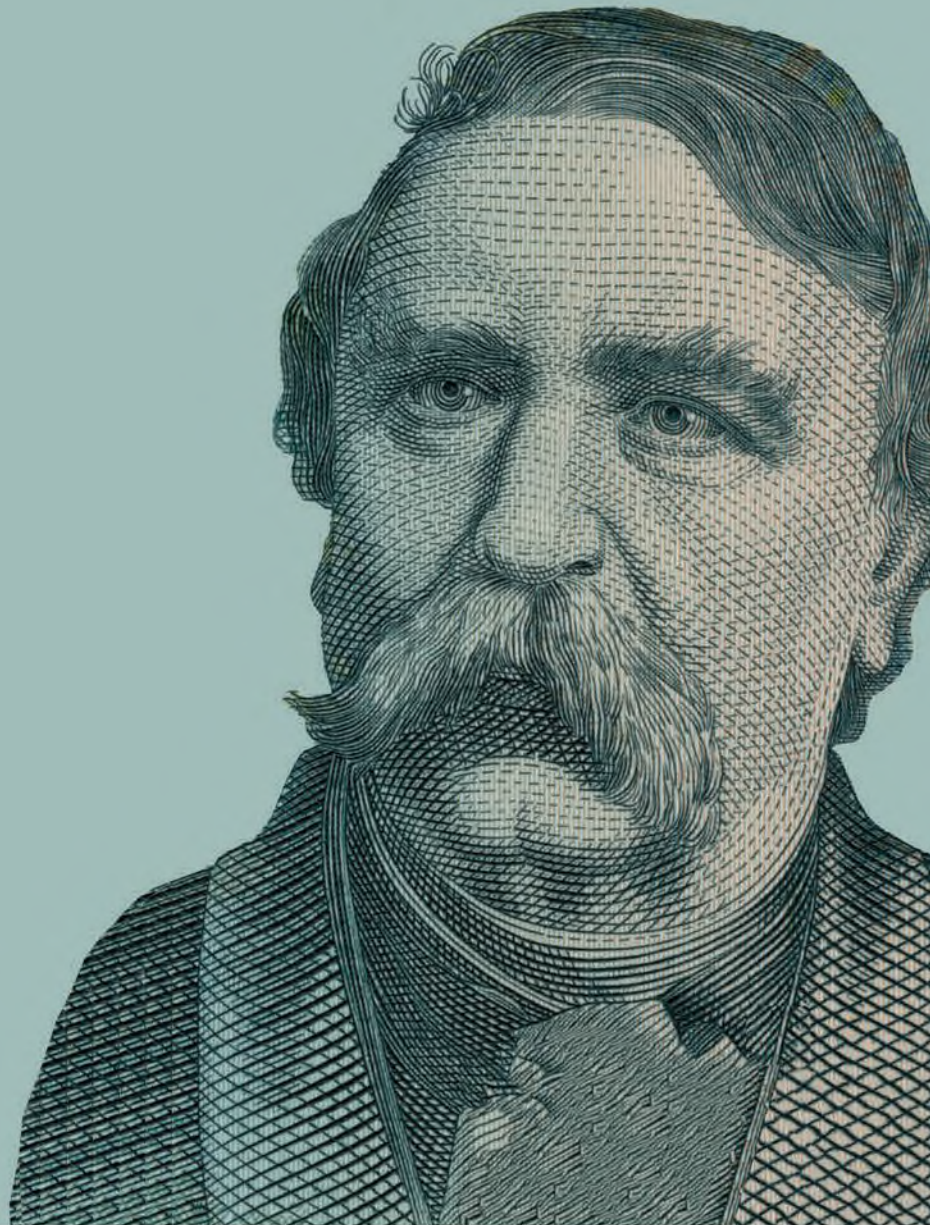




FINANCIAL STABILITY REPORT



2024
NOVEMBER

'...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 smoothly fulfil its key functions of intermediating financial resources, managing financial risks and processing payment transactions.

The fundamental interest and joint responsibility of the Magyar Nemzeti Bank (MNB) together with other government institutions is to maintain and promote the stability of the domestic financial system. The MNB's role in maintaining financial stability is defined by Act CXXXIX of 2013 on the Magyar Nemzeti Bank.

Without prejudice to its primary objective of achieving and maintaining price stability, the MNB supports the maintenance of the stability of the financial intermediary system, the enhancement of its resilience and its sustainable contribution to economic growth, as well as the economic policy of the government using the instruments at its disposal.

The MNB formulates the macro-prudential policy for the stability of the entire system of financial intermediation, with the objective of enhancing the resilience of the system of financial intermediation and ensuring its sustainable contribution to economic growth. To that end and within the limits specified in the Act, the MNB explores the business and economic risks threatening the financial intermediation system as a whole, and promotes the prevention of the development of systemic risks and the reduction or elimination of systemic risks which have evolved; furthermore, in the event of disturbances to the credit market, the MNB contributes to the balanced operation of the intermediation system in financing the economy by stimulating lending, or restraining lending in the case of excessive credit outflow.

The primary objective of the Financial Stability Report is to inform stakeholders about issues related to financial stability and to thus raise the risk awareness of those concerned, as well as to 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 thus contribute to enhancing the stability of the financial system as a whole.

The analyses in this Report were prepared by the Directorate Financial System Analysis, with the contribution of the Directorate for Credit Institutions Supervision and Analysis, under the general direction of Ádám Banai, Executive Director for Monetary Policy Instruments, Financial Stability and Foreign Reserve Management.

The Report was approved for publication by Barnabás Virág, Deputy Governor.

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The Report incorporates valuable feedback from the Financial Stability Council after its meetings on 15 October and 22 November 2024, and from the Monetary Council, which discussed the Report on 5 November 2024.

This Report is based on information in the period to 30 October 2024. As data frequency varies, the analysis horizons may also differ in some cases.

TABLE OF CONTENTS

Executive summary	5
Main financial stability indicators	7
1. Inflation is lower, but economic growth remains subdued	8
1.1. Subdued outlook for global growth, amid lower inflation	8
1.2. Good portfolio quality in the EU banking system, but deficiencies in collateral valuation	10
1.3. The low level of investment activity is hampering economic growth in Hungary	11
2. Recovery on the housing market, but cyclical risks remain in the office and industrial-logistics markets	15
2.1. Falling lending rates have contributed to a substantial recovery in the housing market	15
2.2. The rise in yields that reduced the value of commercial real estates has stopped	17
3. Demand for investment loans from companies remains low	22
3.1. Growth in the corporate loan portfolio has continued to decelerate	22
3.2. In parallel with the fall in interbank rates, interest rates on HUF loans declined	24
3.3. Weak credit dynamics due to slack demand for investment loans	25
4. Improving fundamentals, government measures and competition between banks all supported household lending	28
4.1. Upturn on the household credit market	28
4.2. Further declines in interest rate spreads on housing loans may have adverse consequences	33
5. Beside sector-specific risks, the NPL rates of bank portfolios are historically low	39
5.1. The quality of the corporate loan portfolio is adequate, but there are downside risks	39
5.2. The quality of the household loan portfolio is improving, primarily due to portfolio cleaning	41
6. Profitability and capital adequacy are both at historically high levels	44
6.1. One-off items also support profitability, which continues to rise from a high level	44
6.2. Even with rising capital requirements, the level of free capital is still high	48
7. Banks' liquidity is stable at a high level, with minor fluctuations	53
7.1. Banking system liquidity is stagnating at a high level	53
7.2. Deposits remain a stable source of funding even with the decline in interest rates	56
7.3. Liquidity surplus in the banking sector remains very high	57
8. Solvency stress tests show adequate resilience of the banking system to shocks even in the face of increased risks	61
8.1. Future risks are significant and thus considerable credit losses may materialise	61
8.2. Shock resilience remains high in the falling interest rate environment of the baseline scenario	63
List of charts	68
List of tables	69
Abbreviations	70
Appendix: Macprudential indicators	71

LIST OF BOXES

Box 1: Impact of geopolitical risks on the stability of the financial intermediary system	13
Box 2: Possible reallocation of households' financial wealth in 2025 and its impact on the housing market	20
Box 3: Characteristics of the first period and clientele of the HPS Plus loan programme.....	31
Box 4: Low household credit penetration and its causes	36
Box 5: Impact of the amendment to the Capital Requirements Regulation on banks' capital adequacy	51
Box 6: Main changes affecting banks' liquid assets in 2024 and 2025	59
Box 7: Presentation of the alternative stress scenario.....	65

Executive summary

The Hungarian banking system's stability and shock resilience are strengthened by outstandingly high profitability, ample liquidity, adequate capitalisation and the high quality of the loan portfolios. Return on equity was supported both by volatile and one-off items; profitability calculated with these items filtered out may have peaked at the end of 2023. In line with global trends, risks related to domestic commercial real estate lending continue to deserve special attention. The credit market is characterised by dual trends: lending to households picked up significantly, while corporate credit growth decelerated further during the year, owing to subdued credit demand. The lending capacity of the banking system is abundant, and no credit supply constraints can be identified. The stress test results suggest that the sector would remain stable even in a less favourable economic environment than expected.

The operating environment of the European banking system was dominated by moderate economic growth and declining inflation in 2024 H1. Leading central banks began to lower their policy rates as inflation levels dropped close to their targets. However, the escalation of geopolitical tensions remained a risk. Despite the unfavourable economic climate, the European banking system operated at a historically high, 11-per cent level return on equity in 2024 H1. However, continued monetary easing may lead to a decline in interest income if it is not accompanied by a substantial increase in lending. At present, portfolio quality is adequate, which – together with the high profitability – ensures that the sector's shock resilience is strong.

The stability of the domestic banking system has been strengthened by outstandingly high profitability, ample liquidity, adequate capitalisation and the high quality of the loan portfolios. In 2024 H1, the sector earned a historically high after-tax profit of HUF 934 billion. The profit growth was partly due to volatile and one-off items (an increase in dividend income and reduction of the windfall tax), but even after filtering out these items, profit was stable at the high level seen in the previous year. The sharp decline in credit institutions' net interest income from the central bank was accompanied by an increase in their interest income from other sectors. The sector's 12-month rolling return on equity (RoE) amounted to 26 per cent at the end of 2024 H1. RoE calculated by filtering out volatile and one-off items reached a historical peak at the end of 2023 and by the end of 2024 H1 it stood at 22 per cent. Filtered profitability is expected to remain high for 2024, albeit with a downward trend.

The liquidity and funding position of the banking system remained robust with the Operative Liquidity Reserve exceeding HUF 20,000 billion, equivalent to 70 per cent of private sector deposits. Despite the fall in deposit rates, deposits remain a stable source of funding for the banking system. The consolidated Capital Adequacy Ratio of the banking system declined somewhat from its historical peak at the end of 2023, but was still at a high level of 19.6 per cent at the end of June 2024, with free capital amounting to nearly HUF 1,970 billion. Based on the stress test results, the domestic credit institution sector would meet the regulatory requirements on liquidity and capital adequacy even in the event of a severe shock; in other words, the sector would remain stable even in a worse-than-expected environment.

The share of non-performing loans in both the corporate and household segments is historically low, stagnating at 3.8 per cent in the former and falling to 2.3 per cent in the latter in 2024 H1. The depreciation on the commercial real estate market since 2022 poses a risk to the quality of the corporate loan portfolio through bank collateral values. At the same time, as the European Central Bank has pointed out, banks do not always value the project loans' collaterals in line with market developments in domestic and international practice as well. The resulting risks are mitigated by the fact that the market may have already reached its cyclical trough. Household portfolio quality may be at risk due to the removal of the interest rate cap on mortgage loans at the end of 2024. However, with the decline in interest rates, this may cause payment difficulties only for a small group – 5 per cent – of the debtors concerned.

Lending processes in Hungary are still characterised by dual trends. Hungarian corporations' demand for long-term loans has been contracting for two years, and banks do not expect a significant turnaround in this regard. In line with the trends seen in most countries in the CEE region, annual growth in corporate loans outstanding in the credit institution sector continued to decelerate in 2024 H1, standing at 3.7 per cent in the overall corporate sector and 0.7 per cent in the SME segment. Based on the Monetary Financial Conditions Index (MFCI), the subdued corporate lending

is mainly due to insufficient demand factors rather than supply factors. Annual growth in the corporate loan portfolio is expected to be around 3 per cent in 2024 in consideration of the tighter supply of subsidised loan schemes, the lack of an upturn in investment loan demand and the regionally high portfolio of liquid assets.

By contrast, the household credit market picked up in 2024 H1, as loans outstanding grew by 6 per cent, exceeding the regional average. The increase in new loan disbursements was partly driven by the higher contract size available under the HPS Plus programme, which accounted for one fifth of housing loan issuance. In the retail segment, the disbursement of personal loans also increased sharply, but this did not entail a shift towards riskier customer segments. Thanks to improving macroeconomic fundamentals, the reformed family subsidy system and declining long-term yields, household credit growth may reach 9 per cent this year.

The pick-up in housing loans also had an impact on housing market activity, with the number of sales rising by one third in 2024 Q2 year-on-year, including a significant increase in the share of housing buyers with a mortgage. Based on preliminary data, the annual nominal house price appreciation of 9 per cent at the end of 2024 Q2 may accelerate to 13 per cent in Q3, while housing market overvaluation declined significantly in annual terms. Stimulating demand further, the yields and maturities of government bonds and voluntary pension savings may generate significant capital flows for the housing market in 2025.

Interest rates on newly disbursed market-priced housing loans were close to the cost of funds, with banks offering loans at an average interest rate spread of around 0 percentage point during the six months under review. Such a low margin is unsustainable from a profitability point of view; indeed, in such cases banks often adjust through cross-pricing, resulting in higher prices for other products. The persistent practice of loan pricing at the value of the cost of funds would pose a risk to the stability of the banking sector, with margins unable to cover credit risk costs and operating costs. As a result of the voluntary APR ceiling in place between October 2023 and June 2024, the pricing range of loans granted during this period narrowed significantly, preventing real credit risks from being reflected in margins.

Thanks to its abundant liquidity, a high level of free capital even amid increasing and changing capital requirements, and its outstanding profitability, the Hungarian banking system has significant lending capacity. This is confirmed by the Financial Conditions Index, which shows that the lending capacity of the sector is historically high and its willingness to lend is at around the equilibrium level.

Main financial stability indicators

FINANCIAL STABILITY INDICATORS - SUMMARY TABLE					
	2008	2019	2023	Q2 2024	Most recent data
Lending					
Annual growth rate of loans outstanding - corporate sector (%)	6.5	14.5	5.9	3.7	3.2 (Sept 2024)
Annual growth rate of loans outstanding - SME sector (%)	11.7	14.7	3.4	0.7	-0.1 (Sept 2024)*
Annual growth rate of loans outstanding - household sector (%)	19.1	16.7	2.7	6.0	7.9 (Sept 2024)
Real estate markets					
Annual change in the number of housing transactions (%)	-13.4	-4.5	-23.7	31.6	16.4 (Q3 2024)
Share of housing transactions with loans (%)	48.1	42.0	34.0	43.4	42.8 (Q3 2024)
Annual change in house prices (%)	0.2	18.1	9.7	9.3	12.8 (Sept 2024)*
Housing market overvaluation (%)	8.5	-1.2	14.7	11.2	-
Vacancy rate - Budapest office market (%)	16.8	5.6	13.3	13.9	14.0 (Sept 2024)
Vacancy rate - industrial-logistics market of Budapest and its environs (%)	17.3	1.9	8.6	8.5	9.6 (Sept 2024)
Project loans/regulatory capital (%)	73.3	26.6	35.4	37.3	-
Portfolio quality					
Corporate NPL-ratio (%)	5.4	3.9	3.8	3.8	3.6 (Aug 2024)
Household NPL-ratio (%)	3.8	4.2	2.8	2.3	2.2 (Aug 2024)
Profitability					
Return on Equity (%)	11.3	11.5	24.3	26.2	-
Return on Assets (%)	0.87	1.20	1.98	2.26	-
Capital position					
Capital Adequacy Ratio (%)	12.9	18.0	20.1	19.6	-
Leverage ratio (%)	-	9.0	8.9	8.9	-
Liquidity					
Loan-to-deposit ratio (%)	152.0	75.5	74.5	74.9	76.6 (Sept 2024)
Liquidity Coverage Ratio (%)	-	148.4	182.6	168.7	177.4 (Aug 2024)

* Preliminary data.

Notes:

Data of the credit institution sector (except for real estate market indicators).

Annual growth rate of loans outstanding: Annual growth rate based on annual transactions (balance of disbursements and repayments).

Project loans/regulatory capital: Based on the institutions' project loan portfolio secured by commercial real estate and Bond Funding for Growth Scheme portfolio related to commercial real estate developments and investments.

NPL-ratio: 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.

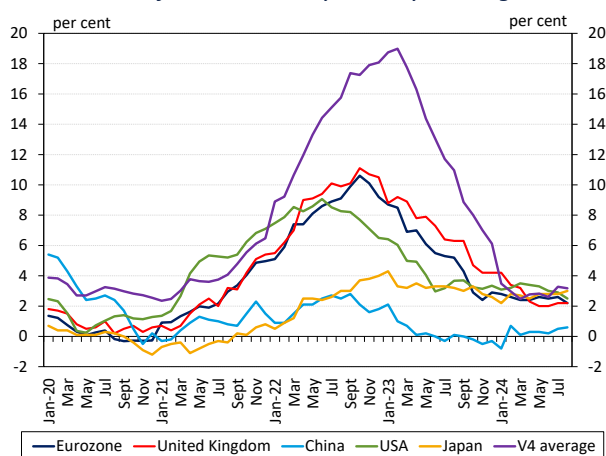
1. Inflation is lower, but economic growth remains subdued

Globally leading central banks have started to cut their policy rates, as inflation levels declined close to their targets. However, substantial geopolitical risks continue to weigh on GDP growth. The war between Russia and Ukraine and tensions in the Middle East are growing threats to Europe's energy security, increasing frictions in global supply chains, reducing investors' risk appetite, and worsening the growth prospects for the global economy. Further deterioration in the macroeconomic outlook may also affect central banks' policy rate decisions. In 2023, interest rates on public debt rose significantly, making it difficult for many EU countries to stimulate growth with countercyclical economic policies to offset the fall in private investment.

