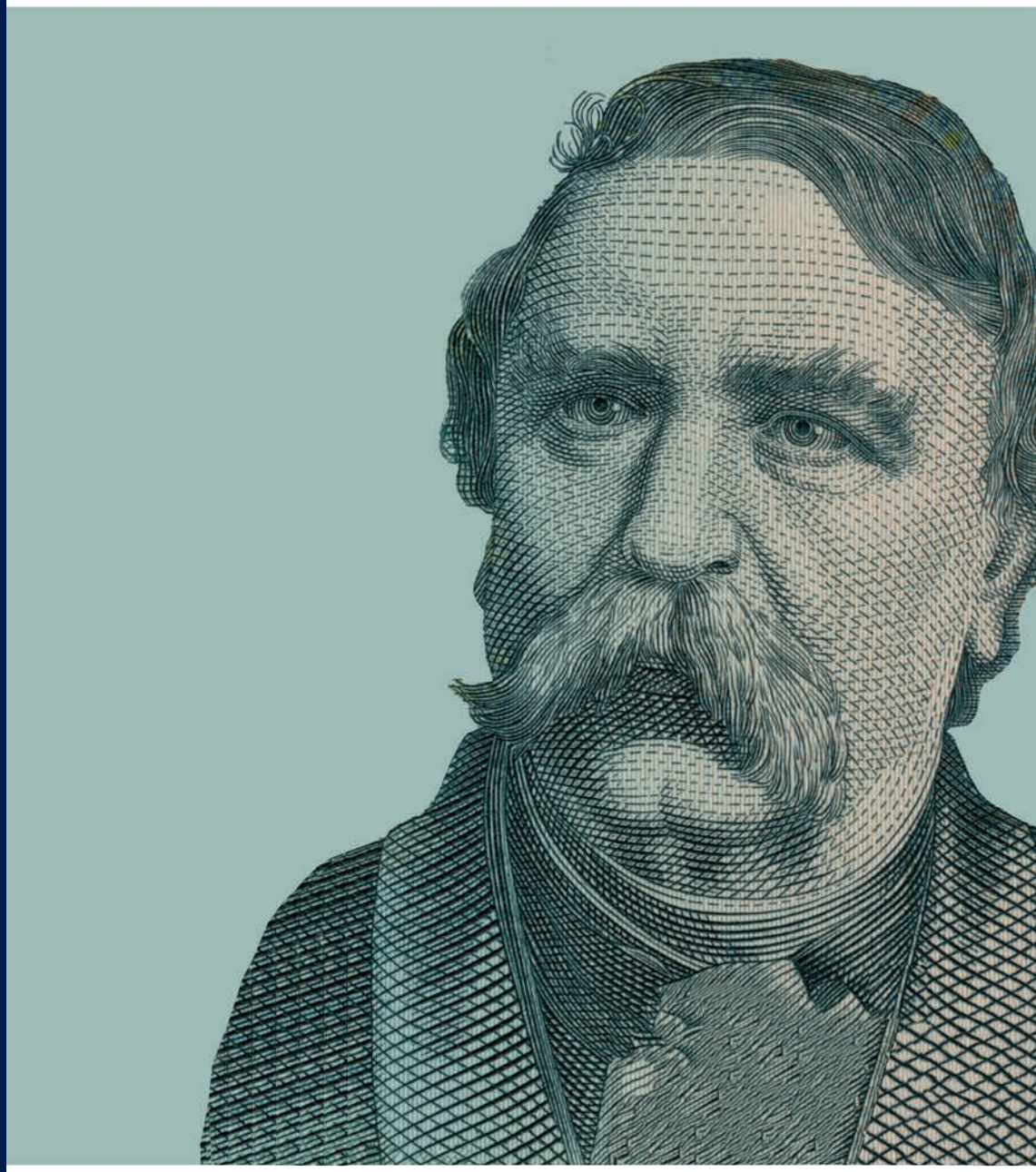
FINANCIAL STABILITY REPORT



2019
DECEMBER

'...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 analyses in this Report were prepared by the Financial System Analysis Directorate, with the contribution of the Financial Institutions Supervision Executive Directorate, under the general direction of Gergely FÁBIÁN, Executive Director for Financial System Analysis and Lending Incentives.

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 22nd October and 19th November 2019, and those of the Monetary Council following its meeting on 5th November 2019.

This Report is based on information in the period to 31st October 2019. Since data frequency is divergent through the analyses, the analysis horizons may also alter.

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Executive Summary

The shock absorbing capacity of the Hungarian banking sector is still robust. According to our solvency stress test, the institutions of the domestic banking sector would meet the regulatory requirements concerning capital position even following a major negative macroeconomic shock. At the same time, the functioning of the banking sector remains under increasing pressure from both domestic and international developments, compelling the participants in the sector to innovate.

In the past period, government and central bank programmes played important roles both in the financing of the private sector and in the market of household savings. Simultaneously with that, as FinTech firms gain ground, competition in the market of financial services is also becoming increasingly intensive, and social expectations regarding the quality of services are also growing. Banks are exposed to these challenges in a low yield environment, which keeps their revenues under pressure, and makes them increase their efficiency by way of either digitalisation developments or mergers and acquisitions.

A number of domestic financial institutions are unprepared to fully meet the above challenges. However, the current favourable domestic economic environment and outstanding profitability provide a suitable environment for banks to be able to respond to the changing circumstances. But those financial institutions that continue to postpone adjustment (digital development projects, mobile banking, rationalisation of the branch network) will be unable to meet the profitability expected from them, and they may be forced out of the market over the medium term.

In the December 2019 Financial Stability Report, our main conclusions regarding the recent developments and risks in the banking sector are as follows.

In the past half year, the global macroeconomic environment was characterised by deepening trade and geopolitical tensions as well as increasing fears of recession in some regions. *Reacting to the decline in inflation and the slowdown in growth,* ***major central banks reduced their respective policy rates again****, and also announced further expansive steps. Deterioration in the external environment has a negative impact on the growth prospects of the domestic economy, and thus it poses a risk to the domestic banking sector as well.* ***The fundamentals of the domestic economy and the Hungarian banking sector have strengthened considerably since the outbreak of the 2008 crisis, and thus the domestic financial system has prepared itself for the risks stemming from the deterioration in the external environment.***

The balance sheet total of the credit institutions sector increased further in 2019 H1, in which ***the dynamic rise in loans granted to the private sector*** *(households and companies) played an important role. Credit institutions' household loans outstanding rose by 13.8 per cent between September 2018 and September 2019, while corporate loans outstanding also grew significantly, i.e. by 15.4 per cent compared to the same period of the previous year. The expansion in loans outstanding* ***took place in parallel with a strengthening in economic fundamentals,*** *and at present* ***it does not show any signs of overheating*** *either in terms of volume or composition.*

Amid favourable domestic economic activity, banks' profitability is outstanding even in an international comparison, which, however, conceals certain structural problems of the sector. *In H1, the reversal of the provisioning carried out during the years of the crisis played a declining but still considerable role in the high level of bank profitability. Some of the domestic banks* ***need to take further efficiency-improving measures in order to ensure sustainable profitability.*** *This is also corroborated by the results of the MNB Banking System Competitiveness Index, according to which the Hungarian banking sector is still considered to be a laggard among the European banking sectors in terms of the various dimensions of efficiency.*

The most important risks presented in the previous Report still exist. *The upswing in the housing market continued, especially in the capital, where housing prices appreciated by nearly 22.5 per cent between June 2018 and June 2019. According to our estimation, in Budapest* ***the risk of overvaluation of housing prices remains****. However,* ***the impact of real estate market developments on the banking sector is limited*** *by the fact that* ***the stock of bank exposures sensitive to the changes in the real estate market is low*** *as a percentage of the regulatory capital. The length of interest rate fixation is increasing within household mortgage loan disbursements, but the bulk of* ***loans outstanding*** *is still characterised by interest rates variable within a year,* ***and thus they are considerably exposed to changes in the interest rate***

***environment**. The extension of the globally low interest rate environment reduces the interest rate risk of domestic debtors that have variable-rate loans, providing additional time for the loans outstanding to gradually shift towards fixed interest rates.*

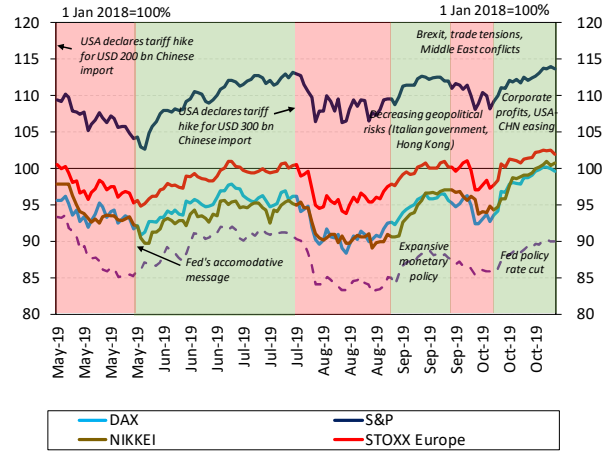
***The operating environment of the domestic banking sector is significantly affected by the government and central bank programmes launched in 2019 H1.** The prenatal baby support loan, which has been available since 1 July 2019, resulted in major loan outflows in the summer months. Due to the significant increase in lending dynamics and the fiscal risks existing because of the state guarantee, continuous monitoring of this portfolio is needed. As a result of its outstanding yield and favourable redemption conditions, the Hungarian Government Security Plus (MÁP+), which is available since 1 June 2019, causes gradual restructuring in the market of household savings. For the time being, government securities purchases from bank sight deposits have entailed only a moderate financing risk for banks. MÁP+ may restrain private investors' demand in the market of residential properties, attenuating the rate of price appreciation in the housing market. In addition, by reducing interest in public property funds, MÁP+ may also have an impact on the financing and investor structure of the commercial real estate market.*

***The Bank's programmes have contributed to the financing of companies in both qualitative and quantitative terms.** On 1 January 2019, the MNB launched the Funding for Growth Scheme (FGS) fix. Under the Scheme, small and medium-sized enterprises can have access to long-term forint funding with predictable instalments. The uptake of the FGS fix exceeded HUF 300 billion by the end of September. In order to enhance liquidity in the corporate bond market, the Bank introduced the Bond Funding for Growth Scheme (BGS) on 1 July 2019. The total amount available under the Scheme, at HUF 300 billion, is expected to be fully utilised by early 2020.*

1 International environment: slowing growth and persistently low interest rates pose challenges

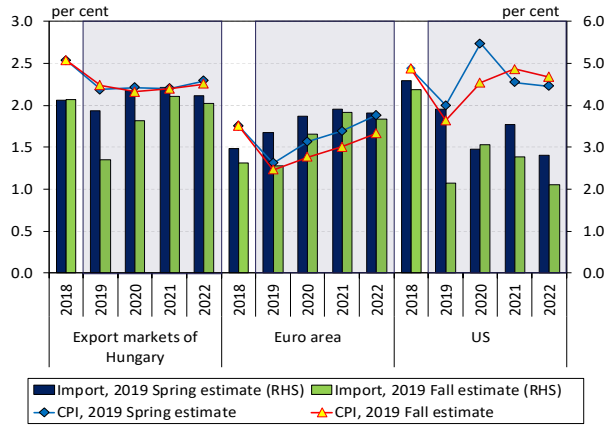
Risks from the international environment have intensified since the publication of our previous Report. During the past half year, market movements were influenced by deepening trade and geopolitical tensions, weakening global and euro area real economy fundamentals as well as accommodative central bank reactions. For the time being, due to their robust macroeconomic indicators, CEE countries have proved to be resistant to the economic slowdown in EU core countries, but through its trade exposure, this region may also be affected by the weaker performance of the European – mainly the German – economy. More and more central banks are returning to monetary easing, once again highlighting the risks caused by the persistently low interest rate environment. The growth-supportive interest rate environment may result in excessive financial risk-taking, further indebtedness of economic agents and the development of asset price bubbles, possibly amplifying the effects of global slowdown. The capital position of European banks is stable, but the moderate interest rate environment and the market expansion of fintech challengers is maintaining pressure on their profitability. Therefore, owing to their low efficiency, they tend to be crowded out of the global markets and are forced to reshape their business models.

Chart 1: Development of major indices



Source: Thomson Reuters Datastream

Chart 2: Changes in the macroeconomic environment of developed economies according to IMF's spring and fall estimates



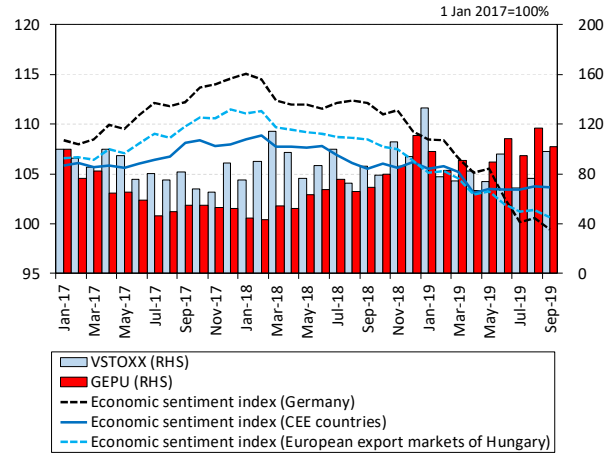
Note: Hungary's export markets calculated using the 2018 export weights. In the case of imports, the annual growth rate is shown in the chart. Source: IMF, BIS, Bloomberg

1.1 Moderate inflation and growth forced foreign central banks to change monetary policy direction again

Geopolitical tensions and recession concerns have intensified since our previous Report. In the past half year, equity markets continued to show intensive movements (Chart 1). In May, it was mainly the deepening of trade tensions between the USA and China as well as between the USA and Mexico that had a negative impact on investor sentiment, which was reversed by the Fed's accommodative message of 4 June. Expectations of a policy rate cut by the Fed and easing trade tensions then resulted in improving investor sentiment at the start of the summer, but this was shaken in August by re-escalation of the trade disputes and mounting recession concerns. In the first half of September, the markets welcomed the accommodative monetary policy steps by the ECB and the Fed, but the uncertainty related to Brexit, the conflicts in the Middle East and the persistent trade tensions (including between the USA and the EU) were evaluated as negative. In October, market optimism was supported by favourable corporate flash reports, the decreasing likelihood of a no-deal Brexit and the converging positions of the USA and China.

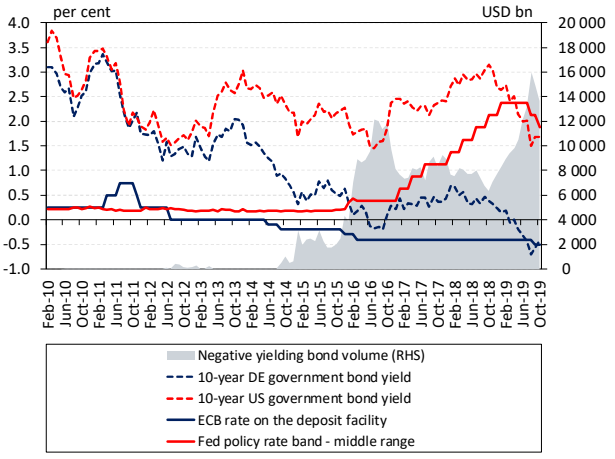
The mounting risks also had a negative impact on economic forecasts. Economic growth is surrounded by significant risks in both the euro area and the global market. As a result of the deteriorating international trade environment and fading global demand, the German economy is slowing down, contributing significantly to concerns about growth in the euro area as a whole. One very important

Chart 3: Evolution of composite economic sentiment indices and volatility indices



Note: For the economic sentiment indices, the data are seasonally adjusted, but not calendar adjusted. VSTOXX is calculated on the European Futures and Options Exchange and shows the market's expectation as regards volatility in the next 30 days. GEPU depicts the global economic policy uncertainty index. Source: Datastream, Eurostat, Economic Policy Uncertainty

Chart 4: Long-term yields and evolution of policy rates, volume of negative yielding bonds



Note: For the Fed policy rate, the data refer to the first day of the month, while for the ECB deposit rate, they refer to the last day of the month. Data for the negative yielding bond volumes and government bond volumes are monthly averages. Source: Thomson Reuters Datastream, SNL, Bloomberg

aspect for Hungary is that over the long run the export-oriented economies in the CEE region cannot fully avoid the impact of the situation in Germany, which is one of their main trading partners. Through international ties, the decelerating Chinese economy may also hinder growth in other emerging markets. Lack of fiscal leeway in certain economies may also detain global growth. Due to the significant risks and the weaker-than-expected data, international organisations lowered their growth, inflation and imports forecasts for the coming years compared to their previous estimates (mainly regarding the euro area), which considerably affects Hungary's export markets as well (Chart 2).

The gloomy prospects are also reflected in deteriorating economic sentiment indicators. The slowdown in the global automotive industry and the decline in the industrial sectors of developed countries undermine economic expectations regarding the manufacturing sectors. In terms of growth, however, another significant uncertainty factor is when and to what extent the recessionary trends in manufacturing will spill over to the so far resistant services sectors and labour markets. The worse-than-expected developments in the economic sentiment sub-indices for the services sector (for example in the euro area) signal a wider- and faster-than-expected deceleration related to more and more sectors, and contribute to the decline in aggregate economic sentiment indicators (Chart 3). While the index for the CEE region is currently performing relatively better than that of the core countries, the sharp deterioration in the European index weighted with Hungarian domestic export market shares points to the risk of a pass-through of the slump via trade exposures. The increase in risks is also reflected in the rise of financial market and economic policy volatility indices that has been observed since the spring.

Due to the weakening growth prospects and the inflation outlook, more and more central banks shifted towards expansive monetary policy, instead of the previously anticipated tightening. Between July and October 2019, the Fed cut its policy rate three times (by 25 basis points each time), while the ECB decided on a comprehensive easing package in September, in order to stimulate the euro area economy. As part of the latter, it reduced the interest rate on the deposit facility by 10 basis points to -0.5 per cent and also announced other measures.[1] The uncertain

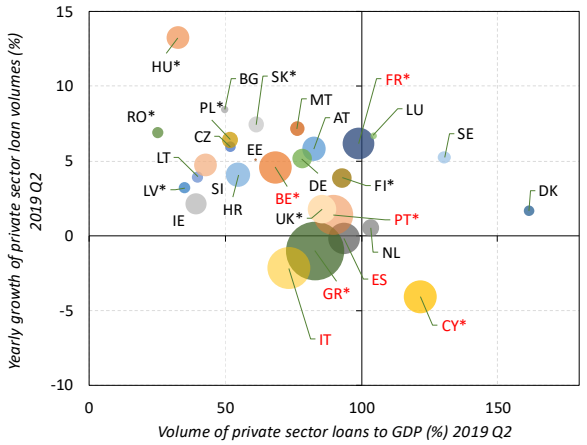
[1] From 1 November, the ECB relaunched its asset purchase programme for an indefinite period. In order to mitigate the effects of negative interest rates on banks, the institution is introducing a two-tiered system for reserve remuneration and to stimulate lending, it set more favourable conditions for its targeted longer-term refinancing operations (TLTRO III) compared to the previously announced ones.

Table 1: Evolution of selected economic indicators in Hungary

	Indicator	2008	2012	2019 Q2
Economic performance	**GDP growth** *(per cent)*	0.9	-1.4	5.2
	Unemployment rate *(15-74 year, per cent)*	7.8	11.0	3.3
Government debt and budget	**Government debt** *(in per cent of GDP)*	71.8	78.5	68.2
	Foreign currency denominated debt of general government debt *(per cent)*	37.4	40.2	18.4
	Foreign share of government debt *(per cent)*	51.4	61.7	35.4
	Budget deficit *(in per cent of GDP)*	-3.7	-2.4	-1.7-1.8*
External vulnerability	**Current account balance** *(in per cent of GDP)*	-7.1	1.6	-0.5
	Net external debt *(in per cent of GDP)*	52.6	45.3	8.8
	Gross external debt *(in per cent of GDP)*	97.1	98.8	56.2

Note: For GDP growth, seasonally and calendar adjusted data. For government debt, in gross, consolidated, nominal terms (Maastricht) debt. *2019 September Inflation Report forecast for the whole year. Source: Eurostat, HCSO, MNB, Government Debt Management Agency (ÁKK)

Chart 5: Debt-to-GDP levels and evolution of debt in the EU



Note: The size of the bubble indicates the debt-to-GDP ratio (2018 and 2017 values for CY and HR, respectively). Member States with debt-to-GDP ratios exceeding 95 per cent are shown in red. Countries with current account deficit in 2018 are marked with an asterisk. Source: ECB, Eurostat

outlook and weaker-than-expected inflation also prompted several other central banks to pursue expansionary monetary policies.[2] This monetary easing and the risk aversion from geopolitical tensions resulted in falling long-term bond yields in the developed markets, and consequently several states were able to borrow at record low yields. As global risk sentiment grew more risk-averse, the volume of bonds with negative yields also increased, reaching as much as USD 17,000 billion in August and rising to a monthly average of USD 15,900 billion in the last month of the summer (Chart 4). In early November, the ratio of negative yielding bonds amounted to 14 per cent of the global bond volume. Due to falling inflation expectations and yield premia, the yield curve inverted in several developed countries, including the United States.

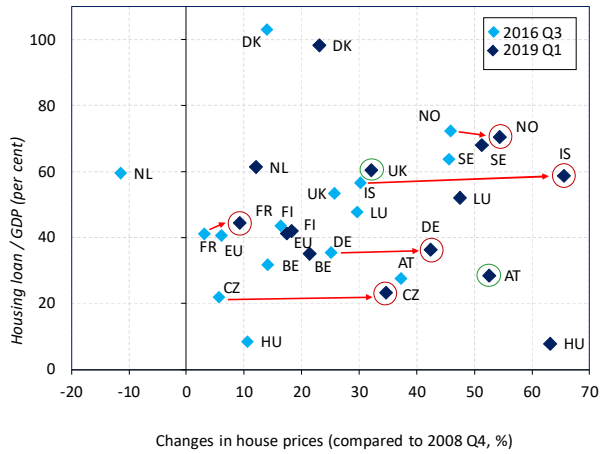
Various indicators suggest that a recession is taking shape in some developed countries, but the resilience of the Hungarian economy is adequate. While a number of other structural factors are also exerting downward pressure on long-term yields (for example increased central banks' balance sheets, stemming from securities purchases as part of the quantitative easing measures) in addition to the lower market yield expectations, the inverted yield curve is historically considered an early-warning indicator for a forthcoming recession.[3] In addition, developments in other sentiment and confidence indicators – such as the deterioration in the purchasing managers' indices (PMI) of developed countries, the rise in the New York Fed's recession-probability index, the strengthening of the price of gold (considered a safe haven investment), as well as the fall in the price of copper (deemed to be one of the most important commodities) – also suggest deceleration. Nevertheless, compared to its economic fundamentals ten years ago, Hungary would be exposed to such a decline in a much more balanced situation, with lower vulnerability (Table 1).

Due to the persistently low interest rates, risks related to long-term debt sustainability come to the fore. In the low interest rate environment seen in recent years, both sovereign, and household and corporate indebtedness rose to high levels in certain EU Member States (Chart 5). At the same time, further declines in interest rates as a result of central bank easing may lead to further increases in

[2] Until August this year, 14 of the 37 central banks monitored by the Bank for International Settlements (BIS) reduced their respective policy rates, and only three of them tightened. By contrast, as a result of stronger growth, last year 19 central banks raised their respective policy rates during the year, and only five central banks eased.

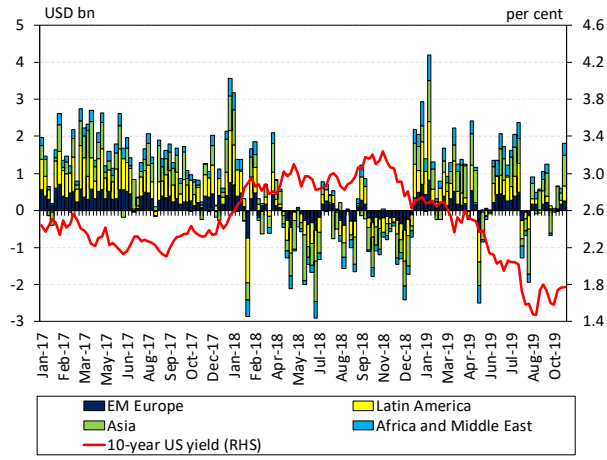
[3] In the United States, since the 1950s, economic recession was always preceded by an inversion of the yield curve (rising of the yield of 3-month Treasury bills to above the yield of 10-year government bonds).

Chart 6: Changes in house prices in Hungary and in the countries warned by the ESRB due to the build-up of housing market vulnerabilities



Note: Countries warned by ESRB in September 2019 are circled with red, while those warned in 2016 but exempted in 2019 are circled with green. Hungary and the European Union are shown for comparative purposes. For Norway and Iceland the ratio of housing loans and GDP are based on 2018 Q2 and Q4 data. Source: ECB, ESRB, Bank of Norway, Central Bank of Iceland

Chart 7: Evolution of 10-year US yields and emerging market capital flows



Note: EM Europe indicates a wider region than the CEE countries. Source: EFPR

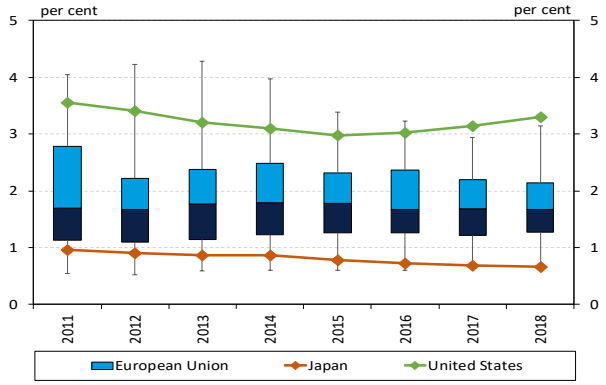
indebtedness. It is also a risk that the search-for-yield attitude induced by the lower interest rates has resulted in an upsurge in the ratio of loans granted to more indebted (i.e. riskier) companies in the past years.[4] Deceleration in economic growth or a possible recession may have an unfavourable impact on economic agents' debt-repayment ability. The fall in profits stemming from the unfavourable business environment may also impair corporate repayment capacity. Moreover, in times of economic downturn, companies being more indebted typically reduce their number of employees and investment volumes to a greater degree than other companies, further exacerbating the impact of the slump.

The low interest rate environment may exacerbate the overheating of housing markets in some countries, while a potential real estate market adjustment may result in mutually reinforcing real economy and financial stability effects. Systemic risks may build up in certain countries owing to the demand for mortgage loans, which is expanding dynamically against the background of low interest rates, the easing of credit conditions as a result of increasing competition and the excessive indebtedness of (more vulnerable) households. All of this may be exacerbated by the excessive rise in housing prices and the overvaluation of real estate prices compared to certain economic fundamentals in various European states. In September 2019, the European Systemic Risk Board (ESRB) issued warnings to five countries and recommendations to six countries in connection with the mounting vulnerabilities in their respective housing markets, which may represent financial stability risks in the medium term (Chart 6).

Developing countries' capital flows remained sensitive to changes in investor sentiment. Although advanced economies' expansive monetary policy steps stimulated capital inflows to emerging markets, investor sentiment, which became unstable as a result of geopolitical tensions and recession concerns, led to volatile capital movements in these markets (Chart 7). All of this underlines these countries' sensitivity to changes in investor sentiment. While the CEE region, which has robust fundamentals, proved to be relatively resistant to capital withdrawal, countries with macrofinancial imbalances (e.g. with high external financing) may especially be strongly affected by a possible increase in global risk aversion or a global slowdown.

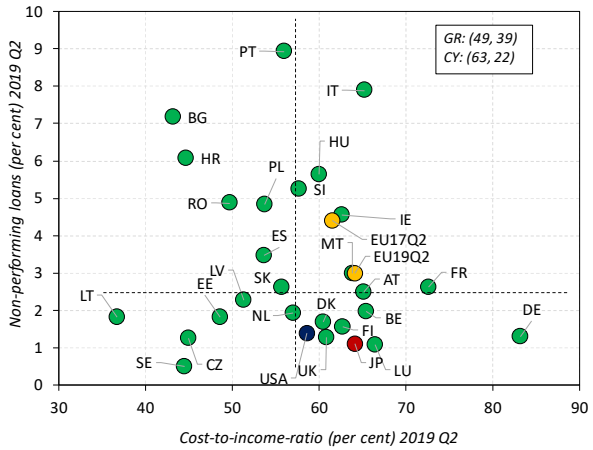
[4] The Bank of England defines those companies as 'highly leveraged companies' where the ratio of net debt to EBITDA is higher than four. Financial Stability Report, July 2019. Bank of England.

Chart 8: Net interest margin (EU, USA and Japan)



Note: Foreign affiliate banks and branches were also taken into account for the EU banking sectors. The box plots depict the interquartile range, the median, the maximum and the minimum values. Source: SNL, Statista, ECB

Chart 9: Cost-to-income ratios (CIR) and NPL rates in EU Member States, Japan and the USA



Note: Cost-to-income ratios are 2018 data for the USA and Japan, while non-performing loans for Japan are based on end-2018 data. The lines dividing the chart into four parts show the median of the individual variables according to EU countries. Source: EBA, SNL, Ceicdata

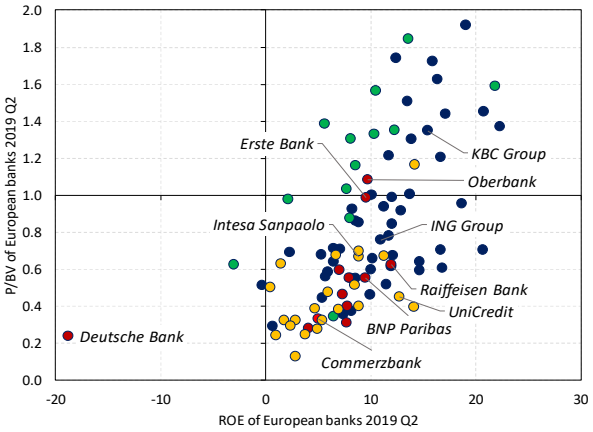
1.2 The low interest rate environment poses income challenges for banks in the EU

The low interest rate environment has an unfavourable impact on banks' profitability. The low interest rate environment keeps the interest margin of EU banks under permanent pressure (Chart 8). In order to offset that, more and more European banks decide to introduce negative interest rates for certain – high-amount – household deposits. The ECB's two-tier system for reserve remuneration may partly attenuate the effects of negative interest rates on profitability,[5] primarily in the case of more liquid banks with major deposit holdings.

Monetary policy easing and low efficiency forces certain banks to change their respective business models. The average efficiency of EU banks is on a deteriorating trend, with strong heterogeneity (Chart 9). Efficiency in some Member States is impaired by the still large non-performing portfolios, while in others by the high cost level compared to revenues. The pressure on EU banks' profitability may hinder the relatively costly efficiency enhancing innovations. This issue is also becoming a difficulty because FinTech and BigTech firms are generating significant competition in the market of traditional financial services and exposing the European banking sector to technological challenges. In the past period, several banks (often foreign ones) worked to cut their costs by downsizing their branches/affiliate banks and thus improving efficiency. As a result, the cross-border claims of several European banking sectors have been declining since the crisis. In parallel with that, some of the European banks that previously had major investment banking segments are shifting towards wealth management activities in order to minimise the cyclicality of revenues, while others tend to concentrate on domestic household and corporate lending.

Structural and profitability challenges are well reflected by the typically low valuation of European banks. According to the survey of the EBA, the return on equity does not cover the cost of equity in the case of almost 40 per cent of the major European banks. The weakening profit prospects due to the delayed normalisation of monetary policy and the increased probability of a slump impair the market valuation of banks. The reasons for the low valuation also include the fact that the expected return in the sector did not fall significantly in the past decade even though the stability of the sector increased considerably as a result of stricter regulation. At the same time, heterogeneity is seen across European banks (Chart 10): the valuation of more profitable CEE banks is higher, while that of

Chart 10: Profitability and valuation of European banks



Note: Based on data for 100 European banks. Green: banks of CEE countries (HU, PL, CZ, SI, SK, RO), red: banks of core countries (FR, DE, AT), yellow: banks of Mediterranean countries (GR, ES, IT). Highlighted are the parent banks of some banks in Hungary. Source: SNL

Mediterranean banks, which have large non-performing loan portfolios, and of banks in core countries, which are primarily exposed to the deceleration in the euro area, is lower. The capital position of the banks of the EU is stable (the CET1 ratio reached 14.5 per cent on average in Q1), but the low valuation may hinder their ability to raise capital.

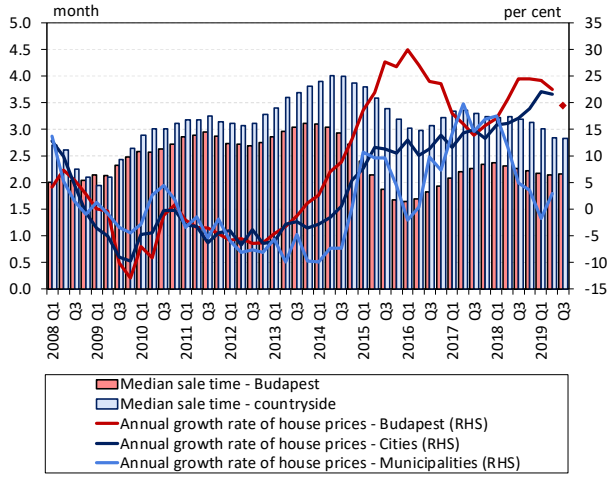
[5] As of 30 October 2019, some of the liquidity of euro area institutions (up to a specific multiple of the minimum reserve requirement) is exempt from the negative deposit rates.

2 Real estate markets: house price increase in Budapest not linked to excessive expansion in risky lending

In 2019 H1, house prices continued to increase in Hungary accompanied by strong demand and narrowing supply. Annual house price appreciation of around 24 per cent was observed in the capital, and thus, according to our estimate, there was no major decline in the risk of overvaluation of residential real estate in Budapest. However, in terms of stability one favourable aspect is that it is not primarily higher-risk lending that is fuelling price appreciation in the capital. The share of home purchases from loans in Budapest nearly corresponds to the share seen in the countryside, while the ratio of risky new loan agreements, which are close to the regulatory limits in terms of the loan-to-value (LTV) ratio and the payment-to-income (PTI) ratio, is not significant, and is even lower in the capital than in the countryside. In the domestic commercial real estate market, there is apparently still strong demand for both investments and for space offered for rent. The modern office stock in Budapest may expand by some 25 per cent over the next 3–4 years. In market participants' opinion, the vacancy rate may still remain at a sound level, but significant completions may also pose risks if their timing coincides with a slowdown in the real economy.

At present, the risky exposure of the Hungarian banking sector to both the housing market and the commercial real estate market is low as a proportion of regulatory capital. Therefore, if a real estate market adjustment occurs, it would not entail any significant losses for banks, and spillover effects would also remain limited. The banking sector's resilience to real estate market shocks will be strengthened by the extension of the systemic risk buffer starting from 1 January 2020, according to which – in addition to problematic project loans outstanding – non-problematic FX project loans must also be taken into account when calculating the capital requirement. Risks are also mitigated by the fact that investor demand may fall as a result of the favourable alternative investment opportunity offered by the Hungarian Government Security Plus (MÁP+), which may reduce the rate of price appreciation on the real estate market.

Chart 11: Annual growth rate of house prices by settlement type and median sale time



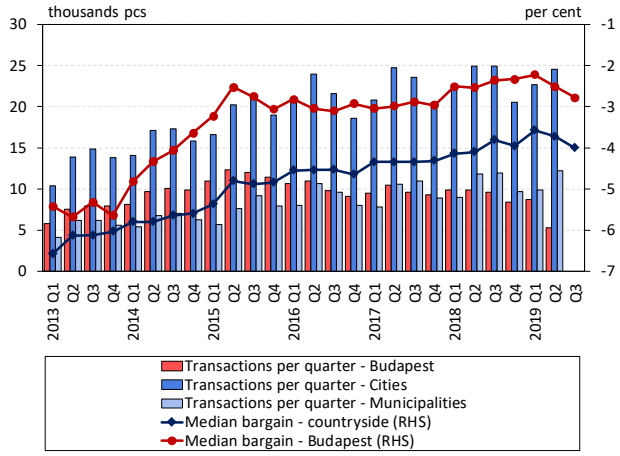
Note: Budapest house price index for Q3 2019 is based on preliminary data.
Source: MNB, housing agent database

2.1 House prices increased further, but the banking sector's real estate market exposure is moderate[6]

In parallel with a strong demand, dynamic house price increase continued both in Budapest and in other cities. Domestic house prices continued to rise dynamically in 2019 H1, and the differences between municipalities and cities increased further. In Q2, the annual nominal growth rate of house prices in Budapest amounted to 22.5 per cent, which declined to 19.3 per cent by Q3 according to preliminary data. In parallel with that, annual growth rate of house prices accelerated to above 20 per cent in other cities as well in 2019 H1. Households' steady real wage increase and the favourable financing conditions that evolved as a result of the low interest rate environment contribute to the continuous rise in prices. The low level of typical time to sell, which continued to narrow in the countryside in 2019 H1, may be related to the strong demand prevailing in the housing market (Chart 11).

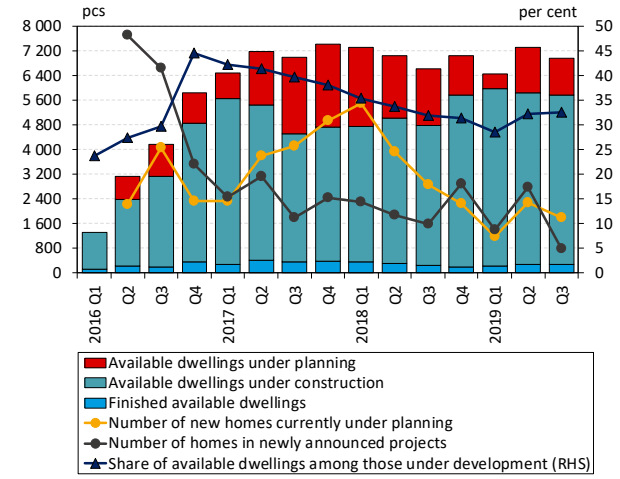
[6] The MNB's Housing Market Report contains a detailed analysis of housing market developments.

