FINANCIAL STABILITY REPORT

NOVEMBER
2015

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

Ferenc Deák

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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 Financial Stability Report 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 Directorate Financial System Analysis, the Macroprudential Policy directorates, and the Financial Institutions Supervision Executive Directorate, under the general direction of Barnabás VIRÁG, Executive Director.

The Report was approved for publication by Márton NAGY, Deputy Governor.

The Report incorporates the Financial Stability Council's valuable comments and suggestions following its meetings on 20 October and 17 November 2015, and those of the Monetary Council following its meeting on 3 November 2015.

This Report is based on information in the period to 30 September 2015.

Contents

List of boxes

Executive summary

The vulnerability of the Hungarian financial system declined considerably in the past period. Settlements of mortgage loans and the conversion into forints carried out in two steps was able to manage the most important systemic risk stemming from households' foreign currency loans. The central bank self-financing programme also significantly reduced the country's external vulnerability. The Funding for Growth scheme effectively stabilised lending to non-financial corporates, however, market based lending remained remarkably subdued. The dynamics of corporate lending, however, is still fall behind from the 6-7 per cent year on year increase, which is considered to be supportive to sustainable economic growth. Over the next two years, restoring market-based corporate lending and resolving the non-performing portfolio will be the largest challenge for the banking sector. The central bank initiates the Growth Supporting Programme (GSP) as a targeted incentive for corporate lending; as a result in 2016, the programme may achieve a 5-10 per cent increase in total corporate and SME lending, in particular.

In recent years, Magyar Nemzeti Bank has achieved the stabilisation of corporate lending through the Funding for Growth Scheme (FGS). However, market-based lending has not picked up considerably. For this purpose, the MNB addresses an important role to the instruments to be introduced as of 2016, providing positive incentives for lending. With the cooperation of the banking sector, the risk of a creditless recovery can be mitigated, and a sound expansion in market-based lending may result in a more dynamic convergence. In addtion, an increase in sustainable economic growth would also improve the market environment of the banking system.

Shock absorbing capacity of the domestic banking sector is solid, the capital and liquidity position is currently adequate. The conversion of the remaining foreign currency household loans and the self-financing program lowered the vulnerability of banks and through that the vulnerability of the whole economy as well. However, the banking system still remains contractionary, i.e. it has a negative contribution to economic growth. Against this background, basically three main challenges shall be addressed in the financial system.

***1**. Although the FGS successfully counterbalanced the fall in corporate loans outstanding, market-based lending has not recovered yet**.** Corporate lending is characterised by a dual trend: while lending to the SME sector increased as a result of the Funding for Growth Scheme, a major decline was observed in outstanding loans to large corporations in 2015, which is partly attributable to certain one-off effects. As a result, corporate loans outstanding in the financial intermediary system declined by a total 3.4 per cent year on year. The banking sector continues to be characterised by cautiousness and low risk appetite, hindering the recovery of market-based corporate lending. Therefore, there is a risk of a creditless recovery, which would suggest a lower future growth potential than what is necessary for a converging country. On a longer term, corporate lending is well below the 6–7 per cent expansion that supports sustainable economic growth. The underlying trends in corporate lending are fragile, both on the demand and supply sides. In order to reduce these risks, funds with favourable conditions will remain available for SMEs in a more targeted form and lower volume in 2016, during the phase-out stage of the FGS. Furthermore, additional targeted measures to stimulate market-based corporate lending in the bridging period of the next one and a half to two years will be taken. As a result of the aforementioned measures through the product development of banks, non-financial corporations may have access to finance in forints with long-term maturity and an interest rate fixation. The instruments of the GSP may potentially result in a HUF 250-400 billion increase in corporate loans outstanding, thus total corporate, and SME lending in particular, is expected to grow by 5-10 per cent in 2016. Therefore, GSP may contribute to GDP growth by an additional 0.5-1 percentage points.*

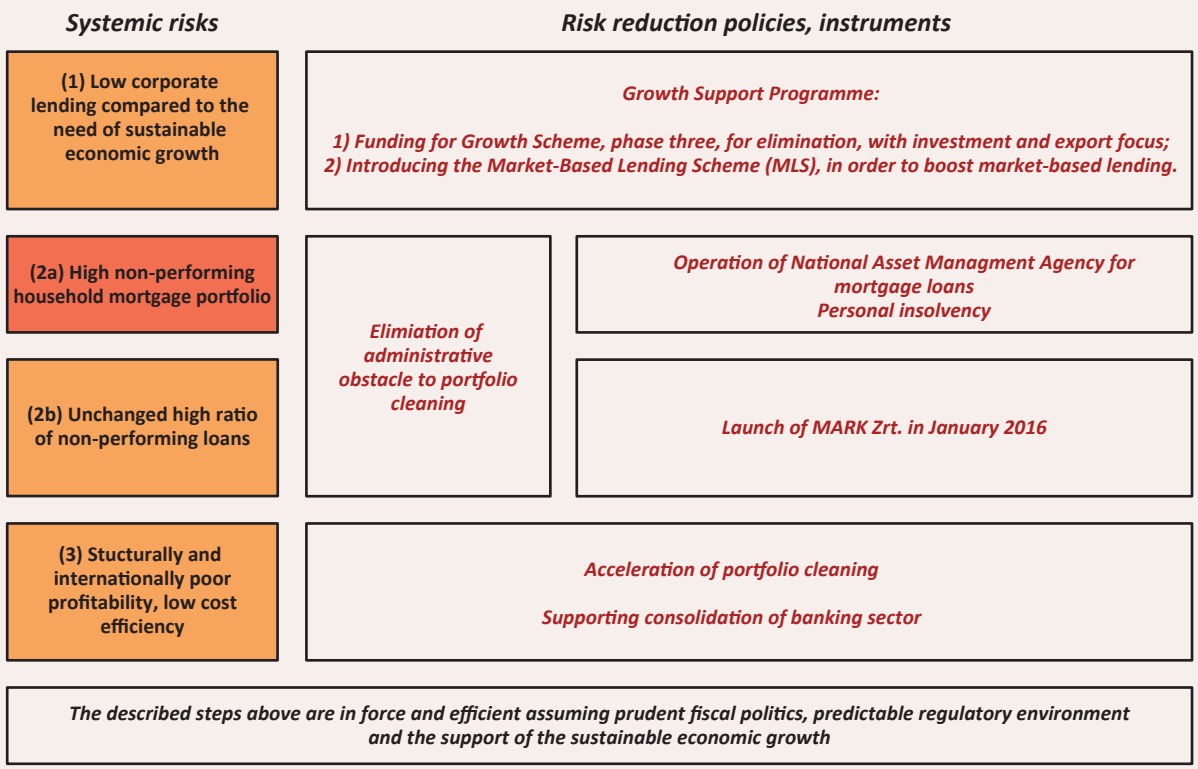
***2.** The share of non-performing loans in household mortgage and commercial real estate portfolios is still high As a result of the conversion into forints and the settlement of households loans, the risk of new defaults in the existing portfolio declined considerably. In the case of new loans, the debt cap rules mitigate this risk. However,*

the high ratio of distressed household mortgage loans continues to be a significant risk in the financial system. Adjustment of the personal bankruptcy conditions and the expansion of National Asset Management Agency for mortgage loans may help mitigate this risk by facilitating the resolution of the non-performing portfolio. In addition to these government measures, however, further incentives may be needed in order to facilitate market solutions carrying out the distressed mortgage portfolio. According to a deep analysis, the primary source of distress is not the lack of the necessary income, but the relative overindebtedness in the case of a markable share of the concerning portolio. Thus, resolving the mortgage portfolio may be achieved by the set of existing instruments, i.e. through sustainable restructurings. However, a more intense cooperation between debtors and creditors is necessary in order to faciltiate the resolution, for which removing the administrative obstacles is necessary. In relation to the quality of the corporate portfolio, non-performing project loans continue to be the problem; the activities of MARK may help to resolve this problem. Several important steps have been taken already, and as a result, a debt manager functioning on a market basis and setting a European precedent may soon commence operations.

***3**. The profitability of the banking sector may return to positive territory this year, but still remains low by international standards. While the aggregate effect of recent regulatory measures is almost neutral over the medium term, banks' profitability outlook should improve over the next two years on the whole, due to the lower provisioning requirements for loan losses. Despite this, the banking sector's profitability may still remain low in international comparison. As a result of the weak capital accumulation capacity, profitability, which is permanently below the expected return on equity, has a negative impact on the growth potential of the banking sector and thus on the ability to adequately support sustainable economic growth. There is room for further improvement in profitability by improving cost efficiency. Cost savings by the banking sector can be increased not only at the level of individual banks, but also through mergers of institutions by the exploitation of synergies, thus making the sector more profitable. However, this is a lengthy process and poses challenges for the players concerned.*

Resolution of the large portfolios of non-performing loans and an increase in cost efficiency are both needed for the restoration of structural profitability, after which it may become possible to ensure the role of the domestic financial system in supporting sustainable economic growth over the long term as well.

Risks identified in the Financial Stability Report and risk management steps



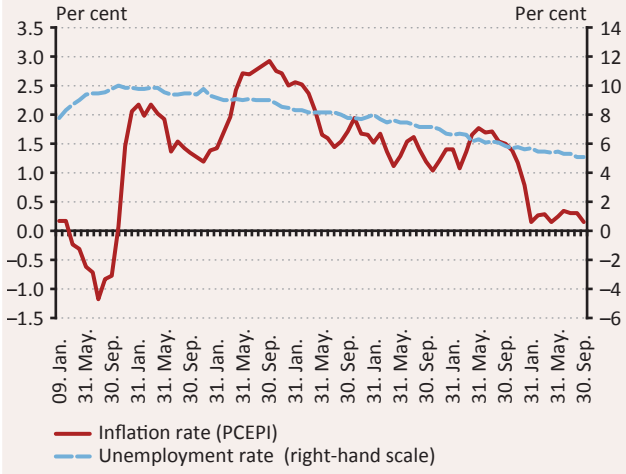
Returning to market-based lending: traits of optimum

Characteristic of loan products sustainably supporting economic growth	Characteristic of target segments of lending sustainably supporting economic growth
Investment loans are essential for economic growth The accessability of loans with fixed interests rate and with a maturity of more than five years have particular importance It is essential for the SME segment to be able to access finance with moderate profit spread Enterprises with a natural hedge should have access to FX financing	It is necessery, that SMEs have an access to funding The access to funding of young enterprises is also fundamental, since they have the highest chance to grow dynamically The most dynamic enterprises are more typical in the manufacturing, agriculture, trade and transportation

1 Macroeconomic and money market environment – decelerating growth in developing countries, declining external vulnerability in Hungary

The United States continues to maintain loose monetary conditions, and the expected date of the first increase in interest rates has shifted to December. The adoption of the third Greek rescue package reduced the risk of a sovereign debt crisis, but the financial stability of the EU continues to be jeopardised by the generally high level of government debt and the low profitability of the banking sector. Overall, global economic growth decelerated in 2015, which is primarily attributable to the slowdown in the emerging countries, the increasing uncertainty surrounding the Chinese economy and geopolitical tensions. In 2015, the Hungarian economy is expected to expand at a rate of around 3 per cent, supported by growth in both exports and consumption. The country's financing capacity as a proportion of GDP was historically high, short-term financing need is close to the average pre-crisis level. The systemic stress level of domestic money markets decreased significantly as a result of the households' mortgage debt FX-conversion in February and March.

Chart 1
Inflation and unemployment rate in the USA



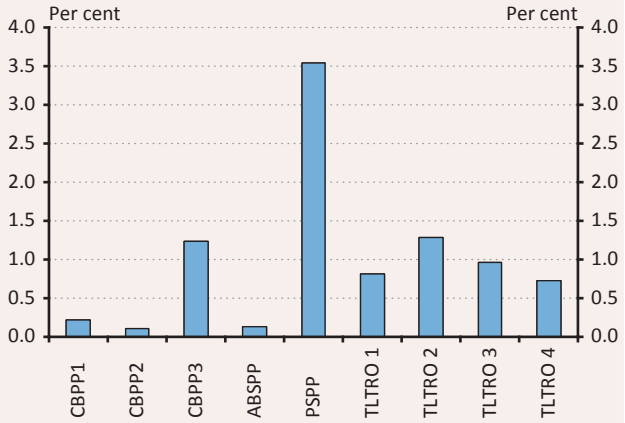
Note: Monthly inflation is the percentage change of the PCE (Personal Consumption Expenditures) price index compared to the same period of the previous year.
Source: Federal Reserve Bank of St. Louis.

1.1 THE ECB AND, FOR THE TIME BEING, THE FED HAVE BOTH CONTINUED TO PURSUE EXPANSIVE MONETARY POLICY, WHILE UNCERTAINTY IS INCREASING IN THE EMERGING COUNTRIES

So far, the Fed has not made any changes to the loose monetary conditions. Despite the favourable domestic economic indicators, the Fed continues to keep the interest rate level between 0 and 0.25 per cent. Although – based on the promising labour market figures – there is room for monetary tightening, the level of inflation has remained below the long-term target due to declining energy and import prices (Chart 1). The consideration of potential risks stemming from global economic problems is another reason for maintaining the expansive monetary policy. Consequently, the expected timing of the first interest rate increase has shifted to December 2015.

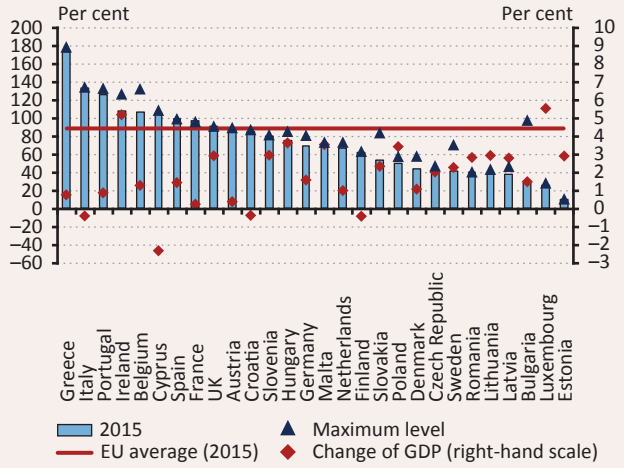
The European Central Bank continues to conduct expansive monetary policy via its quantitative easing programmes. In the past period, the ECB left the interest rate level unchanged and continued its asset purchase programme (EAPP), which was launched in March 2015. Within the framework of the EAPP, the ECB is purchasing asset-backed securities

Chart 2
Volume of the ECB's asset purchase and refinancing programmes as a proportion of euro area GDP



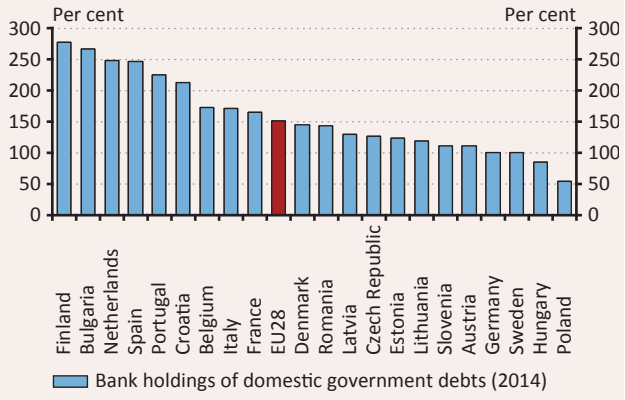
Source: ECB.

Chart 3
Growth, government debt-to-GDP ratio and historical growth peak in EU countries



Sources: Eurostat, ECB.

Chart 4
Changes in government securities portfolio held by banks between 2009 and 2014

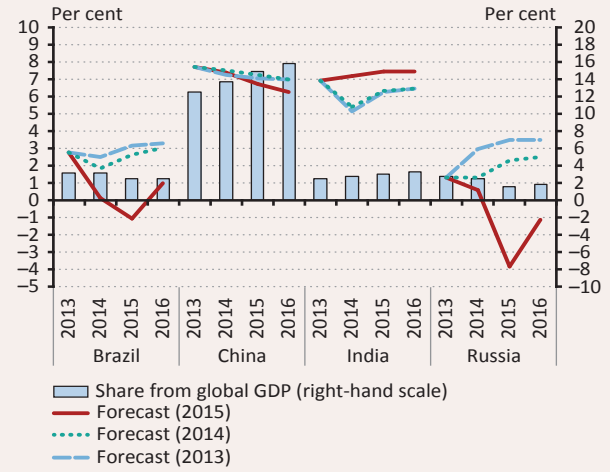


Source: ECB.

(ABSPP), government securities (PSPP) and covered bonds (CBPP3), in order to be able to influence the economy even when the interest rate level is close to zero. To date, the volume of the programme has already amounted to more than EUR 500 billion, corresponding to nearly 5 per cent of euro-area GDP. Based on the ECB's forecasts, gradual economic improvement and rising inflation in the euro area are still projected for the coming years. On 18 June 2015, the fourth targeted long term refinancing operation (TLTRO) was launched as well, within the framework of which EUR 73.8 billion was borrowed by a total of 128 institutions, which is slightly below the result of the first three phases (Chart 2).

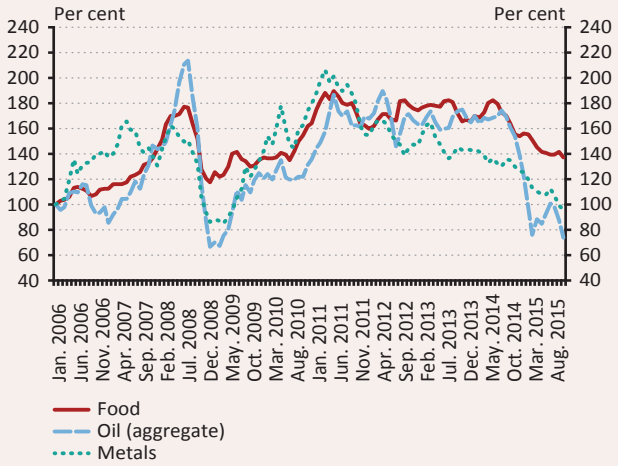
The financial stability of the EU is jeopardised mainly by the unfavourable balance sheet position of financial institutions and the potential price changes of sovereign securities. Following approval of the third Greek rescue package, Greece continues to strongly depend on the European emergency liquidity assistance (ELA), but the risk of a sovereign debt crisis declined, and thus it did not cause any contagion for the other members of the euro area. Although the impact of the Greek events remained moderate, European economies may also be affected by the expected monetary tightening in the United States and the vulnerability of developing markets. Although only a limited number of member states have significant direct exposures in these markets, unfavourable developments may still affect Europe through global asset allocation, exchange rate changes and confidence channels as well. Another risk factor may be the extremely low yield level in the government securities market which has evolved due to the ECB's quantitative easing and the reallocation of assets from the emerging markets. In parallel with this, the government debt-to-GDP ratio has reached record highs in several member countries, primarily as a result of the expansion of the long-term segment (Chart 3). An increasingly large share of this government debt is concentrated in banks' balance sheets, which significantly reduces external vulnerability, but at the same time without the proper handling of the interest rate risk – as a feed-through effect – it makes these institutions more sensitive to potential changes in yields (Chart 4). Furthermore, the European banking sector continues to be strongly segmented, and its vulnerability is also increased by the historically low profitability. As a consequence, banks are unable to expand their lending activity, which could support growth, and hence, the normalisation of the debt-to-GDP ratio.

Chart 5
Expected changes in the weighting of developing emerging countries in the global market and developments in growth forecasts



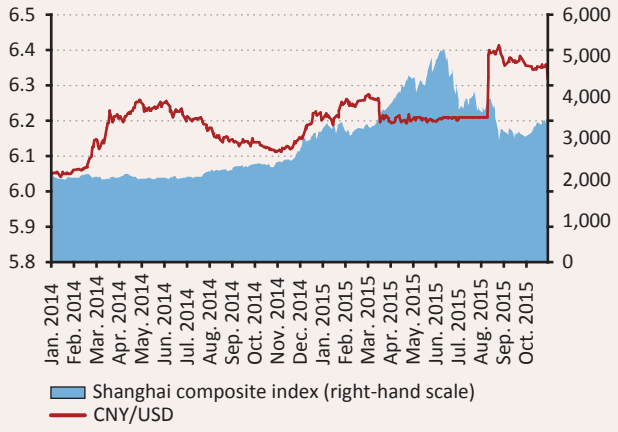
Source: IMF WEO July 2015.

Chart 6
Changes in major commodity prices
(USD, Jan 2006 = 100%)



Source: IMF.

Chart 7
The Chinese stock market and the exchange rate of the yuan

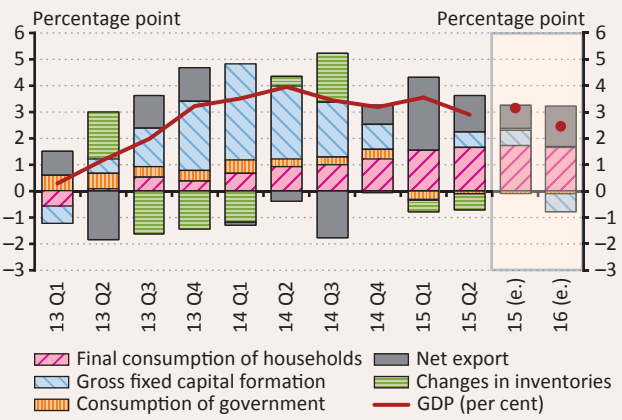


Sources: FED, Bloomberg.

Growth rates in emerging countries are decelerating with the decline in commodity prices, and the outlook is impaired by geopolitical tensions. After the quick upturn following the crisis, growth rates in the emerging countries gradually declined after 2010, and growth next year is also expected to be weaker than previously estimated (Chart 5). In parallel with this, the volume of capital inflows is declining, which may make it more difficult to roll-over the partly USD-denominated debt accumulated in the low interest rate environment of the past years, and thus the vulnerability of the countries concerned may increase due to the rise in financing costs. In addition, the decline in commodity prices has also had a negative effect on the emerging countries, especially on Russia and Latin America (Chart 6), which is further exacerbated by the impact of the international sanctions in the case of the Russian economy. Another potential risk is the possible interest rate hike by the Fed, which – by way of USD appreciation and the repricing of assets – may cause problems for the emerging countries that have accumulated significant USD-denominated debt.

The Chinese economy expanded at a rate of around 7 per cent in Q2, but the decline in exports and uncertainty about domestic expenditure growth suggest weaker growth going forward. Declining export and import figures and the lower-than-expected expansion of the services sector are risks to the Chinese growth outlook, which would – as a feed-through effect – affect the countries that have significant export exposure vis-à-vis China, but may also have an impact on the global economy via rising risk spreads. The structural transformation of the Chinese economy entails the risk of lower potential growth, and domestic expenditure is not expected to be able to maintain the strong growth dynamics observed so far. Another ominous sign is that, compared to the early-June high, the Shanghai Stock Exchange showed a 40 per cent decline, although it still remained above the level observed a year earlier. At the end of October, the People's Bank of China (PBoC) once again cut the interest rate level by 25 basis points as it had at the end of June, and lowered the mandatory reserve requirements for banks by 50 basis points as well. Another major intervention occurred at the end of August, when the Chinese central bank increased the flexibility of the exchange rate mechanism, which resulted in a 3 per cent depreciation of the renminbi against the US dollar (Chart 7).

Chart 8
Changes in GDP growth
(compared to same period of previous year)

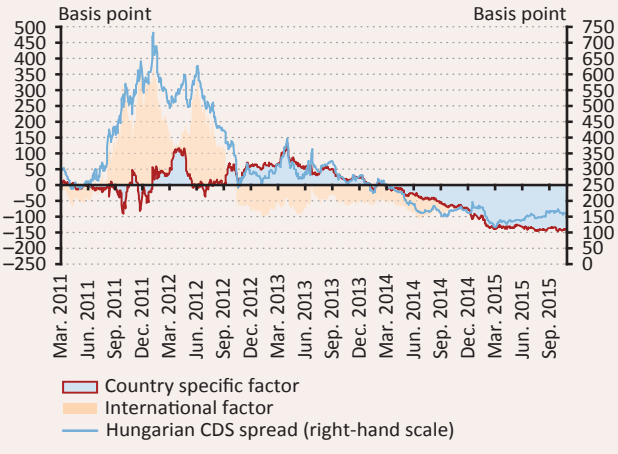


Sources: HCSO, MNB.

1.2 HUNGARY IS CHARACTERISED BY A LOW INTEREST RATE ENVIRONMENT, DECLINING DEBT AND IMPROVING PROSPECTS FOR HOUSEHOLDS

GDP growth remained high in 2015 Q2, as the economic growth in Hungary was 2.7 per cent compared to the same period of the previous year. According to the MNB's Inflation Report in September, GDP will grow by approximately 3 and 2.5 per cent in 2015 and 2016, respectively (Chart 8). The pick-up in household consumption continues to be a key factor, with quarterly growth of 1.6 per cent, although its volume is still below the pre-crisis level. The growth rate of investment will decline next year with the end of the 2007–2013 EU budget cycle. The sharp decline in public investment resulting from the aforementioned impact may be corrected by a slight increase in private sector investment. The historically low domestic interest rate environment may help to maintain the low corporate cost of funds structure, and thus we do not expect any drastic change in corporate funding requirement. In addition to the increase in real wages, which took place in a low inflation environment, and the decline in the personal income tax from 2016, household consumption is also promoted by the large-scale debt reduction resulting from settlement and FX-conversion. Further growth in exports is supported by the gradual pick-up in the euro area, as Hungary's most important trade partner, but this may be hindered by the Volkswagen scandal and the possible reintroduction of border controls within the Schengen area.

Chart 9
The decomposition of Hungarian CDS spread

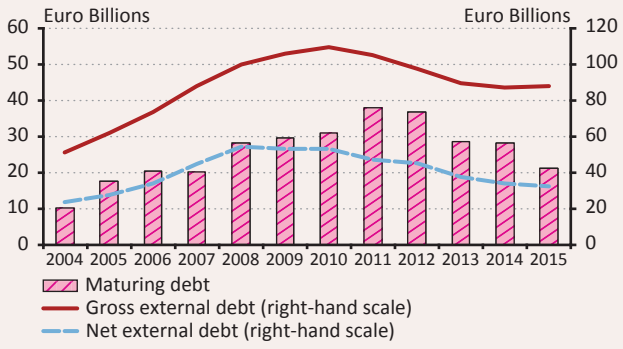


Note: The decomposed data shows the change to the status of March 2011. The positive values of the components indicate the role of extent in the growth of CDS spread.
Source: MNB.

Hungary's external risk assessment has improved. During the past half year, Hungarian CDS spreads remained at low levels, which is largely attributable to the FX-conversion of mortgage loans. Without FX-conversion, the CHF appreciation resulting from the January decision of the Swiss central bank would have resulted not only in strong turbulence in the banking sector, but may have also entailed an increase in credit default swap spreads as well (Chart 9). Hungary's country-specific factors point to a reduction of CDS spreads, thus offsetting the effects of the unfavourable changes in the international environment. If the credit rating agencies upgrade Hungary's credit rating, the CDS spread is expected to decline further, which will additionally improve the country's financing position.

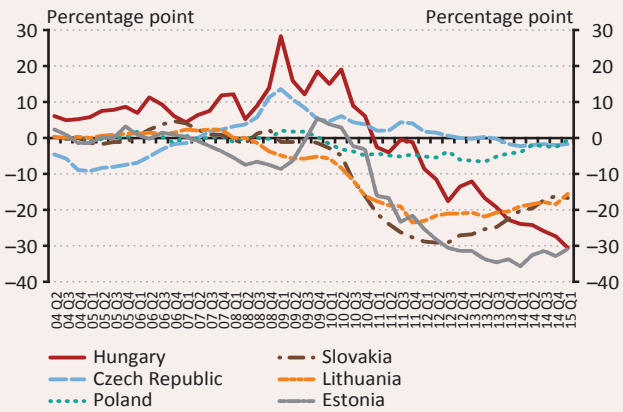
The volume of maturing external debt continued to decline. The volume of external debt maturing in 2015 has decreased by 30 per cent compared to the previous year in which it amounted EUR 30

Chart 10
Development of gross and net external debt and maturing debt



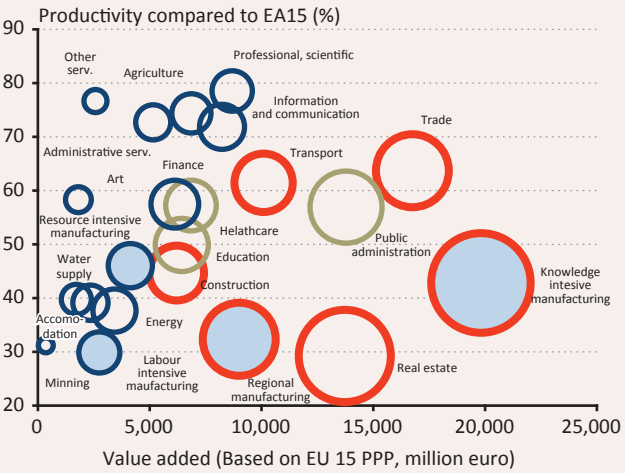
Note: The value for 30 June 2015 is shown for the 2015 gross and net debt.
Source: MNB.

Chart 11
The divergence of private sector's credit level in the percentage of the GDP from the trend expressed by credit gap index



Note: Based on trend adjusted by univariate HP filter.
Source: ECB.

Chart 12
Potential of closing up in the Hungarian economy



Note: The size of the circles is portional with multiplication of the size and productivity gap of the sector, hereby it signals the size of closing up potential. The blue colour is the manufacturing sector.
Source: Eurostat, MNB.

billion. Accordingly, the funding requirement for the renewal of external debt is close to its average pre-crisis level (Chart 10). The impact of declining interest expenditures due to FX-conversion is another factor behind the decrease in external debt. The steady decline in net debt since 2010 continued. We expect a further decrease in gross debt, which is also strongly supported by the changing of the set of instruments within the framework of the MNB's self-financing programme. Further strengthening of domestic participants' demand for government securities may contribute to the decline in gross external debt, and, as a result of the programme, the share of external debt denominated in FX may decrease as well, which is also favourable in terms of external vulnerability.

Growth not associated with lending activity has characterised Hungary over the past years. Since the onset of the crisis, the negative gap between the expected level of borrowing capable of fostering sustainable growth and actual borrowing has been continuously widening. On a regional level, the most significant narrowing of the credit gap occurred in Hungary, its adverse impact somewhat offset by the Funding for Growth Scheme (Chart 11). Economic growth occurred in Hungary with the post-crisis recovery not being accompanied by a pick-up in lending activity, which is undesirable in terms of long-term growth. The corporate sector may suffer particularly severe growth sacrifices, as tight lending conditions and the credit crunch may significantly curb economic activity or even lead to a contraction in capacities. Lending constraints impact the smaller, more vulnerable SME segment to a greater extent. In their case, banks' aversion to risk is felt more markedly, resulting in a risk of loan demand declining within the sector in the wake of SMEs' adjustment to the "rejecting" conduct of banks should tight lending constraints persist in the long run. Due to the underdeveloped capital market financing capacity in Hungary, there is no real capital market alternative to commercial bank loans.

The Hungarian economy carries significant convergence potential, but is characterised by heterogeneity by sector and enterprise size. The greatest opportunity for development lies in manufacturing, specifically knowledge-intensive manufacturing, were not only the size of the sector, but also its low productivity leave much potential for convergence. Due to the relatively large size of these sector, the trade, transport and construction sectors also carry significant macro-level growth potential (Chart 12). The lag in productivity characterising

Hungary is not homogeneous across sectors, similarly to the differences observed in most countries, with larger enterprises generally exhibiting better productivity. This economic duality is most apparent in manufacturing: smaller enterprises — which account for the greatest number of jobs — exhibit a significant lag in terms of productivity. The productivity of micro enterprises falls significantly short of the optimal level across all sectors, which presents a severe problem because the lion's share of young start-ups fall within this segment, meaning that new entrants fail to contribute sufficient dynamism for sustainable growth. Based on the foregoing, supplying the micro and SME segment with sufficient funding is essential (see Box 1).

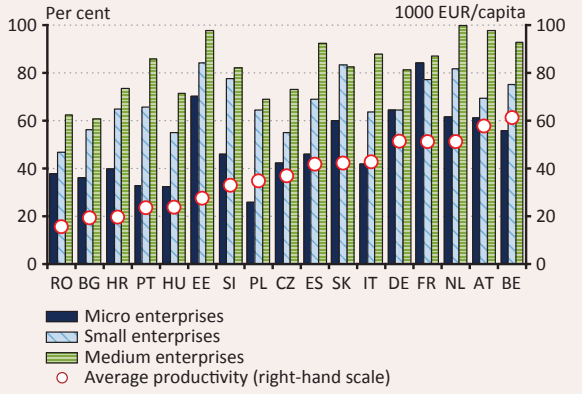
Box 1

Duality in the productivity of the corporate sector

Small and medium-sized enterprises play a key role in the operation of the economy. Based on the data in corporate tax returns, SMEs give two-thirds of domestic corporate employment, and half of the investment activity. 55 per cent of the added value produced by the enterprises is related to small and medium-sized enterprises.

The domestic corporate sector is characterised by a strong dual nature, the productivity of the domestic SME sector is rather low in regional comparison. If the difference between the productivity of SMEs and large companies was similar to that in the Visegrád region, the level of the gross domestic product could be 4 per cent higher. Because of the catching-up potential in the productivity of the SME sector, the development and the boosting of this sector are key objectives.

Productivity in proportion of productivity of large enterprises

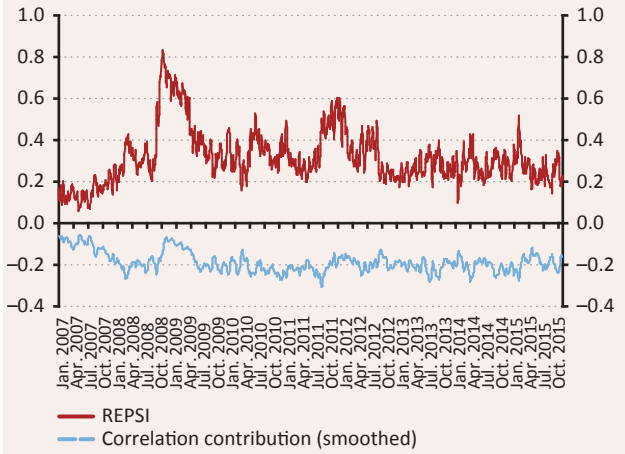


Source: MNB

An important channel of the improvement of productivity is the increase in capital intensity. Small and medium-sized enterprises are able to accumulate internal funds to a limited extent only, therefore their capacity-developing investments usually require external funds, too. The most typical form of that is borrowing from credit institutions. Over the past decades, a number of economic policy measures were taken to improve the financing situation of small and medium-sized enterprises. The Funding for Growth Scheme of the Magyar Nemzeti Bank has effectively improved the financing position of the SME sector. Based on the surveys, enterprises still feel strong loan supply limitations, which effectively limit their development possibilities. The Market Loan Programme launched by the MNB may contribute to the demolition of these credit supply barriers.

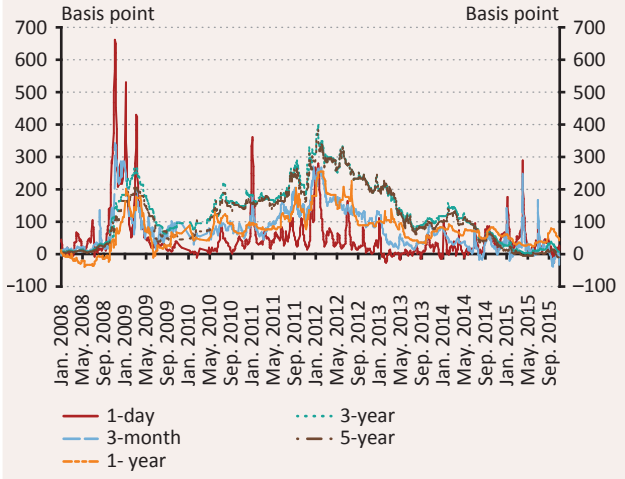
Apart from the investments, the productivity of the SME sector is influenced by other, structural factors, too. Several surveys indicate that a small portion of the domestic SME sector is involved in innovation activities, so they do not make use of the potential in product development or operation efficiency. In addition, the lack of qualified labour force may also limit the extension of production. Finally, the general business environment (e.g. regulations, tax system) may also hinder the growth of businesses. In the international surveys of competitiveness, Hungary usually lags behind the performance of the Visegrád countries. Consequently, for the catching up of the productivity of the SME sector, apart from the improvement of the conditions of getting loans, structural reform measures improving the business environment are required, too.

Chart 13
System-wide Financial Stress Index
(SWFSI)



Note: The SWFSI covers the following sub-markets: spot foreign exchange market, capital market, secondary governement securities market, interbank unsecured forint market, FX swap market, and the banking sector's stress index and correlation contribution. Higher measures co-movements between markets.
Source: MNB.

Chart 14
FX swap spreads



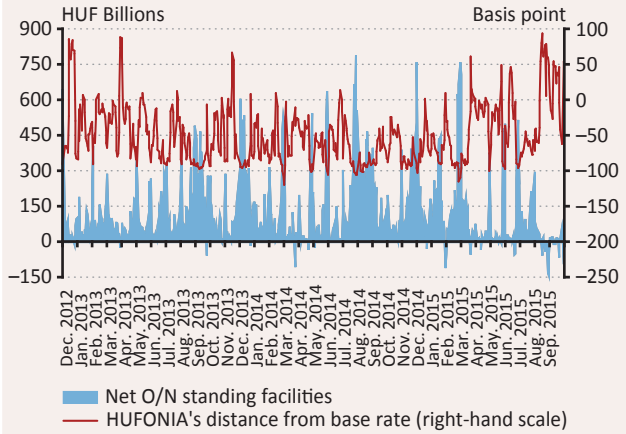
Note: Spreads are calculated from EUR/HUF quotation of rates. Exponential moving averages are shown in case of the spreads with maturity less than 1-year.
Sources: MNB, Bloomberg.

1.3 THE SYSTEMIC STRESS LEVEL OF DOMESTIC MONEY MARKETS FELL AS A RESULT OF THE FX-CONVERSION IN FEBRUARY AND MARCH

The systemic stress level of domestic money markets declined steadily between January and August 2015. In 2015, the FX-conversion in February and March had a considerable impact on the value of the system-wide financial stress index (SWFSI), because after that the volatility of the EUR/CHF exchange rate, which had determined the risks of the spot FX market until then, only had a marginal impact on the value of the index (Chart 13). As a result, starting from March, the stress level of the spot FX markets remained low, as did the stress levels of the bank and capital market segments. The stress levels of the unsecured interbank and government bond markets declined as a result of the increasing turnover, unlike that of the swap market. Between August and September the decrease in the SWFSI after the conversion was offset by the increase in the stress level of forint interbank market.

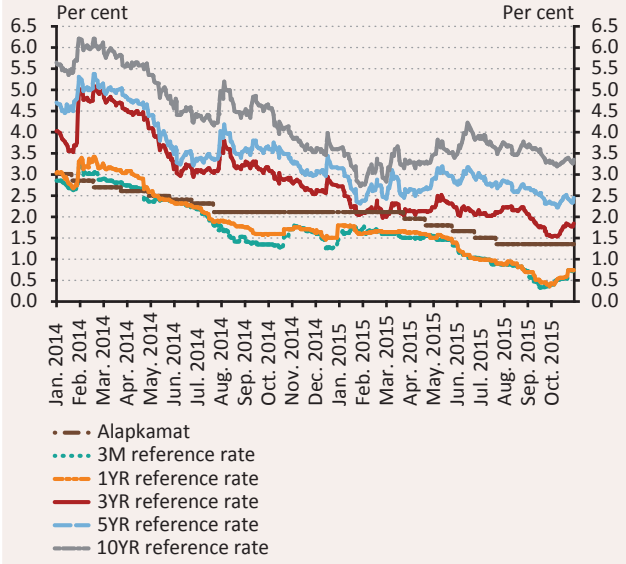
Apart from the temporary swap market tensions at the end of the quarter, spreads remained at low levels. At end-March and end-June 2015, overnight FX swap spreads widened drastically (Chart 14), possibly due to reductions of forint asset by non-residents. The widening was smaller at end-June, when the overnight swap spread stood at 360 basis points. The tension eased quickly on both occasions, and short-term spreads declined to around 10 basis points by the beginning of July 2015. A decline in spreads had been observed for long maturities since September 2014, but this decline then ended. Long-term spreads increased slightly in August, which took place in parallel with the deterioration in international risk indices.

Chart 15
Central bank overnight deposits outstanding and the distance of the HUFONIA from the base rate



Source: MNB.

Chart 16
Benchmark yields of government securities and the base rate



Source: MNB, GDMA.

Banks' liquidity management has been less cautious since April 2015. From April 2015, the HUFONIA departed from the bottom of the interest rate corridor and fluctuated in a band closer to the base rate, which is favourable in terms of the interest rate transmission mechanism (Chart 15). In the period April–August 2015, the average daily recourse to the central bank O/N deposit was HUF 38 billion lower than in the same period of the previous year, which also means that institutions' liquidity management relied on the interbank market to a greater extent. Simultaneously with this, the daily average turnover of the overnight forint interbank market was HUF 15 billion higher in year-on-year terms. Since the end of September the observed reduction in net central bank O/N deposits has reflected a decrease of 25 basis points in the bottom of interest rate corridor.