Despite the modest economic growth, the European banking system continued to operate with high profitability in 2024 H1, but banks' net interest margin may decline as monetary easing continues. Looser monetary conditions may reduce expected yields in the commercial real estate market, which may facilitate a market cycle reversal. The decline in commercial real estate values has also drawn attention internationally (ECB, ESRB) to the importance of the reliability of banks' collateral valuations. The share of non-performing loans of European banks increased for exposures in the real estate sectors, but the proportion of non-performing loans remains low in the overall loan portfolio. The high profitability and good portfolio quality of European banks provide the sector with strong resilience to shocks.

Economic growth in Hungary is likely to remain subdued in 2024, supported mainly by household consumption and dampened by a sharp decline in investment activity. Geopolitical uncertainties, weak external demand and the lingering impact of inflation are also weighing on investment. However, the employment rate is historically high, and companies have responded to the economic slowdown by reducing the number of hours worked and by labour hoarding, rather than by laying off workers.

Chart 1: Inflation trends by country and region



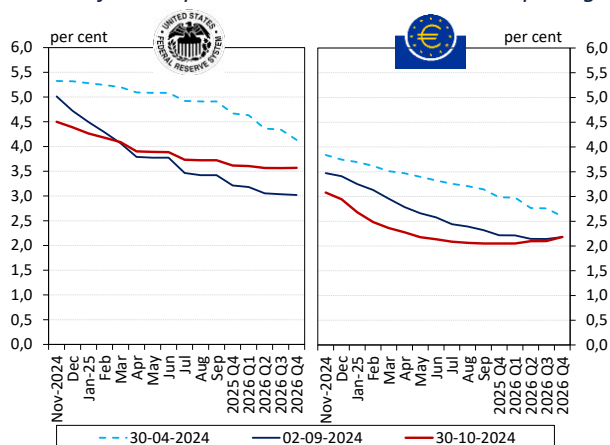
Note: The V4 average is the unweighted average for Hungary, Slovakia, Czechia and Poland. Source: OECD, ONS

1.1. Subdued outlook for global growth, amid lower inflation

Inflation has declined spectacularly worldwide. The moderation of the rise in raw material and food prices, as well as the decline in the price of natural gas, had a benign effect on inflation, which declined sharply in most countries, despite rising services prices (Chart 1). The current level of inflation has declined to the vicinity of the values considered desirable by the leading central banks. However, future price developments may be adversely affected by intensifying trade disputes and deglobalisation trends. Among the major economic regions, China's economy remains in a near-deflationary state due to domestic demand problems.

Leading central banks have also started their easing cycles. Major central banks started cutting their policy rates in 2024 H2. The ECB decided to lower its policy rate by 25 basis points in July, September and October, while the Fed cut its target range for the policy rate by 50 basis points on 18 September and by 25 basis points on 7 November. In its latest forecast, the US Federal Reserve revised down its expectations for economic growth and inflation this year, while raising its expectations for the

Chart 2: Expected interest rate paths for the central banks of developed countries based on market pricing



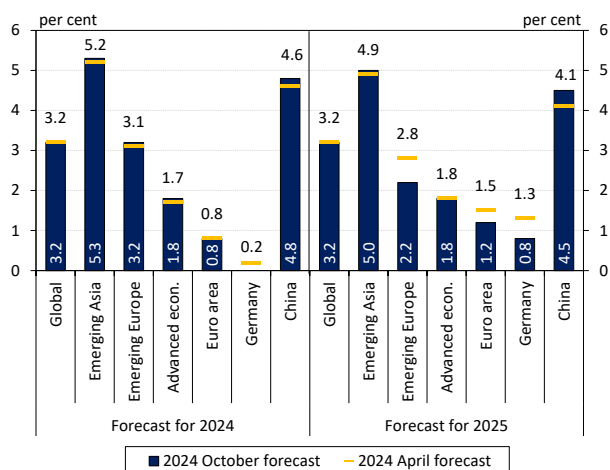
Note: Expected interest rate paths are based on interest rate swaps in the case of the Fed and on EONIA forward yields in the case of the ECB. Source: Bloomberg

unemployment rate. The Fed projected a key policy rate of 4.4 per cent by the end of the year, down from 5.1 per cent in June. The risks to inflation and the labour market have become balanced, according to the Fed, and the decision to continue monetary easing will be based on incoming data. Market participants' current expectations of interest rate cuts also show a significantly lower interest rate path than six months ago, but expectations regarding the steepness of the Fed's expected interest rate path moderated in October (Chart 2).

The global economic growth outlook for 2024 and 2025 has remained subdued.

According to the IMF's October forecast, the global economy is expected to expand moderately by 3.2 per cent in 2024 and 2025 (Chart 3). However, there is a high degree of uncertainty in relation to the current global macroeconomic outlook, due to mounting geopolitical risks and political uncertainty (the relationship between geopolitical risks and the stability of the financial intermediary system is discussed in Box 1). Global economic growth is also adversely affected, as growth in the Chinese economy is lagging behind emerging Asia due to poor consumer and investor confidence, and the German economy is also slowing down significantly. The growth outlook in the US, India and Brazil is favourable from the perspective of global economic growth. At the same time, the result of the US presidential election may have a significant impact on both the direction of US economic policy and the development of world trade.

Chart 3: Real GDP growth projections of the IMF for 2024 and 2025

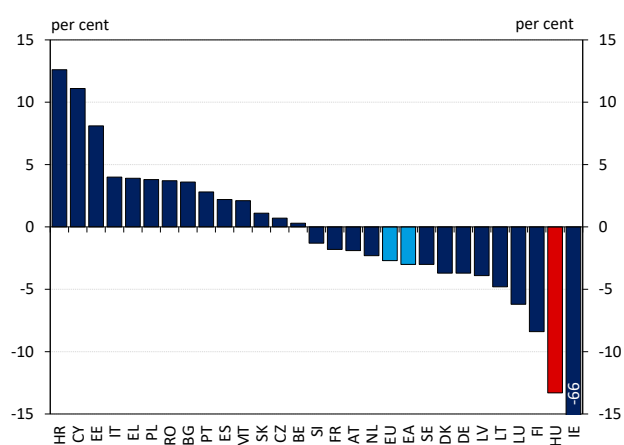


Source: IMF

The deceleration in investment activity also restrains growth in the European economy.

Due to relatively high energy prices and the uncertain economic and political outlook, many companies throughout Europe have postponed investment decisions. The EU's growth prospects are further undermined by the fact that Germany is not only experiencing a cyclical downturn: more and more signs suggest that the continent's largest economy is also facing structural problems. Energy prices higher than those of competitors weaken the competitiveness of European manufacturing, and the recovery in exports is also being hampered by protectionist economic policies which are increasingly gaining ground on a global scale (Chart 4).

Chart 4: Annual change in gross fixed capital formation in EU Member States

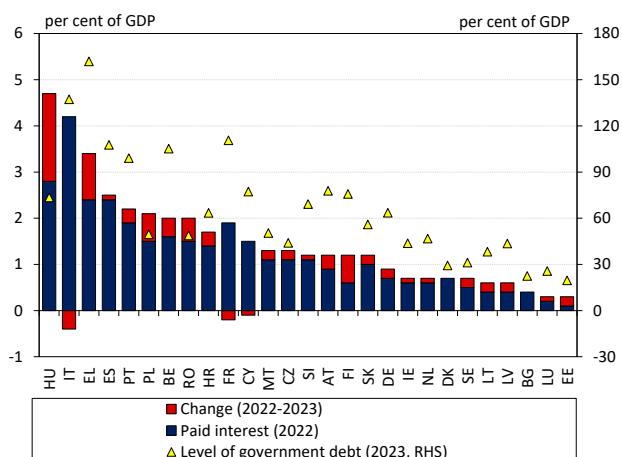


Note: Seasonally and calendar-adjusted data for 2024 Q2. For lack of seasonally adjusted data for Malta, the chart shows raw data. Source: Eurostat, HCSO

High levels of public debt and rising interest expenditure reduce the room for countercyclical economic policy.

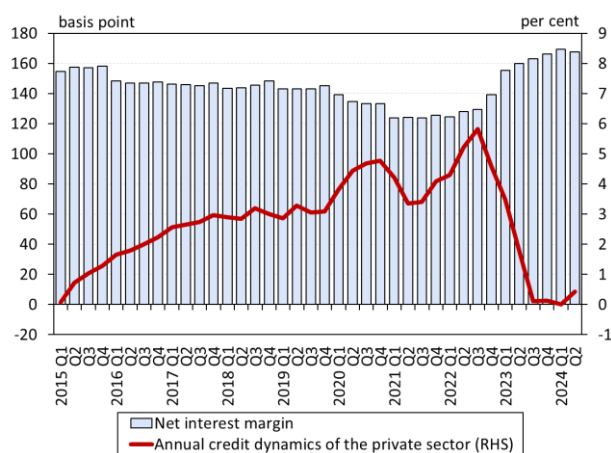
The surge in inflation and the stricter monetary policy, which was needed to achieve price stability, resulted in an increase in debt financing burdens in most EU Member States (Chart 5). Countries with high public debt are unable

Chart 5: Level of government debt and changes in interest burden in the EU Member States



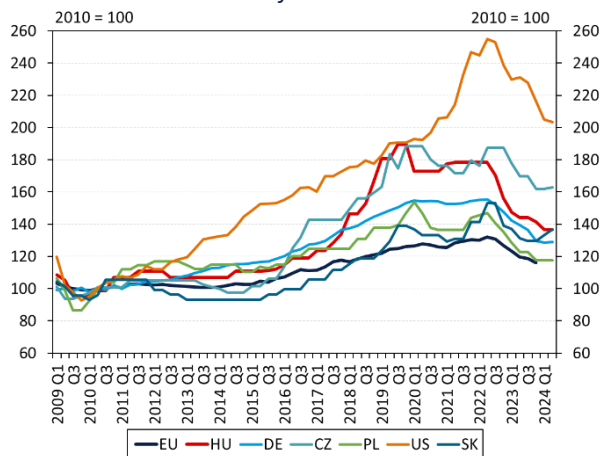
Source: Eurostat

Chart 6: Annual credit dynamics in the private sector and net interest margin trends in the European Union



Note: Transaction-based annual growth rate of credit institutions' loans to households and non-financial corporations. The net interest margin data is based on the EBA Risk Dashboard's sample of 162 banks, covering more than 80 percent of the EU/EEA banking sector in terms of total assets. The net interest margin is calculated as the difference between interest income and interest expenses as a percentage of interest-earning assets. Source: EBA, ECB

Chart 7: Valuation of commercial real estate



Note: In the case of CEE countries, estimated capital value indices, in the case of the United States, all types of commercial real estate, in the

to launch sufficiently strong investment and stimulus programmes because of their growing debt burden and may even be forced to cut primary spending, which may also have a negative impact on economic growth due to unrealised public sector investments. Looking ahead, the more favourable economic outlook, falling inflation and lower interest rates are expected to have a positive impact on the room for fiscal policy manoeuvre as well.

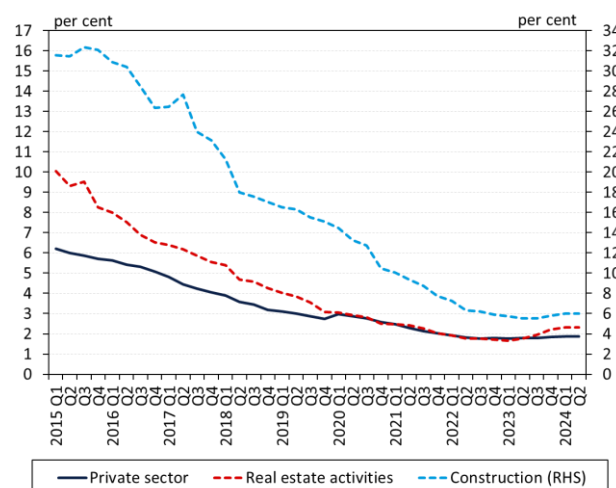
1.2. Good portfolio quality in the EU banking system, but deficiencies in collateral valuation

Further monetary easing may end the expansion in banks' interest income. The annual return on equity (RoE) of the EU banking sector reached 10.9 per cent and net interest income on equity 21.7 per cent in 2024 Q2, coming in at around the same levels as in the same period of the previous year. Private sector credit has been essentially stagnant, and although the net interest margin rose from 160 to 168 basis points year-on-year, it fell slightly in the second quarter (Chart 6). During the past two years, with monetary tightening, profitability growth was supported by the fact that banks' liabilities were repriced more slowly and to a lesser degree than their assets. However, monetary easing already foreshadows reduced net margins and accordingly, without a substantial expansion in lending, interest income is expected to decrease.

The decline in the value of commercial real estate worldwide has drawn attention to the importance of prudent collateral valuation. Since 2022 Q2, the market value of commercial real estate has fallen significantly both in the EU (-12 per cent) and the USA (-20 per cent), which is consistent with the real estate market trends observed in the Visegrád countries (Chart 7). In 2024 H1, investment turnover in the European commercial real estate market rose to EUR 86 billion from EUR 79 billion one year earlier, but its level remains well below the turnover typical for the 2014–2022 period. Monetary easing may help to moderate expected returns and thereby facilitate a turnaround in the commercial real estate market cycle. At the same time, banks cannot ignore the depreciation that occurred in the market. Based on supervisory experience from Europe, the US and some Asian countries, the European Central Bank (ECB) warned in August that banks were not doing their due diligence in valuing commercial real estate used as

case of Germany, an index estimated based on completed transactions including office and retail real estate. In the case of the EU, an index estimated based on completed transactions including all commercial real estate types. Data points for 2024 are not yet available for the EU. Source: BIS, CBRE, Cushman & Wakefield, ECB

Chart 8: NPL ratio of the EU banking system in the total loan portfolio and in selected corporate sectors



Note: Data are based on the EBA Risk Dashboard's sample of 162 banks, covering more than 80 percent of the EU/EEA banking sector by total assets. Source: EBA

Table 1: Summary table of the baseline scenario from the Inflation Report (September 2024)

	Actual 2023	Forecast 2024	Forecast 2025
Inflation (annual average)			
Core inflation	18.2	4.6 - 4.9	3.2 - 3.8
Core inflation excluding indirect tax effects	18.1	4.6 - 4.9	3.0 - 3.6
Inflation	17.6	3.5 - 3.9	2.7 - 3.6
Economic growth			
Household final consumption expenditure	-1.9	3.4 - 4.0	3.4 - 4.4
Government final consumption expenditure ¹	4.1	(-0.1) - 0.7	(-0.3) - 0.9
Gross fixed capital formation	-7.8	(-7.2) - (-5.8)	1.5 - 4.5
Domestic absorption	-5.6	(-1.1) - 0.3	2.1 - 3.7
Exports	1.5	(-1.5) - (-0.3)	4.9 - 6.7
Imports	-3.8	(-3.8) - (-2.6)	4.7 - 6.7
GDP	-0.9	1.0 - 1.8	2.7 - 3.7
Labour productivity ²	-1.1	0.9 - 1.2	2.6 - 3.6
External balance³			
Current account balance	0.2	1.4 - 2.6	2.0 - 3.4
Net lending	1.2	2.7 - 3.9	4.0 - 5.4
Government balance³			
ESA balance	-6.7	(-4.7) - (-4.3)	(-4.2) - (-3.2)
Labour market			
Whole-economy gross average earnings ⁴	14.3	12.8 - 13.2	7.5 - 8.6
Whole-economy employment	0.6	0.4 - 0.5	(-0.3) - 0.4
Private sector gross average earnings ⁴	16.3	11.6 - 11.9	8.0 - 8.9
Private sector employment	1.0	0.3 - 0.4	0.0 - 0.5
Unemployment rate	4.1	4.2 - 4.3	3.6 - 3.9
Private sector nominal unit labour cost	17.7	11.4 - 12.0	3.5 - 5.0
Household real income ⁵	0.7	5.7 - 6.1	2.6 - 3.8

Note: 1. Includes government consumption and the transfers from government and non-profit institutions. 2. Whole economy, based on national accounts data. 3. As a percentage of GDP. 4. For full-time employees. 5. MNB estimate. Source: MNB Inflation Report, September 2024

collateral.¹ Typical errors include the application of incorrect definitions of 'market value', using outdated comparative data, and ignoring relevant information and market sentiment. In September, the ESRB also drew attention to the vulnerability of the sector and the potential channels of contagion from its interconnectedness.

Although the share of non-performing loans in the real estate sectors has risen somewhat, it still remains very low. The non-performing loan ratio (NPL ratio) in the EU banking system reached 1.9 per cent in 2024 Q2, reflecting a small year-on-year increase of 0.1 percentage point (Chart 8). The share of non-performing loans rose slightly more in the corporate segments most closely related to the real estate market, but remains well below the levels typical of the past ten years. The NPL ratio in the real estate segment, which accounts for around one quarter of the corporate loan portfolio, increased by 0.6 percentage point to 2.3 per cent (average since 2015: 4.3 per cent), while in the construction segment, which makes up 5 per cent of the corporate loan portfolio, the NPL ratio increased by 0.5 percentage point to 6.0 per cent (average since 2015: 16.6 per cent).

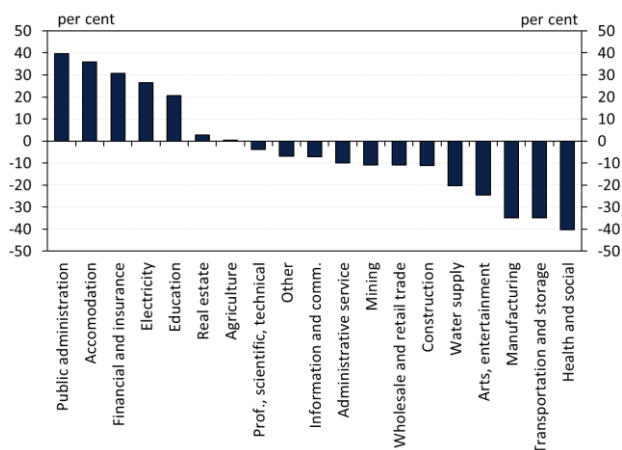
1.3. The low level of investment activity is hampering economic growth in Hungary

GDP growth will remain subdued this year, while inflation stayed within the tolerance band in the first three quarters. The consumer price index fell from 5.5 per cent at the end of 2023 to 3.8 per cent in January already and remained within the tolerance band until September. Based on the MNB's September forecast, inflation may vary between 3.5 and 3.9 per cent on average this year. GDP grew by 1.5 per cent on an annual basis in the second quarter, and growth is expected to remain subdued this year as a whole, supported mainly by household consumption, while a sharp decline in investment activity is restraining growth. In the September 2024 Inflation Report, the MNB forecast the Hungarian economy to expand by 1.0–1.8 per cent, but this expectation is exposed to downside risk in the light of the Q3 GDP data (Table 1).