Chart 12: Number of housing market transactions by type of settlement and the median bargain in the housing market



Note: The bargain shows the percentage by which the transaction price is lower than the last advertisement price.
Sources: MNB, housing agent database

Chart 13: Number and share of available new dwellings under development



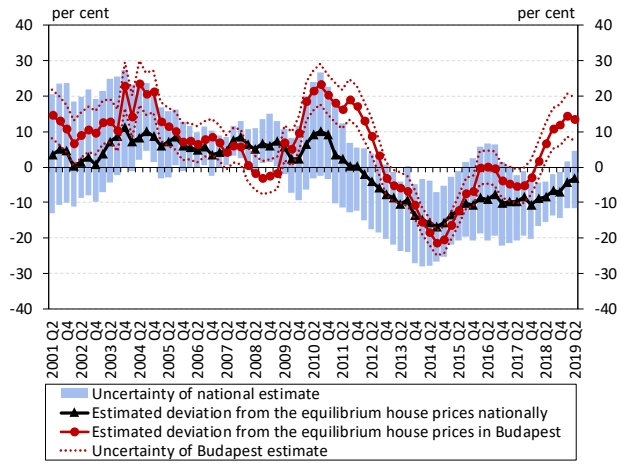
Source: ELTINGA – Housing Report

In Budapest, signs indicating a decline in demand are being seen in parallel with the introduction of the MÁP+. In 2019 H1, compared to the same period of the previous year, the number of housing market transactions in Budapest declined considerably, falling by some 29.1 per cent, mainly a result of a major drop in Q2. The decline in transactions in the capital is partly attributable to the increase since 2016 in the number of those who concluded preliminary contracts during the upswing in the market of new homes, a considerable portion of which is not yet seen in the transaction statistics. In addition, the introduction of the MÁP+ in June may have restrained investor demand in the capital. The latter was confirmed by the members of the Housing and Real Estate Market Advisory Board (LITT) as well. According to them, demand for homes in the capital declined by some 15–20 per cent simultaneously with the introduction of the MÁP+, while the same was not observed in the countryside. The downturn in demand may be indicated by the increase in median bargain in the housing market, which rose from 2.2 per cent in 2019 Q1 to 2.8 per cent in Q3 in Budapest, and to a lesser extent, from 3.6 per cent to 4 per cent in the countryside (Chart 12).

In the capital, the supply of new housing is unable to keep up with demand. Moreover, looking ahead, new housing developments are expected to decline. In 2019 Q3, in Budapest there were 6,952 new vacant homes being sold, which is somewhat fewer compared to 7,039 at end-2018, but, on the whole, it is more a sign of stagnation in new supply. On the basis of the stagnating new supply and the annual nominal price rise of 22.5 per cent in Budapest, supply proves to be relatively tight compared to the current strong demand. Looking ahead, developers plan to complete the majority of the homes currently under construction in 2019 and 2020, but new completions are expected to fall as of 2021, which may be attenuated to some degree by delays in some projects. The return of the VAT rate to its previous level as well as the tightening of energy saving requirements also play a role in the decline in the completions. A future fall in supply is projected by the fact that in Q3 the number of homes in newly announced projects declined to the lowest level seen since 2016, and the number of homes in planned new housing projects to be built is also at a low level compared to previous years (Chart 13).

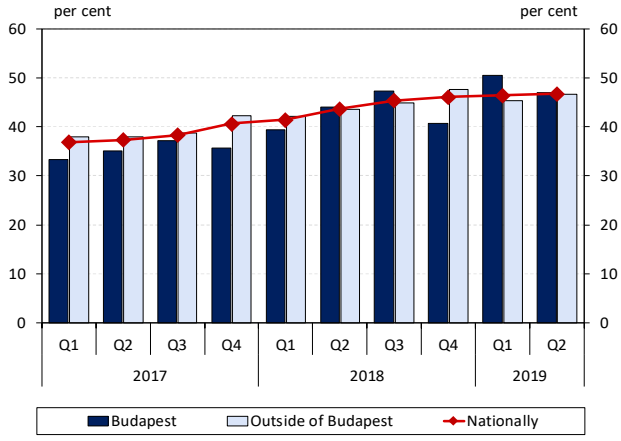
The risk of overvaluation of residential properties in Budapest is still high. While house prices on national average have not yet reached the level justified by the fundamentals, in Budapest they already exceed it to some extent as a result of the strong house price appreciation

Chart 14: Deviation of house prices from the level justified by fundamentals, nationally and in Budapest



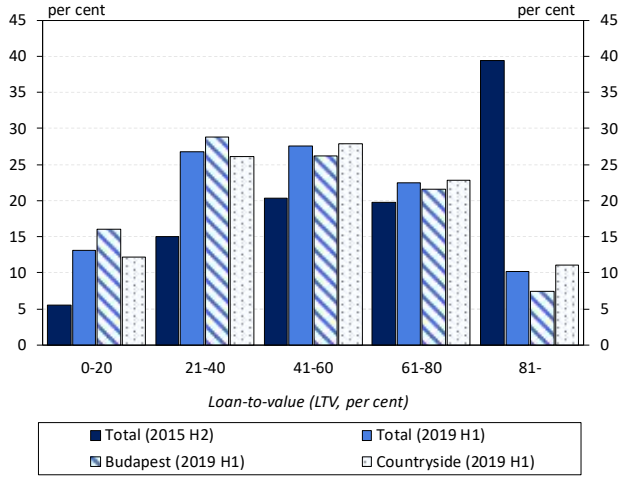
Note: For the detailed methodology see: Magyar Nemzeti Bank, Housing Market Report, November 2018. Source: MNB

Chart 15: Share of credit contracts to number of housing market transactions in Budapest, outside of Budapest and nationally



Source: MNB

Chart 16: Distribution of mortgage loans outstanding at credit institutions according to the LTV ratio



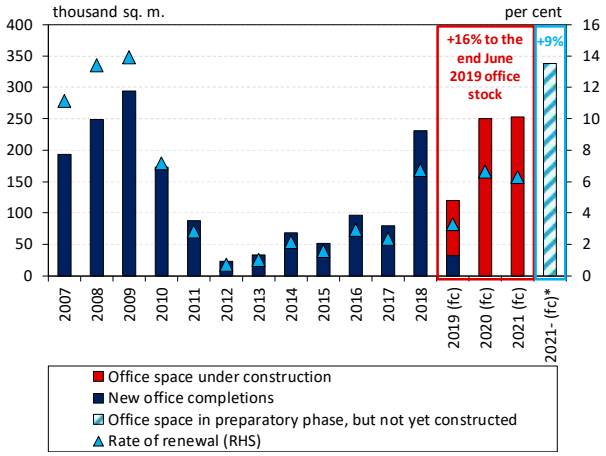
Note: According to the location of the collateral, volume-based distribution. Source: MNB

experienced in recent years (Chart 14), and thus the risk of overvaluation of residential properties in the capital still exists. Looking ahead, the fact that the MÁP+ offers a low-risk alternative with a favourable yield for investors with savings may have an attenuating impact on price appreciation, via the decline in investment-purpose demand.

At present, the significant house price increase is not coupled with higher-risk lending in the capital. In terms of financial stability, excessive appreciation of real estate prices is especially risky if it is coupled with overheated lending. However, at present this is not the case at the national level or in Budapest either. In 2019 H1, the share of new housing loans to housing market transactions amounted to 46 per cent, representing a slight increase compared to end-2018. Nevertheless, there is no major difference between Budapest and the rest of Hungary in terms of the share of home purchases financed from loans (Chart 15), and the ratio of risky new contracts, where the loan-to-value (LTV) and payment-to-income (PTI) ratios are close to the limits, is also not higher in Budapest. In 2019 H1, in Budapest the LTV ratio was above 70 per cent in the case of 23 per cent of the new housing loan contracts, while in the case of 7 per cent the PTI ratio also exceeded 40 per cent. Similarly, in the countryside the ratio of housing loan contracts concluded with an at least 70 per cent LTV ratio was 30 per cent, coupled with a higher than 40 per cent PTI ratio in the case of 5 per cent. Accordingly, compared to the developments observed nationally, no signs of excessive risk-taking in lending for housing are seen in Budapest.

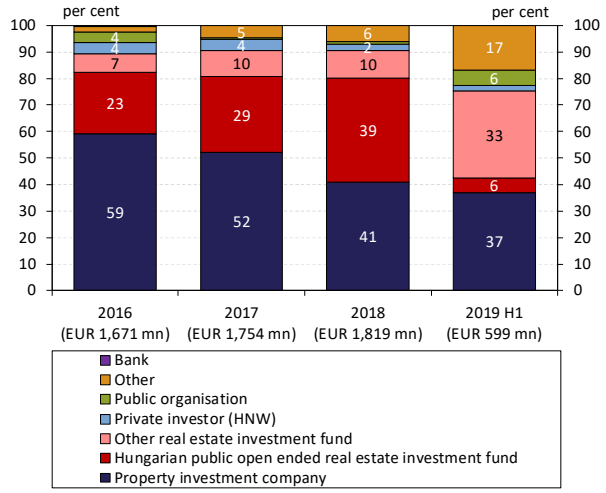
The volume of mortgage loans sensitive to real estate market shocks declined. At the end of 2019 H1, a mere 10 per cent of the credit institutions sector's outstanding mortgage loans had an current LTV ratio exceeding 80 per cent. At end-2015 the same share was still 39.4 per cent (Chart 16). Accordingly, in terms of collateral, the riskiness of mortgage loans outstanding declined considerably. Two effects contributed to this: (1) firstly, the rise in house prices and the continuous principal repayment reduced the current LTV ratio of the loans that were already outstanding in 2015, (2) secondly, the contractual LTV ratio of newly disbursed loans is also typically lower than earlier. Sales of defaulting loans, which typically had high LTV ratios, also played an important role in reducing the ratio. In the capital, the share of loans with a higher LTV ratio is lower, a contributor to which was the relatively stronger house price appreciation. It is worth adding, however, that as a result of a possible 20 per cent house price depreciation the ratio of mortgage loans with an LTV ratio of at

Chart 17: New completions in the Budapest office market and the renewal rate of the stock



Note: * Some of the offices in preparatory phase, but not yet under construction, might be ready by 2021 at the earliest, depending on the actual launch date. Based on 2019 Q2 data. Source: Budapest Research Forum, Cushman & Wakefield, CBRE

Chart 18: Investment volumes on the Hungarian CRE market by investor type



Note: The value of the annual investment volume is shown in brackets. Source: CBRE, Cushman & Wakefield, MNB

least 80 per cent would rise considerably, i.e. to roughly 27.4 per cent.

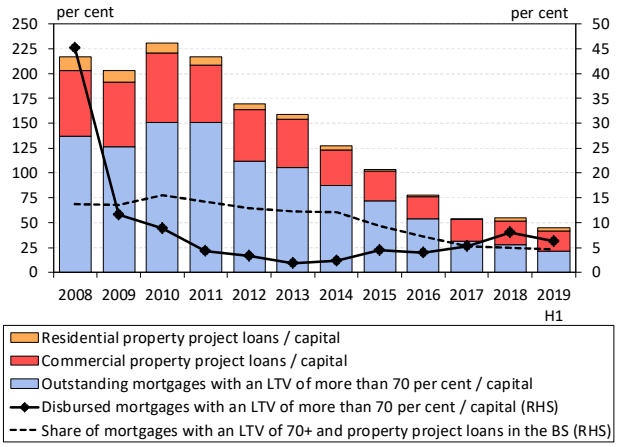
2.2 The commercial real estate market is characterised by strong demand and a lack of adequate-quality investment products[7]

The modern office stock in Budapest will expand considerably in the coming years. The stock of modern offices in the capital is expected to increase by some 16 per cent until 2021, in addition to which the launch of the development of office space corresponding to another 9 per cent of the current stock is included in the short-term plans. Accordingly, on the whole, an expansion of 25 per cent is expected for the next 3–4 years (Chart 17), as a result of which the currently historically low vacancy rate of 6.3 per cent may increase to some extent. While market participants noted that the vacancy rate may remain at a sound level even in this case, high-volume completions may entail risks if their timing coincides with a slowdown in the real economy, as seen following the spillover of the 2008 crisis as well.

Compared to the available supply, the market of commercial real estates is characterised by strong investment demand, but the demand of real estate funds is surrounded by uncertainty in the medium term. The commercial real estate market is characterised by a shortage of good-quality properties for sale. As explained by market participants, it is a so-called 'demand market'. Although compared to government bonds the premium of prime yields attainable in the real estate market is still high, the future investment demand of public open-ended real estate funds is surrounded by uncertainty, which may already have been reflected in their lower 2019 H1 investment activity as well (Chart 18). Firstly, following the introduction of the MNB's relevant recommendation,[8] inflows into these funds practically stopped, and secondly, the favourable conditions of the MÁP+, which was announced at end-May 2019, prompted many retail investors to withdraw their assets from real estate funds. On the whole, the asset value of public open-ended real estate funds started to decline from 2019 Q2, and in parallel with that the share of property investments within assets rose to 63 per cent from 50 per cent, which had been typical in previous quarters.

For the time being, the risky real estate market exposure of the banking sector is moderate. In the previous real estate and credit cycle, the Hungarian banking sector built up significant exposures to both the housing market and

Chart 19: Banking sector's exposures sensitive to the real estate market cycle as a percentage of regulatory capital



Note: The volume of the 2019 H1 new mortgage loan contracts is an annualised value (multiplied by two).
Source: MNB

the commercial real estate market, and the high risk of these exposures subsequently caused significant losses for the sector. In 2008, mortgage loans outstanding with a current loan-to-value (LTV) ratio exceeding 70 per cent amounted to 137 per cent of the regulatory capital of the banking sector, to which commercial real estate loans as well as project loans for residential real estate project development and purchasing purposes, which corresponded to 80 per cent of the regulatory capital, were added. Although within new loans the share of mortgage loans with an at least 70 per cent – but according to the MNB's regulation maximum 80 per cent – LTV ratio is gradually increasing, and project lending is also picking up, at present the risky real estate market exposure of the banking sector is still very low, i.e. at 45 per cent of the regulatory capital, as opposed to 216 per cent in 2008 (Chart 19). The sector's resilience to real estate market shocks will be strengthened by the extension of the systemic risk buffer starting from 2020, according to which – in addition to problematic project loans – non-problematic FX project loans will also have to be taken into account when calculating the buffer.

[7] For details on developments in the commercial real estate market, see the MNB's Commercial Real Estate Market Report.

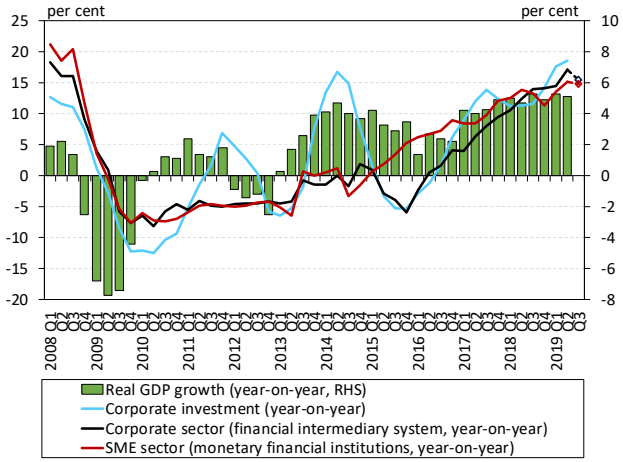
[8] Recommendation No. 5/2019 (IV.1.) of the Magyar Nemzeti Bank on issuing the shares of public, open-ended real estate funds, which is intended to prevent sudden capital outflows from real estate funds. According to the recommendation, since 15 May 2019, in the case of newly sold mutual fund shares the T+180 days redemption has been valid.

3 Trends in lending: loans expanding in parallel with strengthening fundamentals

The growth rate of corporate loans outstanding rose further in 2019 H1. Loans outstanding vis-à-vis the financial system expanded by 17 per cent year-on-year, which is an outstanding figure in regional comparison as well. Although several major one-off transactions also contributed to the expansion in outstanding loans, the SME sector loan growth, which reflects underlying developments better, also reached 15 per cent. The departure from lending trends in the region may be explained by the internationally low aggregate debt of companies and the outstanding expansion in corporate investment seen in the past two years. Nevertheless, for the time being, this dynamic lending cannot be considered excessive. The risks are reduced by the facts that (1) as opposed to the years preceding the 2008 crisis, less cyclically sensitive sectors account for a major part of the expansion in outstanding loans, (2) a significant part of the expansion takes place denominated in HUF, which will be supported by the FGS Fix in the future as well, and (3) the growth in loans outstanding was not accompanied by an easing of banks' credit conditions.

The loans outstanding of the domestic financial sector vis-à-vis households expanded by 6 per cent between June 2018 and June 2019. In terms of the lending trends, one key factor is that the disbursement of prenatal loans started in July, which had a significant impact both on the changes in loans outstanding and on new issues starting from Q3. Most of the transactions, which amounted to some HUF 277 billion until end-September, were disbursed with the maximum amount of loan allowed by law. The additionality of the borrowings taking place in connection with the support is significant. Neither historically nor in a European comparison can the indebtedness of the household sector be considered high at the aggregate level. The share of variable-rate mortgage loans within new loans is already negligible, but they still constitute a significant portion of the mortgage loan portfolio that was built up earlier. In the case of loans outstanding, the possibility of contract amendment according to the MNB's recommendation and the interest rate environment, which is low historically as well, provide a unique opportunity for debtors to replace their variable-rate loans with fixed-rate ones.

Chart 20: Growth rate of outstanding corporate and SME loans and indicators of the real economy

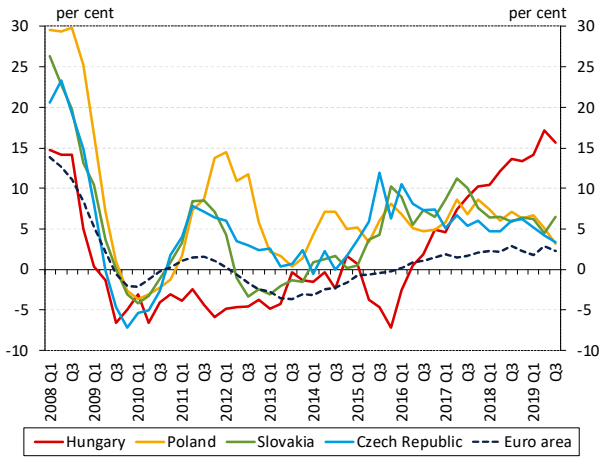


Note: The growth rate of loans is transaction based; prior to 2015 Q4 data for SMEs are estimated using banking system data. 2019 Q3 is based on data from the credit institutions sector. Source: MNB, HCSO

3.1 Despite dynamic credit expansion, there is no sign of excessive indebtedness in the corporate sector

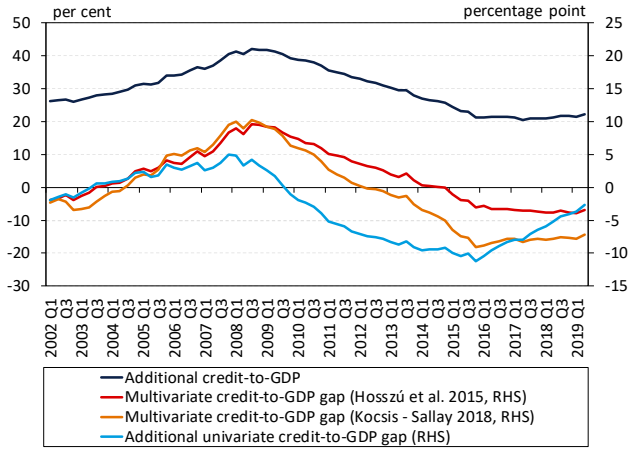
Growth in outstanding corporate loans and within that, the loans of small and medium-sized enterprises (SMEs) continued to accelerate. In 2019 H1, the outstanding loans of non-financial corporations vis-à-vis the domestic financial system rose by HUF 764 billion as a result of transactions (i.e. loan disbursements and repayments), resulting in a 17-per cent expansion in corporate lending year-on-year (Chart 20). Compared to the expansion observed in the same period last year, growth in H1 was significantly higher, i.e. by some 75 per cent. In addition to lending to some large corporations, the more than 15-per cent increase in SME loans also contributed to the dynamic expansion in corporate loans. The pick-up in lending was also supported by an expansion in economic investment, the volume of which increased by 19 per cent between June 2018 and June 2019. Both real estate investment and investment in machinery contributed to this dynamic expansion: the former was supported by commercial real estate

Chart 21: Annual growth rate of corporate loans in an international comparison



Note: Transaction-based growth of the loans of the credit institutions sector. Source: MNB, ECB

Chart 22: Cyclical position of corporate loans based on estimated credit gaps



Note: Additional outstanding credit include the stock of loans granted by the domestic financial intermediary system to domestic and foreign non-financial corporations, FX loans valued with the exchange rate of Q1 2015. Source: MNB

and infrastructure developments, while the latter continued to grow in parallel with manufacturing capacity expansions. Although according to data of the credit institutions sector the rate of credit expansion decelerated to some extent in 2019 Q3, it remains dynamic.

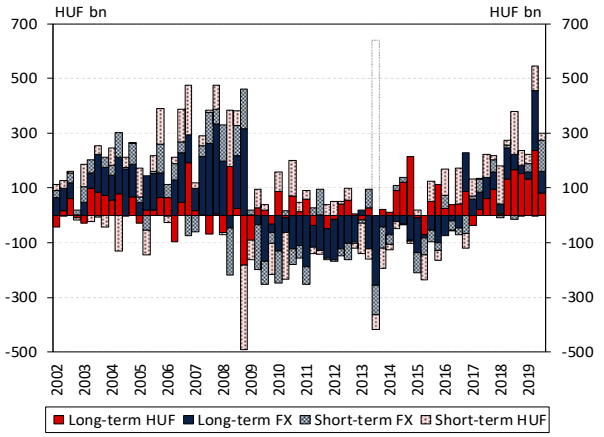
Corporate loan growth in Hungary is significantly higher than in other countries of the region. Starting from 2018, the growth rate of domestic corporate lending sharply exceeded the loan dynamics seen in other countries of the Visegrád region (Chart 21). The credit expansion in Hungary may also be attributable to country-specific factors which are not typical of the other countries in the region. One possible factor may be that in the past two years the contribution of gross fixed capital formation to GDP growth in Hungary was significantly higher than in the other countries, and the domestic financial system played a significant role in funding this. The level of corporate sector indebtedness – which is low in international comparison as well and is reflected in both the level of corporate loans outstanding as a percentage of GDP and the aggregate leverage of the corporate sector – provides room for further expansion in lending. One major underlying reason is that post-crisis deleveraging in the corporate sector was much stronger in Hungary than in the other regional countries.

Examining the cyclical position of corporate lending, signs of overheating have not yet been seen. Corporate lending has already been expanding steadily for three years, in parallel with strengthening fundamentals. Based on the MNB's estimate, the level of corporate credit to GDP is still well below its long-term trend (Chart 22). Examining either the additional univariate credit-to-GDP gap based on the ESRB's recommendation or the multivariate credit gaps developed by the MNB, which also contain real economic variables,[9] negative credit gaps are seen. This indicates that despite the dynamic credit expansion, making up for the loans outstanding that declined during previous years' balance sheet adjustments is still much more typical at present, and no signs of overheated lending similar to what was seen before the crisis can be identified.

Most of the record credit increase in Q2 was related to long-term loans. In line with the remarkable expansion in corporate investment, it was mainly the stock of loans with a maturity over one year that increased, accounting for 80 per cent of the total expansion in 2019 H1 (Chart 23). In

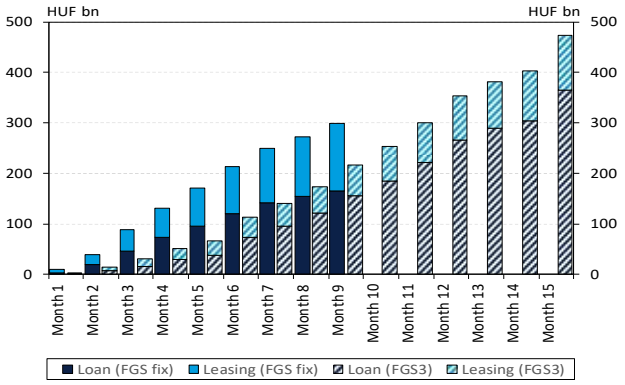
[9] For the methodologies of the multivariate credit gap, see: Hosszú, Zs. – Körmendi, Gy. – Mérő, B. (2015): Univariate and multivariate filters to measure the credit gap, MNB Occasional Papers 118, and Kocsis, L. – Sallay, M. (2018): Credit-to-GDP gap calculation using multivariate HP filter, MNB Occasional Papers 136. For the methodology of the univariate credit gap, see: https://www.mnb.hu/letoltes/ccyb-modszertan-uj-hu-1.pdf

Chart 23: Corporate loan transactions in a breakdown by initial maturity and denomination



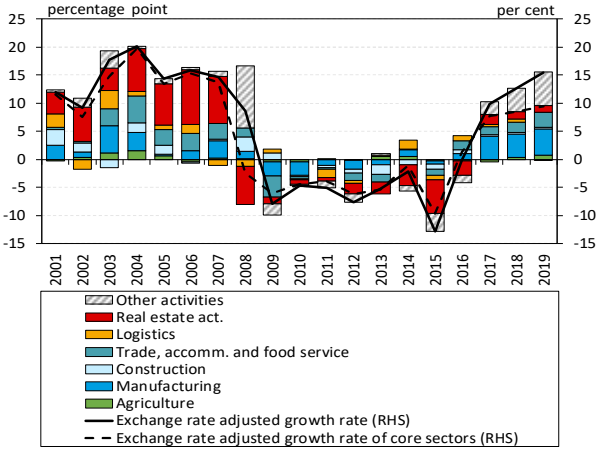
Note: The transparent column depicts long-term HUF loan transactions and contains the effect of conversion into HUF in the first phase of the FGS. Source: MNB

Chart 24: Accumulation of the stock of the FGS Fix and phase 3 of the FGS (HUF pillar) in a monthly breakdown



Note: Based on submitted data on 31 October 2019. Participating credit institutions in the scheme may report their contracts subsequently as well. Therefore, the data may change significantly in the future. Source: MNB

Chart 25: Contribution of sectors to the annual growth rate of the credit institutions sector's corporate loans outstanding



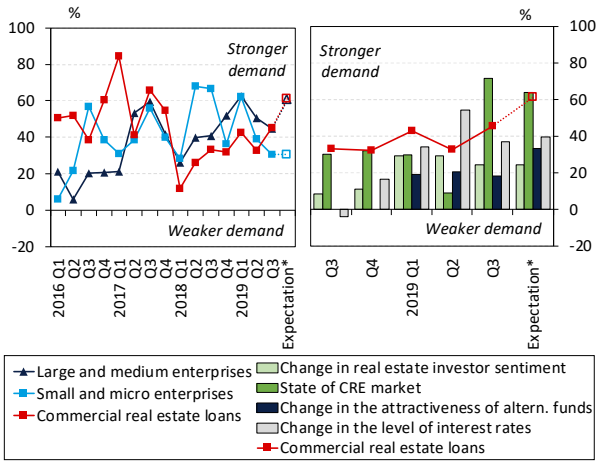
Note: Exchange rate adjusted data; the main sectors: terms exchange rate risk, the structure of the new credit cycle is more sound. While foreign currency loans dominated the increase in loans outstanding before the crisis, some two thirds of the steady expansion since early 2017 is attributable to HUF loans, and this ratio characterised 2019 H1 as well. One quarter of the expansion in HUF SME loans is related to fixed interest rate loans in H1, to which loans disbursed under the framework of the FGS *Fix* contributed HUF 126 billion. One third of HUF-denominated SME loans had fixed interest rate over one year at the end of 2019 H1, while this ratio was above 50 per cent in the case of loans outstanding with maturities of over five years.

The utilisation of FGS *fix* exceeded HUF 300 billion at end-September. Of the HUF 300 billion contracted until end-September within the framework of the FGS *fix*, HUF 167 billion of investment loans were related to 1,815 SMEs, and HUF 134 billion in leasing transactions were related to 8,485 SMEs (Chart 24). At the end of the quarter, on a time-proportionate basis, usage of the *fix* scheme was one third higher than in the case of the HUF pillar of the third phase of the FGS. The median loan size is HUF 35 million, while the median leasing amount is HUF 6 million, with both numbers significantly exceeding the figures from the third phase of the FGS. Both under the FGS *fix* and FGS3 it was the micro enterprises whose contract amount was the highest, although their share declined from 62 per cent to 51 per cent in the *fix* scheme. According to an end-October survey, credit institutions expect to lend HUF 425 billion and HUF 706 billion by end-2019 and mid-2020, respectively. The HUF 1,000 billion allocation of the scheme is expected to be exhausted by the end of next year.

Compared to the pre-crisis period, lending expanded the most in the less cycle-sensitive sectors. The expansion in loans of the sectors that are the most important in terms of real economic activity contributed to the annual growth of total loans outstanding by some 10 percentage points in June 2019, while this figure exceeded 5 percentage points in the case of other sectors (Chart 25). As a result of the dynamic expansion, loans outstanding of the other sectors doubled in the past years, with some high-volume transactions also contributing to this. Financial and insurance activities – which include the holding companies as well – and the public utilities sectors also played an important role. Compared to the pre-crisis period, the expansion in loans outstanding in the current cycle is taking place in a much more sound structure; while prior to the crisis the increase in loans outstanding was mostly fuelled by loans in the real estate sector, now the sectors that are less cyclically sensitive (e.g. manufacturing, trade) are the strongest

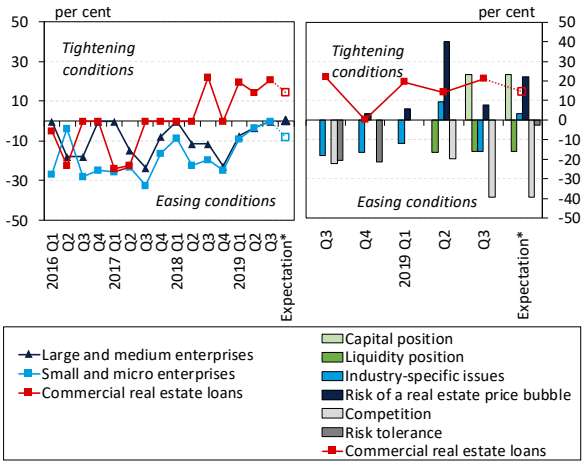
construction, logistics, agriculture, manufacturing, trade and catering, real estate transactions. Other sectors: as a residual, contain, *inter alia*, the finance and insurance sector. Source: MNB

Chart 26: Changes in credit demand in the corporate subsegments and developments in factors that contribute to the change in the demand for commercial real estate loans



Note: Net percentage balance of respondents reporting the tightening/easing of credit conditions weighted by market share. *2019 Q4 – 2020 Q1 Source: MNB, based on banks' responses

Chart 27: Changes in credit conditions in the corporate subsegments and developments in factors contributing to the change in conditions on commercial real estate loans



Note: Net percentage balance of respondents reporting tightening/easing credit conditions weighted by market share. *2019 Q4 – 2020 Q1 Source: MNB, based on banks' responses

contributors to the increase in the stock.

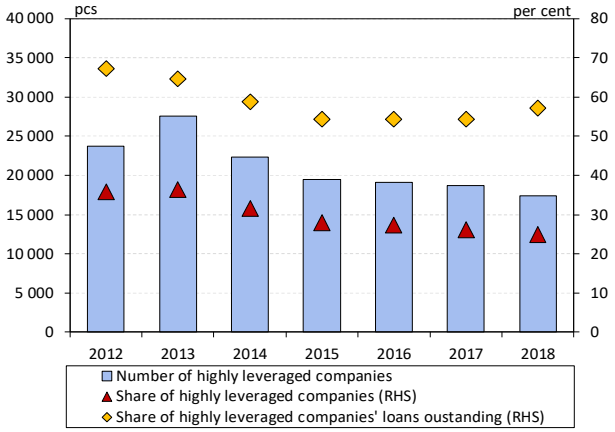
Credit demand continues strengthen in all company size categories. In the lending surveys conducted in 2019, three quarters of the participating banks in net terms perceived an expansion in the demand for long-term loans, and the ratio of those also indicating rising demand in the market of HUF loans was nearly the same. About half of the credit institutions in terms of market share reported strengthening demand for commercial real estate loans (Chart 26). Looking ahead to the next half year, even more banks expect an upturn in demand for commercial real estate loans, primarily in connection with the financing of office buildings and logistics centres. Among the factors contributing to this demand, credit institutions mentioned the situation of the real estate market and the favourable change in the interest rate level as the main factors, although the contribution of the latter to the expansion in demand is steadily weakening.

Banks have already tightened conditions on commercial real estate loans, which are especially sensitive to changes in the economic cycle. According to the findings of the bank lending surveys of 2019, there were no major changes in the conditions of access to loans in any of the corporate size categories (Chart 27). However, banks already tightened conditions on commercial real estate loans in the past one year, which was reflected in all subsegments (logistics and shopping centres as well as residential property and office buildings). This tightening is primarily attributable to banks' cautious approach regarding the potential excessive rise in real estate prices and to the extension of the systemic risk buffer in Q3. As for expectations about the next half year, precaution on the creditors' side is perceived in spite of the increasing competition among banks. Respondents project further tightening of the credit conditions until the spring of 2020.

Credit expansion was broad-based and did not entail an increase in the number of highly leveraged companies. The number of highly leveraged companies (at which, in line with the definition of the Bank of England,[10] loans outstanding exceed four times the company's EBITDA) and also their share within the group of companies having loan declined in the past years (Chart 28). While 36 per cent of the borrower companies, i.e. 27,500 companies were considered highly leveraged according to the above definition in 2013, according to our calculations this ratio amounted to 25 per cent, i.e. 17,400 companies in 2018.

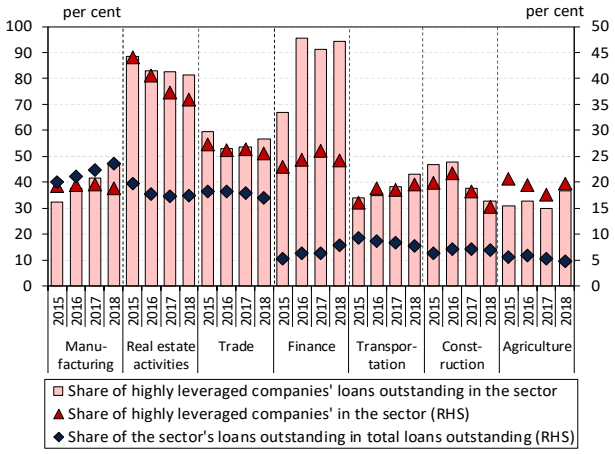
[10] Financial Stability Report, July 2019. Bank of England.

Chart 28: Number and ratio of highly leveraged companies and the proportion of their loans outstanding



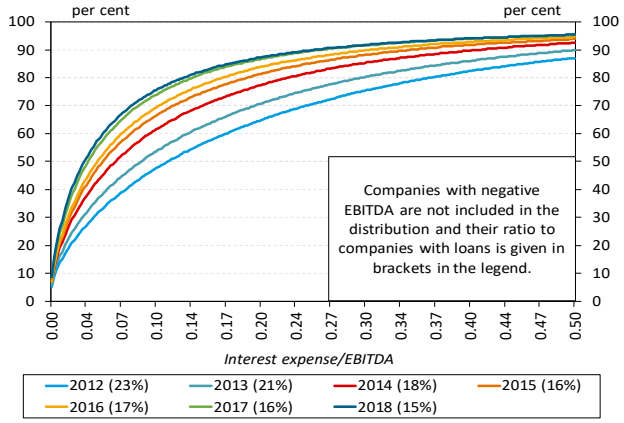
Note: Highly leveraged companies, where loans outstanding exceed the quadruple of the EBITDA. Source: MNB, CCIS, NTCA

Chart 29: Ratio of highly leveraged companies and the proportion of their loans outstanding by sector



Note: Source: MNB, CCIS, NTCA

Chart 30: Distribution of interest expense to EBITDA



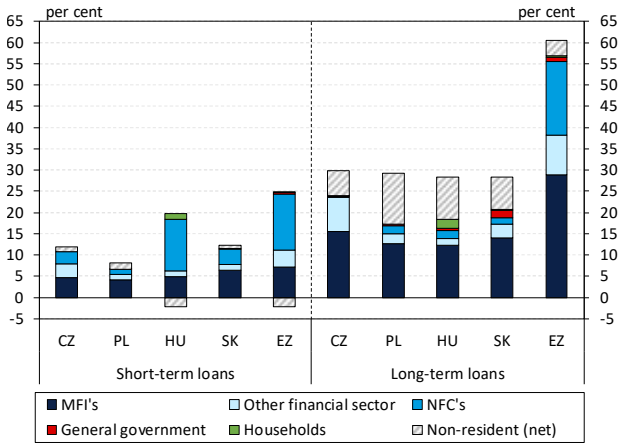
Note: Including companies that have loan in a given year. Cumulated distribution. Source: MNB, NTCA

Simultaneously with that, the share of loans outstanding of highly leveraged companies also declined until 2017. In 2018, however, a slight increase was observed as a result of the credit expansion: in 2017, 54 per cent of all loans outstanding were on the balance sheets of these companies, compared to 57 per cent in 2018. While the number of highly leveraged companies declined, the increase in the share of loans borrowed by them was a result of the fact that in 2018 these companies' average loan debt grew to a greater extent compared to the less leveraged group. Some extremely large items also contributed to the above, but at the same time further borrowing by firms that undertake significant credit exposure was observed in general as well. The median loan volume among highly leveraged companies rose by more than 20 per cent, while in the case of less leveraged companies it only increased by 5 per cent.

In some sectors of the national economy, the high proportion of highly leveraged companies may carry risks. Within total loans outstanding, manufacturing, trade and real estate transactions account for the three largest shares. Within each of the three sectors, highly leveraged companies comprise a major part of total loans outstanding, but – except for manufacturing, which is seeing dynamic expansion in added value – no upward trend in the proportion was observed in the past years (Chart 29). In terms of both concentration and the ratio of highly leveraged companies, considerable heterogeneity is identified across the sectors. Within the real estate activities sector, 81 per cent of the outstanding loans belongs to highly leveraged companies, the ratio of which in terms of the number of companies was 36 per cent within the sector in 2018. In the financial and insurance activities sector, 94 per cent of the sector's loans outstanding were related to the more leveraged companies, which account for 24 per cent of the borrower companies. The financial sector mainly comprises holding companies,[11] and is considered a net exporter. Therefore, the companies of this sector require special attention not only because of excessive indebtedness, but also because of risks caused by the external economic slowdown. However, the moderate level of the related systemic financial stability risks is underlined by the fact that only 7.8 per cent of corporate loans belong to this sector. Risks related to the increase in the ratio of highly leveraged companies are further reduced by the fact that when examining relative indebtedness through the ratio of interest

[11] Typically, the main activity of the companies operating in the form of a holding is trusteeship, and thus within the financial corporations sector they belong to the sector of financial and insurance activities.

Chart 31: Structure of corporate loans outstanding as a percentage of GDP in the Visegrád countries



Note: 2019 Q2 data, with the net value of foreign credit liabilities, decreased by foreign credit claims of domestic non-financial corporations. Source: ECB, MNB

expense to EBITDA, no significant change occurs between 2017 and 2018 (Chart 30). Low interest rates and improving corporate earnings as a result of general economic prosperity have also contributed to this.

In Hungary, the share of the domestic financial system in corporate loans outstanding is low in an international comparison. Calculating with the net value of loans from abroad, total consolidated corporate loans outstanding amounted to 32 per cent of GDP in Hungary in 2019 Q2 (Chart 31). At the same time, loans extended by the domestic financial system correspond to 20 per cent of GDP. Accordingly, excluding intra sector non-financial corporations' loans and calculating with the net foreign loans, the share of the domestic financial system within corporate loans outstanding is 63 per cent. The same ratios for Slovakia and the Czech Republic are 71 per cent and 81 per cent, respectively. The weight of intercompany loans is also significant in Hungary, which is attributable to loans within groups of companies and the high cross-ownership ratio. A high proportion of foreign loans is typical among the countries of the region, which is attributable to parent financing of international companies. Although this suggests that external dependence in corporate financing is significant, these intercompany loans represented a stable source of funding for these large companies in Hungary even during the balance sheet adjustment following the crisis. In addition to the above, Hungarian companies are below the level typical in the region in terms of bond-type financing as well. The difference that exists in this area may be narrowed by the MNB's Bond Funding for Growth Scheme in the coming months (Box 1).