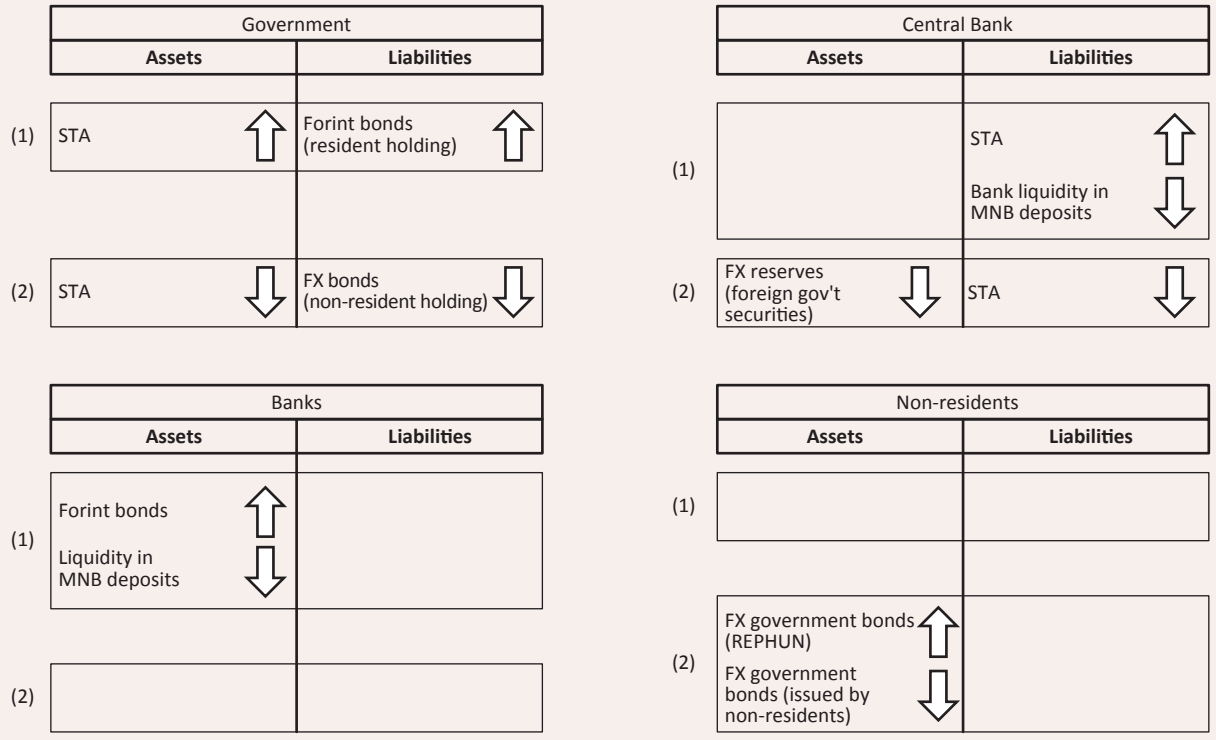
Long-term yields increased slightly in the government securities markets, while yields on short maturities continued to decline as a result of the base rate cut and the changes in the set of instruments. Long-term benchmark yields increased from April until end-June, which is attributable to the rise in US long-term yields, the ECB's quantitative easing measures and the related increases in expected inflation (Chart 16). Following that, starting from June 2015, as a result of the settlement of the Greek crisis, long-term yields started to decline slightly, which was also backed by the government securities purchases taking place within the framework of the self-financing programme (Box 2). Yields on three-month and twelve-month benchmark government securities declined considerably starting from early June, due to the falling base rate and the changes in the set of monetary policy instruments implemented at end-September. As a result of these developments, the distance between short-term benchmark yields and the base rate increased, and the yield curve became steeper.

Box 2
Achievements of the Central Bank self-financing programme

The primary objective of the self-financing programme is to reduce Hungary's vulnerability According to the self-financing concept, in parallel with increasing the acceptable collateral portfolio (mainly government securities) of the banks, it is possible to reduce the reliance of the Hungarian state budget on external funds. The increase in self-financing has an impact on the respective balance sheets of the MNB, the banking sector and the general government, and technically it can be divided into two steps: (1) supposing that the acceptable collaterals are increased on the government securities market, the greater demand for government securities and their extended sale will increase the balance of the general government's account held by the MNB, from which (2) the public debt manager repays FX debts, therefore the country's FX (external) debts and the MNB's FX reserves decrease.

In the past one and a half years, several measures were adopted within the framework of the self-financing programme in order to increase banks' demand for non-central bank, acceptable securities collaterals. In order to direct the banking sector's structural excess liquidity to the securities market, the transformation of central bank instruments aimed at an increase in the relative attractiveness (in terms of banks' liquidity management) of acceptable collaterals which basically mean government securities. Some of the measures make other forms of the absorption of bank liquidity less attractive compared to securities that can be accepted as collateral: the conversion of the two-week bill into deposits in mid-2014, then its quantitative limitation as of September 2015, the introduction of the three-month policy instrument and the pushing of the interest rate corridor downwards are all steps taken in this direction. As a step directly stimulating the increase in the portfolio that can be accepted as collateral - primarily government securities -, the MNB introduced a long-term, conditional central bank interest rate swap (IRS) facility as of June 2014. A precondition of using the IRSs is that the given credit institution raises its collateral portfolio at least by an amount corresponding to the IRS quantity it had recourse to, and keeps this holding until maturity, but at least for 1 year. All this means that the IRS is able to effectively stabilise the market of collateral securities, primarily government securities: collateral holdings[1] 'secured' as a result of the conditional character of the instrument reached HUF 2800 billion at end-September 2015. The facility, which originally had been available at 3 and 5 years, was completed by a 10-year maturity as of September 2015, and in order to strengthen the bank fund directing character of the facility, in addition to the original 2014 Q1 base period, which is important in terms of the criterion to increase the collateral portfolio, the MNB introduced another, optional base period of March–May 2015 as well. As a result of all the above, the collateral securities, especially government securities holdings of the banking sector have increased considerably since the launch of the programme.

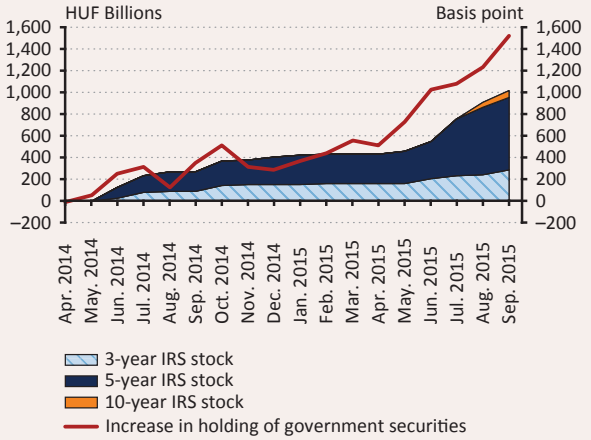
The effects of banks' inreased demand for government securities (1) and a resulting increase in the issuance of forint securities by the debt manager (2) on economic actors' balance sheets



[1] Secured collateral portfolio means the securities holding that can be accepted as collateral, and that the bank that uses the IRS can reduce or sell only with punitive pricing due to the condition related to the central bank interest rate swap facility.

The IRS facility supports the hedging of banks' interest rate risk stemming from increased collateral holdings, and makes the government securities market more stable. Banks' demand for collateral securities is mainly limited by the risks stemming from long maturities. Holding a bond with a longer residual maturity means a higher financial risk than holding a short-term instrument, as a unit change in the yield environment is accompanied by a greater price change. Within the framework of the IRS facility, the banks that use it receive a variable interest (BUBOR) in exchange for a fixed interest (which is lower than the market rate due to the conditionality), therefore the risk cost of purchasing long-term government securities in a quantity corresponding to the contract value of the IRS is reduced to the level corresponding to the frequency of the interest rate fixation of the IRS (6 months). As a result, the banks that buy securities (government securities) complemented with IRS instead of their liquidity rolled in two-week or three-month facilities face – as a result of the restructuring that took place by this – a smaller increase in maturity than without the central bank IRS. The additional risk cost stemming from the longer maturity is offset by the conditional pricing of the IRS and the negotiability of the securities, mainly government securities.

The stock of IRS and the cumulated change in the stock of government securities in the possession of credit institutions since the announcement of the self-financing programme
(22 April 2014)



Source: MNB

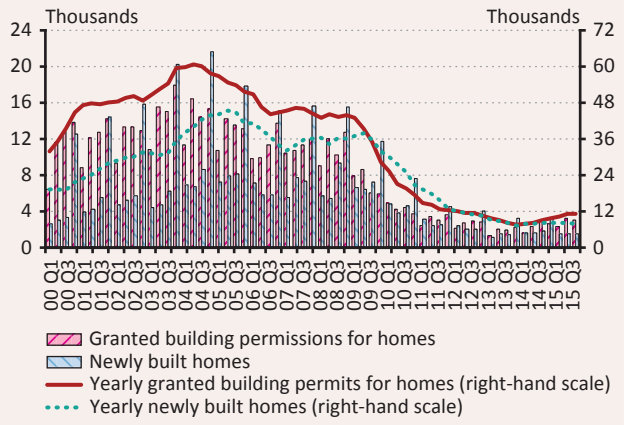
The technical parameters of the IRS facility ease banks' risk and liquidity management. The dates of the tenders of the IRS facilities, their interest payment structure and maturity were determined in a way to cover the total interest rate risk of collateral securities, mainly government securities purchased in parallel. The IRS tenders take place some hours after the government securities auctions, allowing banks to submit offers for the IRS in line with their bids accepted at the auctions of the ÁKK. In addition, the interest payment dates and maturities of the IRSs also coincide with the relevant characteristics of the government securities auctioned on the same day, and thus there is no need for any further management of the base risk stemming from the lack of harmonisation of dates; the hedging function of the IRS can succeed completely

2 Real estate market – segmented pick-up in the housing market

A slight pick-up was observed in the housing market in 2015 H1, but for the time being the market is segmented in several respects. The upturn in the housing market is mostly being seen for used properties and, in terms of territorial distribution, in and around the capital. The number of transactions in the used market already exceeds the 2009 level, while this is not the case for new dwellings. However, the increase in the number of transactions is the highest in Budapest. Thus, on the whole, the revival in the housing market does not yet show a balanced picture. The sharp increase in prices is presumably the result of the increased demand for investment purpose housing resulting from the low interest rate environment, and the delayed reaction of supply to this development. Besides this it may be necessary to stimulate the pace of new residential construction in order to facilitate home creation.

In terms of commercial properties, improvement was observed in both the investment and leasing markets. In the past two years, the volume of commercial property market transactions increased, although a small number of high-volume transactions accounts for a significant portion of the market turnover. In terms of the volume of transactions, market concentration was most typical for the office and hotel segments. In 2015 H1, in parallel with a pick-up in the leasing market, the utilisation of office space in the capital continued to improve, while the volume of lease agreements exceeded the value of the same period of the previous year by somewhat more than 10 per cent.

Chart 17
Number of building permits issued for homes and the number of homes built



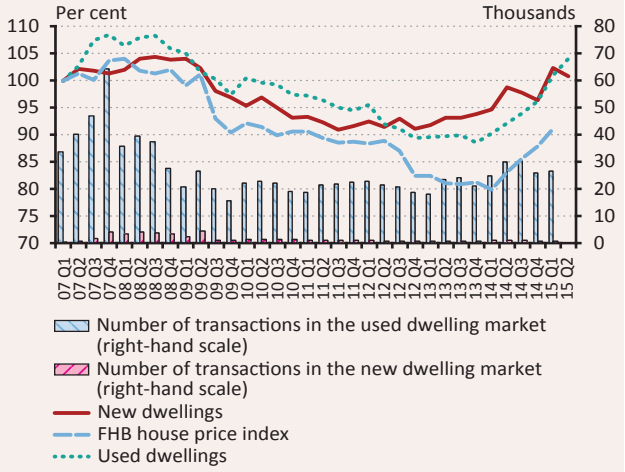
Note: 12-month rolling sum on the right-hand scale.
Sources: HCSO, MNB.

2.1 SLIGHT IMPROVEMENT WITH TERRITORIAL DIFFERENCES IN THE HOUSING MARKET

The number of new building permits increased slightly. In the first three quarters of 2015, in parallel with rising GDP and investment, there was a small increase in the number of building permits issued for homes, with around 8,600 permits issued in this period and 11,300 permits issued in the past one year (Chart 17). The number of permits issued in the first three quarters was 24 per cent higher than in the same period of the previous year, but the level can still be considered low. The number of newly built homes is currently stagnating. In the first three quarters, the total number of newly built residential properties that were completed slightly exceeded 4,600, corresponding to a 9 per cent decline on a year-on-year basis. Typically, the number of new home completions follows the change in the number of permits with a delay. Accordingly, looking ahead, completions may also start to increase slightly.

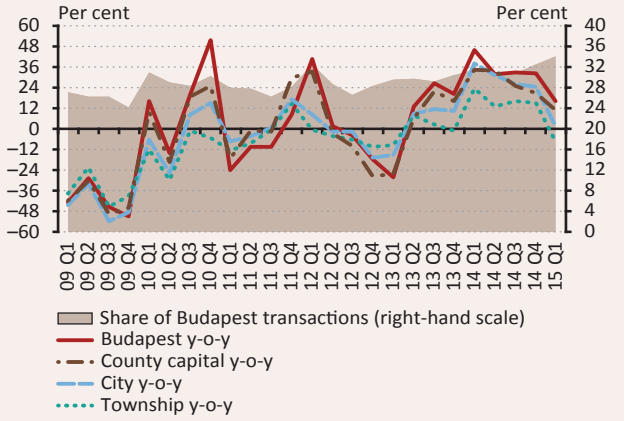
There was a considerable correction in used home prices, but the pick-up in the market is segmented. Although housing prices increased for both used and new properties in H1, the number of transactions and

Chart 18
Housing price indices and the number of housing market transactions



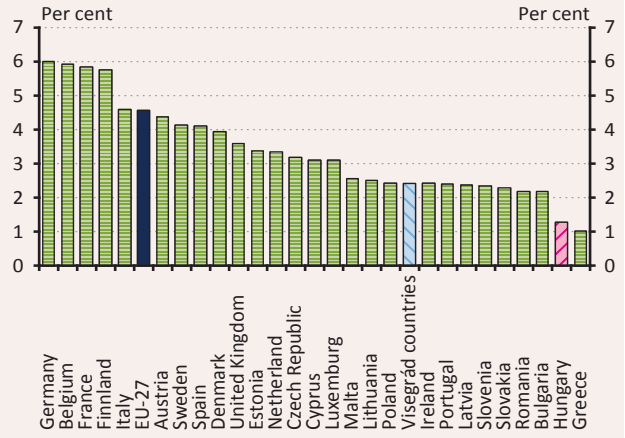
Note: 2015 H1 is based on preliminary data.
Sources: HCSO,FHB.

Chart 19
Annual growth rate of housing market transactions by type of settlement



Note: 2015 Q1 is based on preliminary data.
Sources: HCSO.

Chart 20
Volume of home construction to GDP in 2014



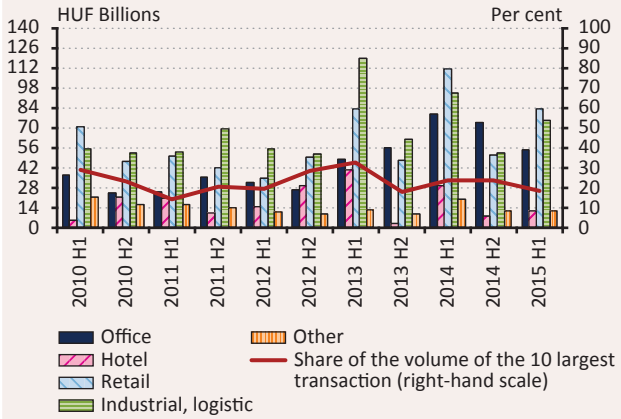
Sources: Eurostat.

the subdued construction of new homes show that the pick-up in the housing market is focused on the used segment at present (Chart 18). The segmentation of the housing market is clearly reflected by two factors. In 2015 H1, the net price change of used homes and new ones amounted to 8.1 per cent and 4.6 per cent, respectively, furthermore, the number of housing market transactions shows a marked upswing in the used segment. Here the annual number of transactions amounted to 112,000 at the end of Q1, which is already higher than the figure for 2009 (83,000). However, in the case of the market of new homes the annual number of transactions was 3,000 in the same period, which is still lower than the post-crisis, 2009 figure (8,000).

The territorial distribution of the housing market shows a mixed picture. The increase in the number of housing market transactions in the past two years was mostly observed in the capital. At end-2014, the quarterly number of transactions in Budapest was some 33 per cent higher on a year-on-year basis. Taking all the other settlements together the corresponding value was 21 per cent. For the villages only, the relevant figure is 15 per cent. Against this background, the share of transactions in Budapest within the total housing market turnover increased from 28 per cent at end-2012 to 34 per cent by the end of Q1 (Chart 19). Overall, the upswing in the Budapest used housing market does not necessarily reflect a sound improvement in the housing market as a whole. Supply, which typically shows a delay in adjustment, is unable to satisfy the demand for housing for investment purposes stemming from the low interest rate environment so fast, which results in major price increases.

It may be necessary to stimulate home creation through the construction of new dwellings. In Hungary, the volume of newly built dwellings as a percentage of GDP was significantly lower in an international comparison in 2014, amounting to around 1.3 per cent. By comparison, the same figure was 2.4 per cent among the Visegrád countries and 4.6 per cent in the EU-27 (Chart 20). Administrative barriers are significantly hampering an acceleration in new home construction in Hungary. The number of procedures necessary in Hungary to obtain a building permit is one of the highest among the European countries. Along with the segmented pick-up in the housing market, it may be necessary to take steps towards stimulating home creation by promoting the construction of new dwellings.

Chart 21
Transaction volumes in the commercial property market by segments

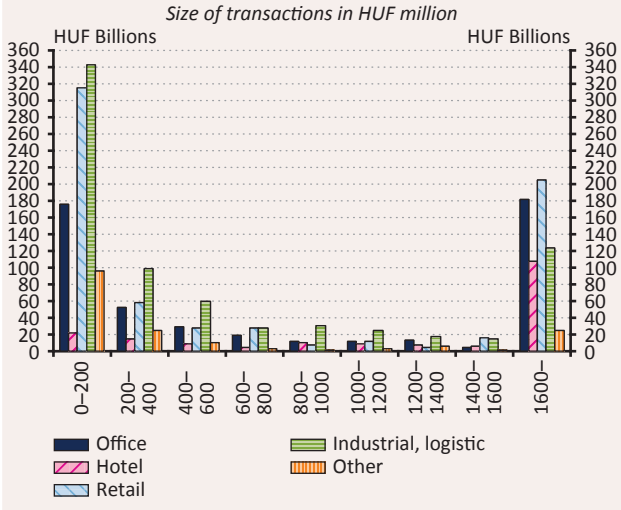


Sources: National Tax and Customs Administration, MNB.

2.2 IMPROVEMENT IS SEEN IN TRANSACTIONS AND UTILISATION IN THE CASE OF COMMERCIAL PROPERTIES

An upturn has been seen in the volume of commercial real estate market transactions. The volume of commercial real estate market transactions has been growing since 2013, with growth primarily observed in the segments of offices, industry and logistics as well as retail shops. In the office segment, the volume of transactions increased by 79 per cent from 2012 to 2013 and by 166 per cent by 2014, while in the same two years an increase of 94 per cent was observed in the segment of retail shops and a rise of 38 per cent in the segment of industry and logistics (Chart 21). In 2015 H1, the total volume of commercial real estate market transactions amounted to HUF 235 billion. Although this is some 30 per cent less than the volume in the same period of the previous year, the volume of commercial real estate market transactions can be significantly affected by large one-off transactions stemming from the concentrated nature of the market. All of this is clearly evidenced by the fact that in the past years in every half year the 10 largest transactions accounted for an average 20–30 per cent of the volume of transactions.

Chart 22
Distribution of commercial property market transactions by size of transaction

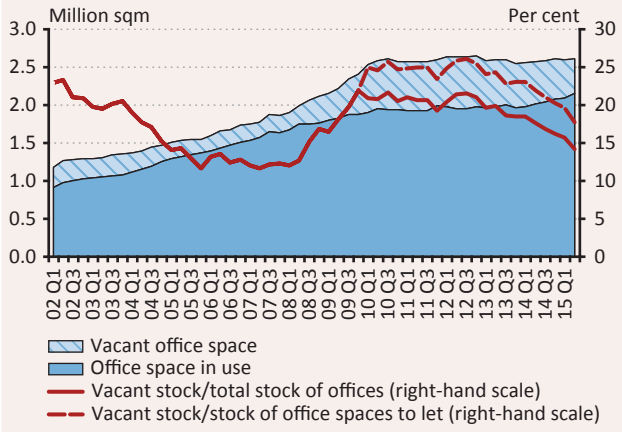


Note: Taking account of transactions concluded between 2010 and 2015 Q2.
Sources: National Tax and Customs Administration, MNB.

The commercial real estate market is dominated by a small number of high-volume transactions and is concentrated in the capital. In 2015 H1, transactions in excess of HUF 200 million accounted for 56 per cent of the volume of commercial real estate market transactions. Nearly 3,800 transactions were concluded in H1, with an average transaction size of HUF 62 million. The discreet character of the commercial real estate market is even more apparent in certain sub-segments. Between 2010 and 2015 H2, transactions exceeding HUF 200 million accounted for 57 per cent of the total transaction volume, while the corresponding ratio is 64 per cent in the office segment and 88 per cent within the hotel segment (Chart 22). Against this background, around one quarter of the volume of the transactions in 2015 H1 is related to the capital. This ratio is 33 per cent for the period between 2010 and 2015 H2.

The utilisation indicators of the Budapest office market continued to improve, and the values are already close to pre-crisis levels. In parallel with a pick-up in real estate market transactions, improvement can be seen in the leasing market as well. At the end of 2015 H1, vacant offices accounted

Chart 23
Office space to let and vacancy rate in the Budapest office market



Sources: JLL, MNB.

for 14.2 per cent of all offices for rent, and thus the vacancy ratio improved by 2 percentage points compared to end-2014, and is already close to its pre-crisis level (Chart 23). In the leasing market, the upturn in demand is shown by the fact that during 2015 H1 lease agreements for some 277,000 square metres of office space were concluded, exceeding the volume of the same period of the previous year by 11.5 per cent. New contracts accounted for some 71 per cent of the lease agreements concluded in H1, and the volume increased by 52.5 per cent compared to 2014 H1. Following the trend observed since end-2013, the utilisation of industrial properties in Budapest continued to improve during H1, reaching 13.7 per cent by the end of the period.

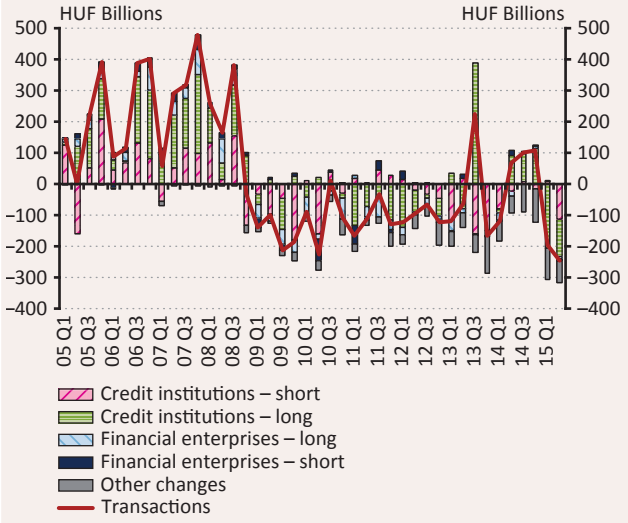
3 Developments in lending – corporate lending falls short of the level which would support sustainable growth; signs of an upswing in household lending

Aggregate developments in corporate lending are characterised by two trends depending on corporate size categories. While lending to the SME sector increased on the whole as a result of the Funding for Growth Scheme, a major decline was observed this year in outstanding loans to large corporations, due to one-off effects. As a result, outstanding corporate loans from the financial intermediary system decreased by a total of 3.1 per cent year on year. Banks reported a rise in demand in the Lending Survey, but due to the availability of the new EU funds, SMEs are presumably postponing some of their investment. The banks' credit supply conditions were characterised by cautiousness and low risk appetite in 2015. Therefore, the general upswing in market lending continues to be hindered by supply constraints. As a result the above, corporate lending is well below the 6–7 per cent expansion that supports sustainable economic growth.

The underlying trends in corporate lending are characterised by fragility on both the demand and supply sides, and this fragility may considerably be increased by a delay in the availability of EU funds. According to our estimations, there is a slowdown in the improvement of willingness to lend; the banking system's contribution to GDP growth is still negative, consequently, the risk of creditless recovery increased in the case of corporate sector. In order to reduce this risk, funds with favourable conditions will remain available for SMEs in 2016 in a more targeted form and with a lower volume, during the phase-out stage of the FGS. In addition, further targeted instruments, in the framework of the GSP, may also add a stimulus to the corporate lending. Counterbalancing the downside risks as needed, in 2016 the above measures may result in a 5-10 per cent growth in total corporate and SME lending, in particular.

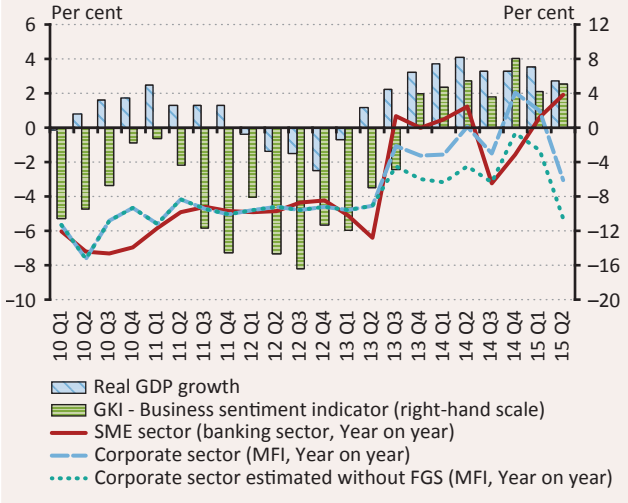
Conversion into forints resulted in a considerable change in the currency structure of household lending, and the exchange rate risk was removed from households' balance sheet. As a one-off effect of settlement, there was a major decline in outstanding loans, but the repayment burdens of indebted households continue to be high. In spite of the entry into force of the debt brake regulation, the volume of new lending increased in 2015 H1. In parallel with the decline in financing costs, the demand for both housing and consumer loans increased. In 2015 H1, developments in household lending were mainly determined by the decline in outstanding loans due to settlement. We continue to expect a gradual slowdown in the decline in outstanding household loans over the forecast horizon.

Chart 24
Quarterly changes in the financial intermediary system's corporate loan portfolio
(transactions)



Note: Based on the data of credit institutions and financial enterprises.
Source: MNB.

Chart 25
Growth rate of loans outstanding of the whole corporate sector and the SME sector



Note: The corporate sector time series is based on transactions, while the SME time series is calculated on the basis of estimated transactions starting from 2013 Q4. 2015 Q1 revised.
Sources: HCSO, MNB, GKI.

3.1 CORPORATE LENDING IS MARKED TWO TRENDS DEPENDING ON CORPORATE SIZE CATEGORIES, WITH SIGNIFICANT MOVEMENTS DUE TO THE HIGH CONCENTRATION

Outstanding corporate loans declined significantly, in part due to several individual transactions involving large corporations. In 2015 H1, non-financial corporations' outstanding loans vis-à-vis the financial intermediary system as a whole declined by HUF 442 billion as a result of transactions (Chart 24), while other changes containing write-offs and reclassifications as well reduced outstanding corporate loans by another HUF 166 billion. The decline in loans outstanding affected short-term and long-term forint and foreign currency loans as well, but in general it can be stated that it was mainly the high-volume, one-off transactions of large corporations which resulted in the bulk of the decline. This is corroborated by the fact that credit institutions' outstanding syndicated loans fell by a total HUF 183 billion in the period under review, with a consolidation of debt by the state contributing HUF 52 billion to this decline in outstanding loans. In addition, transactions aimed at replacing domestic bank financing with direct parent company financing also impacted the decline in loans outstanding. The picture is further refined by the fact that the undrawn credit line available for non-financial corporations increased by HUF 403 billion during the period under review, thus significantly exceeding both the average value of the previous year and the June 2014 value. This increase does not appear in the observed loans outstanding, but may add to them in the future when the lines are drawn.

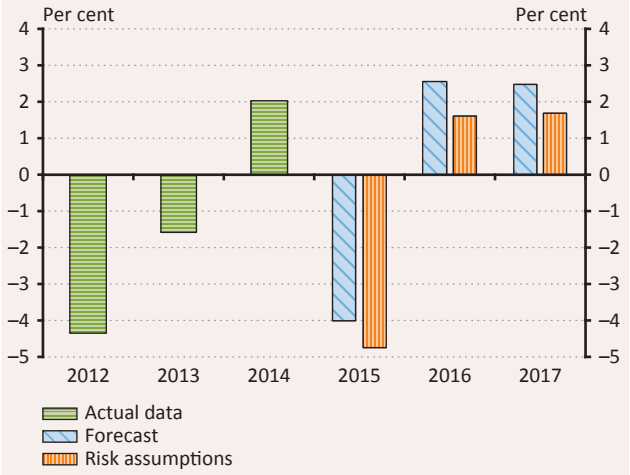
In contrast to the large corporations segment, the outstanding loans of small and medium-sized enterprises increased last year. Outstanding corporate loans declined by 3.1 per cent in year-on-year terms (Chart 25), but differences were observed according to corporate size categories, as seen in the different growth rates. While a major decline was observed in large corporations' outstanding loans, lending to the SME sector increased by a total 1.9 per cent, with a considerable contribution from the Funding for Growth Scheme: according to the MNB's estimate, without the FGS, the growth rate of loans to the SME sector would have continuously remained in negative territory since mid-2009.

Table 1
Concentration of non-financial corporations' debt vis-à-vis credit institutions

Outstanding amount of principal	Total principal (HUF Bn)	Number of contracts	Average principal (HUF Bn)
Up to 0,1 HUF Bn	1395	131 195	0,01
0,1 - 1 HUF Bn	2100	7 675	0,27
1 - 10 HUF Bn	2593	1 011	2,57
Over 10 HUF Bn	1326	79	16,78
Total	**7414**	**139 960**	**0,05**

Note: December 2014.
Source: MNB.

Chart 26
Corporate lending forward looking trajectories in case of realization of risk assumptions
(year-on-year, per cent)



Source: MNB.

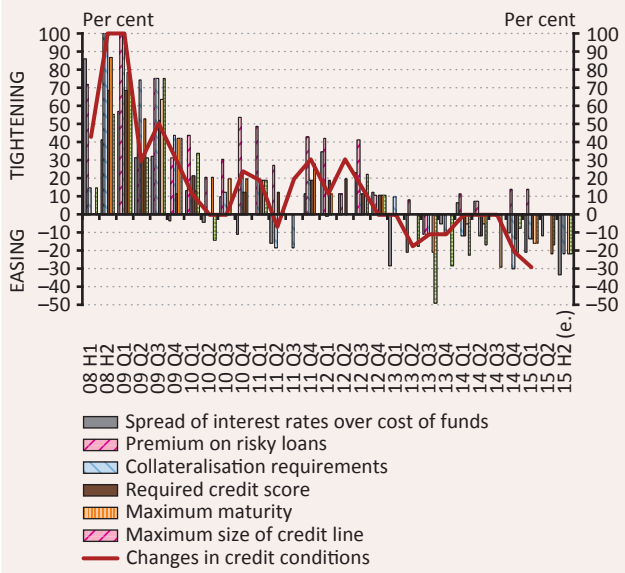
The high concentration of corporate loans may result in significant movements in the loan portfolio. There is a relatively high level of concentration in the Hungarian corporate credit market: over half of the entire loan stock belongs to less than 1 per cent of the loan contracts. In December 2014, domestic banks' balance sheets contained 79 lending transactions vis-à-vis corporations amounting to at least HUF 10 billion (Table 1). A transaction in this segment can have a significant impact on the absolute size of the loan portfolio. Looking at the transactions of the segment carried out in 2015 H1, it can be seen that in 16 cases a total amount of HUF 221 billion in loans was removed from domestic financial intermediaries' balance sheets, and of these transactions the actual maturity of the contract only fell in the period under review in 3 cases. These included transactions that replaced domestic bank financing with direct parent company financing. However, these transactions do not mean a decline in the financing of the real economy. Therefore, for now, they do not represent an obstacle to growth in terms of corporate activity.

In addition to one-off effects, there are also downside risks related to the development of corporate lending. Both demand and supply side factors may result in the realisation of negative risks in corporate lending. External demand can still be considered fragile, while banks' willingness to take risks continues to be characterised by caution. This fragility may be further increased by the uncertainty related to the availability of EU funds. All of these downside risks may result in a 1-percentage point deterioration in corporate lending growth in 2016 and 2017 (Chart 26).

Tight credit conditions are easing slowly, while supply constraints hinder the dynamic expansion of lending. According to the responses to the Lending Survey, in Q1 and Q2, respectively 30 and 17 per cent of banks eased the conditions of corporate loans in net terms[2] (Chart 27). Among the factors contributing to the change, in both quarters, market share objectives and the increase in competition were mentioned by the highest ratio of respondent banks, but the improvement in economic prospects and the favourable liquidity and capital position of the banks also contributed to easing. Although credit conditions eased with the upturn in competition, and lending rates declined with the base rate cut, on the whole credit standards can still be considered tight (Box 3). Therefore, one cannot yet speak about any large-scale

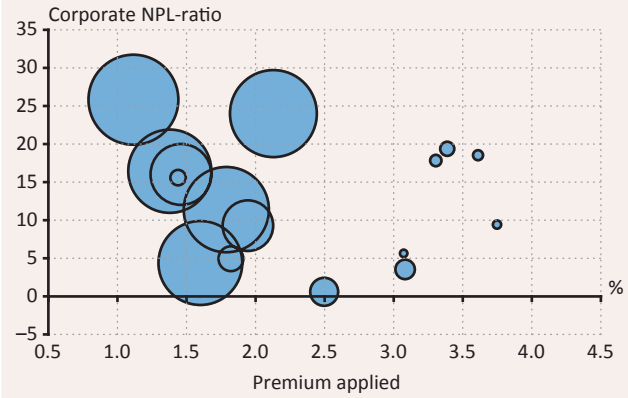
[2] The difference between banks performing tightening and easing, weighted by market share.

Chart 27
Changes in credit conditions in the corporate segment



Note: Difference between the ratio of banks forecasting tightening and easing, weighted by market share.
Source: MNB, based on the answers of respondent banks.

Chart 28
Correlation between the spreads on new corporate loans and the NPL ratio
(according to market shares)



Note: Contractual spreads on variable-rate forint loans granted with market conditions in 2014 and 2015 and the size of the corporate NPL ratio. The size of the bubbles is proportionate to banks' corporate market share. The chart does not include the institutions with special clientele (e.g. branch offices) or young institutions in a growing stage.
Source: MNB.

easing or opening towards riskier companies, which is mainly reflected in the stagnation in the existing clientele and the extremely good quality of new loans.

The large non-performing portfolio may reduce banks' risk appetite. The problem loan portfolio results in continuous and significant losses for banks, especially if the size of the portfolio concerned is large, coupled with a high leverage. Continuous losses may force banks to adjust their balance sheets and reduce risk-taking. Of the large banks with high market shares and high lending volumes, the ones that have higher NPL ratios typically extended loans to their customers with lower spreads in 2014 and 2015, which is an indicator of limited risk-taking (Chart 28). It was mainly smaller banks that were less involved in pre-crisis lending and have relatively higher lending capacity that provided loans with higher premia, i.e. presumably with higher risk appetite, although the volume of these loans was much smaller due to the size of these banks. At the same time, the problematic portfolio is not the only dimension of the willingness to take risks, which also depends on the composition of the banks' assets, on the structure of funds and capital and on profitability.

Box 3

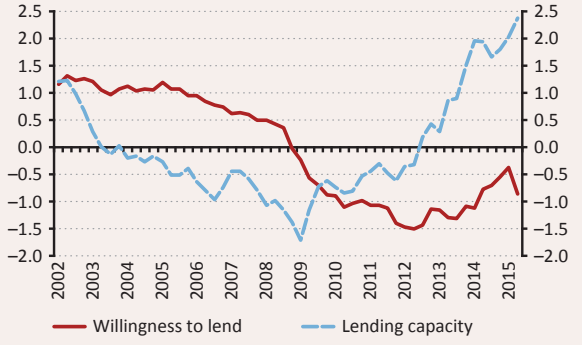
Changes in the financial conditions index (FCI) following the renewal of the methodology

Similarly to other central banks, the Magyar Nemzeti Bank regularly publishes its Financial Conditions Index[3] (FCI) in its publications entitled Financial Stability Report and Trends in lending. However, the methodology of the Financial Conditions Indices is developing continuously: the first FCIs were produced as the simple average of the most important financial indicators (ECB [2009], IMF [2008]). Second-generation FCIs were more developed as they weighted the various financial time series on the basis of their impact on the macroeconomy (primarily on GDP) (this group comprised, for example, the indices of Swiston [2008], Beaton et al. [2009] and the MNB's previous index). The latest method to calculate the FCI is the principal component or factor analysis, the advantage of which compared to previous ones is that a wide set of information is used, which allows the provision of a more complete picture of the developments in the financial intermediary system.[4]

In line with international standards, the MNB has also developed its FCI methodology with the application of factor analysis. For the estimation of the factors, a bank panel database is used, which contains indicators related to banks' liquidity and solvency positions as well as risk appetite. One question arising in connection with factor analysis is that exactly how many estimated variables are able to capture the essential information contained in the data. This question was decided on the basis of the impact of the factors on macroeconomic variables: inserted in a VAR model, the first two financial factors proved to be significant, the developments in which were first written about in the spring 2015 Financial Stability Report.

The factors and the VAR model were estimated on the basis of the methodology described in the article by Koop and Korobilis [2014]. Its advantage is that it calculates parameters that change in time, and thus the significant changes that took place in the banking sector during the sample period distort the estimation to a lesser extent. Based on the correlation between the factors and the original variables, one of the factors was interpreted as a factor that describes banks' lending capacity, while the other one as an indicator that captures willingness to lend (the data used, the interpretation of the factors and their changes in time are discussed in detail in Box 2 of the May 2015 Financial Stability Report). Based on the first chart, in 2014 the factor of willingness moved from its low level where it had been since the crisis, but this trend broke in 2015 H1, and the indicator started to decline again. The high level of non-performing loans and the weak profitability of the banking sector still do not contribute to the improvement in risk appetite and thus in willingness to lend. Although lending capacity declined in 2014 H2, it was mainly the result of banks' loan loss provisioning related to the settlement of unfair contract modifications. Then, in 2015 the indicator rose to a historically high level again.

Factors of the banking system



Note: Factors measured in terms of number of standard deviations away from historical mean.
Source: MNB calculations

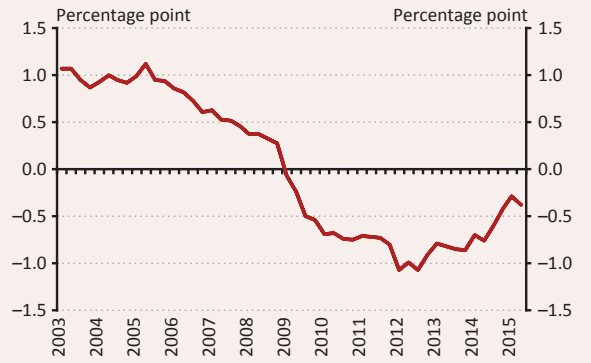
Accordingly, one great advantage of the factors produced in this manner compared to the previous FCI is that they start from a wider information base and react better to loan supply and, due to the parameters that change by time, are more robust to structural changes. At the same time, the level of factors is of no importance, only their change over time. Accordingly, a data point in itself does not provide information, and the joint effect of the two factors cannot be decided either if their respective signs happen to be opposing. Therefore, we united the advantages of the second-generation FCIs and of the methods based on factor analysis, and calculate the FCI on the basis of the two factors'

[3] This first took place in the November 2012 issue of the Report on Financial Stability, which also contains a short methodological description of the previous method of FCI calculation.

[4] Example for this: Hatzius et al. [2010], Brave and Butters [2011] – Chicago Fed National Financial Conditions Index and Darracq Paries et al. [2014] – new index of the ECB

impacts on GDP.[5] Based on the FAVAR estimation, the factor of the willingness to lend affected the developments of the credit amount significantly, opposite to the factor measuring lending capacity. Therefore, the FCI is equal to the factor of willingness to lend's impact on GDP.

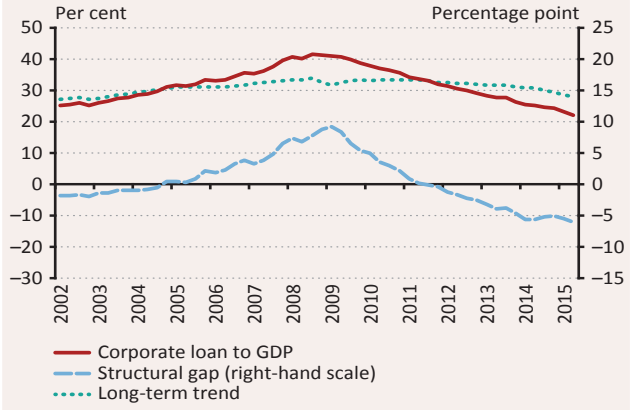
Financial conditions index



Source: MNB calculations.

The interpretation of the indicator is very similar to the previous FCI, and it shows the contribution of the banking sector through its lending activity to the annual GDP growth rate. If, for example, the value of the FCI is 1, the banking sector's lending activity accounts for one percentage point in annual GDP growth. Accordingly, prior to the outbreak of the crisis in 2008, the financial intermediary system's contribution to output growth was always positive, with the upswing in foreign currency lending the contribution to GDP also increased, and then, starting from 2007, the contribution of lending to output became lower and lower. Starting from 2009, the banking sector's contribution to GDP was continuously, and increasingly negative until 2012 H2. Later, in 2013 and 2014 as well, the contraction effect of the banking sector declined gradually, while in 2015 H1 this trend came to a halt, and a fall was observed in the index. The banking sector's contribution to the output continues to be moderately negative.

Chart 29
Outstanding loans to the corporate sector as a percentage of GDP and developments in the structural gap



Note: Estimation of the long-term trend with the use of the multivariable Hodrick-Prescott filter. Exchange rate adjusted data with the last exchange rates of 2014.
Source: MNB.

Purely market-based lending has not been able to recover yet. Following the outbreak of the crisis, the outstanding loans of both the SME sector and the large corporations sector dropped significantly, and the gap from its structural trend became negative (Chart 29). In 2013, however, the Funding for Growth Scheme successfully broke the downward trend in outstanding loans to the SME sector . Therefore, the decrease in corporate loans is practically attributable to the decline in loans to large corporations. Although the FGS maintained the total SME loan portfolio at an unchanged level, without a pick-up in market lending the overall expansion of outstanding loans is delayed. Total corporate lending, and within that the lending to the SME sector, which has a greater loan expansion potential, is well lower than the 6–7 per cent equilibrium value that supports real economy growth. Therefore, there is a risk of a creditless recovery.

Box 4

The third, phase-out stage of the FGS and the new instrument of foreign currency lending to SMEs

Altogether, in the first and second phases of the Funding for Growth Scheme (FGS) and the FGS+ more than 28,000 micro, small and medium-sized enterprises (SME) received financing, amounting to more than HUF 1800 billion. Not only has the scheme played an important role in breaking the unfavourable trend in lending to SMEs, it has also had a material impact on economic growth. The FGS and the FGS+ are temporary instruments of the central bank. By launching them, the objective of the MNB was to support and restore the SME credit market. Over the longer term, however, lending on a market basis that supports economic growth both in terms of quantity and quality is desirable, without the central bank's involvement; therefore the second phase of the FGS and the FGS+ in their current form will be terminated at the end of the year.

