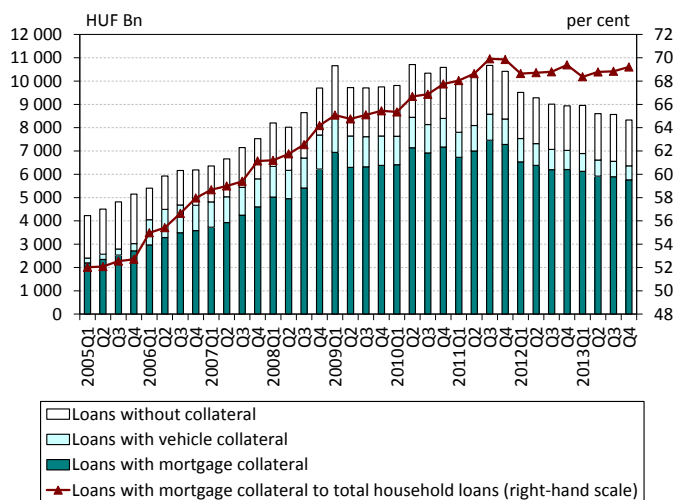
Source: MNB.

Chart 32: Household loans distribution by denomination



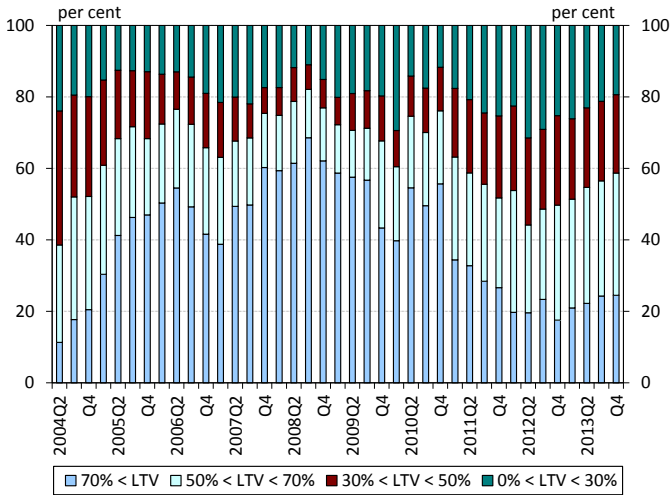
Source: MNB.

Chart 33: Household loans distribution by collateral



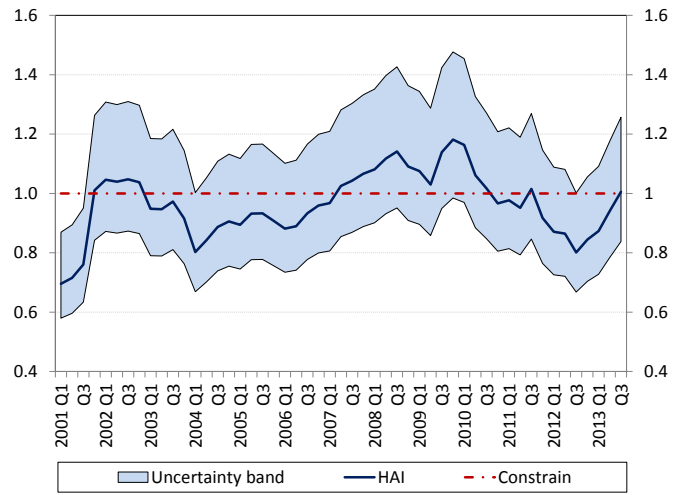
Source: MNB.

Chart 34: Distribution of new housing loans by LTV



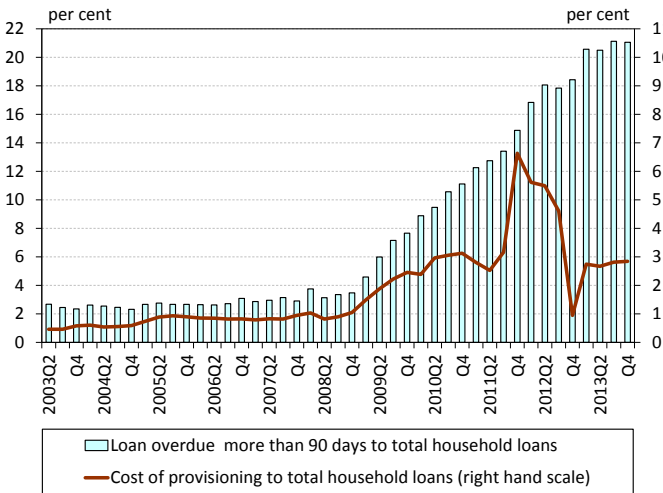
Source: MNB.

Chart 35: Housing Affordability Index



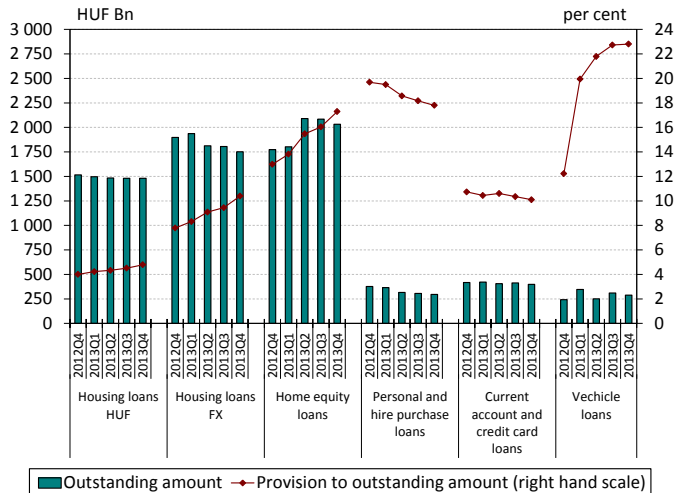
Source: MNB.