BOX 1: ACHIEVEMENTS OF THE BOND FUNDING FOR GROWTH SCHEME UP TO NOW

In order to increase the liquidity of the corporate bond market and thus the efficiency of monetary transmission, the MNB launched the Bond Funding for Growth Scheme (BGS) from 1 July 2019. Within the framework of the scheme, as part of its set of unconventional monetary policy instruments, the central bank purchases bonds issued by domestic non-financial corporations with a rating of at least B+ for a facility amount of HUF 300 billion in both the primary and secondary markets.[12]

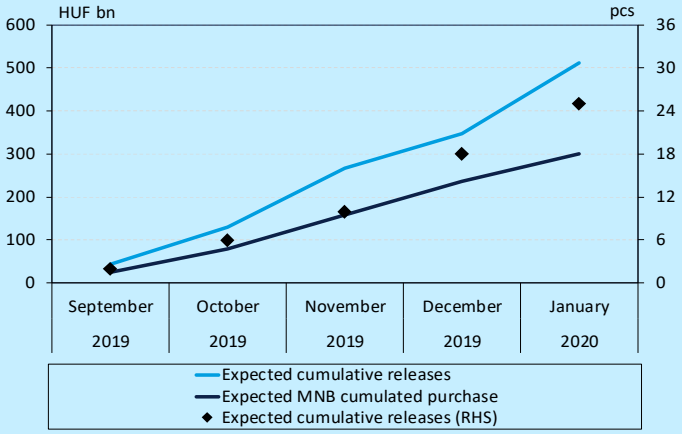
Up until mid-November 2019, nearly 150 companies had registered for the Bond Funding for Growth Scheme on the central bank's website, and the credit rating procedure has already started for 35 of them. The breakdown of registered companies shows a diversified picture both in terms of sectors and balance sheet total. According to the information available on the MNB's website,[13] the bonds of 23 companies have already obtained the credit rating of at least B+ required for purchase by the central bank.

[12] On the reasons for launching the scheme, see Box 3 of the May 2019 Financial Stability Report.

[13] https://www.mnb.hu/monetaris-politika/novekedesi-kotvenyprogram-nkp

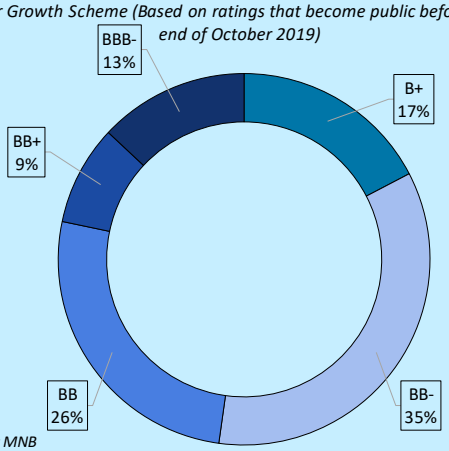
The first corporate bond purchase by the central bank within the framework of the BGS took place in September 2019, and acceleration of the program is expected for Q4. As a result, the current bond holdings of Hungarian non-financial corporations may grow dynamically in the coming months; around 25 issues in total are expected by the beginning of 2020. The HUF 300 billion allocated for the scheme may be used up completely at the beginning of next year.

Expected bond issues and MNB purchases by January 2020



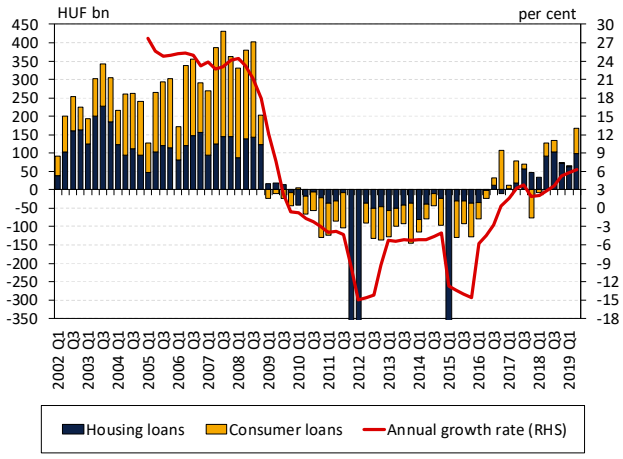
Source: MNB

Distribution of corporate bonds classified under the Bond Funding for Growth Scheme (Based on ratings that become public before the end of October 2019)



Source: MNB

Chart 32: Household loan transactions of the financial intermediary system



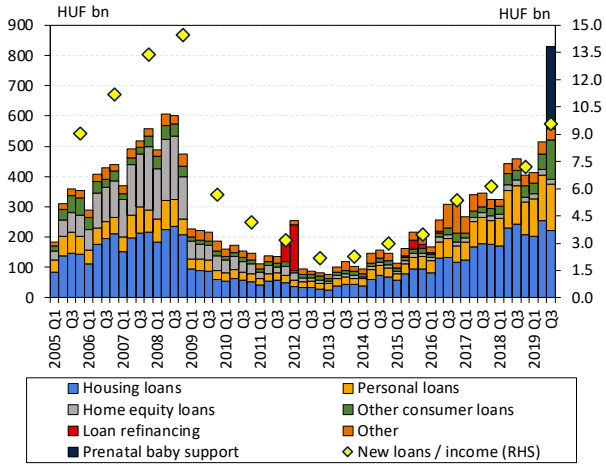
Source: MNB

3.2 Extreme increase in new household loans as a result of the prenatal baby support

Household loans outstanding are expanding steadily. In 2019 H1, the loan transactions of the financial intermediary system (credit institutions and financial corporations) continued to increase in the household segment, resulting in a 6-per cent year-on-year expansion in household loans outstanding (Chart 32). In the credit institutions sector, the annual increase reached 8 per cent in June, while in the case of financial corporations that also handle non-performing loans the portfolio contracted by 5 per cent. Housing loans accounted for approximately 70 per cent of the expansion, while the increase in consumer loans was the result of the rising stock of personal loans and a decline in home equity loans. One major contributor to developments in Q3 was the prenatal baby support introduced within the framework of the Family Protection Action Plan in July 2019, as a result of which the expansion in household loans outstanding amounted to 14 per cent in the credit institutions sector in September.

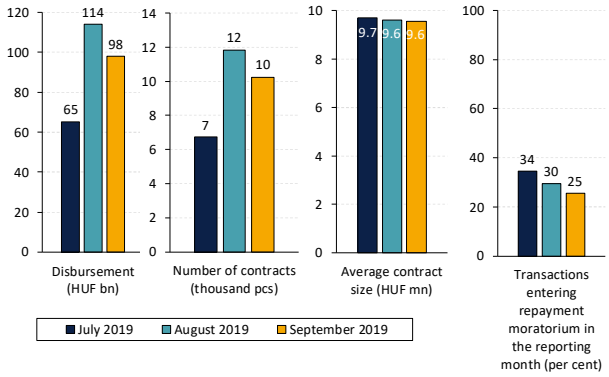
The launch of the prenatal baby support boosted new loan disbursements strongly. In the year preceding September 2019, credit institutions concluded contracts with households with a value surpassing HUF 2,000 billion, with housing loans accounting for around 40 per cent of this. The annual volume of these contracts exceeded the issuance of the previous 12 months by 8 per cent, and much stronger growth of 28 per cent was observed in personal loans (Chart 33). This growth in new loans was

Chart 33: New household loans in the credit institutions sector



Note: Loan refinancing indicates only refinancing related to the early repayment scheme and the FX conversion. Other consumer loans include vehicle, hire purchase and other consumer loans, including lombard loans. FGS loans granted to sole proprietors are included in other loans. The new loans/income indicator shows the total annual nominal lending as a percentage of households' annual disposable income. Source: MNB

Chart 34: Issuance and characteristics of prenatal baby support loans



Source: MNB

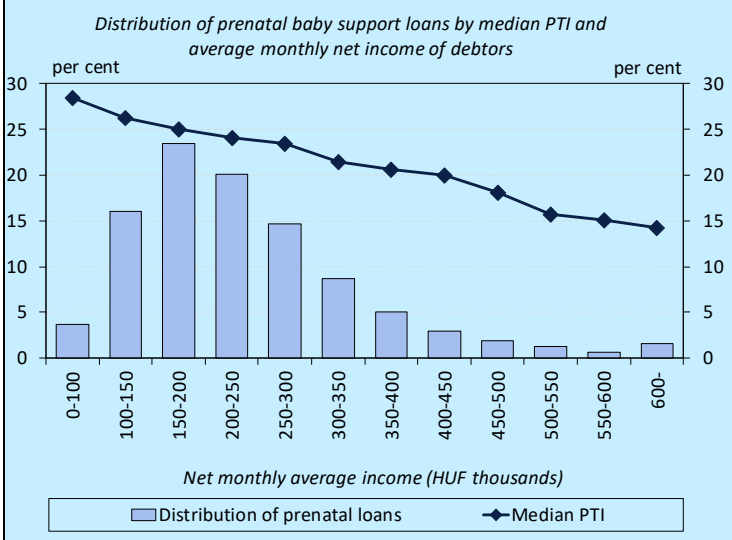
accompanied by unchanged credit conditions and a steady expansion in demand both in the markets of housing loans and consumer loans. In Q3, there was a strong increase in the extension of lombard credit, related to the launch of the Hungarian Government Security Plus in June. In Q3, loan contracts concluded in connection with the prenatal baby support launched in July represented an outstanding volume of HUF 277 billion within household loan disbursements.

Applicants typically apply for the maximum amount of HUF 10 million of the prenatal baby support loan. In 2019 Q3, immediately following its introduction, 29,000 contracts were concluded in connection with the prenatal baby support (Chart 34). Of the contracts, 87 per cent were for the maximum amount, i.e. HUF 10 million, and just 2 per cent were below HUF 5 million. In the first months, one quarter to one third of the prenatal baby support loans were already subject to repayment moratorium in the month of reporting. For these clients, the scheme will surely be free of interest rate during the whole maturity, i.e. in their case there is no risk of interest rate subsidy repayment. For the time being, borrowing of prenatal baby support loans is mainly additional: although housing loan disbursements declined slightly in the first three month after launching the product both compared to the previous quarter and year-on-year, no fall is seen in the seasonally adjusted volumes. Looking ahead, due to the high available contract size and its interest-free nature, prenatal baby support loans may cause a crowding-out effect in the case of both housing loans and personal loans. Due to the importance and considerable volume of the product, special attention is devoted to the main features of the borrowers in Box 2.

BOX 2: MAIN FEATURES OF THE PRENATAL BABY SUPPORT LOANS AND OF THE BORROWERS

The significant expansion of prenatal baby support loans in Q3 justifies a detailed analysis and continuous monitoring of these loans. Although as a result of the state guarantee related to the prenatal loans the size of banks' credit risk is limited, due to potential fiscal risks and its significant impact on financial deepening, this dynamically expanding portfolio needs to be closely monitored in any case. Micro-level (contract-level and debtor-level) data available for 2019 Q3 as well as the findings of a bank questionnaire survey conducted in this topic were used for preparing this analysis.[14]

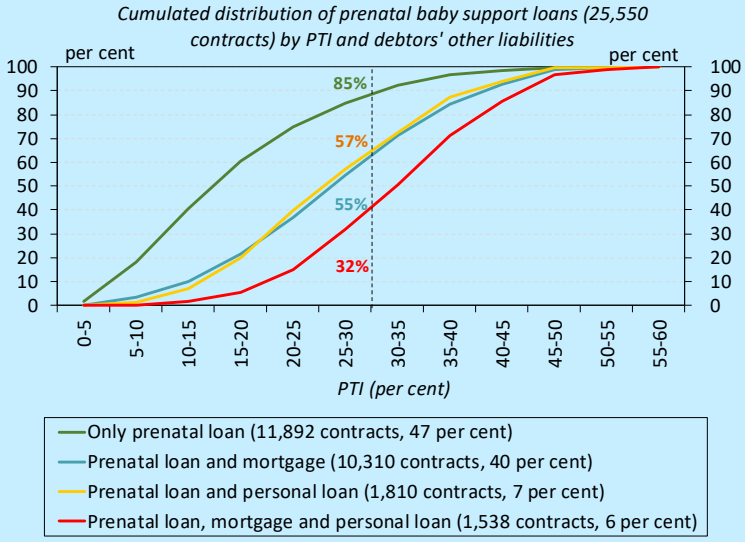
[14] The box examines the prenatal loan *disbursements*; therefore, the figures seen here may be somewhat different from the ones discussed before which were based on *contracts concluded*.



Source: CCIS, MNB

In the first months of the programme, relatively well-to-do clients were the borrowers of the prenatal loans. The initially stronger activity of better-off clients may stem from better financial awareness and from them being more well-informed. Examining the risk characteristics of the prenatal loans, it can be established that based on issuance to date they are more similar to housing loans than to personal loans. The average per-capita income of the two debtors behind the loan exceeds HUF 200,000 in net terms in the case of 57 per cent of the transactions, and on the basis of the per capita income, 55 per cent of the transactions were from the highest income quintile. The average payment-to-income (PTI) ratio is 25 per cent among prenatal loans. In the case of two thirds of the transactions the ratio does not exceed 30 per cent, and it is higher than 40 per cent only in the case of 10 per cent of the debtors.

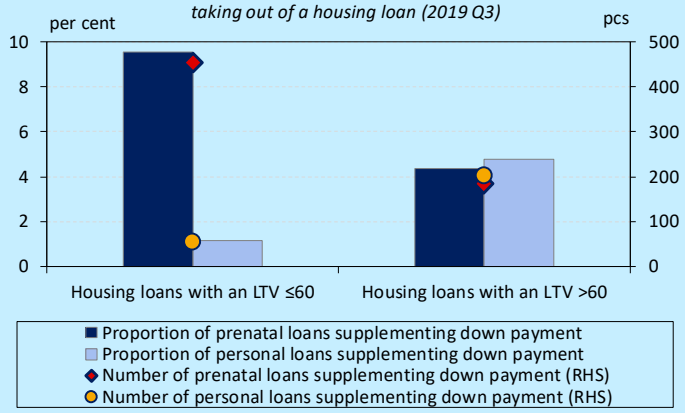
Stretched income position may primarily pose a risk in the case of debtors that have other liabilities as well in addition to the prenatal loan. In the case of some 47 per cent of the prenatal loans, at the end of 2019 Q3 none of the debtors had other major liabilities (housing loan or personal loan). In the case 40 per cent of the transactions, the debtors only had mortgage loans in addition to the prenatal loan, while in the case of 7 per cent they only had personal loans in addition. In the case of 6 per cent of the transactions, debtors had both housing and personal loans at the end of the quarter. The other liabilities typically mean loans disbursed after 2015, and for the time being the ratio of loans borrowed simultaneously – in 2019 Q3 – with the prenatal loan is relatively low. Housing loans were also taken out in the case of 5 per cent of the prenatal loan transactions in Q3, while the same ratio for personal loans is less than 1 per cent. In the case of debtors with other liabilities as well, the PTI ratio is typically higher than for those who only have a prenatal loan. While in the case of 68 per cent of the prenatal loans coupled with housing and personal loans the PTI ratio exceeds 30 per cent, the same ratio for those who only have a prenatal loan is a mere 15 per cent.



Source: MNB

According to banks' responses, borrowers mainly apply for the prenatal loan in relation to housing purposes, but it is less typical when they use a prenatal loan as own funds for housing loans. In connection with the prenatal loans, we used a questionnaire to contact the major banks that provide household loans in order to learn about their lending practices and the typical use of the loans. According to the banks' responses, in the case of the borrowers of prenatal loans the direct financing of home purchase is the most typical, followed by renovation and expansion. In connection with usage for housing purposes, banks indicated limited use as substitution for own funds. Based on banks' responses, in addition to housing purposes, prenatal loans are often used for loan refinancing. According to feedbacks from banks, spending prenatal loans on the financing of vehicle purchases or using the available amount of the loan for investment purposes is less typical.

Ratio of prenatal loans and personal loans disbursed preceding the taking out of a housing loan (2019 Q3)



Note: The share of housing loans within the total number of housing loans granted to borrowers between 18-41 years of age in each LTV category where the main debtor has borrowed a prenatal baby support loan up to 90 days before taking out the housing loan. Source: CCIS, MNB

Debtors applied for the prenatal loan before taking housing loans even if they would have met the LTV-limit without it. In August and September 2019, some 7 per cent of the housing loan contracts concluded by principal debtors aged 18–41 years were preceded by the taking of a prenatal loan at most 90 days earlier. However, as opposed to a possible use of personal loans to substitute for own funds, debtors applied for the prenatal loan even if otherwise they have had enough funds of their own for the real estate purchase. Then presumably they finance other costs related to the real estate purchase or they spend the amount of the prenatal support on investment purposes.

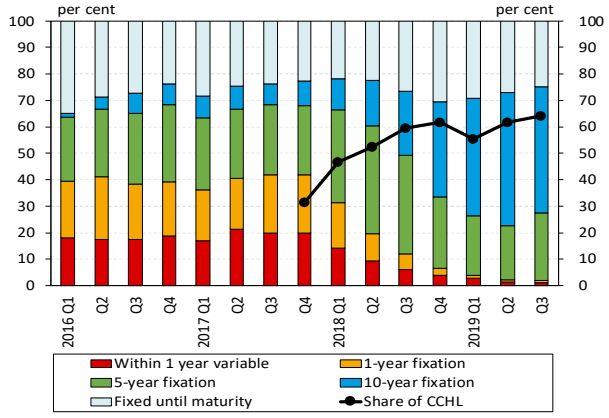
According to the data of the Central Credit Information System, in roughly 4 per cent (1,161 cases), prenatal loans were used for the prepayment of other debt. Prior to the launch of the programme, the debtors taking out prenatal loans had debt of some HUF 100 billion, with housing loan debts accounting for most of this. The repayment of housing loans amounted to HUF 7 billion during the quarter, of which some HUF 5.2 billion was attributable to prepayment using prenatal loans. Nevertheless, the instalments did not reach the amount of housing loans (HUF 15.8 billion) taken in parallel with the prenatal loan, and thus, on the whole, the amount of other debts of the debtors also increased. Of the main household loan products, only credit card and overdraft facility debts declined, while the outstanding principal debt of personal loans remained unchanged during the quarter. **On the whole,** based on the experiences of the first three months, **due to clients' higher income as well as the state guarantee related to the loan, prenatal loans do not result in excessive indebtedness**.

The change between June and September 2019 in other liabilities of debtors taking out prenatal baby support loans (HUF bn)

	Outstanding debt (June 2019)	Change in outstanding debt				Outstanding debt (Sept. 2019)
		Prepayment	*Other repayment*	*New borrowing*	***Overall change***	
Housing loans	**84.7**	**-5.2**	**-1.8**	*15.8*	***8.8***	**93.6**
Home equity loans	**4.6**	**-0.2**	**-0.1**	*0.4*	***0.1***	**4.7**
Personal and consumer loans	**6.4**	**-0.2**	**-0.5**	**0.7**	**0.0**	**6.4**
Car purchase loans and leasing	**1.7**	**0.0**	**-0.1**	*0.3*	***0.2***	**1.9**
Credit card debt and overdraft	**2.4**		**-1.3**	*0.4*	**-0.8**	**1.6**
Prenatal baby support loans	**0.0**			*252.4*	***252.4***	**252.4**
Total	99.9			*270.0*	***260.7***	360.5

Note: In case of prenatal baby support loans calculations are based on actual disbursements, which is somewhat different from the volume of new contracts concluded in Q3. Source: MNB

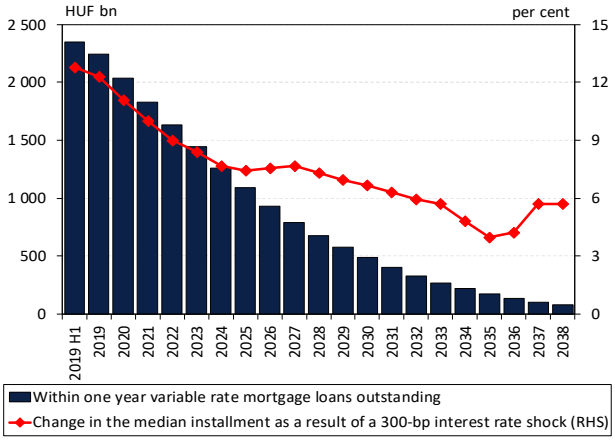
Chart 35: Distribution of new housing loan volume by interest rate fixation, and the share of Certified Consumer-friendly Housing Loan products



Note: Share of CCHL products compared to new issues with at least 3-year interest rate fixation (at least 5-year since Q4 2018) excluding disbursements by building societies. Source: MNB

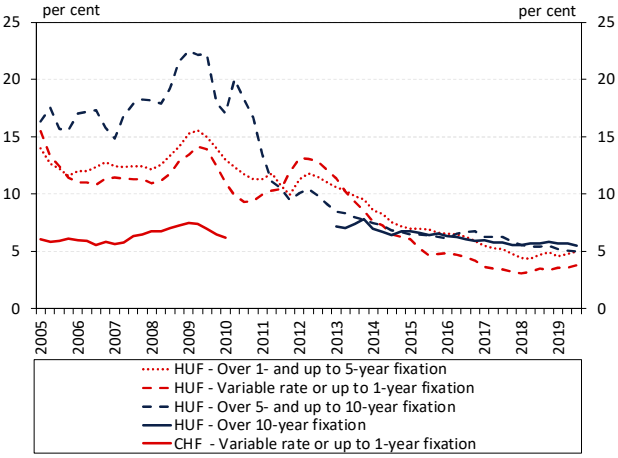
New housing loan disbursements are coupled with predictable repayments over the long run. The trend towards interest rate fixation for longer terms in housing loan issuance continued in 2019 as well. Lending with interest rates variable within one year practically ceased to exist, and borrowing with interest rate periods fixed for at least 10 years is more and more typical, instead of loans fixed for 5 years. This year, one half of new housing loan issuance featured 10-year interest rate fixation, and the share of loans with interest rate fixation until maturity amounted to 25 per cent in Q3 (Chart 35). This was strongly supported by the Certified Consumer-Friendly Housing loans (CCHL), which are available only with a longer interest rate period, and the introduction of differentiation of the debt cap rule on the payment-to-income (PTI) ratio by interest rate fixation period. The share of Certified Consumer-Friendly Housing loans within new loans was above 60 per cent in

Chart 36: Projection of developments in mortgage loans outstanding with interest rates variable within one year



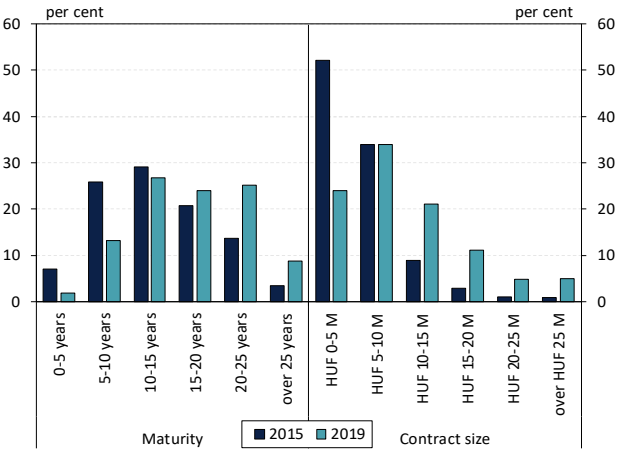
Source: MNB

Chart 37: APR on new housing loans



Note: Quarterly averages, weighted by lending volumes. Source: MNB

Chart 38: New housing loans by maturity and contract size



Note: Values for 2019 denote loans issued by credit institutions in 2019 H1. Distribution based on the number of contracts. Source: MNB

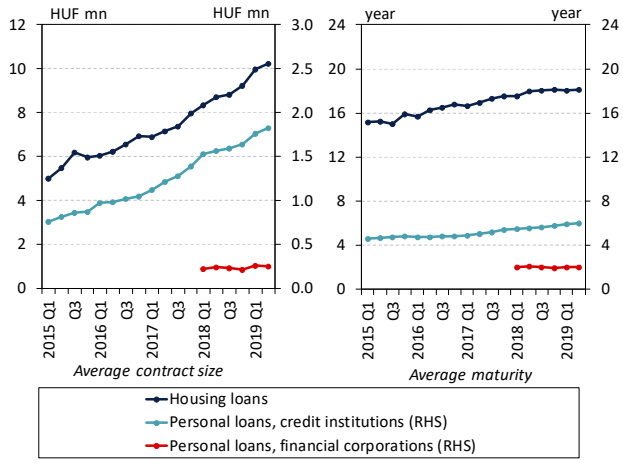
Q2 and Q3. Accordingly, new household loans are increasingly characterised by predictability, which considerably reduces households' interest rate risk.

The vulnerability of variable-rate mortgage loans outstanding is mitigated by the loose monetary conditions. 55 per cent of the mortgage loans outstanding at the end of 2019 Q2 are repriced within one year, and thus a rise in interest rates would be included in the instalments relatively quickly. However, the risks related to outstanding loans are lowered by the fact that the negative consequences of an interest rate hike may materialise later, due to the deterioration in the external environment and the extension of loose monetary policies by the major central banks. For lack of significant new issuance, in parallel with the continuous amortisation of and the decline in the average residual maturities of the variable-rate loans outstanding, the instalment increasing effect of a possible future interest rate shock will also decline as time goes by (Chart 36). Due to the significant volume of new fixed-rate loans, the share of variable-rate loans within total mortgage loans outstanding is expected to fall below 50 per cent as early as in 2019.

The low interest rate environment allows for a reduction of interest rate risk as well. The current financing environment creates an opportunity for households that repay variable-rate mortgage loans – and many of whom have loans that were CHF-denominated before the FX conversion – to reduce the interest rate risk. The average annual percentage rate of charge on currently issued housing loans with long-term interest rate fixation is around 5 per cent. This means a similar, moreover a slightly more favourable APR than that of the Swiss franc loans in the pre-crisis period (Chart 37). The MNB promotes the refinancing of variable-rate loans with fixed-rate ones through a recommendation, according to which banks inform their vulnerable clients about the interest rate risk, and offer them an opportunity to amend the contract and fix the interest rate for at least 5 years. Banks are sending out the information letters at an adequate pace, but for the time being the share of implemented loan refinancing is negligible. This may be partly attributable to the expectation that the low interest rate environment will persist and partly to the low attractiveness of the specific offers in the case of certain banks.

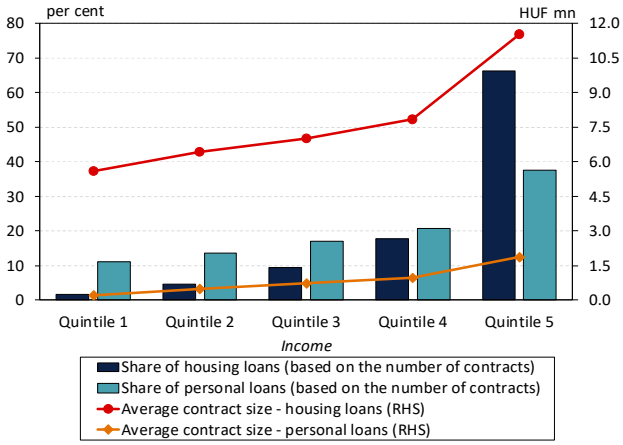
Contract sizes and maturities continued to increase. The average contract size of housing loans, which are almost exclusively issued by credit institutions, doubled in the past four years, corresponding to around HUF 10 million at

Chart 39: Average contract size and maturity of new contracts



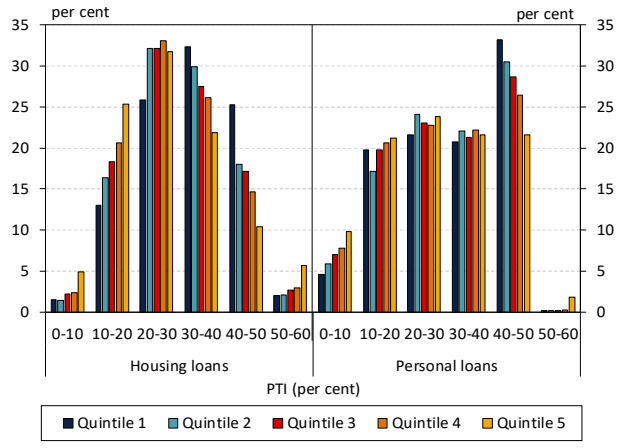
Source: MNB

Chart 40: Distribution *and average contract size of new loans by income quintile*



Note: Loans issued by credit institutions and financial corporations in 2019 H1. The income quintiles are based on the incomes of the total domestic population. Source: MNB

Chart 41: PTI distribution of new contracts by income quintile



Note: Distribution based on the number of loans contracted in 2019 H1. The income quintiles are based on the income of the entire domestic population. Source: MNB

present (Chart 38). Heterogeneity is observed by loan purpose: the average value of loans for purchasing new homes is HUF 13 million, of the ones for used homes is HUF 10 million, while that of loans for reconstruction or expansion is HUF 4 million. Maturities also grew longer in parallel with the rise in contract sizes: since 2015, the average maturity of housing loans weighted with the contract size increased from 15 to 18 years (from 13 to 16 years without weighting), although this growth stopped in the past one year (Chart 39). The rise in contract size occurred in parallel with an increase in house prices, which was accompanied by the borrowing of personal loans for lower-amount housing purposes. Accordingly, increases are seen in the case of personal loans as well, both in terms of contract sizes and maturities. As opposed to housing loans, in this segment financial corporations are also active, accounting for 48 per cent of the contracts concluded in 2019. However, financial corporations specialise in different client and product segments: their average contract size of around HUF 250,000 is well below the HUF 1.8 million value of personal loans extended by credit institutions, and one quarter of their contracts is taken by the lowest income quintile.

Borrowers are typically higher-income households. Based of the number of contracts, the extension of both mortgage and unsecured loans is concentrated in the higher-income strata. In 2019 H1, two thirds of housing loan borrowers were from the highest-income 20 per cent, while the share of the two lower quintiles was practically negligible (Chart 40). The share of the upper two quintiles within borrowers even increased compared to 2018: the aggregate share of the lower three quintiles declined from 24 per cent to 16 per cent, to the advantage of the top income quintile. Access to personal loans is less uneven (in the case of these loans nearly 40 per cent of the contracts were related to the upper quintile), although since last year the share of the lower 60 per cent in terms of income has declined in this product group as well. The difference is even larger in terms of volumes, as there are twofold and ninefold differences between the average contract sizes in the case of housing loans and personal loans, respectively, between the fifth and first quintiles. The differences between borrowers in terms of income, employment and financing institution are summarised in Box 3.

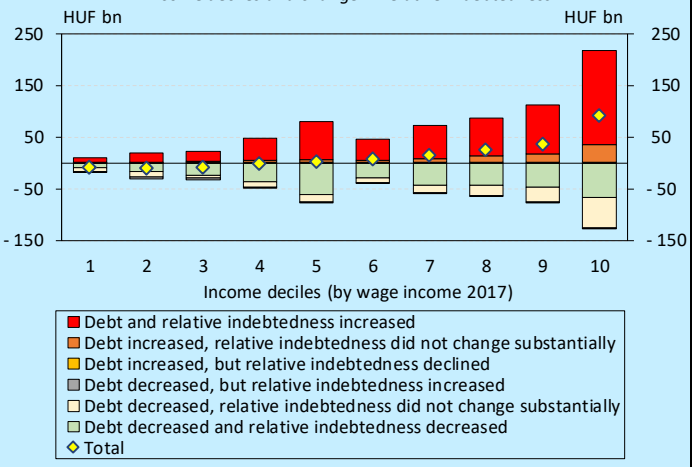
Lower-income borrowers of personal loans become indebted close to the PTI limit. Based on housing loan contracts concluded in 2019 H1, the 40–50 per cent payment-to-income ratio is not the most typical category even in the case of lower-income borrowers (Chart 41). However, more significant stretch is seen in the field of personal

loans: in this product group the most frequent category is the above 40 per cent monthly payment-to-income ratio, and one third of the debtors in the lower income quintile belong here. The PTI value of the transactions was between 40 and 50 per cent in the case of 14 per cent (HUF 350 billion) of the volume of housing loans and 32 per cent (HUF 410 billion) of the personal loans disbursed by credit institutions since 2015. These loans outstanding amounted to some HUF 500 billion in June 2019, representing 8 per cent of credit institutions' total household loans outstanding.

BOX 3: HOUSEHOLD LOAN PENETRATION BY INCOME POSITION AND FINANCING INSTITUTIONS

Both in terms of the stability of the financial system as well as economic growth and development, one important question is which actors in the real economy have access to various financial products and to what extent. According to international experience, *financial inclusion*, i.e. making financial products (including bank accounts that allow electronic payment, bank deposits and under certain conditions various loan products as well) available to increasingly broad strata leads to a higher pace of development. At the same time, if inappropriate products gain ground, e.g. the stock of overly risky loans increases considerably among vulnerable households, financial stability risks may rise.

Estimated change in retail loan portfolio between 2016 and 2017 by income deciles and change in relative indebtedness

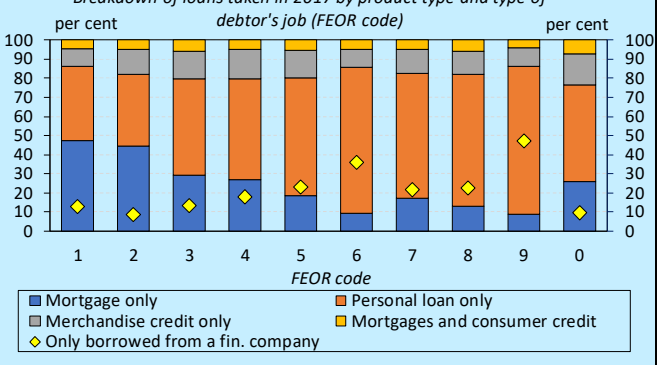


Source: ONYF, MNB

Considering the above, from various perspectives we examined **how credit penetration has changed in the past years** in the household loan segment, primarily analysing this issue according to debtors' income position. For this, we took into account the debtors' income subject to contribution payments, which were available until 2017. Creating deciles by income data, we can examine the typical income positions of debtors who borrow and become indebted. In the case of the **increase in debt between 2016 and 2017**, it can be established that it was **typically concentrated among debtors whose income was above the median**, while in the case of debtors belonging to the lower five deciles an aggregate decline in loans outstanding was observed.

This suggests that credit penetration increases primarily for households that are in a relatively better financial position. In most cases, the increase in debt was also coupled with a rise in relative indebtedness (i.e. compared to income), i.e. in the case of borrowers the increase in debt typically exceeded the wage growth. We also examined the differences seen in the case of housing loans disbursed prior to and following 2015: while in the case of 35 per cent of the loans disbursed before 2015 (and still outstanding at end-2017) a debtor's 2017 income was below the median, the corresponding ratio is only 17 per cent in the case of the subsequent disbursements. The difference is striking even if we control on the age of debtors. **All**

Breakdown of loans taken in 2017 by product type and type of debtor's job (FEOR code)



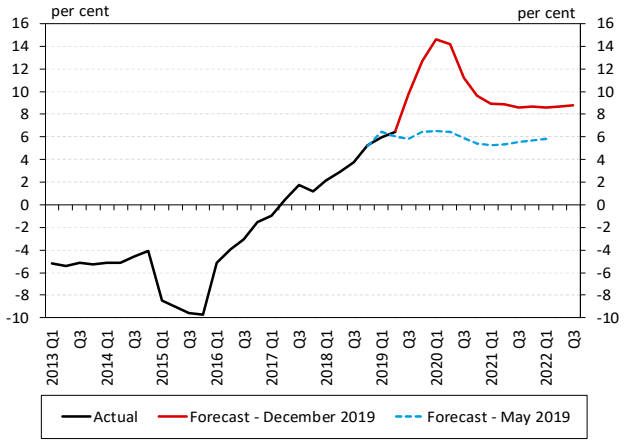
Note: FEOR Codes: (1) Managers (2) Professionals (3) Technicians and associate professionals (4) Office and management (customer services) occupations (5) Commercial and services occupations (6) Agricultural and forestry occupations (7) Industry and construction industry occupations (8) Machine operators, assembly workers, drivers of vehicles (9) (Elementary) occupations not requiring qualifications (0) Armed forces occupations. Source: MNB, ONYF

of this suggests that the structure of loans outstanding shifted towards higher-income debtors in the past years.

The typical form of lending depends not only on the level of income, but also on the debtor's occupation, which is closely related to the former. Among non-manual employees, a much higher share of mortgage loans is observed, while personal loans dominate in the case of borrowers that are manual workers. Heterogeneity due to income position and occupation prevails not only in the case of the loan product, but in terms of the financing institution as well: in the lower income deciles it is much more typical that debtors borrow from financial corporations, which often charge higher interest rates. This is primarily visible in the market of consumer loans, where debtors in the relatively poor regions – partly as a result of the higher credit risk – have access to funding only at much higher interest rates on average. All of this, however, may also be attributable to the lower coverage with bank branches observed in some regions. The lower mobility of clients who typically tend to use cash (who receive their salaries in cash and/or do not have a bank account) and whose income is typically lower as well as the more difficult access to banks increase the demand for financial corporations' 'door-to-door delivered products'.