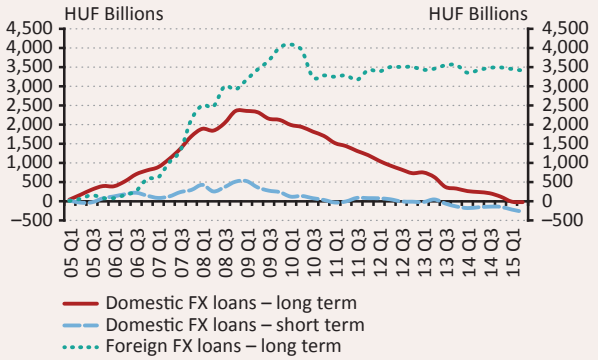
[5] The effect on GDP was quantified the same way as the previous FCI, on the basis of the estimation of a VAR model.

However, due to the risks related to future developments in general lending conditions, the phase-out of the FGS may take place only gradually, which makes it necessary to launch an exit phase. Without such it may be difficult for SMEs to obtain funds next year, which may have an unfavourable impact on the implementation of their investments. Although the EU funds available in the 2014–2020 period may play an important role in SME financing following the phasing out of the FGS, in the first half of 2016 these funds are not expected to be available or their availability will be limited.

Within the framework of its first pillar, the third phase of the FGS – in line with the intention of gradual phasing out and in order to drive lending back to a market basis – has been announced with a reduced volume (amounting to HUF 300 billion) compared to the previous ones and in a more targeted manner. Leaving most of the parameters unchanged, as a result of the reduction of the maximum amount that can be borrowed and of narrowing the loan purposes, the gradually declining available amount remains for the smaller enterprises in a greater proportion, while demand for loans (mainly working capital loans) that thus become excluded from the scheme may be satisfied on a market basis, contributing to the gradual return to market-based lending. Narrowing the conditions and thus driving a part of loan demand back to market basis is supported by the fact that short-term loans are already available with favourable conditions outside the FGS as well. In addition, the increase in the activity of the guarantee institutions foster the credit availability to riskier enterprises.

The FGS has considerably improved SMEs' access to credit at favourable conditions, but mainly in the case of companies that produce for the domestic market and intend to take out loans in forints. The conditions of FX financing available for exporter SMEs, which are of key importance from a macroeconomic point of view, are much less favourable than conditions available for their foreign competitors, which is a competitive disadvantage for them. In the second pillar of the third phase of the FGS the MNB intends to ease the constraints observed in the FX credit market of these SMEs (which have a natural FX hedge) with an amount of up to HUF 300 billion. In line with a recovery in external demand, the contribution of this segment to growth may gradually strengthen further.

The development of non-financial corporations' FX-loans

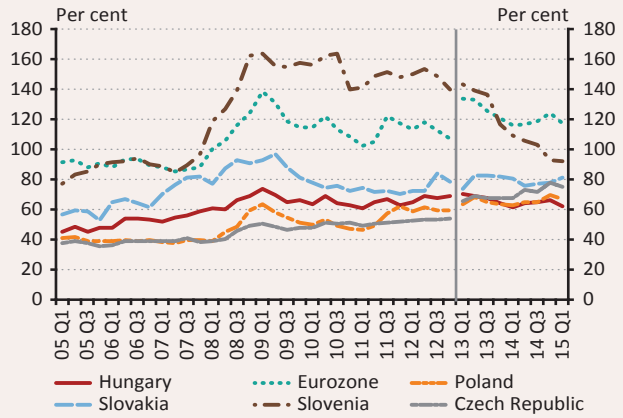


Source: MNB.

Prior to the crisis, foreign-owned banks granted loans mainly through parent bank funds, typically with a high loan-to-deposit ratio. However, due to the considerable market share of these banks, the subsequent balance sheet adjustment resulted in significant (FX) credit constraints in the domestic corporate loan market, primarily in the long-term segment. At the same time, the availability of FX funds is limited for Hungarian-owned banks and such funds can only be obtained at a higher price, especially in the case of longer maturities. The difficulties in accessing FX loans are reflected in the corporate interest rate spreads as well. While foreign-owned companies may have easy access to funds within their own group of companies (capital or loan) or to foreign banks' cross-border loans (with more favourable conditions), the financing possibilities of domestic non-financial corporations are relatively narrower compared to those of euro area companies, also due to the lack of alternative bond issue possibilities. Accordingly, FX lending to companies that do not have direct access to foreign funding has narrowed considerably in recent years. This may especially apply to long-term loans, which may result in the postponement or cancellation of investment.

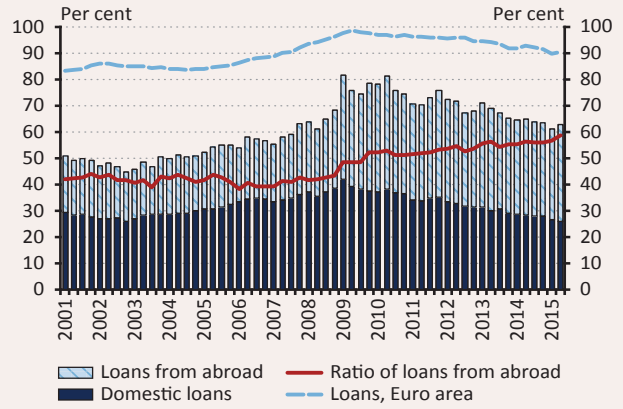
The expansion of the third phase of the FGS with the new pillar in which the credit institutions can provide loans in foreign currency greatly contributes to the easing of the constraints observed in the accessability of FX loans to export-oriented SMEs. Similarly to the current conditions, the MNB will provide refinancing to credit institutions in forints with a 0 per cent interest rate. As a new element, a currency interest rate swap (CIRS) is attached to it by the central bank. This enables the credit institutions to pass on the funds received in forints in the form of FX loans to SMEs that have natural hedge. Through this pillar these SMEs may have access to long-term FX loans with an interest rate level that is competitive internationally as well. All of this improves domestic exporter SMEs competitiveness.

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



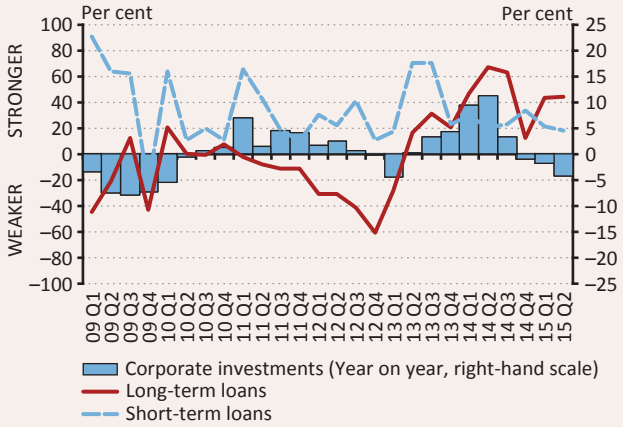
Note: Non-consolidated data, net loan and bond portfolio/net shares and other equity indicator. Based on new methodology since 2013 Q1.
Source: ECB.

Chart 31
Indebtedness of the non-financial corporate sector as a proportion of GDP



Note: 2015 euro area data on the basis of estimated values.
Sources: MNB, ECB, Eurostat.

Chart 32
Changes in loan demand by maturity and developments in investment



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

The level of debt of the domestic corporate sector still leaves room for an expansion of outstanding loans. Although the debt-to-GDP ratio of the Hungarian non-financial corporations sector corresponds to the average level of the Visegrád countries, it is much lower than the euro area average (Chart 30). Following the crisis, mainly as a result of parent company financing, the share of loans from abroad increased within total outstanding loans, while the contraction of domestic borrowing has been continuous since 2009. At the same time, loans from abroad are usually real alternatives only for companies with foreign owners. In addition to loan type indebtedness, domestic companies' bond financing is very low and concentrated, and thus it is an opportunity to obtain funds only for an extremely narrow range of companies. Accordingly, the corporate sector cannot be considered overfinanced; there would still be room for an expansion of loans outstanding (Chart 31).

The postponement of investment activity results in a downside risk in loan demand and thus in lending as well. According to the Lending Survey, loan demand perceived by banks continued to increase in the first two quarters of 2015. In both quarters, 44 per cent of banks in net terms reported an increase in demand for long-term loans and an average 20 per cent of them reported higher demand for short-term loans (Chart 32). According to the participants of the survey, the expansion in demand is mainly for forint loans. The demand for short-term loans, which is primarily attributable to the need for working capital financing, proved to be more stable in the years following the crisis than the demand for long-term loans, which show a close correlation with investment. Although in July 45 per cent of respondent banks in net terms expected an increase in demand for long-term loans by 2015 H2, it is perceived that economic actors are waiting due to the postponement of investment and the uncertainties related to the availability of EU funds. The lower-than-expected amount of funding entails further risks for loan demand and economic growth.

There is still a risk of a creditless recovery. Due to enterprises' loan supply constraints, a negative feedback loop may develop, in which, following a rejected corporate loan application, the loan demand of companies also declines, which may jeopardise the renewal of capacities as well. Rebuilding the depreciating production capacities and exceeding the pre-crisis output level would require an increase in investment. Therefore, at present it is extremely

important that banks and other institutions of the financial intermediary system be able to finance the economic upswing. A creditless recovery is also possible, but according to the literature, GDP growth in such cases is one third lower on average than in the case of an upturn in lending. A credit crunch may result in a significant restraining of economic activity or even a decline in capacities. Instead of a wide-ranging expansion in lending, a further decline in outstanding loans is observed at present; market-based lending still has not recovered. As loan supply problems related to financial intermediation also hinder the increase in loans outstanding, the demand for intensive and targeted stimulation of lending arises (Box 5).

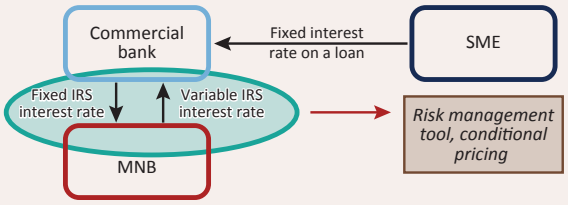
Box 5

Positive lending incentives within the MNB's instruments

In the interests of mitigating credit risks and stimulating economic growth via SME lending, the MNB adopted decisions that support the banks' changeover to market-based lending. In order to achieve sustainable and dynamic economic growth, it is essential for the lending activity of the banking system to be materially strengthened. The FGS served this purpose in the last two years and it managed to stop the drastic decline in lending. However, in the longer run the central bank cannot substitute market-based lending, and thus the MNB decided to launch the Growth Supporting Programme (GSP) to facilitate market-based lending by the banks. As part of this, the FGS will be phased out in 2016, and in order to ensure that the lending activity is not prejudiced by the gradual phase-out of the FGS, the MNB will launch the Market-based Lending Scheme (MLS).

Within the framework of the MLS, the MNB will support the changeover of the banks to market-based lending by an instrument that supports risk management and also by a liquidity-enhancing instrument. One of the incentives is that the banks may hedge their lending-related interest rate risk by a lending interest rate swap (LIRS). Closely related to this a preferential deposit facility, as a supplementary instrument, which supports the banks' liquidity management. These two instruments together can support the banks' changeover to market-based lending without enlarging the MNB's balance sheet, as the central bank provides risk and liquidity management instruments rather than excess liquidity. The banks may use the two central bank instruments of the MLS together.

Long-term corporate lending hedged with central bank IRS

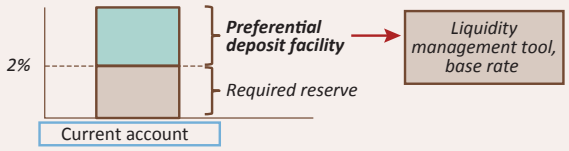


Source: MNB.

The lending interest rate swap (LIRS) may stimulate lending activity via the management of the interest rate risk. Lending at the level of the banking system is typically financed by short-term or rapidly repricing deposits, and thus the banks undertake an interest rate risk by extending fixed interest loans to enterprises. The purpose of the interest rate swaps is to manage this risk, by "exchanging" floating rate liabilities for fixed rate liabilities. In the transaction, the MNB receives fixed interest from the banks and in exchange it pays variable interest. Thus, upon an eventual yield increase the higher interest paid on the banks' customer deposits is offset by the higher interest received in the interest rate swap transaction and the banks' profit will be less sensitive to yield fluctuations.

The use of the LIRS transactions is subject to the condition that the sum of the net loans disbursed to the non-financial SME sector over 12 months should amount to one-quarter of the transactions. Due to the conditional nature of the asset, the pricing of the LIRS may differ from the price of an IRS with the same maturity. The limit of the LIRS transactions is HUF 1,000 billion and the transactions will be available in 2016 for a limited period with maturities not longer than 3 years.

Schematic model of the preferential deposit facility

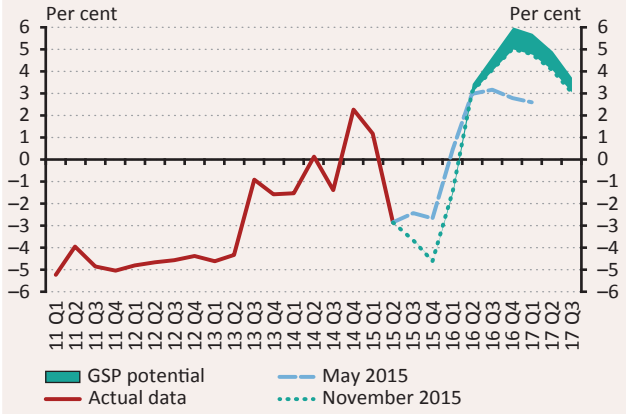


Source: MNB.

The preferential deposit facility helps banks manage their liquidity, thereby stimulating lending. Lending requires liquidity at the level of the individual banks when the company uses the loan granted (which is initially placed with the given bank as a deposit) for a specific purpose and transfers it to another bank. The preferential deposit facility eases the realignment of liquidity among the banks. The interest payable on the preferential deposit is the key interest rate, and thus the banks can use the instrument without loss of interest. At present, the banks receive no interest on the account balance that exceeds the minimum reserve requirement, and therefore this facility represents an extremely liquid asset with preferential interest for the banks. The banks may use this facility up to half of the LIRS transactions. Upon the full utilisation of the HUF 1,000 billion LIRS limit, the amount of the preferential deposit facility is HUF 500 billion.

With the implementation of the Growth Supporting Programme, it will be possible to achieve the dynamics of corporate lending necessary for balanced economic growth. The gradual phase-out of the FGS, and the introduction of the lending interest rate swap transactions and the preferential deposit facility together may increase next year's SME outstanding borrowing by about HUF 250-400 billion, which represents a 5-10 per cent loan growth in the SME segment.

Chart 33
Forecast for lending to non-financial corporations

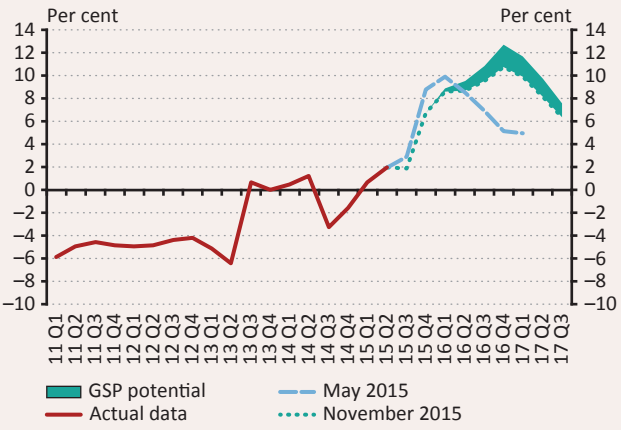


Note: Transaction-based, year-on-year data.
Source: MNB.

3.2 THE GSP MAY MITIGATE DOWNSIDE RISKS CONCERNING CORPORATE LENDING

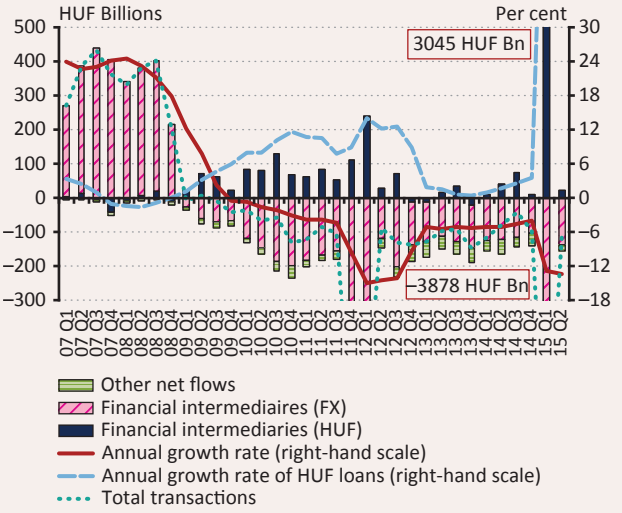
Beside the easing credit conditions and a sound credit demand, lending developments are characterised by downside risks. While demand of corporate clients may remain fragile, credit conditions of corporate loans may continue to ease, but its pace is expected to remain moderated. Therefore, credit supply can be still characterised by cautiousness and subdued risk appetite. This is in line with the results of the FCI, which is implying a halt in the improvement of willingness to lend; thus, contribution of the banking sector to economic growth remained negative in the period under review.

Chart 34
Forecast for lending to SMEs



Note: Transaction-based, year-on-year data..
Source: MNB.

Chart 35
Quarterly transactions of household lending
(domestic financial intermediaries)



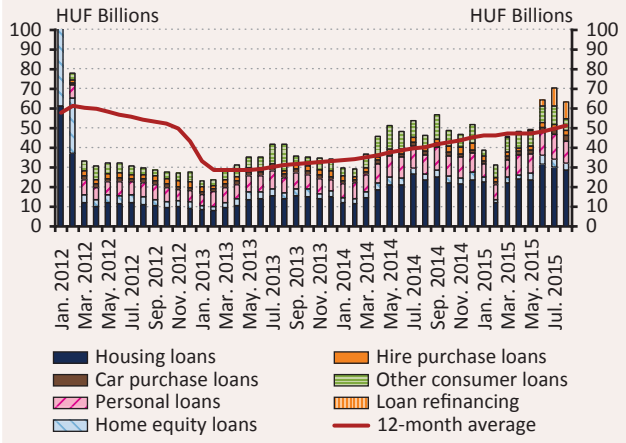
Note: Seasonally unadjusted data with rolling exchange rate adjustment.
Source: MNB.

The fragility of corporate lending may be mitigated by the gradual and focused phasing out of the FGS and by market lending incentive instruments. The abovespecified risks jeopardising the forecasted 2-3 per cent growth in lending can be managed with the gradual and focused phasing out of the FGS and with the positive lending incentive package supporting banks' credit supply. Thanks to these measures, overall corporate lending may grow by 5-6 per cent (Chart 33), while lending to the SME sector may expand by 10-12 per cent (Chart 34) in 2016, and may continue to contribute to more dynamic lending than at present in 2017. Taken together, we expect an expansion in corporate credit along the entire forecast horizon.

3.3 DECLINING RISKS IN HOUSEHOLD LENDING, AS HOUSING LOANS RISE

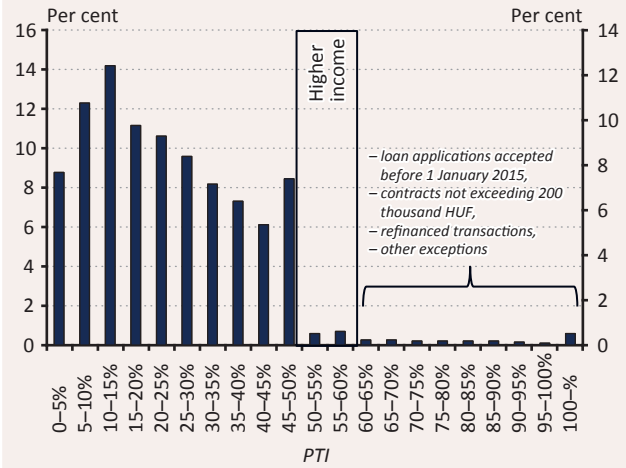
Household loans outstanding declined considerably as a result of settlement, while the currency structure of loans shifted markedly owing to the FX-conversion into forints. In 2015 H1, the household loans of the domestic financial intermediary system declined by HUF 947 billion on a transaction basis, of which some HUF 665 billion can be explained by the impact of the settlement arising from nullification of the exchange rate spread and unilateral contract modification (Chart 35). As a result of FX conversion, foreign currency loans of nearly HUF 3,000 billion were converted, and thus the share of foreign currency loans in the household loan portfolio fell to below 5 per cent, and will decline to below 1 per cent with the conversion of FX-denominated car purchase loans. This removes a significant exchange rate risk and financial stability risk from households' balance sheets.

Chart 36
New household loans in the credit institution sector



Source: MNB.

Chart 37
Distribution of the related PTI values of new loans in 2015 H1



Source: MNB.

Taking seasonality into account, the volume of new household loans increased in 2015 H1. The gross volume of new household loans granted by the credit institutions sector as a whole amounted to HUF 286 billion in H1, thus exceeding the volume issued in the same period of the previous year by roughly 19 per cent (Chart 36). The highest increase was recorded in housing loans (nearly 50 per cent on an annual basis), in line with the upswing observed in the market of pre-owned property. The loan refinancing wave expected following the settlement and the FX-conversion did not take place in H1 (Box 6); by end-August, retail customers had only refinanced loans amounting to HUF 16 billion.

The new regulation did not have an actual impact on lending. Both the volume of new loans issued and the findings of the Lending Survey suggest that the so-called 'debt cap' regulation[6] effective as of 1 January 2015 did not result in an immediate and drastic restriction of lending. This is corroborated by the fact that the PTI values of the contracts concluded in H1 do not group around the regulatory limit (Chart 37). Therefore, according to its objective, the macroprudential regulation does not restrain the dynamics of household lending, but strives to maintain a prudent level over the longer term.

[6] The rules regarding the maximum of the payment-to-income (PTI) ratio and the loan-to-value (LTV) ratio of new loans.

Box 6

On the successful introduction of the debt cap rules

The debt cap rules prescribed by the MNB were introduced on 1 January 2015: the payment-to-income (PTI) ratio and the loan-to-value (LTV) ratio that ensure the prevention of excessive household indebtedness.

As for the PTI, in the case of borrowing more than HUF 200,000, the relevant MNB Decree limits the maximum monthly repayment burdens that can be undertaken in proportion to the debtor's monthly verified income, while the LTV maximises the amount of loan in proportion to the value of the collateral. The fundamental objective of the regulation was to prevent excessive household indebtedness over the longer term, but without disproportionate limitation on loan outflows under the current market circumstances.

Based on the preliminary experiences of the short period since introduction, in line with the expectations of the MNB's experts, the new debt cap rules did not significantly limit loan outflows, while considerably increasing the system's resilience to shocks at the transaction level. Gross housing loans granted by credit institutions typically increased year on year, while consumer loans were, on aggregate, similar to last year's figures and even exceeded them by the end of Q2.

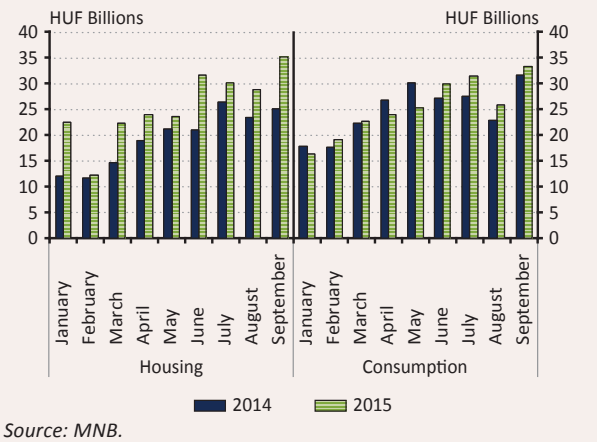
Maximum payment-to-income ratio and loan-to-value ratios

Maximum payment-to-income ratio and loan-to-value ratios		HUF	EUR	Other currency
Payment-to-income indicator	Below a monthly income of HUF 400,000	50%	25%	10%
	Monthly income of HUF 400,000 or more	60%	30%	15%
Loan-to-value ratio*	For mortgage loan	80%	50%	35%
	For vehicle loan	75%	45%	30%

**Regarding the financial lease, 5 percentage points higher loan-to-value limits can be applied.*

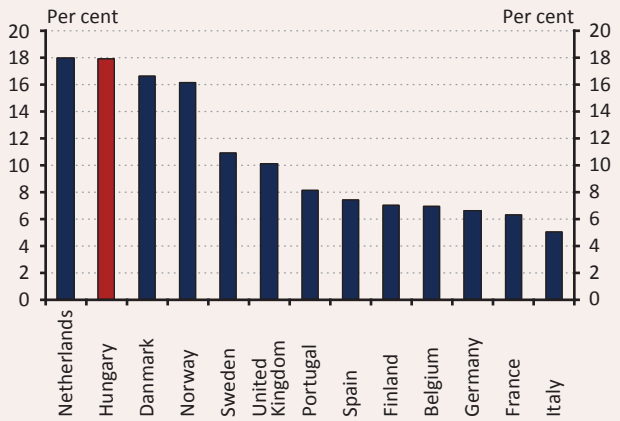
By launching transaction-level data provision regarding PTI, micro-level data analysis will also become possible. From the distribution of the PTI values of the contracts disbursed in the first two quarters of 2015 it can be established that only a small proportion of the loans disbursed is close to the regulatory limit. Presumably, the vast majority of contracts were not affected by the regulation, as the ratio of newly disbursed loans falling in the 45–50 per cent class interval is a mere 8 per cent. Accordingly, on the basis of preliminary data, the regulation did not result in negative effects in the credit market, but will presumably be an effective limit to excessive household indebtedness in the future. In addition, in order to improve the targeting and efficient application of the regulation, based on the experiences of the period since the introduction, the technical provisions of the debt cap rules, which do not affect the expected maximum levels, are expected to be 'fine tuned' – following discussions with market participants – in the last quarter of 2015.

Lending of credit institutions to the household segment by product type



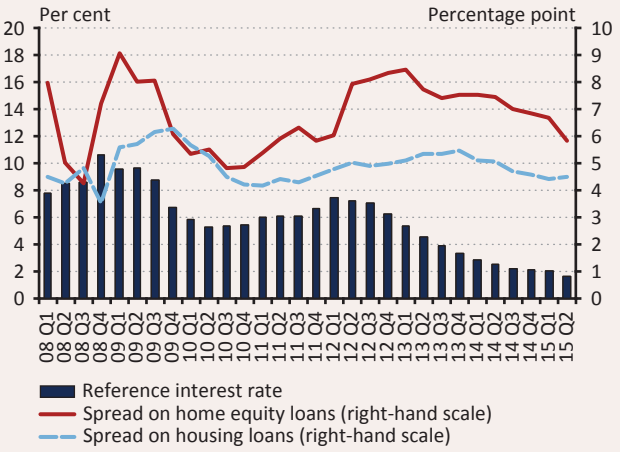
Source: MNB.

Chart 38
The debt service ratio at the end of 2015 Q1 in international comparison



Sources: BIS, MNB.

Chart 39
The reference rate and interest rate spreads



Note: Quarterly average of the interest rate spreads on 3-month BUBOR. Spreads based on the APR.
Source: MNB.

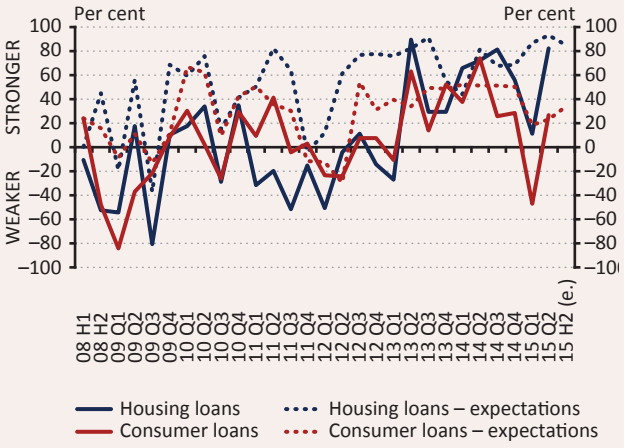
The debt service burdens of indebted households remain high. The Debt Service Ratio,[7] which describes households' debt repayment burdens, captures indebtedness through the proportion of households' net income to be spent on estimated principal and interest repayment; it has a direct impact on consumption decisions, and thus it is a significant indicator of households' economic behaviour. The ratio is considered high in international comparison: in Hungary, a wage-earner with average income has to spend 18 per cent of his income on debt repayment; in Europe this level is more typical of northern, welfare states (Chart 38).

Interest rates and interest rate spreads on new loans continued to decline in both household segments. The reference rate declined further with the central bank's reduction of the base rate, resulting in a decrease in the interest rates on both new and existing indexed loans. Interest rates on new loans declined in both segments in H1: the interest rate on housing loans decreased by 0.6 percentage point to 6.1 per cent, while that on home equity loans fell by 1.5 percentage points to 7.5 per cent. The total decline in borrowing rates exceeded the fall in the 3-month BUBOR, resulting in a decline in spreads as well (Chart 39). The spread on housing loans was down by 0.2 percentage point in Q1, before rising back by 0.1 percentage point in Q2 and closing at 4.5 percentage points at end-June. The spread on home equity loans fell by 1 percentage point to 5.9 percentage points. Nevertheless, the level of interest rates and spreads in Hungary is still considered to be high in international comparison. Since 2012, the domestic interest rate level has steadily been approaching that of the countries in the region: the APR on housing loans is a mere 2.5 per cent in the euro area and 3.5 per cent on average in the Central and Eastern European region.

With lending constraints remaining unchanged, banks expect a further increase in demand for housing loans. The banks participating in the Lending Survey[8] tightened unsecured consumer credit conditions in Q1 and then eased them to a similar extent in Q2, but kept the conditions of housing loans practically unchanged over the past one year. Taking account of the increase in new housing loans in the period under review, this indicates that demand for loans is coming from

[7] For more details on the DSR see: Drehmann – Juselius (2012), http://www.bis.org/publ/qtrpdf/r_qt1209e.pdf.
[8] https://www.mnb.hu/en/publications/reports/trends-in-lending/trends-in-lending-december-2015

Chart 40
Credit demand in the household segment



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

a segment of households that is creditworthy even under the current tight credit conditions. In parallel with that, following a slower increase in demand perceived in Q1, in Q2 the overwhelming majority of banks, i.e. 80 per cent in net terms, indicated rising demand for housing loans, and some 85 per cent of them expect the continuation of this trend in 2015 H2 as well (Chart 40). The demand is primarily increasing for fixed-rate products. The weakening in demand in Q1 is attributable to the waiting related to the FX-conversion and the settlement. The subsequent major pick-up simultaneously reflects the demand to implement postponed borrowing and the stimulating effect of the possibility to expecting the family home creation allowance as own funds. In addition, the pick-up in demand is supported by the favourable interest rate environment, which at the same time may induce the build-up of interest rate risk in the long run.

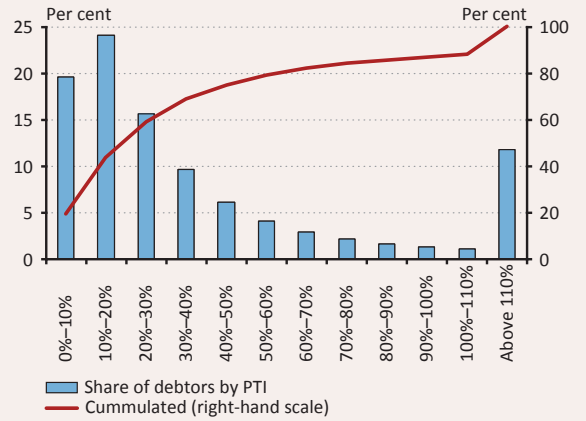
Box 7

Possible reasons for the lack of competition in loan refinancing

After settlement with the banks, there was a general market expectation that competition in loan refinancing would strengthen. This was justified by the fact that the customers were permitted to terminate their loans free of charge within 90 days from the receipt of the settlement notice and had a further 90 days to obtain a new forint loan with better conditions than the existing ones, either from their own bank or from a different credit institution. At the beginning of the year several banks seemed to be preparing for a sharp increase in loan refinancing competition: based on preliminary market estimations, the actors expected the ratio of those replacing their loans to exceed 20 per cent.

In the period after the banks settlement – typically from February to May – several credit institutions launched media campaigns; however, they assessed the success of this variably. Those credit institutions that pursued major media campaigns usually also commenced with active product development. The purpose of this was to retain existing customers, as well as to stimulate the acquisition of new customers. However, it is clear from the banks' conduct that they focused on the retention of the existing, already known customers. From March to August, the total volume of refinanced loans amounted to HUF 21 billion; of this contracts for HUF 9 billion were concluded by the customers both in July and August.

Distribution of mortgage debtors by calculated PTI



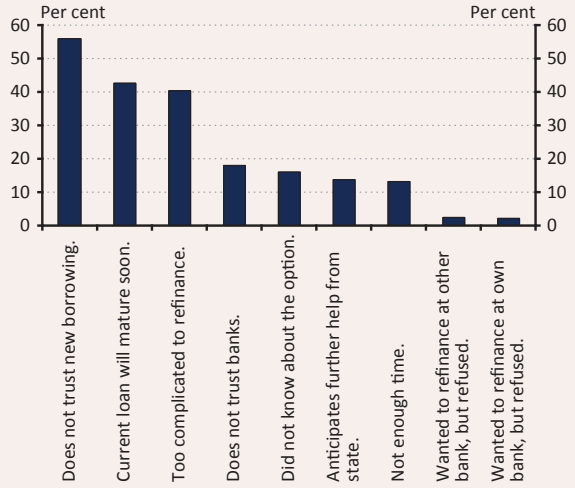
Source: MNB, NTCA.

Based on the central bank surveys and the feedback of the banks, the fact that the loan refinancing competition did not happen may be attributable to several potential reasons. Problems loans do not constitute the target group of the loan refinancing proposals, and thus for more than one-quarter of the household portfolio in fact this opportunity was not available. On the supply side the proactive retention proposals and the rejections by the banks may have also hindered the refinancing of loans. Several credit institutions reported that although the customers that switched banks after the conversion into forint and the settlement, were not subject to the maximum values determined for the loan-to-value ratio and payment-to-income ratio under the debt cap regulation effective since January, they still avoided the transactions where the loan-to-value ratio exceeded 100 per cent. Among performing debtors, the share

of less credithworthy clients could be around 25-40 per cent,, thus, also considering non-performing loans, about the half of the customers were probably less appealing for credit based on the current spreads of banks. However, as a result of the settlement the instalments payable by the customers decreased significantly, the interest rate rules applicable to the conversion into forint (interest rate spread as at the contract conclusion, but maximum 4.5 per cent for housing loans and 6.5 per cent for general purpose mortgage loans) are regarded as favourable, and thus only a narrow, highly creditworthy customer segment could expect lower financing costs.

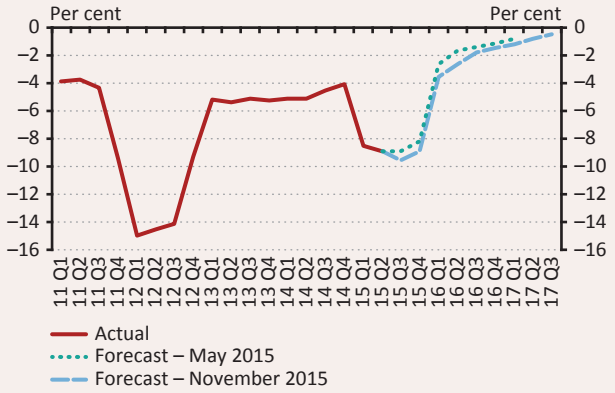
On the other hand, the banks also reported that the customers were satisfied with the degree of the decrease in the instalment, and as such many of them did not enquire about loan refinancing opportunities. However, based on the MNB's household survey, there was a significant shortage of information among the customers that potentially would have been eligible for loan refinancing. About one-third of the stakeholders were not aware of the opportunity, and half of them said that they would have made use of it. On the other hand, almost 70 per cent of the informed customers did not visit another financial institution to ask for a proposal. Aversion to the refinancing procedure and generally to the amendment of the loan contract appeared to have significant retarding force, although this is partially justified by the fact that 40 per cent of the respondents did not want to participate in the process due the short residual maturity of their loan. Some of the customers reported a loss of confidence in banks, a hope for repeated help by the state or the shortness of the available time as factors hindering the refinancing of their loans.

Why debtors did not use the cost-free option of refinancing?



Source: MNB survey.

Chart 41
Household lending forecast



Note: Transaction based, year-on-year data per cent.
Source: MNB.

3.4 LENDING DEVELOPMENTS IN THE HOUSEHOLD SECTOR WAS MAINLY DRIVEN BY SETTLEMENTS

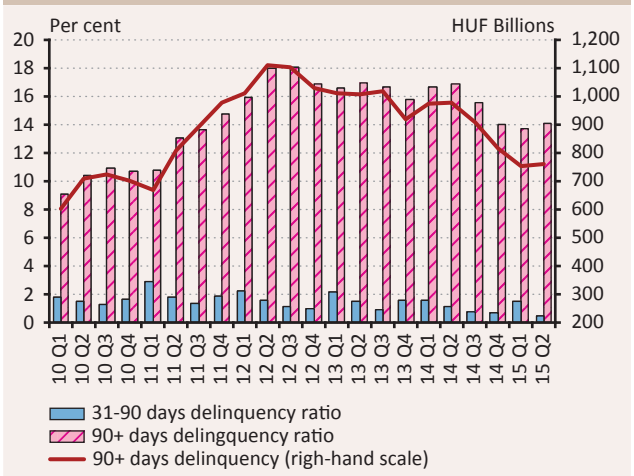
In 2015 H1, developments in lending were mainly determined by the decline in loans outstanding due to the settlements. The decline in transactions excluding the direct effects of the settlement was slightly larger than forecast, which is fundamentally attributable to two factors, and both of them can be explained with the indirect effects of the settlements. Firstly, the volume of principal crediting was lower than expected within the total gross impact of the settlement (while cash disbursements accounted for a larger volume). Secondly, following the settlement and the FX conversion, the decline in interest rates slightly exceeded our earlier expectations. Looking ahead, they jointly add to the amortisation of the current principal; therefore, we are carrying out a slight downward revision of the forecast path of household lending (Chart 41). Accordingly, we continue to expect a continued decline in household loans outstanding and its gradual slowdown over the forecast horizon.

4 Portfolio quality – still no major improvement in the large portfolio of non-performing commercial property and household mortgage loans

In 2015 H1, the share of corporate loans more than 90 days past due within the total corporate loans outstanding increased slightly to reach 14 per cent at end-June 2015. This slight deterioration was the result of the considerable decline in the volume of the corporate portfolio in the period under review. At the same time, the segmentation of the corporate portfolio increased: in case of project loans, the ratio of loans more than 90 days past due exceeds 27 per cent, whereas this ratio is around 9 per cent for other corporate loans. As a result, the project loan portfolio already accounts for more than half of corporate loans more than 90 days past due. Resolving the problem of project loans may be helped by the Hungarian Restructuring and Debt Management Private Company Limited by Shares (MARK Ltd).

As a result of FX conversion (in case of both secured and unsecured household loan products) and settlement, the risk of new defaults in the existing household portfolio declined considerably, while in case of new loans this risk is prevented by the debt cap rules. At the same time, the high ratio of distressed household mortgage loans continues to be a major problem for the financial system, and at present only the operation and expansion of NAMA (National Asset Management Agency) facilitates the resolution of the non-performing portfolio. In spite of the measures taken so far, the non-performing and restructured loans in the mortgage loan portfolio have still not declined significantly.

Chart 42
Ratio of the banking sector's corporate loans 90 days past due by contracts

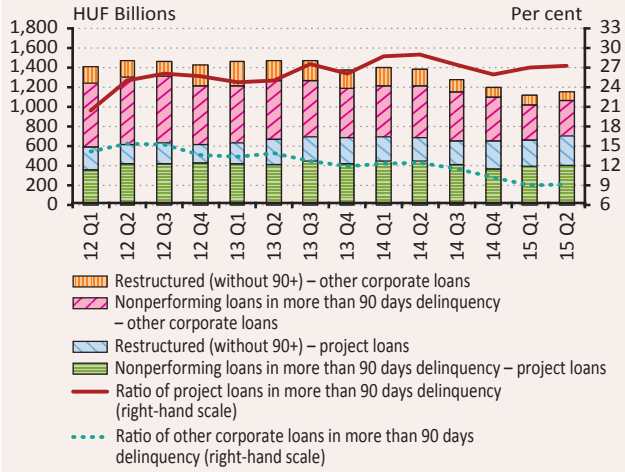


Source: MNB.

4.1 CORPORATE LOAN PORTFOLIO QUALITY SHOWS STRONG DUALITY, BROKEN DOWN INTO PROJECT LOANS AND OTHER LOANS

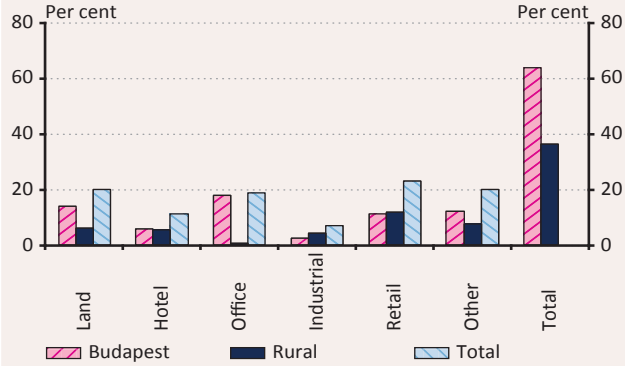
Corporate loan quality deteriorated slightly in 2015 H1. Compared to end of 2014, the share of the banking sector's corporate loans more than 90 days past due within total loans increased by 0.1 per cent to reach 14.1 per cent at end-June (Chart 42). Corporate portfolio quality deteriorated in such a manner that corporate loans more than 90 days past due declined by HUF 53 billion from HUF 812 billion at end of 2014 to HUF 759 billion in mid-2015. The reason for the modest deterioration in portfolio quality was that the volume of the banking sector's corporate loans shrank by some HUF 400 billion in half a year, and thus the share of loans 90 days past due within the portfolio increased, in spite of the decline in their volume. However, in the same period the ratio of loans overdue for 31–90 days declined considerably, to nearly one half compared to the end of the year, reducing the likelihood of further deterioration and improving the prospects for H2.

Chart 43
Non-performing and restructured project and other corporate loans in the banking system



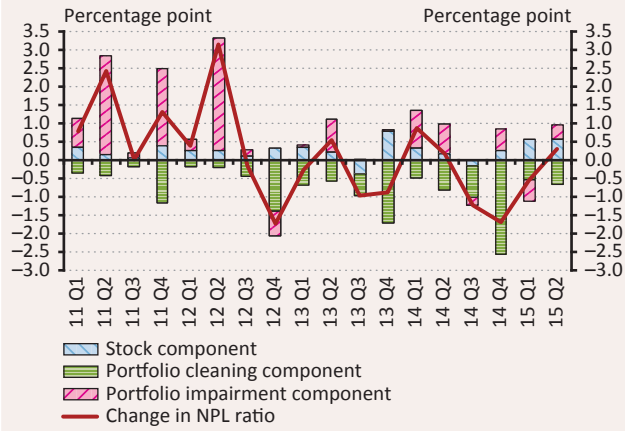
Source: MNB.