Chart 36: Quality of the household loan portfolio



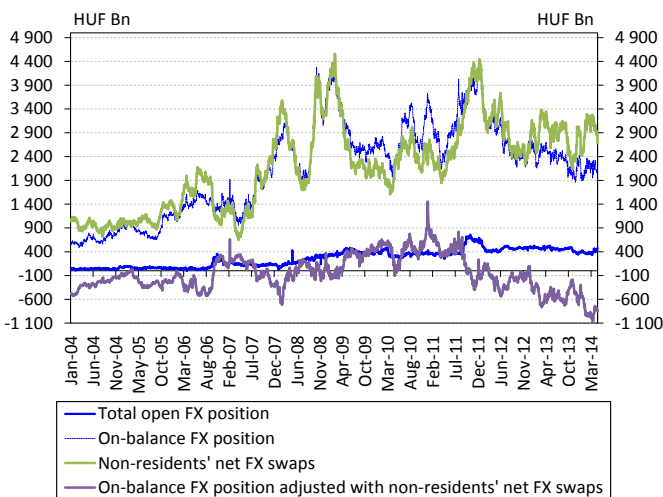
Source: MNB.

Chart 37: Provisioning on household loans



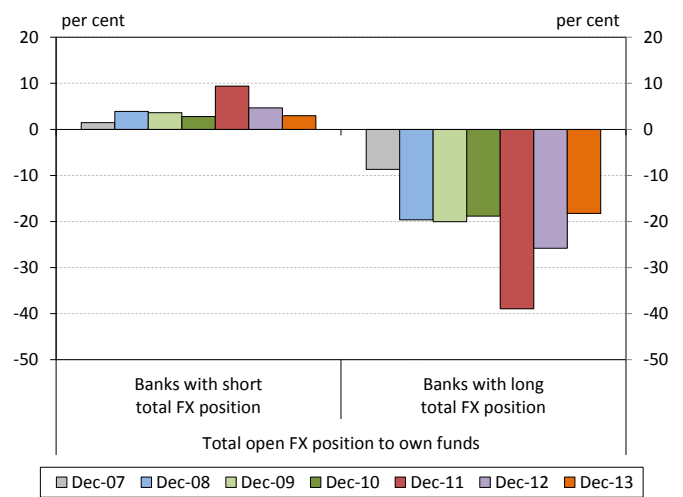
Source: MNB.

Chart 38: Open FX position of the domestic banking system



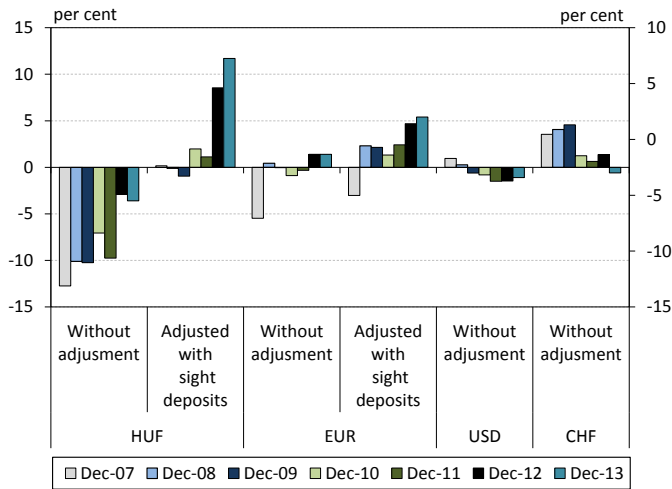
Source: MNB.

Chart 39: The exchange rate exposure of the Banking sector



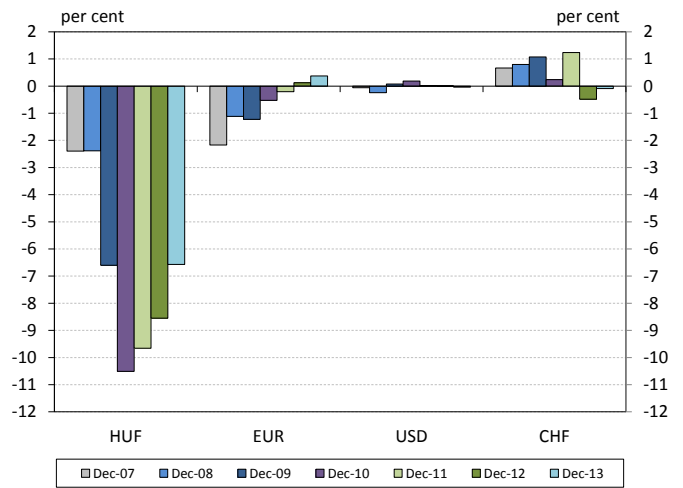
Source: MNB.

Chart 40: 90-day re-pricing gap of the banking sector



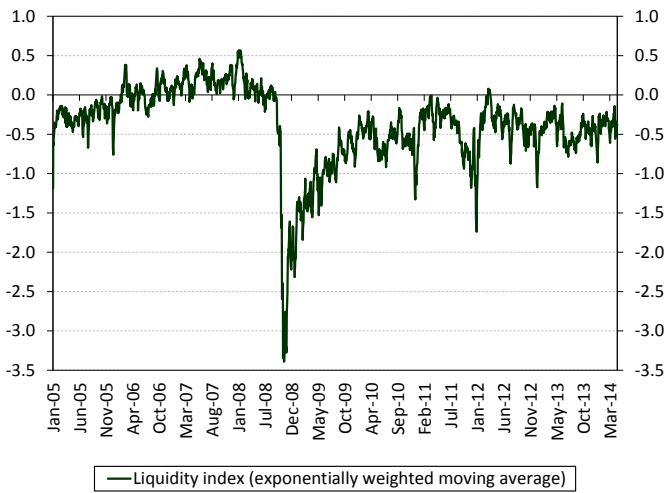
Source: MNB.

Chart 41: Estimated maximum loss based on interest rate risk stress tests relative to equity



Source: MNB.