The fall in investment dampens economic performance significantly this year. Gross fixed capital formation dropped by 15 per cent in the second quarter. In the sectors targeting the domestic and export markets, the

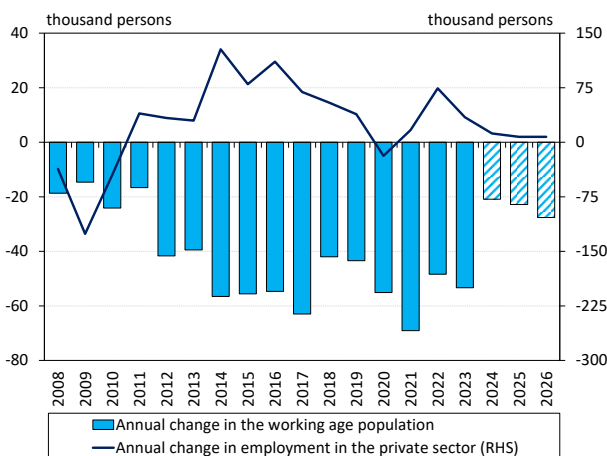
¹ ECB Supervision Newsletter 14 August 2024.

Chart 9: Volume indices of domestic investments by sector



Note: The investment volume index is data for 2024 Q2, compared to the same period of the previous year. Source: HCSO

Chart 10: Annual change in working age population and number of persons employed in the private sector



Note: The number of employed persons refers to 15–74 year-old persons, and the working age population projection refers to 15–64 year-old persons. The number of persons employed is marked according to the midpoint of the forecast range. Source: Eurostat, HCSO, MNB

rate of decline accelerated on an annual basis compared to the first quarter. On a year-on-year basis, the largest declines in investment activity were observed in the health and social, transportation and storage and the manufacturing sectors (Chart 9). In 2023, more than one quarter of domestic goods exports went to Germany, however, in 2024 H1 German industrial output fell by 5.3 per cent, which also has a negative impact on Hungarian exports, as illustrated by the weak performance of the manufacturing sector. In 2024, low capacity utilisation, weak external demand, geopolitical uncertainties and the lingering impact of inflation all point to a decline in investment. This year, both corporate and government investments are expected to decline, while household investments may rise slightly. From 2025, the development activity of the private sector is primarily expected to contribute to restarting the replacement and expansion of investments as business sentiment and external demand improve.

Employment in the national economy is at an historical high level. In July 2024, the number of employed persons aged 15–74 amounted to 4,765,000, representing an increase of 20,000 versus the same period of the previous year. Companies in Hungary have responded to the economic slowdown by reducing the number of hours worked and by labour hoarding, rather than by laying off workers. Looking ahead, employment is expected to grow slowly on the back of recovering economic activity, influenced by the fact that demographic trends are becoming an increasingly effective constraint on further significant employment growth (Chart 10). According to the MNB's latest forecast (September 2024), employment in the private sector is projected to expand by 0.3–0.4 per cent in 2024, followed by employment growth of 0.0–0.5 per cent in 2025. The tightness of the labour market has eased in recent quarters, and domestic inflation has also moderated significantly, which means that nominal wage growth in the private sector will be more moderate in 2024 than in the previous year (11.6–11.9 per cent), but real wages are expected to rise substantially.

BOX 1: IMPACT OF GEOPOLITICAL RISKS ON THE STABILITY OF THE FINANCIAL INTERMEDIARY SYSTEM

In addition to traditional stress events, the rising number and intensity of pandemics and military conflicts makes it necessary to assess the impact of these risks on the financial intermediary system as accurately as possible. Since 2017, the MNB has used the so-called Factor Based Financial Stress Index (FSI) to measure tensions and materialised stress in the financial intermediary system. However, the outbreak of the COVID-19 pandemic, the Russia–Ukraine war and the conflicts in the Middle East have highlighted the utility and necessity of using complementary indices that capture geopolitical risks in the broader sense. The reason for taking geopolitical indices into consideration is that pandemics, lockdowns, terrorism, wars and sanctions may affect the economy or certain sub-markets (for example through energy prices or transport costs) even before the occurrence of major disruption in the operation of the financial intermediary system. This allows economic policymakers to mitigate the impact of geopolitical events on market participants, including those in the financial system, via timely and targeted measures (such as loan repayment moratorium or liquidity expansion). In order to do this, initially we need to measure the effects of geopolitical tensions as accurately as possible and clarify the means and methods of measurement.

Geopolitical risks can affect the stability of the financial intermediary system, directly via the financial channel and indirectly via the real channel. Restrictions on capital flows and payment transactions, as well as increased uncertainty and risk aversion have an impact on cross-border capital allocation via the financial channel even in the short term. This may lead to financial fragmentation, which in turn can result in elevated asset price volatility. Sudden reallocation of capital can trigger liquidity and solvency problems in the financial sector. The real economy channel exerts an impact via disruptions of trade relations and supply chain frictions, which also have an adverse impact on world trade, economic growth and inflation. This can lead to liquidity and solvency problems for businesses, which are reflected in the financial sector by an increase in the credit risk of clients.

The Geopolitical Risk Indices (GPR) are applied to measure geopolitical risks. At present, the literature distinguishes between two main methodologies for the time-series quantification of geopolitical risks. The Geopolitical Risk Index (GPRI) relies on a text processing method to measure geopolitical risk.² By contrast, for the same purposes, the Common Volatility Index (COVOL) – which also has a daily frequency – uses a factor explaining the errors (residual values) of the two-factor model applied to returns on equity indices (ETFs).³ However, the two indices differ not only in their method of calculation, but also in their content. In the case of GPRI, the algorithm only monitors acts of war and terrorism, geopolitical tensions and political conflicts. COVOL, on the other hand, is more comprehensive: it covers the effects of pandemics and lockdowns – including the COVID-19 period – and performs better in quantitative models. For this reason, the MNB applies the latter index to measure the vulnerability of economic growth and is working on further development of the index with a domestic focus.

In the model used to forecast risks to growth in Hungary, geopolitical indices have a significant impact in the short term. To measure growth risks, in line with ESRB practice, we use the so-called Growth-at-Risk (GaR) model, which employs a quantile regression to quantify the vulnerability of GDP.⁴ This method has the advantage over simple linear regression methods that it predicts the full probability distribution of real GDP: in other words, it can accurately measure the increase in vulnerability by the distance between the lower and middle quantiles of the distribution. Compared to linear models, this method measures the impact of financial and geopolitical risks on growth more precisely, as the impact is taken into consideration individually at each point in the distribution. Results from previous research indicate that increasing risks have a larger impact on the lower quantiles of GDP than on the upper quantiles,

² Caldara, D. – Iacoviello, M. (2022): *Measuring geopolitical risk*. *American Economic Review*, 112(4), pp. 1194–1225.

³ Engle, R. F. – Campos-Martins, S. (2023): *What are the events that shake our world? Measuring and hedging global COVOL*. *Journal of Financial Economics*, 147(1), pp. 221–242.

⁴ Adrian, T. – Boyarchenko, N. – Giannone, D. (2019): *Vulnerable growth*. *American Economic Review*, 109(4), pp. 1263–1289.

and our method is capable of demonstrating this fact. This procedure is complemented by a ‘non-crossing’ constraint, which minimises the estimation bias arising from the short time series by ensuring the order of magnitude of the estimated quantiles, and a Lasso regularisation to select the significant variables that are important in the estimation.⁵ Of the selected variables, the COVOL geopolitical index is always included with a short forecast time horizon of up to one year, i.e. its impact is significant indeed, and it changes the GDP growth model considerably. In the GaR model, the COVOL index outperforms the GPRI index: in other words, it has a larger impact on the growth outlook at each horizon within a year, and the direction of its impact is intuitive in all cases. According to our calculations, including the index measuring current geopolitical risks in the model reduces the economic growth rate forecast for one year by an average of 0.4 percentage point. In order to provide a more accurate forecast and to produce plausible stress scenarios, the geopolitical risk index itself is also forecasted. The goal is not to forecast abrupt changes on a daily basis, but to forecast the level of risk with sufficient accuracy at the monthly and quarterly time horizons required for the GaR model.

Geopolitical tensions and conflicts increase economic uncertainty and reduce expected economic growth. Slower economic growth, in turn, weakens the ability of borrowers to repay their loans, which may result in higher NPL ratios and higher impairment charges. The deterioration in the economic outlook is mostly associated with a fall in credit demand, which erodes banks’ profitability even further. In turbulent times, not only banks’ profitability but also their funding costs may come under pressure, further weakening their capital position and stability. A more accurate measurement of geopolitical risks improves the reliability of forecasts for expected economic growth and thus provides a more precise view of the challenges and threats to the stable operation of the financial intermediary system.

⁵ Szendrei, T. – Varga, K. (2023): [Revisiting vulnerable growth in the Euro Area: Identifying the role of financial conditions in the distribution](#). *Economics Letters*, 223, 110990.

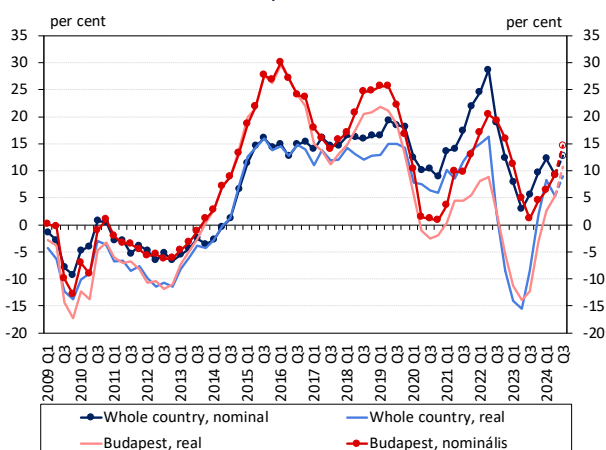
2. Recovery on the housing market, but cyclical risks remain in the office and industrial-logistics markets

In 2024 Q2, nominal house prices appreciated by 9.3 per cent year-on-year nationally, which also translates to an increase in real terms. The estimated overvaluation of dwellings relative to fundamentals amounted to 11 per cent in the second quarter following a substantial year-on-year decline. The relationship between house prices and incomes has not changed significantly over the past year, while the fall in mortgage rates has improved the availability of housing loans. Improving availability contributed to a significant year-on-year increase of 84 per cent in the number of customers buying a home with credit in 2024 Q2, boosting their share in total housing transactions from 27 per cent to 37 per cent. The number of housing market sales increased by 32 per cent year-on-year.

More than four fifths of market experts believe that the domestic commercial real estate market has reached or has already passed the trough of the cycle. Expected returns did not increase in any segment in 2024 Q2. Starting from a low base in 2023 H1, investment turnover fell by around 20 per cent in 2024 H1, in contrast to the trends in the region. This latter development, together with the low share of foreign investors, suggests that international investors' risk perception of the Hungarian real estate market may have deteriorated. For Budapest office and industrial-logistics properties, the vacancy rate is expected to rise further in 2024 H2 due to lower net absorption compared to planned completion volumes. The retail and hotel segments, on the other hand, continue to be supported by positive real wage growth and rising overnight stays by foreign guests.

The high share of collateral with increasing value between end-2022 and June 2024 within the project loan portfolio of credit institutions secured by commercial real estate ran contrary to market trends. Therefore and in light of the common mistakes based on international experience, as outlined in the ECB's Supervision Newsletter communication on the valuation of commercial real estate collateral, it is important for domestic credit institutions to pay special attention to their collateral valuation practices.

Chart 11: Annual change in nominal and real house prices

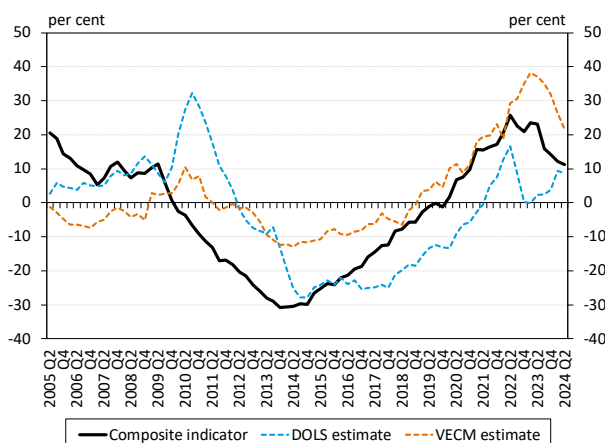


Note: 2024 Q3 is based on data from real estate agents. Source: MNB

2.1. Falling lending rates have contributed to a substantial recovery in the housing market

In 2024 H1, house prices appreciated once again in real terms, in a year-on-year comparison. According to the MNB's house price index, on average, house prices rose by 9.3 per cent annually on a nominal basis in 2024 Q2 across the country (Chart 11). The rate of price appreciation was balanced, with housing prices increasing by around 9 per cent in all settlement types compared to 2023 Q2. With the substantial decline in inflation, house prices have started to rise anew in real terms since end-2023. In the second quarter, house prices appreciated by 5.3 per cent in real terms, both nationally and in Budapest, while at the trough a year earlier they had dropped by 16 per cent and 14 per cent, respectively. Based on preliminary data reported by housing market intermediaries, annual house price appreciation accelerated to 12.8 per cent nationally in 2024 Q3, and to 14.7 per cent in Budapest, according to MNB estimates.

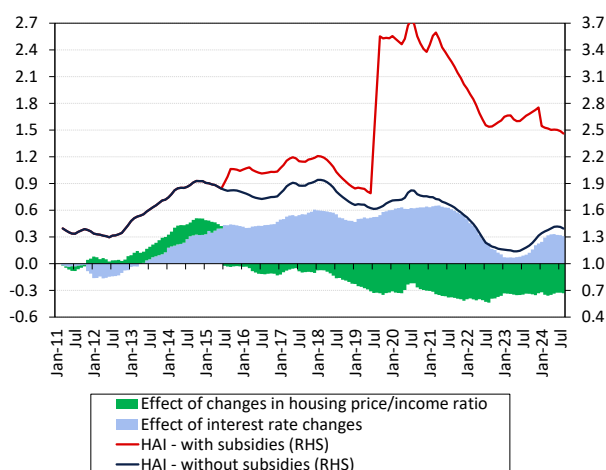
Chart 12: Deviation of house prices from the estimated level justified by fundamentals



Note: Sub-indicators of the composite indicator: house price/income, house price/rent, new house price/construction cost, house price/affordable loan amount, housing investments/GDP. The composite is calculated as a weighted average of the deviations from the long-term average of each sub-indicator. For the detailed methodology of the individual models, see the MNB’s November 2024 [Housing Market Report](#). Source: MNB

The overvaluation of residential real estates has moderated. Based on our composite indicator, in 2024 Q2, the overvaluation of residential real estate was 11 per cent nationally relative to the levels justified by economic fundamentals, representing a substantial year-on-year decline (Chart 12). Two of the sub-indicators⁶ of the composite indicator made a significant contribution to reducing overvaluation. On the one hand, the amount of credit that an average household can afford has risen faster than house prices thanks to falling borrowing rates and rising incomes, making the current level of housing market demand sustainable. On the other hand, the ratio of the value of housing investment to GDP declined to its long-term average; consequently, there is no persistent supply-side overheating that might increase the risk of a downturn in house prices.

Chart 13: Housing Affordability Index and contributing factors



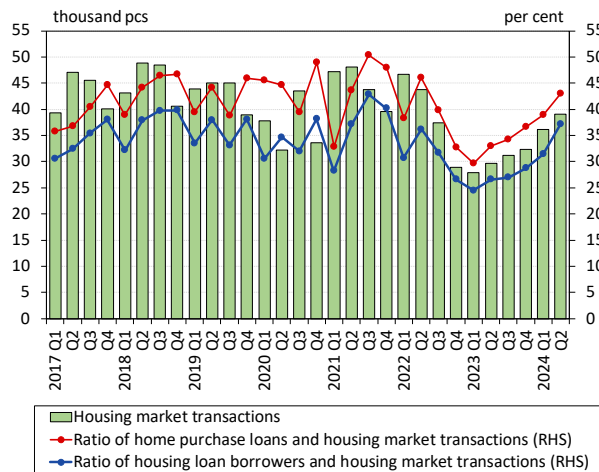
Note: The impact of housing price/income and interest rate changes shows the cumulative impact since January 2011. The HAI (Housing Affordability Index) shows the number of times the income of a household with two average earners covers the income required for the financed purchase of an average home. If the value of the indicator is below 1, the purchase represents excessive risk and financial burden. Parameters of the loan product, except for the interest rate, are constant. LTV = 70 per cent, DSTI = 30 per cent, maturity = 15 years. Both HAI calculations are based on the national average price of a 65-square meter, pre-owned home. The subsidised HAI applies to married couples who commit to have their second child and are also entitled to a prenatal baby support loan. Source: HCSO, NTCA, MNB

Housing affordability has improved as lending rates have fallen. Between August 2023 and 2024, the affordability of buying a home with a market loan improved significantly (Chart 13). The ratio of average prices of pre-owned homes to average earnings did not change significantly over this period (they increased at a similar rate), and thus affordability was not affected. The improvement in affordability was therefore mainly due to a fall in the average interest rate on market-based housing loans. However, this effect only offset about one half of the adverse impact of the earlier rise in lending rates on affordability, which started in mid-2021. State-subsidised loans continue to make it much easier to buy an average pre-owned home, but from 1 January 2024, the HPS Plus scheme, which replaces the Home Purchase Subsidy Scheme for Families, is only available to couples committing to have a new child. This may have reduced the number of people eligible to around one third.