In addition to the above, special attention also needs to be paid to **households which – due to lack of sufficient income – are crowded out of the formal credit market and may potentially turn to usury lending**. For lack of relevant data, only the magnitude of the number of such households can be estimated. Based on micro level questionnaire survey data (EU-SILC), we examined which households are the ones where revenues do not cover the expenditures of the household and can be considered vulnerable in various dimensions. The vulnerability criteria were as follows: (1) the household is unable to cover an unexpected expense of HUF 70,000 from its own resources, (2) none of the members of the household have a bank account, (3) in the one year preceding the survey, the household failed to pay its rent/utility bill/housing loan instalment on time at least twice due to money shortage, (4) the subjective income position of the household is unfavourable, and (5) the household lives in unfavourable housing conditions. **According to these variables, the share of households exposed to usury may be between 3 and 13 per cent,** and may primarily **be concentrated in the counties in the Northern Great Plain and Northern Hungary.**

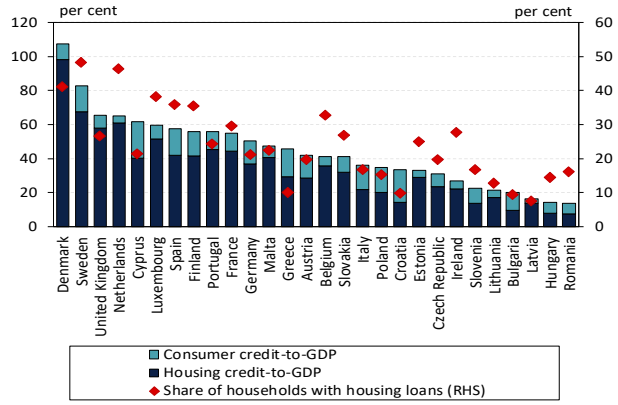
Chart 42: Household lending forecast



Note: Transaction-based annual growth rate. Source: MNB

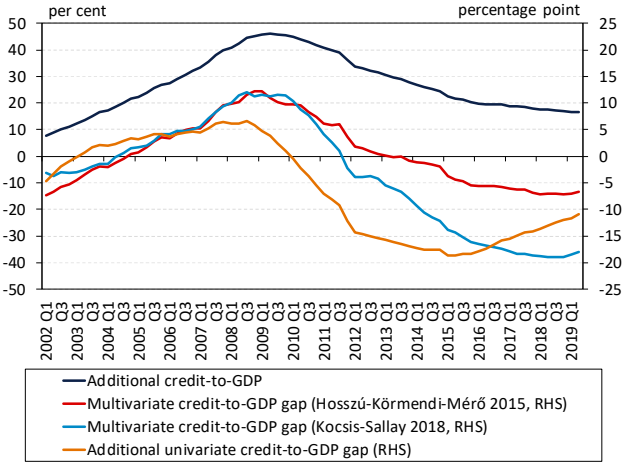
Household lending may grow at an annual rate of 8–15 per cent over the forecast horizon. The introduction of the prenatal baby support has a major impact on the developments in lending to households: according to the MNB's forecast, prenatal baby support loans outstanding may reach HUF 400–450 billion in 2019, and the volume is expected to reach approximately HUF 1,200–1,400 billion by the end of the programme in 2022. We expect more intensive utilisation in the initial period than in the later phases, and the additional effect of the programme will also be greater in the early period. According to data received to date and as a result of the fact that the prenatal baby support loan may be taken into account as own funds up to 75 per cent, the household loan forecast changed considerably compared to the previous half of the year: loans of the financial intermediary system may increase by even more than 10 per cent by early 2020 (Chart 42). This may be followed by a more moderate expansion, firstly as a result of the base effect, secondly due to a decline in the demand for prenatal baby support loans following the initial increased utilisation, and thirdly because of an increase in the crowding-out effect both on housing and personal loans. The end of the forecast horizon coincides with the phasing out of the prenatal baby support, when utilisation

Chart 43: Credit penetration in a European comparison



Note: Credit-to-GDP values refer to the end of 2019 Q2, the share of households with housing loans refer to 2017. Source: ECB, Global Findex Database

Chart 44: Cyclical position of household credit based on estimated credit gaps



Source: MNB

is expected to pick up again. Prenatal baby support loans are classified as unsecured consumer loans, and thus the expansion that exceeds the previous forecast is mainly reflected in the consumer loan segment.

Financial deepening is low in international comparison. Hungary's 14 per cent household credit-to-GDP ratio is one of the lowest in the European Union, and relative indebtedness is lower only in Romania (Chart 43). This indicator is well below the average of the Member States as well as the 23–34 per cent figures of the other Visegrád countries. A lag is also seen in the share of households that have housing loans: 14 per cent of the domestic households were repaying housing loans in 2017, which means that Hungary's housing loan penetration is the sixth lowest in the European Union.

Domestic household credit-to-GDP ratio is considered cyclically low. In historical comparison, compared to the size of the economy and based on various estimation methods, households' total debt at present is 7–18 per cent below its long-term average (Chart 44).[15] Nevertheless, depending on GDP growth and considering the dynamic expansion in loans outstanding, this gap may close over the forecast horizon.

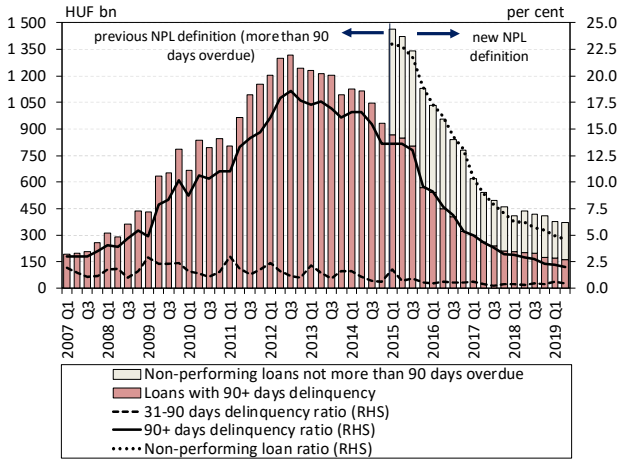
[15] For the methodologies of the multivariate credit gap see: Hosszú, Zs. – Körmendi, Gy. – Mérő, B. (2015): Univariate and multivariate filters to measure the credit gap, MNB Occasional Papers 118, and Kocsis, L. – Sallay, M. (2018): Credit-to-GDP gap calculation using multivariate HP filter, MNB Occasional Papers 136. For the methodology of the univariate credit gap see: https://www.mnb.hu/letoltes/ccyb-methodology-new-en-1.pdf

4 Portfolio quality: delinquencies are few, but cycle-sensitive exposures require attention

The ratio of non-performing corporate loans declined to the previously determined desirable band, i.e. to below five per cent, but project loans outstanding, which are sensitive to economic cycles, still account for a considerable portion of the non-performing corporate loan portfolio. In 2019 H1, portfolio cleaning and the increase in loans outstanding once again contributed to the improvement in portfolio quality. In the first six months of the year, a slight decline was observed in loan loss provisions related to the corporate loan portfolio, which is attributable to the credit-impaired financial assets (Stage 3) according to the International Financial Reporting Standards (IFRS), i.e. to the loans classified in the non-performing category.

In 2019 H1, the credit institution sector's non-performing household loans outstanding continued to decline, mainly as a result of a reduction in delinquent mortgage loans. The fall in the non-performance ratio of household loans is mainly the result of cleaning activity, but the expansion in loans outstanding contributed significantly to the decline in the ratio in this segment as well. More than half of the collateral sales related to non-performing mortgage loans are carried out within the framework of a judicial execution procedure, typically at sales prices close to market prices, to which the favourable housing market trends of the past period have contributed significantly. In recent years, the default ratio of new mortgage loan agreements concluded by credit institutions has moved on a gradually declining trend from a low level.

Chart 45: Ratio of non-performing corporate loans in the credit institution sector



Note: The definition of non-performing loans changed in 2015. From then on, in addition to the loans over 90 days past due, loans less than 90 days past due where non-payment is likely are also classified as non-performing. Calculated by clients until 2010 and by contracts from 2010. Source: MNB

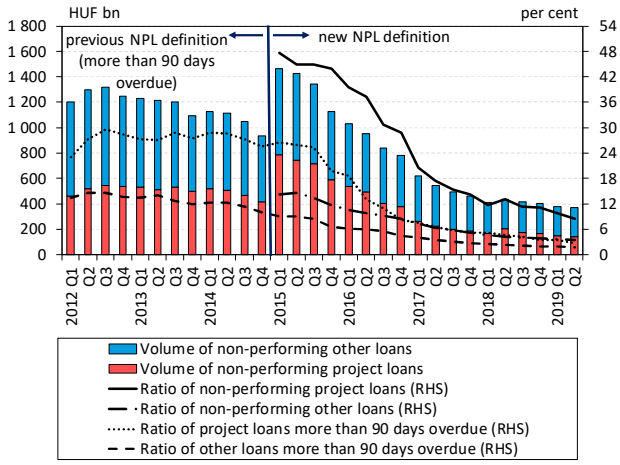
4.1 The ratio of non-performing corporate loans fell into the range expected by the MNB

The ratio of non-performing corporate loans declined to the previously determined desirable band[16] of below five per cent. At the end of 2019 H1, the non-performing corporate loan portfolio of the credit institution sector amounted to HUF 375 billion in total, within which the portfolio over 90 days past due was HUF 162 billion (Chart 45). As a result of portfolio cleaning, by end-June 2019 the ratio of loans over 90 days past due declined to 2 per cent. On the whole, by end-June 2019 the ratio of non-performing corporate loans sank to 4.6 per cent, which represents a drop of 1.7 percentage points in annual terms, while the non-performing corporate loan portfolio decreased by HUF 63 billion.

Project loans, which are sensitive to economic cycles, continue to account for a large share of the non-performing corporate loan portfolio. Within corporate loans outstanding, at end-June 2019 the non-performance ratio of project loans was 8.6 per cent, as a result of a 4.4-percentage point annual decline (Chart 46). The non-performance ratio of other corporate loans amounted to 3.6 per cent at

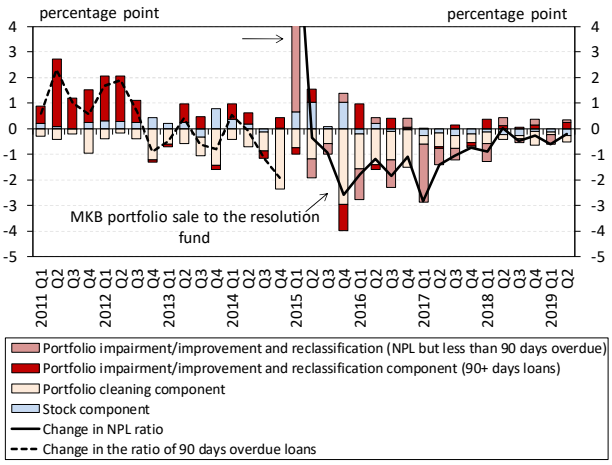
[16] The MNB previously determined the maximum 5 per cent NPL level as one of the 10 criteria of a well-functioning banking sector. At the EU level, the European Banking Authority (EBA) also emphasised the 5 per cent level, above which it already expects the individual banks to elaborate an NPL strategy.

Chart 46: Distribution of the non-performing corporate loan portfolio by project and other loans, and by days past due



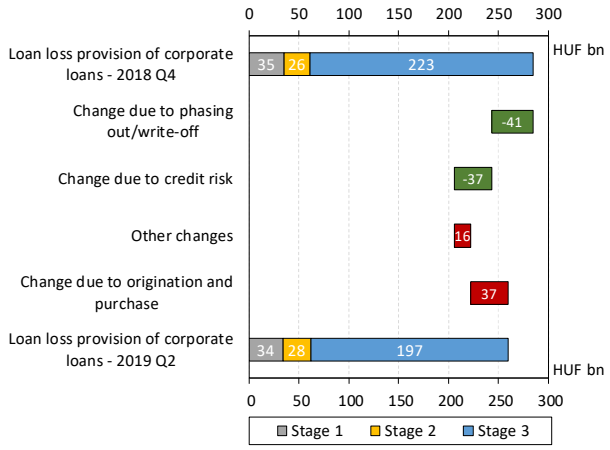
Source: MNB

Chart 47: Factors affecting changes in the ratio of non-performing corporate loans in the credit institution sector



Source: MNB

Chart 48: Loan loss provision of the credit institution sector's corporate loan portfolio and its change in 2019 H1



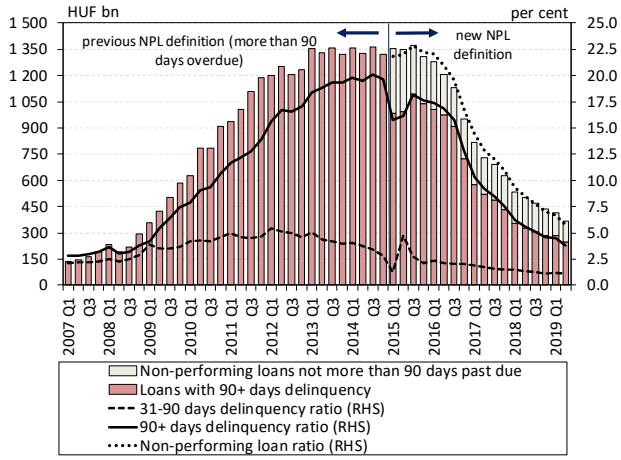
Note: Stage 1: loan loss provision for financial assets the credit risk of which has not increased significantly since initial the end of H1, which is 0.8 percentage point less than a year earlier. In the one year to end-June 2019, non-performing project loans declined by 29.3 per cent to HUF 144 billion. Non-delinquent project loans or ones that were up to 90 days past due, but non-performing, accounted for more than two thirds (68.5 per cent) of this stock. Project loans over 90 days past due declined by 38 per cent by end-June year-on-year, but still there are institutions where significant stocks are concentrated. At the same time, on the basis of the 2019 review of the systemic risk buffer to be created in relation to the non-performing project loan portfolio, no bank is affected by the capital reserve requirement any longer.

The market of commercial real estates is driven by economic cycles; therefore, project lending is also highly cyclical. The types of properties most exposed to economic cycles are the hotels as well as real properties operating in less liquid real estate markets, which therefore have a low potential in terms of alternative use. The cyclical nature of the market may cause significant losses to credit institutions, as was seen after 2008 as well. The recent weakening of the exchange rate of the forint may cause tensions again in the case of project loans where funding is denominated in foreign currency, but the income of the debtor (or of the tenants of the commercial real estate) is not in the same currency. In order to prevent the emergence of systemic risks related to project lending, the MNB modified the conditions of applying the systemic risk buffer.[17]

In 2019 H1, the cleaning of the portfolio and the increase in loans outstanding contributed to the improvement in portfolio quality. In H1, the credit institution sector sold non-performing corporate loans worth approximately HUF 26 billion, thus facilitating the decline in the non-performance ratio. On the whole, the non-performing portfolio less than 90 days past due recovered in 2019 H1, but deterioration was observed in the case of the portfolio over 90 days past due, which hindered the decline in the ratio (Chart 47). The first delinquencies exceeding 90 days of the contracts concluded in recent years also significantly contributed to the deterioration in the portfolio over 90 days past due. In 2019, the amount of first delinquencies of corporate loan agreements was HUF 17 billion, 75 per cent of which is related to 5 banks. Among these contracts, high concentration is observed at the transaction level as well: of the 542 contracts delinquent for more than 90 days for the first time the 10 highest-amount transactions accounted for nearly half (48 per cent) of the entire delinquent portfolio.

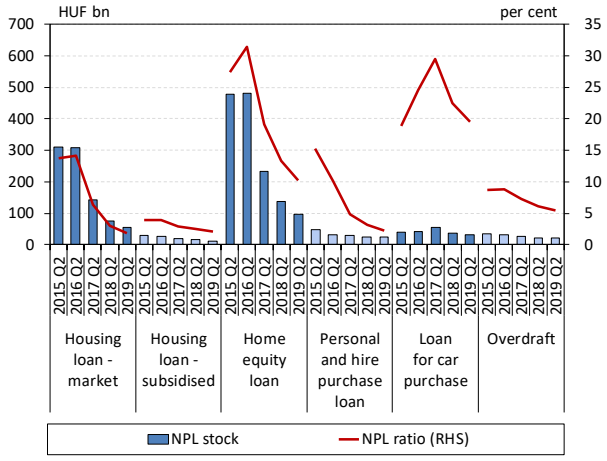
recognition. Stage 2: loan loss provision for financial assets the credit risk of which has increased significantly since initial recognition, but which are not impaired. Stage 3: loan loss provision for non-performing financial assets. Source: MNB

Chart 49: Ratio of the non-performing household loans of credit institutions by contracts



Note: Before 2015 Q1 the non-performing loan ratio shows the ratio of loans overdue for more than 90 days. Source: MNB

Chart 50: Ratio and stock of household loans over 90 days past due by product



Note: Data of the banking sector and branches. Source: MNB

Loan loss provisioning for the corporate loan portfolio fell slightly in 2019 H1, but loan loss coverage remains high. The amount of loan loss provisioning for the corporate loan portfolio fell from HUF 284 billion to HUF 259 billion in 2019 H1 (Chart 48). While the loan loss provisions for loans classified in Stage 1 and Stage 2[18] according to IFRS changed only to a minimum extent, provisioning for the worst-quality Stage 3 group declined by HUF 26 billion. The decline of HUF 41 billion related to phasing out and write-off was partly offset by the increase of HUF 37 billion due to origination and purchases, while the amount of provisioning fell by HUF 37 billion as a result of an improvement in credit risk. On the whole, the loan loss coverage of non-performing corporate loans declined slightly, but it is still high, at close to 60 per cent (appendix Chart 27).

4.2 The ratio of delinquencies of mortgage loans disbursed in the new credit cycle is low

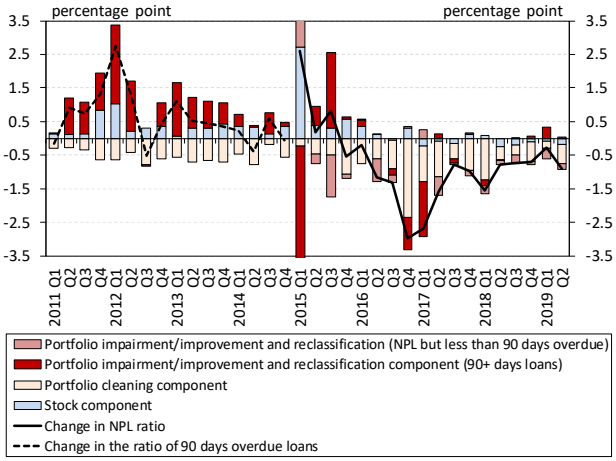
Non-performing household loans continued to decline in the credit institution sector. Since end-2018, non-performing household loans on credit institutions' balance sheets fell by HUF 68 billion to HUF 368 billion, two thirds of which was accounted for by loans over 90 days past due. This fall was attributable in nearly equal degrees to the decrease in loans over 90 days past due and ones that were within 90 days past due, but non-performing (Chart 49). Following a decline of 1.2 percentage points, the ratio of non-performing household loans was 5.8 per cent, while the ratio of loans over 90 days past due fell by 0.7 percentage point to 3.9 per cent by June 2019.

The volume of decline was the largest in the case of delinquent mortgage loans. By the end of 2019 Q2, on a year-on-year basis, declines were observed in both the stock and ratio of loans over 90 days past due in the case of all household loan products (Chart 50). Home equity loans over 90 day past due declined by the greatest degree, by HUF 42 billion year-on-year, but these loans continue to have the highest non-performance ratio (10.3 per

[17] The exchange rate risk of project loans was discussed in more detail in the November 2018 Financial Stability Report (Box 1). In order to manage the risks, in September 2019 the Financial Stability Board decided to amend the systemic risk buffer related to project loans. In calculating the capital requirement, the MNB will take into account not only problem project loans but also non-problem foreign currency project loans in the future to prevent the potential re-emergence of systemic risks stemming from the unhealthy structure of project financing. The amendments that take effect on 1 January 2020 are preventive in nature; therefore, initially no institution is expected to be required to maintain a systemic risk buffer. The reasons for extending the systemic risk buffer were discussed in more detail in the May 2019 Financial Stability Report (Box 2).

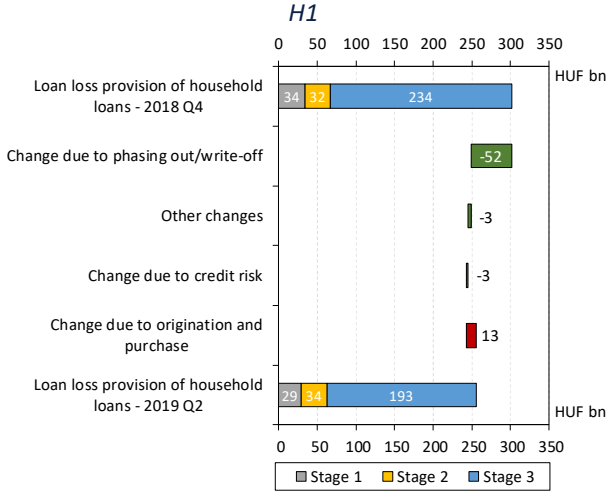
[18] IFRS 9 determines three stages of impairment, conforming to the risk of individual and portfolio-level assets. Stage 1: this category includes problem-free loans, where provisioning is required for expected loan loss for one year. Stages 2 and 3 contain exposures where problems arose. Stage 2: an exposure is classified into this category if significant deterioration has taken place in a related risk circumstance. Stage 3: this category comprises non-performing loans.

Chart 51: Factors affecting changes in the ratio of non-performing household loans



Note: In 2015 Q1, three one-off items significantly affected the changes in the ratio of non-performing loans: the impact of the settlement, which reduced the arrears and the loans outstanding, as well as the increase in the ratio of non-performing loans in view of the new NPL definition. In 2015 Q3, the formerly overdue contracts affected by the settlement once again became overdue by more than 90 days. Source: MNB

Chart 52: Loan loss provision of the credit institutions sector's household loan portfolio and its change in 2019 H1



Note: Stage 1: loan loss provision for financial assets the credit risk of which has not increased significantly since initial recognition. Stage 2: loan loss provision for financial assets the credit risk of which has increased significantly since initial recognition, but which are not impaired. Stage 3: loan loss provision for non-performing financial assets. Source: MNB

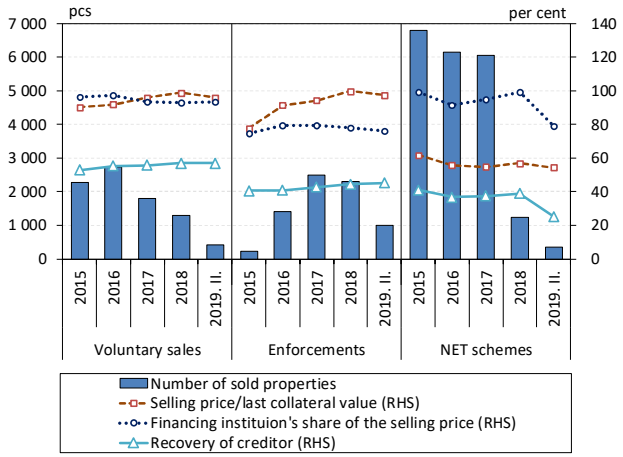
cent) among mortgage-backed loans as well as the largest weight within all household loans. In the case of loans for car purchase, where the over 90 days past due NPL ratio is the highest, the non-performance ratio was down to 19.5 per cent, following a decline of 3 percentage points. Housing loans with market interest rates had the lowest NPL ratio (1.9 per cent). Here, the stock of loans over 90 days past due amounted to HUF 55 billion, following a decrease of HUF 21 billion.

Portfolio cleaning was the main contributor to the decline in the household NPL ratio. In 2019 H1, the decrease in non-performing household loans on banks' balance sheets was mainly attributable to sales of receivables, as a result of which the NPL ratio fell by 1.2 percentage points compared to end-2018. Cleaning of the portfolio was facilitated by the sales and write-offs of non-performing receivables, which amounted to some HUF 52 billion at the sector level in the period under review (Chart 51). An additional reason for the decline in the NPL ratio was that some of the debtors whose delinquency was less than 90 days became performing again, which was able to offset the delinquencies over 90 days past due occurring in 2019 Q1. The expansion in household loans outstanding also contributed to the decline in the ratio.

The decline in loan loss provisions for household loans in 2019 H1 is primarily attributable to phase-outs and write-offs. The amount of loan loss provisioning for household loans according to IFRS 9 dropped by HUF 46 billion in 2019 H1 (Chart 52). The change was almost entirely attributable to the decline in provisioning for contracts in Stage 3. The fall was mainly a result of the decline in loan loss provisions due to the phasing out and write-off of HUF 52 billion, which was mostly related to the receivables sold. Credit institutions implemented loan loss provisioning of HUF 13 billion in connection with the newly disbursed loans, while on the whole there was only a minimal decline in the amount of provisioning due to the change in credit risk. On the whole, the loan loss coverage of non-performing household loans remained at its nearly 60 per cent level in 2019 H1 again (appendix Chart 37).

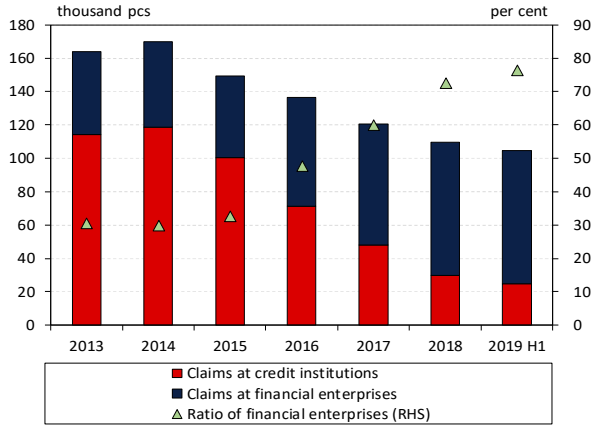
The sales prices of collateral sold were close to market prices, which was also attributable to the increase in housing prices. In 2019 H1, recovery from the sales of real estate collateral took place in a total 1,770 cases in the banking sector. More than half (57 per cent) of these were sales of real estate within the framework of judicial enforcement, the ratio of which within sales of real estate has grown steadily in the past three years (Chart 53). One

Chart 53: Number of recoveries from real estate collateral and average recovery in the case of mortgage loans handled by credit institutions and financial enterprises



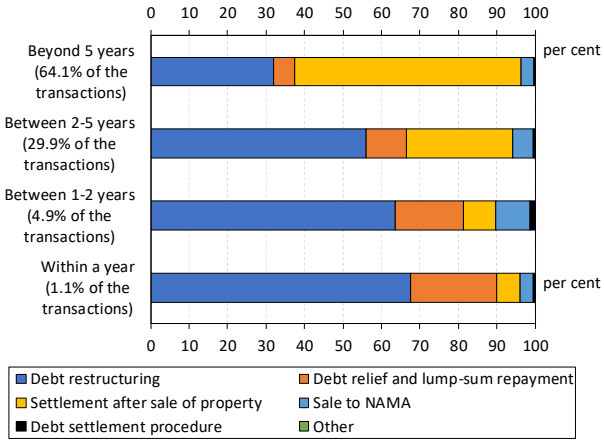
Source: MNB

Chart 54: Change in the number of overdue household mortgage loan receivables between 2013 and June 2019



Sources: CCIS, MNB

Chart 55: Breakdown of overdue mortgage debt settlement agreements at debt management companies based on the time spent overdue



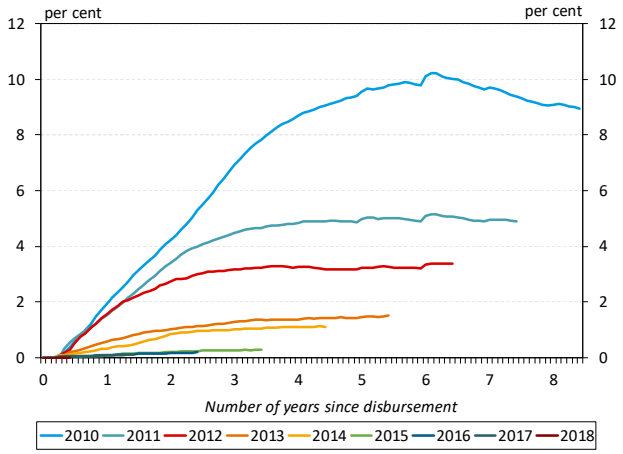
Note: Based on number of transactions, at the end of 2019 H1. Parentheses include the weight of the given overdue category within the total population. Source: MNB

of the presumable reasons is that voluntary sales can only solve the problem in less complicated cases. Firstly, in the case of debtors who owe several creditors, those without security strive to achieve recovery through legal procedures, which may also affect the recovery of the creditor that has a security. Secondly, voluntary selling is feasible if the debtor cooperates, and following previous years' voluntary sales already those debtors may prevail that are not willing to cooperate. Housing market trends contributed to the change in ownership at market prices of the properties sold during enforcement, similarly to voluntary sales, but due to the higher costs and other creditors' claims, the creditor's recovery is lower on the whole. With the end of the programme of the National Asset Management Company (NAMA) and the narrowing of the possibilities of the voluntary sales of marketable property, recovery through judicial enforcement may play an important role in the future as well.

At credit institutions, the amount of delinquent mortgage loans that are siphoning off capacities from lending is declining. The number of mortgage loan claims over 90 days past due in excess of the amount of the minimum wage fell from 164 thousand at end-2013 to 105 thousand by end-June 2019 (Chart 54). In the first half of this year, the number of overdue mortgage loan claims dropped by approximately 5 thousand. At end-June, the balance sheets of credit institutions and financial enterprises (mostly debt management companies) contained 25 thousand and approximately 80 thousand delinquent contracts, respectively. In the past years, most of the non-performing contracts ended up at financial enterprises (debt management companies), but the National Asset Management Company also played an important role by purchasing the residential properties of the most exposed nearly 40 thousand loan debtors. Although financial stability risks declined with the cleaning of the balance sheets of credit institutions, the situation of non-performing debtors has remained a social problem.

In the case of transactions that have been overdue for a long time, debt management companies strive to achieve recovery by selling the collateral, and in the case of a new delay by rescheduling it. Agreements were reached between the parties in the case of 63 per cent of the receivables taken over by financial enterprises. Settlements following the sale of the real estate collateral account for the largest portion (46.5 per cent) of the agreements, but rescheduling of the repayment of the debt also took place in many cases (41.1 per cent). The probability of an

Chart 56: Delinquency ratio of mortgage loan agreements concluded between 2010 and 2018 depending on the time elapsed, according to the year of concluding the contract



Note: Delinquent loans cover the loans over 90 days past due where the delay exceeds the amount of the minimum wage. In the case of the values for 2013 we adjusted for the data of one of the large banks, which presumably included a refinancing wave affecting non-performing loans. Sources: CCIS, MNB

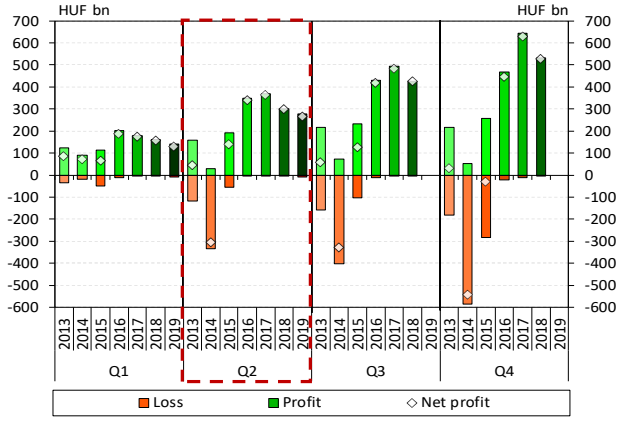
agreement on selling the real estate collateral grows with the period for which the claim has been overdue (Chart 55). While in the case of nearly 60 per cent of the contracts overdue for more than 5 years they agreed on selling the real estate collateral, in the case of transactions overdue for 2–5 years this ratio was only 28 per cent.

In recent years, the default ratio of new mortgage loan agreements concluded by credit institutions has gradually declined from a low level. Examining the cumulative default ratio of mortgage loan contracts by year of disbursement, a clearly declining trend is observed (Chart 56). In the sixth year, which was the peak in terms of default ratio, the loans disbursed in 2010 exceeded 10 per cent of the number of contracts. By contrast, in the case of the loans disbursed in the new credit cycle the ratio of delinquencies is below 2 per cent, whereas the default ratio of mortgage loans disbursed since 2015 does not even reach 0.3 per cent. The improvement is a result of the joint effect of various factors: the improving macroeconomic environment, prudent debtors and financial institutions, as well as the MNB regulations preventing risky lending have all contributed to the development of sounder mortgage lending. In recent years, the number of delinquent mortgage loans has been around 1–3 thousand per quarter. These receivables are typically debts that are on the balance sheets of debt management companies, are in default not for the first time, and were disbursed before 2010.

5 Profitability, efficiency, capital position: outstanding profit can be maintained by increasing efficiency

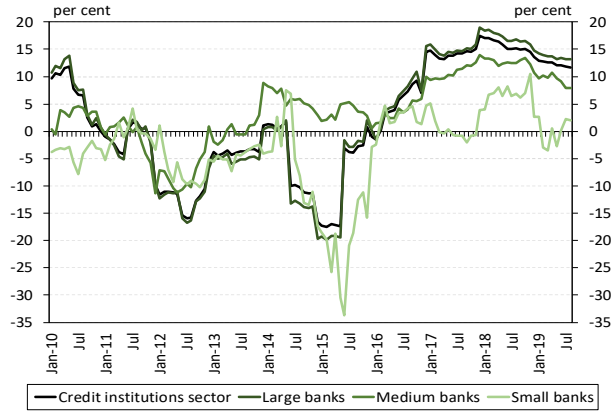
In the first half of 2019, the Hungarian credit institutions sector realised an after-tax profit of HUF 265.6 billion, according to non-consolidated data (HUF 311.1 billion based on the consolidated figures), marking a decrease of HUF 34 billion (HUF 14 billion on consolidated basis) year-on-year. The profitability of the banks in Hungary is outstanding in EU comparison as well. Of the profit components measured as a ratio of total assets, the largest declines were registered in net trading income, other profit (which also includes net income on the sales of receivables) and the profit-improving effect of net impairment. Net commission and fee income, dividends and operating expenses improved moderately, while net interest income registered a negative shift as a ratio of total assets, despite the rise in nominal terms. Improvement in sustainable profitability is conditional on significant convergence both in terms of the efficiency indicators and the digitalisation of the banking sector. This is also confirmed by the revised Technology and Efficiency pillar of the MNB's Banking System Competitiveness Index, which compares the banking sectors of the EU in a complex manner, based on several indicators. The banking sector's capital adequacy ratio of 18 per cent indicates stable capital position. Although the free capital buffer within the sector is highly concentrated, all institutions satisfy the minimum requirement.

Chart 57: Year-to-date cumulative after-tax profit or loss of the credit institutions sector



Note: Differently from net profit, profits and losses do not include the income of savings and loan associations.
Source: MNB

Chart 58: 12-month rolling after-tax return on equity of credit institutions



Note: Large banks include the 9 largest institutions (balance sheet total over HUF 1,300 billion), medium-sized banks

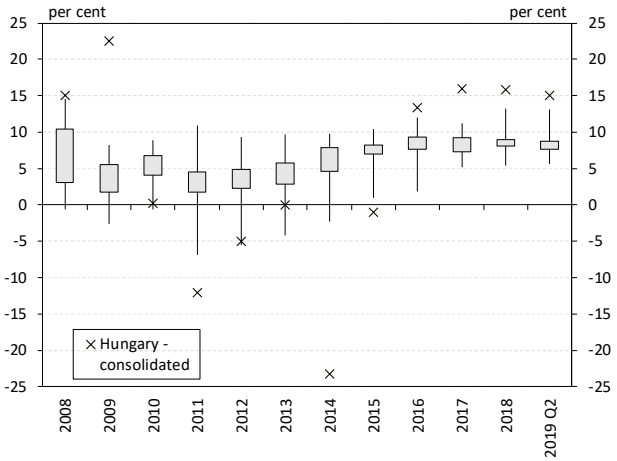
5.1 Banks' profit continued to decrease, but the level remains outstanding by international standards

The number of loss-making institutions rose, but the aggregate weight of the negative result is negligible. In the first half of 2019, the after-tax profit of the credit institutions sector amounted to HUF 265.6 billion, falling short of the figure registered in June 2018 by HUF 34 billion, based on the non-consolidated data (Chart 57). The consolidated data also reflected a decline, as the sector's profit decreased by HUF 14 billion to HUF 311.1 billion. Although the number of loss-making credit institutions rose from 4 to 8 in the first half of 2019, the market share of these institutions based on balance sheet total and their aggregate loss can be deemed negligible. Non-bank financial institutions realised a profit of HUF 82.5 billion in the period under review, up HUF 48.7 billion compared to June 2018. In their case, the large change is attributable to one-off items and the base effect.

The profitability ratios of the credit institutions sector declined further. The return on equity of the credit institutions sector as a whole dropped from 13.6 per cent to 12.1 per cent (while the return on assets fell from 1.4 per cent to 1.2 per cent), in parallel with the decrease in the ratio of the balance sheet total to equity (Chart 58). Grouping the banks based on size (large, medium and small banks) shows significant heterogeneity. While large banks' return on equity exceeded the sector average by roughly 1.5 percentage points in August, the profitability of medium-sized

include the next 9 largest (balance sheet total over HUF 82 billion), while small banks include the rest of the institutions. Source: MNB

Chart 59: Distribution of the banking sectors' 12-month rolling ROE ratios in the EU



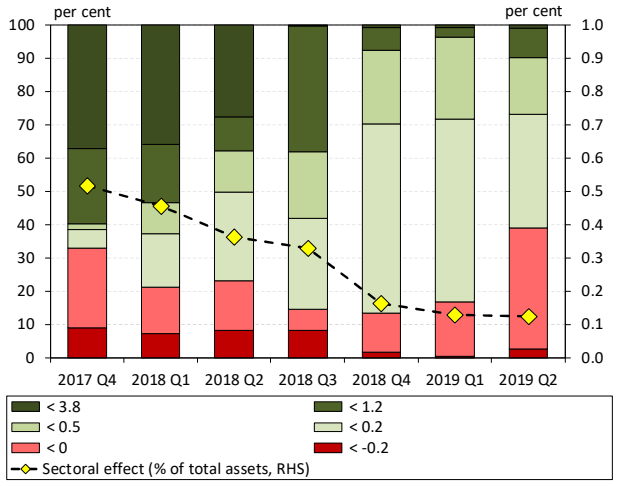
Note: The distribution shows the 40-60th and the 20-80th percentiles of the banking sectors in the EU. Source: ECB CBD

Table 2: 12-month income components as a ratio of total assets

Components as a ratio of total assets	2017 Q4 position	*2017 Q4-2018 Q2 change*	*2018 Q2-2018 Q4 change*	*2018 Q4-2019 Q2 change*	2019 Q2 position
Net interest income	**2.18%**	*-0.12%*	*0.03%*	*-0.02%*	**2.07%**
Commission and fee income	**1.44%**	*-0.02%*	*0.01%*	*0.01%*	**1.43%**
Net trading income	**0.41%**	*0.05%*	*-0.05%*	*-0.09%*	**0.32%**
Operating expenses	**-2.04%**	*0.01%*	*-0.07%*	*0.03%*	**-2.07%**
Net impairment	**0.52%**	*-0.15%*	*-0.20%*	*-0.04%*	**0.12%**
Dividends	**0.29%**	*-0.05%*	*-0.01%*	*0.03%*	**0.25%**
Bank levy	**-0.12%**	*0.01%*	*0.01%*	*0.00%*	**-0.11%**
Other	**-0.89%**	*0.05%*	*0.11%*	*-0.05%*	**-0.77%**
After-tax income	**1.78%**	*-0.24%*	*-0.16%*	*-0.14%*	**1.25%**

Source: MNB

Chart 60: Distribution of credit institutions by the profit/loss impact of the net impairment-to-assets ratio, weighted by balance sheet total



Source: MNB

banks fell short of the average by 3.8 percentage points and that of the small banks to an even higher degree.

Despite the moderate decline, the profit of the Hungarian banking sector remains outstanding by international standards. Examining the 12-month rolling ROE ratios of the banking sectors of the EU Member States, at the end of March 2019 Hungary was still at the top of the ranking (Chart 59). Although Hungarian banks account for merely 0.3 per cent of the European banking sector based on total assets, they contributed roughly 1.1 per cent of the profit in the last 12 months. While profitability in Hungary is expected to decline further, it may nevertheless preserve its relatively advantageous position, considering the profitability problems in the Western banking sector.