Chart 42: Liquidity index (exponentially weighted moving average)



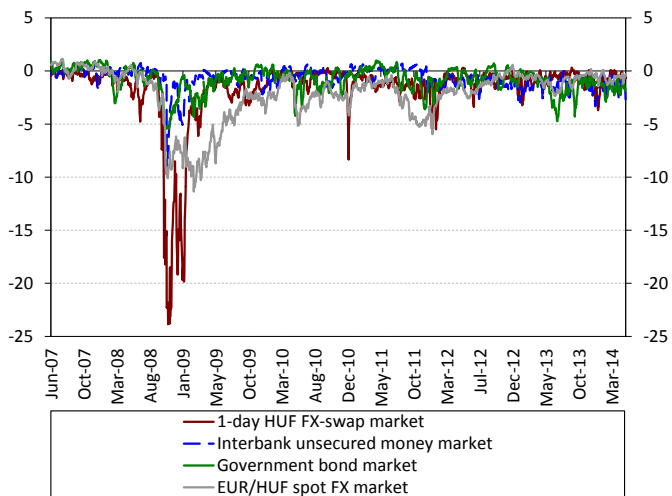
Source: MNB, KELER, Reuters, DrKW.

Chart 43: Liquidity sub-indices (exponentially weighted moving average)



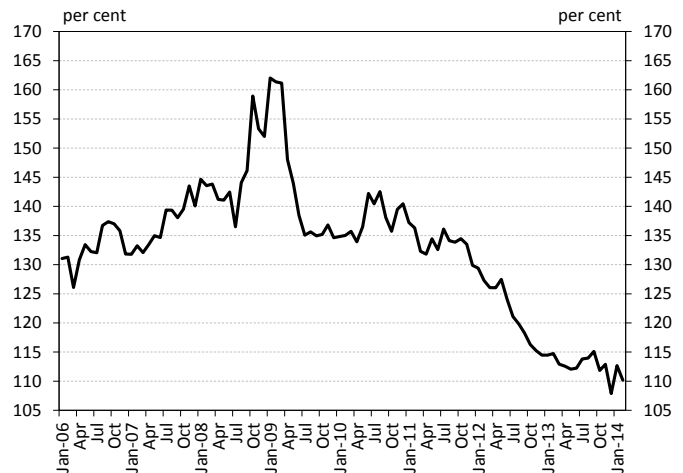
Source: MNB, KELER, Reuters, DrKW.

Chart 44: Bid-ask spread indices of the major domestic financial markets (exponentially weighted moving average)



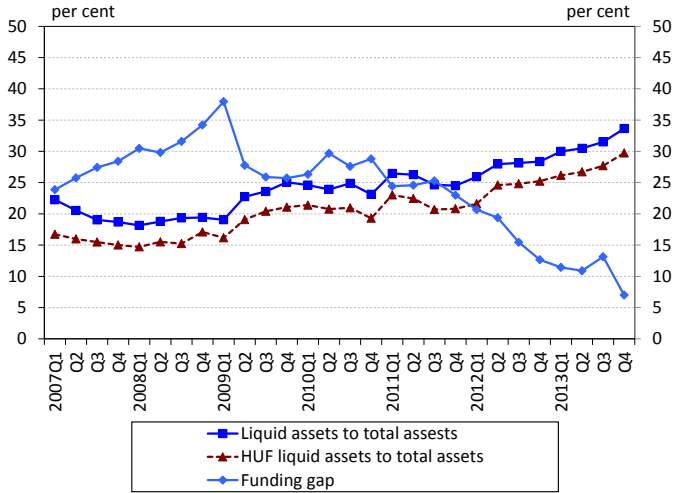
Source: MNB, KELER, Reuters, DrKW.

Chart 45: Credit to deposit ratio of the banking sector



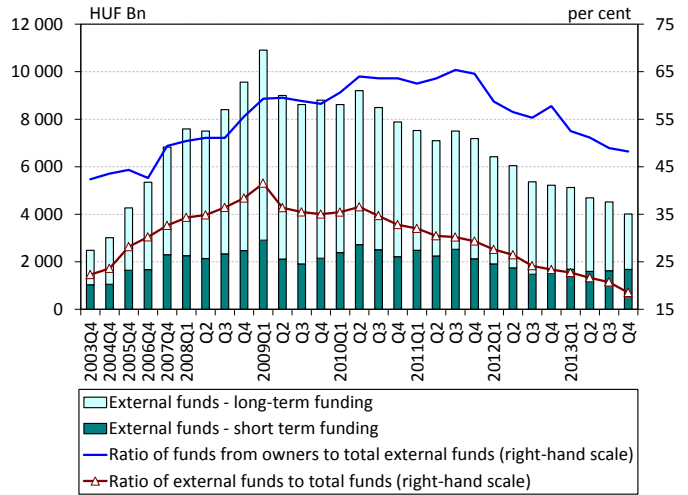
Source: MNB.

Chart 46: Liquidity ratios of the banking sector



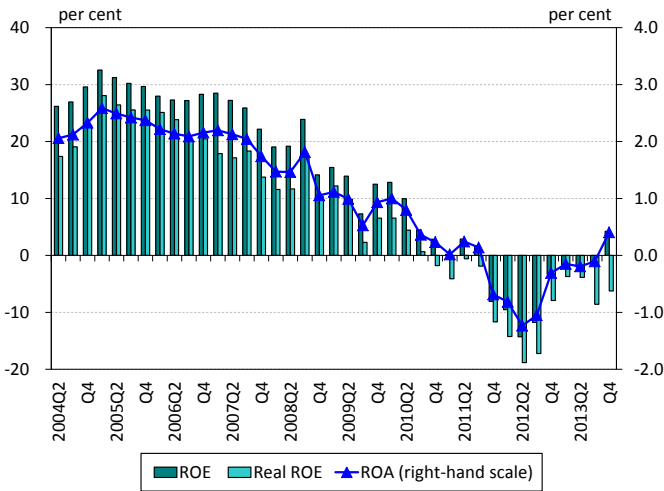
Source: MNB.