The significant increase in the number of people taking out housing loans supported the growth in housing market activity. In 2024 Q2, there were 39,000 housing market sales nationwide, up 32 per cent from the low level recorded in the same period of the previous year (Chart 14). The increase in the number of sales was also supported by a pick-up in housing loans. Lower lending rates, rising real incomes, improving consumer confidence and the high loan amounts available from January under the interest-rate subsidised HPS Plus also played a significant role in this. In 2024 Q2, the number of people taking out housing loans increased by 84 per cent year-on-

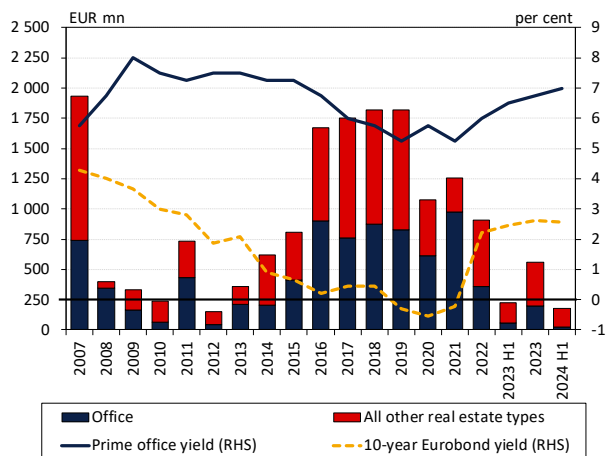
⁶ The methodology and sub-indicators of the composite indicator are presented in Box 1 of the MNB’s [November 2024 Housing Market Report](#).

Chart 14: The role of lending in housing market turnover



Note: The number of borrowers is lower than the number of housing loan contracts, as a household can take out several loans to purchase the same home. Source: MNB

Chart 15: Investment volume and prime yields in the Hungarian commercial real estate market



Note: The 10-year Eurobond yield is the Q4 average of the 10-year government bond yields issued by AAA-rated euro area countries. In the case of 2023 H1 and 2024 H1 10-year Eurobond yield is the Q2 average. Source: CBRE, Cushman & Wakefield, MNB

year. Accordingly, 37 per cent of sales were financed with credit during the quarter, compared to only 27 per cent one year ago. In late 2024 and in 2025, the housing market may be further stimulated by the potential reallocation of households' financial wealth, as discussed in Box 2.

2.2. The rise in yields that reduced the value of commercial real estates has stopped

Commercial real estate investment turnover continued to fall, in contrast to the trend in the region.

In 2024 H1, investment turnover on the domestic commercial real estate market amounted to around EUR 180 million, down 21 per cent from 2023 H1 (Chart 15). The expected prime yield rose only in the office segment (+25 basis points) in the first quarter. During the second quarter, yields stagnated in all segments (at 6.75–7 per cent), which may well mark the end of a two-year downturn in the commercial real estate market. This represents a 24-per cent overall decrease in the calculated capital value of prime offices compared to 2022 Q2, which can be seen as a reversal of the market trend.⁷ According to a survey by the Royal Institution of Chartered Surveyors (RICS),⁸ 63 per cent of the respondents thought that the domestic market had reached the bottom of the cycle by mid-2024, with a further 19 per cent believing that it had already passed the bottom. Among the CEE countries, market experts expect to see a substantial increase in investment turnover in Czechia and Poland in 2024 as a whole. In light of this, the further decline in investment activity in Hungary combined with a low foreign share in 2024 H1 suggests that international investors' risk perception of the Hungarian real estate market may have deteriorated.

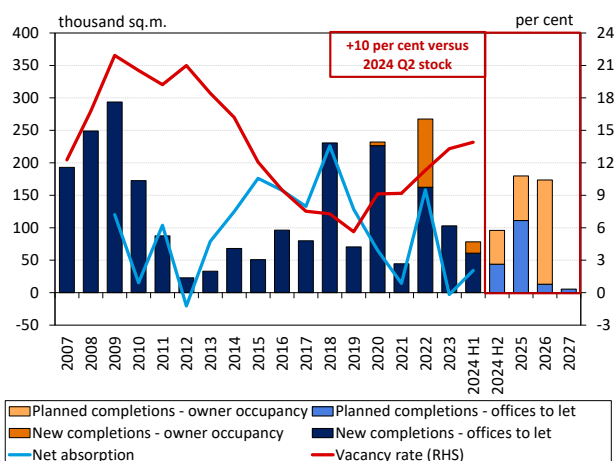
With low net absorption compared to planned completion volumes, the vacancy rate in the office market is expected to continue rising.

The volume of new office space completed in the Budapest office market in 2024 H1 increased 22 per cent versus the same prior-year period (Chart 16). Net market absorption, a measure of the change in the leased office stock, was positive (34,000 square metres) in the first half of the year, but insufficient to offset vacancies from new completions and expired leases, and as a result, the vacancy rate rose by 0.6 percentage point to 13.9 per cent at the end of June. In Budapest, 455,000 square metres of office space

⁷ The capital value of prime offices is a calculated, theoretical value, being the amount of the annual net rental revenue resulting from the level of prime rental rates capitalised by the prime yield as in case of the calculation of a perpetual annuity (annual prime revenue from rents/prime yield).

⁸ Royal Institution of Chartered Surveyors, [Global Commercial Property Monitor](#).

Chart 16: Development activity and vacancy rate in the Budapest office market



Note: Based on data from end-June 2024. Source: Budapest Research Forum, Cushman & Wakefield

Table 2: Main features of the Hungarian commercial real estate market’s segments

	Office	Industrial-logistics	Retail (shopping centre)	Hotel
Vacancy rate	13.9%	8.5%	7.5%	36.3%
Change in vacancy rate versus end-June 2023 (percentage points)	+1.3	-0.1	-1.0	-0.6
Change in 4-quarter rolling demand (net absorption) versus the period one year before	-48%	-30%	-	+7%
New supply under construction as a percentage of existing stock	+10%	+12%	0%	+4%
Change in average offered rent versus end-June 2023	+3%	+6%	-	-
Change in investment yield versus end-June 2023	+50 bp	+25 bp	0 bp	-

Note: Based on end-June 2024 data. Factors pointing to a decline or increase in the value of properties are shown with red and green background, respectively. In the case of hotels, the vacancy rate (100 per cent – room occupancy) and its change refer to hotels in Budapest in the period of January–June 2024, while the change in demand is the change in guest nights spent in domestic hotels. Source: CBRE, Cushman & Wakefield, HCSO

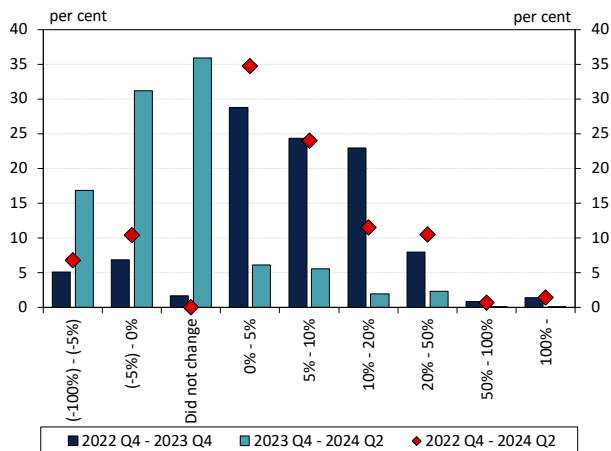
(10 per cent of the total stock) is under construction, which is high by regional standards, with 96,000 square metres of this expected to be completed in 2024 H2. A significant proportion (62 per cent) of the stock under construction represents owner-occupied developments, including several buildings for public institutions. 13 per cent of the rental stock under construction, including one half of the new completions expected for 2024 H2, is pre-leased. In view of the planned new completion volume and the low level of net absorption compared to this, the vacancy rate is expected to rise further, advancing to more than 15 per cent by the end of 2024.

Indicators in the retail and hotel segments have improved, but the industrial-logistics segment is likely to see an increase in vacancy rates. Returning to rising real wages and the increased number of foreign visitors had a positive impact on the retail and hotel segments. Thus, in 2024 H1, the vacancy rate of retail properties nationwide decreased and the number of guest nights in hotels increased relative to the same period of last year (Table 2). During the same period, the vacancy rate for industrial and logistics properties in Budapest and its environs remained stable at 8.5 per cent at the end of June. Net absorption has been on a downward trend since the peak volumes of 2021–2022. According to market experts, the decline in industrial production and uncertain growth prospects have led to a tendency to postpone rental decisions. In the meantime, a significant volume of property development has recently started, with construction of floorspace equivalent to 12 per cent of the existing stock in progress. As a result, the vacancy rate in the industrial-logistics market in Budapest and its environs is expected to rise significantly by end-2025.

The appreciation of commercial real estate collateral for project loans runs contrary to market trends. Based on valuations at banks, 86 per cent of collaterals appreciated in value between the end of 2022 and 2023, in respect of those commercial properties that were included in the institutions' collateral portfolios at the end of 2022 and at the end of June 2024 as well (Chart 17).⁹ In 2024 H1, market values already decreased for nearly half of the commercial property collateral (48 per cent based on value) and remained unchanged for another 36 per cent. However, the vast majority of the portfolio, 83 per cent,

⁹ Our previous analysis on the commercial real estate held as collateral by institutions at the end of 2022 and 2023 is based on the MNB's [May 2024 Financial Stability Report](#) (Box 1).

Chart 17: Distribution of collaterals of project loans secured by commercial real estate by the change in collateral values



Note: In proportion to market value as at end-June 2024. Based on the real estate collateral in the portfolio at the end of 2022 and 2023, as well as the end of June 2024 for office, retail, industrial-logistics and hotel project loans with a completed status. In some cases, the evolution of the collateral value may have been affected by technical factors, including data errors on the completion status of the collateral property and changes in the collateral register. Source: MNB

still comprises collateral whose market value has been increased by banks over the year and a half under review. As this runs contrary to market developments during this period, domestic credit institutions should pay special attention to their collateral valuation practices, particularly in light of the European Central Bank’s communication on the common errors in commercial real estate collateral valuation practices, based on international experience.¹⁰ However, the stability risks of the financial intermediary system are mitigated by the fact that the banking sector’s exposure to the commercial real estate market accounts for only 33 per cent of its own funds, compared to 70–80 per cent in the years following the global financial crisis (Appendix, Chart 35). In the medium term, the refinancing needs of domestic project loan portfolio backed by commercial real estate are manageable for Hungarian banks.¹¹

¹⁰ See chapter 1 of the report.

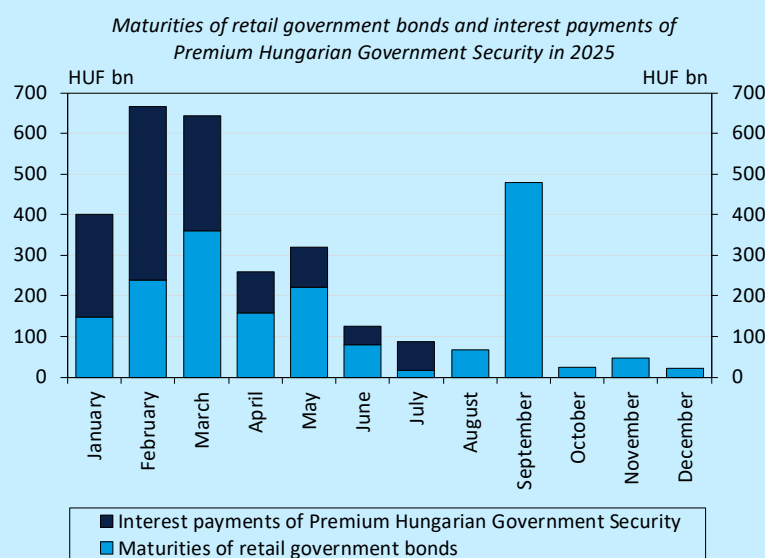
¹¹ Box 1 in the MNB’s [May 2024 Financial Stability Report](#) also provides a detailed breakdown of the maturity composition of credit institutions’ holdings of project loans backed by commercial real estate.

BOX 2: POSSIBLE REALLOCATION OF HOUSEHOLDS' FINANCIAL WEALTH IN 2025 AND ITS IMPACT ON THE HOUSING MARKET

Due to government measures and the financing specificities of Hungarian public debt, substantial funds may flow into the domestic housing market in 2025 as a result of a reallocation of household wealth. For retail government bonds, there will be large volumes of maturing securities and interest payouts. According to the government's proposal submitted for public consultation,¹² voluntary pension savings will be able to be used tax-free for housing purposes in 2025.¹³ All of this suggests that, temporarily, housing demand may rise significantly in 2025; accordingly, this box examines the possible effects of these developments.

In 2025, households will receive around HUF 1,300 billion in yields from Premium Hungarian Government Security (PMÁP), and almost HUF 1,800 billion in retail government bonds will mature. The first three months of 2025 will be

the period most affected by interest payments on the PMÁP series: around HUF 970 billion will be paid to households in this form. 60 per cent of the 2025 maturities of all retail government bonds fall between January and May, while an additional 27 per cent occur in September. The population has a total PMÁP portfolio of almost HUF 7,000 billion, and in 2025 the yield on each series will decrease substantially after the start date of their new interest period because of declining inflation. Almost three quarters of the PMÁP portfolio has a start date of a new interest period in the first three months of the year, and the average interest rate may fall from 18.4 per cent in 2024 to around 4.7 per cent in 2025.

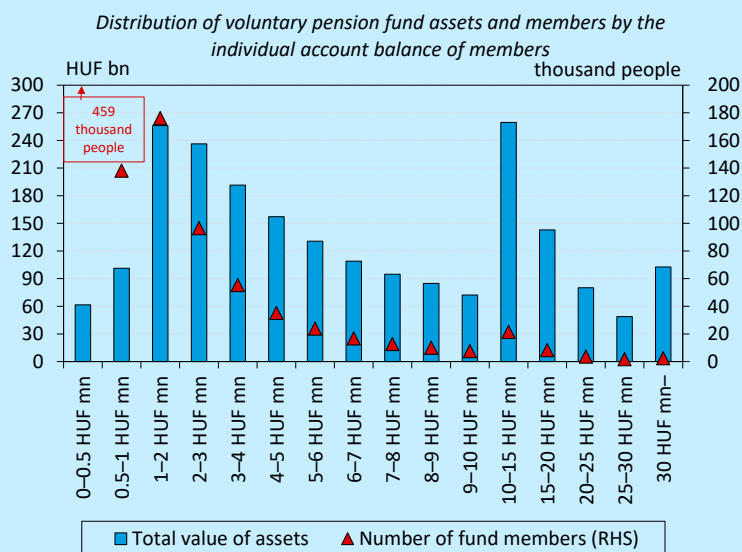


Maturing government bonds, high PMÁP interest payouts and a substantial decline in PMÁP yields may lead to the reallocation of household wealth, with housing investment competing for household funds along with various forms of savings. According to the MNB's September 2024 survey, 74 per cent of respondents do not plan to sell their retail government bonds before maturity, and a further 19 per cent plan to sell only a portion of their bonds, indicating a moderate willingness to transform their portfolio. In addition, nearly one half of the respondents plan to reinvest the interest paid on government bonds in government bonds, and 19 per cent reported that they would use it for larger expense items, which may include such housing investment as purchasing, building or renovating a home.

¹² <https://kormany.hu/dokumentumtar/1993-evi-xcvi-tv-es-1995-evi-cxvii-tv-mod-szolo-tv-opt-modositas>

¹³ In addition, real estate investments tied to the acquisition of a guest investor residence permit ('golden visa') may primarily affect the development of the rental housing market, see Box 2 of MNB's [April 2024 Commercial Real Estate Market Report](#) for more details.

According to the government’s proposal, in 2025 voluntary pension savings will be able to be used tax-free for the purchase of property purely from own funds, that is, without borrowing, as down payment for housing loans, for the repayment of housing loans and home equity loans, or for home renovation. Pension fund members will also be permitted to use the balance of their account for their own, their spouse’s or their children’s housing needs. The scope of eligible renovations will be largely energy saving (heating modernisation, insulation, replacement of windows and doors, installation of solar collectors), but savings will also be available for renovation of the interior of the dwelling, air conditioning and replacement of kitchen furniture and appliances. Members may claim tax-free payments for housing, up to a maximum of three times, in 2025 only. The government expects that HUF 300 billion – 14 per cent of the HUF 2,100 billion in voluntary pension fund accounts – may flow into the housing market as a result of the measure.



The distribution of pension fund assets reduces the expected impact of the measure on the number of transactions in the housing market. At the end of September 2024, the number of voluntary pension fund members was close to 1.1 million and the average account balance was around HUF 2.0 million; however, the distribution of fund assets is uneven: 459,000 members had savings of less than half a million forints, while the savings of 314,000 members ranged between HUF 0.5 and 2 million. On this basis, nearly three quarters of the members are not expected to generate additional housing market demand; their claims are likely to be limited to loan repayments or minor renovations. Moreover, of the age group most likely to be in need of buying their own home only a few members are presumed to provide a sufficient amount of own contribution from their pension savings: at the end of 2023, the number of members under 41 years old was 216,000, and they had an average of only around HUF 800,000 in savings. At the same time, a smaller group of 38,000 members has a balance of more than HUF 10 million, and hold almost one third of the fund’s assets, HUF 634 billion. In their case, the savings can easily be used as own contribution provided for buying a home or to cover the cost of a complete renovation. In the case of members with more substantial assets – who are typically older – it is also possible to support their children’s housing needs by providing the co-payments permitted by the government proposal.¹⁴

In 2025, retail clients will receive more than HUF 3,000 billion from interest on retail government bonds and from maturing bonds, and the structure of the population’s wealth may also change as a result of the fall in PMÁP yields. If part of the funds thus released are reinvested in the housing market, this may lead to a substantial increase in investment demand, raising house prices and thus making home purchases less affordable. The tax-free use of voluntary pension fund savings for housing purposes made possible in 2025 may result in hundreds of billions of forints flowing into the housing market; however, due to the wealth and age distribution of fund members, these amounts are expected to be used primarily for renovation purposes, loan repayments or the housing needs of fund members’ children.

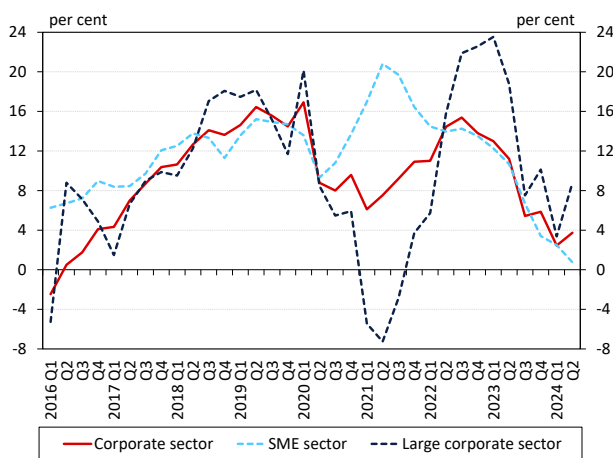
¹⁴ The liabilities-side impact of the measure on the credit institution sector is moderate, as pension funds (both voluntary, which are covered and private pension funds, which are not covered by the proposal) had only HUF 47 billion in bank deposits at the end of September 2024.