Chart 44
Location and type of distressed commercial real estate collateral



Note: Taking into account the portfolios of banks significant in commercial real estate financing, based on volume.
Source: MNB.

Chart 45
Factors affecting changes in the ratio of non-performing corporate loans in the banking sector



Source: MNB.

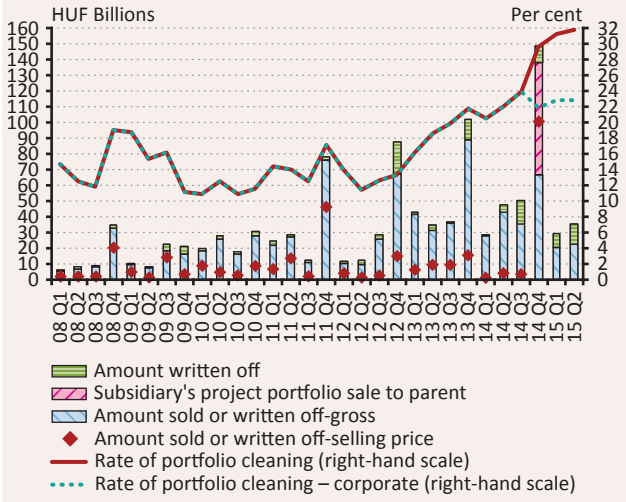
At the same time, corporate portfolio quality shows an increasingly strong duality. The breakdown of loans more than 90 days past due by products reveals that already more than half of the overdue loans in the corporate segment are attributable to project loans (Chart 43). In the case of project loans, the ratio of loans more than 90 days past due was already 27.3 per cent at end-June 2015, while in the case of other corporate loans this ratio was 9.1 per cent. The dual nature of corporate portfolio quality is even more apparent if the new definition of non-performing loans is taken into account. Accordingly, within project loans the ratio of non-performing loans (NPL) amounts to 47 per cent, while within non-project type other corporate loans it is only 14 per cent (Box 9).

The portfolio of distressed commercial real estate receivables is concentrated in terms of both location and type. In terms of the marketability of real estate used as collateral, the location and type are fundamental criteria. Based on volume, 64 per cent of the properties serving as collateral in the distressed portfolio secured with commercial real estate which account for a major part of the distressed project loans are located in Budapest (Chart 44). In terms of the types of properties, retail buildings, land plots and offices account for a major part of the portfolio. Budapest offices account for 18 per cent of the total portfolio, which represents the biggest part for a single type and location.

The decline in outstanding corporate loans caused the deterioration in portfolio quality. Decomposing the change into factors reveals that the stock component resulted in a considerable deterioration in corporate loan quality in 2015 H1 (Chart 45). Portfolio improvement for the half-year is observed at banking sector level, i.e. ceteris paribus the ratio of corporate loans more than 90 days past due would have declined in 2015 H1. However, as a result of the shrinking corporate loan volume, the stock component contributed to the increase in the ratio of corporate loans more than 90 days past due, which was not completely offset by the combined effect of the half-year cleaning and portfolio improvement.

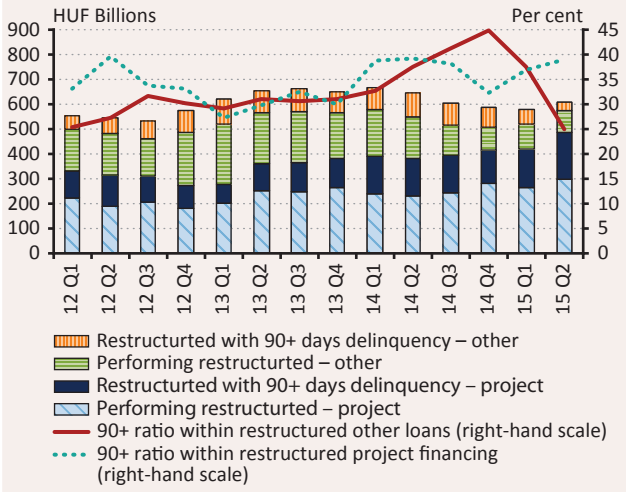
There was no material increase in the annual cleaning ratio. In terms of, market transactions outside the banking group the value of the cleaning ratio was 22.9 per cent in June 2015, which shows what percentage of the annual average of loans more than 90 days past due were sold or written off in the 12-month period preceding the given period (Chart 46). With

Chart 46
Portfolio cleaning of non-performing corporate loans in the banking sector



Note: The one-off impact comprises the sales of project loans.
Source: MNB.

Chart 47
Restructured project and other corporate loans in the banking sector



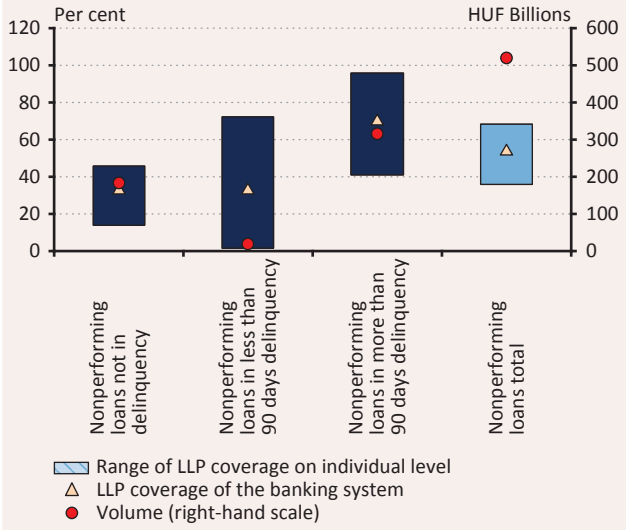
Source: MNB.

continuation of the present cleaning ratio, freeing the banking sector from NPLs would take more than four years, disregarding the loans that are becoming non-performing in the meantime. The duality of project loans and other corporate loans exists in respect of the cleaning ratio as well. Project loans are characterised by a lower cleaning ratio than other corporate loans, which is mainly the result of the lack of international investors and a debt management market that efficiently supports the cleaning of project loans. The cleaning of project loans may significantly accelerate with the launch of purchases by the central bank's asset management company (MARK Ltd).

The operational set-up of MARK Ltd continued; by the autumn of 2015, both in terms of staff and processes, it is practically ready to launch asset purchases. As a preparation for these asset purchases, MARK started the examination of commercial bank sample portfolios, which also allows for the testing of its processes and systems. In addition to commercial banks, MARK continued its constructive negotiations with the IMF and the Banking Association as well. The negotiations with the European Commission on the pricing methodology have reached the final phase. The asset management company that purchases at market prices will create a precedent within the European Union, representing a state-of-art innovation in the history of asset management companies. Following approval by the Commission, MARK may begin its normal operations, and the intensive cleaning process of the elimination of non-performing corporate loans secured by commercial real estate from commercial banks' balance sheets may start.

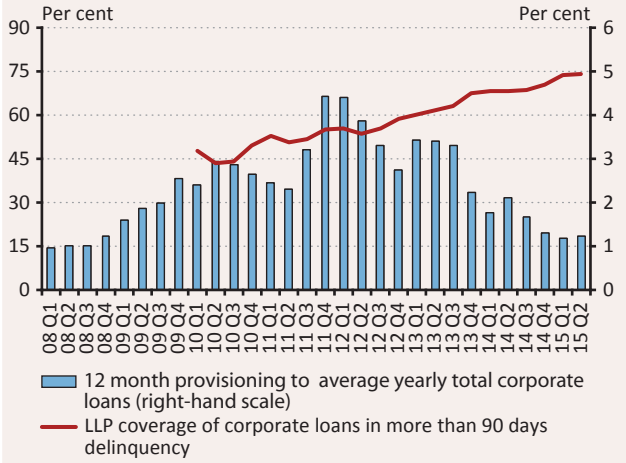
The increasing segmentation of corporate portfolio quality can be observed in the case of restructured loans as well, both in terms of volume and quality. A significant portion of the banking sector's restructured loans are project loans, where the ratio of loans 90 days past due increased by nearly 7 percentage points in one half a year, reaching 39 per cent by end-June 2015. In the case of other corporate loans, this ratio improved considerably, from 45 per cent to 26 per cent in the same period (Chart 47). Of the restructured loans, the volume of project loans grew by HUF 70 billion in 2015 H1, while that of other loans declined by HUF 55 billion. As a result, more than 80 per cent of restructured loans are project loans. The total amount of overdue loans may increase again if the not overdue restructured project loans amounting to some HUF 300 billion become more than 90 days past due. A solution in the management

Chart 48
Loan loss coverage of commercial real estate project loans by delinquency



Note: Banks with at least 2 per cent share in commercial property financing.
Source: MNB.

Chart 49
Cost of provisioning to total loans in the corporate segment and LLP coverage



Note: Loan loss coverage of banks with at least 2 per cent share in corporate lending.
Source: MNB.

of this problem may be the launch of the central bank's asset management company (MARK Ltd) at the end of the year.

Significant dispersion is seen in the coverage of project loans secured by commercial property by individual banks. The majority of project loans are related to commercial real estate, and most of these loans are in the balance sheets of eight banks. The average loan loss coverage of loans more than 90 days past due is 71 per cent (Chart 48), which is close to the coverage of other corporate loans, but the significant dispersion across banks poses a risk. The coverage of project loans may also considerably influence the market cleaning effect of MARK Ltd, because low loan loss coverage may reduce banks' willingness to participate, as the net value of the claim may be higher than its real market value. The new systemic risk buffer to be introduced as of 1 January 2016 (Box 8) may manage the risk that banks continue to keep non-performing project loans with non-prudent, low loan loss coverage in their balance sheets.

The cost of provisioning and sales declined slightly, while the coverage of corporate loans increased. During H1, the cost of provisioning and sales as a proportion of total loans declined by 0.1 percentage point, while loan loss coverage increased by 3.6 percentage points compared to end-2014 (Chart 49). The cost of provisioning and sales as a proportion of total loans (this indicator may also be interpreted as a risk cost) is approaching the pre-crisis level. Loan loss coverage increased to 74 per cent by end-June 2015. In addition, the dispersion across banks declined considerably in terms of coverage, and thus even the coverage of the bank that has the worst indicator exceeds 60 per cent.

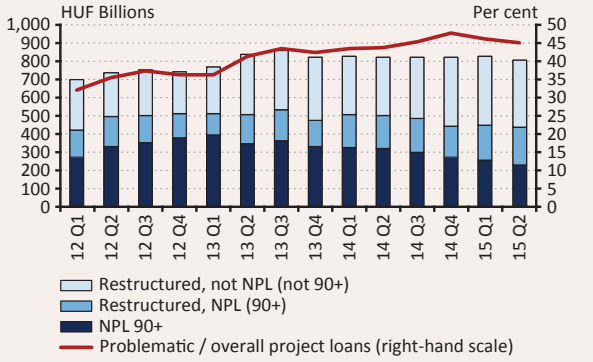
Box 8

On the introduction of a systemic risk capital buffer

The persistently high stock and ratio of distressed project loans, as well as the concentration of such, represent a major financial stability risk. Although such loans are natural attributes of banking operations, their rapid growth and persistence pose a serious risk in terms of financial stability, because they may result in unexpected further losses,. Moreover, concentration is also significant in the case of these project loans: two thirds of distressed project loans are found at just a handful of institutions.

Since the crisis, gross non-performing project loans increased considerably and then stagnated, but even continuous loan restructuring was not able to actually manage the risks stemming from this. Due to the limited means available, even the supervisory instruments (e.g. through the Pillar II capital requirements) applied in the past were not able to attain adequate management of the systemic risk problem, i.e. the necessary portfolio cleaning, consequently, the application of macroprudential tools has become justified.

Non-performing project exposures of large domestic banks



Source: MNB.

Management of the systemic risks from these distressed project loans can best be ensured by a macroprudential instrument which can be introduced in a targeted manner, by the systemic risk buffer (SRB) requirement. The SRB can efficiently be applied for the management of concentrated risks vis-à-vis given sectors, stemming from specific exposures. The SRB must be composed of the best-quality capital elements (CET1), in addition to other capital buffers, at a consolidated level, projected to total domestic risk-weighted assets (RWA). Basically, the SRB can manage risks in two ways: firstly, due to the higher capital requirements it significantly increases the resilience to shocks of the institutions concerned; secondly, by increasing the capital requirements and thus the user cost of capital, it efficiently encourages institutions to reduce distressed project exposures.

In October 2015, the Financial Stability Council of the MNB decided to introduce the systemic risk buffer in order to manage the risks stemming from these project loans. Based on the general decision, the SRB rate is determined by institutions, as a proportion of the individual contribution to systemic risk, with the contribution calculated on the basis of the relevant project exposure, in proportion to the domestic Pillar I capital requirement (calibration index). The numerator of the calibration index contains the distressed commercial property financing project loans as well as the commercial properties for sale included in the balance sheet of the creditor bank, thus limiting the possibility of circumvention of the provision. Depending on the value of the calibration index, the capital buffer rate may be between 0 and 2 per cent. In order to take into account the portfolios relevant at the systemic level, a 'de minimis' rule was also introduced: an SRB is determined only if the distressed portfolio exceeds HUF 5 billion.

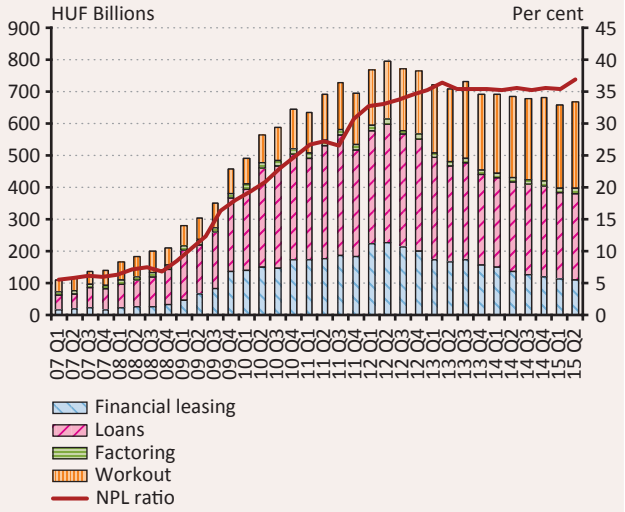
SRB capital requirements according to the size of the problematic project exposure

Problematic project exposure as a proportion of the domestic Pillar I capital requirement	Capital buffer rate
0.00 – 29.99 %	+0.0%
30.00 – 59.99 %	+1.0%
60.00 – 89.99 %	+1.5%
above 90.00 %	+2.0%

Source: MNB.

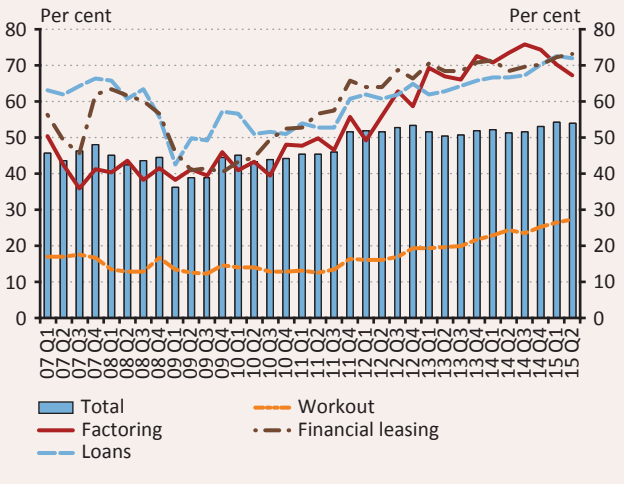
The MNB determines the SRB requirement for individual institutions by way of individual administrative decisions. Individual capital buffers will be determined on the basis of 2016 Q3 data provisions in 2016 Q4, and the obligation to build capital buffers will enter into effect as of 1 January 2017. This timing allows sufficient time for institutions to adjust and proceed with adequate cleaning of these project exposures. Should the portfolio cleaning fail due to business or owner's considerations, the additional capital requirement may strengthen the stability of the domestic financial intermediary system through banks' increased resilience to shocks.

Chart 50
Loans more than 90 days past due at financial enterprises by product type



Source: MNB.

Chart 51
Loan loss coverage of loans more than 90 days past due at financial enterprises



Source: MNB.

4.2. THE PORTFOLIO QUALITY OF FINANCIAL CORPORATIONS AND CO-OPERATIVES CONTINUED TO DETERIORATE SLIGHTLY

In 2015 H1, the quality of financial corporations' portfolio continued to deteriorate. At end-June 2015, the ratio of receivables more than 90 days past due increased to 37 per cent, marking a historical peak (Chart 50). This ratio considerably exceeds the banking system value, which may be regarded as natural, as some of these institutions specialise in the purchase and management of overdue receivables. However, loan loss coverage increased at financial enterprises, and amounted to 53.9 per cent at end-June (Chart 51). Although the coverage of factoring, loan and financial lease products decreased, it can still be considered high and significantly exceeds the levels of previous years. The average is reduced by the workout companies' coverage level of 27.4 per cent; however, in their case the purchase price already contains the expected losses, and thus the lower coverage does not necessarily represent a risk.

In H1, the corporate loan portfolio of co-operative credit institutions deteriorated to some extent, although the new loan loss provisioning requirement declined. In 2015 H1, the ratio of loans 90 days past due within the total corporate loan portfolio of co-operative credit institutions increased slightly, edging up by around 0.4 percentage point to 20.6 per cent at the end of H1 (Table 2). The ratio of loans 90 days past due is higher within the sector's corporate loans compared to the ratio in the banking sector, because co-operative credit institutions typically finance the riskier SME sector. Loans to the SME sector account for 95 per cent of co-operatives' outstanding corporate loans, and the ratio of loans 90 days past due within the outstanding SME loans amounted to 21.3 per cent at the end of H1. The loan loss coverage of the 90 days past due corporate loan portfolio of the sector did not change significantly compared to end-2014, although the cost of provisioning improved to some extent and amounted to 0.6 per cent.

Table 2
Key indicators of corporate portfolio quality at co-operative credit institutions
(%)

	2011 H1	2011 H2	2012 H1	2012 H2	2013 H1	2013 H2	2014 H1	2014 H2	2015 H1
90+ days deliquency ratio	16,3	16,0	14,6	15,3	15,4	14,6	12,8	12,4	12,4
Loan loss coverage of NPL	47,0	48,7	49,8	50,4	53,4	56,8	64,6	67,7	68,1
Cost of provisioning to total loans	1,2	1,7	1,3	1,6	0,9	-0,1	-0,4	-0,3	-0,3

Note: The ratio of overdue loans calculated by contracts.
Source: MNB.

Table 3
Key indicators of household portfolio quality at co-operative credit institutions
(%)

	2011 H1	2011 H2	2012 H1	2012 H2	2013 H1	2013 H2	2014 H1	2014 H2	2015 H1
90+ days deliquency ratio	16,3	16,0	14,6	15,3	15,4	14,6	12,8	12,4	12,4
Loan loss coverage of NPL	47,0	48,7	49,8	50,4	53,4	56,8	64,6	67,7	68,1
Cost of provisioning to total loans	1,2	1,7	1,3	1,6	0,9	-0,1	-0,4	-0,3	-0,3

Note: The ratio of overdue loans calculated by contracts.
Source: MNB. The portfolio quality of financial corporations and co-operatives continued to deteriorate slightly

There was no major change in the household portfolio quality of co-operative credit institutions. In 2015 H1, the ratio of household loans 90 days past due to the co-operative credit institutions sector's total household loan portfolio was stagnant, amounting to 12.4 per cent at the end of H1 (Table 3). The loan loss coverage of the household portfolio 90 days past due increased in H1, amounting to 68.1 per cent at end-June. This increase is attributable to the decline in overdue loans, which was larger than the decline in provisions. Nevertheless, the cost of provisioning remained in negative territory, and thus the new loan provisioning requirement did not reach the amount of reversal of provisioning, which had a positive profit impact.

Box 9

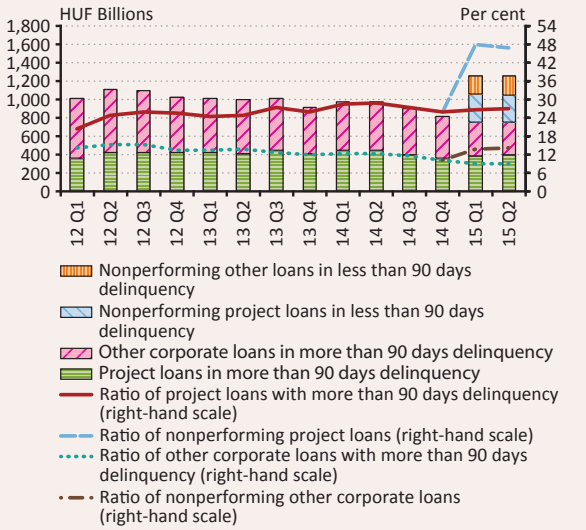
New definition of non-performing loans

The CRD IV/CRR regulation[9] effective from January 2014 introduced a new definition for non-performing loans (NPL). Therefore, the MNB's data reporting parameters effective from January 2015 transpose these amendments and gradually modify the reports. Until 2014 all exposures that included an item 90 days past due were considered **non-performing in the MNB's analyses, while according to the new definition and data collection the following exposures are non-performing:**

1) where the debtor exceeds 90 days delinquency;

2) where the creditor presumes that, without realising the collateral, the debtor will not be able to repay all of its debt.

Ratio and volume of non-performing loans



Source MNB.

Loans that have been classified to date as non-performing (i.e. at least 90 days past due) constitute a subset of the new NPL definition. The new definition is a wider concept, and basically supports a more prudent portfolio evaluation, as banks may classify in the NPL category even those receivables that are not 90 days past due if they have any information based on which it can be presumed that the debtor will not be able to repay its debt.

The new definition of non-performing loans is of utmost importance in the case of the corporate loan portfolio, and especially for project loans within that portfolio. Restructurings, which in many cases only serve the purpose of postponing the accounting of losses are most often observed in the case of project loans. Although with these restructurings it is possible to prevent receivables from becoming 90 days past due, a sustainable return on the project cannot be ensured. All of this is clearly evidenced by the fact that at the end of 2015 H1 some 22 per cent of the bank-

Non-performing loans in the banking sector

Banking sector		New definition					
		Old definition					
		Loans in 90 days delinquency		Non-performing loans with less than 90 days delinquency		Non-performing loans together	
		Volume (HUF Bn)	Share (per cent)	Volume (HUF Bn)	Share (per cent)	Volume (HUF Bn)	Share (per cent)
Corporate loans	2014 Q4	812	14,0	-	-	-	-
	2015 Q1	752	13,7	503	9,2	1 255	22,8
	2015 Q2	759	14,1	483	9,9	1 242	24,0
Household loans	2014 Q4	1 143	19,2	-	-	-	-
	2015 Q1	873	15,9	332	6,0	1 206	21,9
	2015 Q2	878	16,2	318	5,9	1 196	22,1

Source: MNB.

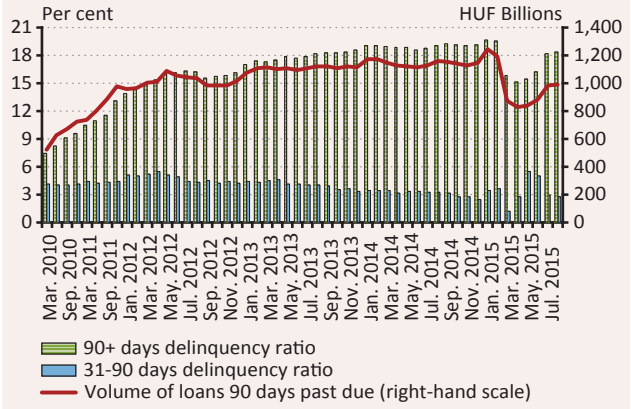
[9] Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

ing sector's corporate loan portfolio could be classified as non-performing loans, but decomposing the portfolio into project and other corporate loans results in an even more heterogeneous picture than the one described above. At end-June, banks classified 47 per cent of project loans as non-performing, of which the loans that were not 90 days past due but were non-performing accounted for 20 per cent of the project loan portfolio. By contrast, according to the new definition the NPL ratio of other non-project loans was 14.3 per cent at the end of H1.

According to the new definition of non-performing loans, the portfolio quality of household loans is also significantly poorer than in the case when only loans 90 days past due are taken into account. At end-June 2015, non-performing household loans accounted for 22.1 per cent of the overall banking sector's household loan portfolio, of which banks classified nearly 6 per cent of the household loan portfolio in the NPL category in spite of the fact that those contracts did not have arrears of more than 90 days.

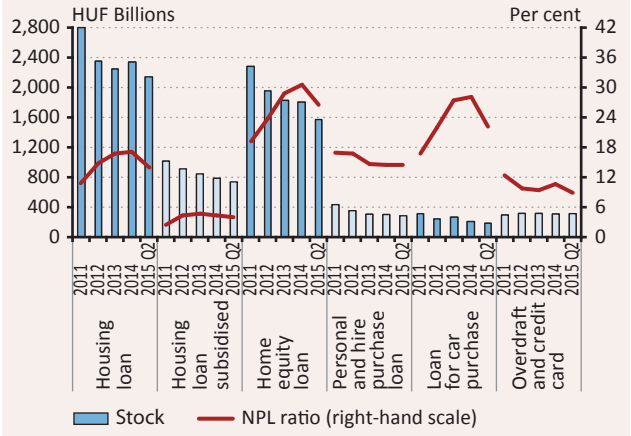
All in all, the new definition of non-performing loans represents a more prudent approach to portfolio quality classification. Looking ahead, in its published analyses the MNB will gradually switch over to the analysis according to the new definition, i.e. non-performing loans will not exclusively mean loans 90 days past due, but all the receivables classified by banks in the NPL category.

Chart 52
Ratio of the banking sector's household loans 90 days past due by contracts



Source: MNB.

Chart 53
Volume and ratio of household loans 90 days past due in the banking sector by product type



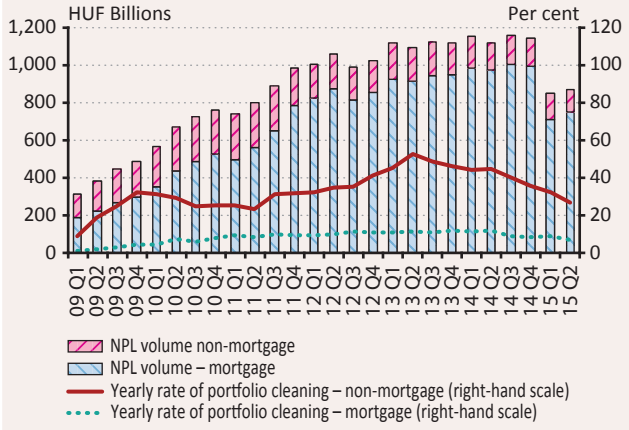
Source: MNB.

4.3 WITHIN THE HOUSEHOLD LOAN PORTFOLIO, THE HIGH VOLUME OF NON-PERFORMING MORTGAGE LOANS POSES A SIGNIFICANT RISK

As a result of settlement, the volume of household loans 90 days past due declined, but the ratio remained practically unchanged. The ratio of household loans 90 days past due within the banking sector as a whole declined from 19.2 per cent at the end of the year to approximately 15.9 per cent at the end of 2015 Q1 as a result of settlement (Chart 52). The measure primarily reduced the oldest arrears of debtors, and thus a number of these were reclassified into the non-past due category. With the first due instalments following settlement, debtors could fall back into the 90 days past due category at the earliest in July, and thus the July and August figures can already be compared to the end-2014 ratio and volume of loans 90 days past due. Based on all of this, the volume of household loans 90 days past due declined by some HUF 200 billion to HUF 1,000 billion by end-August. However, their ratio to total household loans outstanding decreased by a mere 0.8 percentage point to 18.4 per cent. In terms of the breakdown by products, within the household portfolio the high ratio and volume of mortgage loans 90 days past due represent a significant risk (Chart 53).

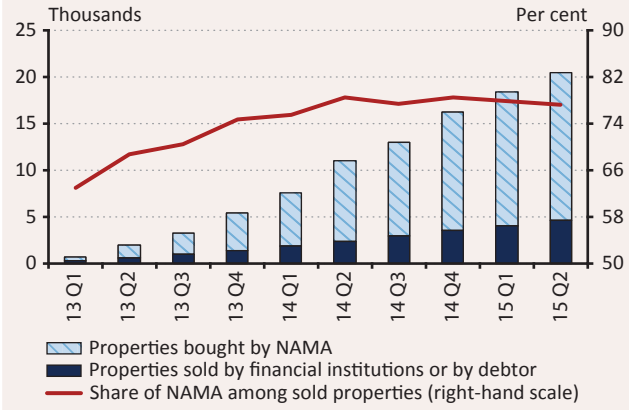
The cleaning of the household portfolio continues to be segmented. In 2015 H1, the banking sector as a whole removed gross loans 90 days past due amounting to some HUF 41 billion from the balance sheets, but the portfolio cleaning continues to be

Chart 54
Cleaning ratio in the banking sector's household segment by product type



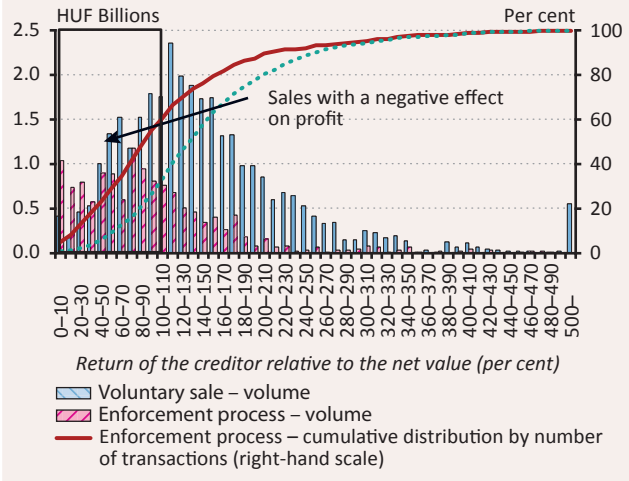
Source: MNB.

Chart 55
Cumulative number of sold properties used as collateral



Source: MNB.

Chart 56
Distribution of mortgage properties sold on a market basis by banks by return of the creditor



Source: MNB.

focused on unsecured loans (Chart 54). The annual cleaning ratio, i.e. the annual gross volume of receivables sold and written off amounted to 26.5 per cent compared to the unsecured portfolio 90 days past due at the end of 2015 H1. By contrast, banks are able to remove their mortgage loans 90 days past due from their balance sheets only at a slow rate of some 6.6 per cent on an annual basis.

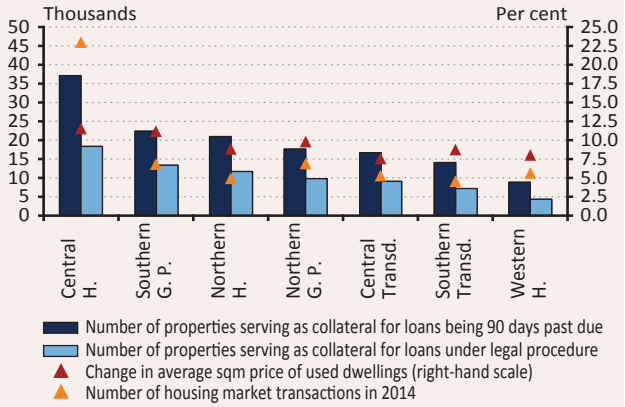
The cleaning of non-performing mortgage loans is practically limited to the NAMA. At present, only the National Asset Management Agency (NAMA) is able to efficiently support the cleaning of distressed mortgage loans and properties serving as collateral from balance sheets (Chart 55). Between 2013 and the end of 2015 Q2, NAMA bought up some 14,000 properties, i.e. 78 per cent of the collateral properties sold by banks.[10] As a result of expanding the original limit of 25,000 by a further 10,000 and the easing of the social criteria required for participation, the programme may be of further help in a wider range in terms of resolving the distressed household mortgage loan portfolio. However, due to limited capacity and its social criteria NAMA is unable to manage the problem of non-performing mortgage loans comprehensively; therefore, efficient functioning of market-based collateral enforcement is also necessary.

Market-based collateral enforcement is hindered by a number of administrative barriers. The protracted and costly judicial enforcement, the problematic occupation of properties used as collateral as well as the unclear tax implication of debt forgiveness also limit the adequate enforcement of mortgage collaterals. Since 2013, banks sold only 4,000 collateral properties on a market basis, of which 1,100 were sold through judicial enforcement. Banks generated total income of HUF 8.7 billion from the properties sold jointly with the debtors outside judicial enforcement by cleaning a gross volume of HUF 34 billion, while the properties sold through judicial enforcement resulted in a loss of HUF 1.1 billion for the banking sector with the cleaning of a portfolio amounting to some HUF 14 billion (Chart 56); 55 per cent of the sales incurred losses.

The limited absorption capacity of the real estate market makes the functioning of market-based collateral enforcement even more difficult. The marketability of residential real estate serving as collateral for mortgage loans shows significant

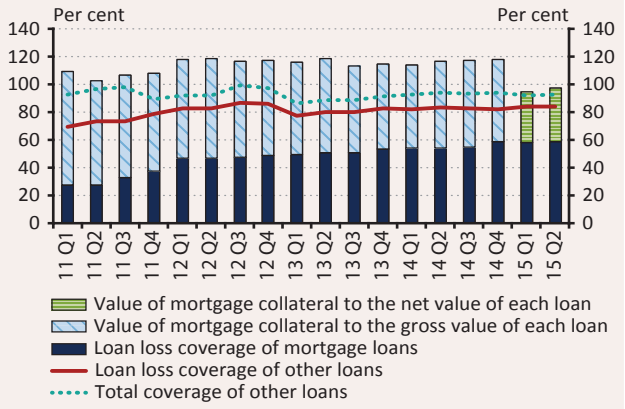
[10] Up to July, NAMA had taken over almost 17,000 properties, while the number of offers received already exceeds 25,000.

Chart 57
Number of properties used as collateral and housing market transactions



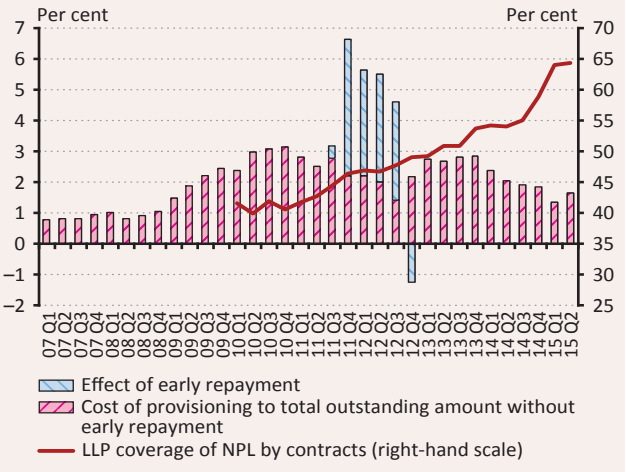
Note: The change in average sqm price is shown between 2014 and 2015 Q2.
Sources: MNB mortgage loan database, HCSO.

Chart 58
Total coverage of the banking sector's household loans 90 days past due



Source: MNB.

Chart 59
Cost of provisioning to total loans and coverage in the household segment



Source: MNB.

heterogeneity on a territorial basis. In the Central Hungarian Region, the number of residential properties serving as collateral for non-performing loans accounts for 81 per cent of the 2014 housing market turnover, but it stands above 200 per cent in Northern Hungary, and above 150 per cent in other regions of the country (Chart 57). All of this indicates that the uneven distribution of the housing market turnover and real estates used as collateral may result in frictions in terms of the marketability of properties. Accordingly, on the whole, the problematic enforceability of mortgage collaterals may result in further losses for the banking sector in the case of portfolio cleaning, as due to the weak marketability and administrative barriers, the collateral properties can only be sold at a significant discount.

In the case of distressed mortgage loans, the restoration and maintenance of solvency should be the primary objective. Within the mortgage loan portfolio 90 days past due, the share of contracts with an above 100 per cent loan-to-value (LTV) ratio is extremely high, at nearly 35 per cent. In spite of the high LTV values the total coverage of the banking sector's mortgage loan portfolio 90 days past due stood at an adequate level of 97 per cent at the end of H1 (Chart 58), in view of the problematic enforceability of the mortgage collateral, in case of this portfolio the most important task is to restore solvency. NAMA and personal bankruptcy continue to play a key role in the management of the non-performing household portfolio, but several aspects need to be considered when addressing the situation of the remaining debtors: firstly, no further burdens should be put on the banking sector; secondly, in addition to restoring debtors' solvency, they have to be directed towards real solutions, while taking into account the possibilities granted by the current regulatory environment. The central bank formulated several important conclusions within the framework of a nearly complete granular mortgage loan database analysis (Box 10).

The loan loss coverage of the overdue portfolio increased in H1, mainly as a result of settlement. The loan loss coverage of the banking sector's household portfolio 90 days past due increased from 58.8 per cent at end-2014 to 64 per cent by the end of Q1, after which coverage was practically stagnated in Q2 (Chart 59). The Q1 increase was a result of the impact of settlement, as some banks did not reduce their respective loan loss provisions, or only slightly, while the gross value of the overdue portfolio declined as a result of settlement. Following the settlement, if the

portfolio that has not recovered becomes delinquent again, it may add to the new loan loss provisioning requirement in the future. At the end of 2015 H1, the 12-month cost of provisioning and sales stood at a level of 1.6 per cent, which represents a low risk cost compared to the previous years.

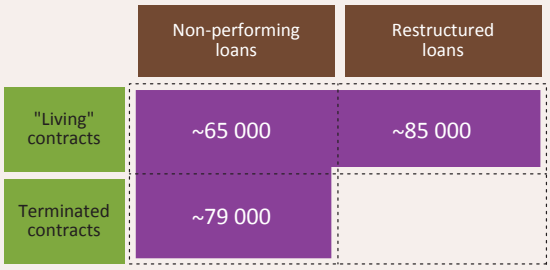
Box 10

Analysis of non-performing household mortgage loans with micro-level data

The ratio of household mortgage loans 90 days past due has been increasing steadily since 2009. This trend was broken mostly technically and only for a temporary period by settlement. Accordingly, in the second quarter of 2015, the financial intermediary system as a whole had distressed loans, i.e. overdue for more than 90 days (hereinafter: non-performing) or restructured mortgage loans amounting to nearly HUF 1,450 billion. Apparently, the banking sector is unable to clean these loans from its balance sheet fast enough, and thus a significant number of non-performing loan transactions may remain with the creditors even after the expansion of the NAMA programme and the introduction of personal bankruptcy proceedings in the autumn. Due to the foregoing, more distinct regulatory intervention may be required to speed up market-based portfolio cleaning; in order to substantiate this, the economists of the central bank prepared a descriptive and fact-finding study, which may serve as an appropriate basis for the development of the potential future recommendations to facilitate portfolio cleaning.[11]

In preparing the study, the economists conducted an extensive data collection and analysis by channelling the experiences and observations of creditors and debtors, and by exploring the mortgage loan data and income data of debtors. In the analysis, using the data received from banks, a detailed micro-level database containing the characteristics of nearly 240,000 contracts was built. This database was supplemented, *inter alia*, with a questionnaire-based survey conducted among households with non-performing mortgage loans, focus group analysis and in-depth interviews with professionals.

Mortgage database



The study makes the following five key findings:

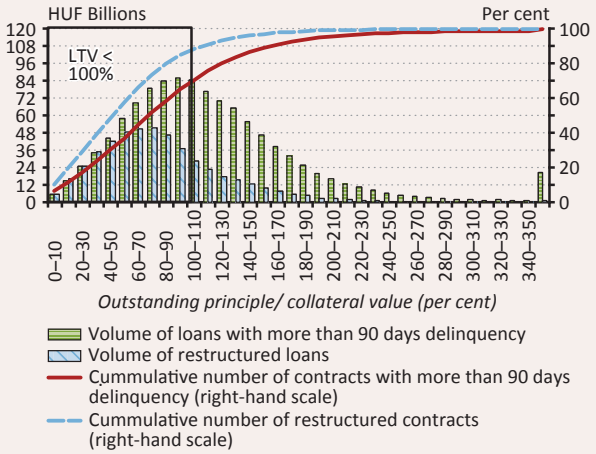
1. *Reduction of the non-performing household mortgage loan portfolio is typically hindered by the over-indebtedness of the debtors.* Non-performing debtors are characterised by over-indebtedness, both in asset and income terms. The depreciation of the forint exchange rate considerably increased the outstanding principal of the former foreign currency-denominated loans and thereby also the amount of the regular payment. The drastic rise in the forint equivalent of the outstanding debts considerably increased the ratio of regular payment to income, while the ratio of the loan amount compared to the collateral value also deteriorated markedly. 35 per cent of the debtors have "negative principal" (i.e. in their case the loan amount exceeds the value of the collateral), while in the case of one-fifth of the debtors the outstanding debt also exceeds the value of their total wealth. In addition to the foregoing, the current outstanding debt of 82 per cent of the debtors exceeds the originally drawn down loan amount.

2. *The portfolio contains "restructuring reserves", but the banks should act more dynamically.* In recent years, the banks restructured the debt of many customers to provide a solution for the debtors' payment difficulties for shorter or longer periods; however, the interviews with the banks suggest that only roughly 20 per cent of these were successful. During the analysis, the statistical properties that made these restructurings successful were

[11] Dancsik B., Fábián G., Fellner Z., Horváth G., Lang P., Nagy G., Oláh Zs., Winkler S. (2015). Comprehensive analysis of the non-performing household mortgage loan portfolio relying on micro-level data. MNB Occasional Papers, Special Issue, October 2015

examined, i.e. in what cases the debtor had better chances to remain a performing customer following the amendment of contract. Examining these typical success criteria for the whole population it can be established that as high as 45–50 per cent of the non-performing portfolio, i.e. about 70,000-80,000 debtors, may be eligible for restructuring, which suggests that there are significant 'reserves' in the system. In order to make use of this opportunity the banks should implement restructuring more rapidly, and it may be necessary to restructure the transactions in such a way that makes the instalments fit the debtors' income situation better.

Distribution of non-performing and restructured mortgages by LTV



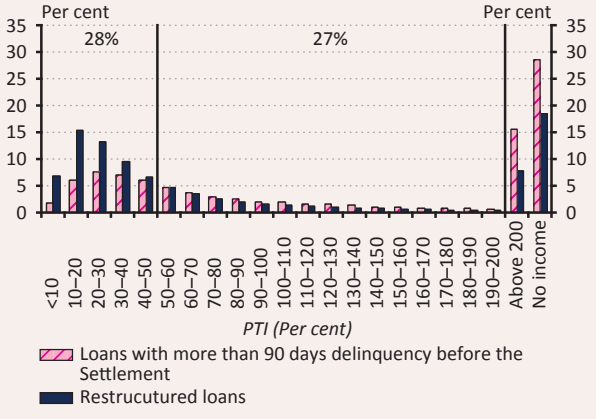
Source: MNB.