Chart 47: External funds of the banking sector



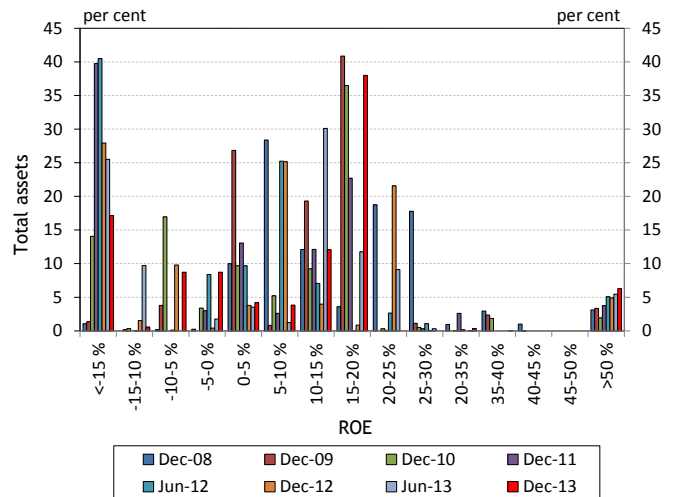
Source: MNB.

Chart 48: ROA, ROE and real ROE of the banking sector



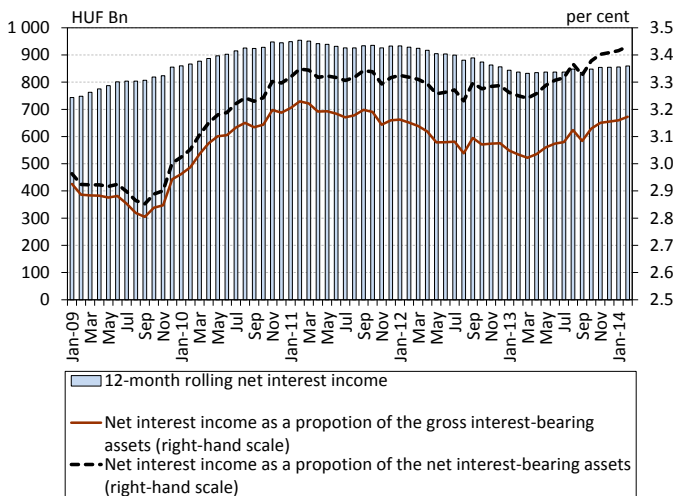
Source: MNB.

Chart 49: Dispersion of banks' total assets by ROE



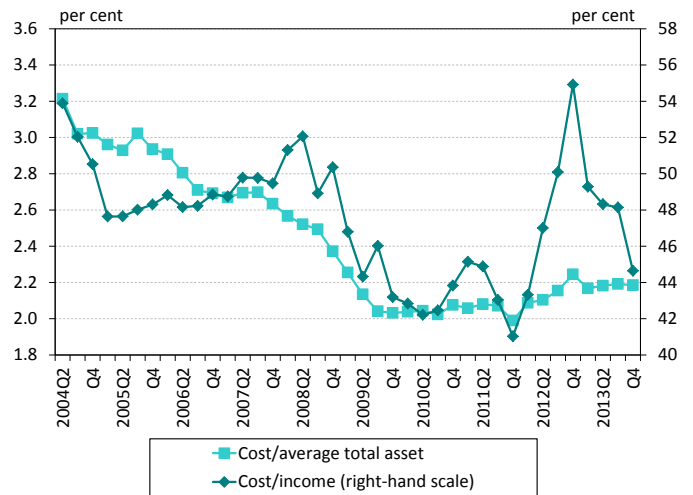
Source: MNB.

Chart 50: Net interest income as a proportion of the gross and net interest bearing assets in the banking sector



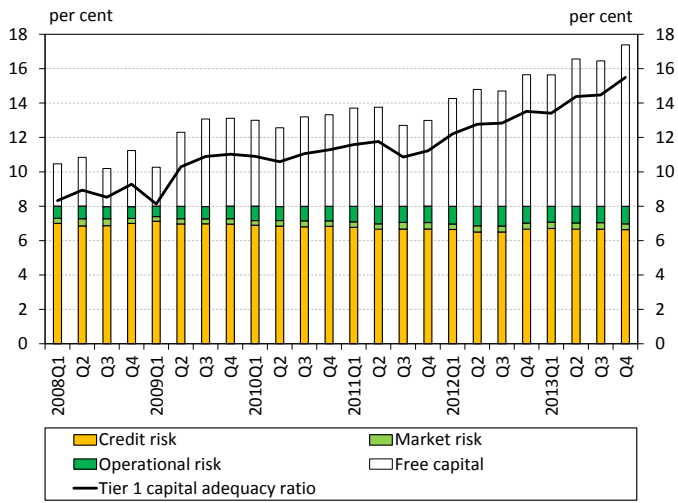
Source: MNB.

Chart 51: Operating efficiency indicators of the banking sector



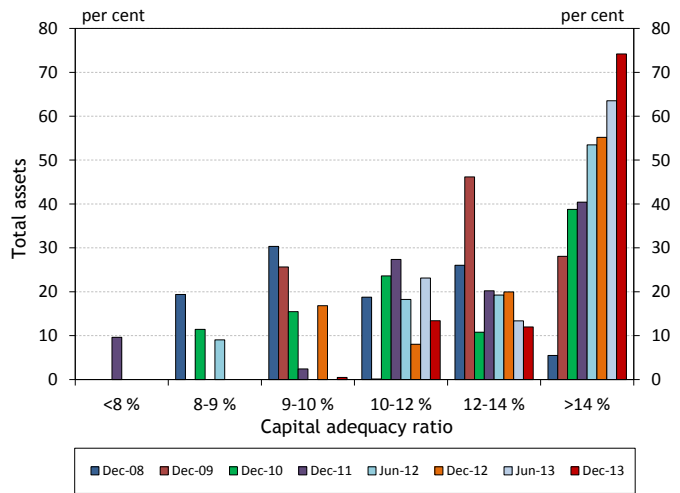
Source: MNB.