3. Demand for investment loans from companies remains low

At the end of 2024 H1, credit institutions' corporate loan portfolio grew by 3.7 per cent and their SME loan portfolio grew by 0.7 per cent on an annual basis. As in most of the countries in the region, this implied a continued deceleration in the growth rate of the portfolio. The value of new corporate loan contracts declined year-on-year, and the share of non-market priced loans in new disbursements fell significantly with the phase-out of subsidised loan schemes, as well as the narrowing of their availability. In 2024 H1, lending rates for HUF-denominated loans dropped, in line with the decline in the benchmark rate.

The lending activity of the banking system corresponds to the cyclical position of the economy, and the current subdued activity in corporate lending stems mostly from insufficient demand factors, rather than supply factors that are hampering lending. In 2024 H1, banks perceived decreasing demand for investment loans. Although this decline did not continue in the third quarter, banks do not expect a recovery in demand for long-term loans looking ahead. According to questionnaire-based surveys, the business and investment activity of domestic companies is currently dampened mainly by subdued consumer demand, the lingering effects of inflation and uncertainty. In view of the tighter supply of subsidised loan schemes and the high portfolio of liquid assets by regional standards, annual growth in the corporate loan portfolio is expected to be around 3 per cent in 2024.

Chart 18: Annual growth rate of corporate loans in the credit institution sector



Note: Transaction-based growth. Between March 2022 and August 2022, incoming repayments to Sberbank are also taken into account. Source: MNB

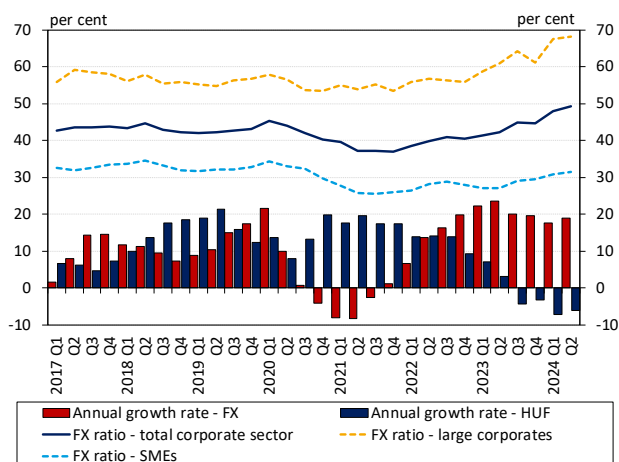
3.1. Growth in the corporate loan portfolio has continued to decelerate

The annual growth rate of outstanding corporate bank loans has continued to slow, primarily in the SME sector. In line with the trends seen in Hungary's narrower region,¹⁵ the annual transaction-based growth rate of loans extended by the credit institution sector to non-financial corporations kept falling in 2024 H1. The annual growth rate was 5.9 per cent at the end of 2023 and 3.7 per cent at the end of 2024 Q2 (Chart 18). In parallel, overall corporate credit growth dropped from 6 per cent to 3 per cent in regional countries, on average. By firm size, the SME sector, which better reflects the underlying processes, saw a deceleration in credit growth, while growth accelerated in the segment of large corporations: the loans outstanding of SMEs rose by only 0.7 per cent, while the loans outstanding of large corporations increased by 8.8 per cent year on year.

The share of foreign currency loans rose to its pre-pandemic level and then exceeded it. In the course of 2022, the annual transaction-based growth of foreign currency loans embarked on an increase, which was initially coupled with a moderation in the dynamics of HUF-denominated loans and with a decline in the portfolio

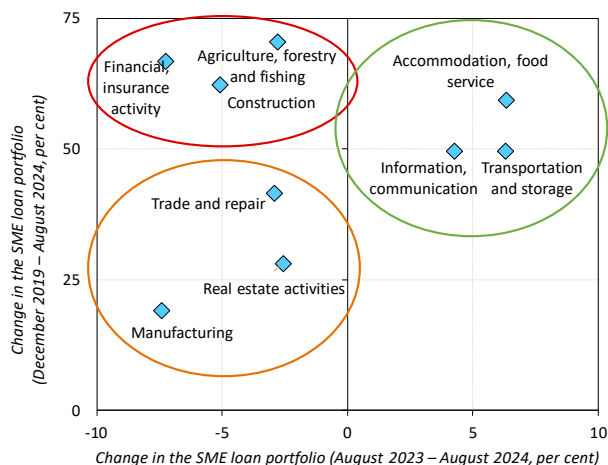
¹⁵ Regional countries: Czechia, Poland, Romania, Slovakia.

Chart 19: Evolution of the corporate loan portfolio by currency



Note: Transaction-based growth. Between March 2022 and August 2022, incoming repayments to Sberbank are also taken into account. Source: MNB

Chart 20: Changes in the SME loan portfolio in the main sectors



Source: MNB

of forint loans in 2023 and 2024 H1. Between 2019 and 2021, the share of foreign currency loans in the portfolio fell from 43 per cent to 37 per cent, reflecting the impact of subsidised lending schemes, but the trend then reversed after the tightening cycle commenced, correcting to slightly above the 2019 level in 2024 H1 (Chart 19). At the end of 2024 Q2, 49 per cent of the total loan portfolio was denominated in foreign currency, and about three quarters of this was accounted for by companies that have natural coverage.

Growth in SME loans varied widely at the sector level.

Over the past year, outstanding SME loans increased in the sectors of tourism and hospitality, transportation and storage and information and communication, and decreased in all other sectors. The loans outstanding of the listed sectors grew faster than the total SME portfolio over a longer time horizon, including the period elapsed since the outbreak of the COVID-19 pandemic. By contrast, a decline was observed in the sectors agriculture, financial-insurance activities and construction over the past year, whereas previously there had been significant expansion. In line with the contraction in business opportunities, investment activity declined in agriculture and construction where the net borrowing requirement and real economic activity both are currently lower. The manufacturing and real estate sectors, which account for a larger share of total loans outstanding, exhibited a year-on-year decline in loans, and growth has been more subdued than in the case of total SME loans since 2019 (Chart 20).

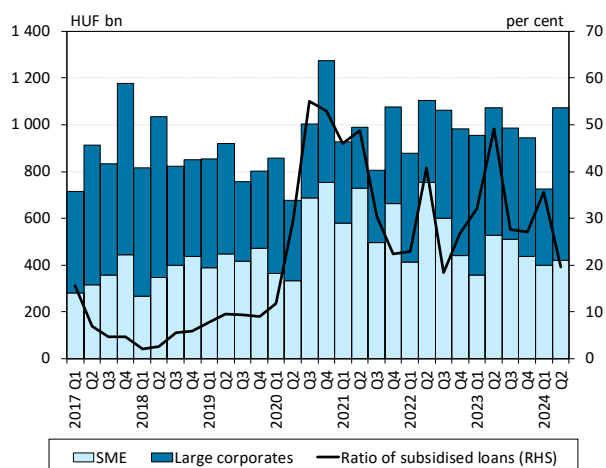
The value of new contracts fell in year-on-year terms.

In 2024 H1, new contracts amounted to nearly HUF 1,800 billion in the credit institution sector, with a year-on-year decline of 12 per cent.¹⁶ By company size, the volume of new contracts signed in the micro, small and medium-sized enterprise segment fell by 8 per cent in 2024 H1, while in the segment of large corporations it contracted by 15 per cent (Chart 21). New disbursements to SMEs amounted to around HUF 400 billion for the third quarter, which is consistent with the nominal issuance level in the period before the coronavirus pandemic. The phasing out and narrowing¹⁷ of subsidised loan schemes reduced the

¹⁶ The impact of new contracts needs to be assessed carefully, as an increase in the average maturity of loans may (via lower principal instalments and refinancing needs) lead to an increase in corporate credit growth, despite a contraction in new loan issuance.

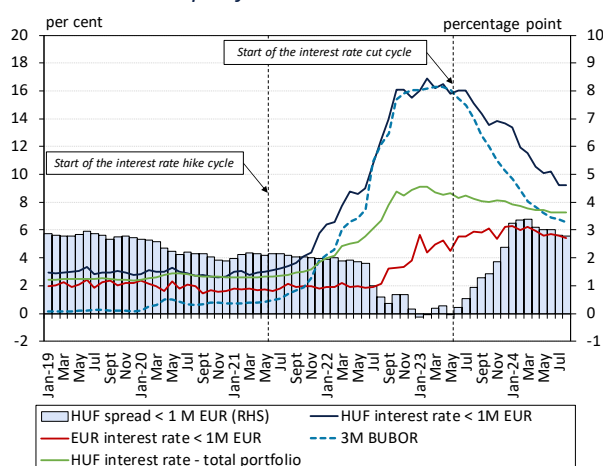
¹⁷ The HUF 200 billion investment facility of the Baross Gábor Reindustrialisation Loan Programme announced for 2024 was exhausted in the first quarter already, and as a result, acceptance was stopped. The ‘crisis support’ available under the Széchenyi Card Programme was discontinued in

Chart 21: New corporate loans in the credit institution sector



Note: Data are not adjusted for exchange rate effects and exclude money market transactions. In calculating the share of subsidised loans, we examine the share of non-overdraft loans classified as ‘Non-normal market’ loans within the overall new contract volume of credit institutions, excluding loans issued directly by the Hungarian Development Bank (MFB) and Eximbank. Source: MNB

Chart 22: Interest rates on the outstanding corporate loan portfolio and on new loans



Note: Volume-weighted interest rates. Categories below EUR 1 million include loans with variable interest rates or with interest rates fixed for up to one year. Monthly averages are shown for the 3-month BUBOR. The spread is smoothed, i.e. calculated on the basis of the 3-month moving average, in order to reduce the monthly volatility of the time series. Source: MNB

share of non-market priced loans in new disbursements significantly: while the share of non-market priced loans in new disbursements amounted to 43 per cent when the schemes were at their peak in 2023 H1, it was only 26 per cent in the first half of this year. For SMEs, this ratio fell from 54 per cent to 35 per cent. Looking ahead, the share of subsidised loans will be determined by the budget and the conditions under which the government will launch the measures announced in the Demján Sándor programme.

3.2. In parallel with the fall in interbank rates, interest rates on HUF loans declined

The average interest rate on new market-based HUF loans dropped to below 10 per cent. The average interest rate on low-amount (less than 1 M EUR), market-based HUF loans with variable interest rates within one year fell by 4 percentage points after January 2024 to a level of 9.3 per cent in August (Chart 22). In addition to the drop in the 3-month interbank interest rate, regulatory requirements – the voluntary interest rate ceiling on working capital loans¹⁸ and the temporary 0 per cent spread requirement¹⁹ – may also have contributed to the decline. At the same time, according to credit institutions active in the corporate credit market, the impact of the measure on lending rates was limited owing to the short duration of the preferential period. The smoothed spread above the 3-month BUBOR²⁰ for low-amount HUF loans approached 3 percentage points in August 2024, i.e. it returned to pre-COVID levels. As a result of falling HUF interest rate levels and nearly unchanged foreign currency interest rates, the interest rate spread on low-amount, market-based foreign currency loans dropped from 7 percentage points in December to below 4 percentage points in August.

In 2023, the interest rate coverage of the corporate sector deteriorated further. Companies were able to refinance expiring low-interest loans, typically granted during the

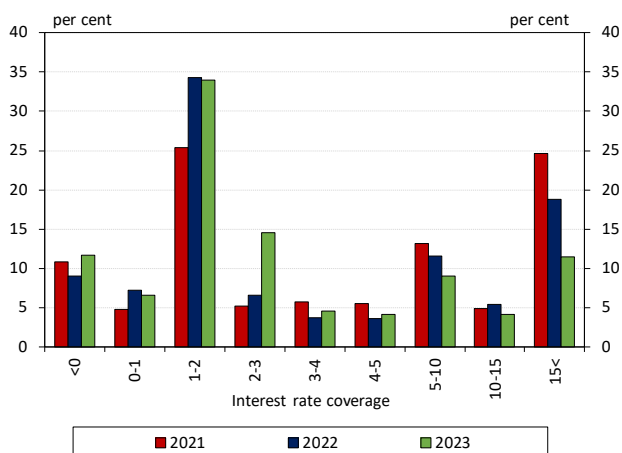
most sectors on 30 June 2024, and is only available at this time on a *de minimis* basis, which limits the volume of loans that can be taken out by individual companies substantially.

¹⁸ The voluntary interest rate ceiling for market-based, HUF-denominated working capital loans contracted between 9 October 2023 and 30 June 2024 was 12 per cent at the time of its launch, and was reduced to 11.5 per cent from November 2023 and to 9.9 per cent from January 2024.

¹⁹ Based on the agreement between the government and banks, the spread above BUBOR for loans from participating banks has been temporarily reduced to 0 percentage point for all new HUF-denominated corporate loan contracts. According to the government’s announcement at the end of January, the spread above BUBOR is reduced to 0 per cent for six months for corporate loan contracts concluded between 1 February 2024 and 1 May 2024. After that period, it will revert to the ‘normal’ level.

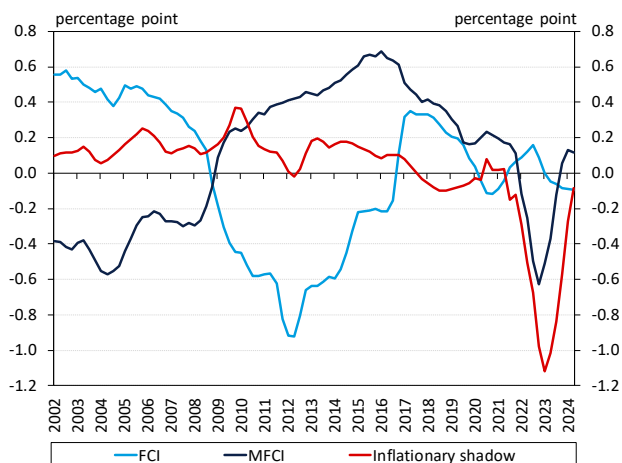
²⁰ It is important to note that the cost of funding for banks is influenced by a number of factors in addition to the BUBOR (for example, the level of deposit rates); therefore, the spread over the effective cost of funding may differ from the estimation above.

Chart 23: Distribution of corporations' bank loans outstanding by interest rate coverage



Note: Interest rate coverage = (Profit before tax + Interest and similar charges paid) / Interest and similar charges paid. In the case of a negative value, the pre-tax result increased by interest expenses of the company with the loan in the given year is negative. Source: NTCA, MNB

Chart 24: Developments in the FCI, MFCI and the inflationary shadow



Note: Contribution to year-on-year GDP growth in percentage points. Source: MNB calculation

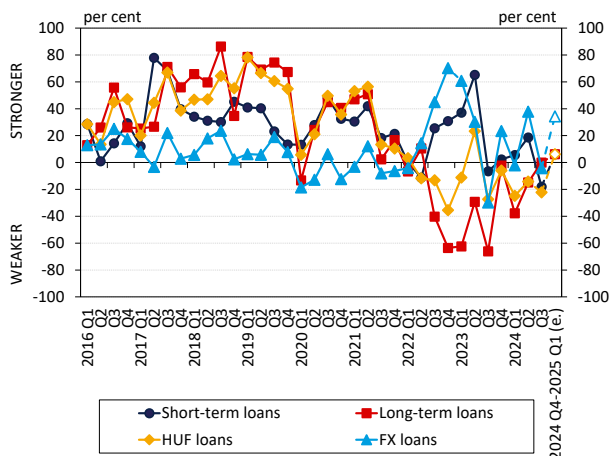
coronavirus crisis, in a higher interest rate environment. This contributed to the fact that while companies with a lower interest rate coverage indicator of below 3 accounted for only 46 per cent of the loans outstanding in 2021, this ratio had risen to 57 per cent in 2022 and to 67 per cent in 2023. The increase from 2022 to 2023 occurred in the relatively better-off indicator category of 2–3 (Chart 23), and it is a positive development that the proportion of companies with an indicator below 1 within the loan portfolio did not increase significantly. Around HUF 500 billion of low-interest, subsidised loans are due to mature within one year from the middle of 2024, and around HUF 2,000 billion within 3 years, the refinancing of which may further reduce the interest coverage of the companies concerned.

3.3. Weak credit dynamics due to slack demand for investment loans

The lending activity of the banking system is consistent with the cyclical position of the economy. The Financial Conditions Index (FCI) deteriorated somewhat in 2024 H1, and its level is slightly negative, but the index still does not deviate significantly from the equilibrium level. The two factors of the FCI, ability to lend and willingness to lend, are stable: the former was at an historically high level, while the latter was close to the equilibrium level (Appendix, Chart 22). Based on the FCI methodology, with the help of the macroeconomic factor summarising monetary conditions, it is possible to construct an indicator known as the Monetary Financial Conditions Index (MFCI). This indicator captures the direct economic growth impact of loan portfolios, lending rates and the exchange rate. According to the MFCI, current monetary conditions are stimulating economic growth (Chart 24). Using the macroeconomic factor that summarises pricing processes, we also analysed the impact of pricing factors on GDP growth, which can actually be interpreted as an ‘inflationary shadow’ affecting the economy.²¹ At the macro level, the ‘inflationary shadow’ is restraining growth, albeit to a diminishing degree, which is consistent with the micro-level perception of companies. This suggests, overall, that the current restraint in lending mainly reflects insufficient demand factors rather than supply factors. The credit gap indicates that the corporate credit portfolio as a

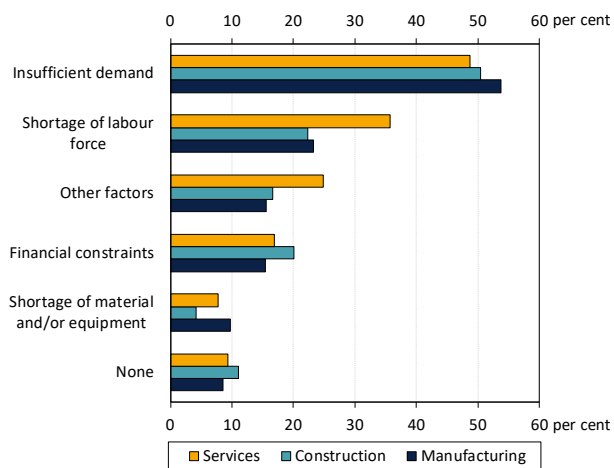
²¹ For a more detailed description of the methodology, see the MNB’s [November 2015 Financial Stability Report](#), or Hosszú (2016): *The impact of credit supply shocks and a new FCI based on a FAVAR approach*. The MFCI was constructed based on macroeconomic factor No. 2 in this study, the variables of which summarise monetary conditions. In turn, the inflationary shadow is based on the variables of macroeconomic factor No. 3 capturing pricing trends of the study.