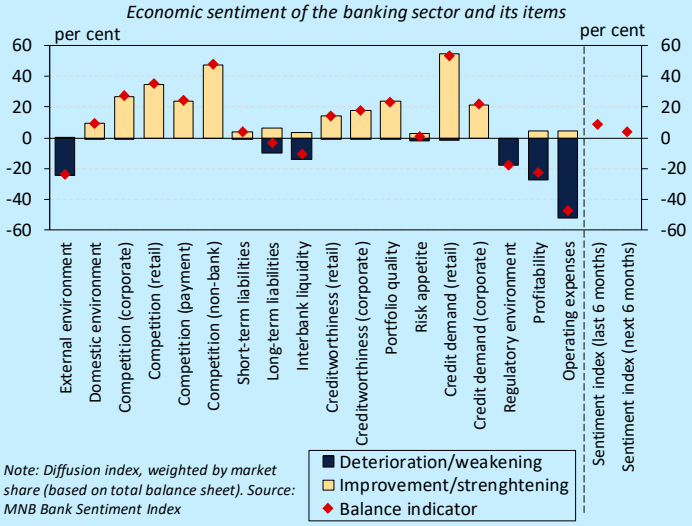
The degree of impairment reversals declined further, albeit at a decelerating rate. The profit-improving effect of net impairment to total assets declined further in 2019 H1, but the 4-basis point decrease in the profit-improving effect (to 0.12 per cent) is substantially lower than the change seen between December 2017 and 2018 (Table 2). Despite the decreases, this item still has a net positive impact on income. Although in nominal terms both net interest income and commission and fee income rose in an annual comparison, as a ratio of total assets the former declined, while the latter increased only moderately. Following the deterioration registered in 2018 H1 – mostly attributable to one-off items – operating expenses to total assets improved moderately by 3 basis points in 2019 H1.

The profit/loss impact of net impairment once again became negative for a larger share of the banking sector. At the end of 2017, the profit-improving effect of net impairment as a ratio of total assets exceeded 1.2 per cent for 37 per cent of the banking sector, but this share is already below 1 per cent since September 2018 (Chart 60). Banks that recognised a very positive profit effect from this item first moved to categories reporting lower profit-improving impact, and then – from early 2019 – this profit/loss item moved into the negative range, which is deemed natural, at an increasing number of institutions. However, there are still a few institutions that registered an improvement in this item. In the coming quarters we expect the negative trend in impairments to become a general phenomenon, and profits from reversals will no longer be available to the banks as a temporary profit-improving item. Despite this trend, based on the results of the first Bank Sentiment Survey, a majority of domestic banks still expects a return on equity of 10 per cent in the long run (Box 4).

BOX 4: FIRST RESULTS OF THE BANK SENTIMENT SURVEY

In October 2019, the MNB conducted a questionnaire survey to assess the perception of economic activity and the strategic plans of the domestic banking sector. The questionnaire contained both backward-looking questions (past 6 months) and forward-looking questions (next 6 months). From 2020 Q1, the survey will become a regular reporting requirement for credit institutions, while in the current round banks responded voluntarily. Responding institutions covered 92 per cent of the sector measured by the balance sheet totals.

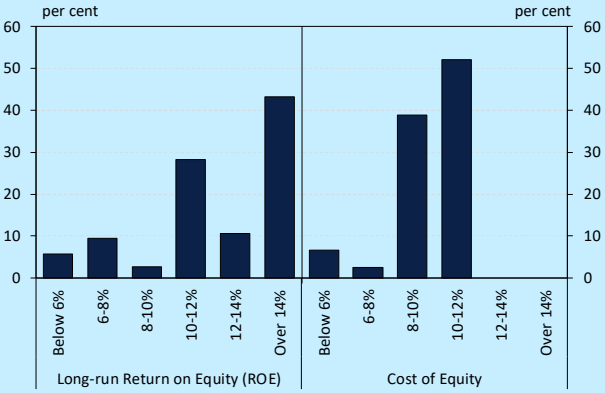
Economic sentiment of the banking sector and its items



Note: Diffusion index, weighted by market share (based on total balance sheet). Source: MNB Bank Sentiment Index

The sentiment survey aids the recognition of financial and credit cycles, and thus it is given a role in the forward-looking examination of financial stability. According to the current survey, the banking sector experienced a slight improvement in economic activity in the past half year, and expects the same for the next six months as well.[19] This slightly positive expectation is based on the heterogeneous judgement of the individual components. A wide range of respondents perceived deterioration in the external environment, tightening of the domestic regulatory environment, deterioration in profitability prospects and a major increase in operating expenses. And the contribution of these factors to the changes in perceptions was found to be negative. At the same time, competition increased in each segment, credit demand grew considerably (especially in the household segment as a result of the prenatal baby support) and clients' creditworthiness also improved along with the portfolio quality. The expansion in the household credit demand was reported mainly by large banks, while the rise in corporate demand was more typical to be reported by small banks. According to the forward-looking responses, market participants expect worsening in the domestic environment; no further increase in demand is anticipated in the household segment contrary to the past half year. Thus, the competition for clients is expected to be stronger than before.

Profitability and cost-of-equity expectations of banks



Note: Weighted by balance sheet totals. Source: MNB Bank Sentiment Index

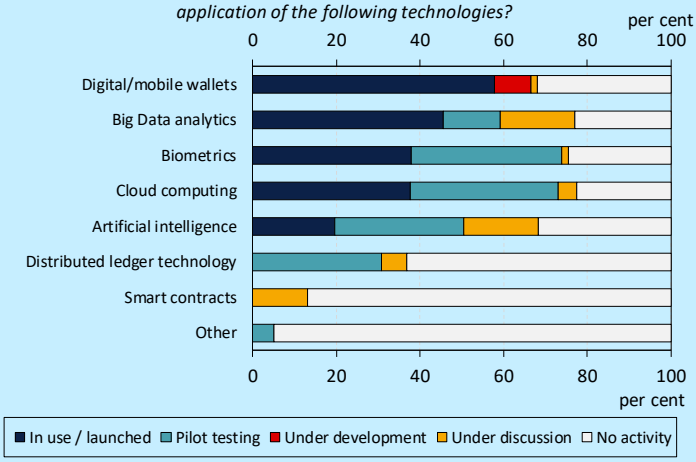
The survey included the profitability expectations of banks and foreign branches. The relative majority (43 per cent) of banks project return on equity above 14 per cent on the long run, and overall four fifths of them expect profitability to exceed 10 per cent. Respondents estimate the cost of equity to be between 8–12 per cent. On the whole, 8 per cent of the credit institutions believe that – on the basis of the categories in the questionnaire – the level of the cost of equity exceeds the long-term profitability. For the next half year, 80 per cent of banks expect a modest decline in ROE, while 20 per cent expect a further slight increase. In the coming period, respondent banks plan to increase profitability mainly through the net fees and commissions income, and within that especially by raising lending fees, but they also expect the profit from investment services and the net interest income to rise. According to half of the banks, both cost-to-asset and cost-to-income ratios will tend to decline; nearly

[19] The responses were weighted by the balance sheet total of the banks, and thus a diffusion index was calculated: in the case of responses given on a scale of 5, the factors pointing to deterioration in economic activity took a negative, while the ones pointing to improvement took a positive value; slight deterioration (improvement) was taken into account with a weight of 0.5 (-0.5), whereas major deterioration (improvement) with a weight of 1 (-1).

40 per cent of them expect some increase, while 6 per cent of them predict robust expansion. The majority of respondents plan to cut costs through increased automatisation, digitalisation and the expansion of e-channels, while at the sector level no restructuring of the branch network or reduction in personnel expenses can be expected.

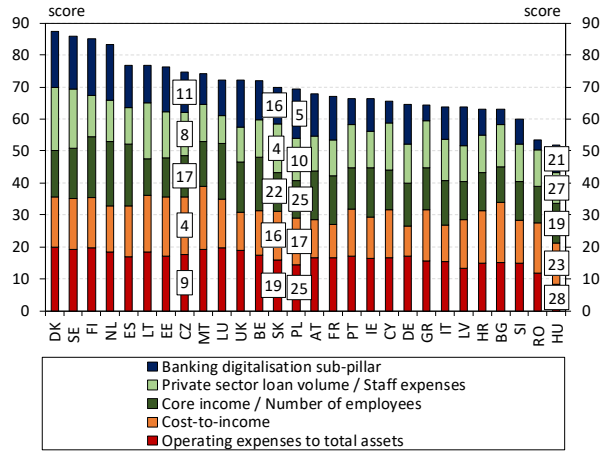
Among digitalisation developments, digital/mobile wallets have already become available in more than half of the banks, and mostly this is targeted by the current development projects as well. Additionally, the application of biometrics, cloud computing, artificial intelligence, big data and distributed ledger technology (e.g. blockchain) is already in the phase of pilot testing by the majority of banks. Of the options listed, respondent banks are the least active in the field of smart contracts. Planned technological developments are mostly carried out on an 'in-house' basis, and thus they contributed to the rise in IT costs (as perceived by 80 per cent of the banks in the past half year), while the size of investments in non-bank fintech corporations remained unchanged in this period.

What is the level of involvement of your institution with the application of the following technologies?



Note: Weighted by balance sheet totals. Source: MNB Bank Sentiment Index

Chart 61: Ranking of the MNB BSCI Technology and Efficiency pillar

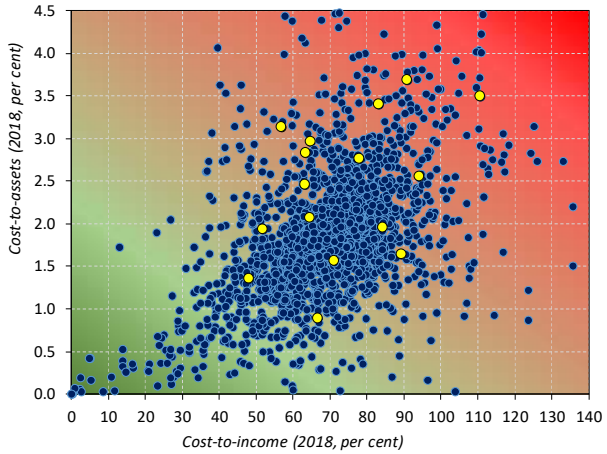


Note: The indicators were standardised on a scale of 0-100 (with 100 as the best), and the values of the pillar were calculated by simple arithmetic averaging. The labels show the ranking in the indicators. Source: Eurostat, WB – GFD, WB – FII, Deloitte, EBA, ESMA, EIOPA, national bank sites

5.2 Based on the MNB's Banking Sector Competitiveness Index, the efficiency of the Hungarian banking sector lags behind that of other banking sectors in the EU

The efficiency of the Hungarian banking sector appears to be weak in several respects. In the EU ranking of the Technology and Efficiency pillar of the MNB's revised Banking Sector Competitiveness Index (for the methodological revision, see Box 5) the Hungarian banking sector is ranked 28th, i.e. last (Chart 61). In this pillar, it is ranked near the very bottom in relation to two indicators: the outstanding loan volume to the private sector as a ratio of personal expenditures, and the ratio of operating expenses to total assets. However, even in the cost-to-income ratio a still unsatisfactory 23rd place was reached, thanks only to its outstandingly high profitability. The Hungarian banking sector also lags well behind the banking sectors in the Visegrád countries in the Banking digitalisation sub-pillar, which measures Internet services and innovation. The digitalisation proposals of the MNB's Competitiveness Programme and the FinTech strategy of the central bank published in October 2019 aim for improvements in this area and the strengthening of digital finances; in addition, the Hungarian Banking Association also elaborated a package of

Chart 62: Efficiency indicators of European credit institutions



Note: Yellow denotes the Hungarian banks included in the sample; the impact of the levy on banks and the financial transaction tax was filtered out from their operating expenses. Source: SNL

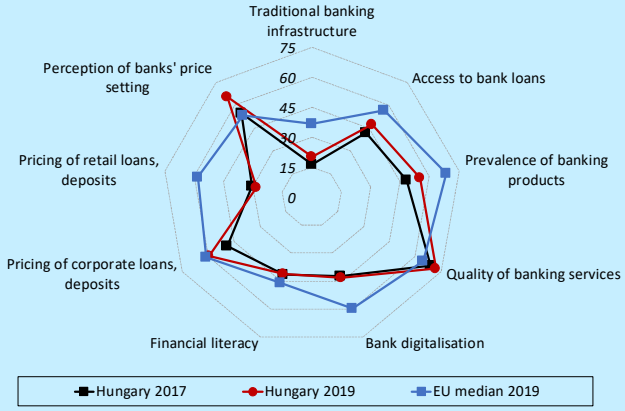
proposals on the topic.[20] By way of a reduction of operating expenses, progress in digitalisation may be necessary already in the medium term to preserve the present favourable profitability.

Some Hungarian banks show major shortfalls in efficiency by international standards. In addition to the ranking of banking sectors based on efficiency, it is also worthwhile to examine the performance of individual credit institutions. In a breakdown by institutions, the Hungarian banking sector shows a mixed picture in a European comparison. Smaller and larger Hungarian credit institutions can be found both above and below the 2-per cent level of the ratio of operating expenses to total assets (Chart 62). Accordingly, the Hungarian institutions vary widely in terms of cost efficiency depending on their size and business model. Efficiency at the sector level could be significantly improved if consolidation of the Hungarian banking sector accelerated and the number of institutions operating on the market decreased. With the merger of certain institutions, the operating expenses-to-total assets ratio would decrease as a result of the increasing economies of scale and exploitation of synergies between the business models.

BOX 5: REVISION OF THE MNB'S BANKING SECTOR COMPETITIVENESS INDEX METHODOLOGY

In 2017, the MNB developed the **Banking Sector Competitiveness Index (BCI)**,[21] the purpose of which is to rank the banking sectors at the European level, in a number of dimensions. **The ranking assesses the individual banking sectors according to two key criteria**: the qualitative, quantitative and pricing criteria applicable to the financing of corporations and households on the one hand, and the capital attracting capacity of the individual sectors on the other. **Index values in these two categories are obtained using a number of indicators (almost 60, in total) representing various aspects.**

MNB Corporate and household financing index 2.0 according to established subpillars



Note: The values for each pillar and subpillar were obtained by averaging several indicators standardised on a 0-100 scale. Source: MNB, Deloitte, EBA, ECB – MIR, ECB – PSS, ECB – RAI, ECB – SAFE, EIB – IS, EIOPA, Eurostat, ESMA, IMF – FAS, IMD – WCY, national bank sites, OECD, S&P GFLS , WB – DB, WB – FII, WB – GFD, WEF – GCI

In the past two years, new data which were also relevant for calculating the index became available, and thus it was reasonable to update and expand the information used to compile the index. During this revision, emphasis was put on supplementing the index with indicators that best describe the level of bank digitalisation and the technological development of the banking sectors. Based on the indices updated according to the revised

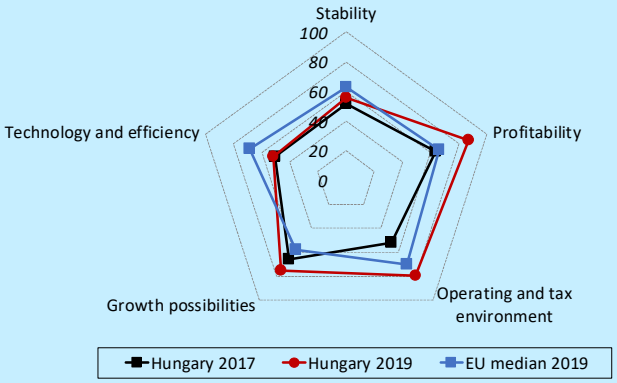
[20] For further information, see: Competitiveness programme in 330 points, FinTech Strategy of the Magyar Nemzeti Bank , Digitalisation proposals of the Hungarian Banking Association.

[21] Asztalos, P. – Horváth, G. – Krakovsky, Š. – Tóth, T. (2017): Resolving Conflicts in Measuring Banking Sector Competitiveness – The MNB's Banking System Competitiveness Index. Financial and Economic Review, Vol. 16 (3), pp. 5-31.

scheme, we can assess the competitiveness of the Hungarian banking sector relying on a broader, up-to-date information base.

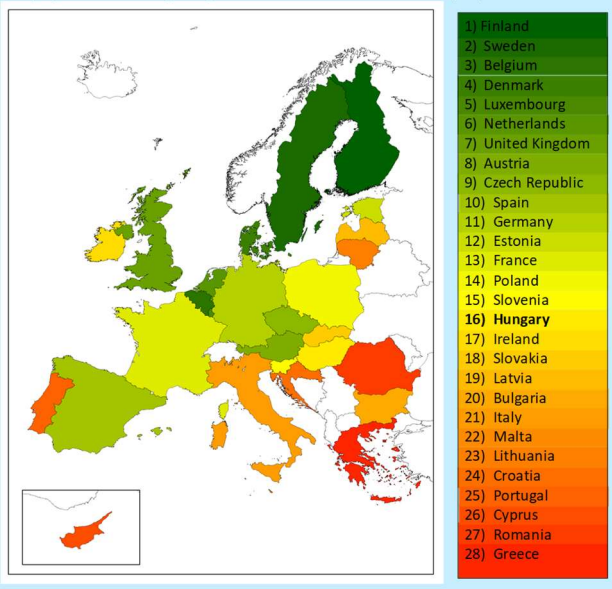
In the rankings calculated on the basis of the revised structure, the position of the Hungarian banking sector shows a dual picture. The Hungarian banking sector advanced in the ranking in the sub-index for the financing of corporations and households. However, values achieved for the indicators covering to this sub-index (banking infrastructure, pricing of household and corporate loans/deposits, quality of banking services) left the sector ranked in 21st place only. This is primarily due to the fact that the Hungarian banking sector underperforms in the area of access to finance and bank digitalisation, in addition, it also only ranks towards the back of the middle of the field. Furthermore, there is also strong duality within the sub-index in the criteria of corporate and household financing.

MNB Capital attractiveness index 2.0 according to established subpillars



Note: The values for each pillar and subpillar were obtained by averaging several indicators standardised on a 0-100 scale. Source: MNB, Damodaran, Deloitte, ECB – CBD, IMD – WCY, IMF – FSI, ECB – SSI, ECB – RDF, ECB – QSA, Eurostat, SNL, WB – DB, WB - FII, WB – GFD, WB – WDI, WEF - GCI 4.0

Map of the MNB Banking Competitiveness Index based on the average of the two sub-indices



Note: Based on the ranking of the MNB's Corporate and Household Financing and MNB's Capital Attractiveness indices. The color scale is continuous: dark green denotes the most competitive banking system, red is the least competitive banking system. Source: MNB

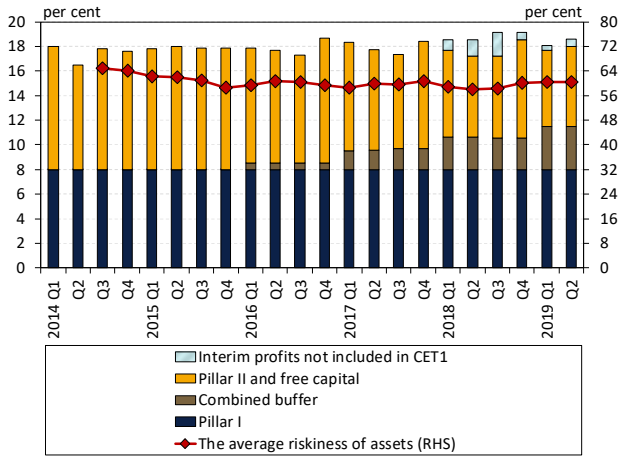
By contrast, in terms of capital attraction capacity, the Hungarian banking sector moved up from the earlier laggard ranking of 26th to 2nd place. The advantageous capital attraction ranking is primarily attributable to the **outstanding profitability** of the Hungarian banking sector registered in the previous years. However, the improvement in the operating and tax environment (in particular the reduction of the corporate income tax rate) and the persistently high level of the growth opportunities identifiable in the economy (negative credit gap and outstanding credit dynamics) also contributed to this. But, despite the moderate improvement in the pillar capturing the technology and efficiency of the banking sector, the Hungarian banking sector preserved its 28th rank.

Based on the averaging of the two sub-indices, the Hungarian banking sector was ranked 16th overall, i.e. it is of average competitiveness among EU countries. In order to increase competitiveness and ensure the long-term preservation of Hungarian banks' high profitability and capital attraction capacity, significant improvement is required in both the efficiency ratios and the digitalisation of the banking sector. **Although the IT investments required for this temporarily increase banks' costs, the present outstanding profitability provides the funds necessary for the developments.**

Based on the international rankings, strong progress could be achieved in competitiveness by transforming banking infrastructure and financial deepening. Although in the past years the number of PSP and POS terminals significantly increased, there is still room for improvement in the nationwide coverage of payment facilities (particularly in rural settlements), thereby also reducing the overall economic cost arising from the high degree of cash utilisation. The spread of multifunctional ATMs – e.g. suitable for credit transfer, cash deposit and bill payment – may improve efficiency in the Hungarian banking sector and may also foster the development of banking relations in small settlements with no bank branches. The rise in the number of banking relations and increasing borrowing activity of households

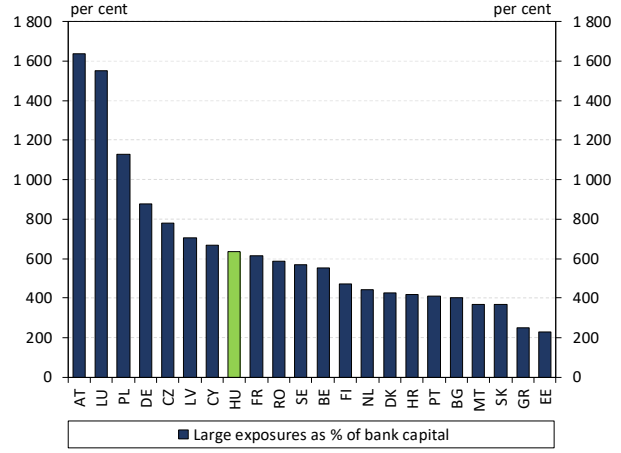
would be also desirable. Based on Hungary ranking 27th in the indicator of the share of borrowing individuals in the past one year, this could also be an ample capacity for further development. Nordic countries (Sweden, Denmark and Finland) in the vanguard in terms of the penetration of banking products and the use of digital channels in spite of having few branches, may serve as a model to be followed.

Chart 63: Consolidated CAR of the banking system and average risk of assets



Note: The average riskiness of assets was calculated as the ratio of the total risk exposure amount and total assets. Source: MNB

Chart 64: Large exposures as a ratio of own funds in an international comparison



Source: ECB CBD

5.3 All institutions meet the capital adequacy requirements

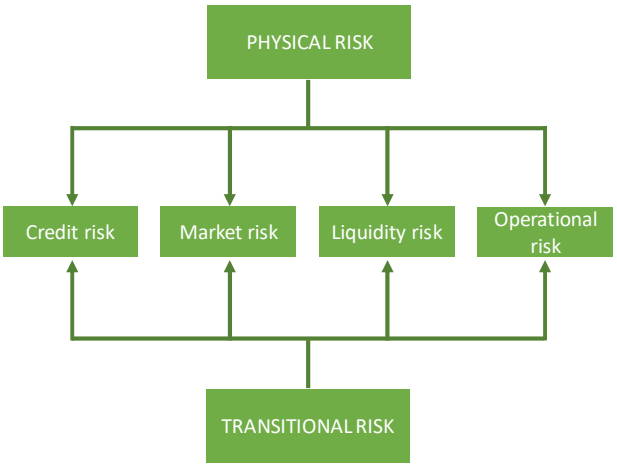
The consolidated capital adequacy of the banking sector rose moderately in 2019 Q2. The consolidated capital adequacy ratio of the banking sector was 18 per cent in June 2019, and all institutions fulfilled the regulatory capital requirements (Chart 63). As regards the quality of regulatory capital, at most of the larger banking groups (with the exception of two institutions) common equity Tier 1 capital accounts for more than 80 per cent of the regulatory capital. There is still high concentration in the sector's free capital buffer, as almost 72.2 per cent thereof is held by three banking groups. Of the regulatory requirements, the capital conservation buffer reached its final level of 2.5 per cent, while as of 1 July none of the institutions is required to recognise a systemic risk buffer applicable to project financing loans, due to the adequate decline in the problematic portfolios.

The large exposure-to-equity ratio of the Hungarian banking sector is not high in a European comparison. The aggregated large exposures-to-equity of the Hungarian banking sector was more than sixfold (635 per cent) at the end of 2018, which cannot be deemed outstanding in a EU comparison (Chart 64). The breakdown by institutions in Hungary shows that the large exposures of most large banks do not exceed 100 per cent of own funds, while relatively higher exposures are more common for small and medium-sized banks. Nonetheless, individual transactions alone do not exceed the limit stated as a ratio of the lending bank's regulatory capital in any case.

Financial risks building up as a result of climate change may have unfavourable effects on the functioning of the entire financial system in the long run. The second National Climate Change Strategy passed by the Parliament,[22] classified Hungary as one of the most vulnerable countries in Europe with regard to the possible consequences of climate change. The *physical* risk posed by the increasingly frequent extreme weather conditions represents an operational risk for the banking sector by eroding banking

[22] For further information, see (only available in Hungarian): http://doc.hjegy.mhk.hu/20184130000023_1.PDF

Chart 65: Financial risks stemming from climate change



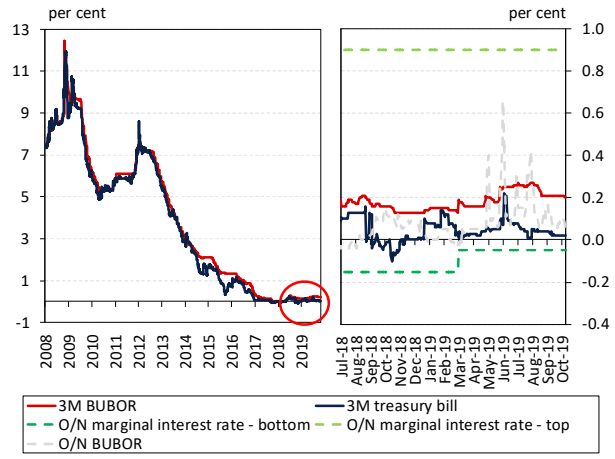
Source: MNB

infrastructure, and credit risk by damaging the capital goods and real properties of customers. The *transitional risk* arising as a result of the regulatory measures taken toward decarbonisation with a view to curbing climate change and a shift in consumer attitudes may bring about a deterioration in the profitability of certain financed industries or even the disruption of their business model, and through that a rise in their credit risk. The pass-through of physical and transitional risks to financial and capital markets entails, in addition to credit and operational risk, market and liquidity risk as well (Chart 65). In the light of the significance of these risks, the MNB supports the identification, assessment and management of the financial intermediary system's climate risks through its Green Programme.

6 Market and bank liquidity: balance of liquid assets declined, but the financing of banks is stable

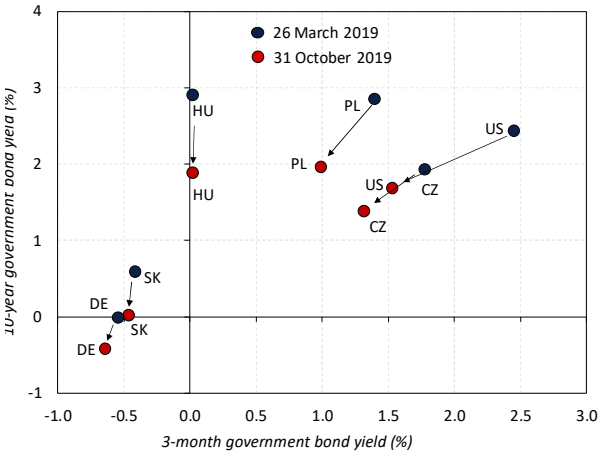
Overnight interbank yields, which are relevant for credit institutions' fund raising, temporarily rose as a result of the liquidity-reducing effect of autonomous factors, but on the whole short-term yields continue to be at historically low levels. Yields on Hungarian long-term assets declined substantially, in line with international trends. The balance of high quality liquid assets declined further, primarily as a result of the declining volume of available government bonds and the central bank's sterilisation portfolio. At the sector level, a sufficient volume of liquidity and stable financing are available to support lending. The loan-to-deposit ratio, which is used as an indicator of funding risks, rose due to the dynamic credit growth, but its level is still far from the rate deemed risky. The introduction of MÁP+ (Hungarian Government Security Plus) may have an effect on the deposit portfolio by influencing the composition of households' savings, which is also facilitated by the high balance of the easily accessible sight deposits. The external vulnerability of credit institutions is at a historical low, as the ratio of short-term external liabilities to the balance sheet total amounted to just 4.6 per cent at the end of June 2019.

Chart 66: Developments in short-term yields



Source: Government Debt Management Agency, MNB

Chart 67: Change in short- and long-term yields between March and October 2019 in certain countries



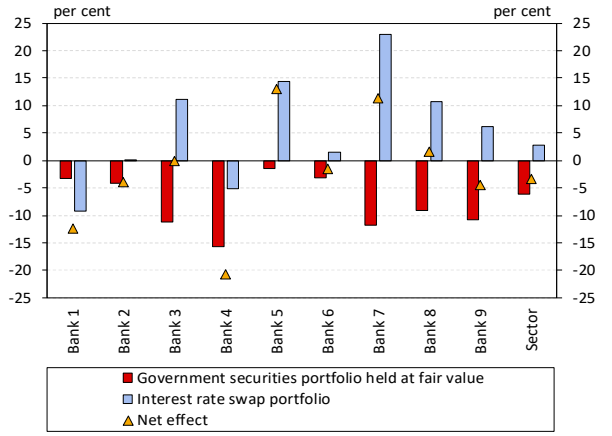
Source: Bloomberg

6.1 The volatility of the overnight interbank yields increased, but their level stabilised by the end of August

Since the previous report, the volatility of interbank overnight rates increased. Looking at interbank short-term yields, the volatility of the overnight interest rates, which is of outstanding relevance for banks' fund raising, increased substantially since May 2019 (Chart 66). The rise in yields was primarily attributable to contracting liquidity resulting from budgetary and financing components. The sales volume of the Hungarian Government Security Plus (MÁP+) significantly exceeded the value calculated in the funding plan, and the budget deficit also became more favourable than anticipated, which resulted in a rising balance of the single Treasury account (KESZ) and a temporary contraction in banking sector liquidity. The 3-month BUBOR, which is of key importance in credit pricing and is used as reference rate, rose by 5 basis points compared to the end of February 2019, thus at the end of October 2019 it amounted to 20 basis points. The average yield of the 3-month discount Treasury bill upon issuance has been close to zero since July 2019.

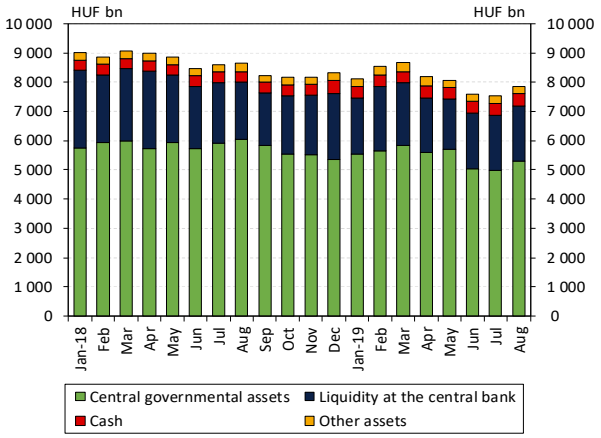
Yields on long-term assets fell substantially in the region. Macroeconomic releases projecting a global economic slowdown and in conjunction with this the accommodating tone of communications by key central banks resulted in a sharp decrease in long-term yields both in developed and emerging countries (Chart 67). As regards the region, the decline in long-term yields between end-March and end-October exceeded 0.5 percentage point everywhere, except in Germany, and yields fell to a low level even in

Chart 68: Immediate profit and capital impact of a 300-basis point positive interest rate shock on certain portfolios of banks



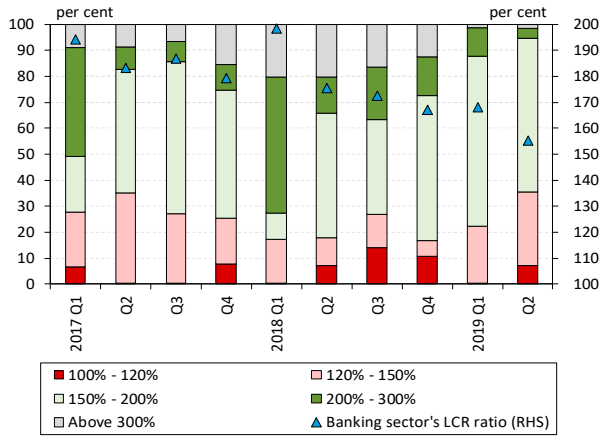
Note: Values as a percentage of equity. Bank data for the nine largest banking groups, credit institutions sector including the data of EXIM, MFB and KELER. Source: MNB

Chart 69: Changes in the LCR-based liquid assets of credit institutions



Source: MNB

Chart 70: Distribution of individual institutions' LCR levels weighted in proportion to the balance sheet total and changes in the LCR of the banking sector



Source: MNB

historical terms. The price of the HUF interest rate swaps, which have key relevance for pricing fixed-interest loans, also declined significantly in the past period: the 5-year and 10-year BIRS fell by 89 and 100 basis points, respectively, between February and end-October 2019.

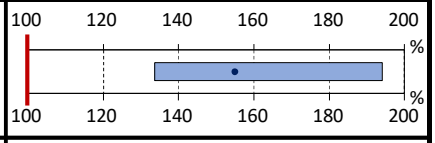
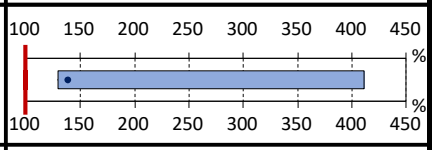
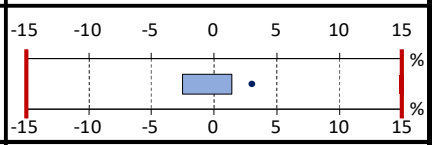
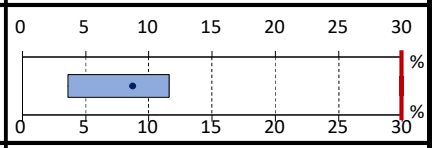
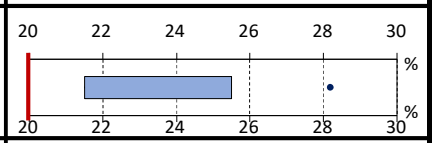
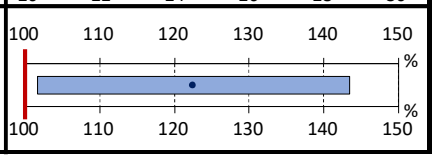
A change in the interest environment may generate immediate losses as a result of the revaluation of the government securities portfolio measured at fair value. For financial stability purposes, the MNB examines the yield curve sensitivity of the banks' balance sheet at the transaction level, since a major yield curve shock – due, among other things, to the maturity transformation risk – may have a tangible impact on banks' profit and loss, liquidity situation and capital adequacy. At the banking sector level, revaluation of the government securities portfolio, which accounts for one quarter of the balance sheet, generates significant losses, but – depending on the portfolio size and accounting treatment – the degree of such varies from bank to bank (Chart 68). Among other things, interest rate swaps are also used to hedge this, but at the banking sector level they would not provide full hedging in the event of a parallel rise in the yield curve. Moreover, in addition to foregoing, a change in the yield curve also has a major profit/loss impact through the loan and deposit portfolio; however, this appears only upon the change of the interest rates of the variable-rate loans, over a longer time.

6.2 Liquid asset portfolio decreased, but the funding structure remains stable

The balance of high-quality liquid assets of credit institutions declined further. The balance of high-quality liquid assets – serving as coverage for net outflows in the event of a liquidity shock – declined by HUF 476 billion compared to end-December 2018, and at the end of August 2019 it amounted to HUF 7,860 billion (Chart 69). The decrease was observed in all asset categories compared to the volumes registered at end-2018. The balance of available government securities eligible as liquidity coverage declined in the period under review due to growth in the banking sector's outstanding repo portfolio. The change in the net HUF liquidity placed with the central bank was attributable to the contraction of the sterilisation portfolio, which fell from its average level of HUF 1,214 billion registered in December 2018 to HUF 843 billion in October 2019.

The liquidity coverage ratio (LCR) declined, but it still significantly exceeds the regulatory limit. The banking sector's LCR decreased by 12 percentage points compared to the end of 2018, and at the end of June 2019 it amounted

Table 3: The MNB's set of instruments managing the liquidity and funding risks, and compliance by the banking sector

Ratio	Actual (2019 June)
LCR*	
FFAR	
FECR	
IFR	
MFAR**	
NSFR***	

Note: The bold red line denotes the threshold value of the regulatory requirement. The edges of the blue rectangle denote the lower and upper quartiles of the distribution, while the black dot represents the average. * LCR data without the mortgage banks and building societies. ** As of 1 October 2018, the regulatory minimum level is 20 per cent, and 25 per cent from 1 October 2019. *** Regulation not yet in effect; will enter into force in 2021. Source: MNB

to 155 per cent (Chart 70). Examining the distribution of the liquidity coverage ratio by individual banks, we find that, based on the balance sheet total, the liquidity coverage at 87 per cent of the banks is already between 120 and 200 per cent, and it was the banks with over-coverage which declined their balance sheet proportionate share of liquidity coverage compared to the end of last year. Based on the data from the end of June 2019, the regulatory requirement of 100 per cent is fulfilled by all institutions subject to compliance.

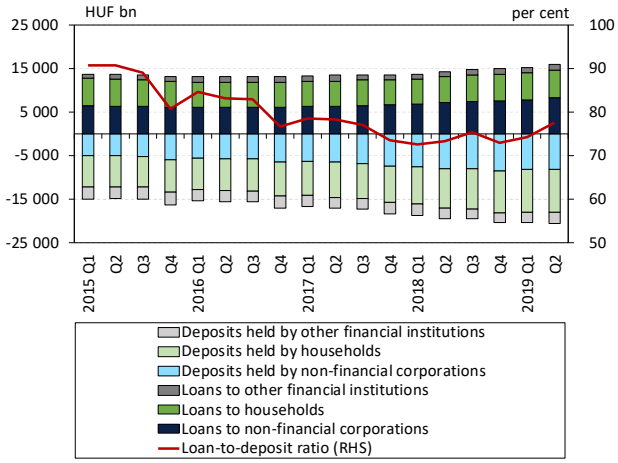
At the sector level, a sufficient volume of liquidity and stable financing are available to support lending. The development of systemic risks related to unstable funding structures is limited by the MNB's macroprudential instruments, which supplement each other and capture the different dimensions of risks. Compliance with the regulatory requirement indicates favourable maturity structures, a safe level of on-balance sheet open positions and a prudent level of financial corporation funds (Table 3).[23] The MFAR regulation, which strengthens the HUF maturity match, increased the share of long-term, safe HUF funds with favourable interest rates. Looking ahead, the change in the European regulatory environment represents additional requirements – and safer operation – for banks (Box 6).

The loan-to-deposit ratio increased as a result of the dynamic credit growth. Dynamic growth in lending to corporations and households continued, and by end-June 2019 their balance rose by HUF 633 billion and HUF 217 billion, respectively. This credit growth was not accompanied by a rise in deposits of similar magnitude: corporate deposits fell by HUF 291 billion, while household deposits rose by merely HUF 204 in the period under review. As a combined result of these changes, the loan-to-deposit ratio rose by 4 percentage points between end-2018 and 2019 H1 (Chart 71).