Chart 52: Banks' capital adequacy ratios



Source: MNB.

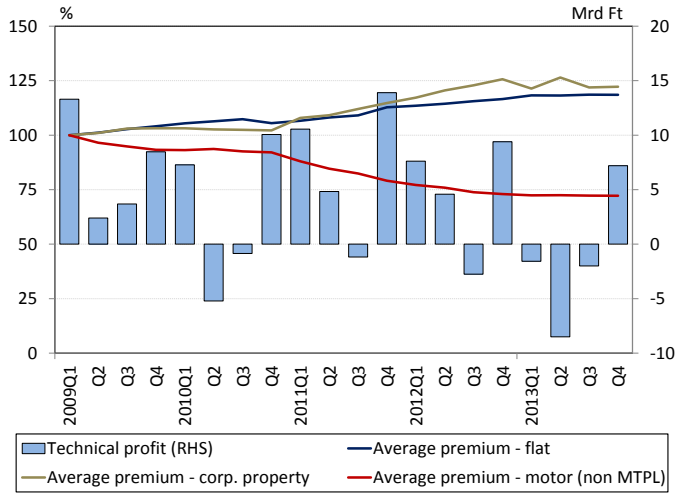
Chart 53: Dispersion of banking sector's total assets by capital adequacy ratio



Source: MNB.

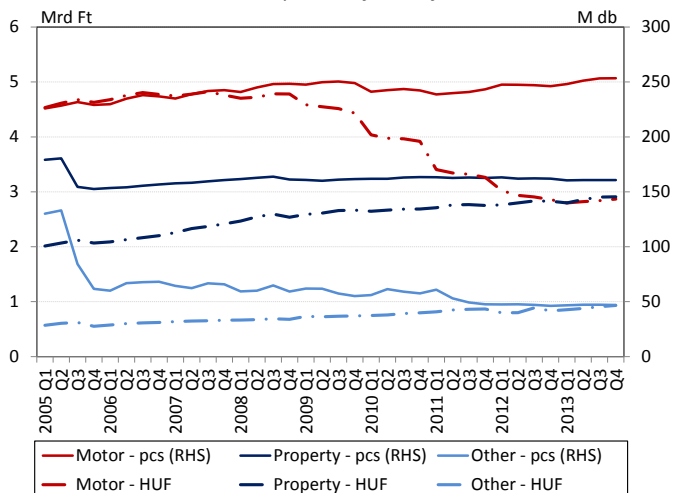
6. Institutional investors

Chart 54: Underline data of insurance tax



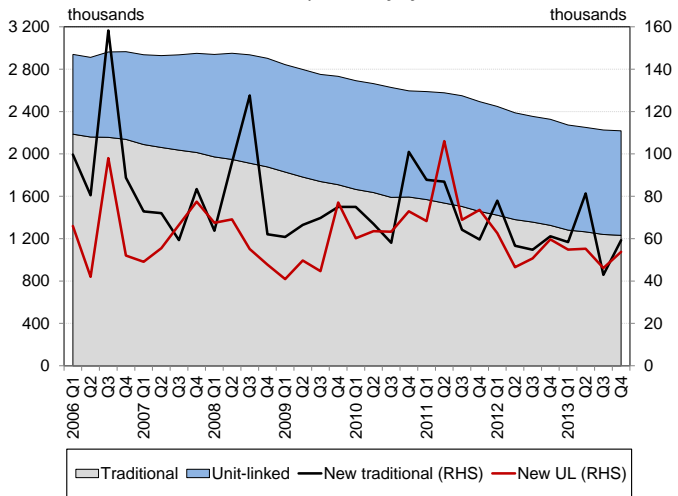
Source: MNB.

Chart 55: Development of non-life insurance



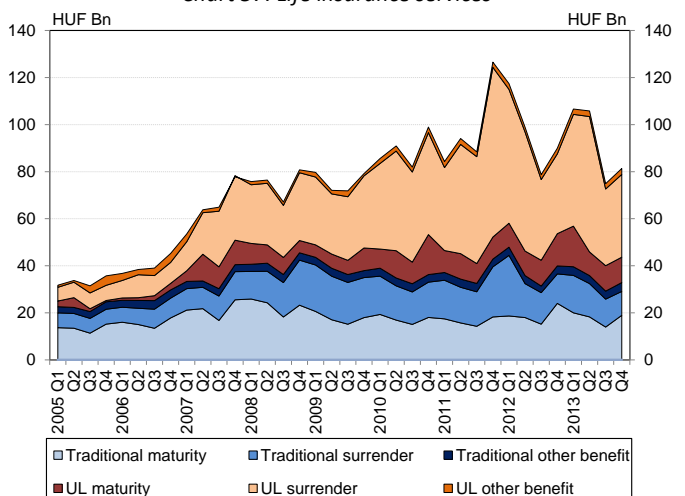
Source: MNB.

Chart 56: Development of life insurance



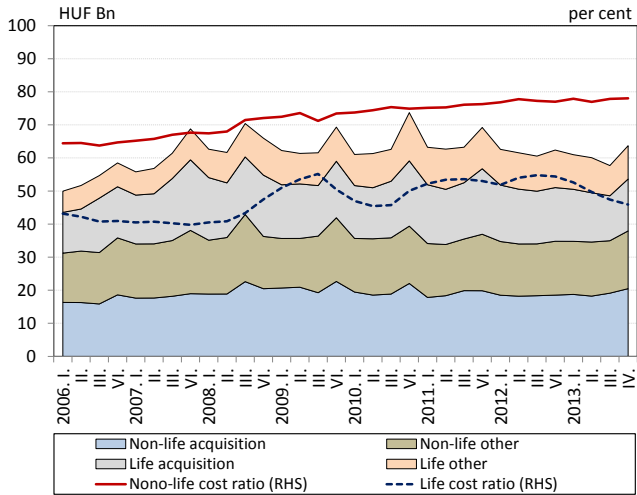
Source: MNB.