3. *Debtors should demonstrate more willingness to cooperate.* Based on the representative questionnaire-based survey presented in the study, the vast majority of debtors are aware of the fact that upon defaulting they may lose their property, but far fewer people believe this to be a real threat. The majority of the debtors refused all solutions – proposed in the questionnaire – and a large part of them expect further intervention by the government. In the case of the non-performing loan debtors, a significant risk of moral hazard arises: based on the estimation of the study about 10-20 per cent of the mortgage loan debtors may be characterised by moral hazard.

4. *The possibilities to sell collateral are very limited.* The uneven territorial distribution of the housing market and collateral properties causes frictions in terms of the marketability of the collateral. Almost half of the collateral securing non-performing mortgage loans are located in the eastern regions (North Hungary, the northern and southern part of the Great Hungarian Plain), while 70 per cent of the debtors live in small settlements. In addition to the foregoing, the market value of two thirds of the collateral properties is below in HUF 10 million. In the eastern regions of the country (mainly in North Hungary) and in the small settlements, where the housing market turnover is relatively low compared to the collateral properties securing the high number of non-performing mortgage loans, the difficulty of selling the properties arises. Hence the voluntary asset sale or moving into a smaller property, as a potential solution, presumably may only work to a limited degree. Three-quarters of the sold collaterals were purchased by the state within the National Asset Management Agency (NAMA) programme, which provides a good representation of the property market's poor absorbing capacity.

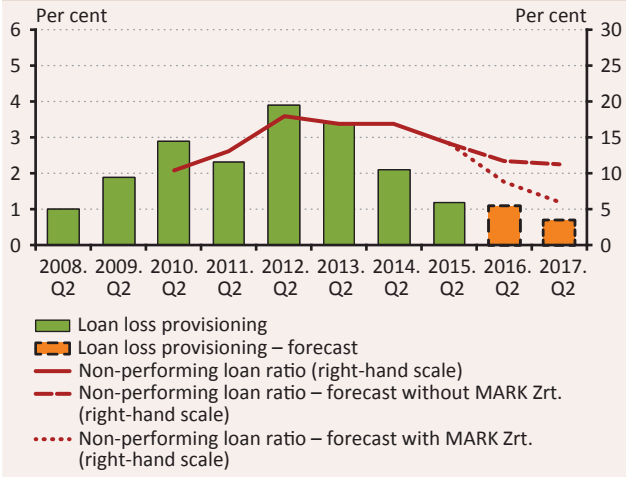
5. *Administrative constraints hinder the efficient management of the problem, particularly in the case of cancelled loans.* The procedure of foreclosure and eviction (taking possession of the property) is extremely time-consuming, which complicates the sale of the property. The foreclosure procedure is unreasonably expensive and generates considerable losses for the banks: the total fee and cost incurred during foreclosure may be as high as 15 per cent of the collected amount. The cleaning of the non-performing portfolio through debt forgiveness is complicated by the potential tax consequences thereof. In addition, the administrative burdens hinder the restructuring of the terminated contracts as the CCIS classification thereof renders the refinancing of the loans more difficult.

Distribution of non-performing and restructured loans by payment to income



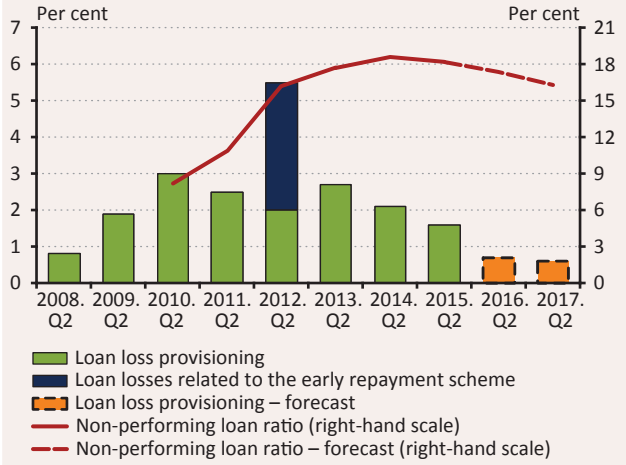
Source: MNB.

Chart 60
Non-performing loan ratio and the profit deteriorating impact of impairment in the corporate segment



Source: MNB.

Chart 61
Non-performing loan ratio and the profit deteriorating impact of impairment in the household segment



Note: In the ratio of non-performing loans, the value of Q2 2015 was adjusted with the temporary impact of settlement on the basis of the data of August.
Source: MNB.

4.4 THE BANKING SYSTEM'S PORTFOLIO QUALITY IS SLOWLY IMPROVING; THE HIGHLY PROBLEMATIC SEGMENTS REQUIRE EXTERNAL ASSISTANCE

As regards the corporate portfolio quality of the banking system, a gradual improvement may be expected, which may be enhanced by the commencement of activities of MARK Ltd. By the end of the forecast horizon, i.e. 2017 H2, the ratio of the banking system's non-performing corporate loans may fall from the present 14.1 per cent to 11 per cent on the forecast baseline scenario (Chart 60). This may be achieved by maintaining the present cleaning ratio of almost 23 per cent in annual terms. However, the expected launch of MARK Ltd.'s activities at the end of 2015 may have a considerable impact on the future development of the banking system's corporate portfolio quality. Once an agreement is reached with the European Commission on the pricing approach, MARK may commence the purchase of non-performing loans secured by commercial property. By the end of the forecast horizon the ratio of the corporate loans overdue for more than 90 days may move to close to 6 per cent, also considering the debt purchase activity of MARK. Moreover, by taking over the distressed project loans from banks' balance sheets, MARK may also lower the segmentation of the portfolio according to which the quality of the project financing portfolio is significantly worse compared to other corporate loans. By the end of the forecast horizon loan loss provisioning may decrease under 1 percent, i.e. to its pre-crisis level.

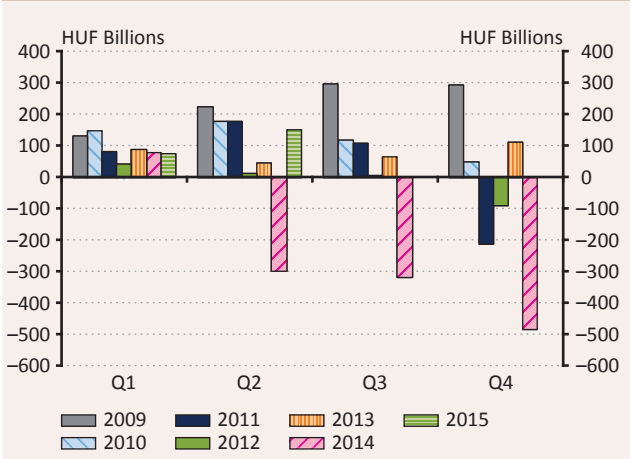
Looking ahead, the household loan portfolio may improve slightly, but the NPL ratio may remain high at the end of the forecast horizon. The settlement only temporarily reduced the ratio of household loans overdue by more than 90 days, and by the end of August 2015 this ratio had increased again, reaching 18.4 per cent. Looking ahead, the ratio of household loans overdue by more than 90 days may decrease slightly in the banking system until the end of the forecast horizon, and it is expected to fall close to 16 per cent by the end of the second quarter of 2017 (Chart 61). This ratio can still be considered high. A material improvement in the quality of the household loan portfolio may only be achieved by cleaning the mortgage loans at a higher rate, even despite the fact that according to our forecast the new impairment need, that is the portfolio risk cost, in annual terms may fall permanently below one per cent of the portfolio.

5 Banking sector profitability and capital position – increasing the banking sector's profit requires cost rationalisation and a recovery in banks' activity

Following 2014, a year burdened by the impact of settlement, the profitability of the banking sector returned to positive territory. In 2015 H1, both the number and market share of loss-making institutions declined considerably; aggregated within the year, the sector was characterised by a pre-tax profit of roughly HUF 152 billion. Looking ahead, changes in legislation and government measures have a material impact on income: the settlement and FX-conversions of the remaining household foreign currency loans, the increase in the fees to be paid to the NDIF and the IPF have a negative effect on the banking sector's income, while the reduction of the bank levy and the termination of the exchange rate cap scheme have a positive impact. The aggregate impact of the measures on profitability is expected to be negative in 2015 and 2016, and then nearly neutral in 2017. In international comparison, the profitability of the domestic banking sector is weak, with the return on equity being below the expected yield, even after the exclusion of one-off effects. Due to the weak capital accumulation capacity, the low profitability raises questions about the long-term sustainability of operation at certain banks, thus posing a substantial risk. In the short run, an increase in the profitability of the sector may be attained by continuing the cost side adjustment, while in the medium term this is possible through an expansion in activity.

The capital adequacy of the banking sector is robust, with the capital adequacy ratio at 20.9 per cent in June. Since the outbreak of the crisis, sector participants took significant steps in order to continuously ensure their capital adequacy. The accumulation of capital buffers mainly took place via capital injections, although the decline in banks' willingness to take risks also played a substantial role in the improvement of the indicator.

Chart 62
Pre-tax profit/loss of the banking sector and the branches

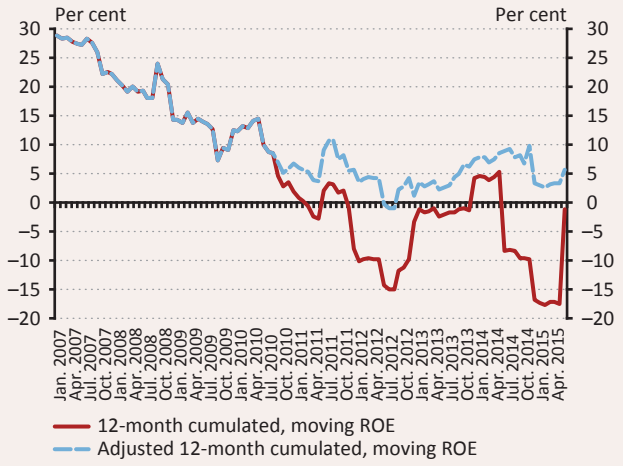


Source: MNB.

5.1 PROFITABILITY IS IMPROVING, ALTHOUGH IT STILL FALLS SHORT OF THE EXPECTED RETURN ON EQUITY

The banking sector's income aggregated within the year returned to positive territory. The pre-tax income of the banking sector and branches accumulated during the year was a profit of HUF 152 billion in June 2015, which is a substantial improvement compared to the nearly HUF 300 billion loss observed in the same period of the previous year. With the fading effect of provisioning due to settlement in 2014, the profitability of the sector may permanently return to positive territory. In H1, the number of banks making a loss during the year declined to 12, while their ratio to the balance sheet total fell to 14 per cent. Nevertheless, it needs to be emphasised that the significant improvement at sector level conceals substantial heterogeneity in terms of the income level: around two thirds of the profit within the year is related to one banking group, which is also influenced by a significant dividend income (Chart 62).

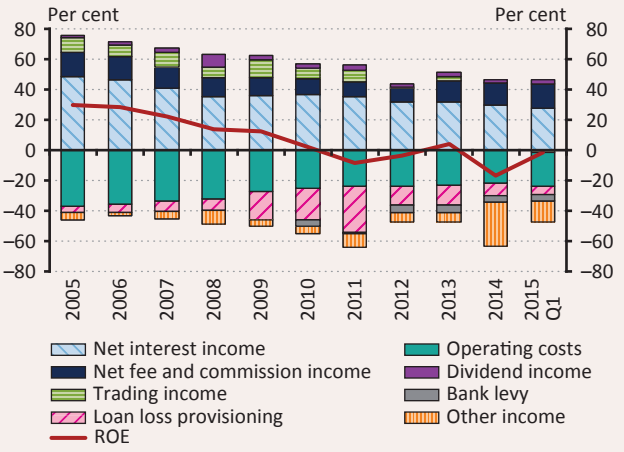
Chart 63
Actual and adjusted aggregate 12-month rolling ROE of the banking sector and the branches



Source: MNB.

The sector made a loss on an annual basis, but the profitability is distorted by several one-off effects. There is also significant improvement looking at the changes in profit/loss on a 12-month rolling basis, which is clearly attributable to the dropping out of the first-round effect of settlement from the indicator. Return on equity changed from -16.7 per cent at the end of the year to -1.2 per cent, while return on assets was -0.1 per cent in June 2015. However, the current profitability of the sector is distorted by a number of temporary and one-off institutional effects as well: firstly, the provisioning carried out in 2014 H2 due to settlement still affects the indicator; secondly, capital injections implemented through the profit and loss statement (by debt forgiveness and asset sales concluded above net value) took place in the case of several institutions over the past one year. The ROE net of the direct effect of the settlement and one-off institutional impacts stood at 1 per cent at the end of H1, while the return completely excluding one-off effects and the bank levy imposed on financial institutions, which better expresses the sector's earning power, stood at 5.6 per cent (Chart 63).

Chart 64
Aggregate 12-month main rolling profit items of the banking sector and branches as a proportion of 12-month average equity

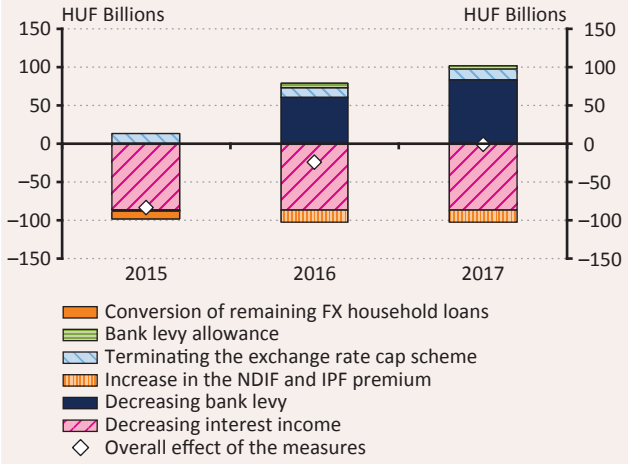


Source: MNB.

The decline in interest income reduced this year's profit, while the reversal of provisioning improved it. The change in the profit structure of the banking sector was determined by long-term and temporary impacts of settlement in 2015 H1 (Chart 64). One long-term impact is that, compared to the end of last year, the interest income of the sector declined along with household interest rates, which fell as a result of the changing legislation. This impact is mitigated by the liability side restructuring of household savings from more costly time deposits towards current accounts with lower interest rates. The partial fading out of the effect of the provisioning due to settlement is reflected in the losses belonging to the category of other profit/loss, while the slight rise in operating costs may have also been attributable to the cost-increasing effect of bank tasks related to settlement. Loan loss provisioning as a proportion of equity declined to the lowest level since the outbreak of the crisis, but this is attributable to the reversal of loan loss provisions resulting from settlement. The reason for the reversal is that due to the measures the gross amount of loans concerned declined, and thus, ceteris paribus, provisioning became excessive compared to the expected loss.

The aggregate impact of statutory measures on profit is close to neutral over the medium term. Looking ahead to the coming years, changes in legislation and government measures have a significant impact

Chart 65
Estimated effect of government measures and changing legal environment on banks' profitability



Source: MNB.

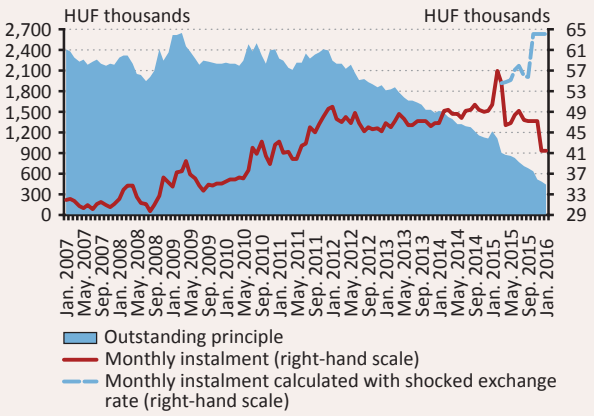
on profits. The settlement and FX-conversions of remaining foreign currency household loans, and the increase in the fees to be paid to the NDIF and the IPF have a negative effect on the banking sector's income, while the reduction of the bank levy, the allowance that can be received in the bank levy and the termination of the exchange rate cap scheme have a positive impact. The balance of these measures in 2015 and 2016 is still negative, but from 2017 the gradual decline in the bank levy imposed on financial institutions will already offset the impact on income of the measures that cause losses (Chart 65). As a direct cost, the FX-conversion of the remaining foreign currency household loans results in a loss of around HUF 11 billion for banks, but economic costs are considerably reduced by the fact that no additional loan loss provisioning is required of the financial institutions induced by debtors who default due to the persistently strong level of the Swiss franc. In terms of the developments in profitability, another uncertainty is the future operation of MARK Ltd: depending on the pricing principles of the asset management company and the volume taken over, considerable additional loan loss provisioning may even be necessary.

Box 11

Conversion of the remaning household fx non-mortgage loans

As a result of the FX-conversion of mortgage loans, the highest exposure at the systemic level ceased to exist, but there is still a large number of other foreign currency loans in the balance sheet of the Hungarian banking sector. Almost 20 per cent of non-mortgage loans were personal loans, and 72 per cent of these were car purchase loans. As regards the currency denomination, the Swiss franc was clearly dominant, as almost 82 per cent of the total remaining credit portfolio was denominated in Swiss franc. In January 2015, when the Swiss central bank discontinued the minimum exchange rate against the euro, due to the cross rate effect the shock-like nearly 20 per cent depreciation of the forint exchange rate to Swiss franc compared to December 2014 led to an immediate increase in the instalments and the outstanding principal amounts also rose. The difficulties of the remaining foreign currency loan holders – arising from the exchange rate shock – was mitigated by the settlement, but without FX-conversions this favourable effect would have been offset by the exchange rate volatility (Chart 1). The FX-conversions, performed at a favourable exchange rate of 256 CHF/HUF in the case of Swiss franc, represents a decrease in the instalment of almost 30 per cent for the average foreign currency car purchase loans within the most typical scheme that survived. The MNB has already provided the necessary foreign currency to banks in August, who will have to convert the remaining debts into forint by 1 December at the latest. The contract amendment must be sent out to customers by 15 December, which will enter into force by acceptance or after 30 days automatically, "without contesting" the modified contract.

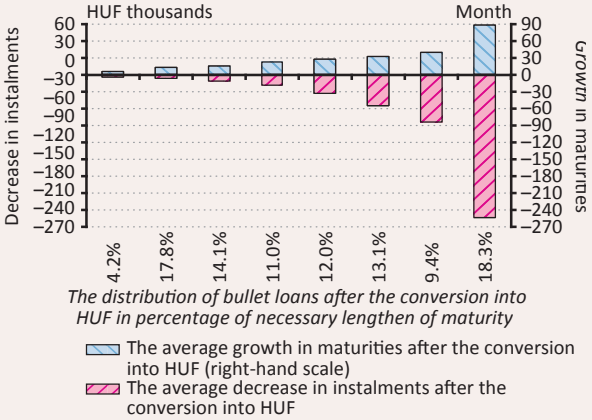
The changing of an average Swiss franc vehicle loan's outstanding principle amount and monthly instalments



Source: CCIS, MNB.

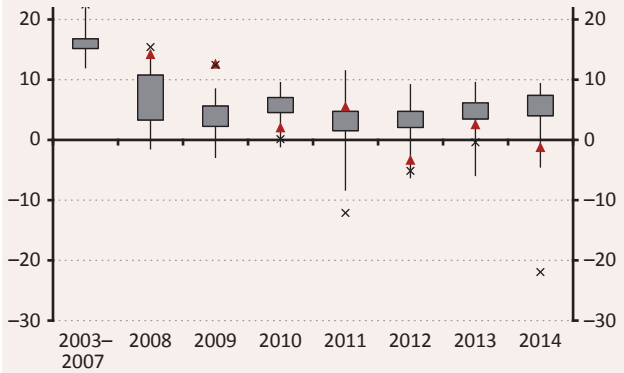
Despite the FX-conversions significant risks still existed with certain types of loans, the customers did not face these risks until the FX-conversions, due to the special conditions In the classification of the MNB, more than one-third of total foreign currency-denominated car purchase loans were so-called bullet loans. In the case of the bullet schemes during the term elapsed until the FX-conversion the customers did not bear the full impact of the exchange rate and interest rate increase; they were protected from the extreme increase in the instalment by a special shell guaranteed by contract. However, the possibility of calculable monthly expenses – provided by the scheme where the instalment could be increased only up to a specific level – was available only up to a certain level. However, if the level of debt exceeded the maximum level settled in the contract, then a large-scale increase in instalments could be expected. In addition to reducing the outstanding principal, FX-conversions provides comprehensive assistance for these special cases. On the one hand, it prevents the enforcement of the outstanding principal, accumulated as a result of the former preferential scheme, in the instalments by prolonging the maturity. On the other hand, in order to sustain the predictability of the monthly debt burden, it converts all schemes into annuity. The increase of the even, protracted instalment must not exceed the former preferential instalment by more than 15 per cent.[12] It should be emphasised that apart from the monthly debt payment capacity, the minor, in average few per cent increase in the burdens is much more favourable both in terms of the willingness to pay and recovery for the bank, compared to the case when the instalment would have increased several times during the existing maturity. The higher required maturity prolongation is accompanied by higher decrease in the monthly burden; however, a great heterogeneity should be emphasised (Chart 2).

The reducing effect of conversion into HUF to the instalments and the necessary growth of maturity in the percentage of swiss franc bullet loans



Source: CCIS, MNB.

Chart 66
Return on equity in EU banking sectors

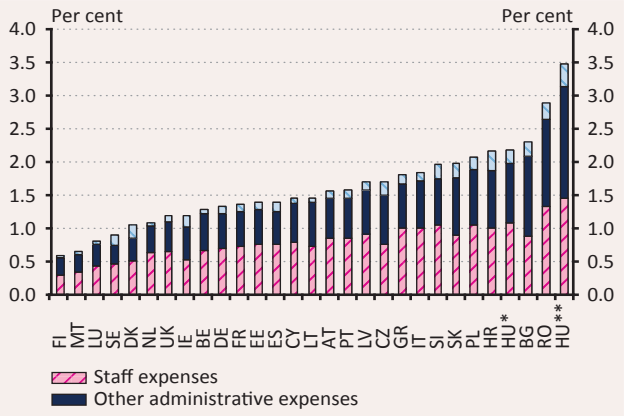


Note: The chart depicts the 40–60, 20–80 percentile values of the Member States' banking systems. For Hungary, non-consolidated, adjusted data are also shown.
Sources: ECB CBD, World Bank Database.

Even with the exclusion of one-off items, the Hungarian banking sector is among the weaker performers in the EU. At end-2014, the banking sector's profitability net of the settlement and one-off effects was -1.1 per cent, meaning that the Hungarian banking sector is among the less profitable in Europe (Chart 66). In 2014, the average return on equity in the countries of the CEE region amounted to 6.2 per cent, while its median value exceeded 9 per cent. The domestic banking sector's low profitability, which is below the expected yield, may represent a competitive disadvantage in the fund allocation among the countries of the region. Permanent improvement in the sector's profitability requires the rethinking of the business strategy that was typical earlier, and was – in many cases – built on the unilateral increases in interest incomes from households. Without adjustment, several banks face the risk that the weak capital accumulation capacity induced as a result of

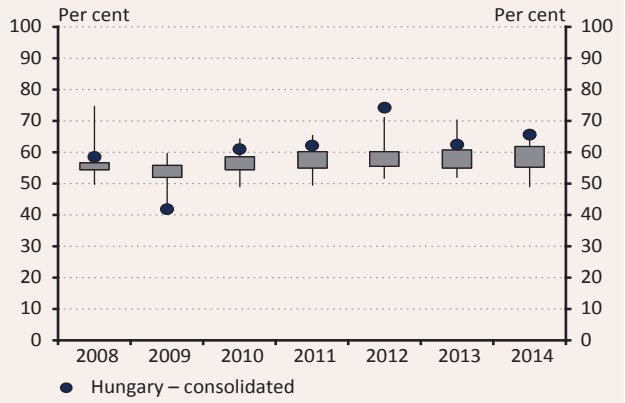
[12] Upon the prolongation, if the maturity increases to more than 12 years, the instalment may increase by maximum 25 per cent.

Chart 67
Cost-to-asset ratio and its components in EU banking systems



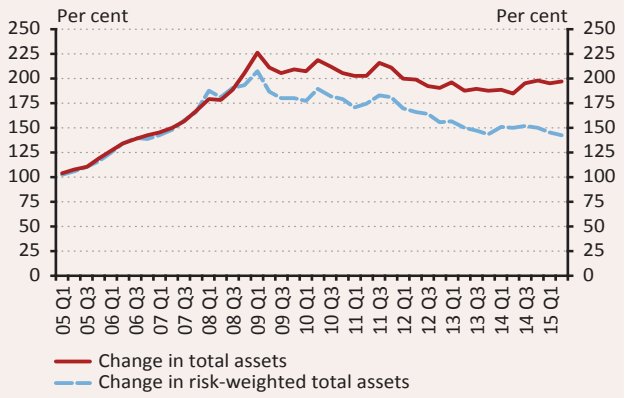
**non cons. **cons.*
Sources: EKB CBD, MNB.

Chart 68
Cost-to-income ratio in EU banking systems



Note: The chart depicts the 40–60, 20–80 percentile values of the Member States' banking systems.
Sources: EKB CBD, MNB.

Chart 69
Changes in the banking sector's total assets and risk-weighted assets
(January 2005 = 100%)



Source: MNB.

low profitability makes the operation of the institution unsustainable over the long term.

Based on international comparison, there seems to be considerable room for cost reduction. The cost effectiveness of the financial sector shows how low or high the costs of the banking sector are per unit of asset. The ratio of costs to assets is affected by many factors, several of which may be considered as exogenous to banks. Factors like this include the density of population, the level of households' financial literacy or the demand for digital solutions in banking.[13] The costs of the bank are also influenced by the business focus of the institution: lending to households and SMEs typically requires more personal relations, for which a wider network of branches and more employees are needed. Based on all this, one must be cautious with the interpretation of statistics, but based on international comparison (Chart 67 and Chart 68) it can be stated that the cost level of the Hungarian banking sector is one of the highest in Europe, which suggests that there may be ample room for cost reduction at the banking sector level. Achieving this is conceivable by streamlining at the level of individual banks (reduction of the number of branches, decline in other operating costs) or also through the merger of institutions (Box 12).

In the medium term, the recovery in activity and risk-taking as well as the decline in the need for loan loss provisioning may improve profitability. Since the onset of the crisis, not only did the volume of banks' balance sheet decline, its structure also shifted towards less risky assets. In addition to cost reduction, banks' profitability may also be improved by a renewed expansion in activity, especially if it is coupled with an increase in willingness to take risks within prudent limits. An increase in leverage also has a positive impact on the return on equity, which may be allowed by the current high level of capital adequacy. It also improves profitability, that during an upswing in the economy, in parallel with increasing incomes and asset prices, banks' expected losses also decline, leading to the reversal of provisions and to a reduction of the new loan loss provisioning requirement. Accordingly, with sustained economic growth, the decline in unemployment and the fledgling increase in real estate prices, there has been a significant improvement in domestic banks' medium-term profitability outlook in the recent period as well (Chart 69).

[13] It should also be noted that intensive interbank lending has a serious impact on the size of the balance sheet total in developed countries, while the Hungarian figure is strongly influenced by the more intensive balance sheet adjustment that took place in Hungary.

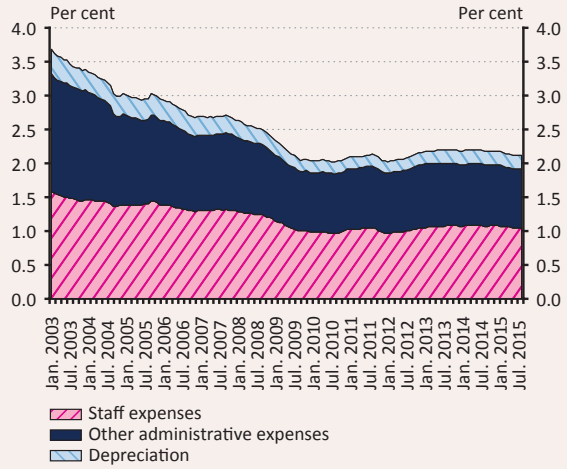
Box 12

Banking sector costs and the possibilities of consolidation

After the start of the crisis, banks had significant leeway because the majority of loans disbursed between 2005 and 2009 were with interest rates unilaterally changeable by the banks, and thus it was possible to shift some of the income shock affecting the sector to households. However, by resetting the initial interest rates on outstanding loans and linking them to BUBOR, the sector's strategy built on interest income from households lost competitiveness and may require adjustment, which is also reflected by the low level of ROE excluding one-off items. The adjustment may take place through increasing lending activity (increasing revenues), changing the business focus and innovation (e.g. greater involvement of digital technology) as well as by increasing cost effectiveness. Revenue side adjustment is hindered by the fact that shrinking loan markets are more typical at present due to the loans being amortised in some large banks' balance sheets. Therefore, mainly the reduction of the cost side may be a real option at sector level in the short run.

In the 2000s, until the outbreak of the crisis, a steady increase in cost effectiveness was typical. It continued to increase during the first months of the crisis, but mainly as a result of an increase in all assets due to weakening of the exchange rate. Since end-2009, however, operating costs as a proportion of total assets have remained practically unchanged around their level of 2 per cent, which reflects stagnation of the increase in cost effectiveness. Meanwhile, in parallel with the shifting of the balance sheet structure towards lower-risk assets, the operating cost expressed as a percentage of risk-weighted assets already rose, indicating that the banking sector manages one unit of risk with a higher cost and less efficiently than before. In terms of the costs to assets ratio, Hungary is among the worst performing countries in international comparison as well. At the current cost level, increasing activity and cost reduction may both improve the present picture.

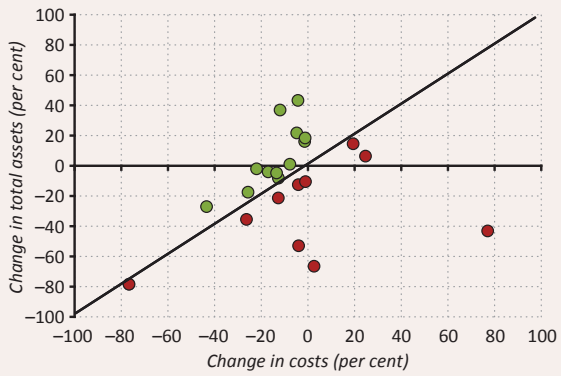
Cost-to-asset ratio of the banking system and branches



Source MNB.

At the level of individual banks, several adjustment attempts were made regarding cost reduction. Between 2008 and 2014, for the majority of banks the decline in the cost level was greater than the decline in balance sheet total (i.e. it increased to a lesser extent than all assets). During this year, several institutions have already announced further cost reduction plans (typically the rationalisation of the number of branches).

Change in individual banks' cost and average total assets between 2008 and 2014

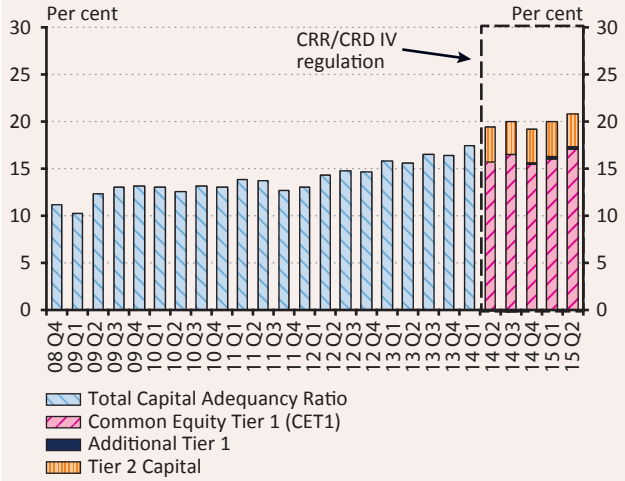


Source MNB.

Banking sector profitability can be increased not only at the level of individual banks, but also through the merger of institutions. Larger average bank size allows a better utilisation of economies of scale, at least up to a certain level (an excessive size, in turn, carries risks from a regulatory aspect as well). Significant cost savings may stem from the streamlining of management and other costs. Some studies underline that operational efficiency improves to the greatest extent if larger-size banks that are similar to one another both in terms of their activities and geographical locations participate in the merger. In addition to cost side synergies, through an increase in market power, a merger may result in an increase on the revenue side as well, but it is also not advantageous from

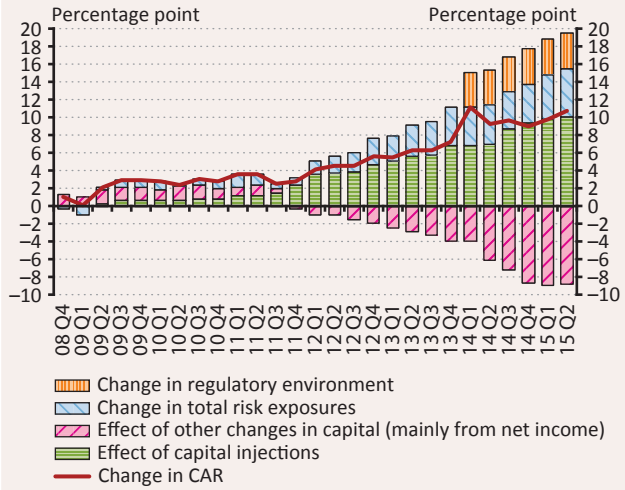
a macroeconomic point of view if the market becomes excessively concentrated. Based on its analyses, the MNB sees room for the consolidation of the Hungarian banking market through mergers so that potential profitability and economies of scale can increase. However, in the future the central bank will monitor the development of excessive concentration (which has been determined as 50 per cent of the market share of the three most active institutions in the individual market segments).

Chart 70
The banking sector's capital adequacy ratio (CAR)



Source: MNB.

Chart 71
Decomposition of the change in the banking sector CAR after the crisis



Note: The change in the CAR in 2014 Q1 was completely identified with the technical impact of the changing regulation.
Source: MNB.

The banking system's capital position is strong, but the concentration of capital buffers increased. The banking sector's non-consolidated capital adequacy rose to a historically high level (Chart 70), at 20.9 per cent at end-June.[1] Best-quality Common Equity Tier 1 capital according to the CRR/CRD regulation accounts for the majority of the regulatory capital of the banking sector. Each bank meets the current 8 per cent capital adequacy ratio requirement, and all institutions comply with the SREP capital requirements as well, as specified within the framework of Pillar II. The size of the capital buffer at the sector level exceeds HUF 1,200 billion, but some 77 per cent of this is concentrated in the balance sheet of three institutions. In the coming years, the sector's participants will have to face increasingly strict regulatory requirements, of which the first provision, regarding the capital conservation buffer, will compulsorily enter into force on 1 January 2016. Its value will be 0.625 per cent next year, reaching its final, 2.5 per cent level in 2019 through annual increases. Banking sector capital adequacy may later be influenced by the countercyclical capital buffer regulation as well, described in Box 13.

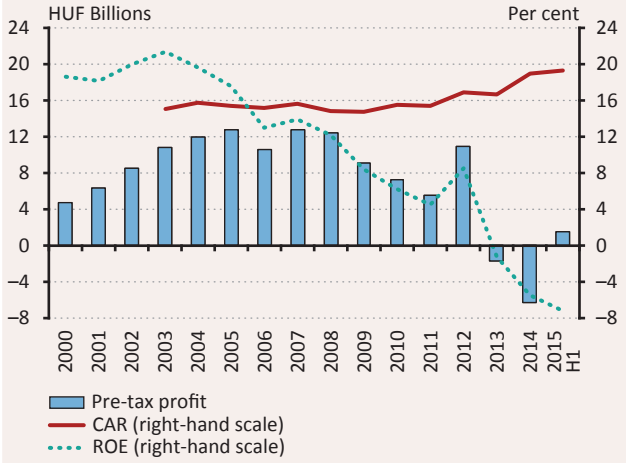
Since the outbreak of the crisis, the banking sector's capital adequacy has improved through additional capital injections as well as the reduction of risky assets. Compared to the 11.2 per cent in December 2008, the capital adequacy ratio of the banking sector has improved considerably, i.e. by nearly 10.7 percentage points until the end of 2015 H1 (Chart 71). The improvement is the result of several impacts. The largest – cumulatively 10.8 per cent – impact was caused by capital injections, which offset the around 8 percentage point effect of other capital changes that stem typically from negative profit that impair capital adequacy. At the same time, the capital adequacy was increased to a smaller extent by the reduction of the denominator of the indicator, i.e. of the total risk exposure value, by a cumulative total of 5.4 percentage points. The rules modified by the implementation of Basel III in Europe also had a material impact on non-consolidated capital adequacy, which improved the

Table 4
Pre-tax profit/loss of financial enterprises

HUF Bn	Financial enterprises owned by banks	Financial enterprises without bank ownership	Sector total
2008	31,9	11,6	43,5
2009	–17,8	7,9	–9,9
2010	–47,7	5,2	–42,5
2011	–51,0	–3,1	–54,1
2012	–53,5	6,0	–47,5
2013	–14,9	12,6	–2,3
2014	–83,4	–4,3	–87,7
2015 H1	4,5	14,9	19,4

Note: Bank ownership means domestic ownership and direct ownership by non-resident banks.
Source: MNB.

Chart 72
Aggregate pre-tax profit, ROE indicator and capital adequacy of cooperative credit institutions



Note: The banking system's capital position is strong on an aggregate level, but the concentration of capital buffers increased
Source: MNB.

value of the indicator by some 4 percentage points in 2014 Q1.

Financial enterprises' profit improved considerably, and the sector closed H1 with profit. Following previous years' losses, the sector of financial enterprises closed H1 with profit. The pre-tax profit during the year was HUF 19.4 billion in June, compared to the same period of the previous year, when a loss of HUF 27 billion was recorded (Table 4). Both bank-owned and non-bank owned institutions closed the period with profits. The improvement in profits compared to the previous year was primarily attributable to the decline in the loan loss provisioning requirement, which – similarly to banks – reflects the subsequent effect of the settlement as well.

Co-operative credit institutions were profitable in H1, but the annual profit/loss of the sector is affected by the settlement. In 2015 H1, the co-operative credit institutions sector posted a profit of roughly HUF 1.5 billion (Chart 72), which is slightly below the HUF 3 billion profit of the same period of the previous year. Annual profitability is burdened by the settlement: unlike the banking sector, the majority of co-operative credit institutions carried out the provisioning necessary because of the settlement in December, and thus its impact on income still prevails in full. Capital adequacy is satisfactory at the sector level, but at the individual level, three institutions do not reach the 8 per cent capital adequacy ratio. The impact of the asymmetry of capital buffers across institutions is eliminated by the capital guarantee system of the Mutual Savings Banks Integration.

Box 13
On the introduction of the countercyclical capital buffer

The countercyclical capital buffer (CCB) is a requirement that can be formulated as part of the combined capital requirement, in addition to the minimum capital requirement. Its objective is to reduce the systemic risk stemming from the banking sector's procyclical behaviour. Its size can be raised and reduced in a countercyclical manner in line with the indicators showing the level of overheating in the banking sector's lending activity and the vulnerability of the financial system.

Its application serves two purposes. This instrument directly mitigates the systemic shocks of the banking system connected to a trend reversal, as the additional capital increases the banking sector's resilience, i.e. ensures soft landing in the case of a crisis, preventing its escalation. The CCB may also reduce the fluctuations of the financial cycle: the additional capital requirement in the rising period of the credit cycle makes lending more expensive and thus may

restrain it, while in a period of recession or crisis the releasing of the capital buffer makes it cheaper, adding to the loan supply.

The common EU rules require the introduction of this instrument as of 1 January 2016. The buffer consists of Common Equity Tier 1 capital components; for all domestic entities the MNB may require its formation up to 2.5 per cent of the total risk exposure value. In justified cases, national authorities may raise the buffer rate above the 2.5 per cent threshold as well, but they must document and publish the reasons for this special measure in detail.

Build-up methodology

The MNB determines the size of the CCB according to a methodology set up on the basis of the recommendation of the European Systemic Risk Board (ESRB). It uses the deviation of the loan-to-GDP ratio from its own long-term trend, i.e. the loan-to-GDP gap as the primary indicator of procyclical risks. If the value of lending permanently and significantly exceeds the trend, the loan-to-GDP gap is positive, which is a good indicator of overheating trends in lending. The size of the CCB is proportionate to the size of the loan-to-GDP gap, and thus a close-to-zero or negative loan-to-GDP gap implies a 0 per cent capital buffer, while a higher loan-to-GDP gap justifies a larger capital buffer. However, examination of the loan-to-GDP gap alone is not sufficient for the precise determination of the capital buffer.

In addition to the primary indicator, secondary indicators also need to be taken into account. These early warning indicators or indicators of vulnerability are macroeconomic indicators that efficiently forecast the possibility of a financial downturn stemming from overheating or point to the fundamental vulnerability of the economy, which also entails the earlier occurrence and/or higher risk of the downturn. Complementing the loan-to-GDP gap with such country-specific indicators helps to provide a realistic picture of the impact of the lending processes on systemic risk, which allows for the exact calibration of the CCB.

The most important features of the loan-to-GDP gap are as follows:

a) it must be calculated on a quarterly basis;
b) the rate is the quotient of the nominal loan aggregate and four-quarter rolling nominal GDP;
c) the loan aggregate means loans granted to the private sector, irrespective of the form of lending;
d) the trend can be calculated with the help of the one-sided (recursive) Hodrick-Prescott filter (hereinafter HP filter), using a smoothing parameter of 400,000 (lambda);
e) the gap is the difference between the rate and the trend measured in percentage points.

At present, the loan-to-GDP gap is negative in Hungary. Therefore, no systemic risk stemming from overheated lending can be identified, and thus no actual capital requirement is expected to be prescribed in the near future.

Reduction methodology

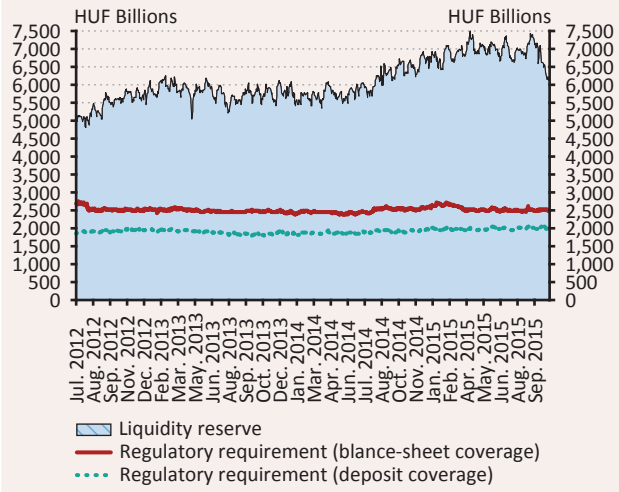
Both the studies published in this subject and the ESRB recommendation establish that the calculation of the loan-to-GDP gap can serve as the basis for formulating the countercyclical capital buffer rate only in the rising phase of the lending cycle; upon the occurrence of the downturn following the trend reversal it adjusts itself more slowly due to the slower ending of loans.