The recently announced government measures have a significant influence on the deposit portfolio. Due to the favourable redemption conditions and attractive yield, the Hungarian Government Security Plus (MÁP+), which was introduced in June, emerged for households as an alternative not only to time deposits, but also to sight deposits. Based on the experience to date, households financed a significant part of their government securities purchases

[23] The macroprudential rules related to the liquidity and funding position, limit the currency and maturity mismatch (foreign exchange funding adequacy ratio and foreign currency equilibrium ratio) and the excessive reliance on funding from financial enterprises (interbank funding ratio).

Chart 71: Decomposition of the loan-to deposit ratio of credit institutions



Source: MNB

by reallocating existing savings (Box 7). Transformation of the structure of household savings is eased by the fact that the balance of easily accessible sight deposits still accounts for a high ratio (11.5 per cent) of households' financial instruments. In a historical comparison, sight deposits also play a key role in the funds of the banking sector (accounting for 39.2 per cent of the balance sheet total) and thus mobilisation of these deposits may represent a funding risk for some institutions. Meanwhile, the prenatal baby support loans have a positive impact both on the outstanding borrowing of households and household deposits. Looking ahead, we expect further dynamic growth in outstanding lending (see Section 3 of the Report), while the rise in the households' deposits may be curbed by the MÁP+ sales, and thus the loan-to-deposit ratio may increase further.

BOX 6: KEY CHANGES IN THE SINGLE RULEBOOK APPLICABLE TO THE PRUDENTIAL REGULATION OF THE EU'S FINANCIAL SYSTEM

One of the important events of the regulatory reform period following the financial crisis is the **amendment of the European Union's Single Rulebook in summer 2019.** On the one hand, the changes are aimed at further mitigating the banking sector's risks and strengthening its shock-absorbing, loss-bearing and recapitalisation capacity; on the other hand, they may enhance the sensitivity of the rules to banks' business models and size, i.e., their efficiency. Partial implementation of the Basel III standards, approved in 2010, was realised in the EU by the presently effective single rulebook. However, the transposition of the omitted elements of Basel III, or those elaborated in detail later, took place within the framework of the current revision.

The amendments primarily affected the Capital Requirements Regulation (CRR) and the Capital Requirements Directive (CRD). Several changes explicitly affecting the microprudential policy were made, of which the most important ones include, but are not limited to: the fine-tuning of the Pillar 2 requirements, the new rules of capital requirement applicable to credit risks and central clearing counterparty exposures, and tightening of the large exposure rules.

Major changes to the Single Rule Book

	Liquidity and financing	Capital	Other
Microprudential	• Introduction of a Net Stable Funding Ratio • Introduction of a Leverage Ratio requirement	• Fine-tuning of the Pillar II capital requirements, distinguishing mandatory and recommendation (P2G) buffers • New rules on capital requirements for credit and CCP exposures • Easing the handling of software in the determination of regulatory capital	• Tightening the large exposure rules and limits • New reporting obligations related to market risks • The preferential treatment of the SME sector has been strengthened • More powerful representation of environmental and social sustainability aspects
Macroprudential		• Termination of the macroprudential use of Pillar II • Increasing of the applicable O-SII buffer rate level • Clarification of the application of the SyRB • Demarcation of the applicability of combined buffers •Leverage Ratio buffer for G-SII banks	• Reducing the administrative burden of macroprudential tools • Clarifying regulatory responsibilities for indirect capital requirements due to financial stability risks in case of exposures secured by real estate property • Increasing the period of applicability of national flexibility measures under Article 458 of the CRR

Source: MNB

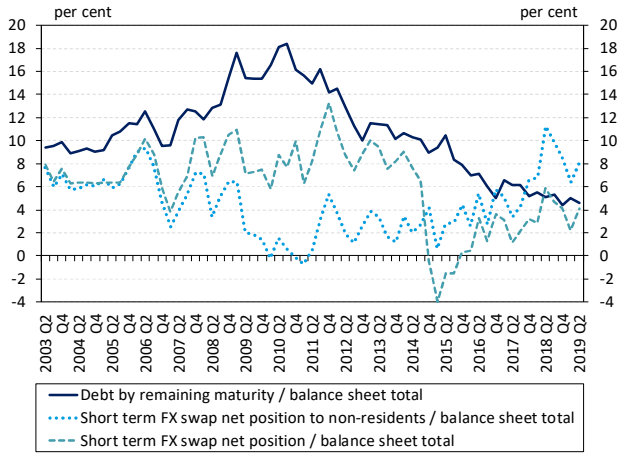
The **macroprudential policy toolkit**, serving the maintenance of systemic financial stability, will **also change**, increasing the flexibility and internal coherence of the function. This primarily affects the alteration of the combined buffer requirements:

- By default, in the future it will be possible to stipulate the rate of the buffer for the *Other Systemically Important Institutions* (O-SII) at 3 per cent, instead of 2 per cent.[24]
- The *Systemic Risk Buffer* (SyRB) may no longer be applied to the management of the risks targeted by the O-SII buffer; it was clarified that the capital requirement may be imposed on one or several sectors or exposures, or – as the case may be – on all institutions or only on a group of institutions.

The – primarily microprudential – new instruments that enhance the safety of the financing of the banking sector, also serve to strengthen financial stability. These are the new requirements for the Leverage Ratio (LR) for the mitigation or prevention of excessive credit growth and leverage, for the Net Stable Funding Ratio (NSFR) to mitigate excessive maturity mismatches and to provide sufficiently stable, long-term funds, as well as for loss-absorbing capacity. **The new EU regulation, directly effective in all EU Member States including Hungary, and the directive to be implemented in the Member States' legal systems, entered into force on 27 June 2019.** The new CRR requirements, such as the LR or NSFR, must principally be applied from 28 June 2021. As for the CRD, the Member States' legislators shall start the application of the provisions necessary for compliance with the Directive, from 29 December 2020, at the latest. The long process of the next review of the EU prudential framework already started this year and is expected to be completed in 2022.

In relation to the changes concerning the macroprudential capital requirements, no direct and automatic impacts may be expected in respect of Hungarian banks. However, in the future the applied level of the O-SII buffer rates and the SyRB conditions serving the prevention of the build-up of systemic risks connected to the commercial real estate project financing loans may be subject to review by the MNB. According to the present estimates, introduction of the NSFR will require limited adjustment by the banking sector, while it may necessitate the revision of the set of regulatory instruments that are aimed at the domestic financing systemic risks and that were introduced within national competence (e.g. FFAR, IFR).

Chart 72: Short-term external debt and off-balance sheet net foreign exchange swap position of the banking sector as a percentage of the balance sheet total



Note: Credit institutions sector, including the data of EXIM, MFB and KELER. Source: MNB

The vulnerability of credit institutions is close to the historical low, while off-balance sheet external funding is on the rise. The level of short-term external debt compared to the banking sector's balance sheet total reached a new historical low at the end of 2018, and has remained at a low level ever since (Chart 72). However, it should be emphasised that the market size of the short-term currency swaps concluded with the non-resident sector, half with group members and half with other non-resident, non-group market participants, rose compared to the end of 2018, in parallel with the increase in outstanding foreign currency loans to corporations and the decline in the foreign currency deposits of the private sector.

BOX 7: IMPACT OF THE HUNGARIAN GOVERNMENT SECURITY PLUS (MÁP+) ON BANKS' LIQUIDITY AND PROFITABILITY

Since its launch in June, Hungarian Government Security Plus (MÁP+) has become the most popular household government security, and the outstanding portfolio reached HUF 2,124 billion by the end of September. Since the magnitude of the subscribed portfolio is rather significant, it is important to examine the source of funding used by households for these purchases. This is because a sudden change in the structure of households' savings and excessive

[24] Several changes took place also in the regulation related to the G-SII banks; however, in the absence of G-SII banks headquartered in Hungary, these regulatory changes are less relevant for Hungary, and thus we do not describe them in detail.

concentration of the reallocated funds may force adjustment by other sectors which rely on attracting households' savings (e.g. commercial banks, investments funds).[25] When identifying the sources of MÁP+ purchases, it is advisable to assess the trends starting from the announcement of the reform of the households' government securities strategy on 8 April, and analyse them together with the sale of the Premium Hungarian Government Security (PMÁP) distributed in parallel with MÁP+ in this period.

Between 8 April and end-September, five different types of sources can be identified underlying the purchase of **MÁP+ and PMÁP in the amount of almost HUF 2,300 billion**; in order of importance, these are the following: (1) redemption of other types of government securities, (2) new income and other sources, (3) savings reallocated from investment funds, (4) cash, and (5) bank deposits. It should be borne in mind that there is significant uncertainty in relation to the estimated distribution of the sources, as it is difficult to identify in which financial instruments the new income of the population appears and then to what degree those are used for purchases.

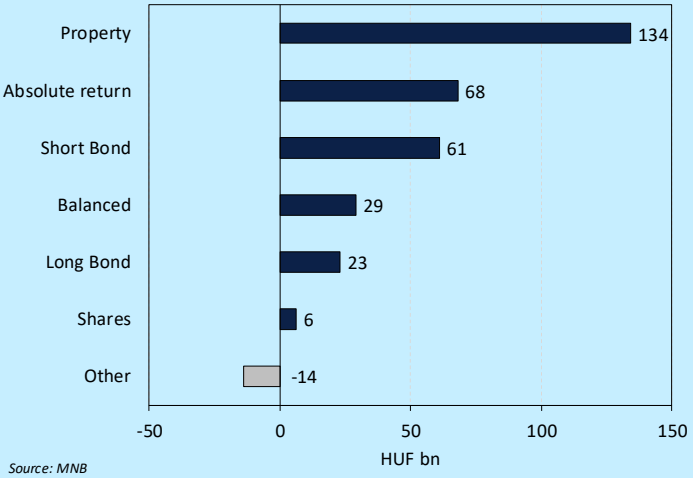
Estimation of the value of the origins of household government security purchases

Source	Value (HUF bn)	Proportion (%)
Redemptions	1030	45%
Investment fund	310	13%
Cash	230-330	10-14%
Bank deposits	220-260	10-11%
New income and other sources	400-500	18-22%
Total	**2300**	**100%**

Source: MNB

Based on the initial experiences, at the time of the launch households were characterised by reallocation of their existing savings. Realignment of households' government securities and waiting for MÁP+ was reflected to the highest degree in the redemption and only partial renewal of the One-year Hungarian Government Security (1MÁP) (decline of HUF 570 billion). In addition, the portfolio of other household securities (Two-year Hungarian Government Security (2MÁP), Half-year Hungarian Government Security (FMÁP), the Bonus Hungarian Government Security (BMÁP), and the Treasury Savings Bill Plus (KTJ+)) also declined by roughly HUF 460 billion, which – in addition to the redemptions – is also supported by the fact that there is no new issuance of these papers since June, and thus households mostly reinvest the expiring papers in MÁP+. Based on the foregoing, the **replacement and redemption of existing household government securities account for almost half of the purchases.** In addition, the **outflow of capital from investment funds** may also be added to the redemptions (roughly HUF 310 billion), with substantial amounts of capital withdrawal from funds focused on real estate and government securities.

Estimation of the value of withdrawals from investment funds



Source: MNB

The value of the purchases financed from bank deposits, cash and presumably new income was also significant. In June and July, roughly HUF 220-260 billion was withdrawn from **households' bank deposits**, i.e. essentially from their previously accumulated liquid savings. In August and September, there was only a small shift in bank deposits, but considering the dynamics of the previous period this may suggest that **households** invested an increasingly larger part of their **new incomes** in household government securities. Based on the monthly time profile of cash holdings and information from certain market sources, the **value of cash purchases** may be around HUF 230-330 billion.

Several channels of the funding of MÁP+ reduced banks' liquidity. Both directly and indirectly (via redeemed mutual fund shares), the withdrawal of household deposits entailed a departure of funding, and the population also redeemed

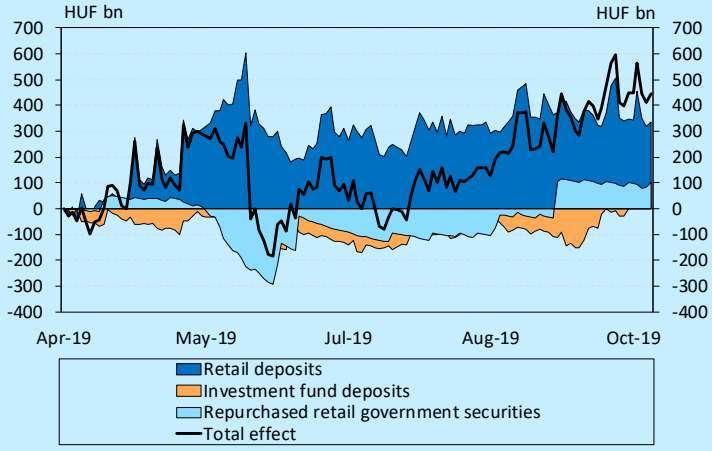
[25] The Box highlights the risks related to the launch of MÁP+. However, the new household government security also has macro-level advantages: it supports the rise in the households' propensity to save and the stabilisation of their savings to income ratio at a high level (the savings to income ratio is over 10 per cent, while the savings-to-GDP ratio is over 5 per cent). In line with this, MÁP+ not only supports the change in the structure of savings – by channelling bank deposits and cash into the government securities market – but also increases households' net financial savings.

large volumes of its other existing household securities at the banks. These transactions resulted in a decline in forint account balances across the sector. The impact **reached its peak in the first two weeks of June.** Compared to the time of announcement of MÁP+, forint liquidity fell by HUF 185 billion, while compared to the maximum of the pre-sales accumulation period it dropped by more than HUF 500 billion. The withdrawal appeared in concentrated form on the forint money market and resulted in a rise in the BUBOR. The **impact in terms of bank regulatory liquidity (LCR) was only moderate,** since the redeemed household papers remained marketable, albeit to a limited degree, and due to the withdrawal of deposits by the funds, the expected level of liquid assets also fell; in addition, the liquidity reserves in securities and foreign currency remained in place. The introduction of MÁP+ reduced the HUF 3,300 billion over-fulfilment of the LCR requirement by just HUF 380 billion. The 12-percentage point decrease in the ratio at the sector level did not jeopardise the compliance of individual institutions.

Following the initial shock, several factors indicated a build-up of liquidity. The MNB's swap tender provided banks with the opportunity to obtain forint liquidity in lieu of their euro reserves. The Government Debt Management Agency channelled liquidity to the banking sector in the form of repurchase agreements and redemption of household government securities, and finally the sales of household government securities also slowed down. In June, the developments in bank liquidity were also influenced by lending processes not connected to MÁP+ and exceeding the impact thereof, and corporate deposit withdrawal processes, and in the longer run the household deposit portfolio returned to its growth trend.

The introduction of MÁP+ in June also influences the profitability of banks via the change of the balance sheet structure and distribution commissions. By the end of September, large banks sold MÁP+ products in the amount of over HUF 1,300 billion, which corresponded to 63 per cent of the total customer portfolio then in circulation. The most significant reallocation took place in the existing short-term household government securities portfolio, which generated a loss in distribution commission. Furthermore, lost portfolio commission should be expected as a result of the bond and real estate fund sales. The Government Debt Management Agency's new distribution commission scheme, which supports the growth in the portfolio, (bonus commission: 0.8 per cent for the difference of the household government securities' average portfolio in the respective and previous quarter) was **mostly advantageous for banks with large branch network and strong premium/private banking customer base**, where the coverage of the purchases instead of or in addition to the redemption of the existing household government securities (also) came from new funds outside the bank.

Changes in bank liquidity due to retail deposits, investment fund deposits and redemptions of government securities



Note: Monthly seasonality of the retail deposit portfolio was eliminated. Source: MNB

The introduction of the Government Debt Management Agency's mandatory repurchase auction withdrew a large volume of high-interest portfolio from the banks' balance sheet, and in relation to this it entailed a loss of net interest income. In order to prevent the accumulation of the redeemed household securities in the institutions' balance sheets, the Government Debt Management Agency also organised repurchase auctions, and later on it also integrated those, as an option, in the distribution contracts. As a result of the repurchases, compared to the status as at 8 April, a decline was registered in the portfolio at two market participants, which had negative impact on the profitability of the respective institutions. However, based on the MNB's estimate, the aforementioned impacts **were positive overall on the profit/loss of the vast majority of banks.**

7 Bank stress tests: banks' stress-absorbing capacity remains strong

Based on the liquidity stress test, in 2019 H1, a moderate deterioration can be identified in the liquidity situation at the banking sector level, but the majority of banks would comply with the regulatory requirements even upon the simultaneous occurrence of the severe liquidity risks examined in the stress scenario. The Liquidity Stress Index remains far from the levels representing major liquidity risks.

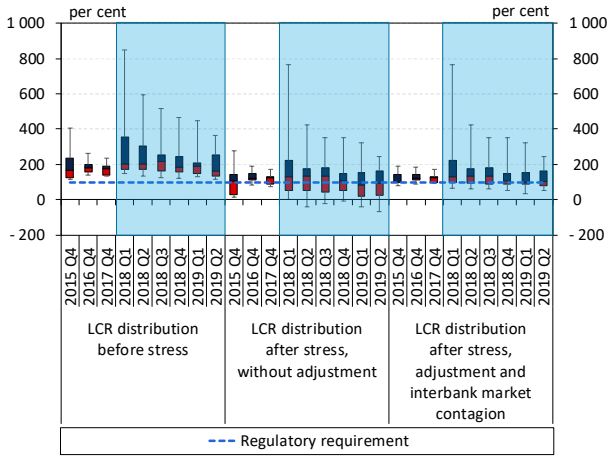
Based on the solvency stress test, even in the event of a severe negative macroeconomic shock, all institutions would be able to meet the regulatory requirements over the two-year time horizon of the stress scenario. According to our estimation, the profit of the banking sector increases both before and after loan loss provisioning, while in the stress scenario several institutions would become loss-making on the examined time horizon. This is primarily due to the profit-reducing effect of the additional impairment arising in the stress scenario, while the upward yield curve shock assumed in the stress scenario would result in a major aggregate profit in the sector.

Table 4: Main parameters of the liquidity stress test

Assets			Liabilities		
Item	Degree	Currencies affected	Item	Degree	Currencies affected
Exchange rate shock on derivatives	15 per cent	FX	Withdrawals in household deposits	10 per cent	HUF/FX
Interest rate shock on interest rate sensitive items	300 basis points	HUF	Withdrawals in corporate deposits	15 per cent	HUF/FX
Calls in household lines of credit	20 per cent	HUF/FX	Withdrawals in debt from owners	30 per cent	HUF/FX
Calls in corporate lines of credit	30 per cent	HUF/FX			

Source: MNB

Chart 73: Distribution of the LCR before and after stress, based on the number of banks



Note: The edges of the box of the box plot represent the lower and upper quartiles of the distribution; the horizontal line in it represents its median. The lower whisker of the plot shows the tenth, while the upper the ninetieth percentile.

7.1 The systemic liquidity shock absorbing capacity remains adequate

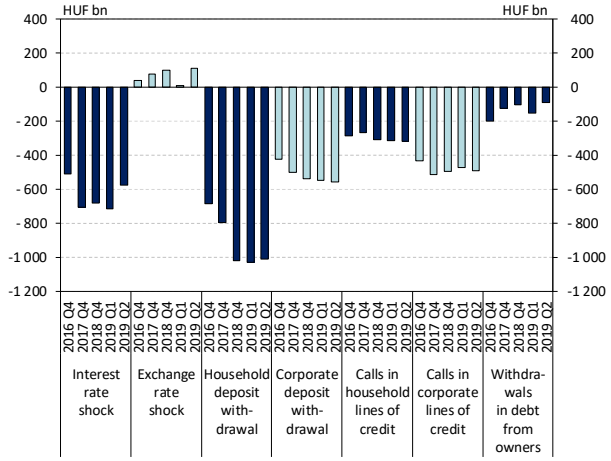
The liquidity stress test presumes the simultaneous occurrence of the key liquidity risks of banks, short-term adjustment in response to that and contagion among the banks. The liquidity stress test examines the impact of an assumed low-probability, simultaneous occurrence of financial market turmoil, exchange rate shock, deposit withdrawals, credit line drawdowns and withdrawals of owners' funds on the LCR (Table 4). In addition, when determining the outcome of the stress test, banks' short-term adjustment opportunities as well as the contagion effects of these adjustment channels and interbank market nonperformance are also considered.[26]

The decline in the pre-stress LCR levels also causes a moderate deterioration in the stress test results. In 2019 H1, the median pre-stress LCRs of credit institutions once again declined substantially compared to the previous half-year, and at the end of 2019 Q2 amounted to 162.7 per cent, which falls short of the value measured a year before by roughly 40 percentage points (Chart 73). In line with this, although without stress the LCR of all institutions exceeds the regulatory minimum, in the hypothetical situation of post-stress but without adjustment, at least half of the credit institutions sector would fall below the regulatory requirement. Furthermore, in this case the lower quartile of the LCR distribution representing the riskier

[26] For a detailed description of the methodology, see Box 9 of the May 2016 Financial Stability Report. In terms of its objective, logic and applied assumptions, our stress test is fundamentally different from the liquidity stress test used in the supervisory review of the Internal Liquidity Adequacy Assessment Process (ILAAP). Therefore, our findings cannot be directly compared to that.

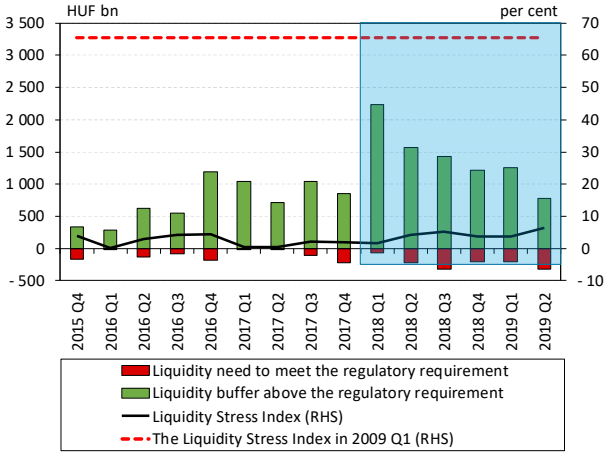
The periods for which the stress test are performed on an expanded institutional base are marked with a blue background. Source: MNB

Chart 74: Aggregate impact of stress components



Note: For calculating the impact of each shock we applied the assumption that the given shock occurs solely. Therefore, the sum of the impacts of the shocks does not necessarily reflect the combined impact of the shocks. Source: MNB

Chart 75: The Liquidity Stress Index



Note: The indicator is the sum of the liquidity shortfalls in percentage points (but maximum 100 percentage points) compared to the 100-per cent regulatory limit of the LCR, weighted by the balance sheet total in the stress scenario. The higher the value of the indicator, the greater the liquidity risk. The periods for which the test is performed on an enlarged institutional base are marked with a blue background. The index value in 2009 Q1 is based on the liquidity shortfalls compared to the balance sheet coverage ratio. For its exact calculation method, see Banai et al. (2014): Stress testing at the Magyar Nemzeti Bank. MNB Occasional Papers No. 109. Source: MNB

institutions, after a major decrease, would only take a value of 24.5 per cent based on the 2019 Q2 data. Although, upon considering the adjustment opportunities the median institution would just comply with the minimum requirement, the result of the banks failing to meet the requirement deteriorated further during the half-year.

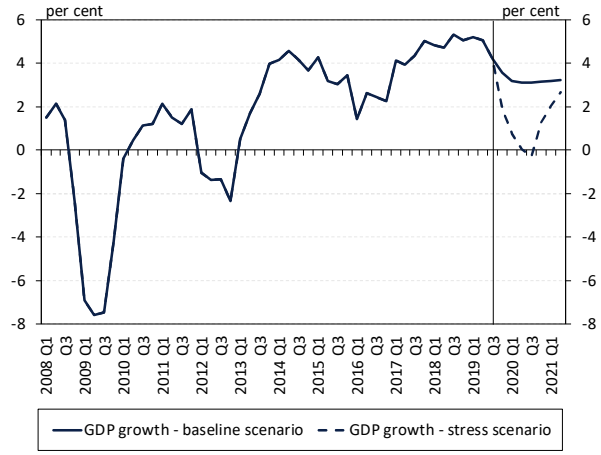
Of the individual sources of risk, at the sector level the LCR would deteriorate to the highest degree due to a shock withdrawal of household deposit. Due to the dominance of the positions against the forint, the exchange rate depreciation affecting the banks derivative portfolio would once again improve the liquidity situation of banks (Chart 74). Of the stress components, at the level of the banking sector the largest LCR-deteriorating effect would still be the effect of the shock caused by withdrawals of household deposit, but a positive yield curve shock, the substantial withdrawal of deposits or drawdown of credit lines by non-financial corporations would also have a major effect. However, the shocks caused by interest rate hikes and the withdrawal of owners' funds became somewhat less significant in the past half-year.

The Liquidity Stress Index rose moderately, but it continues to be far from the levels representing major liquidity risks. The Liquidity Stress Index is designed to capture the heterogeneity across institutions and aggregates the post-stress percentage-point liquidity shortfalls compared to the regulatory limit calculated at the individual bank level by considering the size of the given bank. This also allows us to draw conclusions regarding the extent of a potential stress situation within the banking sector. The value of the Liquidity Stress Index rose moderately in the first half of 2019. The banking sector's liquidity surplus over the regulatory requirement, calculated in the stress scenario, declined further to HUF 781.7 billion in 2019 Q2, while the liquidity needs necessary for meeting the minimum requirement rose moderately, to HUF 324.2 billion. Although the half-year value of the index of 6.4 per cent is the highest one on the presented time horizon (Chart 75), this value still falls well short of the 65.5 per cent registered in 2009 Q1, which reflected major financial stability risks.

7.2 The banking sector's ability to absorb stress is strong also in terms of capital adequacy

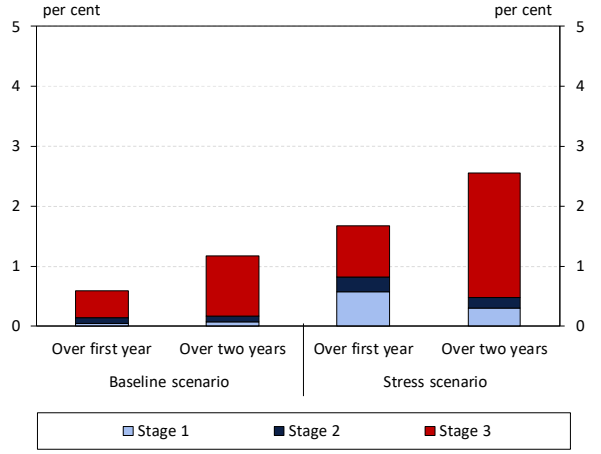
In the stress scenario, we examined the impact on capital adequacy of an economic slowdown, a rising interest rate level and a weakening exchange rate evolving as a joint result of unfavourable shocks. We used the forecast in the

Chart 76: GDP growth rate in the scenarios (year on year)



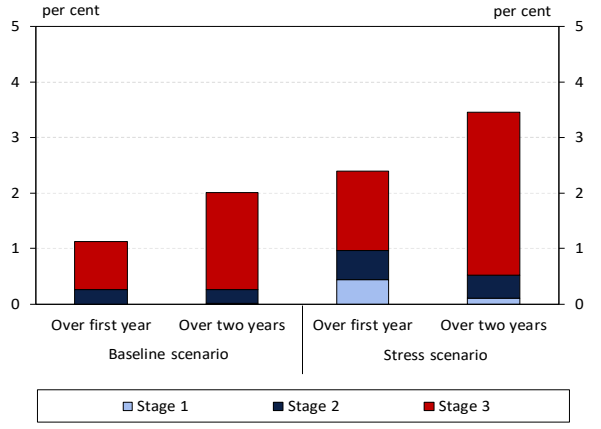
Source: MNB

Chart 77: Cumulated loan loss provision rate for the corporate portfolio



Note: Net generated loan loss provisions, cumulated from the start of the stress test, grouped by end-of-period stages. In proportion to the gross book value of the corporate portfolio. Source: MNB

Chart 78: Cumulated loan loss provision rate for the household portfolio



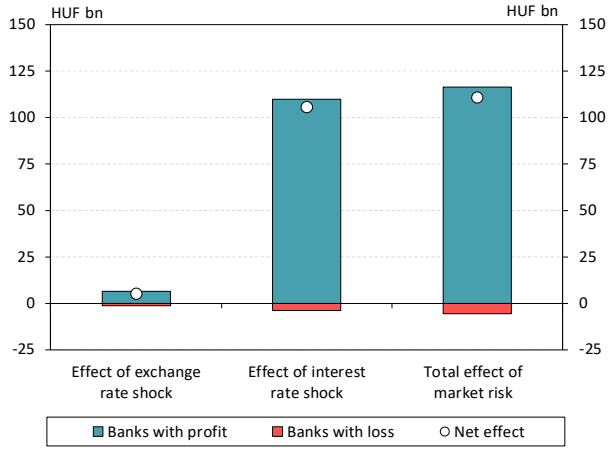
Note: Net generated loan loss provisions, cumulated from the start of the stress test, grouped by end-of-period stages. In proportion to the gross book value of the household portfolio. Source: MNB

September Inflation Report as the baseline scenario for the stress test. Compared to this, in the stress scenario we considered decelerating global economic growth, lower investment activity, financial market turbulences and the negative impacts of prolonged global trade tensions. As a result of the above, demand for Hungarian export will be more moderate, which reduces investment activity and thus the rate of economic growth declines. In the stress scenario, the growth of the economy falls short of the baseline scenario by almost 4 percentage points in two years on a cumulative basis (Chart 76), accompanied by higher interest rate level and weaker exchange rate.

While compared to our exercise one half year ago, the cumulative loan loss provisioning needs decreased in both scenarios for the banking sector's corporate loan portfolio, it increased slightly in the stress scenario in the case of the household portfolio. Due to the rules of IFRS 9, banks also face additional impairment recognition needs in the baseline scenario, which is connected to the rising outstanding lending attributable to the dynamic balance sheet assumption. Furthermore, due to the forward-looking logic of the standard, a significant part of the additional impairment appears not upon default of the contracts, but immediately when the stress appears in the expectations, i.e. in the first year of the scenario. Compared to the results of the stress test presented in the spring Stability Report, the amount of impairment to be recognised in respect of the corporate portfolio declined both in the baseline and the stress scenarios, which may have been partly attributable to the decline in the non-performing loan ratio in the past half-year (Chart 77). The cumulative impairment of the household portfolio is slightly higher in the stress scenario compared to the forecast from half a year ago, but on the whole over the forecast horizon it shows similar dynamics as the corporate one (Chart 78).

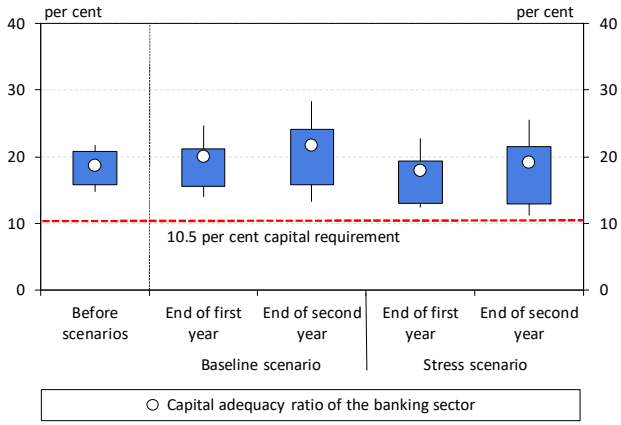
Of the market risks, the positive yield curve shock results in significant profit at the systemic level. Since the total open FX position of the banking sector is practically zero, a shock increase in the FX exchange rate has no material impact on banks' earnings. When calculating the yield curve risk (where we also consider the effect on the items in the banking book and on the deposits in addition to the immediately revalued items), compared to our previous practice we made the calculation of duration more accurate by using cashflow-level data for the securities and interest rate swap portfolio. In addition, in the assumptions of our model we took into account that items with a fixed interest rate (on the time horizon of the stress test) account for a significant part of the asset side of banks' balance sheets.

Chart 79: Market risk stress test impacts



Source: MNB

Chart 80: Distribution of the capital adequacy ratio based on the number of banks



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

Table 5: Stress test results at 8 and 10.5 per cent capital requirements

			Baseline scenario		Stress scenario	
			End of first year	End of second year	End of first year	End of second year
8% capital requirement	**Capital need of banks** (HUF Bn)		0	0	0	0
	Capital buffer of banks above requirement	Aggregate amount (HUF bn)	2 127	2 516	1 800	2 074
		Average (percentage points)	10.2	10.9	8.1	8.3
		Minimum (percentage points)	5.7	4.7	3.9	2.8
		Maximum (percentage points)	16.7	20.4	14.8	17.6
10.5% capital requirement	**Capital need of banks** (HUF Bn)		0	0	0	0
	Capital buffer of banks above requirement	Aggregate amount (HUF bn)	1 675	2 048	1 342	1 600
		Average (percentage points)	7.7	8.4	5.6	5.8
		Minimum (percentage points)	3.2	2.2	1.4	0.3
		Maximum (percentage points)	14.2	17.9	12.3	15.1

Note: Capital buffers of banks above requirement in proportion to the risk-weighted assets. Source: MNB

According to our calculations, as a result of a positive yield curve shock, at the sectoral level a net profit of HUF 106 billion would be realised, which is well above the value of HUF 42 billion registered in the previous half-year, while the losses due to the interest rate shock would be minimal (Chart 79).

In the baseline scenario, the profit of the banking sector increases, while in the stress scenario several institutions incur a loss. Sectoral aggregate earnings before loan losses increase in nominal terms in the baseline scenario. While in the stress scenario, at the end of the two-year time horizon the cumulative earnings before loan losses are 25 per cent lower than the value estimated for the baseline scenario. Pre-tax earnings (also including impairment) rise in the baseline scenario at the banking sector level, but there is substantial heterogeneity: besides certain credit institutions generating a strong profit, several institutions are already loss-making in the baseline scenario. Moreover, as a result of the shock caused by loan loss provisioning needs arising upon the occurrence of the stress, most of the institutions will be loss-making in the quarter when the stress is incorporated in the expectations, and banks will be able to restore their previous profitability only by the end of the two-year time horizon of the stress test. As a result of this, in the stress scenario several institutions produce a loss for the full two years.

The high level of the banking sector's capitalisation persists in the stress scenario as well, and all banks meet the capital requirements. At the end of 2019 Q2, the capital adequacy ratio of the banking sector was 18.7 per cent, which implies strong capitalisation. As a result of the profits (not assuming any dividend payment) the capital adequacy of the banking sector improves in the baseline scenario, and at the majority of the institutions the volume of the capital buffer increases further; however, the range of the distribution of the capital adequacy ratio broadens considerably due to the loss-making institutions (Chart 80). Although in the stress scenario, at the end of the two-year time horizon the banking sector's CAR slightly exceeds the initial value, due to increasing number of banking groups with cumulative loss in the scenario, the capitalisation level materially deteriorates in the lower quantiles of the distribution. Nevertheless, all institutions are able to meet the regulatory requirement even in the stress scenario, and thus no need for capital injection arises in either scenario (Table 5).

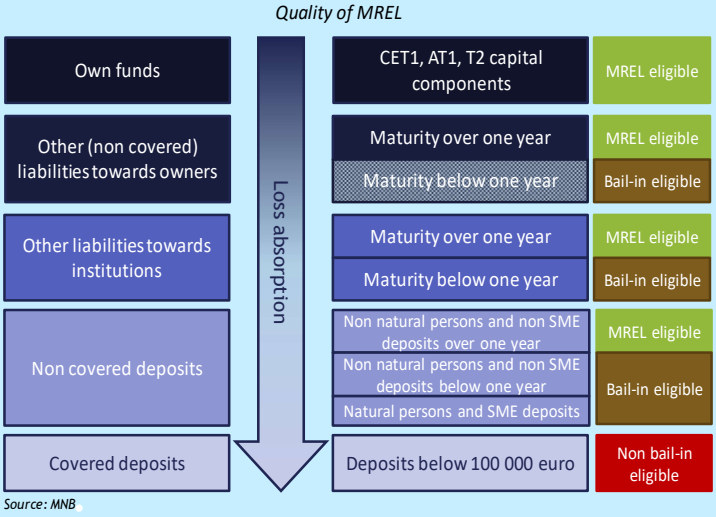
Banks must also prepare for fulfilment of the MREL requirements. According to our solvency stress test,

Hungarian banks will not incur any additional capital need in the two-year stress scenario under review. However, it should be added that in the solvency stress test we only examine compliance with the capital adequacy regulations, but in the coming years, the Hungarian credit institutions will need to raise additional stable (MREL-eligible) funding in accordance with the regulatory requirements (Box 8).

BOX 8: MREL REQUIREMENT PRESCRIBED BY THE MNB

The 2007-2009 financial crisis highlighted the fact that for large banks the liquidation procedures, which are often protracted and where outcome is uncertain, may generate market turbulences and jeopardise financial stability. In most of the countries, the only real alternative to this was to bail out the banks using public funds, which ultimately burdened the taxpayers. Accordingly, **the primary goal** of the newly developed **resolution framework is to charge the costs of the bank bailout to the owners, professional lenders and the actors of the financial sector.** With a view to enforcing this principle, the resolution authorities introduce strict rules for the liability structure of institutions.

In addition to the capital requirement, **banks must maintain additional, stable MREL eligible (Minimum Requirement for own funds and Eligible Liabilities) funds.** Through the stable funding they must be able to provide the conditions of their operation – and thereby their basic services – even in the event of a larger, single or systemic shock. These funds may be used – if the need arises – for recapitalisation of the institutions without taxpayers' funds. In addition to the foregoing, by applying the bail-in tool, if all the conditions of the resolution are in place, in addition to the write-off and restructuring of the institution's capital elements, to cover the losses or for recapitalisation the MNB as resolution authority is entitled to involve other resources, such as writing off of liabilities vis-à-vis creditors or their conversion into capital ownership.



Source: MNB

In November 2018, the MNB published its transparent methodology related to the MREL requirement,[27] and based on that the institutions can calculate their MREL level to be prescribed for them. The MREL requirement prescribes for the institutions the maintenance of liability components of adequate volume and quality, which – similarly to the capital requirements – the institutions are obliged to satisfy on a continuous basis. In a crisis situation, the MREL eligible funds may be written off or converted to capital in part or full, thereby ensuring that primarily owners and then lenders absorb the losses and that they contribute to the recapitalisation. All of this supports the minimisation of the utilisation of public funds in a crisis situation, formulated as a resolution objective.

The CRR2[28] regulation, amending the CRR[29] regulation, is directly effective from 27 July 2019 in all EU member states, including Hungary as well. The MREL[30] regulation was also included in this, but it represents no material change compared to the regulation published in other laws until now. Part of the MREL-related rules of the resolution framework

[27] https://www.mnb.hu/szanalas/mrel

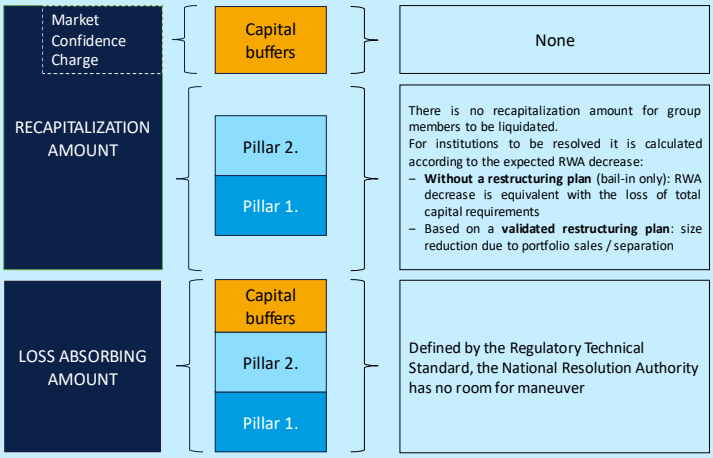
28 Regulation No 2019/876/EU of the European Parliament and of the Council.