Chart 57: Life insurance services



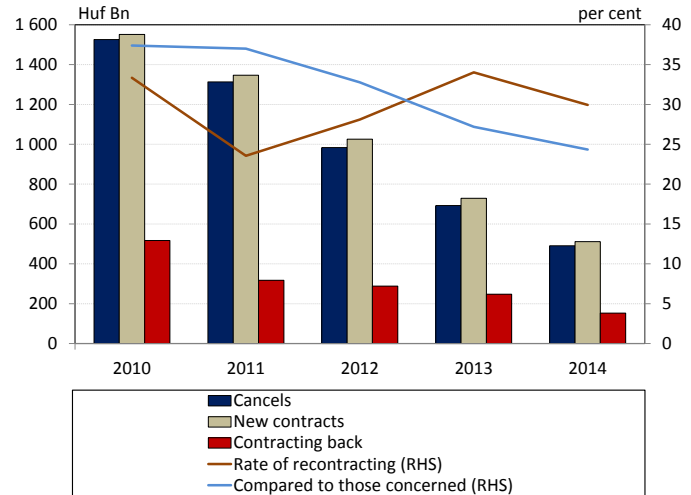
Source: MNB.

Chart 58: Costs in the insurance sector



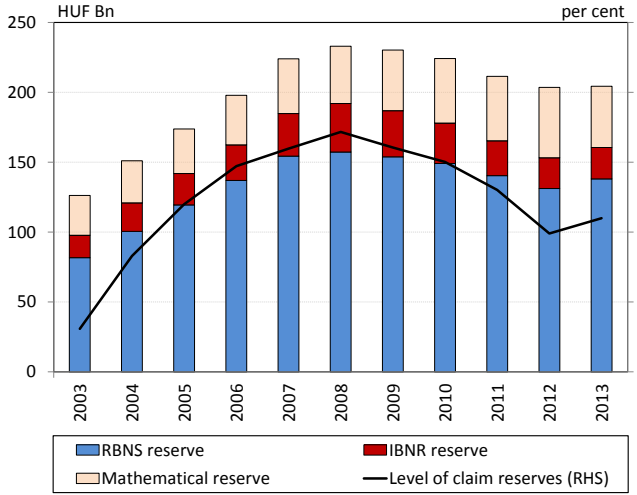
Source: MNB.

Chart 59: Development of mtpl insurance



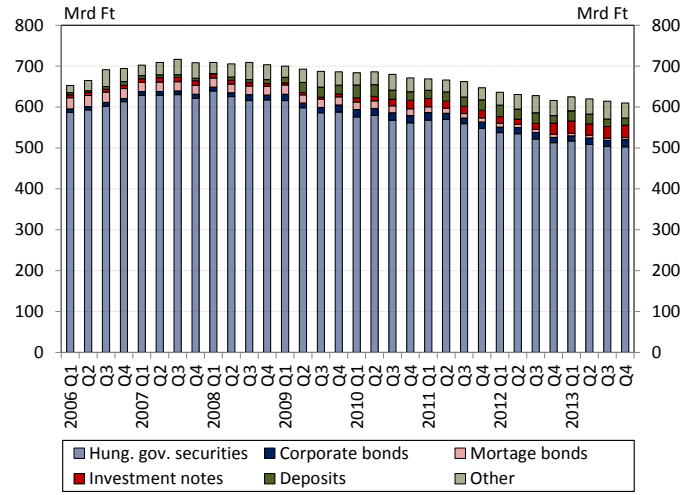
Source: MNB.

Chart 60: Development of gross mtpl reserves



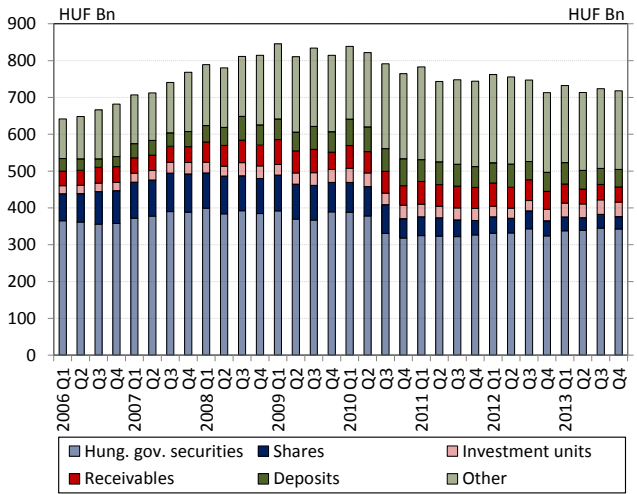
Source: MNB.

Chart 61: Assets behind life mathematical reserve



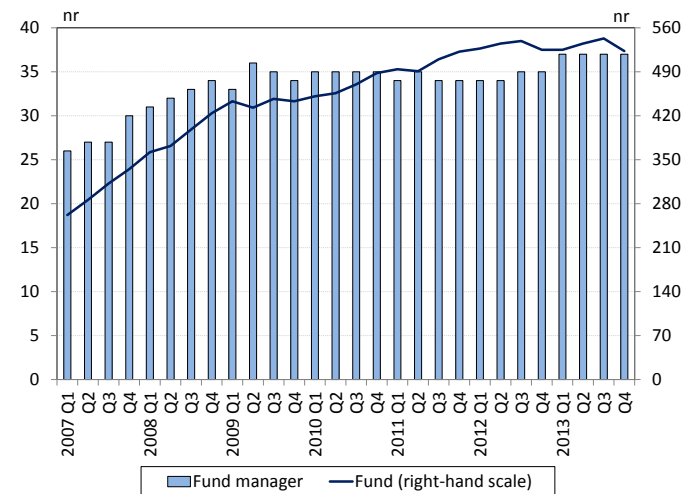
Source: MNB.