Therefore, release of the countercyclical capital buffer requires the involvement of indicators that highlight the stress level of the financial environment and the occurrence of the crisis in the near term. Accordingly, it is worth using these indicators as a basis for the reduction of the CCB. The indicators intended to be taken into account cover the money market, the capital market and the banking market, and they are compiled in a way to enable them to indicate any possible financial downturn within the shortest time possible.

6 Liquidity – the liquidity of the banking sector remains ample even after the restructuring of the central bank's monetary policy instruments

The liquidity of the banking sector is still close to the peak values from recent years and will remain at a high level after the restructuring of the central bank's monetary policy instruments as well. Banks may offset the liquidity-reducing effect of the restructuring of the central bank instruments by government securities purchases, which further increases domestic players' participation in the financing of government debt, thus reducing Hungary's external vulnerability. Although banks' FX external funds declined as a result of the conversion into forints, a significant part of this was offset by inflows of forint external funds and the drawdown of foreign funds by branch offices. Over the forecast horizon, a further decline in FX external liabilities is expected in the case of banks operating in the form of private limited companies. At the same time, the developments in the external funds of the banking sector as a whole involve higher uncertainty as a result of the increasing activity of branch offices.

Chart 73
Liquidity reserve and the regulatory liquidity requirements

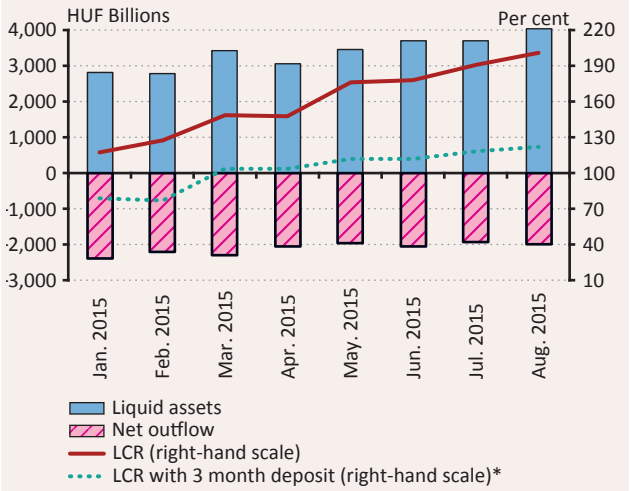


Note: Liquidity reserve means the balance of the eligible assests and the 30-day funding gap.
Source: MNB.

6.1 BANKS MAY OFFSET THE UNFAVOURABLE IMPACT OF THE RESTRUCTURING OF CENTRAL BANK INSTRUMENTS ON LIQUIDITY BY GOVERNMENT SECURITIES PURCHASES

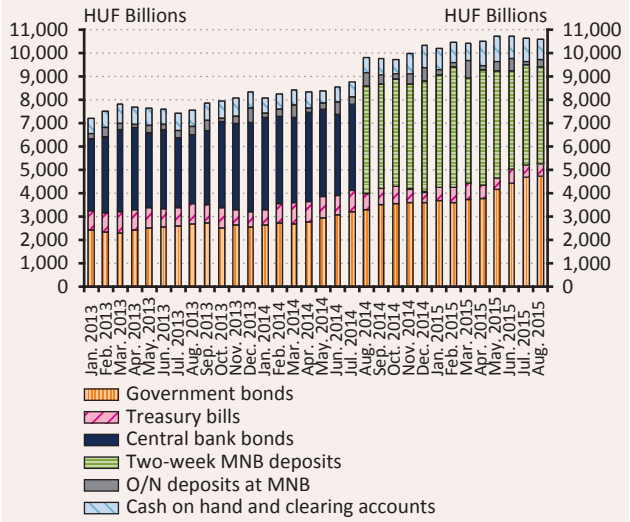
The historically high liquidity of the banking sector may be reduced by the restructuring of central bank instruments. There was no major increase in banks' liquidity reserve in the period between February and August 2015, as it continued to fluctuate around the level of HUF 7,000 billion, which is the highest value in the past three years (Chart 73). With this liquidity reserve, the sector's deposit coverage ratio stood at 75.5 per cent, while its balance sheet coverage ratio was 29.5 per cent at end-August. This is nearly three times higher than the stricter regulatory minimum level. At the same time, the restructuring of central bank instruments may reduce this ample liquidity by the introduction of the three-month policy instrument and by limiting the placement of two-week deposits. Providing that two-week deposits are limited to HUF 1,000 billion in December 2015 and presuming that all the liquidity excluded from the two-week deposit is placed in three-month deposits, the liquidity reserve of the banking sector would decline by around HUF 2,100 billion. Nevertheless, this would still represent a considerable buffer.

Chart 74
Impact of the restructuring of central bank instruments on the LCR



Note: Taking account of two-week deposits amounting to a total HUF 1,000 billion, and presuming that all of the remaining liquidity is in three-month deposits.
Source: MNB.

Chart 75
Liquid assets in the banking sector



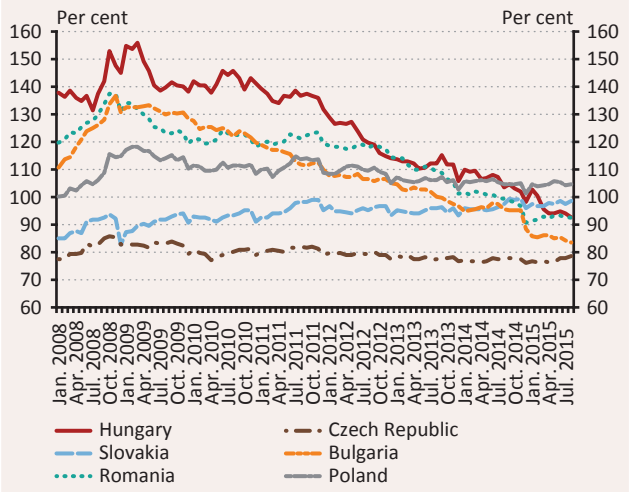
Source: MNB.

However, the accelerated introduction of the LCR[14] together with the restructuring of central bank instruments will already make the banking sector adjust. The required minimum level of the LCR introduced on 1 October 2015 will rise from 60 per cent upon introduction to 70 per cent as of 1 January 2016, and then – in line with the national discretion applied – MNB will raise the required level to 100 per cent as of 1 April 2016. However, compliance with the 100 per cent LCR already means much stricter requirements for banks than compliance with the 20 per cent deposit or the 10 per cent balance sheet coverage ratios to be terminated at the end of the year. Although – following the announcement of the restructuring of central bank instruments and the accelerated LCR introduction (from June to August) – banks already significantly increased the amount of their liquid assets by purchasing government securities worth some HUF 540 billion so that each institution can meet the 100 per cent requirement, further government securities purchases are needed. Based on end-August 2015 data, with our above assumptions (the portion of the current two-week deposit holding above HUF 1,000 billion will be placed in three-month deposits), the banking sector's LCR of 200 per cent would have declined to 121 per cent, with roughly one third of the institutions failing to reach the 100 per cent level (Chart 74). Compliance with this level requires the purchase of government securities worth at least HUF 170 billion by April 2016, although this amount may be higher if institutions aim at reaching an LCR level that exceeds the regulatory minimum.

The increase in banks' government securities holdings was driven by the self-financing programme in 2015 H1 and then by the restructuring of central bank instruments. Within the framework of its self-financing programme, MNB encourages the purchase of longer-term government securities with the help of an interest rate swap instrument. As a result, between end-2014 and end-August 2015, banks' government securities holdings increased by HUF 1,100 billion, with nearly half of this increase occurring between June and August, i.e. in the period following the announcement of the restructuring of the instruments (Chart 75). By contrast, short-term Treasury Bill holdings increased only modestly, by some HUF 104 billion compared to the end of last year. As a result, the ratio of government bonds within the balance sheet total increased from 12.3 per cent to 16.3 per

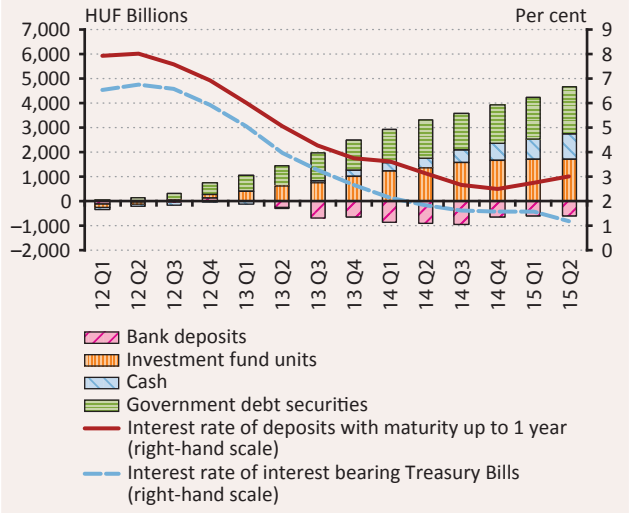
[14] Liquidity Coverage Ratio

Chart 76
Loan-to-deposit ratio in international comparison



Source: ECB.

Chart 77
Cumulative transactions of households' financial assets versus interest rates on household deposits and government securities



Source: MNB.

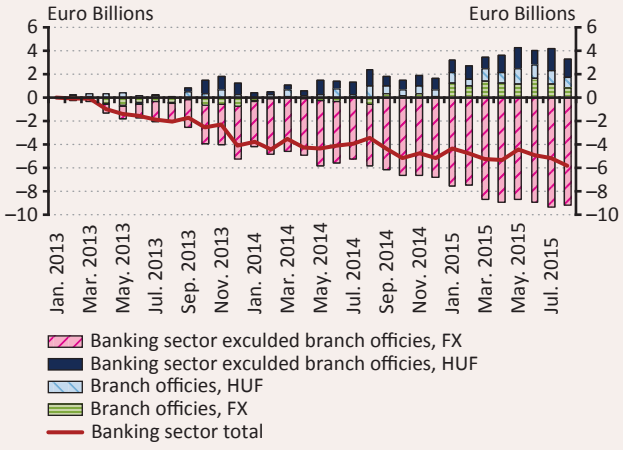
cent, while the share of Treasury Bills grew from 1.5 per cent to 1.9 per cent.

The loan-to-deposit ratio continued to decline in 2015 H1, which was mainly attributable to the decline in loans outstanding. Following the settlement, the ratio fell below the 100 per cent level, which is favourable from a financing point of view, as outstanding loans are now completely backed by customer deposits (Chart 76). However, the decline in the indicator was not driven by an increase in deposits, but rather by the fall in outstanding household loans due to the settlement and the similar volume of contraction in corporate loans. Accordingly, the positive change in the structure of financing took place in parallel with unfavourable developments in lending in the banking sector. The unfavourable composition of the change is also reflected by the fact that total deposits also declined together with the outstanding loans, although at a slower rate. The main reason for the fall in deposits was the decline in bank deposits of other (non-money-market) investment funds.

In 2015 H1, households' deposits stagnated, but their cash and government securities holdings continued to grow. In terms of financing, it is advantageous that (despite the relatively high government securities yields) the outflow of household deposits stopped in 2014 Q3, and then stagnation was observed in this stock (Chart 77). At the same time, the state continues to compete strongly for shorter and longer-term savings, affecting banks' collection of funds in two respects. Firstly, holdings on current accounts continued to gain ground against time deposits within total deposits, which may result in an increase in roll-over risks over the longer term. Secondly, inflows into investment funds came to a halt in 2015 H1, which adversely affects these latter institutions' placements of deposits.

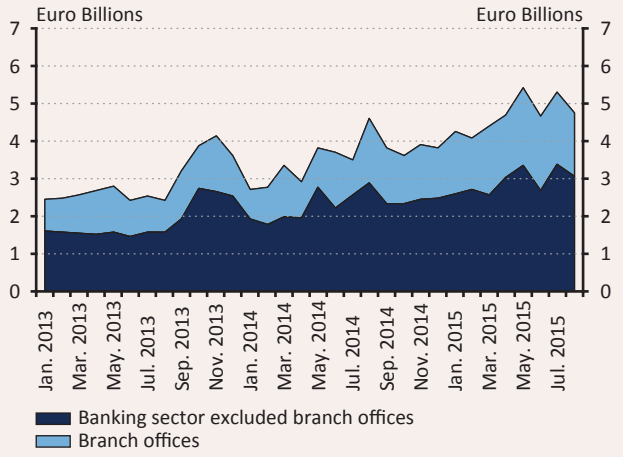
Holdings of foreign liabilities remained practically unchanged. However, this unchanged condition concealed various contrasting developments. As is known, MNB made available to banks the around EUR 9.1 billion required for the conversion into forints between October 2014 and January 2015. They may use this amount until end-2017. Until end-August 2015, EUR 2.5 billion of this sum were used, from which banks could repay on-balance-sheet FX funds or FX liabilities obtained from swap transactions. In addition to the foreign currency received from MNB, the banking sector's FX financing requirement was also reduced by the decline of EUR 0.8 billion in corporate

Chart 78
Cumulative changes in external funds



Source: MNB.

Chart 79
Changes in HUF-denominated external funds



Source: MNB.

FX loans. While in the case of banks operating in the form of private limited company the declining FX financing need was broadly reflected in the outflow of external FX funds (a decline of EUR 2 billion compared to end-2014), an expansion of EUR 0.9 billion was observed in the case of branch offices (Chart 78). However, the increase in the case of branch offices is mostly attributable to the funds obtained by one institution.

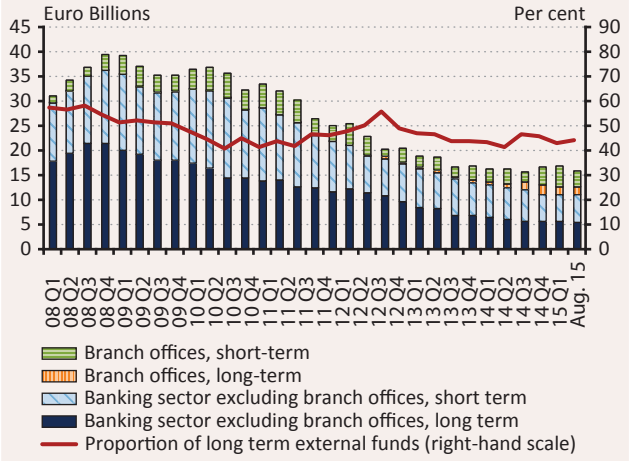
Developments in the banking sector's HUF-denominated external liabilities are affected by the reallocation of non-residents' forint assets as well. Another visible change is that while the amount of external FX liabilities declined in the banking sector as a whole, the amount of HUF funds increased, both in the case of branch offices and banks (Chart 79). Most of the short-term external forint liabilities are composed of short-term interbank deposits, which mostly consist of forint assets of the foreign swap counterparties that supply the Hungarian banks with foreign currency.[15] Accordingly, the amount of forint-denominated external liabilities depends on the share of swaps within FX financing as well as on the type of assets in which the foreign agents that provide foreign currency through the swap keep the forints received in exchange for the foreign currency. In view of the decline in the significant demand for FX financing as a result of the conversion into forints, not only on-balance-sheet FX financing is expected to decline but also that through swap transactions. The fall in the latter, however, may be much more moderate because of the more favourable pricing. At the same time, non-residents that leave the government securities market may place some of their forint assets in bank deposits even over the longer term, adding to the banking sector's external forint liabilities.

6.2 THE FX FINANCING NEED CAN SAFELY BE SATISFIED AT PRESENT AND IN THE FUTURE AS WELL

Compared to end-2014, the share of long-term liabilities declined slightly, which is partly attributable to branch offices' short-term fundraising. The different financing processes of banks operating in the form of private limited companies and branch offices also determined the change in the maturity

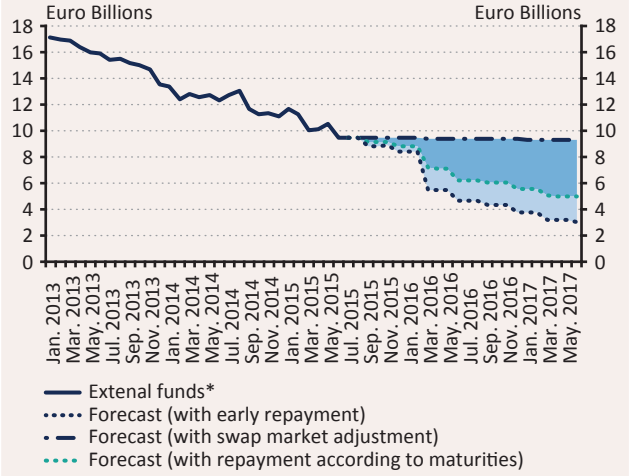
[15] Domestic banks usually obtained the FX funds needed for foreign currency lending from foreign banks through swap transactions. This means that at a given point in time they swapped the forint liquidity available for them for foreign currency at the current market rate, and also agreed that they would change the foreign currency back to forints at a future date and at a pre-determined exchange rate. Therefore, during the term of the swap transaction the foreign swap partner has forint liquidity, a part of which he may place as deposit in Hungarian banks.

Chart 80
Maturity structure of external funds by residual maturity



Source: MNB.

Chart 81
Changes in the banking sector's external funds over the forecast horizon



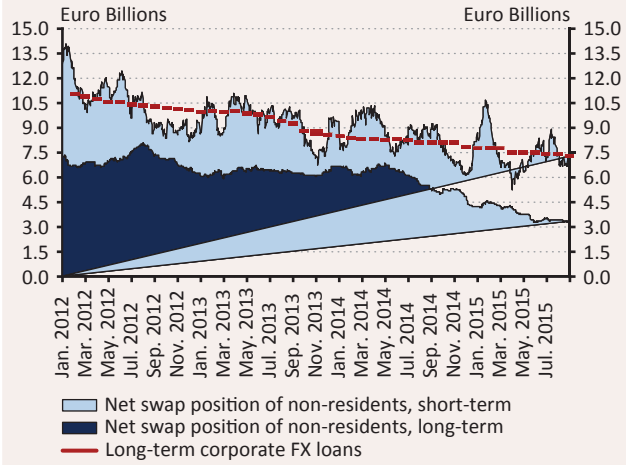
Note: Excluding branch offices.
Source: MNB.

structure of foreign liabilities. While the short-term external debt of the former institutions declined by EUR 0.8 billion between December 2014 and August 2015, an increase of EUR 1.2 billion was observed in the case of branch offices (Chart 80). 40 per cent of this increase was related to the financing of one institution. By contrast, long-term liabilities of banks dropped by EUR 0.3 billion, and remained unchanged in the case of branch offices. As a result of all this, the ratio of the banking sector's long-term external liabilities decreased from 46.8 per cent at end-2014 to 44.6 per cent at end-August 2015.

Over the forecast horizon, a further decline in external foreign exchange liabilities is expected in the case of banks operating in the form of private limited companies. The FX funds needed for the conversion into forints (EUR 9.1 billion) were made available to banks by MNB; EUR 6.3 billion of this amount is expected to be used over the forecast horizon. If this whole amount was spent on the repayment of FX liabilities obtained through swap transactions, on-balance-sheet FX liabilities would decline only marginally. In this case the repayment of external FX liabilities would be determined by the domestic sectors' net FX deposit placements, which are expected to be close to zero (Chart 81). If banks spent the aforementioned amount of foreign currency on the repayment of external FX liabilities in line with their maturities, they could reduce their external liabilities by EUR 4.3 billion by end-June 2017. Theoretically, by the early repayment of external liabilities all of the EUR 6.3 billion could be used for the repayment of external on-balance-sheet liabilities, but at the level of individual banks this may be restricted by liquidity constraints, and thus this scenario is unlikely to materialise. At the same time, the developments in external liabilities of the banking sector as a whole are surrounded by higher uncertainty as a result of the increasing activity of branch offices.

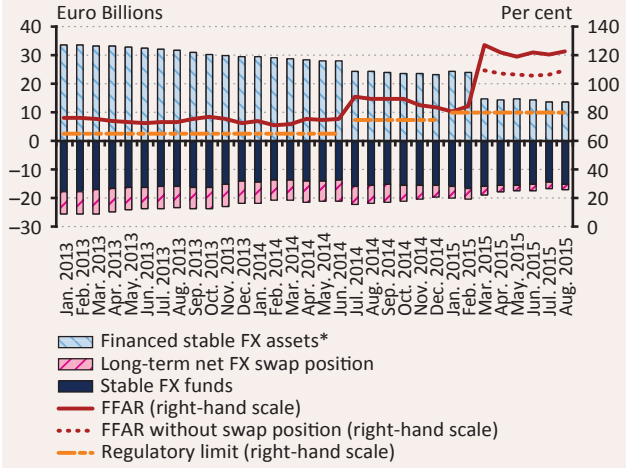
The fall in FX financing need was reflected in the decline in long-term swap holdings as well. The domestic banking sector obtains a significant portion of its FX financing need through swap transactions with non-residents. While the short-term part of the swap holdings vis-à-vis non-residents is mostly influenced by the changes in foreign agents' hedging and speculative positions against the forint, swaps with maturities of over one year mainly serve the financing of on-balance-sheet FX assets. This is also corroborated by the fact that in the past three and a half years long-term FX swap holdings broadly

Chart 82
Net swap position of non-residents and long-term corporate FX loans



Note: Excluding branch offices.
Source: MNB.

Chart 83
The foreign exchange funding adequacy ratio (FFAR)



Note: Stable FX assets contain the off-balance-sheet FX liabilities as well.
Source: MNB.

followed the changes in long-term corporate FX loans: the former declined by EUR 3.9 billion, while the latter decreased by EUR 3.7 billion between January 2012 and August 2015 (Chart 82). Although experience to date shows that banks mainly repaid on-balance-sheet FX liabilities from the foreign currency received for the conversion into forints, it cannot be ruled out that a larger portion of the amounts expiring in the period to come will be used for closing FX swaps. The introduction of the foreign currency equilibrium ratio (FCER) as of 1 January 2016 and tightening of the foreign exchange funding adequacy ratio (FFAR) also contribute to the decline in financing through swaps. Nevertheless, the pricing of swap transactions, which is more favourable than interbank funding, points to the opposite direction.

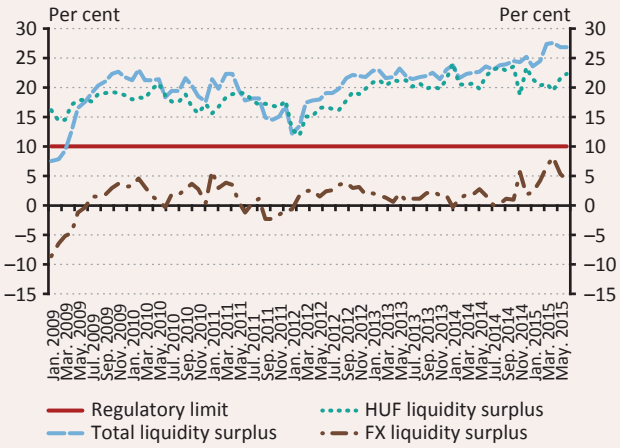
Longer-term FX financing of the banking sector continues to be stable. Following the conversion into forints, in March 2015 the banking sector's foreign exchange funding adequacy ratio (FFAR) jumped from 84 per cent in the previous month to 127 per cent, and thus the sector-level indicator stands well above the required level of 80 per cent (Chart 83). However, calculation of the FFAR will become stricter as of January 2016: firstly, long-term swap transactions will be excluded from the eligible stable liabilities; secondly, the required ratio will increase to 100 per cent. Although at end-July the FFAR of the banking sector would have been around 106 per cent even without the swap transactions, a minor adjustment of the banking sector is also needed for every institution to exceed the 100 per cent level. This would mean a EUR 0.4 billion (2.4 per cent) increasing of the stable FX liabilities or a reduction of the financed stable FX assets to the same extent, a significant part of which may materialise through the conversion of vehicle loans and personal loans into forints by the end of the year.

7 Banking sector stress tests – the sector is characterised by strong shock absorption capacity both in terms of liquidity and capital

The liquidity buffer of the banking system continued to grow in 2015 H1, and thus at the end of June it was at its historical high. As a result of this, upon the occurrence of a more severe shock the banks mainly would not only have remained liquid, but also would have been able to meet the 10 per cent regulatory minimum requirement calculated in proportion to total assets. This liquidity buffer is still held in forints, which now represents only a moderate risk due to the FX-conversion of the household loans.

The Solvency Stress Index reflects improving shock absorption capacity compared to the situation six months ago. The impact of the permanently strict lending requirements applicable to the corporate portfolio, and the FX-conversion of the household portfolio both reduce the potential loan losses in a stress scenario. In addition, an anticipated measure of an individual bank was also taken into account, which further improved the results. Due to the foregoing, for the first time since the start of the crisis, all banks meet the minimum regulatory requirement: nevertheless the capital buffer of the banking system is still highly concentrated.

Chart 84
30-day liquidity surplus as a proportion of balance sheet total by currencies



Source: MNB.

7.1 THE LIQUIDITY OF THE BANKING SECTOR IS AT ITS HISTORICAL HIGH, AND THUS IN A STRESS SITUATION THE VAST MAJORITY OF THE INSTITUTIONS WOULD HAVE A HIGHER LIQUIDITY BUFFER THAN THAT REQUIRED BY THE REGULATORY REQUIREMENTS

The 30-day liquidity of the banking sector was high throughout the first half of 2015, the liquidity surplus was mostly available in forint. In 2015 H1 the level of the 30-day forward-looking liquidity surplus considerably exceeded the 10 per cent regulatory limit calculated as a percentage of the balance sheet total and continued its previous increasing trend. The surplus was mostly available in forint. The very modest foreign currency liquidity surplus temporarily reached an outstanding value of 8.1 per cent compared to the former levels in April, due to transactions related to the FX-conversion of the households' loans (Chart 84).

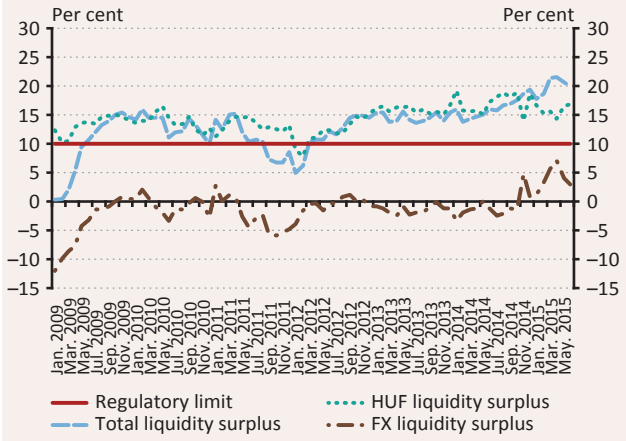
The short-term, complex liquidity stress test measures the impact of the simultaneous occurrence of financial market disturbance, deposit withdrawals and exchange rate shocks. In order to define the household and corporate deposit withdrawals, and the decrease in the price of eligible securities, Value at Risk-based (VaR) stress events were applied calculated on the basis of historical data. The extent of

Table 5
Main parameters of the liquidity stress test

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

Note: The forward-looking maturity gap contains no banking adjustment, thus it assumes that the maturing interbank and foreign funds will not be rolled over in 100 per cent.
Source: MNB.

Chart 85
30-day stress liquidity surplus as a proportion of balance sheet total by currencies



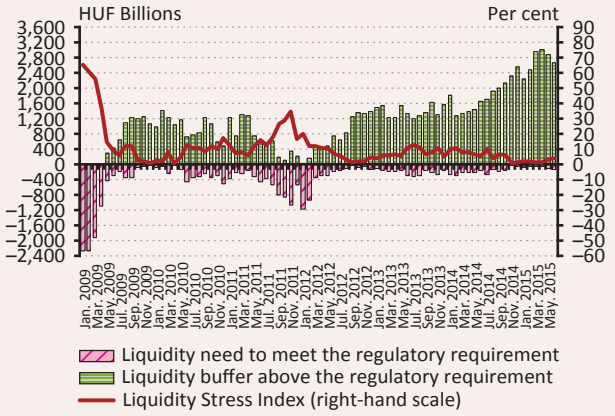
Source: MNB.

the exchange rate shock is consistent with the scenario of Solvency Stress Index. The calibration of the other shocks is based on the experiences of the crisis (Table 5).

The post-stress liquidity surplus of the banks substantially exceeds the regulatory minimum. The 30-day forward-looking post-stress liquidity surplus was well above the required minimum level and furthermore the increase in the surplus continued in 2015 H1. As a result of the assumed severe negative shock, the remaining liquidity would have been mostly in forints, with a modest foreign currency liquidity surplus (Chart 85). Compared to the previously observed foreign currency shortfall even this low foreign currency surplus is a positive change. Due to the FX-conversion of the households' loans, the considerable overweight of the forint buffers will represent materially lower risk for the banking system than before.

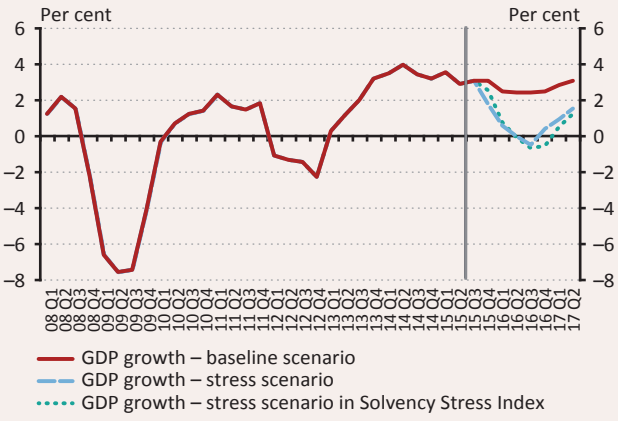
During the first half-year, the Liquidity Stress Index increased marginally from its extremely low level measured at the end of 2014. The Liquidity Stress Index aggregates the liquidity shortfalls calculated in stress situations at the level of the individual banks compared to the regulatory limit by considering the size of the given banks. Thus, on one hand, potential asymmetries become visible, as the liquidity shortfalls are not offset during aggregation by the surplus of another institution, and on the other hand taking into consideration the size of the institutions makes it possible to draw conclusions about the extent of the problem within the banking system. In 2015 H1, the value of the Liquidity Stress Index increased modestly from the very low level measured at the end of 2014. Thus, upon the realisation of the stress scenario only a negligible part of the banking sector would still fall below the regulatory minimum. The free buffers fluctuated during the half-year, but by the end of the period they were higher than in December. However,

Chart 86
Liquidity Stress Index



Note: The indicator is sum of the normalised liquidity shortfalls compared to the 10 per cent regulatory limit, weighted by the balance sheet total in stress scenario. The higher the value of the indicator is, the greater the liquidity risk is.
Source: MNB.

Chart 87
GDP growth rate in the scenarios
(compared to the corresponding period of the previous year)



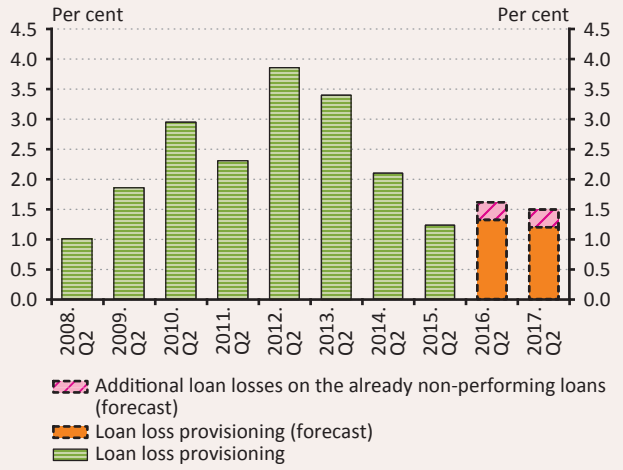
Source: MNB.

the liquidity necessary for meeting the regulatory requirement increased only modestly during the period (Chart 86).

7.2 FURTHER IMPROVEMENT IN THE SOLVENCY POSITION OF THE BANKING SYSTEM; NO CAPITAL REQUIREMENT AT ANY OF THE CREDIT INSTITUTIONS IN THE STRESS SCENARIO

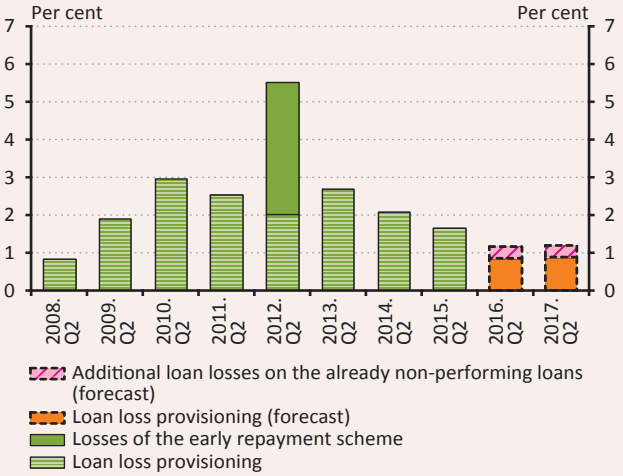
In the stress scenario we projected a considerable economic downturn, and an exchange rate and interest rate shock occurring as an aggregate result of several unfavourable external and internal shocks. The current macroeconomic baseline scenario corresponds to the forecast published in the Inflation Report of September. While the baseline scenario outlines the most probable outcome, the stress scenario examines the consequences of a low probability, severe but plausible series of events for the next two years. In accordance with this, the deceleration of the emerging market economies may also affect Hungary's key trading partners through changes in the global demand and supply conditions, and thus demand for Hungarian exports may taper off. Falling demand for exports has an unfavourable impact on Hungarian economic growth via the expenditure side of GDP. Deterioration in the growth prospects of the emerging market economies and the fall in the Chinese stock market prices cause turbulences in the emerging financial and capital markets. In parallel with rising risk indices, the Hungarian yield level and risk premium also rise, leading to HUF depreciation. The higher risk premium results in higher funding costs, which also curbs the banks' lending activity. The increasing yield levels may have negative impact on consumption. In addition, the decrease in external demand causes a substantial downward shift in the performance of the domestic export sector, thereby worsening the Hungarian growth prospects. The aforementioned circumstances mean that growth on the stress scenario lags behind that expected in the baseline scenario by almost 4 percentage points cumulatively over the two years (Chart 87). Meanwhile, the exchange rate is weaker by 13 per cent throughout the entire period than in the baseline scenario, while the level of interest rates is higher by 160 basis points on average.

Chart 88
Loan loss rate for the corporate portfolio in the stress scenario



Source: MNB.

Chart 89
Loan loss rate for the household portfolio in the stress scenario



Source: MNB.

Due to the low risk appetite, the risk parameters are expected to improve in the case of the corporate loan portfolio, and together with the lower initial level of outstanding borrowing compared to the previous periods this results in a substantial decrease in loan losses in the stress scenario. Due to the low risk appetite, the risks associated with corporate loans issued after the crisis are substantially lower than that of earlier loans thus improving the shock absorption capacity of the entire portfolio. As a result of this, the negative impact on profit of the impairment is relatively low even in a stress situation (Chart 88). This, supplemented with the lower initial loan portfolio compared to the previous period, results in a substantial decrease in the loan loss calculated in the stress scenario (Table 6). In addition, an expected individual bank measure was also considered, which will mitigate losses further by reducing the size of the corporate portfolio.

Due to the lower outstanding borrowing compared to the earlier periods and the FX-conversion, the expected loss on the household loan portfolio is lower over the time horizon of the stress test. The probability of default (PD), the loss given default (LGD) and the exposure at default (EAD) on the household portfolio fell to a large degree due to the settlement of the foreign currency loans and their conversion into forint in several steps. This, similarly to the first half-year, still dominates the results of the stress test. Not only in the baseline, but also in the stress scenario the calculation was performed using lower loan losses on the stress test time horizon than the actual figures observed in previous years (Chart 89, Table 7).

Similarly to the previous exercises, we expect poor profitability to remain. Although the profitability of the

Table 6
Impact of main risks on the profit of the banking sector in the stress test, over a two-year time horizon

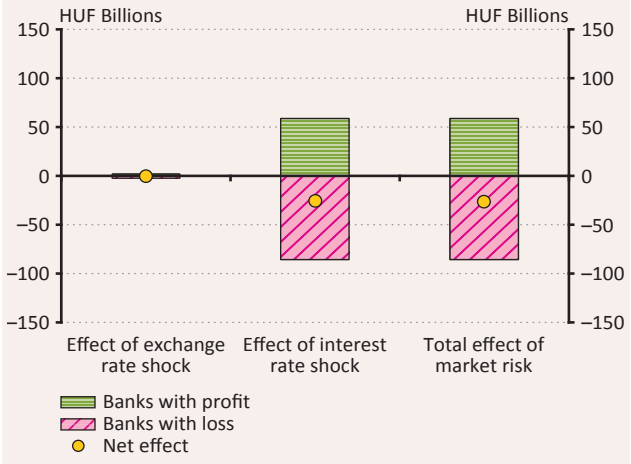
	Main components of losses of banking system in eight quarter horizon (HUF Bn)	
	Baseline scenario	Stress scenario
Loan losses on corporate and household portfolio	**181**	**316**
Loan losses on new non-performing corporate loans	99	143
Loan losses on new non-performing household loans	82	105
Additional loan losses on the already non-performing loans		68
Exchange rate risk of open position		0
Interest rate risk		26
Bank levy and increase of the insurance fees	224	224

Source: MNB.

banking sector improved in the first half-year, at the moment no significant growth can be expected in the next two years. The profitability of the existing portfolio is undermined by the large non-performing portfolio and the decreasing interest margin on mortgage loans, and without a recovery in lending activity the development of a more lucrative new portfolio is unlikely. Thus, according to our expectations, in the baseline scenario, the earnings before loan losses may be at about 90 per cent of the average of the 2010-2014 period, while in the stress scenario it may reach roughly two-thirds of the last five years' average at the systemic level. In addition to the foregoing, the decreasing bank levy will improve profit performance, while the increase in the National Deposit Insurance Fund and the Investor Protection Fund fees, and the contribution to the Quaestor Indemnification Fund will reduce profit. The obligation related to the topping-up of the resolution fund was also taken into consideration, which will also decrease the profit slightly.

The profit/loss from market risk is moderately significant at the systemic level, but in the event of an interest rate shock considerable impacts may appear at the level of the individual institutions. In the framework of the market stress test, we examined the effect of interest rate and exchange rate shocks via the immediate revaluation of the market exposures. In the case of an interest rate and exchange rate shock, we considered the second year average of the difference between the baseline and stress scenario as the extent of the shock. We distributed the calculated profit impact evenly over the two years of the forecast horizon. The effect of the exchange rate shock is negligible both at the institutional and systemic level, since the exchange rate position of the banking system – apart from the strategic open positions – is almost fully closed. Although the profit impact of the interest rate shock is also minor at the systemic level, when examining it by institutions, we find some banks that realise significant profits, while others suffer considerable losses (Chart 90).

Chart 90
Market risk stress test impacts



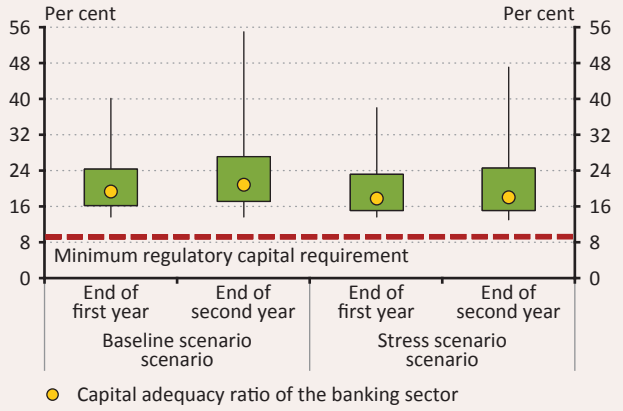
Source: MNB.

Table 7
Stress test results with the 9,25 per cent regulatory capital adequacy ratio

	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	0
Capital buffer of banks above 8 percent CAR (HUF Bn)	1 602	1 859	1 406	1 445
Total capital buffer (HUF Bn)	**1 602**	**1 859**	**1 406**	**1 445**

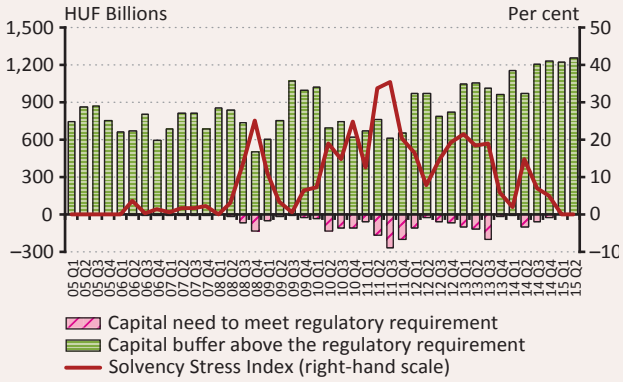
Source: MNB.

Chart 91
Distribution of the capital adequacy ratio based on number of banks



Note: Vertical line: 10 - 90 per cent range; rectangle: 25 - 75 per cent range.
Source: MNB.

Chart 92
Solvency Stress Index



Note: The indicator is the sum of normalised capital shortages relative to the regulatory minimum level, weighted by the capital requirement in a common stress scenario calculated with fixed shock. The higher the value of the index, the higher the solvency risk.
Source: MNB.

For the first time since the start of the crisis all banks meet the regulatory requirement both in the baseline and the stress scenarios, but the considerable heterogeneity in the volume of the capital buffers remains. Both in the baseline and the stress scenarios, despite the recurring losses seen in two years, the high initial capital level of the banks appears to be sufficient to reach the examined capital adequacy level of 9.25[16] per cent at the end of the time horizon (Table 6). This was also attributable to the fact that an expected measure at one individual bank was taken into consideration, which generated a decrease in the capital requirement of that institution. The banking system is characterised by a high, i.e. 18.2 per cent average capital adequacy even at the end of the stress scenario, but this figure conceals considerable differences across institutions. The extent of the capital buffer that exceeds the regulatory limit decreases considerably at several institutions as a result of the stress; the elongated shape in the upper range of the distribution of the capital adequacy ratios based on the number of banks is attributable to the smaller institutions (Chart 91).

According to the Solvency Stress Index, the banking system's shock absorption capacity strengthened in the last half-year, which is mainly attributable to the capital injection that accompanying the settlement of household loans. The decreasing expected losses, the easing of the burdens of the banking system and the unchanged level of earnings potential together improved the banking system's expected profitability in a stress situation. The high capital adequacy ratios also help the credit institution absorb the impacts of a shock. As a result of these factors the Solvency Stress Index fell to its theoretical minimum, that is, along the stress path used here there is not a single institution that would require supplementary capital (Chart 92).

[16] In 2017, at the end of the stress test the capital requirement will be 9.25 per cent in the banking sector.