Chart 25: Changes in corporate loan demand



Note: Net percentage balance of respondent banks indicating stronger/weaker demands, weighted by market share. Source: MNB, based on banks' responses

Chart 26: Main factors limiting the production of domestic firms



Note: Seasonally adjusted data for 2024 Q3. Source: European Commission

ratio to the size of the economy was around the equilibrium level.²²

There is no sign of a turnaround in demand for investment loans. Similar to the previous two years, banks reported a further decline in demand for investment loans and HUF loans in 2024 H1 (Chart 25).²³ In the third quarter, a net 22 per cent of banks perceived a decline for HUF loans, while demand for long-term loans stagnated at the low level of the previous period. Looking ahead to the next six months, banks do not expect demand to pick up; only in the case of foreign currency loans, nearly one third of banks indicated an increase in demand. Long-term loans – typically investment loans – are not expected to recover significantly at the end of the year or even in the first quarter of next year.

Business investment activity is restrained primarily by a lack of consumer demand. The decline in demand for investment loans is confirmed by the results of questionnaire-based surveys (among others, the MNB's Business Sentiment Survey, and the business survey of the National Association of Entrepreneurs and Employers [VOSZ]). According to the European Commission's survey, the business activity and investment of domestic corporations in the third quarter was primarily driven by subdued demand for their products and services and labour shortages (Chart 26). Financial constraints represent an obstacle to production for a much narrower group of enterprises. Feedback from credit institutions indicates that in the current economic environment, the majority of companies do not see any justification for launching new investment projects.

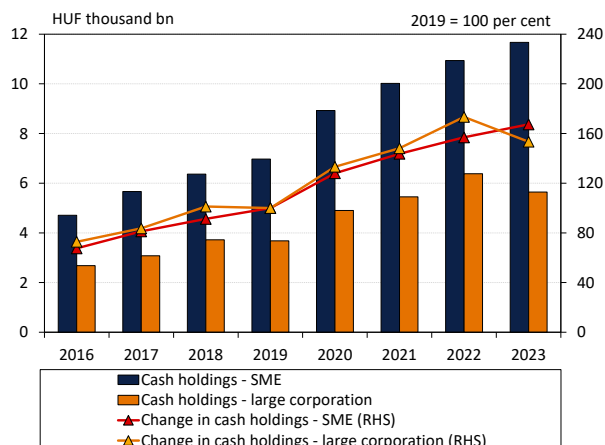
The cash holdings of companies have increased significantly in recent years. At the end of 2023, the cash holdings²⁴ of SMEs amounted to HUF 11,700 billion, while the corresponding value for large corporates was HUF 5,600 billion. In recent years, there has been a significant increase in both of these items: between 2019 and 2023 – in other words, the period covered by the large volume of subsidised loan schemes – there was a 67-per cent increase for SMEs and a 53-per cent increase for large enterprises (Chart 27). In the sector of large corporations, however, a decline was observed as early as 2023, largely

²² See the MNB's 2024 [Macroprudential Report](#).

²³ The findings of the MNB's latest Lending Survey are available on the [MNB's website](#), the accompanying press release can be accessed [here](#).

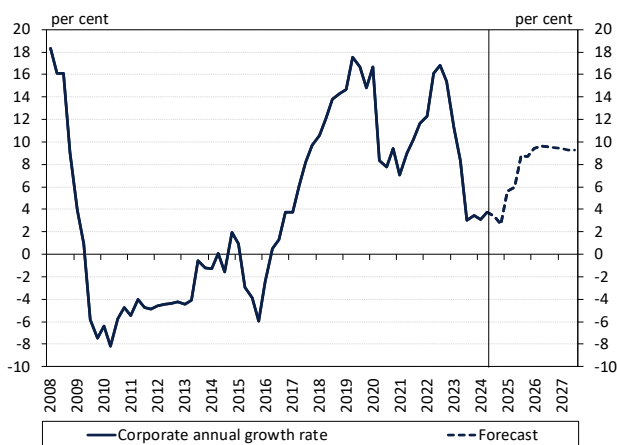
²⁴ According to financial accounts data, in 2023, 85 per cent of the aggregate stock of corporate liquid assets was held in cash holdings (cash and deposits).

Chart 27: Aggregate cash holdings of SMEs and large corporations



Source: MNB, NTCA

Chart 28: Forecast for corporate lending



Note: Transaction-based annual growth rate based on data from the financial intermediary system. It does not include the impact of the Demjan Sandor programme. Source: MNB

attributable to a single enterprise. The growth was particularly high among the 50 companies with the largest cash holdings: their cash holdings rose by 160 per cent from 2019 to 2023; consequently, even with the correction observed in 2023, they accounted for one fifth of total cash holdings at the end of the review period.

Growth in the corporate loan portfolio is expected to moderate in 2024. Due to the high level of domestic corporate liquid assets by regional standards²⁵ and the narrower availability of subsidised schemes, corporate loan portfolio growth is expected to be more subdued in the coming years (Chart 28). The exhaustion of the Baross Gabor Reindustrialisation Loan Programme and the closure of the crisis support facility of the Szechenyi Card Programme at the end of June 2024 significantly limit the opportunities for companies to participate in subsidised schemes in most sectors. From 2024 H2, demand for credit may pick up only slightly with the recovery of the economy. The corporate debt-to-GDP ratio may continue to fall this year, reflecting a more moderate credit expansion than in previous years. We estimate that annual transaction growth in the corporate loan portfolio will reach 3 per cent in 2024 before stabilising at 8–9 per cent from 2025 H2.

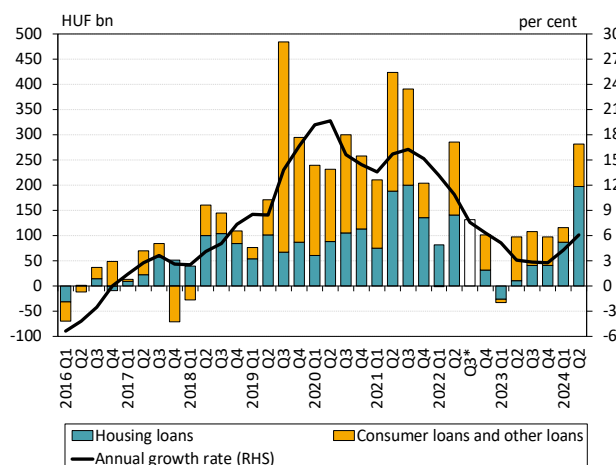
²⁵ The low demand for investment loans combined with a substantial stock of liquid assets confirms what the business surveys also suggest: that the main obstacle to investment is currently a lack of domestic demand due primarily to inflation, rather than the insufficient level of funds. For more information, see Special topic 6.1 in the MNB’s [December 2023 Inflation Report](#).

4. Improving fundamentals, government measures and competition between banks all supported household lending

Household lending picked up in 2024 H1 in line with decreasing long-term yields, increased bank competition and improving macroeconomic fundamentals. In Hungary, household loans outstanding grew faster than the regional average, expanding at an annual rate of 6 per cent at the end of June, and growth may reach 9 per cent in 2024 as a whole. The share of housing loans in new disbursements is on the rise, reflecting both the increase in the number of clients and the increase in the average contract size. Due to the higher contract amount available under the new subsidised loan scheme launched in 2024 (HPS Plus), fewer customers tend to combine various market-based and subsidised loan products. That notwithstanding, the loan-to-income ratio of loan-accumulating debtors remains significant. In addition to housing loans, personal loans disbursement – which is a faster and smoother borrowing process owing to digital channels – is also on the rise. Based on the risk indicators, this does not imply an increase in banking services provided to less creditworthy customers.

The voluntary APR ceiling in force between October 2023 and June 2024 contributed to the reduction of credit costs for market-based housing loans. The measure did not result in the exclusion of riskier clients from the credit market, but it significantly narrowed the pricing range of concluded contracts, thus hindering the previously applied risk-based pricing. During the first half of the year, banks concluded market-based housing loans at an average interest rate spread of around zero. In the longer term, interest income that does not cover the credit risk costs may pose a stability risk to the financial intermediary system.

Chart 29: Household loan transactions of credit institutions



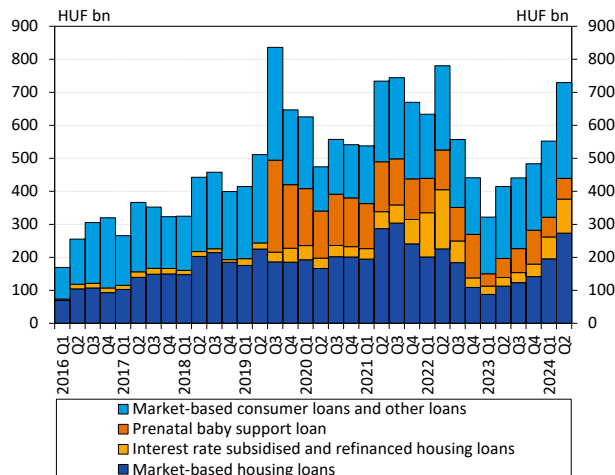
Note: Transaction-based annual growth rate. In order to calculate the annual growth rate, we also took the incoming repayments on the Sberbank portfolio into account between March 2022 and June 2022. * The loan portfolio purchase of Sberbank was excluded from the 2022 Q3 transaction data. Source: MNB

4.1. Upturn on the household credit market

In 2024 H1, the expansion of lending to households continued at an accelerating pace. As a result of falling interest rates, intense banking competition and improving macroeconomic fundamentals, the annual growth rate of household lending has moved away from its trough registered at the end of 2023. While moderate annual growth of 3 per cent was observed in household loans outstanding in 2023, the annual rate of credit growth had already reached 6 per cent by June 2024 (Chart 29). In summer 2024, annual credit growth accelerated further, advancing to 7 per cent in August. As a result of this, the expansion in domestic lending once again exceeded the regional average and ranked sixth in Europe. The growth in the volume of loans outstanding until August 2024 was primarily driven by housing loan and personal loan transactions.

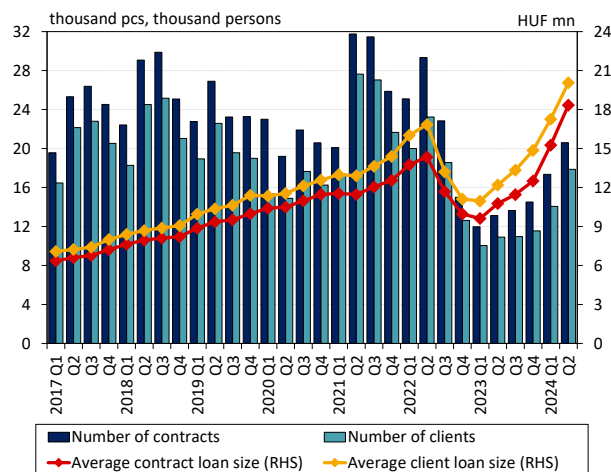
Housing loans accounted for one half of new loan disbursements in 2024 H1. In the first six months of 2024, the value of new contracts concluded by credit institutions with households amounted to nearly HUF 1,300 billion, approximating the levels seen before the tightening cycle in nominal terms (Chart 30). There was a

Chart 30: New household loans in the credit institution sector



Note: Interest rate subsidised and refinanced housing loans include the following schemes: HPS, rural HPS, HPS Plus, FGS Green Home Programme. Source: MNB

Chart 31: Number of newly concluded housing loan contracts, new housing loan customers and their average loan amounts



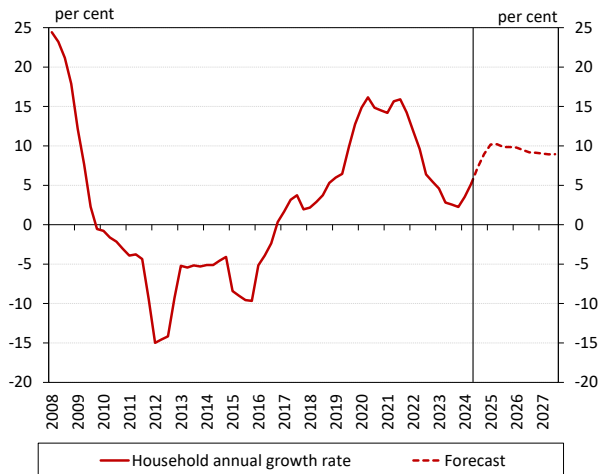
Note: The number of housing loan borrowers is lower than the number of housing loan contracts, as a household can take out several loans to purchase the same home. Source: MNB

structural change in new household loan disbursement: while housing loans only accounted for one third of total issuance in 2023 H1, one half of new loan contracts were concluded for housing purposes by households in 2024 H1. The increase in the role of housing loans in new issuance was supported by the voluntary APR ceiling in effect between 9 October 2023 and 30 June 2024 – which was applied by the majority of banks – as well as the improvement in households’ financial position and competition among banks. On the other hand, since 1 January 2024, family subsidies have been available with higher maximum loan amounts, albeit under stricter conditions, which may have also boosted new loan disbursements.

The number of new customers and their average contract amount also increased. On the one hand, the significant growth in the volume of housing loans in 2024 Q2 was driven by an increase in the average loan amount of housing loan contracts (Chart 31). In part, this was due to the higher maximum loan amount of up to HUF 50 million available under subsidised loans, specifically the HPS Plus (the launch of the HPS Plus is discussed in Box 3). On the other hand, in the case of market-based housing loans, lower market interest rates enable customers to borrow larger amounts, which thus supports the affordability of home purchases even in an environment of rising house prices. Thanks to the higher amounts available under the subsidised loan schemes, the number of clients forced to combine subsidised loans with market-based loans is decreasing. This is also confirmed by the fact that the number of *customers* taking out loans rose faster in year-on-year terms in the second quarter than the number of new loan contracts (by 64 per cent and 57 per cent, respectively). By contrast, the increase in the average contract size is higher when it is calculated on a contract-by-contract basis, as opposed to averaging the aggregate amount borrowed at the client level (by 70 per cent and 65 per cent, respectively).

Household loans outstanding may grow by 9 per cent in 2024. The annual growth rate of household loans outstanding of the total financial intermediary system – i.e. credit institutions and financial enterprises – accelerated substantially from 2 per cent at the end of 2023 to 5 per cent in 2024 Q2. Based on the responses to the Lending Survey, banks experienced a pick-up in demand in the first three quarters of 2024 and looking ahead to 2024 Q4 and 2025 Q1, they expect demand in

Chart 32: Household lending forecast



Note: Transaction-based annual growth rate based on data from the financial intermediary system. It does not include the effect of the subsidised worker’s loan. Source: MNB

the housing loan market to keep strengthening. According to our forecast, household credit growth is projected to continue accelerating, which – in addition to the restructured family support system – is supported by falling interest rates, the stabilising economic environment, rising wage dynamics and improving consumer confidence.²⁶ The annual growth rate of household loans outstanding may reach 9 per cent in 2024 and hover around 10 per cent from 2025 (Chart 32).

²⁶ Due to the government measures and the financing characteristics of the domestic public debt, a substantial amount of resources may flow into the domestic housing market in 2025, some of which – for example, their use as a downpayment for a housing loan – will also support demand for housing loans. For more information on the impact of the measures, see Box 2.

BOX 3: CHARACTERISTICS OF THE FIRST PERIOD AND CLIENTELE OF THE HPS PLUS LOAN PROGRAMME

The HPS Plus loan programme which replaced the previous Home Purchase Subsidy Scheme for Families (HPS) and the related subsidised loan, was launched on 1 January 2024. Under the HPS Plus scheme, couples where the wife is under 41 or can prove a 12-week pregnancy by the end of 2025 regardless of age, can apply for a loan that includes both a state subsidised interest rate and partial debt relief. The client interest rate of the housing loan, that can be applied for with a minimum maturity of 10 and a maximum of 25 years, is fixed and is not more than 3 per cent. Depending on the number of existing or pre-committed children, the maximum loan amount can be HUF 15, 30 or 50 million. The amount of debt relief for the second and third newly born or adopted child is HUF 10 million each. The HPS Plus scheme is also available for the purchase, construction or enlargement of residential properties.