[29] Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms.

[30] MREL: Minimum Requirement for Own Funds and Eligible Liabilities.

were integrated in CRR2; the changes are mostly of supplementary or clarification nature compared to the rules already applied on the basis of BRRD.[31] In parallel with this, the EU also integrated the TLAC standard – defining the minimum requirement for the loss absorbing capacity of global systemically important banks (G-SII institution) – in CRR2, harmonising it with the MREL requirements, and it also clarified the notion of MREL eligibility.

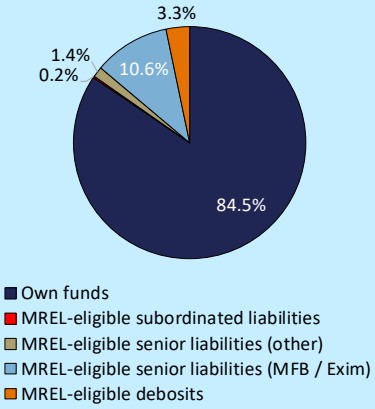
MREL requirement for large banks



Source: MNB

Regulatory capital accounts for the vast majority, i.e. 84.5 per cent of the Hungarian large banks' MREL eligible liabilities; in addition to this, the MFB/Exim Bank funds represent a major share, i.e. 10.6 per cent at the end of 2018. The share of MREL eligible deposits and other liabilities is marginal. Following implementation of the **new BRRD2 regulation** by 28 December 2020, part of the presently MREL eligible liabilities will no longer be MREL eligible: the MFB/Exim Bank funds, classified until now as MREL eligible liabilities, will be removed from the scope.

Structure of MREL-eligible liabilities of large domestic banks (31.12.2018)

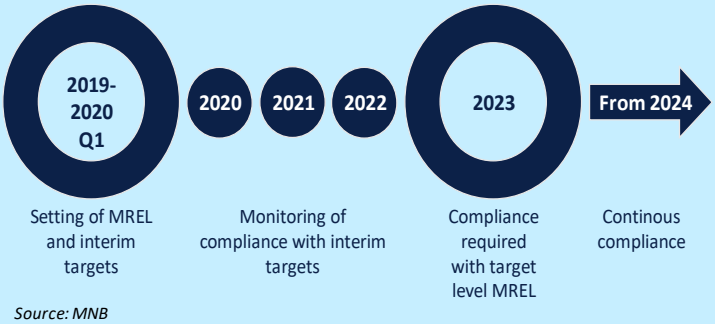


Source: MNB

After consultation with the institutions, by the first quarter of 2020, the MNB will prescribe MREL requirement at the level of individual banks, which will have to be satisfied within four years. Taking into account the expected schedule of the resolution college planning, the MREL requirements for individual institutions, including the Hungarian subsidiary banks, may be accepted by the end of 2019 or end of 2020 Q1. Bearing in mind the principle of equal treatment, the MNB plans to prescribe the MREL requirement also for Hungarian-owned institutions simultaneously with this. The MREL requirement will be introduced with a transitional period of four years, within which time a proposal will be made for the realisation of intermediate objectives. The first active steps are expected to be taken from 2021, essentially in accordance with linear designation.

Institutions have started the preparation for compliance with the MREL requirements. The MNB regularly monitors the degree of the anticipated adjustment requirement, the potential adjustment strategies and opportunities. In the coming years, adjustment is likely to take place in part by internal capital accumulation, and in part by the raising of MREL eligible funds. Based on the MNB's estimation, in the next four years it may be necessary to raise MREL eligible funds in the Hungarian capital market in the amount of roughly HUF 500 billion. In addition to the foregoing, the preparation of the subsidiaries of EU banking groups is also supported by the parent bank.

Timing of MREL setting and compliance



Source: MNB

[31] Bank Recovery and Resolution Directive (BRRD): Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms.

List of Charts

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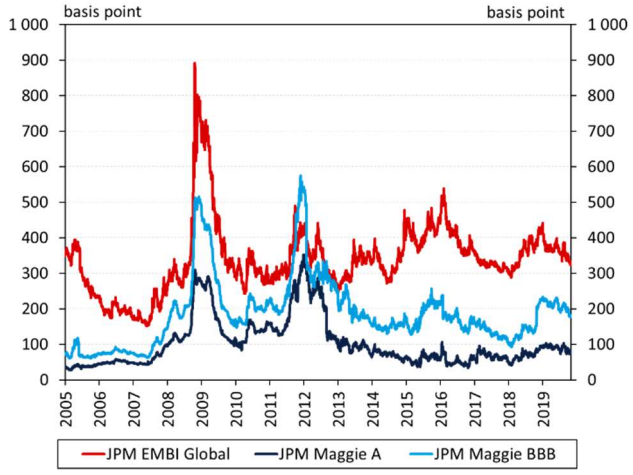
Appendix: Macroprudential indicators

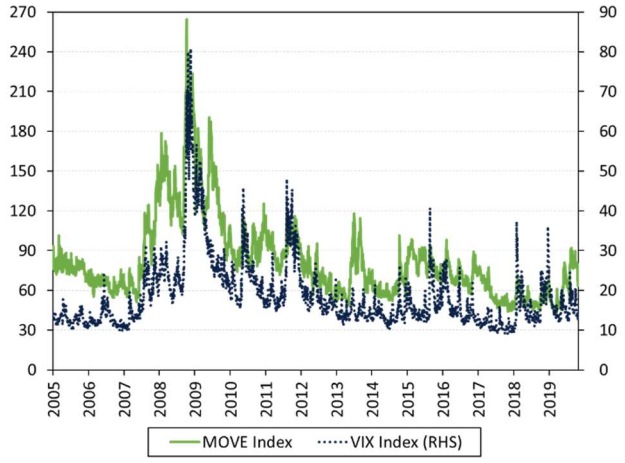
1. Risk appetite

Chart 1: Primary risk indicators



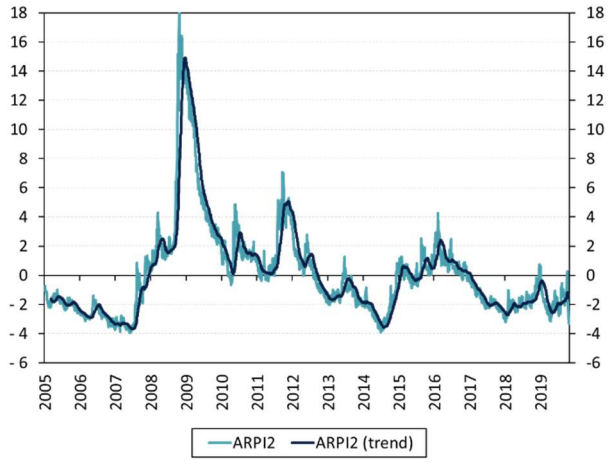
Source: Datastream, JP Morgan

Chart 2: Implied volatility of the primary markets



Source: Datastream, Bloomberg

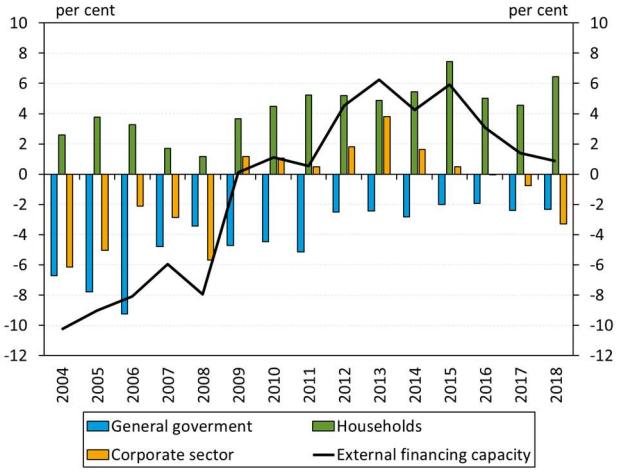
Chart 3: Dresdner Kleinwort indicator



Source: DrKW

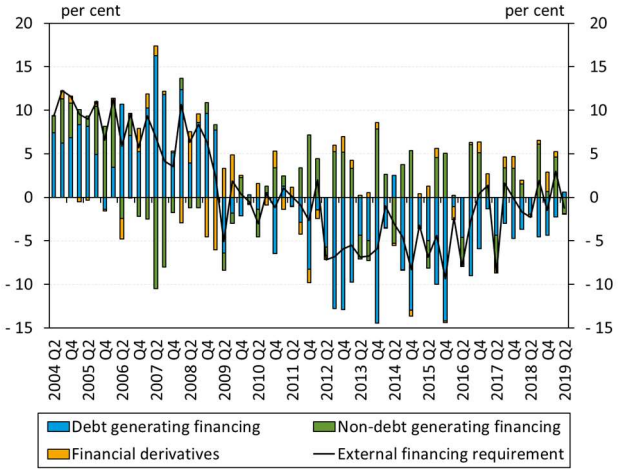
2. External balance and vulnerability

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



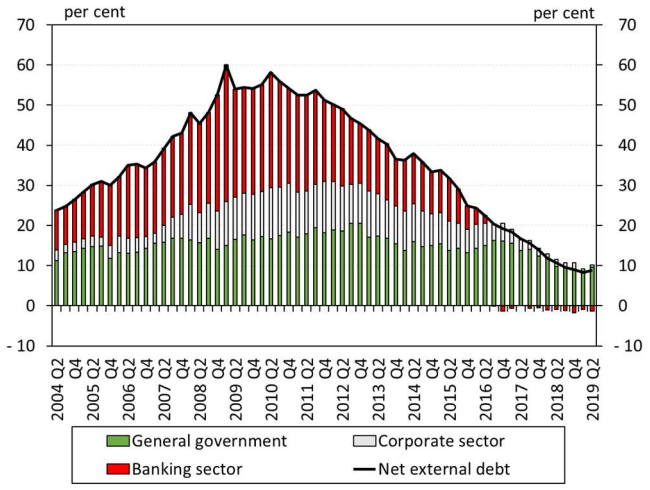
Source: MNB

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



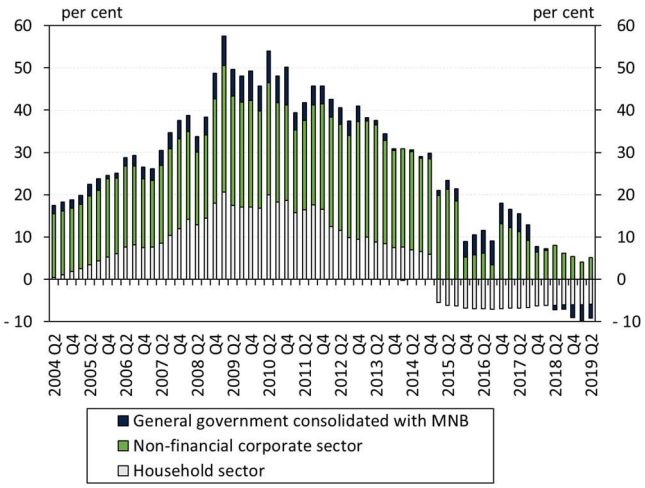
Source: MNB

Chart 6: Net external debt as a percentage of GDP



Source: MNB

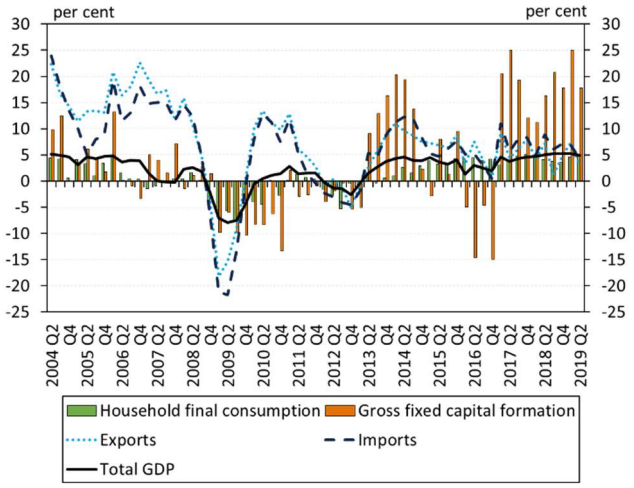
Chart 7: Open FX position of the main sectors in the balance sheet as percentage of GDP



Source: MNB

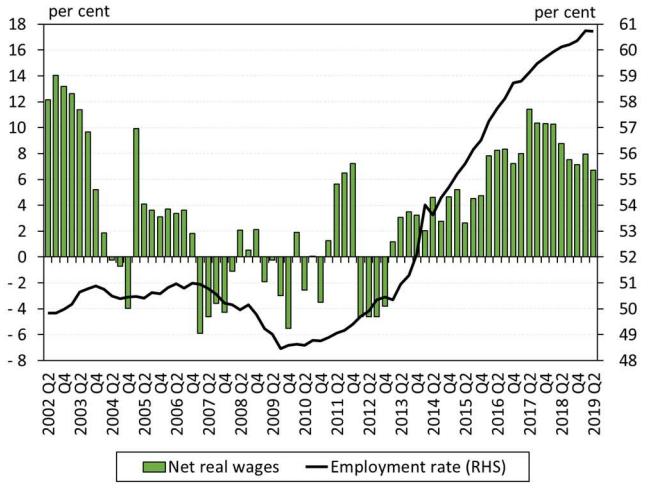
3. Macroeconomic performance

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



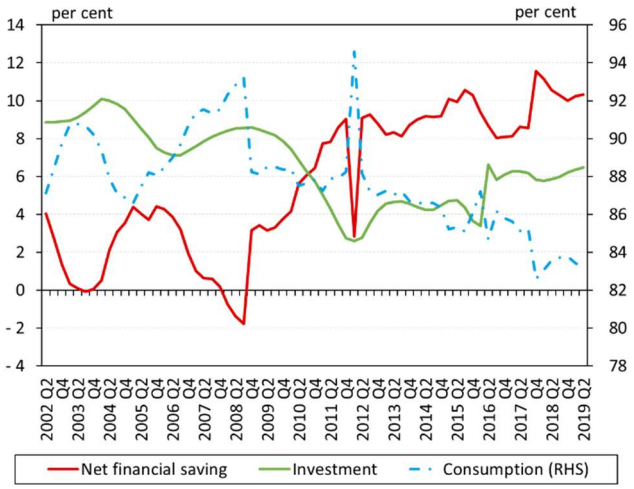
Source: HCSO

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



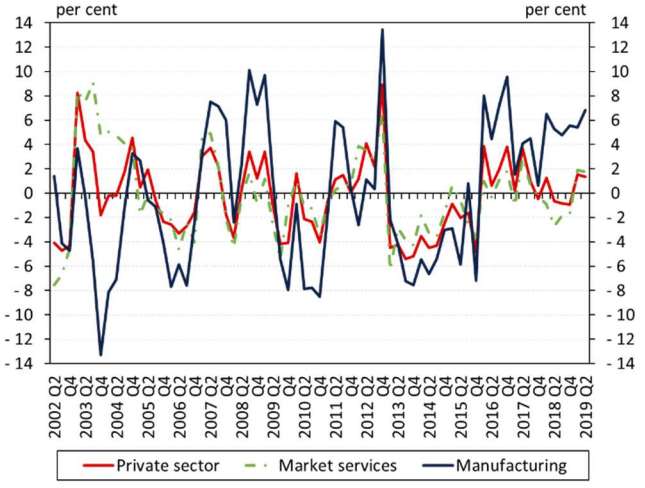
Source: HCSO

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



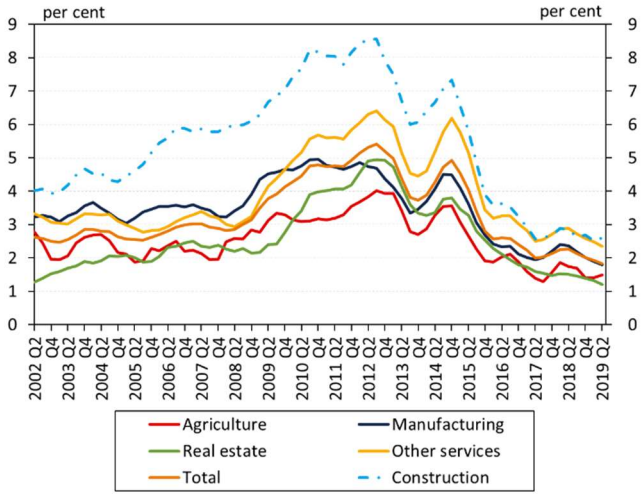
Source: HCSO, MNB

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



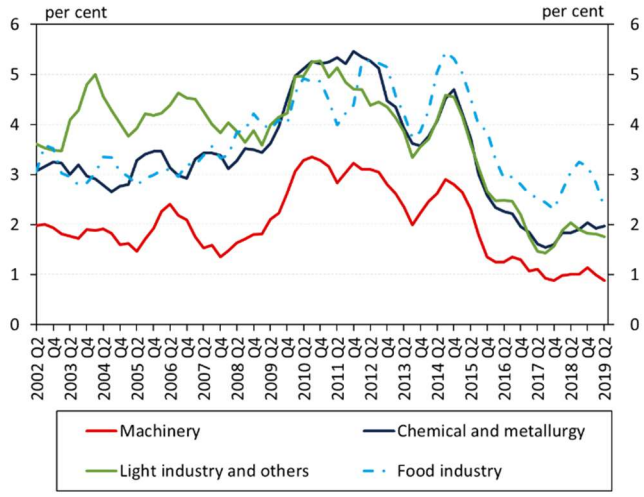
Source: HCSO, MNB

Chart 12: Sectoral bankruptcy rates



Source: Opten, MNB, HCSO

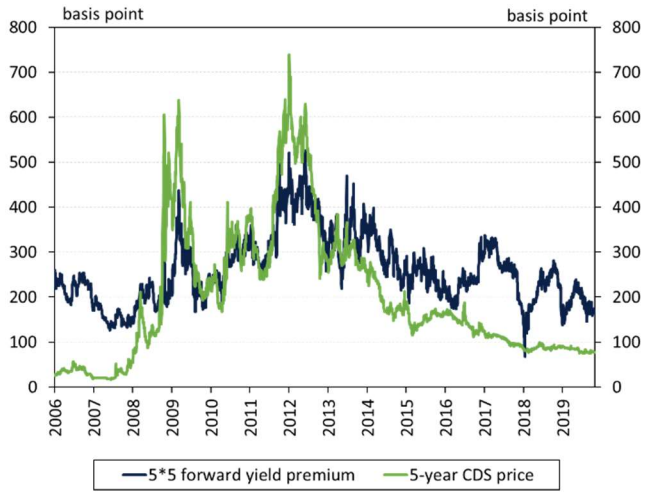
Chart 13: Sectoral bankruptcy rates



Source: Opten, MNB, HCSO

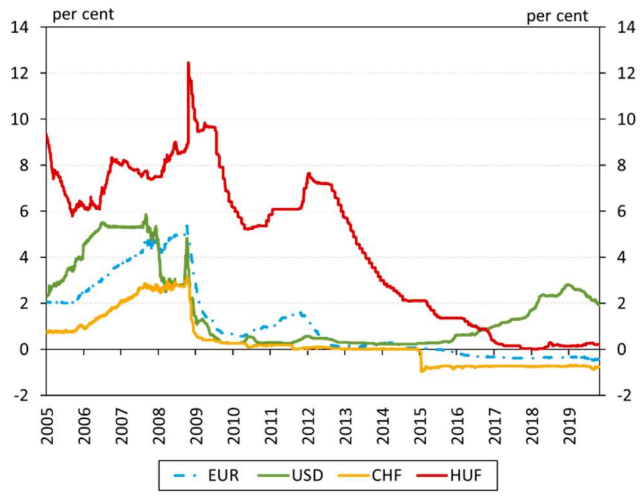
4. Monetary and financial conditions

Chart 14: Long-term sovereign default risk and forward premium of Hungary



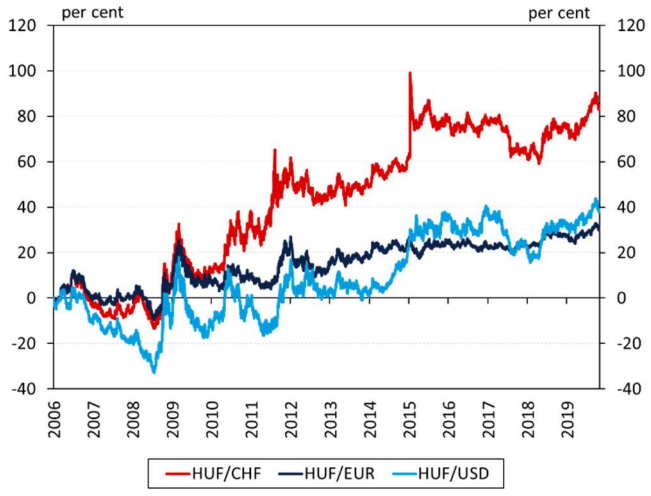
Source: Datastream, Reuters, Bloomberg

Chart 15: Three-month EUR, USD, CHF and HUF money market interest rates (LIBOR and BUBOR fixing)



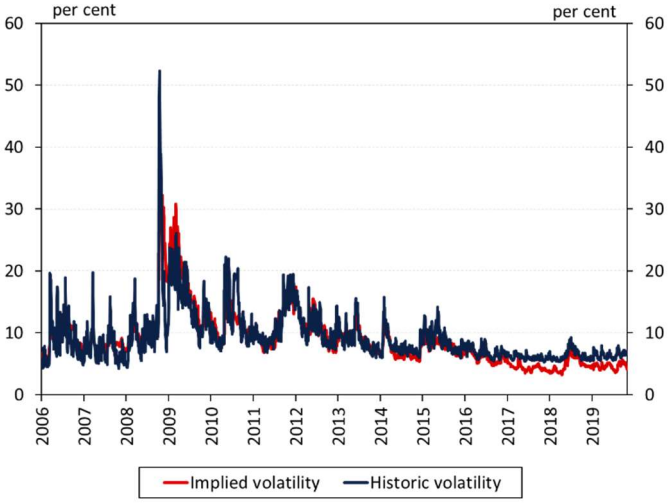
Source: Reuters

Chart 16: HUF/EUR, HUF/USD and HUF/CHF exchange rates compared to 2 January 2006



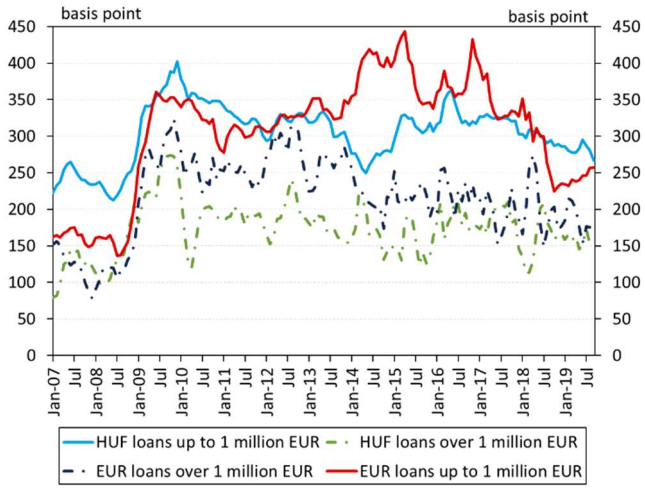
Source: Reuters

Chart 17: Volatility of the HUF/EUR exchange rate



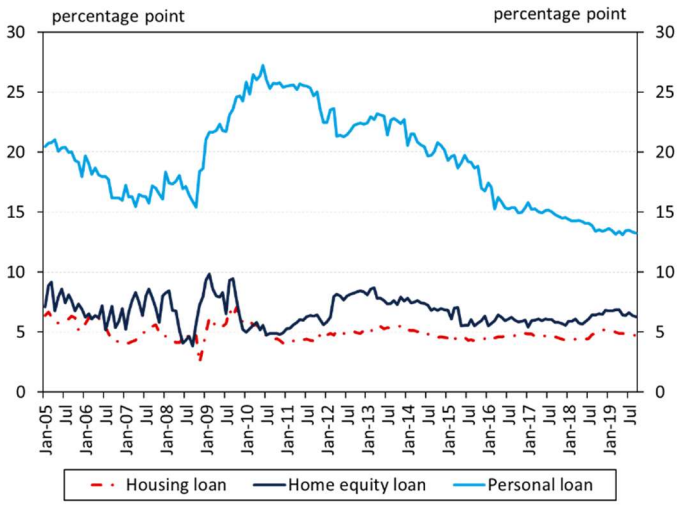
Source: MNB, Reuters

Chart 18: Interest rate premium of new loans to non-financial enterprises (over 3-month BUBOR and EURIBOR, respectively, 3-month moving average)



Source: MNB

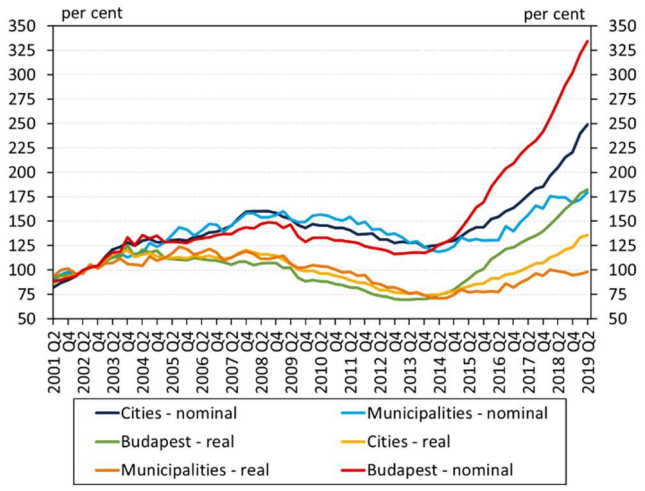
Chart 19: Interest rate premium of new HUF loans to households (over 3-month BUBOR)



Source: MNB

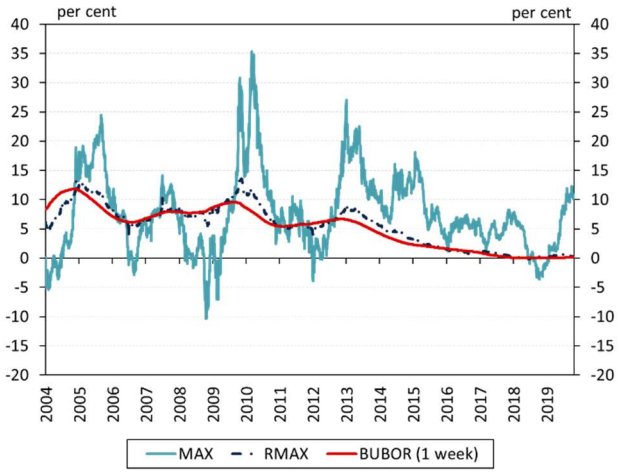
5. Asset prices

Chart 20: MNB house price index breakdown by settlement type



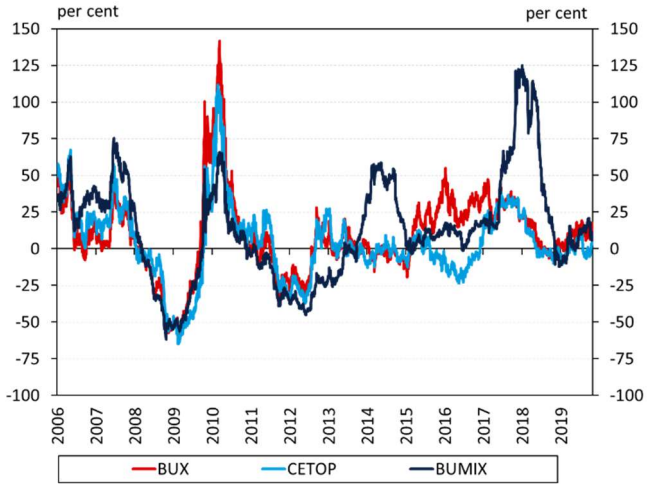
Source: MNB

Chart 21: Annualised yields on government security indices and money markets



Source: ÁKK, MNB, portfolio.hu

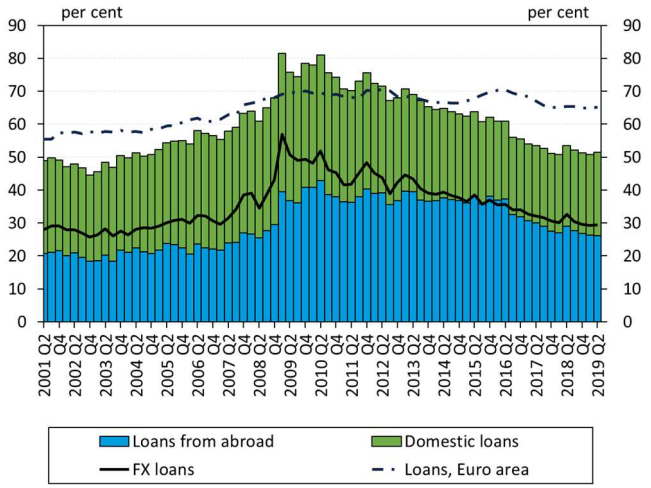
Chart 22: Annual yield of key Hungarian and Central and Eastern European stock market indices



Source: BSE, portfolio.hu

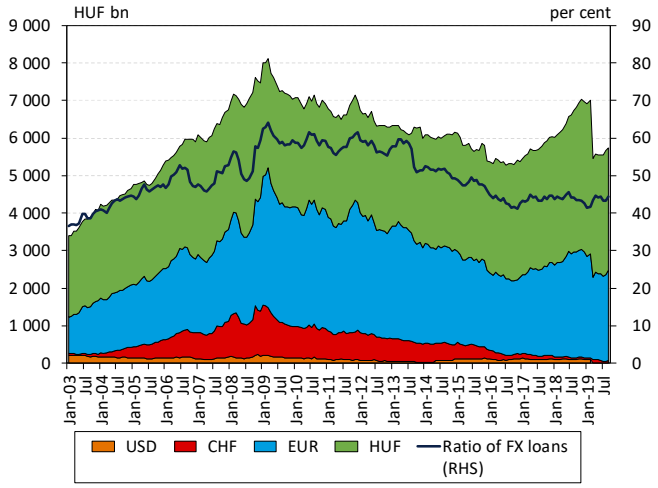
6. Risks of the financial intermediary system

Chart 23: Indebtedness of non-financial corporations as percentage of GDP



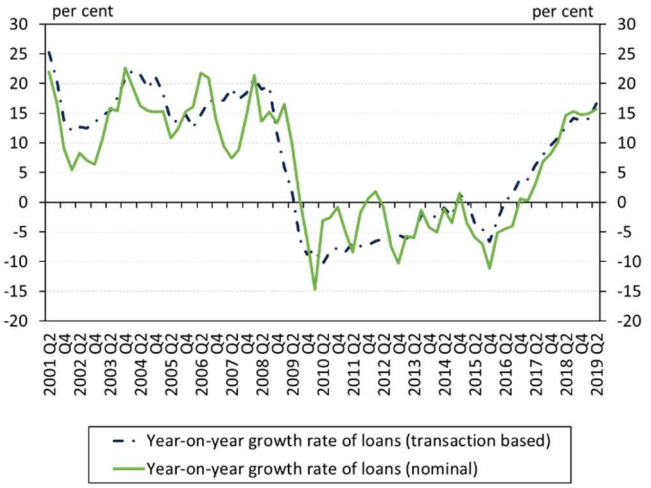
Source: MNB, ECB, Eurostat

Chart 24: Denomination structure of domestic bank loans of non-financial corporations



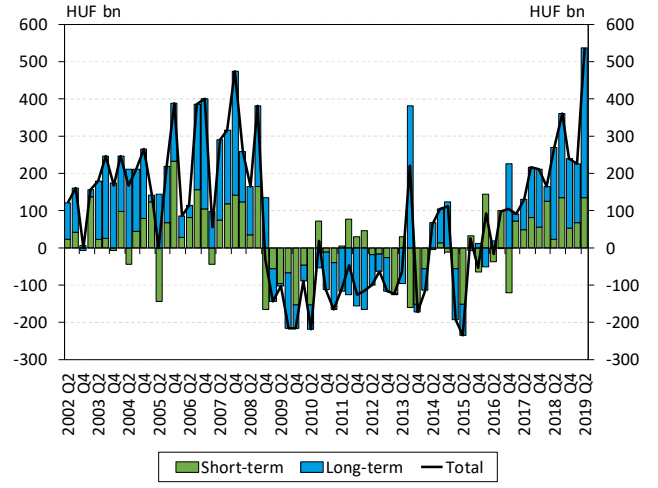
Source: MNB

Chart 25: Annual growth rate of loans provided to non-financial corporations by credit institutions



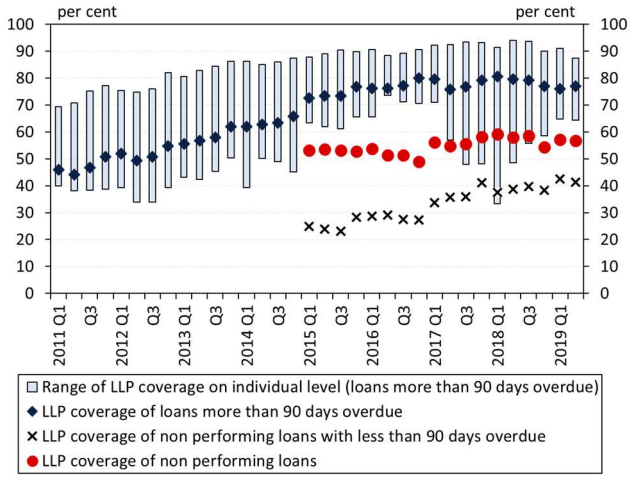
Source: MNB

Chart 26: Lending transactions to the non-financial corporate sector broken down by maturity



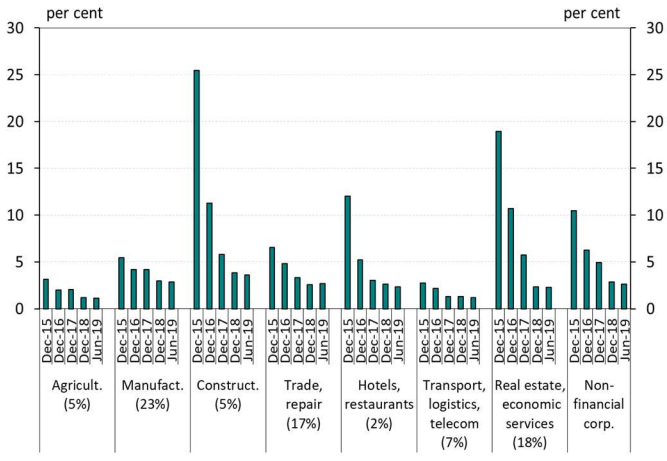
Source: MNB

Chart 27: Loan loss coverage ratio for non-performing corporate loans in the credit institutions sector



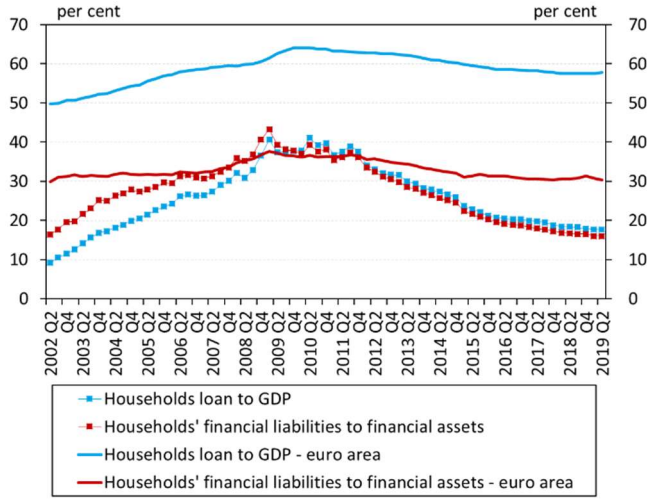
Source: MNB

Chart 28: Provisioning on loans of non-financial corporations by industry



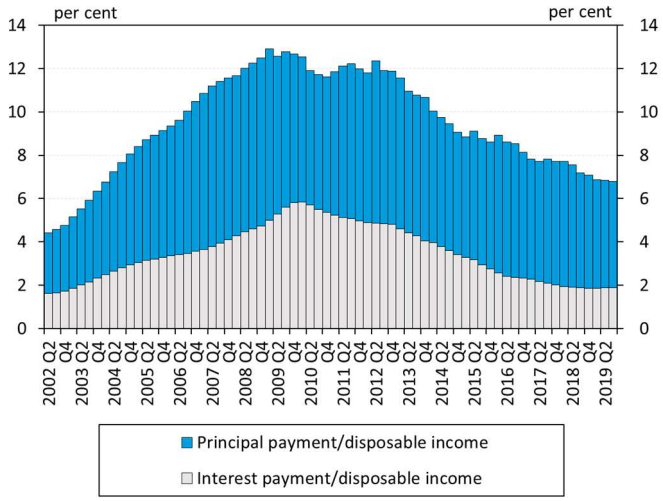
Source: MNB

Chart 29: Indebtedness of households in international comparison



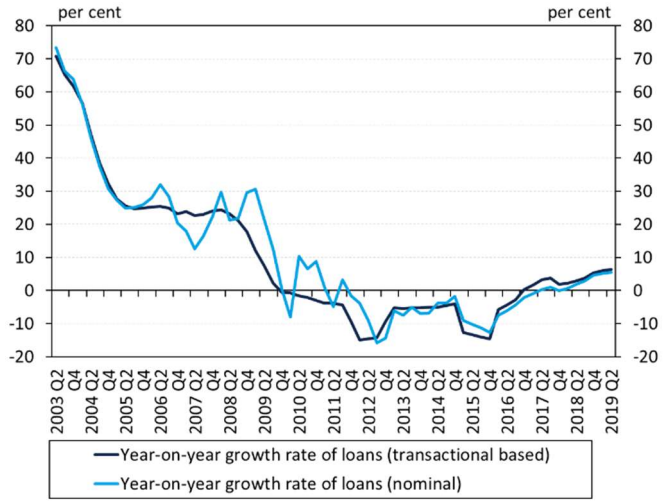
Source: MNB, ECB

Chart 30: Debt service burden of the household sector



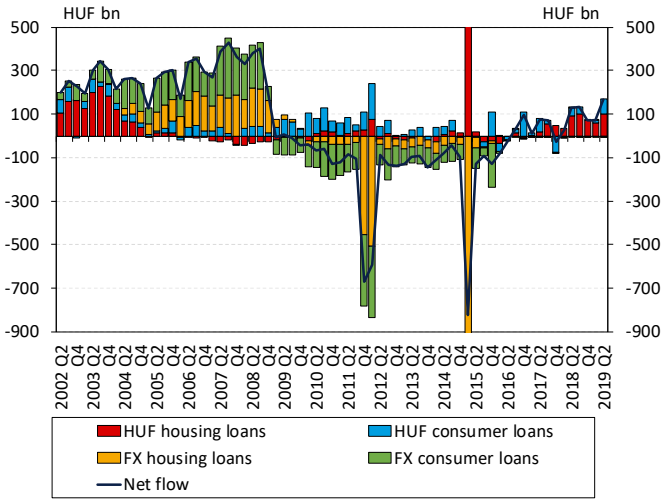
Source: MNB

Chart 31: Annual growth rate of total domestic household loans



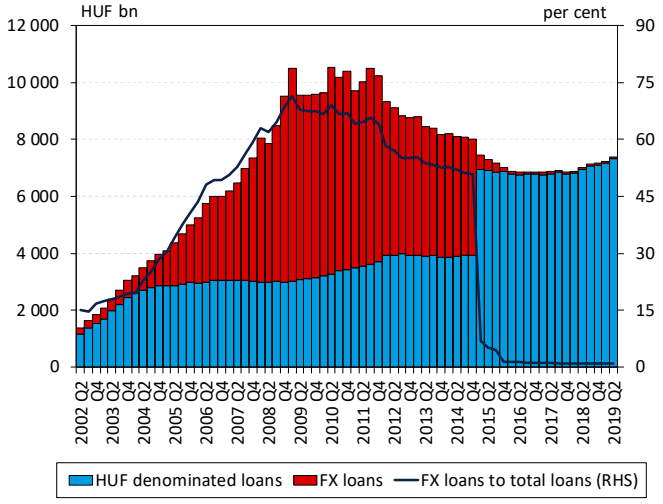
Source: MNB

Chart 32: Transactions of household loans broken down by credit purpose and denomination