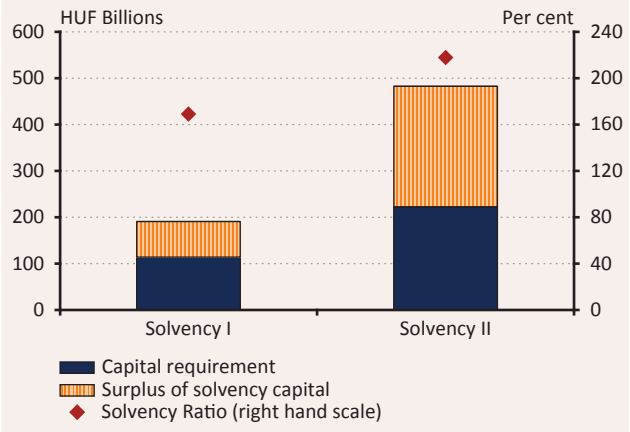
8 Institutional investors – general confidence in the capital market is strong

In view of the Solvency II regulation entering into force on 1 January 2016, the capital needs and surplus capital of the domestic insurance sector are also expected to increase significantly. However, due to the economic evaluation, the volatility of the capital adequacy ratio is also expected to increase, which justifies the maintenance of surplus capital at a higher level than is currently the case. The profitability of the insurance sector improved, but the low yield environment and the persistently high loss ratio of motor third party liability insurance pose a risk.

Looking at voluntary pension funds' investments in government securities, in the last one and a half years a significant restructuring can be observed in the maturity structure. Based on data provided by private pension funds, in the past five months since June 2015 all of the four active funds exceeded the 70 per cent limit regarding the number of paying members.

Experience to date shows that the corrupt practices affecting investment firms did not shake the general confidence in the capital market: apart from a slight decline in March, securities holdings of the customers of investment firms essentially grew on a steady trend. Investment funds' holdings continued to grow at a decelerating rate. Within that – as opposed to earlier trends – bond type investment funds were characterised by capital outflows in 2015 H1, which is attributable to the low interest rate and yield environment.

Chart 93
Capital position of the insurance sector according to Solvency I and Solvency II at end-2014

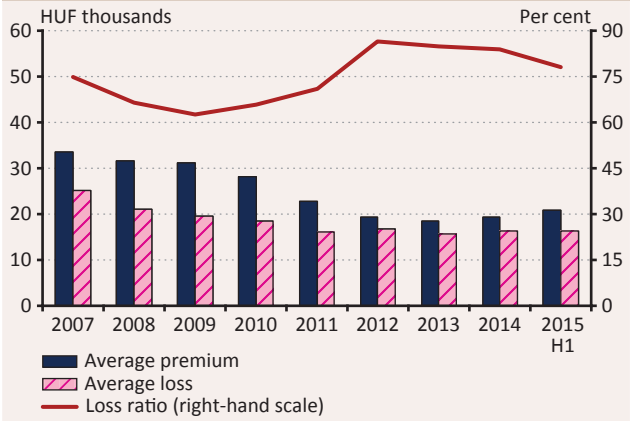


Source: MNB.

8.1 THE CAPITAL NEEDS OF INSURANCE COMPANIES WILL INCREASE DUE TO THE NEW REGULATION, BUT THEIR PROFITABILITY PROSPECTS DETERIORATED

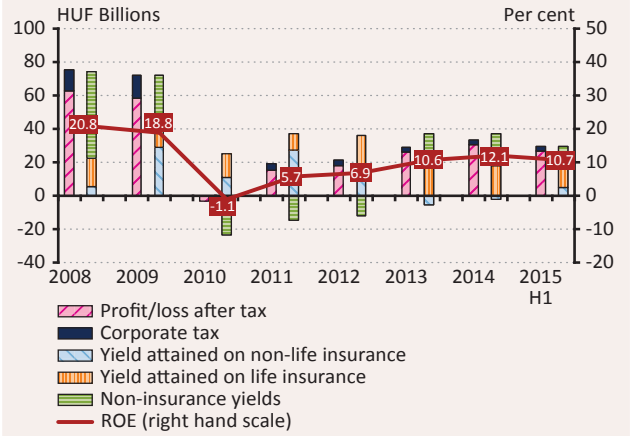
As a result of the change-over to the Solvency II, the domestic insurance sector's capital requirement and together with that its surplus capital are expected to increase. Calculated on the basis of end-2014 data, the regulatory capital of the insurance sector according to the Solvency II significantly exceeds the current, Solvency I value (Chart 93). The main underlying reason is that the economic (Solvency II) value of the insurance technical reserves is well below the book value (Solvency I), while the relationship is reversed in the case of the assets (mainly due to the appreciation of government securities in parallel with the decline in yields). Although with the switch-over to the Solvency II regime in 2016 the capital requirement will presumably also increase significantly, these two impacts together will result in a considerable increase in free capital and a rising capital level. In the new regime, the volatility of the available regulatory capital as well as of the capital requirement will increase markedly, justifying the maintenance of surplus capital

Chart 94
Premium level of the MTPL market



Note: Adjusted loss ratio: claim payment in the given period plus changes in provision for outstanding claims and annuity provision, adjusted for the expected surplus of the provision for outstanding claims.
Source: MNB.

Chart 95
Profitability of domestic insurance companies



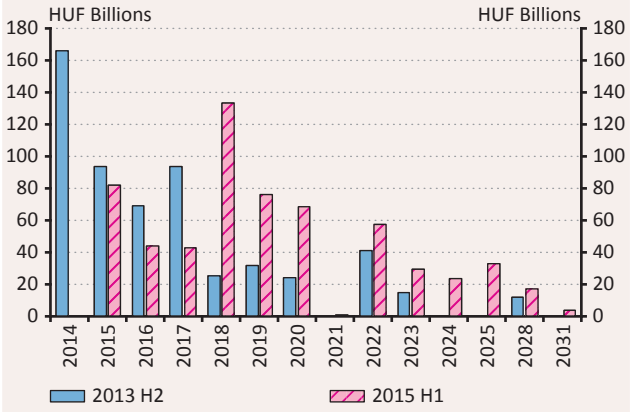
Note: Classifying the yield attained on non-life insurance reserves in non-life insurance.
Source: MNB.

that is significantly higher than is now the case, in order to comply with the required continuous capital adequacy. Based on the outstanding dividend (HUF 52 billion) in 2014, the insurance companies are targeting a capital level that is lower than the current one. Of the 29 insurers falling under Solvency II, the solvency ratio of five institutions is 100 per cent or below; therefore, due to the entry into force of the new requirements on 1 January 2016, these insurers will need a capital injection in any case.

The loss ratio of the compulsory motor third party liability (MTPL) insurance segment is persistently high, in spite of the accelerated rise in premiums in 2015 H1. In 2015 H1, the gross earned premium per contract exceeded the value of one year earlier by 15 per cent (Chart 94). Similarly to the decline in premiums between 2007 and 2013, the increase in premiums was primarily caused by developments in losses and changes in risks. The increasingly intensive rise in premiums in the past one year is attributable not only to the significant fall in fuel prices and the rise in turnover generated by the increasing portfolio and the pick-up in vehicle sales, but to prudential and profitability considerations as well. In view of the ever declining investment yields as well, the above 80 per cent loss ratio seriously threatens the profitability of the segment and the financial position of insurers specialising in vehicle insurance. In these circumstances, even a significant increase in premiums exceeding the change in risks is justified. A faster increase in premiums is suggested by the fact that the average portfolio premium of the new contracts concluded in 2015 H1 exceeds the value recorded one year earlier by 30.6 per cent.

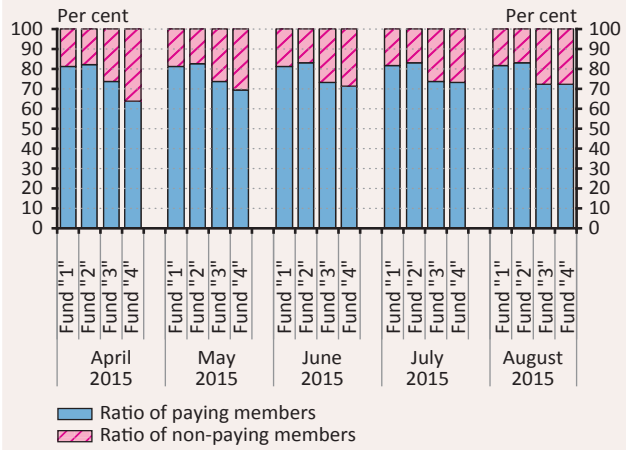
The profitability of insurance companies is improving, but the prospects are negative. One of the sources of the recent years' improvement in profitability is insurers' cost-side adjustment following the crisis. In the life insurance business, profitability has followed an upward trend since 2011. However, for 10 quarters, the persistently low yield environment has continuously been reducing the accounting yield attained on the assets behind the mathematical reserves, and this yield falls behind the promised (technical) interest in the case of an ever increasing contract portfolio. The profitability trend of non-life activities was positive in the last three years in spite of the declining yields. The stagnant cost ratios and the declining loss ratios in the casco and property insurance businesses indicate that insurers gradually incorporate the insurance tax into their premiums. At

Chart 96
Voluntary pension funds' government securities holdings and their maturity structure



Source: MNB.

Chart 97
Ratio of paying members of private pension funds



Source: MNB.

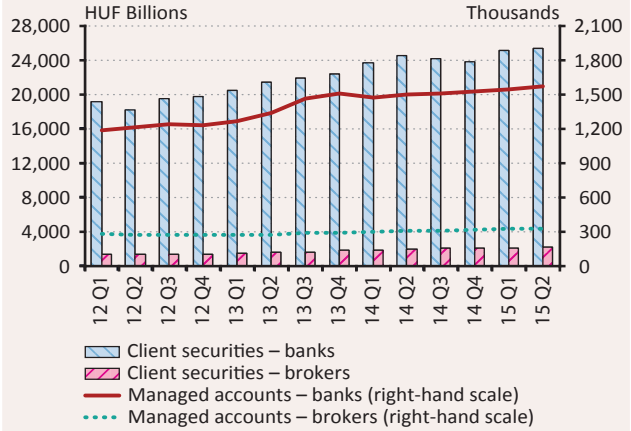
the same time, the storm damages in Q3 and the high combined ratio (cost + loss ratio) of the MTPL business conceal risks concerning future profitability (Chart 95).

8.2 AVERAGE DURATION OF FUNDS' GOVERNMENT SECURITIES HOLDINGS INCREASED BY MORE THAN A YEAR, BOOSTING INTEREST RATE RISK

Looking at voluntary pension funds' investments in government securities, a significant restructuring can be observed in the maturity structure in the last one and a half years. Hungarian government securities account for a considerable portion of voluntary pension funds' investments. Nearly 59 per cent of the funds' assets consists of Hungarian government securities and 25 per cent comprises mutual fund shares. Taking account of the government securities that can be found in investment funds, voluntary pension funds' direct and indirect government securities investments account for 64 per cent of the assets. The average maturity of pension funds' direct government securities investments weighted by the stock increased from 3.24 years to 4.38 years (Chart 96). Asset managers reacted to the declining interest environment by extending the maturity, but this process adds to the interest rate risk of the fund portfolio. The share of Hungarian government bonds issued in foreign currency within funds' investments increased from 4.0 per cent at end-2013 to 5.3 per cent by 2015 H2. In this period, the ratio of stock investments as well as the ratio of bonds issued by domestic economic organisations and foreign credit institutions also increased.

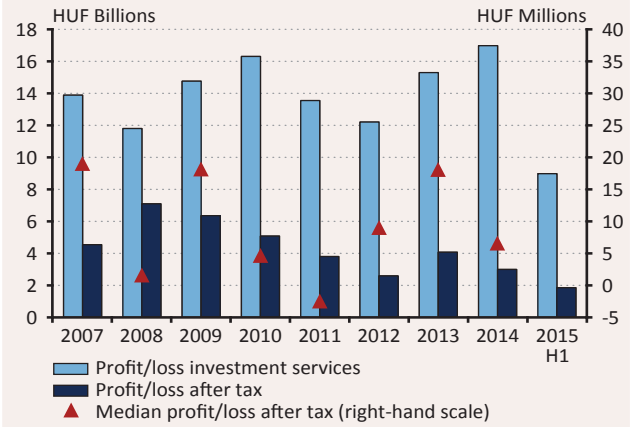
For the time being, everyone complied with the new private pension fund rule. Pursuant to the private pension fund regulation effective as of 1 January 2015, the funds cease to exist as a result of dissolution without succession if the number of paying members declines below 70 per cent of the number of members for at least two months in the average of the preceding six months. Based on data provided by private pension funds, in the past five months since June 2015 all the four active funds exceeded the 70 per cent limit regarding the number of paying members (Chart 97). In H1, the number of private pension fund members declined by a further 1.57 per cent, mainly due to returns to the social security system.

Chart 98
Customer securities portfolio and customer accounts managed



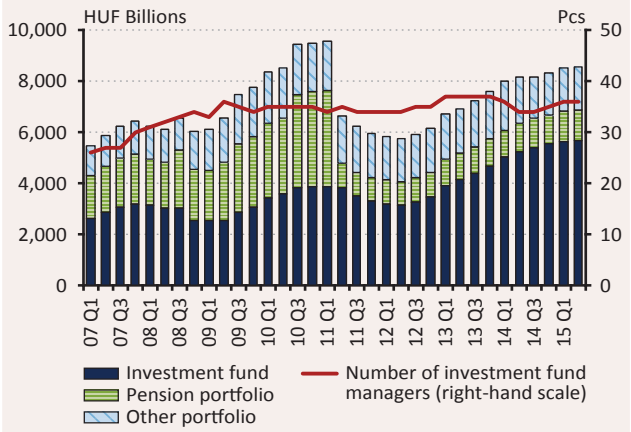
Source: MNB.

Chart 99
Profit/loss after tax of the investment firms



Source: MNB.

Chart 100
Number of investment fund managers and their assets managed by them



Source: MNB.

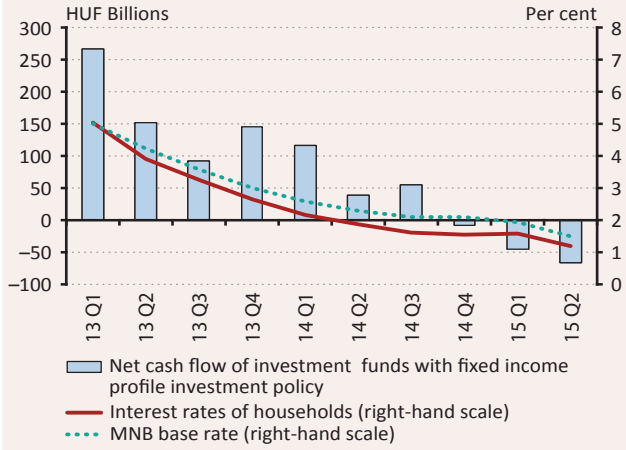
8.3 GROWTH IN INVESTMENT FIRMS' ASSETS HAS BEEN OBSERVED AGAIN SINCE APRIL

Investment firms' assets are growing. In spite of the serious one-off violations of law affecting investment firms (Buda-Cash Brókerház Zrt., Hungária Értékpapír Zrt., Quaestor Értékpapír Zrt.), the general confidence in investment service providers (investment firms and credit institutions) and the capital market has not been shaken: in H1, the customer securities portfolio at market value increased by 7.5 per cent in the case of investment firms and by 6.6 per cent at credit institutions. Growth was also observed with regard to the managed customer securities accounts and active customers: in the case of investment firms, in H1 the number of customer securities accounts grew by 3.0 per cent, while the number of active customers increased by 1.9 per cent; the corresponding figures for credit institutions are 7.5 and 2.2 per cent (Chart 98).

Investment firms were characterised by declining profitability in 2015 H1, but there are strong differences across institutions. Investment firms' after-tax profit of HUF 1.87 billion in 2015 H1 is 21.9 per cent lower year on year. Profitability continues to be strongly varied: firstly, the number of loss-making institutions increased from six at end-2014 to eight in 2015 H1; secondly, profitability concentration continues to be high, i.e. the 2015 H1 after-tax profit of the first three market participants that have the highest profits covers 108.8 per cent of the after-tax profit of the whole sector (Chart 99).

The increase in investment funds' assets under management continued at a declining rate. Investment funds' assets under management reached a historical peak of HUF 5,683 billion by end-June 2015. However, the growth rate of the assets of investment funds has declined continuously in the past quarters: while in 2014 Q3 and Q4 the quarterly growth rate was 3.4 and 2.3 per cent, respectively, in 2015 Q1 and Q2 the growth rate fell to 1.8 and 1.1 per cent, respectively. Contrary to earlier trends, in 2015 H1, net capital inflows were no longer the primary source of the increase in investment funds' assets, but the ratio was fifty-fifty between the yields on investments and net capital inflows (Chart 100).

Chart 101
Net capital flows of bond type investment funds and changes in interest rates



Source: MNB.

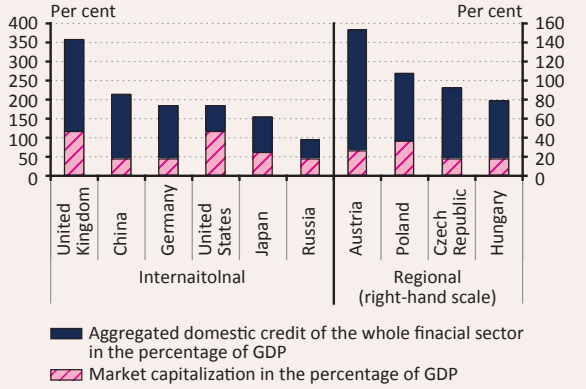
Bond-type investment funds were characterised by disinvestment. Compared to last year, net capital inflows of investment funds slowed significantly in 2015 H1: while net capital inflows amounted to HUF 405 billion in 2014 H1 and to HUF 225 billion in 2014 H2, they declined to HUF 53 billion in 2015 H1. Bond-type investment funds (liquidity, money market, short-term bond, long-term bond, extendable bond) have a relatively high share within the total investment fund sector, amounting to an average 51 per cent in the recent years. Contrary to earlier trends, in 2015 H1 bond-type investment funds were characterised by capital outflows, which is attributable to the low interest rate and yield environment: capital inflows in 2014 H1 and H2 amounted to HUF 155 billion and HUF 48 billion, respectively, whereas capital outflows from these funds amounted to HUF 111 billion in 2015 H1 (Chart 101).

Box 14

Role of the stock exchange in SME financing

The access of companies to funding is essential for the growth of the economy. The two most important forms of getting access to funding are the borrowing from the banks and the capital market (equity or bond) issue. The economic crisis highlighted the fact that apart from its positive contribution, the connection between the financial system and real economy may also become negative. The negative interconnection may often be captured in the pre-crisis excessive lending, which have put the economic growth of several countries on an unsustainable path, and then due to the tightening of the lending conditions the credit crunch typically led to extensive recession. This phenomenon is more typical for those countries – including Hungary – where the financing of the enterprises generally relies on the banking system. Although in the Central- and Eastern-European region, similarly to the continental European model, bank lending plays a significantly higher role in the funding of the enterprises, Hungary shows a lag in the utilisation of the capital market also by regional standards (Chart 1). When corporate finance is dominated by borrowing to such a high degree, the procyclicality of the banking system also has stronger effect on the economy: the build-up of the risks and vulnerability during the boom may be more pronounced, followed by slower recovery after the recession.

International and regional stucture of fiancial sources in the percentage of GDP
(end of year 2014)

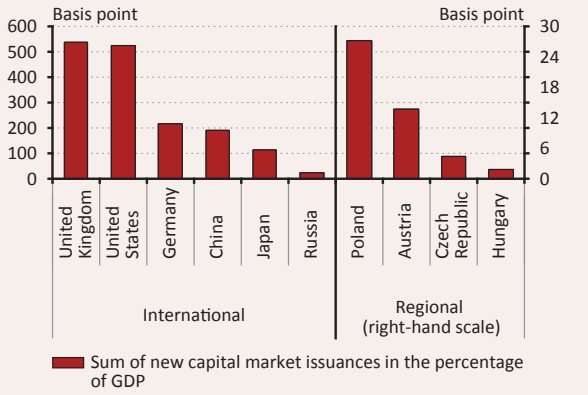


Source: World Bank, WFE.

International examples show that the role of lending in the support of the sustainable economic growth may be increased by the deepening of the capital market. With the development of the capital market the corporate capital market issuances may supplement the bank loans to an increasing degree, which represents the diversification of corporate finance. The sound proportion of the bank loans and the role of the capital market reduces the dependency of the enterprises on bank lending and may make economic growth more sustainable. A developed capital market relying on the internal investor basis may create a stable funding base for the economy, which may reduce the external vulnerability of the country; this becomes extremely important upon the tightening of credit funds.

At present the Hungarian stock exchange has an extremely low turnover and negligible market capitalisation as a proportion of the GDP, even by regional standards, which is also characterised by high issuer concentration. When examining the share issuances of the last three years it is also clear that under the shrinking domestic corporate outstanding borrowing the capital market could not serve as a real alternative for financing either (Chart 2). Therefore the weak stock exchange turnover and the small capitalisation may predominantly be attributed to the underutilisation of the capital market's financing potential, i.e. supply problems. The ownership structure of the quoted shares also shows that the supply side is characterised by the predominance of the foreign institutional investors accompanied by weak domestic demand. In order to ensure that the domestic capital market plays an efficient role in financial intermediation, both the supply side and the domestic demand must be stimulated.

International and regional ability to new capital-raising as a percentage of GDP



Note: The issuances of the recent period (2012-2014) in the precentage of the 2014 GDP.
Source: World Bank, WFE.

On the supply side the public offering of the public corporations (public utility companies and state-owned banks), following the example of Poland, could be a stimulus, while a new, prudent securitisation bill may help boost another important segment of the capital market, i.e. the corporate bond market. The recovery of the supply may cause investors' interest and stock exchange turnover to increase, both being important preconditions for the capital market financing to become a real alternative for the enterprises. Apart from the public corporations, primarily the suppliers of the multinational companies (a large part of which are SMEs) and certain start-up companies – which so far mostly have been financed from venture capital – reaching their matured phase, may be those potential issuers that may increase the supply of stock exchange equities and/or bonds. For this very reason special efforts should be made to ensure that capital market finance becomes available also for the SME sector, in part by easing the conditions of entering the capital market and in part by developing properly operating platforms. The sound domestic demand may be created by the stimulation of the activity of the mutual funds and the voluntary pension funds, which may be supplemented with direct securities purchase by the households and the demands of health funds.

Advantages of the banks' presence at the stock exchange

The disciplinary effect of the market, as a factor supplementing the prudential regulation and oversight, obtains an increasing role in the regulation of the banking system. This is also illustrated by the third pillar of the Basel banking regulation, which determines disclosure requirements for the regular presentation of the risks relevant for banking. However, the disciplinary effect of the market may only work efficiently, if a significant part of the stakeholders also face expenses depending on the banks' risk assumption. Such stakeholders may typically be the shareholders and the subordinated loan capital holders, while due to the deposit insurance, the bank bond and deposit holders are less susceptible to the development of the banks' risks. Namely, when the bank is a public share and/or bond issuer, the range of those stakeholders that are susceptible to the development of the banks' risks is also wider, while through the disclosure obligations prescribed by the Act on Capital Markets the market's disciplinary power may also be enforced more efficiently.

However, this correlation works only if the issued instruments (shares and subordinated bonds) have a liquid market, where the public information – as a kind of feedback for the bank and other stakeholders – may also appear in the form of efficient price signals. This liquid market can be provided by the presence on the stock exchange, through which the disciplinary effect of the market may indeed be enforced and also provide substantial support for the prudential regulation. Another advantage of the presence on the stock exchange for the banks is the transparency enforced by the publicity, while the repute among the investors facilitates easier financing and fund raising, which may mitigate the potential bottleneck both in terms of capital adequacy and liquidity.

Table of figures

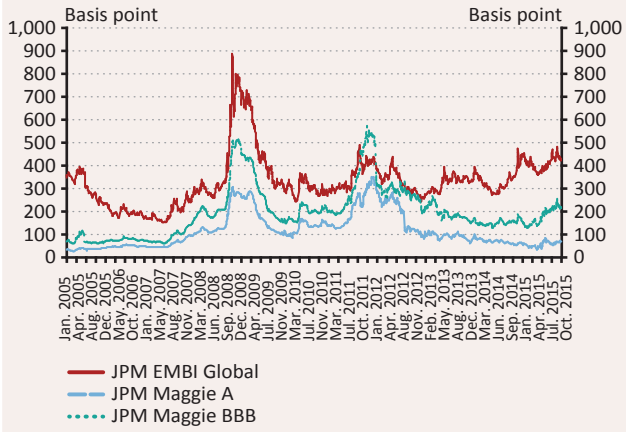
FIGURES

TABLES

Appendix: Macroprudential indicators

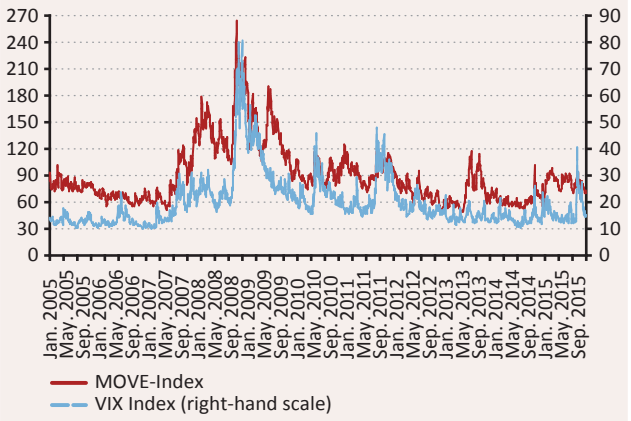
1 RISK APPETITE

Chart 1
Primary risk indicators



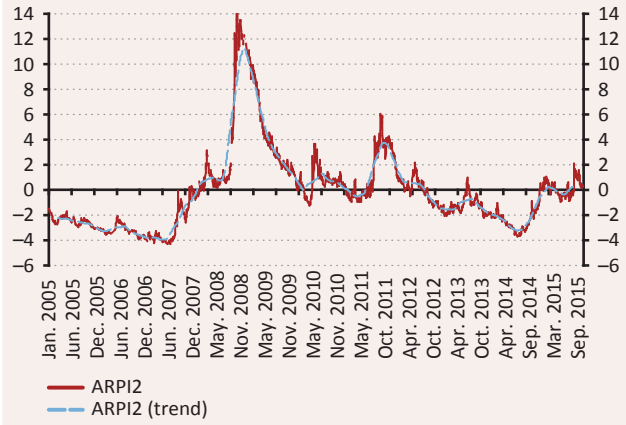
Source: Datastream.

Chart 2
Implied volatility of the primary markets



Source: Bloomberg.

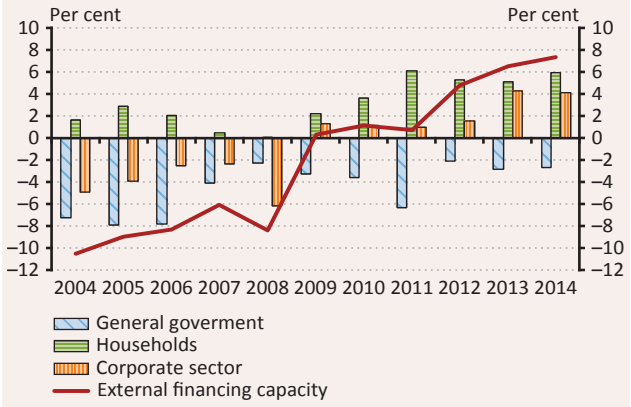
Chart 3
Dresdner Kleinwort indicator



Source: DrKW.

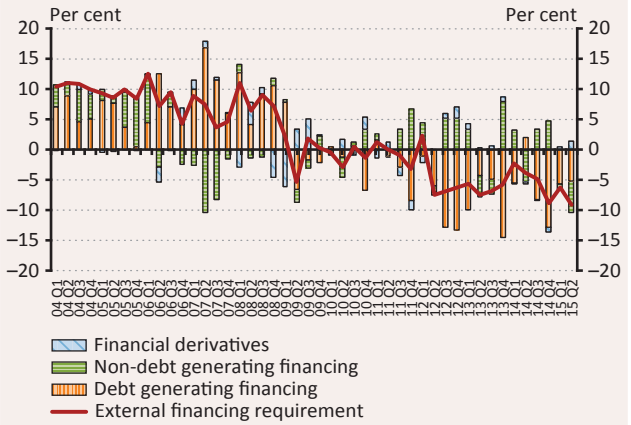
2 EXTERNAL BALANCE AND VULNERABILITY

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



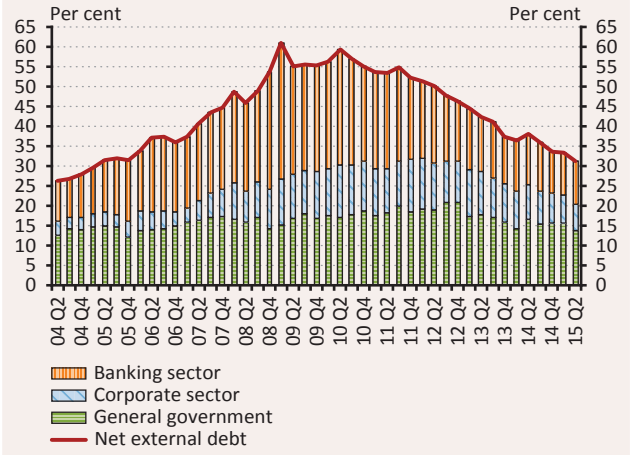
Source: MNB.

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



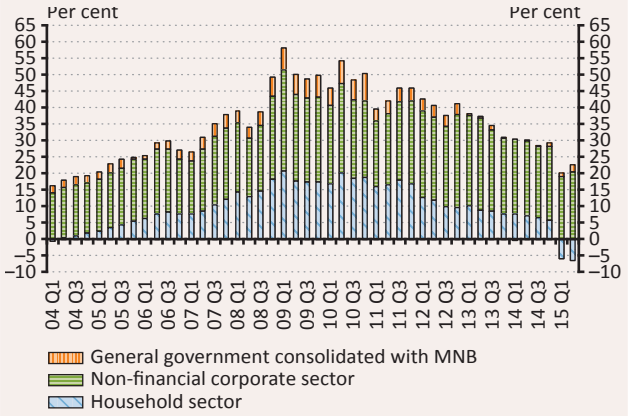
Source: MNB.

Chart 6
Net external debt as percentage of GDP



Source: MNB.

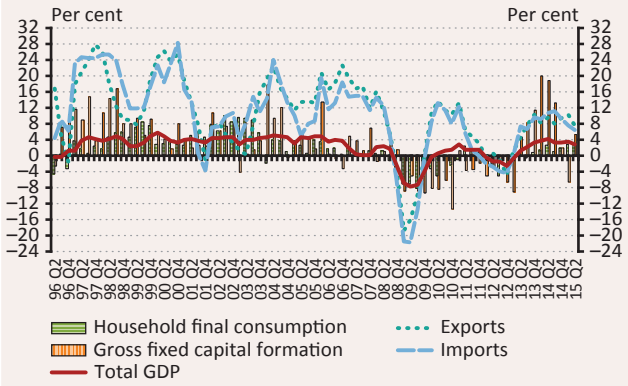
Chart 7
Open FX position of the main sectors in the balance sheet as percentage of GDP



Source: MNB. Eurostat, IMF

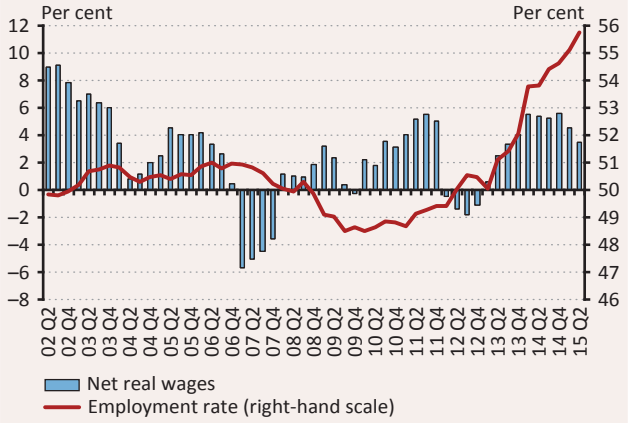
3 MACROECONOMIC PERFORMANCE

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



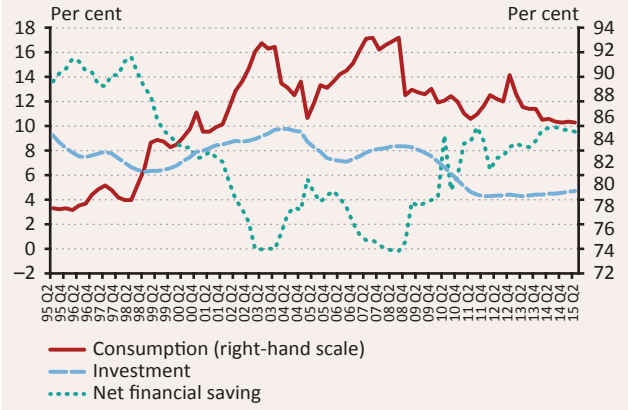
Source: HCSO.

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



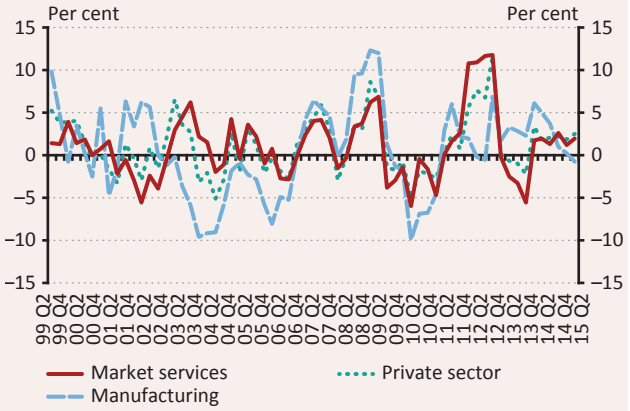
Source: HCSO.

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



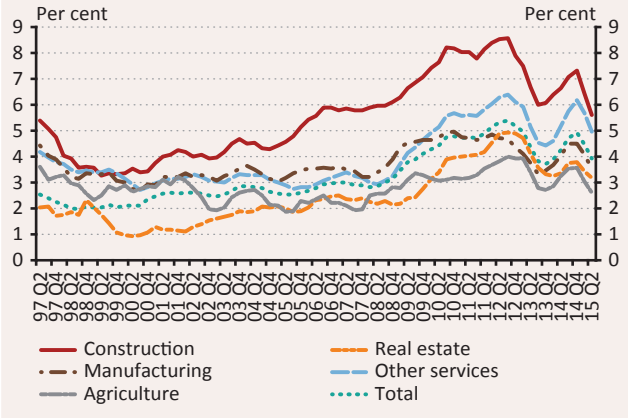
Source: HCSO, MNB.

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



Source: HCSO, MNB.

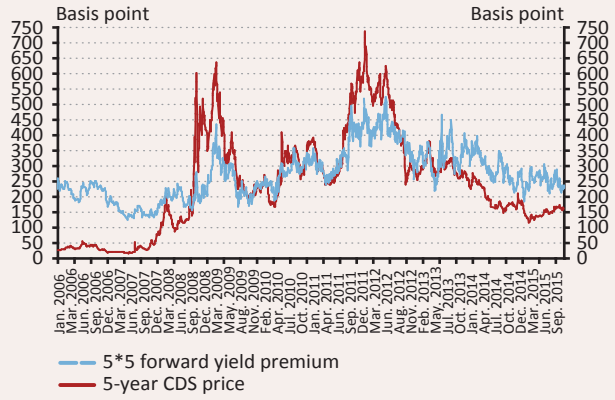
Chart 12
Sectoral bankruptcy rates



Source: Opten, HCSO, MNB.

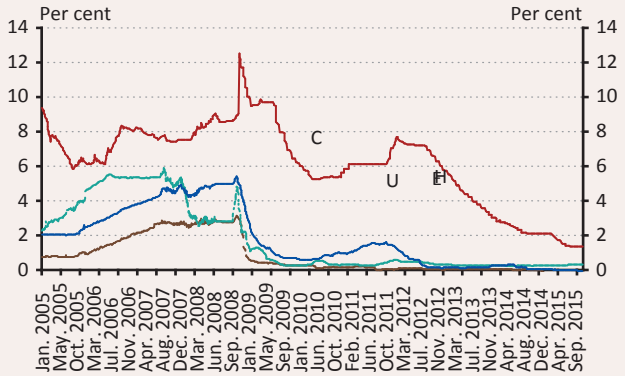
4 MONETARY AND FINANCIAL CONDITIONS

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



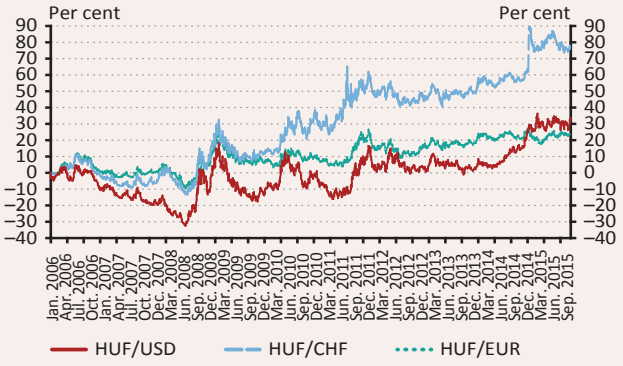
Source: Datastream, Reuters.

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



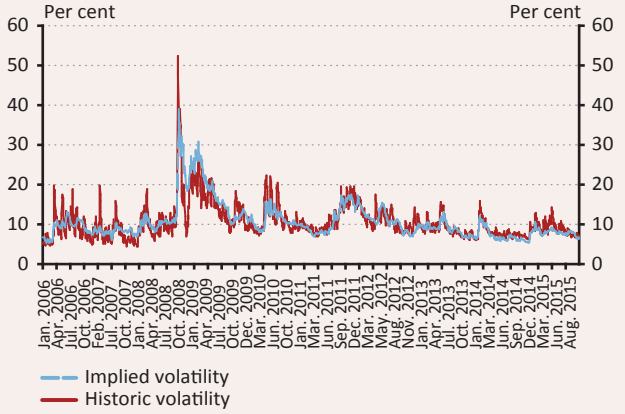
Source: Reuters.

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



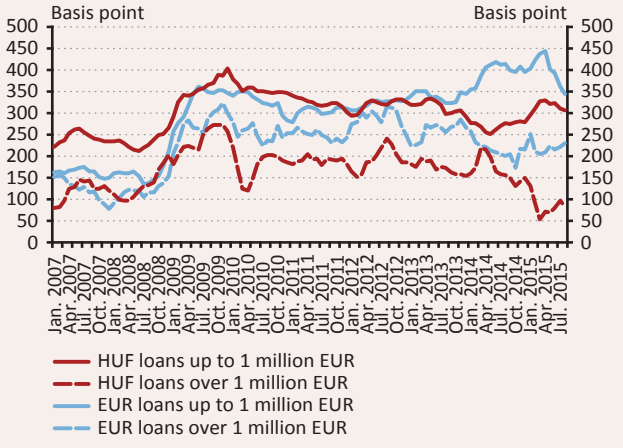
Source: Reuters.

Chart 16
Volatility of the HUF/EUR exchange rate



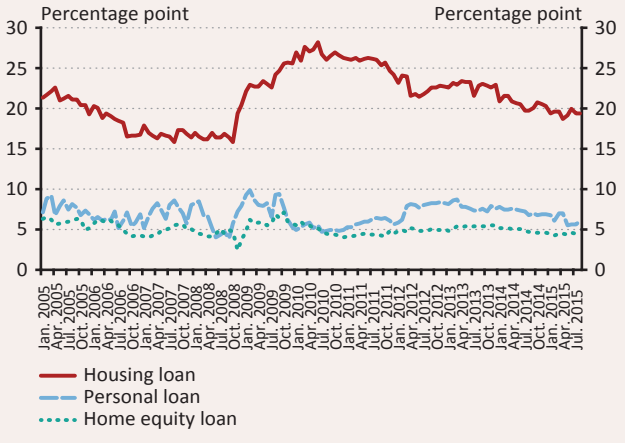
Source: Reuters, MNB.

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.

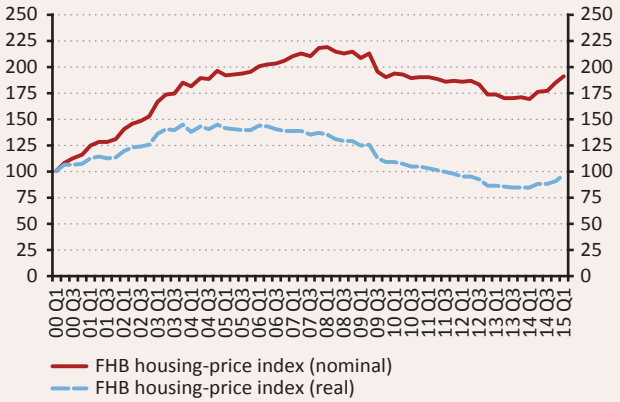
Chart 18
Interest rate premium of new HUF loans to households
(over 3-month BUBOR)



Source: MNB.

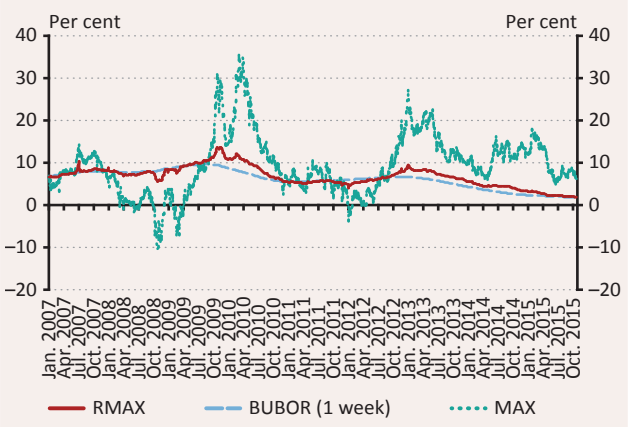
5 PRICES OF INSTRUMENTS

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



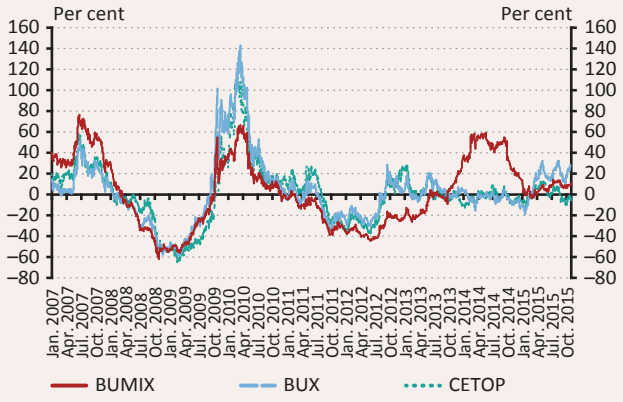
Source: FHB

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



Source: ÁKK, MNB, portfolio.hu.