Chart 62: Composition of assets (excluding mathematical reserves)



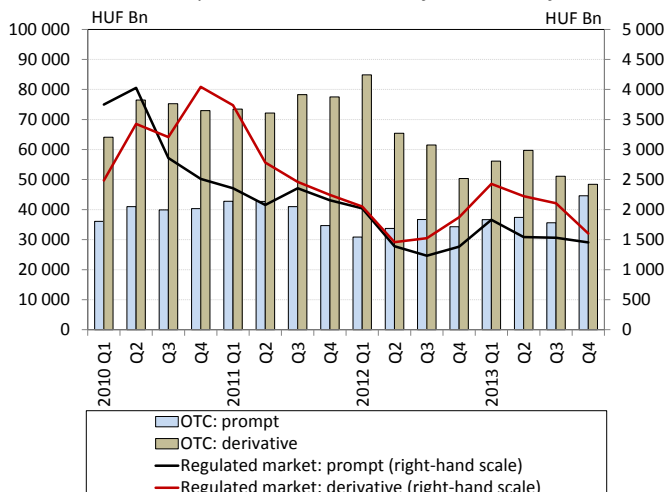
Source: MNB.

Chart 63: Number of investment fund managers and funds



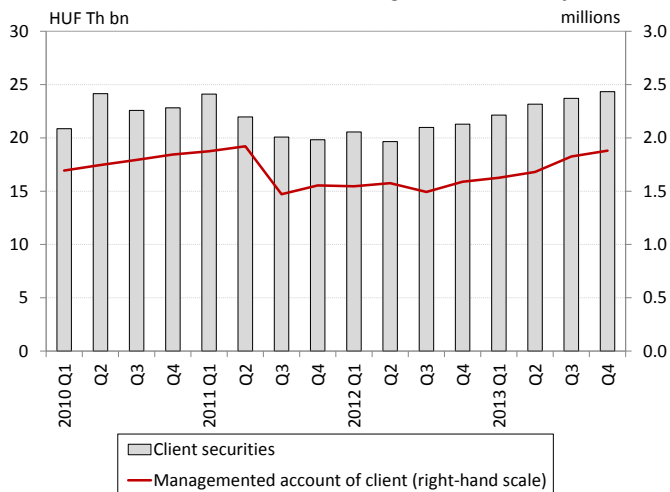
Source: MNB.

Chart 64: Capital market turnover of investment firms



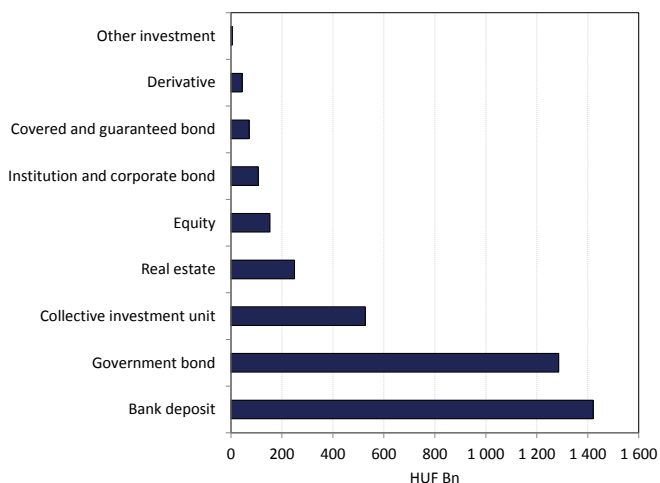
Source: MNB.

Chart 65: Client securities and management account of client



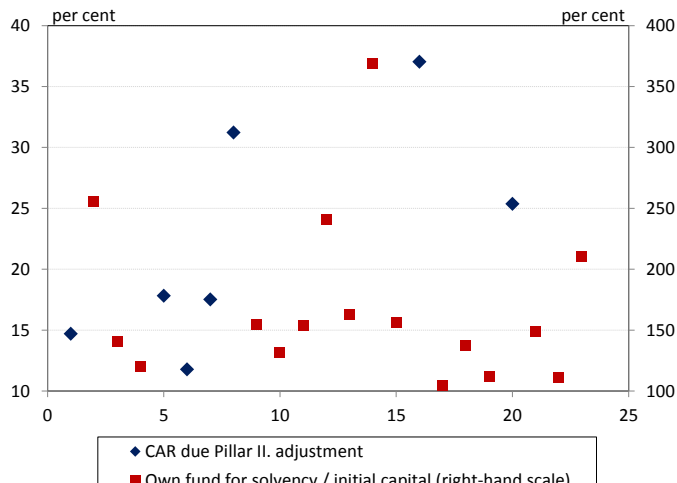
Source: MNB.

Chart 66: Asset allocation in public offered investment funds



Source: MNB.

Chart 67: Capital adequacy ratio (CAR) of investment firms



Source: MNB.

Notes to the appendix

The chart date (e.g. 2008) means the end of the year (the 31st of December) if it's not indicated otherwise.

Chart 1:

The increased value of the indicator indicates declining risk appetite or increasing risk aversion.

Chart 2:

VIX: implied volatility of S&P 500.

MOVE: implied volatility of US Treasuries (Merrill Lynch).

Chart 3:

The increased value of the indicator indicates declining risk appetite or increasing risk aversion.

Chart 4:

General government augmented SNA-deficit includes local governments, ÁPV Ltd., institutions discharging quasi-fiscal duties (MÁV, BKV), the MNB and authorities implementing capital projects initiated and controlled by the government but formally implemented under PPP schemes. The indicator includes private pension savings.

In case of the household sector, financing capacity is consistent with the SNA deficit of the general government and does not take savings in private pension funds into account. The official financing saving of households (in the financial account) is different from data on the chart.

Chart 10:

Disposable income is estimated by MNB using the consumption, investment and financial savings data of households.

Chart 12:

Number of bankruptcy proceedings of legal entities, summed according to the date of publication, cumulated for 4 quarters, divided by the number of legal entities operating a year before.