By the end of August 2024, a total of around 7,400 contracts were signed under the HPS Plus programme. The volume of newly disbursed loans averaged around HUF 25 billion per month and accordingly, by the end of August the contracts signed under the programme amounted to almost HUF 200 billion, which accounts for 22 per cent of the total disbursement of housing loans in 2024 (in line with the share of HPS loans with subsidised interest rate within total housing loans in 2023). Nearly two thirds (and 57 per cent by volume) of the HPS Plus loan contracts signed since January were disbursed to childless applicants who typically committed to one or two children. The average amount of loans contracted under the programme in August was HUF 26 million (HUF 30 million for the purchase or construction of a new residential property and HUF 25 million for the purchase of a used residential property) with an average maturity of 23 years, which is significantly higher than the average amount (HUF 17 million) and maturity (19 years) of market-based loans. The client interest rate on HPS Plus loans is typically 3 per cent, from which banks do not deviate significantly: overall, 19 per cent of the contracts were concluded at a client interest rate below 2.9 per cent.²⁷

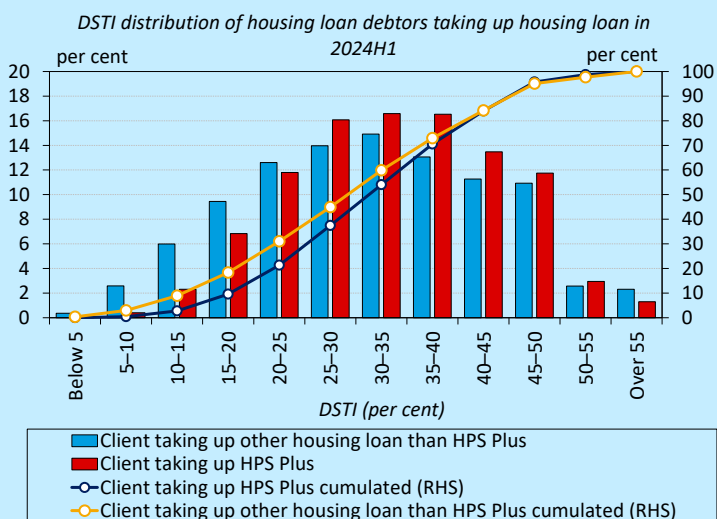
Distribution of newly disbursed HPS Plus loans by number of existing and assumed children

Number of existing children	Number of assumed children			Total
	1	2	3	
0	22%	37%	4%	63%
1	26%	5%	-	30%
2 or more	7%	-	-	7%
Total	55%	41%	4%	100%

Note: The table was prepared based on the cumulative number of new HPS Plus loans disbursed since January 2024. Source: MNB

²⁷ In the case of previous HPS loans, the client interest rate could not deviate from 3 per cent; therefore, banks had no interest in pricing below the statutory maximum. Consequently, overpricing could be observed relative to market-based loans [see in detail in Dancsik, B. – Marosi, A. – Szabó, B. (2022): *Túl drága az olcsó hitel – a családi otthonteremtési kedvezmény támogatott hitelkamatainak vizsgálata* (Too expensive for cheap credit – an analysis of the subsidised interest rates on Home Purchase Subsidy Scheme for Families loans). Economic Review, December 2022, available only in Hungarian]]. In the case of HPS Plus, on the other hand, the client interest rate can be below 3 per cent, which leaves room for competition among banks.

The income tightness of HPS Plus debtors is low. The median value of the debt-service-to-income ratio (DSTI) for HPS Plus clients was 34 per cent in the first half of the year, which – thanks to the lower interest burden – does not differ significantly from that of market-based housing loan debtors (32 per cent).²⁸ Similarly, no significant risks can be identified for the loan-to-value ratio (LTV), although due to the higher average loan amount, the median LTV ratio for HPS Plus loans is typically higher (63 per cent) than for market-based housing loans (51 per cent).

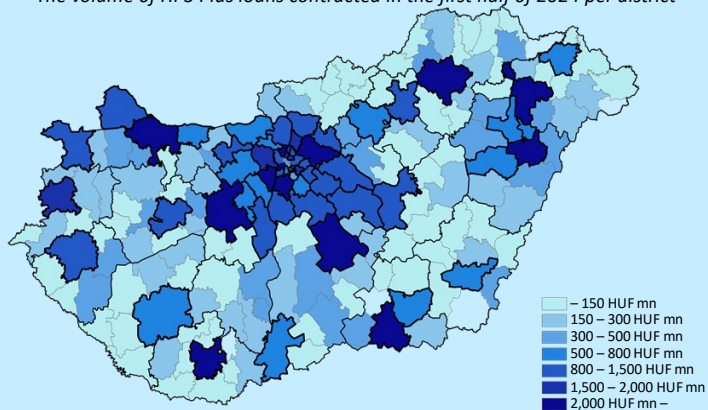


Note: DSTI: debt-service-to-income ratio. If a client has more than one loan, all their outstanding loans have been taken into account during the calculation. Source: MNB

HPS Plus loans are primarily taken out by younger and lower-income borrowers, typically combined with prenatal baby support loan. According to data for the first half of the year, the median per capita income of HPS Plus debtors was 10–15 per cent lower than that of market-based housing loan borrowers. Taking age into account as well, in the first half of the year more than 70 per cent of HPS Plus loan issuance was related to borrowers aged between 25–35, while only 30 per cent of market-based housing loans fall into this age category. Half of the HPS Plus debtors also have prenatal baby support loan and one quarter of them have other housing loans.

Both the share and the volume of HPS Plus contracts are high, mainly in Pest county and in the districts of county seats. Based on data for the first half of the year, almost one quarter of the total HPS Plus volume and one fifth of the total number of contracts were related to Budapest. The geographic distribution of HPS Plus contracts is similar to that

The volume of HPS Plus loans contracted in the first half of 2024 per district



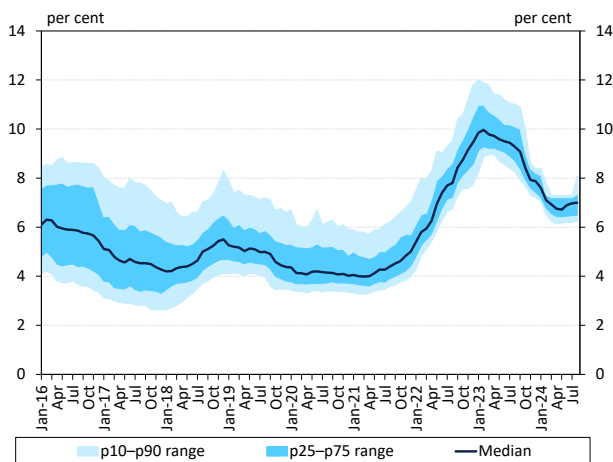
Note: Districts where HPS Plus accounted for at least 15 per cent of the volume of housing loan contracts and at least HUF 500 million in contracts were concluded under the programme by May 2024 are outlined in bold. HPS contracts were not concluded in the districts shown in white. Source: MNB

of overall housing loans, but in terms of share and volume, HPS Plus is utilised the most in Pest county and the districts of county seats, especially Győr, Szeged, Debrecen, Nyíregyháza, Miskolc and Székesfehérvár. These data indicate that the HPS Plus improves the availability of higher-value pre-owned residential property. This is in line with the fact that the purchase of pre-owned residential property is the primary purpose for HPS Plus loans, accounting for 80 per cent of total issuance between January and August, similar to the interest rate subsidised loans associated with the HPS loans taken out in 2023.

On the whole, the HPS Plus loan scheme is popular and accounts for a significant share of total housing loan disbursement. The risk indicators for HPS Plus loans do not show any stability risk and do not differ significantly from the risk indicators of market-based loans. HPS Plus loans are primarily taken out by younger and therefore relatively lower-income borrowers, typically combined with prenatal baby support loan and/or market-based housing loan. Purchasing a pre-owned home is the primary loan purpose, and the scheme improves the affordability of higher-value pre-owned residential property.

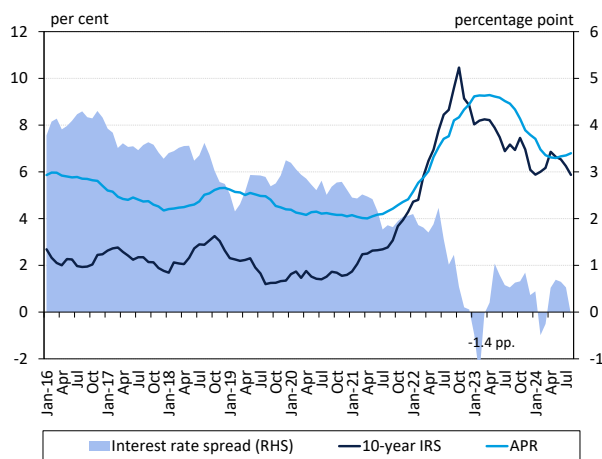
²⁸ At the same time, if the first child is not born or if other conditions are violated, the interest burden increases, and thus also the debt service-to-income ratio, and this can represent a risk at the individual level.

Chart 33: Distribution of the annual percentage rate of charge for newly disbursed market-based housing loans



Note: The p10–p90 range shows the values between the 10th and 90th percentile, the p25–p75 range shows the values between the 25th and 75th percentile. Excluding building societies. Source: MNB

Chart 34: Financing costs of new market-based housing loans



Note: Averages weighted by contract volumes. Spreads were calculated on the basis of relevant BIRS data observed four months prior according to interest rate periods. Source: MNB

4.2. Further declines in interest rate spreads on housing loans may have adverse consequences

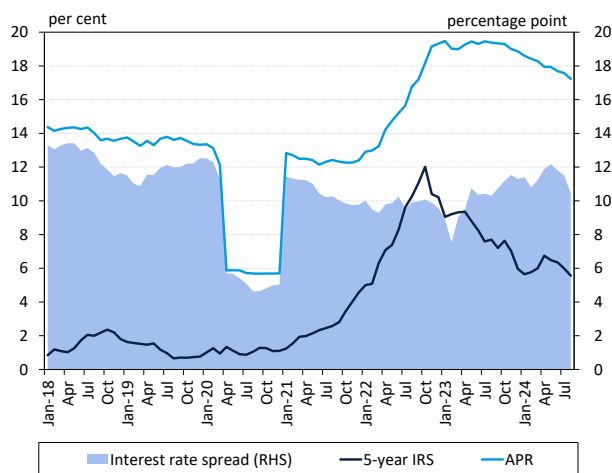
The voluntary APR ceiling reduced the pricing range for housing loans significantly from October 2023. According to the recommendation in effect from 9 October 2023, domestic commercial banks were allowed to offer market-based housing loans at an APR of up to 8.5 per cent. From 1 January 2024, the recommended APR ceiling was reduced to 7.3 per cent, and it was in effect until 30 June 2024. Following the introduction of the voluntary APR ceiling, the average APR for market-based housing loans dropped from 8.7 per cent in September 2023 to 6.7 per cent in June 2024. According to our estimation, this decline would have been much lower without the ceiling.²⁹ The measure had a substantial impact on the domestic housing loan market, with banks contracting 87 per cent of the market-based housing loan volume between October 2023 and June 2024 with an annual percentage rate of charge below the effective ceiling. The APR distribution of newly contracted market-based housing loans narrowed significantly over this period (Chart 33). This suggests that the APR ceiling was a barrier to risk-based pricing, because due to the ceiling, banks were not necessarily able to reflect the real risk perception of clients in the pricing of transactions.

Market-based housing lending was carried out at an interest rate spread of around zero in 2024 H1 due to the intensified competition caused by the APR ceiling. The level of the voluntary APR ceiling that was maintained until 30 June 2024 barely exceeded the level of long-term yields, resulting in near-zero spreads on market-based housing loans (Chart 34).³⁰ While the APR ceiling did not crowd out customers from the credit market, but it contributed to the increase of competition, and it significantly reduced the profitability of these products for the banks. Accordingly, following the lifting of the voluntary commitment at the end of June, several banks no longer followed the further reduction of funding costs in terms of pricing, or tightened the price-specific conditions on housing loans, and anticipated

²⁹ For a more detailed analysis of the effects of the voluntary APR ceiling, see Box 3 in the [Financial Stability Report, May 2024](#).

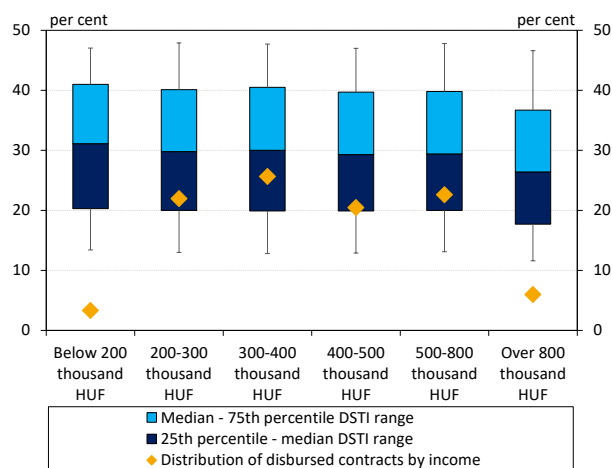
³⁰ In addition, the HPS Plus available since January 2024 results in persistently low spreads on subsidised housing loans – which had previously been considerably higher than those on market-based loans – by reducing the maximum loan interest rate. See the [Financial Stability Report, May 2024](#).

Chart 35: Financing costs of new personal loans



Note: Averages weighted by contract volume. Spreads were calculated on the basis of relevant BIRS data observed four months prior according to interest rate periods. Source: MNB

Chart 36: Newly disbursed personal loans in the credit institution sector by income and DSTI



Note: Loans disbursed in 2024 Q2. Vertical lines show the 10th percentile at the bottom and the 90th percentile at the top. Source: MNB

further tightening for 2024 H2. In mid-September, banks were requested again by the Ministry of National Economy to voluntarily reduce the APR on housing loans below 5 per cent. However, lower APRs are expected to only affect a narrow segment of the market.³¹

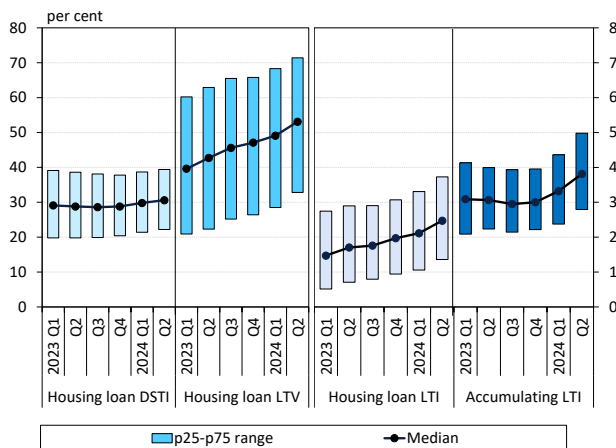
The interest rate spread on personal loans remains in the double-digit range. In 2024 H1, personal loan disbursement exceeded HUF 370 billion, reflecting a year-on-year increase of 52 per cent despite the high interest rate levels. In addition to the more supportive macro environment, this expansion was also driven by quick, automated digital loan extension processes, and viewed from the banks' side, the product's substantial profitability may have resulted in greater supply. In 2024 H1, as benchmark interest rates declined, the APR on personal loans continued to fall, reaching 17 per cent in August. This, however, is still considered high compared to the levels observed in previous years (Chart 35). The interest margin on personal loans was essentially unchanged versus the end-2023 levels, and spreads averaged 11 percentage points between January and August, which is significantly higher than the 9-percentage point average seen in 2021–2022.

The real income of new borrowers increased most among those taking out personal loans. The significant increase in the disbursement of personal loans was not accompanied by a higher share of lending to lower-income borrowers. The median real income of borrowers of newly disbursed personal loans in the credit institution sector rose by 19 per cent compared to the period before the outbreak of the coronavirus pandemic. This increase is higher than the real income growth recorded for borrowers of new housing loans (+10 per cent). In this context, the riskiness of personal loan debtors is moderate, and there are no signs of excessive indebtedness of lower-income borrowers based on the debt-service-to-income ratio (DSTI) of new personal loans disbursed by credit institutions (Chart 36).³² For those taking out prenatal baby support loans, median real income fell by 12 per cent in this period, which may

³¹ Based on the proposal of the Banking Association (supported by the Government), the 5 per cent ceiling would be applicable between April 1, 2025 and October 31, 2025 under the following conditions: purchase of a green apartment by under 35 year-old first-time buyers, where the property is of maximum 60 square meters, and its gross price is less than HUF 1.2 million per square meter. There are no disbursement and credit assessment fees, and the annual interest rate for the first 5 years is a maximum of 5 per cent.

³² In 2024 H1, the ratio of personal loans provided entirely online rose to 41 per cent from 29 per cent at 2023 Q4. The spread of personal loans provided fully online was not accompanied by an increase in the stability risks of the financial intermediary system: these contracts do not differ significantly from personal loans contracted with traditional administration, neither in terms of average contract size, nor in terms of the borrower's income, nor in terms of the DSTI ratio (see more details in Chapter 2 of the MNB's 2024 [Macropprudential Report](#)).

Chart 37: Main risk indicators of new housing loan contracts and borrowers

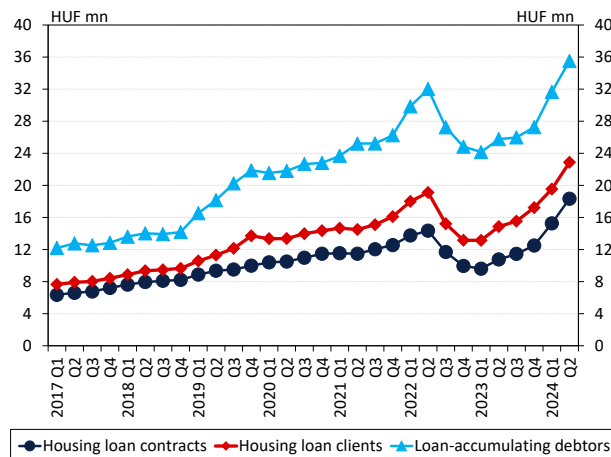


Note: DSTI: debt service-to-income ratio. LTV: loan-to-value ratio. Loan-accumulating debtors: who take out either more than one housing loan at a given point in time or supplement their housing loan(s) with a prenatal baby support loan/personal loan as an ‘own contribution’ (we consider these loans as an ‘own contribution’ if taking out the prenatal baby support loan or personal loan precedes taking out the housing loan by a maximum of 180 days). LTI: loan-to-income ratio; this is the total sum of the housing loan(s) or in the case of loan-accumulating debtors, the total sum of housing loan(s) and/or personal loans and/or prenatal baby support loans as a share of the yearly reported total income of debtor and co-debtor(s). Source: MNB

be attributed to the age restrictions that partially came into force from 2024.

The loan-to-income ratio of new loan-accumulating debtors seems to be significant. The typical (median) loan-to-value ratio for housing loan contracts rose by 10 percentage points within one year, reflecting the increasing average housing loan contract amount and the raising of the maximum loan-to-value ratio for first-time home buyers to 90 per cent effective from 1 January 2024 (Chart 37). The debt-service to income ratio, however, remained practically unchanged during this period. This stemmed from several factors: between June 2023 and June 2024, the median income of housing loan borrowers increased by 8 per cent and the average maturity of housing loan contracts became 2 years longer, while average housing loan interest rates decreased by 3.2 percentage points. For new housing loan clients, taking into account other housing loan(s) borrowed at the same time, and personal loans or prenatal baby support loans borrowed in the previous six months (if any), the average loan amount increased from HUF 15 million to HUF 23 million within one year (Chart 38). This means that the indebtedness of new debtors is typically up to 2.5 times their annual income. If only those borrowers are considered who took out either several housing loans in the quarter under review and/or supplemented their housing loan with personal/prenatal baby support loan(s) (loan-accumulating customers), we find that based on an average loan amount of HUF 36 million, their loans typically amount to four times their annual income. By 2024 Q2, the share of loan-accumulating transactions decreased by 4 percentage points to 19 per cent in the span of one year, presumably owing to the higher loan amount available under HPS Plus. However, closer monitoring for any excessive financial strain on these clients is desirable. Overall, the emergence of systemic risks is not observed in the case of newly disbursed loans. At the same time, financial stability risks are also limited by the extremely low indebtedness of households, even in regional comparisons (Box 4).