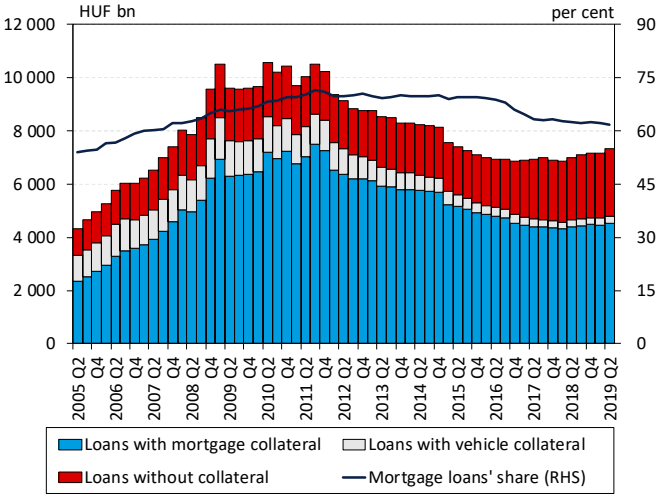
Source: MNB

Chart 33: The denomination structure of household loans



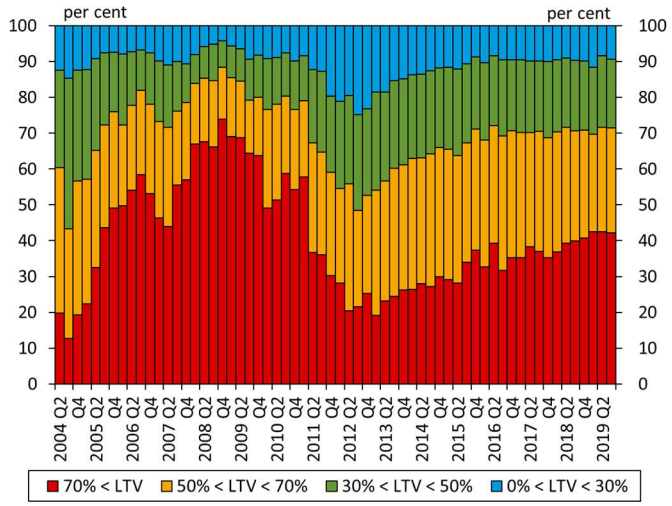
Source: MNB

Chart 34: Household loans distribution by collateralisation



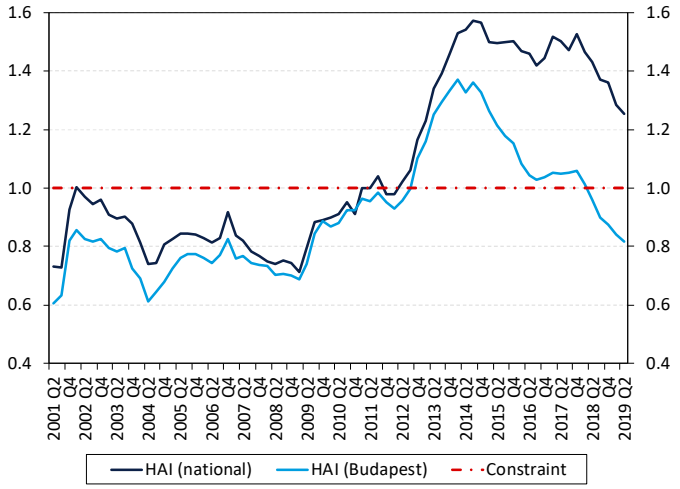
Source: MNB

Chart 35: Distribution of new housing loans by LTV



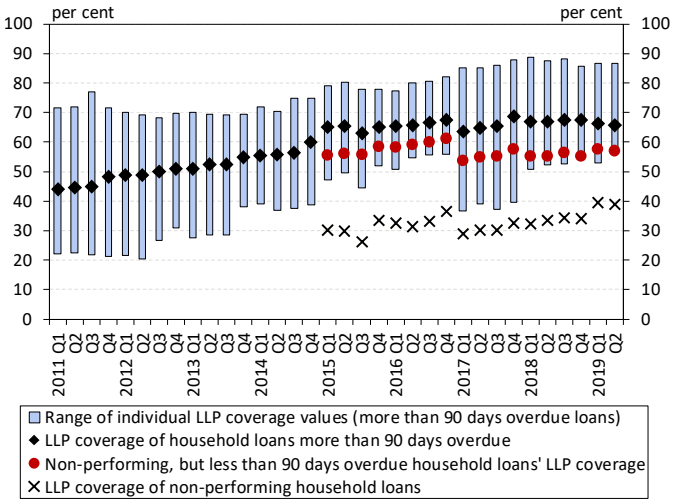
Source: MNB

Chart 36: Housing Affordability Index (HAI)



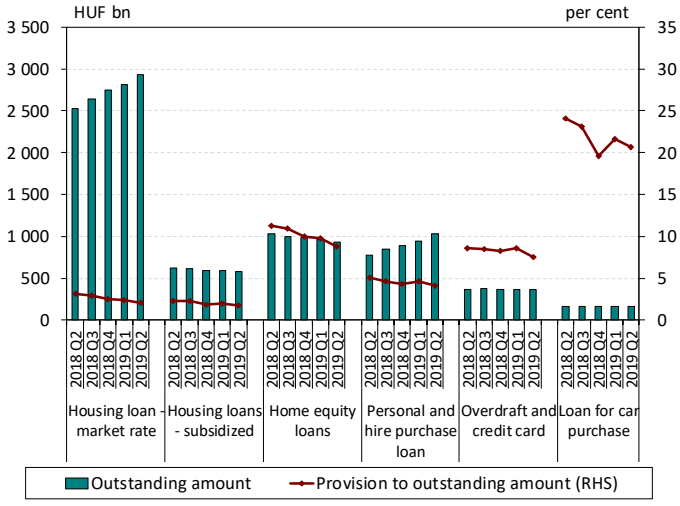
Source: MNB

Chart 37: Loan loss coverage ratio of non-performing household loans



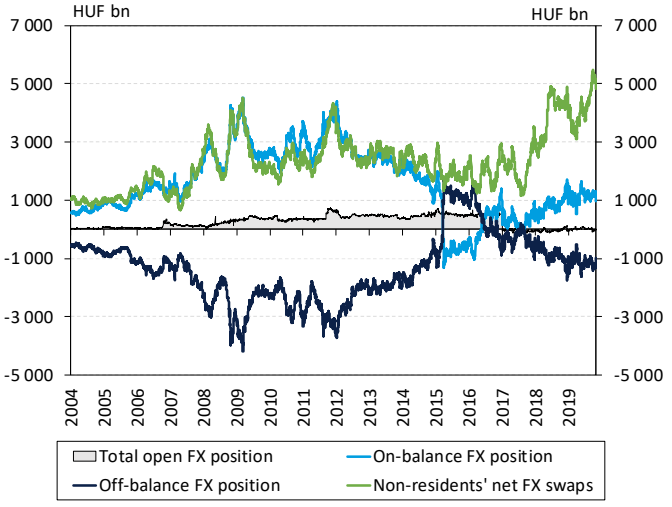
Source: MNB

Chart 38: Provisioning on household loans of financial institutions



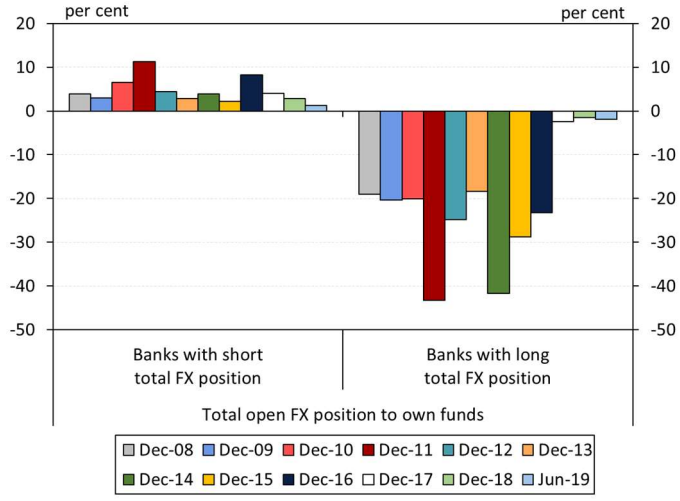
Source: MNB

Chart 39: Open FX position of the domestic banking sector



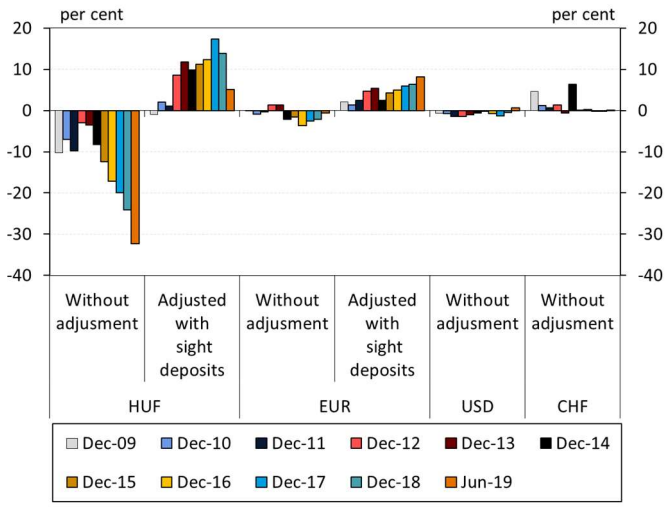
Source: MNB

Chart 40: The exchange rate exposure of the banking sector



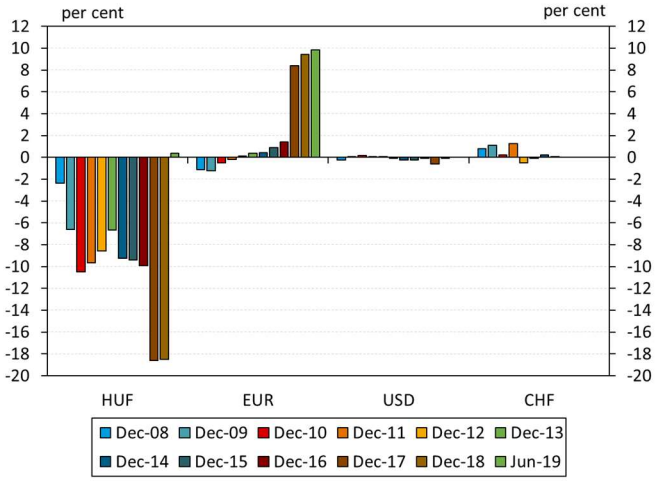
Source: MNB

Chart 41: 90-day re-pricing gap of the banking sector



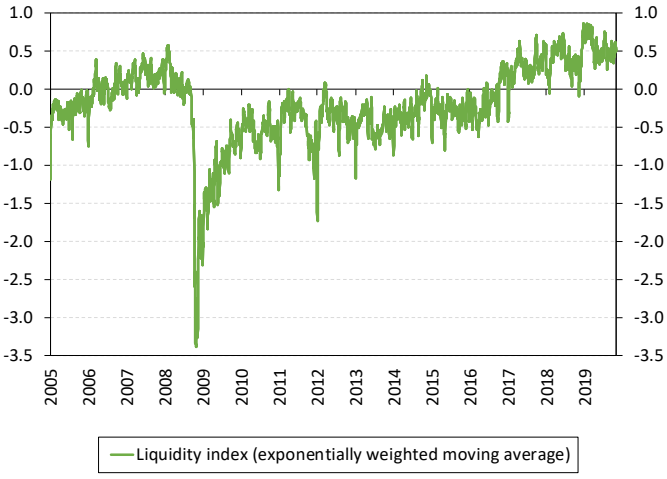
Source: MNB

Chart 42: Estimated maximum loss based on interest rate risk stress tests relative to equity



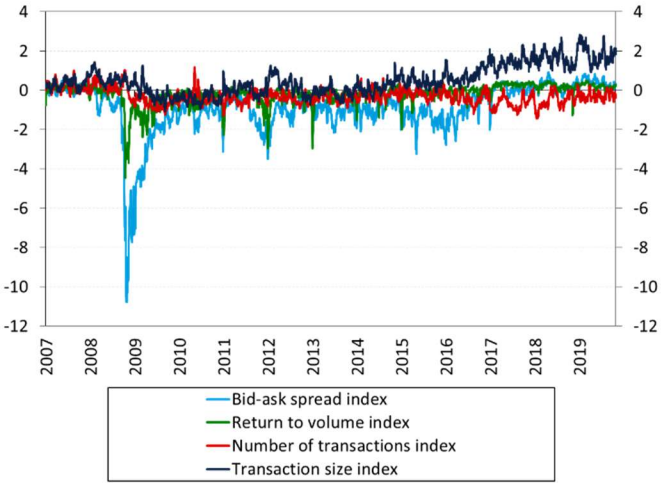
Source: MNB

Chart 43: Liquidity index (exponentially weighted moving average)



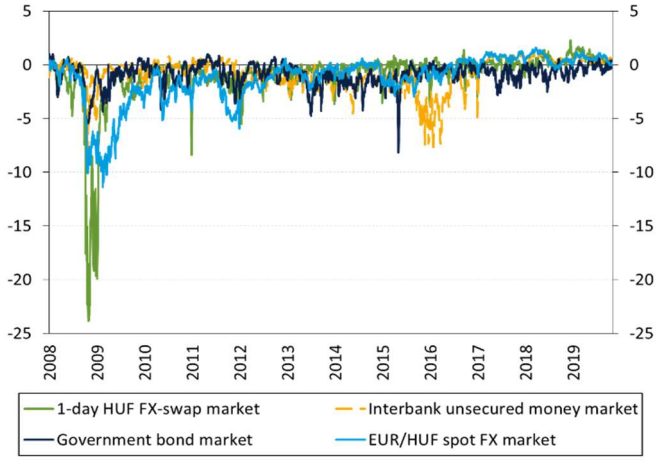
Source: MNB, KELER, Reuters, DrKW

Chart 44: Liquidity sub-indices (exponentially weighted moving average)



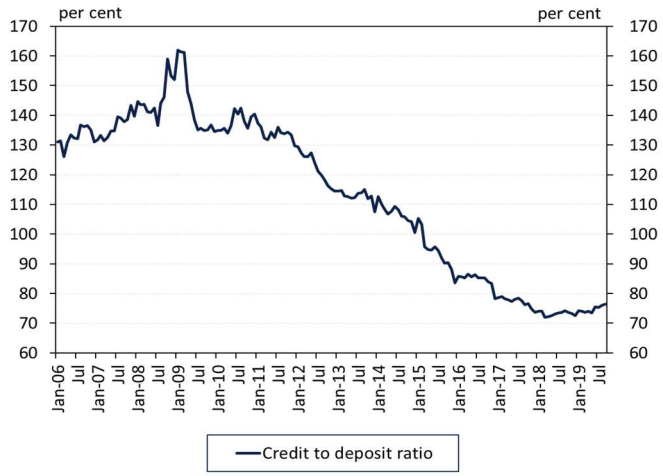
Source: MNB, KELER, Reuters, DrKW

Chart 45: Bid-ask spread indices of the major domestic financial markets (exponentially weighted moving average)



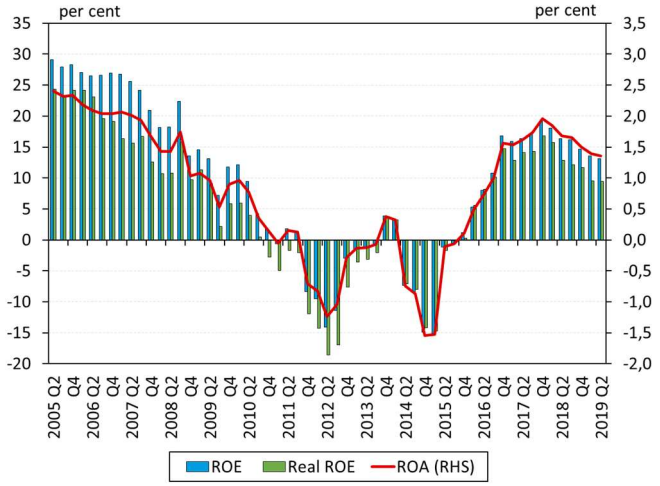
Source: MNB, KELER, Reuters, DrKW

Chart 46: Credit to deposit ratio of the banking sector



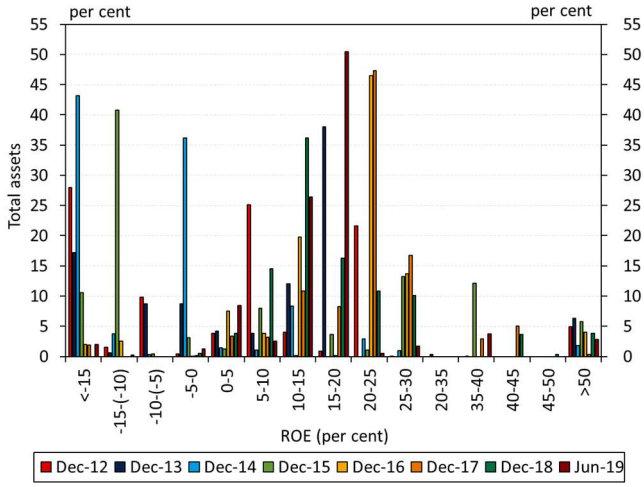
Source: MNB

Chart 47: ROA, ROE and real ROE of the credit institution sector



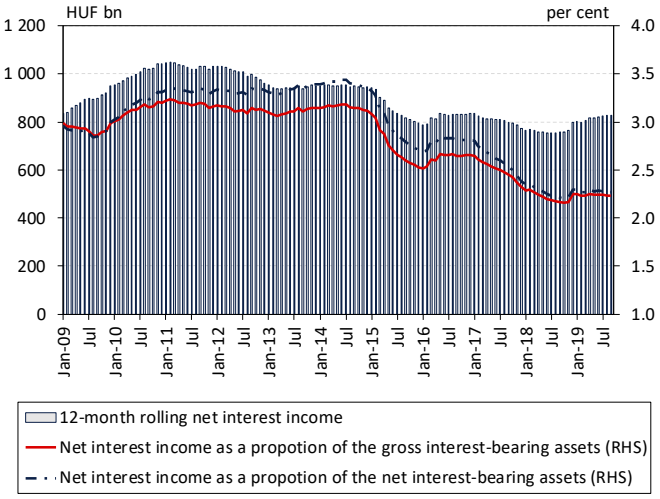
Source: MNB

Chart 48: Dispersion of banks' total assets by ROE



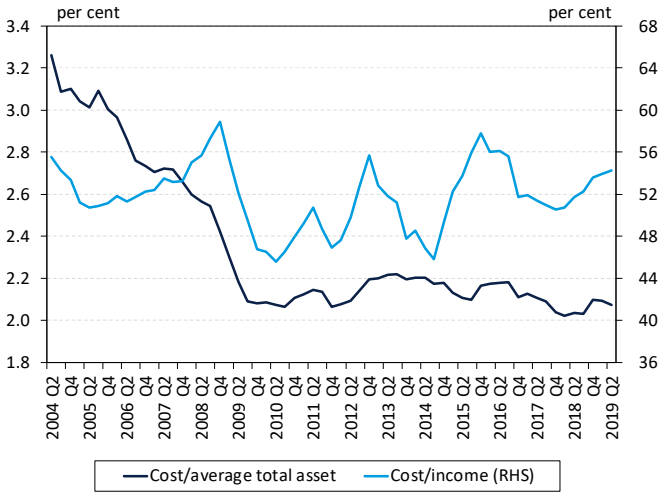
Source: MNB

Chart 49: Net interest income as a proportion of the gross and net interest bearing assets in the credit institution sector



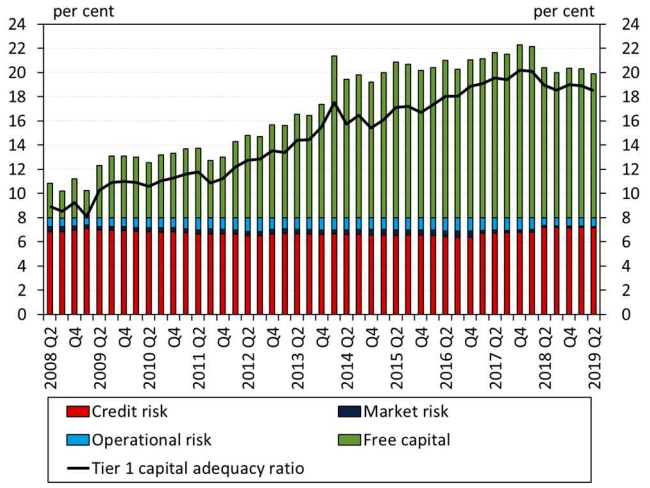
Source: MNB

Chart 50: Operating efficiency indicators of the banking sector



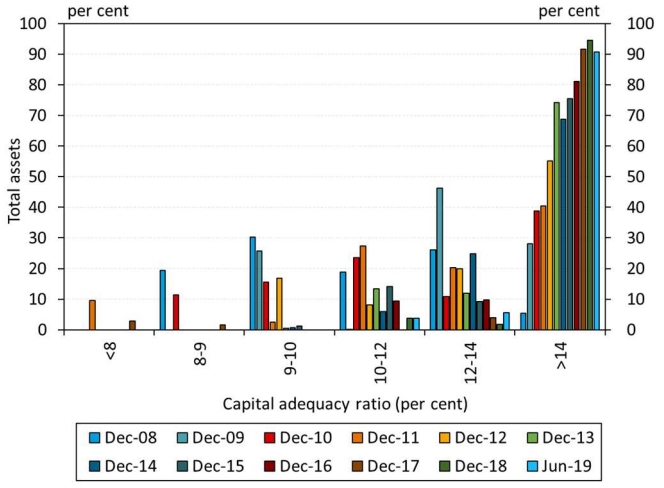
Source: MNB

Chart 51: Banks' capital adequacy ratio (CAR) and Tier 1 capital adequacy ratio



Source: MNB

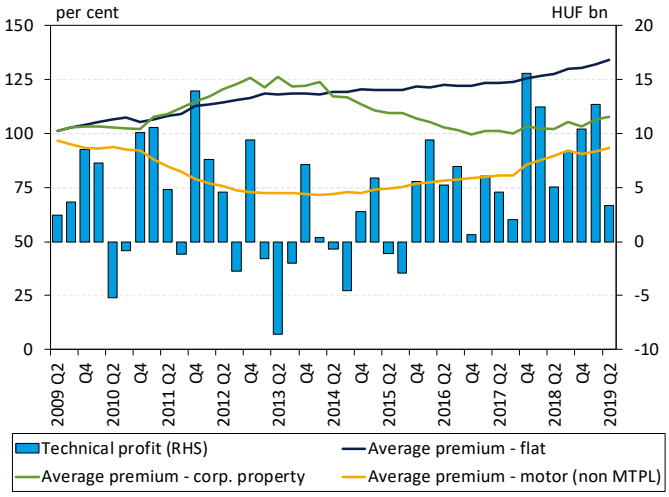
Chart 52: Dispersion of banking sector's total assets by capital adequacy ratio



Source: MNB

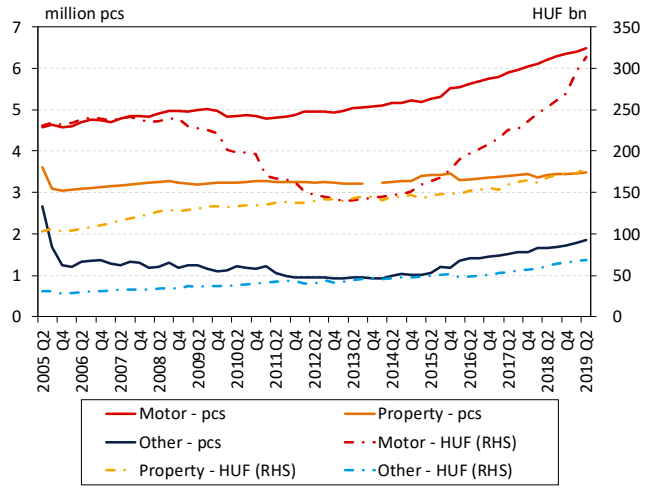
7. Institutional investors

Chart 53: Underline data of insurance tax



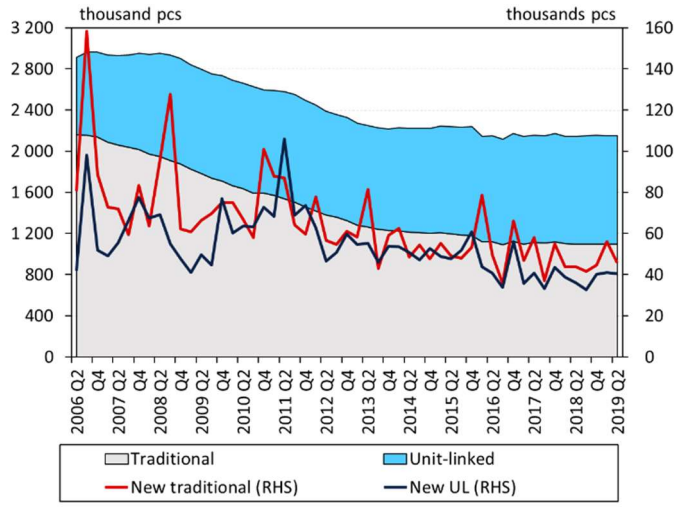
Source: MNB

Chart 54: Development of the outstanding amount of non-life insurance



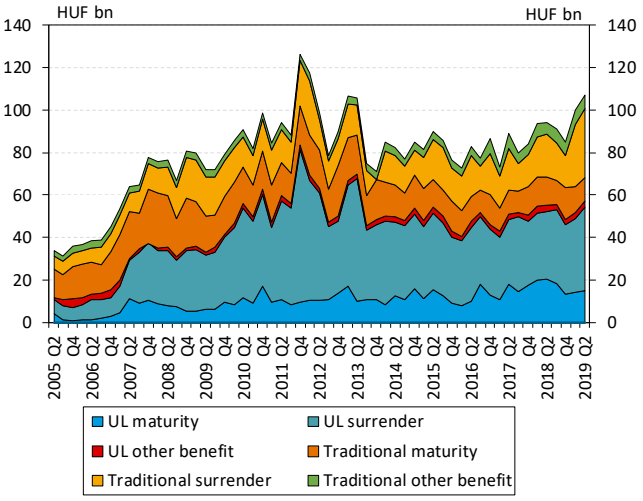
Source: MNB

Chart 55: Development of the outstanding amount of life insurance



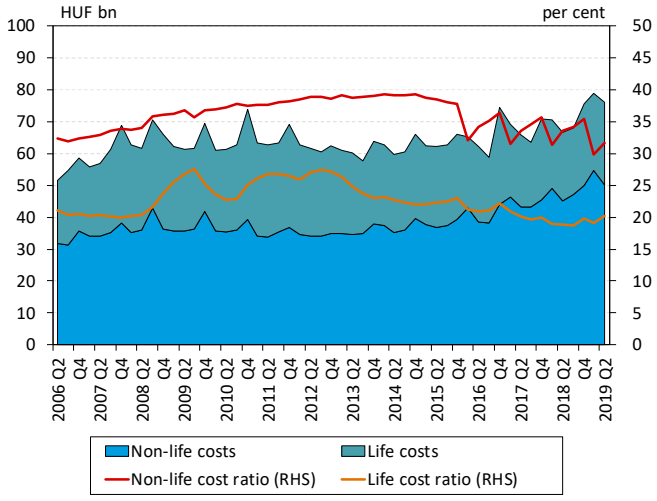
Source: MNB

Chart 56: Development of the outstanding amount of life insurance benefits



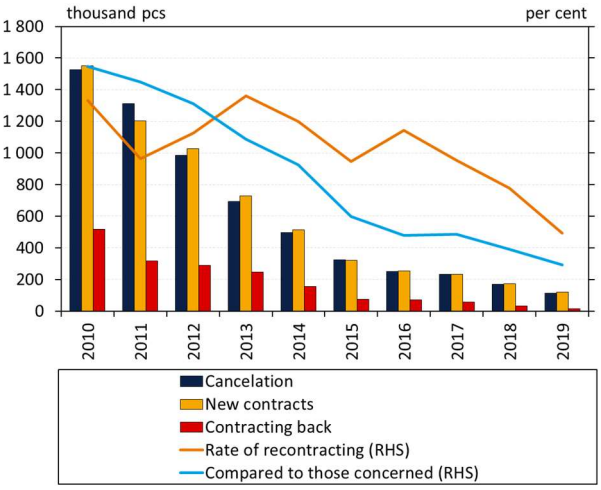
Source: MNB

Chart 57: Costs in the insurance sector



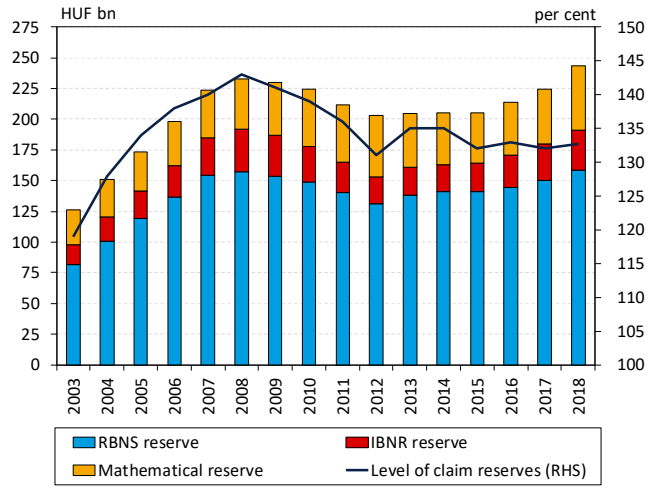
Source: MNB

Chart 58: Development of mtpl insurance contracts



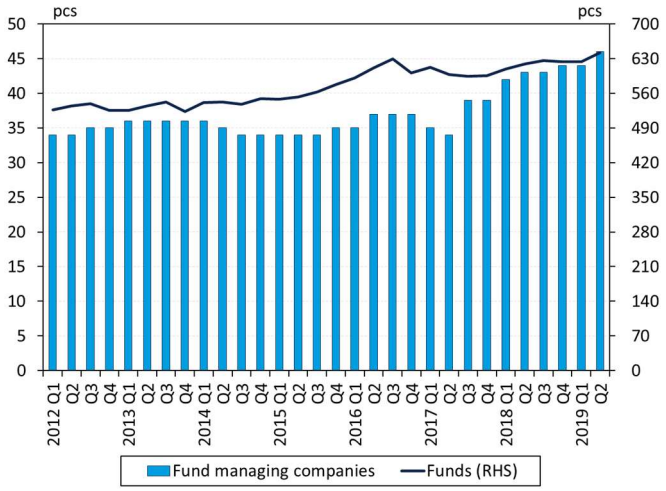
Source: MNB

Chart 59: Development of gross mtpl reserves



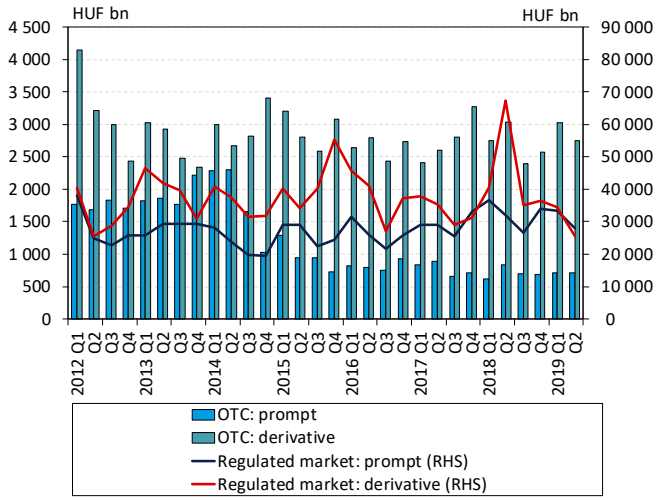
Source: MNB

Chart 60: Number of investment fund managing companies and investment funds



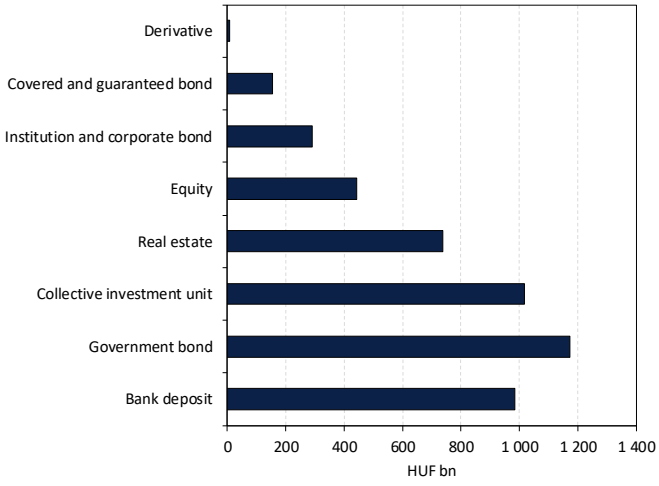
Source: MNB

Chart 61: Capital market turnover of investment firms



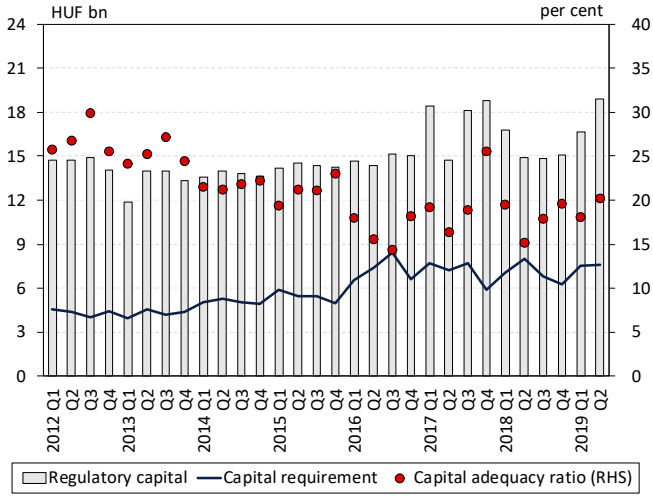
Source: MNB

Chart 62: Asset allocation in mutual funds



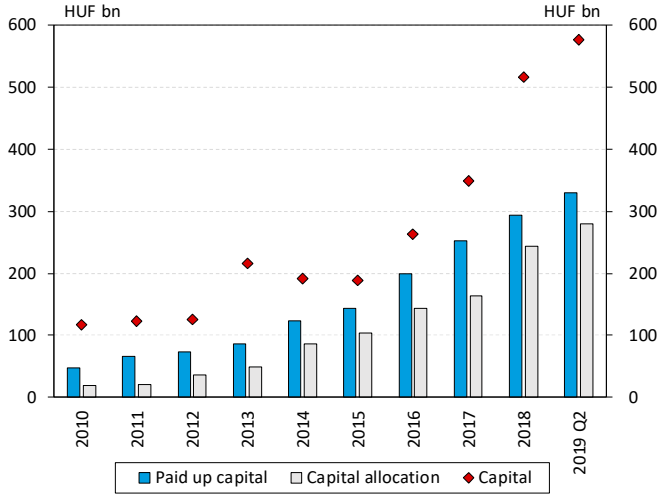
Source: MNB

Chart 63: Capital adequacy ratio (CAR) of investment firms



Source: MNB

Chart 64: Capital and capital allocation of venture capitals



Source: MNB

Notes to the appendix

The chart date (e.g. 2016) means the end of the year (the 31st of December) unless indicated otherwise.

Chart 1:

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

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 39), 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, aggregated as of the date of publication and cumulated for 4 quarters, divided by the number of legal entities operating a year before.

Chart 13:

Number of bankruptcy proceedings of legal entities, aggregated as of the date of publication and cumulated for 4 quarters, divided by the number of legal entities operating a year before.

Chart 14:

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 17:

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

Chart 18:

Spread on the 3-month BUBOR and EURIBOR. Loans with floating interest or with up to 1-year initial rate fixation. Adjusted for money market loans > 1M EUR since 2015.

Chart 19:

Spreads based on the APR.

Chart 20:

2002 average = 100%.

Chart 23:

Nominal values, on current rates. Based on consolidated data (previously only unconsolidated data were available for the euro area).

Chart 26:

Exchange rate adjusted values.

Chart 27:

The individual loan loss coverage range covers the banks with at least 2 per cent share in corporate lending.

Chart 28:

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

Chart 35:

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

Chart 36:

HAI shows how many times the income of a household with two average wages covers the income necessary for the purchase of an average (65 m2) dwelling from loan. Parameters of loan product except for the interest rate are throughout unchanged. LTV = 70%, PTI = 30%, maturity = 15 year.

Chart 37:

The range of LLP coverage on the individual level refers to the larger banks.

Chart 39:

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. Revisions due to 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 values for June 2019 have been calculated in the case of the security portfolio, the IRS portfolio, loans and liabilities on a cashflow basis instead of a contract basis. In addition, in the case of loans and liabilities and for the same period, we could only take into account remaining maturities instead of the times left until repricing.

Chart 42:

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 43:

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

Chart 44:

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 45:

A rise in the indices represents a 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 tom-next, overnight and spot-next transactions. The earlier version of the liquidity index included only the tom-next USD/HUF transactions.

Chart 46:

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 47:

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 (per cent).

Chart 48:

Pre-tax profit.

Chart 49:

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 50:

Cost: previous 12 months.

Income: previous 12 months.

Average total asset: mean of previous 12 months.

Chart 51:

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

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

Chart 61:

Sum turnover of investment firms and credit institution.

Chart 62:

28-Jun-2019

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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