Chart 13:

The 5-year forward forint risk premium as of 5 years from now, compared to the euro forward yield (3-day moving average) and the 5-year Hungarian credit default swap spread.

Chart 16:

Historic volatility: weighted historic volatility of the exchange rate (GARCH method). Implied volatility: implied volatility of quoted 30-day ATM FX options.

Chart 24:

FX loans, exchange rate as of end-June 2012, HUF loans adjusted by state loan refinancing in December 2002.

Chart 25:

Exchange rate adjusted values.

Chart 27:

In brackets below the names of sectors the weights within corporate credit portfolio are indicated for end-of-observation period.

Chart 35:

If the value of the HAI is 1, it shows that under a given set of credit conditions a typical household has just enough monthly income to take out the mortgage loan necessary to purchase an average flat.

If the value of the index is above 1, it indicates that a household with average income can afford to borrow for the purchase of a home.

The uncertainty band is given from the different values of the LTV.

Chart 38:

An increase in the swap stock stands for swaps with a long forint spot leg. Based on the daily FX reports of credit institutions. Calculated from swap transactions between credit institutions and non-resident investors. The MNB does not take responsibility for the accuracy of the data. Revisions due reporting errors and non-standard transactions can lead to significant subsequent modifications of the data series. The data series does not include swap transactions between branches, specialised credit institutions, cooperative credit institutions and non-resident investors. The swap stock is the sum of termin legs calculated at actual foreign exchange rates.

Chart 41:

The interest rate risk stress test indicates the projected result of an extreme interest rate event; in this scenario this event is a parallel upward shift of the yield curve by 300 basis points for each foreign currency. For the calculations we applied re-pricing data and the Macaulay duration derived from them.

Chart 42:

A rise in the liquidity index indicates an improvement in the liquidity of the financial markets.

Chart 43:

Similarly to the liquidity index, an increase in liquidity sub-indices suggests an improvement in the given dimension of liquidity. The source of bid-ask spreads in case of HUF government bond market is calculated from the secondary market data transactions. The earlier version of the liquidity index included the CEBI bid-ask spread.

Chart 44:

A rise in the indices represents narrowing bid-ask spread, thus an increase in the tightness and liquidity of the market. The liquidity index of HUF FX-swap market includes the data of USD/HUF and EUR/HUF segments, taking into account of tom-next, overnight and spot-next transactions. The earlier version of the liquidity index included only the tom-next USD/HUF transactions.

Chart 45:

Client loans include loans and bonds of non-financial institutions, household loans, loans and bonds of financial and investment enterprises, government loans, municipal loans and municipal bonds. Client deposits include the deposits of non-financial institutions, household deposits, deposits of money market funds, deposits of financial and investment enterprises, government deposits and municipal deposits. The loan-to-deposit ratio is exchange-rate-adjusted with respect to the last period.

Chart 46:

Funding gap is the difference between the exchange rate adjusted customer credit and deposit, divided by the exchange rate adjusted customer credit.

Chart 48:

ROE: pre-tax profit / average (equity - balance sheet profit).

ROA: pre-tax profit / average total assets.

Interim data are annualised.

Pre-tax profit: previous 12 months.

Average total assets: mean of previous 12 months.

Average (equity - balance sheet profit/ loss): 12 month moving average.

Deflator: previous year same month=100 CPI (%).

Chart 49:

Pre-tax profit.

Chart 50:

Based on aggregated individual, non-consolidated data

Net interest income: 12-month rolling numbers, the difference of interest revenue and interest expenditure

Gross interest bearing assets: 12-month average numbers, total exposure

Net interest bearing assets: 12-month average numbers, exposure minus the provision

Chart 51:

Cost: previous 12 months

Income: previous 12 months

Average total asset: mean of previous 12 months

Chart 52:

Capital adequacy ratio (CAR) = (total own funds for solvency purposes/minimum capital requirement)*8%

Tier 1 capital adequacy ratio = (tier 1 capital after deductions/minimum capital requirement)*8%

Chart 64:

Sum turnover of investment firms and credit institution.

Chart 65:

As of 2011th August includes only securities account.

Chart 66:

31. december 2013.

Chart 67:

31. december 2013.

Ferenc Deák

(17 October 1803 – 28 January 1876)

Politician, lawyer, judge at a regional high court, member of parliament, minister for justice, often mentioned by his contemporaries as the 'wise man of the homeland' or the 'lawyer of the nation'. Eliminating the ever-recurring public law disputes and clarifying the relationship between the ruling dynasty and the hereditary provinces, he not only reinforced the constitution and the existence of the nation but also paved the way for the development as well as the material and intellectual enrichment of Hungary.

Deák was actively involved in preparing the laws for the parliamentary period between 1839 and 1840, and he became an honorary member of the Hungarian Academy of Sciences in 1839. After the death of his elder brother in 1842, Deák the landowner liberated his serfs and voluntarily undertook to pay taxes proving that he was an advocate of economic reforms not only in words but also in deeds. He refused to fill the position of delegate to the 1843/44 parliament because he disagreed with the idea of having to be bound by the instructions received as delegate, and as a moderate political thinker he had his concerns about the radical group led by Kossuth.

He remained level-headed also with regard to the evaluation of the events of 1848, he was afraid of violence and rejected it as a political tool. All the same, he accepted the post of minister for justice in the government of Lajos Batthyány. In December 1849 he was arrested for revolutionary activities, but later on, after being tortured for information, he was released. From then on he acted as the intellectual leader of the national passive resistance movement, and believed from the very beginning that Austrian centralisation was doomed to fail due to its inherent faults. He became the leader of the Address Party in the parliament of 1861, and even though they failed to bring the monarch to accept their ideas, he increasingly managed to take over the initiative over time.

Based on his earlier proposals, in 1865 Deák published his so-called Easter Article – which radically influenced Hungarian politics of the time – and until 1867 he virtually devoted all his time to reaching a compromise with the Hapsburg dynasty. After the compromise between Austria and Hungary ratified in 1867, Hungary was able to return to the path of social and economic development.

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