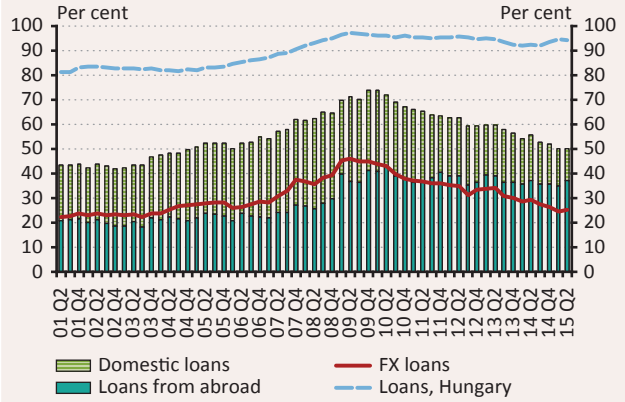
Chart 21
Annual yield of key Hungarian and Central and Eastern European stock market indices



Source: BÉT/BSE, portfolio.hu.

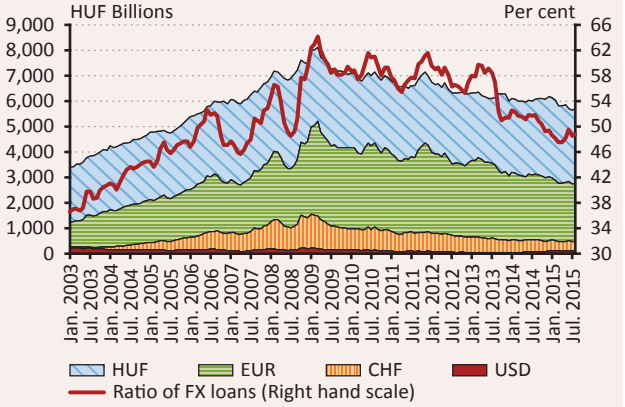
6 RISKS OF THE FINANCIAL INTERMEDIARY SYSTEM

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



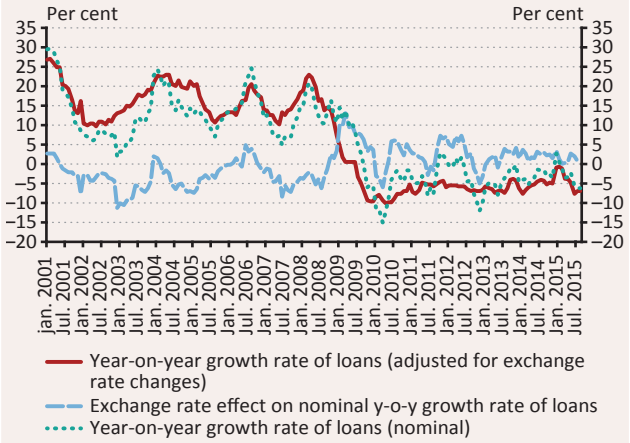
Source: Eurostat, EKB, MNB.

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



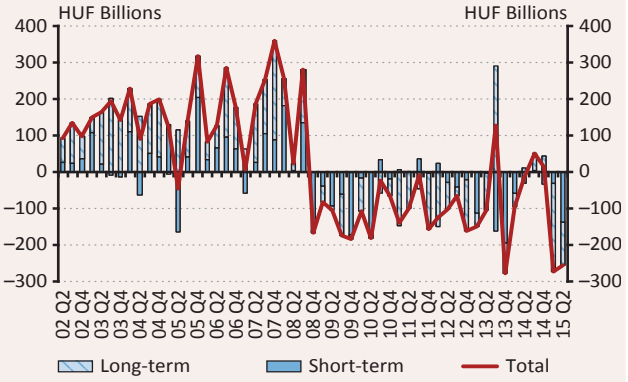
Source: MNB.

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



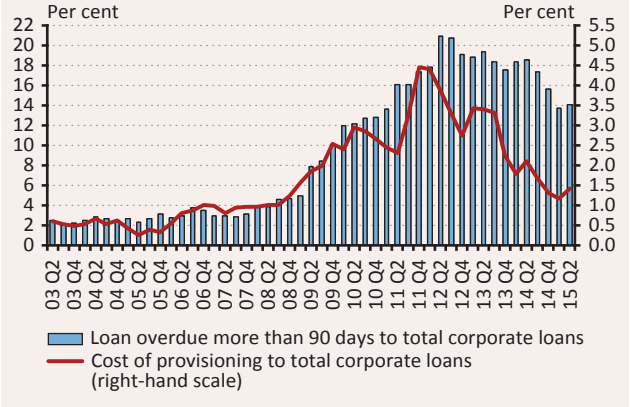
Source: MNB.

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



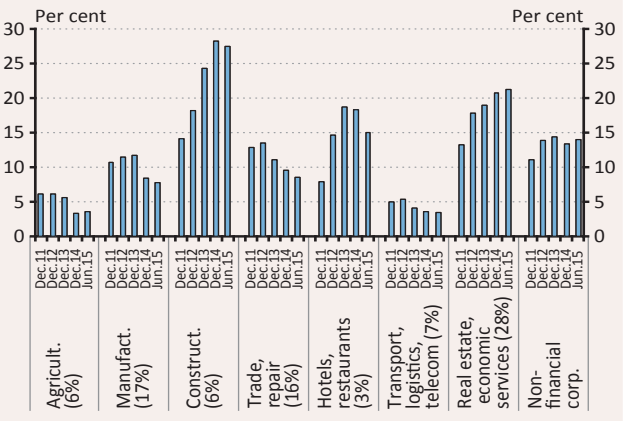
Source: MNB.

Chart 26
Quality of the corporate loan portfolio



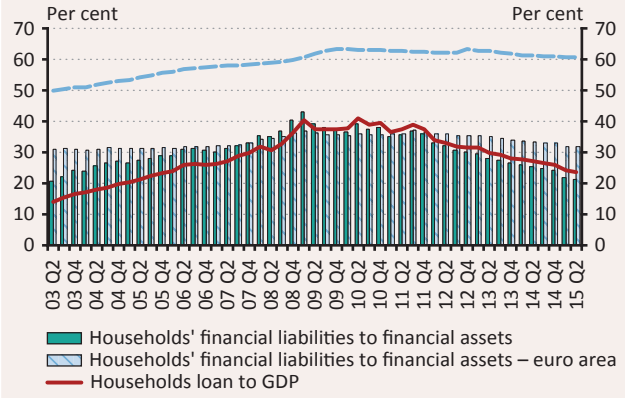
Source: MNB.

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



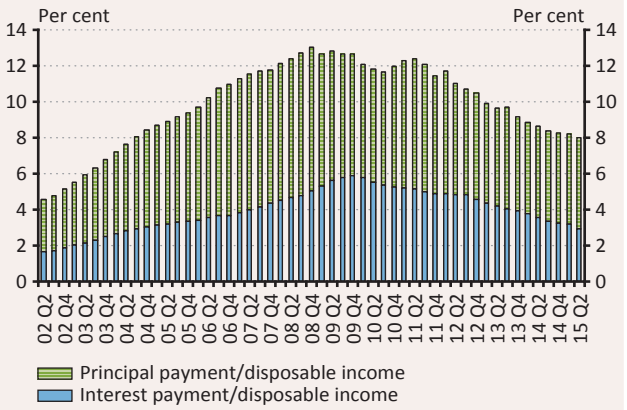
Source: MNB.

Chart 28
Indebtedness of households in international comparison



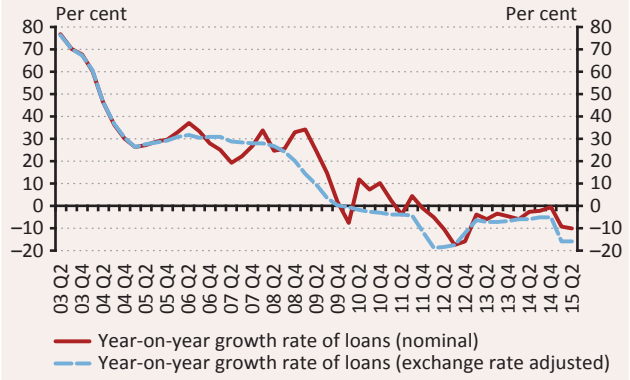
Source: MNB, EKB.

Chart 29
Debt service burden of the household sector



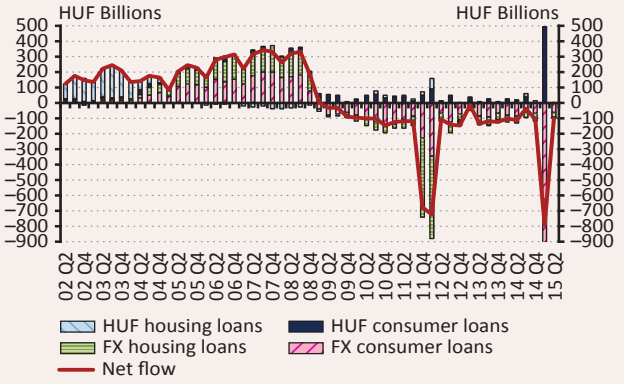
Source: MNB.

Chart 30
Annual growth rate of total household loans



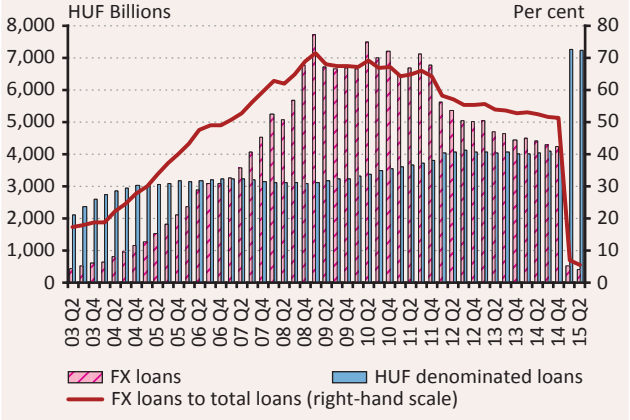
Source: MNB.

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



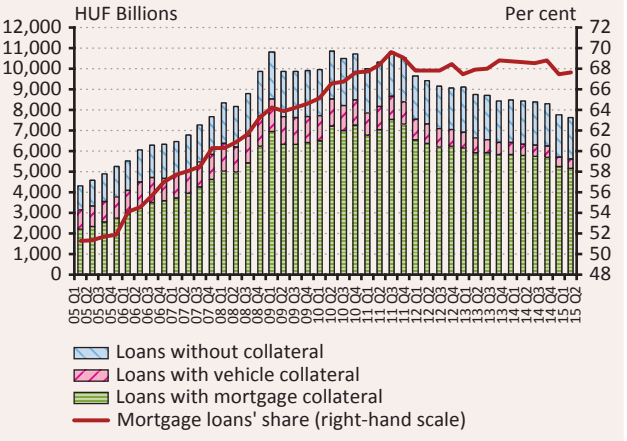
Source: MNB.

Chart 32
Household loans distribution by denomination



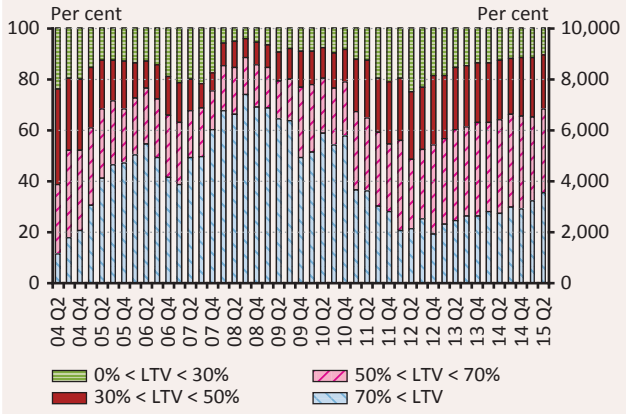
Source: MNB.

Chart 33
Household loans distribution by collateral



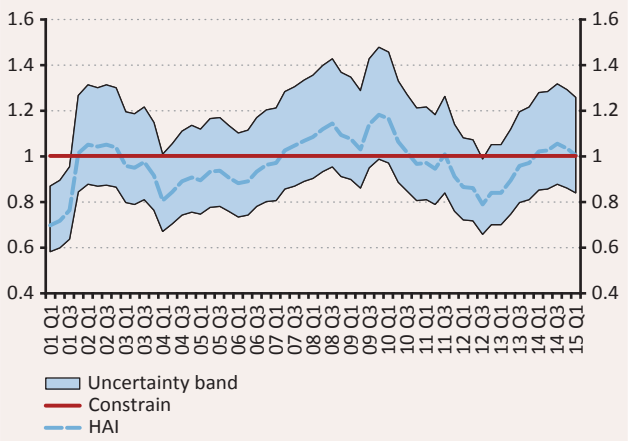
Source: MNB.

Chart 34
Distribution of new housing loans by LTV



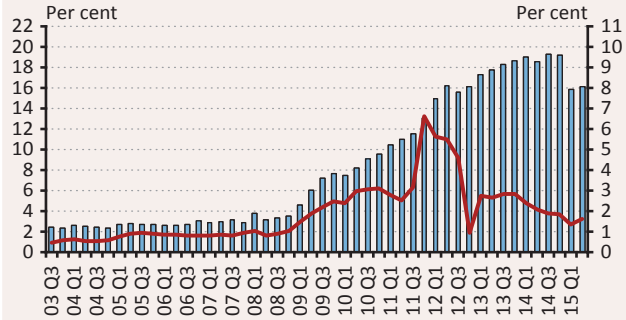
Source: MNB.

Chart 35
Housing Affordability Index



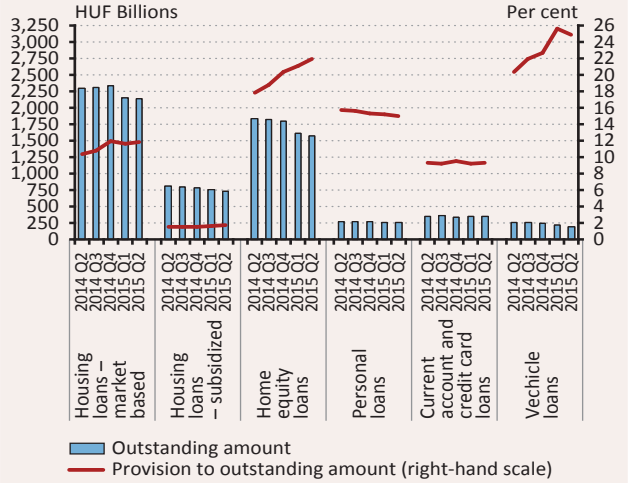
Source: MNB.

Chart 36
Quality of the household loan portfolio



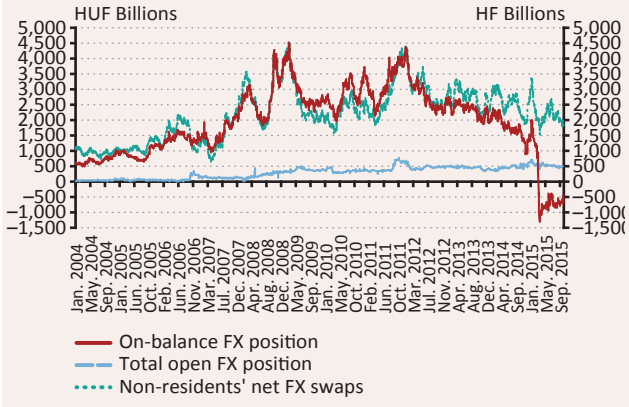
Source: MNB.

Chart 37
Provisioning on household loans



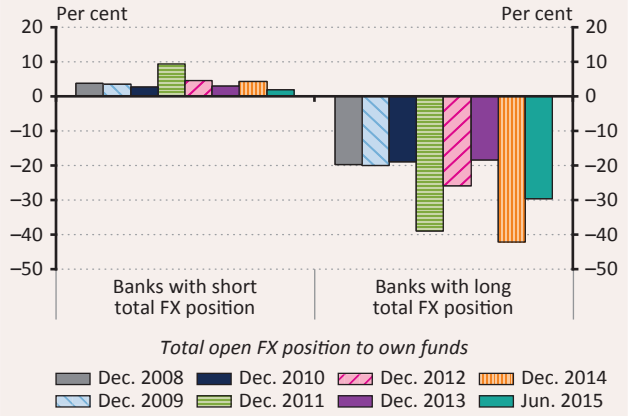
Source: MNB.

Chart 38
Open FX position of the domestic banking system



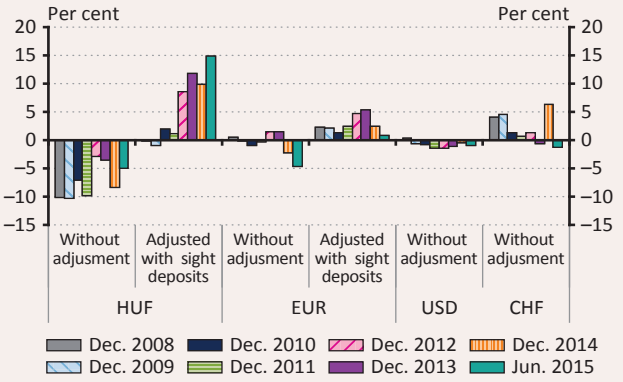
Source: MNB.

Chart 39
The exchange rate exposure of the Banking sector



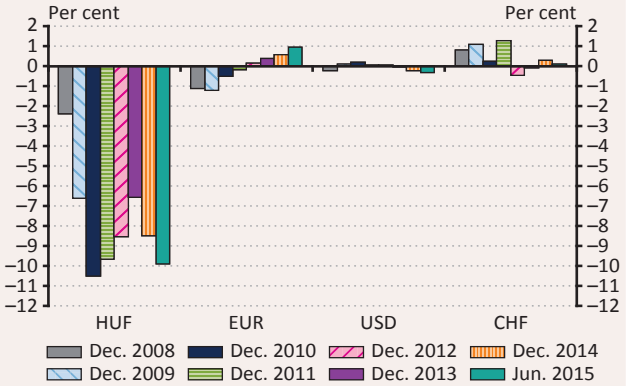
Source: MNB.

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



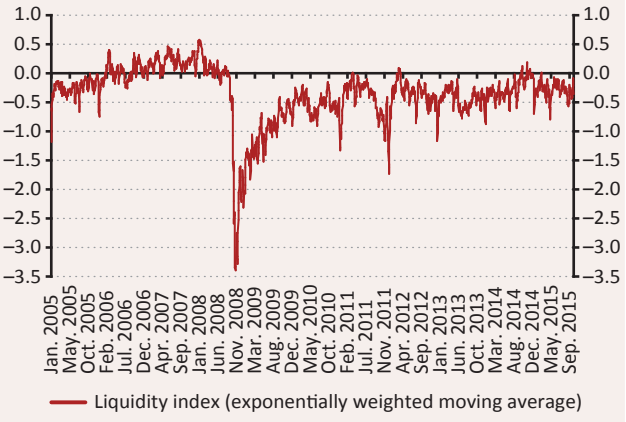
Source: MNB.

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



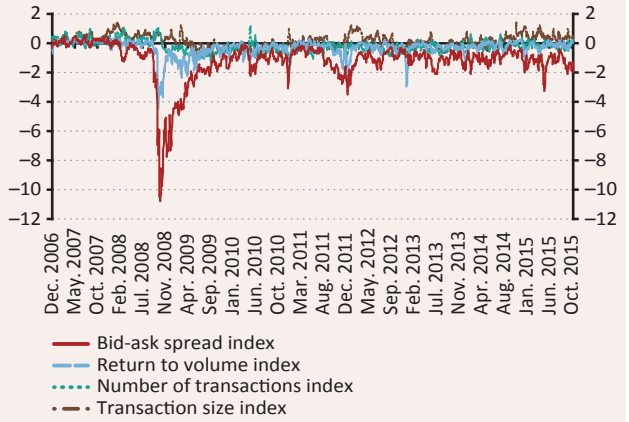
Source: MNB.

Chart 42
Liquidity index
(exponentially weighted moving average)



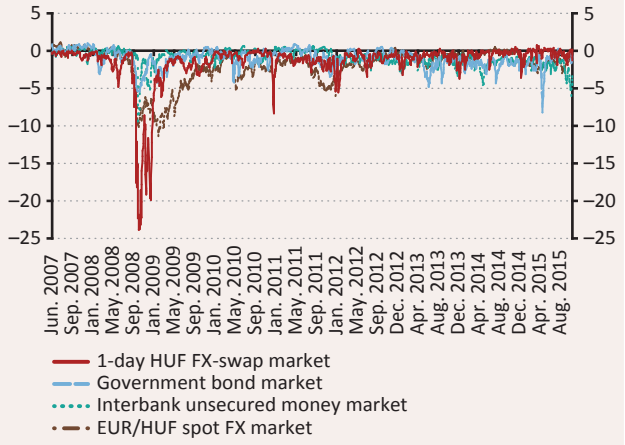
Source: MNB, KELER, Reuters, DrKW.

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



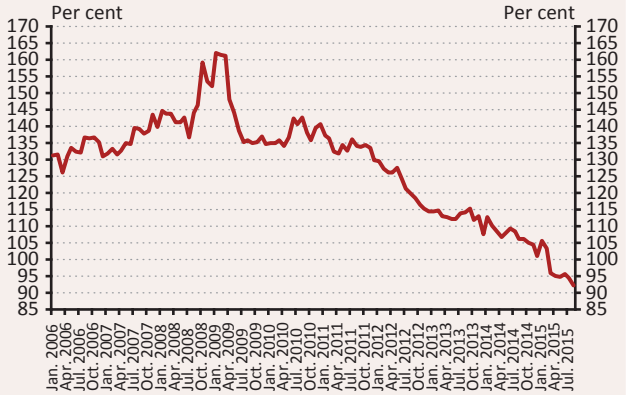
Source: MNB, KELER, Reuters, DrKW.

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



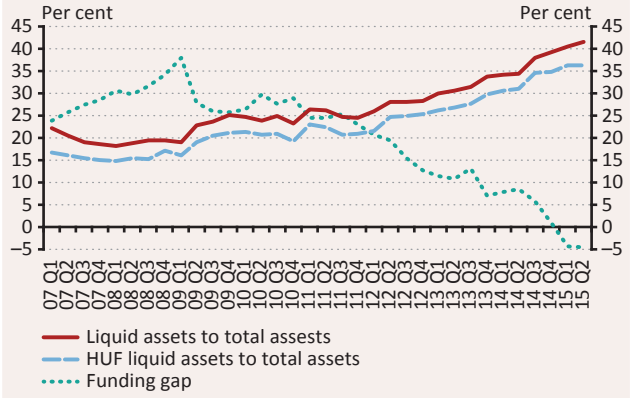
Source: MNB, KELER, Reuters, DrKW.

Chart 45
Credit to deposit ratio of the banking sector



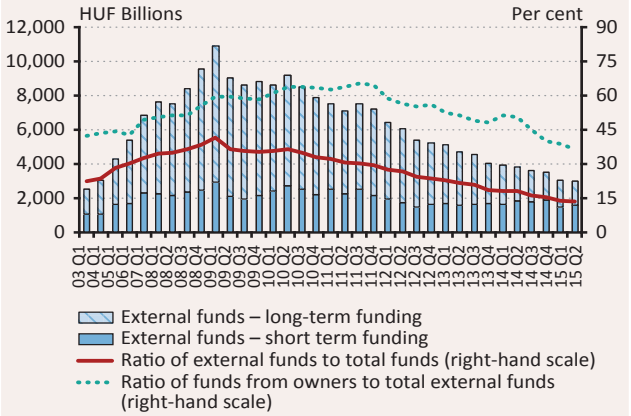
Source: MNB.

Chart 46
Liquidity ratios of the banking sector



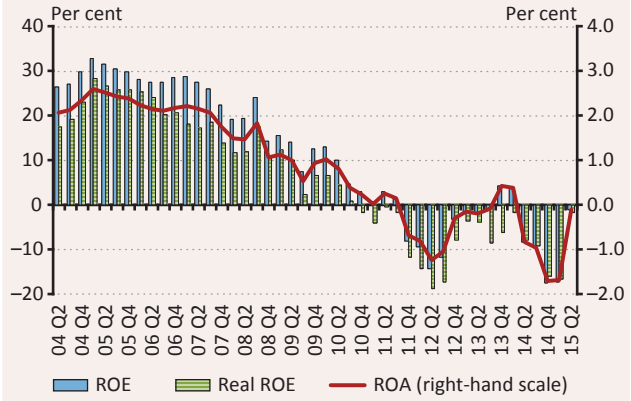
Source: MNB.

Chart 47
External funds of the banking sector



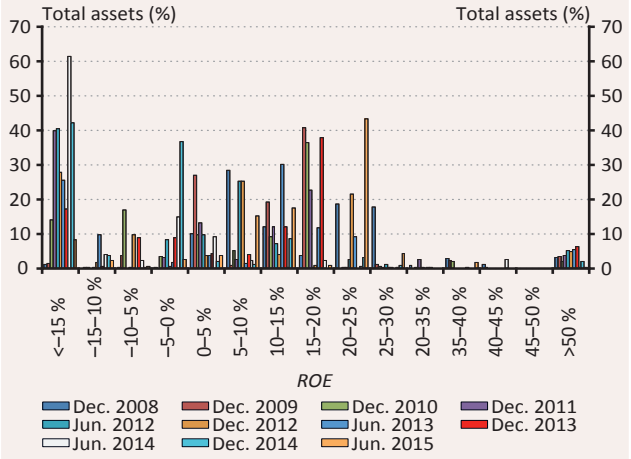
Source: MNB.

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



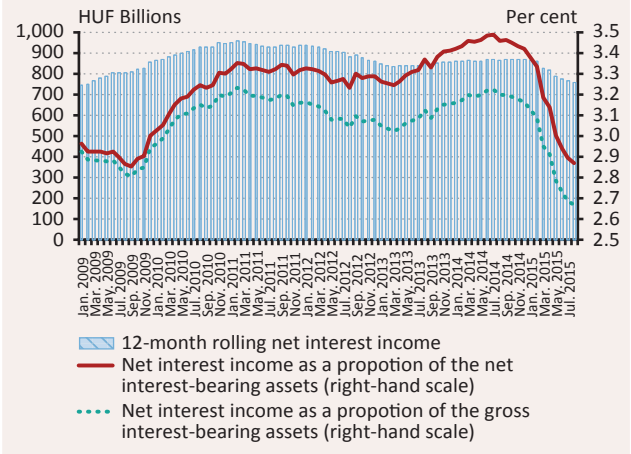
Source: MNB.

Chart 49
Dispersion of banks' total assets by ROE



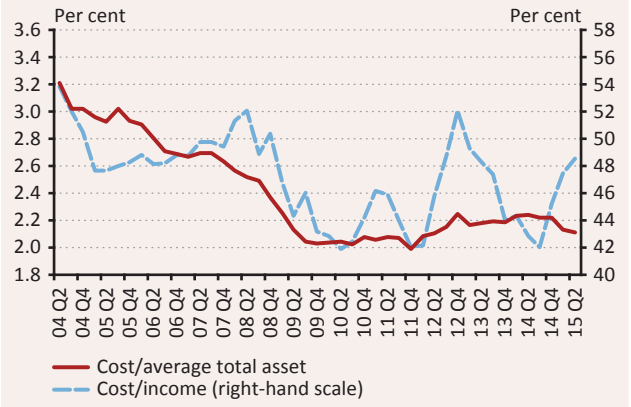
Source: MNB.

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



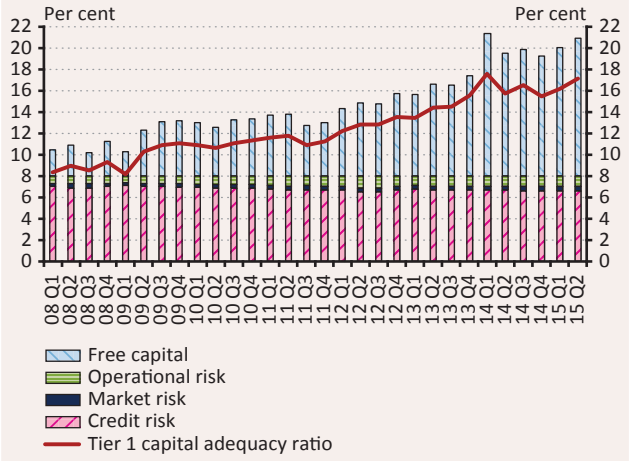
Source: MNB.

Chart 51
Operating efficiency indicators of the banking sector



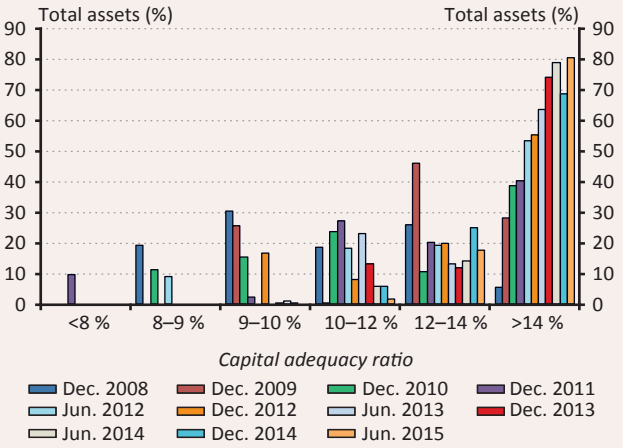
Source: MNB.

Chart 52
Banks' capital adequacy ratios



Source: MNB.

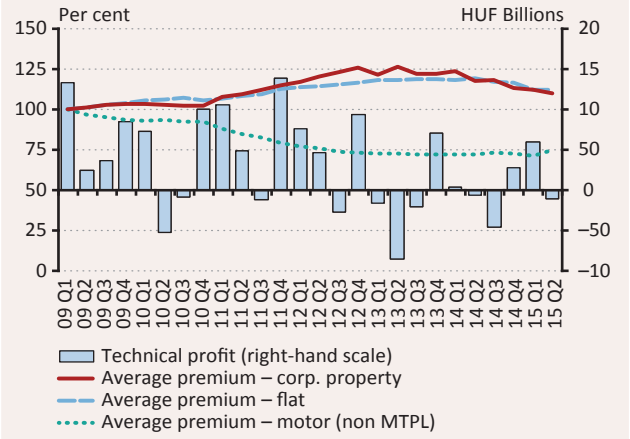
Chart 53
Dispersion of banking sector's total assets by capital adequacy ratio



Source: MNB.

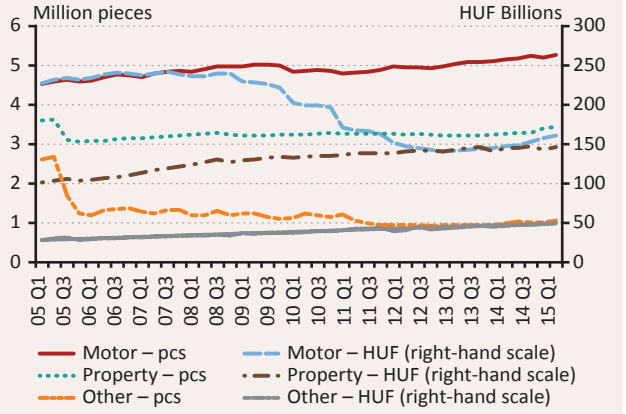
7 INSTITUTIONAL INVESTORS

Chart 54
Underline data of insurance tax



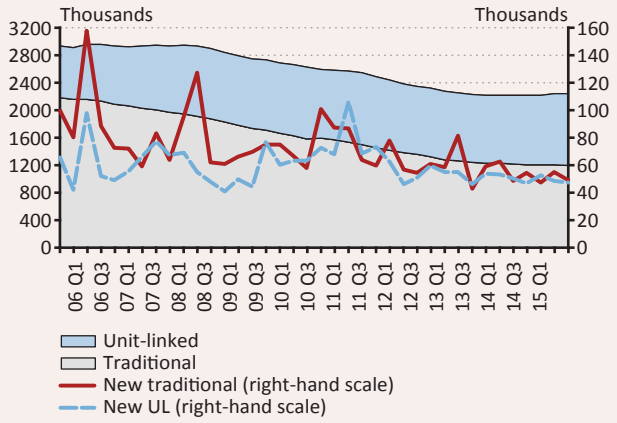
Source: MNB.

Chart 55
Development of non-life insurance



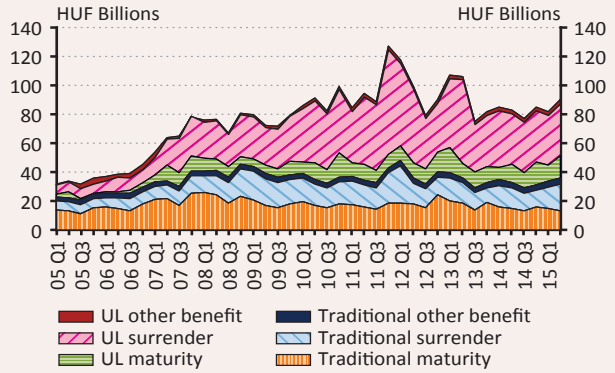
Source: MNB.

Chart 56
Development of life insurance



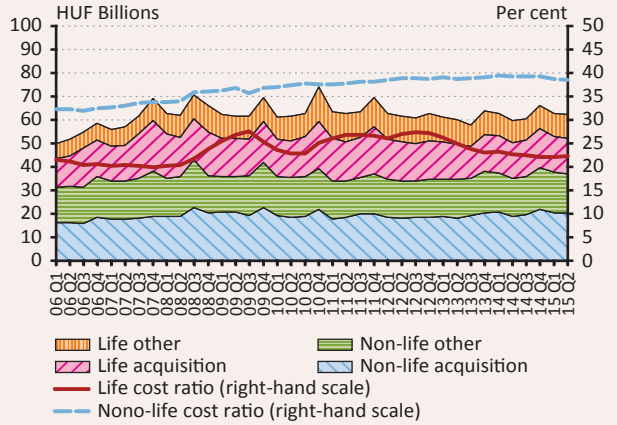
Source: MNB.

Chart 57
Life insurance services



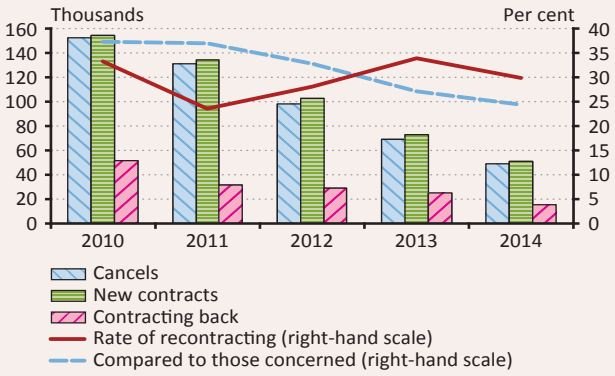
Source: MNB.

Chart 58
Costs in the insurance sector



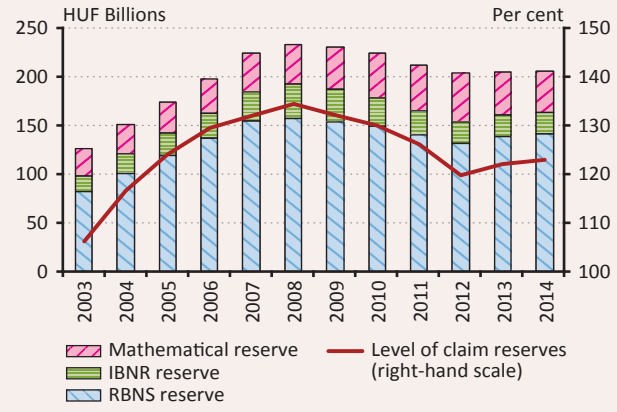
Source: MNB.

Chart 59
Development of mtpl insurance



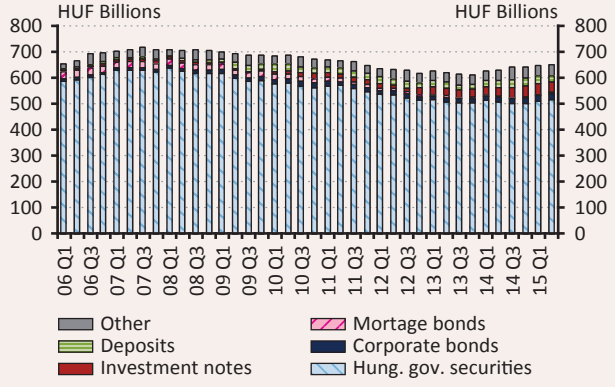
Source: MNB.

Chart 60
Development of gross mtpl reserves



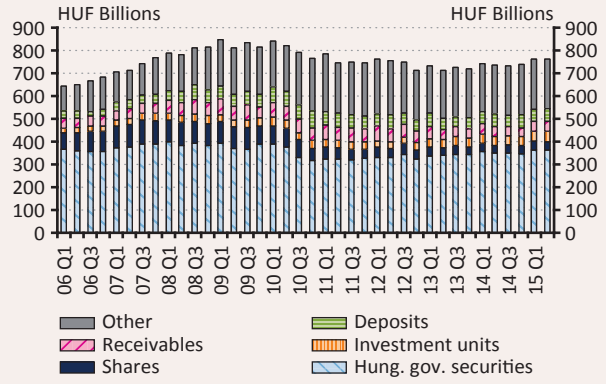
Source: MNB.

Chart 61
Assets behind life mathematical reserve



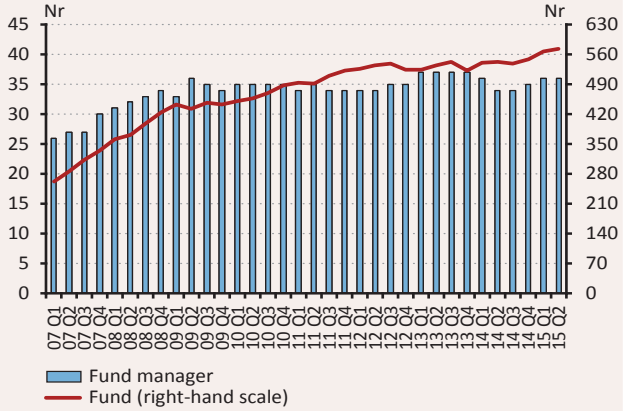
Source: MNB.

Chart 62
Composition of assets (excluding mathematical reserves)



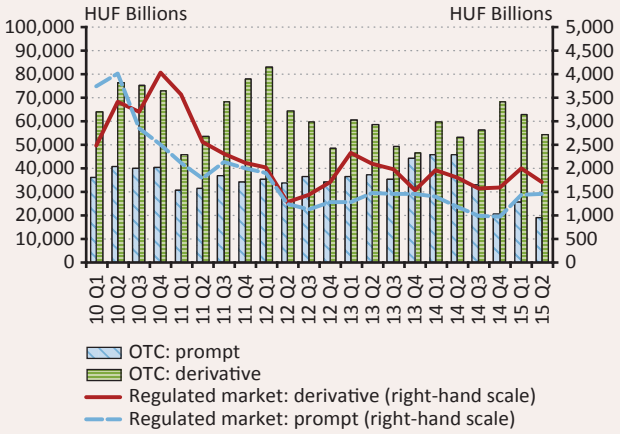
Source: MNB.

Chart 63
Number of investment fund managers and funds



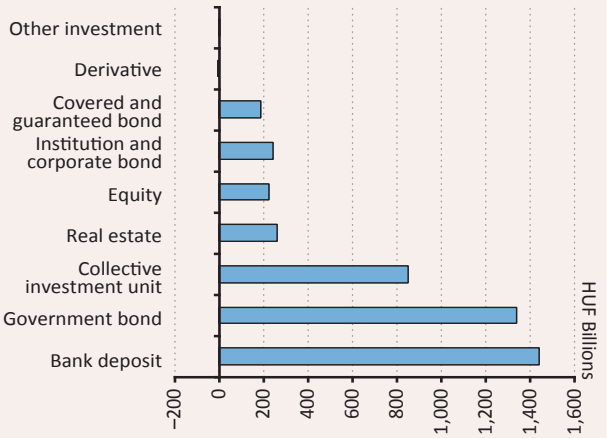
Source: MNB.

Chart 64
Capital market turnover of investment firms



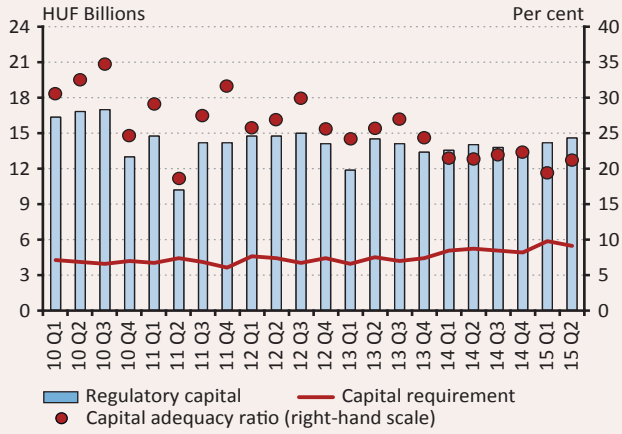
Source: MNB.

Chart 65
Asset allocation in public offered investment funds



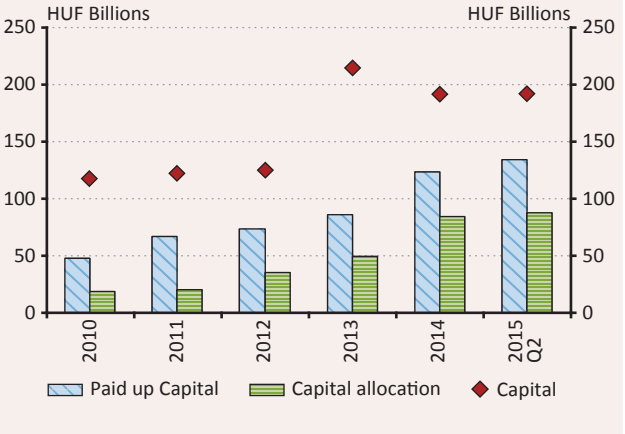
Source: MNB.

Chart 66
Capital adequacy (CAR) of investment firms



Source: MNB.

Chart 67
Capital and capital allocation of venture capitals



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 7:
The open FX position of households has turned because of the FX conversion. The compensation of this is shown at banks temporarily (see chart 38), by time it is expected to get to the consolidated state with the MNB.

Chart 10
Disposable income is estimated by the MNB using household consumption, investment and financial savings data.

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-August 2015, HUF loans adjusted by state loan refinancing in December 2002.

Chart 25
Exchange rate adjusted values.

Chart 26:
Loans overdue more than 90 days are calculated by clients untill 2014, and by contracts from 2015.

Chart 27:
In brackets bellow the names of sectors the weights within corporate credit portfolio are indicated for end-of-observation period.

Chart 34:
The category 0-30 percent contains also the loans disbursed without mortgage before 2008.

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 36:
Before 2010 by costumers, since then by contracts.

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:
30-Jun-2015

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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