Chart 38: Average housing loan amounts



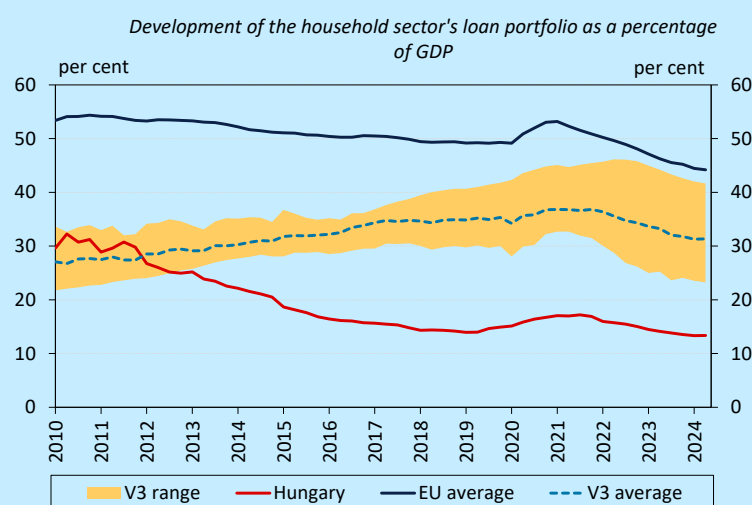
Note: Housing loan clients: Clients who take at least one housing loan. Loan-accumulating debtors: who take either more than one housing loan at a given point in time or supplement their housing loan(s) with a prenatal baby support loan/personal loan as an ‘own contribution’ (we consider these loans as an ‘own contribution’ if taking out the prenatal baby support loan or personal loan precedes taking out the housing loan by a maximum of 180 days). Source: MNB

BOX 4: LOW HOUSEHOLD CREDIT PENETRATION AND ITS CAUSES

Access to external sources of finance, if it is not excessive, has benefits for both individual households and society as a whole. Under the life-cycle hypothesis, access to credit helps to ease the liquidity constraints on households and supports the smoothing of consumption between high- and low-income periods. The IMF (2006)³³ stresses that, in addition to reducing consumption volatility, credit improves households' investment opportunities and helps them to diversify their assets. In an analysis of US data, Athreya (2008)³⁴ emphasises that access to credit allows households to align work efforts with productivity more effectively, as they can use credit in lieu of labour market participation in less productive periods. Consequently, access to credit raises the overall level of labour productivity in society as a whole. According to an analysis based on a survey by the central bank of the Republic of Austria (OeNB),³⁵ taking out a loan to finance studies or to start a business is also economically advantageous as it increases the individual's expected future income.

The indebtedness of the Hungarian household sector is low, at a level well below both the regional and EU averages.

Since 2012, the ratio of household credit to GDP has gradually fallen behind the Visegrád region. At the end of 2024 H1, loans outstanding of domestic households stood at 13 per cent of GDP, compared to an average of 31 per cent in the region and 44 per cent in the EU. The emergence of the low domestic household credit penetration may have been largely due to the fact that, before 2008, the population was typically indebted in foreign currency. Against the backdrop of the 2008 financial crisis, the risks associated with foreign currency loans materialised, and this negative experience may have had a lasting impact on households' borrowing attitudes.³⁶ Looking at the credit-to-GDP ratio by product type, we find that the regional lag can be mainly attributed to the low ratio of housing loans to GDP (6.7 per cent); the only lower value in the EU was recorded in Romania. By contrast, Hungary is in the middle of the field with a 6.6-per cent share in respect of consumer credit. However, we need to remember that this reflects the significant statistical role of prenatal baby support loans, a large part of which is also used for housing purposes.³⁷



Note: Credit institution sector. The band shows the range of the countries of the Visegrád region (Czechia, Poland, Slovakia). The last data point is 2024 Q2. EU average excluding United Kingdom. Source: ECB, HCSO, MNB

The low amount of the outstanding principal debt of households with mortgages may provide a statistical explanation for the low credit-to-GDP ratio, which lags behind the other countries in the region. According to the Household Finance and Consumption Survey (HFCS) coordinated by the European Central Bank and conducted in 2020–2022, the share of households with mortgages was 17 per cent in Hungary, consistent with the regional average. By contrast, the median outstanding principal on mortgages amounted to EUR 11,000 (approximately HUF 4 million), which is at the bottom of the ranking compared to both Europe and the region. Thus, in essence, the lag in the domestic credit-to-GDP

³³ IMF (2006): *Household Credit Growth in Emerging Market Countries*. IMF Global Financial Stability Report 2006, Chapter 2.

³⁴ Athreya, Kartik B. (2008): *Credit Access, Labor Supply, and Consumer Welfare*. *Economic Quarterly* 94 (1) pp. 17–44.

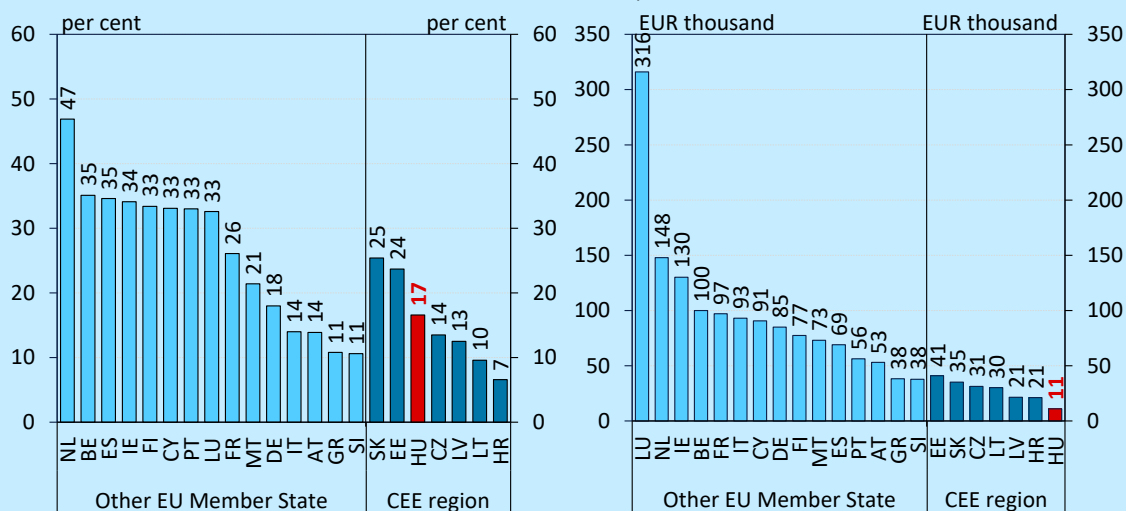
³⁵ Bittner, Marc (2021): *Which borrower in CESEE gets which loan? Evidence from the OeNB Euro Survey*. *Focus on European Economic Integration*, Q4/21.

³⁶ Banai Ádám – Vágó Nikolett (2016): *Drivers of household credit demand before and during the crisis*. Conference paper.

³⁷ Fellner Zita – Marosi Anna – Szabó Beáta (2021): *The effects of prenatal baby support loans on the credit market and the real economy*. (available only in Hungarian) *Közgazdasági Szemle (Hungarian Economic Review)*. Volume LXVIII, February 2021, pp. 150–177.

ratio is not attributable to the fact that few households have mortgages; instead, it reflects the relatively small amount of debt that these mortgage debtors have.³⁸

Percentage of households holding mortgages (left) and median outstanding loan amount (right) in international comparison

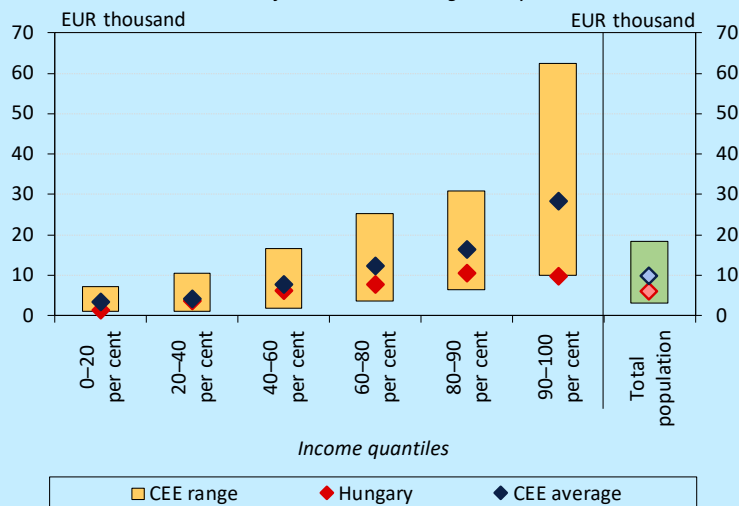


Source: ECB HFCS 2021

Within the total Hungarian population, the more affluent and the young are the most indebted, but in smaller amounts than in other countries of the region. According to the ECB's survey, the median debt of households with credit in Hungary is only two thirds of the average in the CEE region. In terms of income and age, both in Hungary and in the countries of the region, the more affluent and the youngest debtors are the most indebted. However, it is precisely in the top income decile and in the 16–44

age group that the indebtedness of the domestic population deviates the most from the CEE region. The median debt of the top income decile in the CEE region is almost three times higher than in Hungary, and for the 16–44 age group, the debt in the region is almost double the Hungarian value. At 9 per cent, the median debt service-to-income ratio (DSTI) of households with credit in Hungary is low compared to the euro area average of 13 per cent, but consistent with the average of the region. At the same time, the typical DSTI in the top income decile is only 3.5 per cent, substantially lower than the regional average of 6 per cent. The median domestic DSTI does not point to financial stability risks in either income decile.

Median debt of households holding debt by income



Note: CEE range and average includes the following countries: Hungary, Czechia, Slovakia, Lithuania, Latvia, Estonia. Source: ECB HFCS 2021

³⁸ Differences in housing prices in the regional capitals may also partly explain the lower loan amounts in Hungary: the price per square metre in Warsaw – especially for pre-owned flats – is much higher than for pre-owned flats in Budapest.

Low domestic household credit penetration may be attributed to several potential causes.

- **In the period following the 2008 crisis, several government programmes were launched, which redirected household savings towards debt repayment, leading to a reduction in the ratio of loans outstanding to GDP.** As a result of the option of early repayment at a preferential rate between October 2011 and February 2012, the credit-to-GDP ratio fell from 31 per cent in 2011 Q3 to 26 per cent in 2012 Q2, before declining from 20.5 per cent to 18.7 per cent in early 2015 thanks to the impact of the settlement.
- **Compared to the key policy rates of central banks in the region, the level of the domestic base rate and the yield levels have been higher in several periods over the past twenty years.** The impact of higher real interest rates is also confirmed by empirical studies: for example, Kiss et al. (2006)³⁹ show that higher real interest rates lead to lower demand for credit and hence, a lower credit-to-GDP ratio, especially in the household sector, which, unlike corporations, has more limited access to alternative financing. In addition, weak market competition in the household credit market⁴⁰ has resulted in high spreads and thus high client interest rates in recent decades, which also reduced demand in the household credit market. This effect could not be counteracted on aggregate level by the low client interest rate, subsidized products either (HPS, prenatal baby support loan, FGS Green Home Programme, HPS Plus), as these loans have been available only for certain segments of the population (typically families with or planning to have children).
- **Deepening of the credit market may also be hindered by the Hungarian population's aversion to the banking sector and borrowing, as well as its lower financial literacy.** Research by the OeNB on data from Central and Eastern Europe⁴¹ indicates that trust in the banking system⁴² increases the likelihood of having a housing loan by 3 percentage points, a consumer loan by 2.3 percentage points and other loans (student loans, loans for starting a business, etc.) by 1.5 percentage points in these countries compared to those that do not trust banks at all. This is confirmed by our analyses of Hungarian data, which found that a higher degree of confidence in banks increased the likelihood that the respondent household had a loan. However, based on the MNB's September 2021 survey on the total population,⁴³ a significant part of the population avoid borrowing if they can: 58 per cent of the population think that being indebted to a bank is worse than owing money to anyone else. The study by the OeNB also finds that a higher level of financial literacy⁴⁴ increases the probability of having a housing loan by 3 percentage points relative to lower levels of financial literacy. However, according to the OECD's 2023 survey,⁴⁵ Hungary's overall performance in this regard is worse than the OECD average.

The credit-to-GDP ratio of the Hungarian population is low compared to other countries in the region. Compared to other countries in the CEE region, the Hungarian population is essentially moderately indebted, especially the affluent and young adult age groups, which are otherwise more likely to have financial room for indebtedness. The reasons for the low demand for credit may be varied, including the prolonged balance sheet adjustments of banks and households following the 2008 crisis together with the negative experiences by the Hungarian population as a whole, government measures aimed at retail borrowers, an interest rate environment that was above the average of regional countries for long periods, and lower levels of household confidence and financial knowledge.

³⁹ Kiss Gergely–Nagy Márton–Vonnák Balázs (2006): *Credit Growth in Central and Eastern Europe: Convergence or Boom?* MNB Working Papers

⁴⁰ Dancsik Bálint – Hosszú Zsuzsanna (2017): *Measuring bank efficiency and market power in the household and corporate credit markets considering credit risks*. MNB Studies 133 (2017).

⁴¹ Bittner, Marc (2021): *Which borrower in CESEE gets which loan? Evidence from the OeNB Euro Survey*. Focus on European Economic Integration

⁴² Confidence in banks was measured on a five-point subjective scale (fully trusts banks, partly trusts banks, neutral, tends not to trust banks, does not trust banks at all).

⁴³ MNB, September 2021: *Financial habits in the post-COVID era*. Representative telephone-based survey, n=1,000 respondents.

⁴⁴ Financial literacy was assessed by questions on the impact of interest rate changes, inflation and exchange rate changes, among other things.

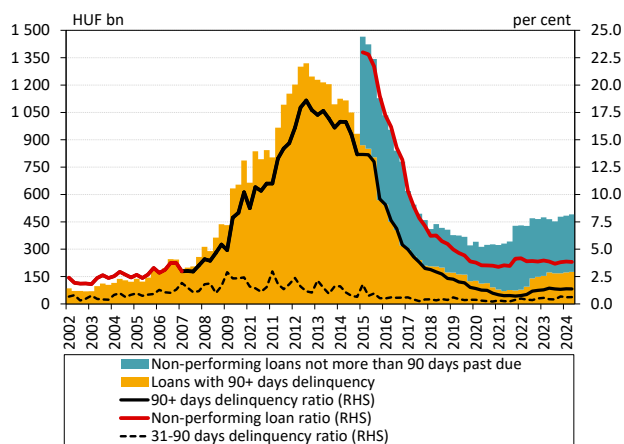
⁴⁵ *OECD/INFE 2023 International Survey of Adult Financial Literacy*

5. Beside sector-specific risks, the NPL rates of bank portfolios are historically low

The quality of the corporate loan portfolio did not change considerably in 2024 H1. The phase-out of the interest rate cap on SME loans in April did not lead to an increase in the delinquent SME portfolio. Thus, both the share of non-performing loans and the share of loans over 90 days past due remained at historically low levels, at 3.8 per cent and 1.4 per cent, respectively. The share of Stage 2 loans, which indicate increased risk, continued to decline, and their loan loss coverage rose back to the levels seen in 2021. The deterioration in the cyclical economic situation of the corporate sector may be reflected in the rise in the number of liquidation proceedings initiated (without a prior proceeding) compared to the historical low. However, the direct impact of such on the stability of the financial intermediary system is negligible, as the corporations concerned have a low level of bank loans outstanding. The NPL ratio of project loans secured by commercial real estate continued to decline, but this was the combined result of diverging developments in individual segments. In the retail and office segments, the share of loans with no material increase in risk since initial recognition (Stage 1) has decreased, highlighting the mounting cyclical and structural risks in the sector.

The NPL ratio of households continued to decline in 2024 H1, dropping to 2.3 per cent at the end of June. This has been strongly supported by banks' portfolio cleaning activity, which intensified mainly for personal loans. The share of both Stage 2 and Stage 3 loans has decreased, and their loan loss coverage is now above the levels recorded before the major reclassifications necessitated by the payment moratorium. Maintaining labour market stability is important for the future sustainability of the historically low NPL ratio. With the lower interest rate environment, the phase-out of the interest rate cap on mortgage loans at the end of 2024 may cause payment difficulties only for a limited group (5 per cent) of the debtors concerned, and they only account for 2 per cent of total household mortgage debt.

Chart 39: Non-performing corporate loans of the credit institutions sector



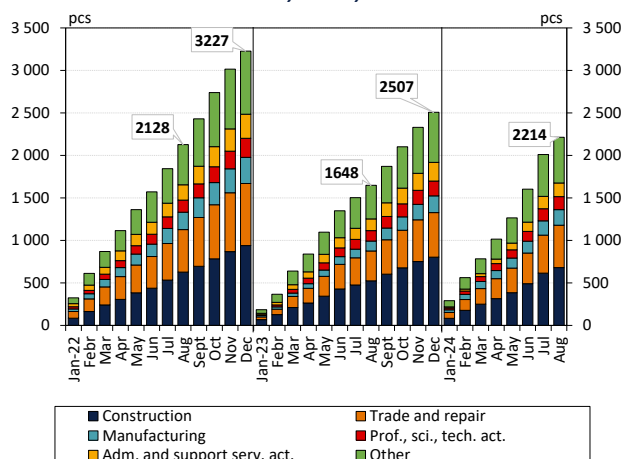
Note: The definition of non-performing loans changed in 2015. From then on, in addition to loans over 90 days past due, loans less than 90 days past due where non-payment is likely are also classified as non-performing. Calculated by clients until 2010 and by contracts from 2010. Source: MNB

5.1. The quality of the corporate loan portfolio is adequate, but there are downside risks

The share of non-performing corporate loans stagnated at a low level. The volume of non-performing corporate loans increased somewhat in 2024 H1, but this was offset by banks' portfolio cleaning and the increase in total loans outstanding. Accordingly, the NPL ratio amounted to 3.8 per cent at the end of June 2024, unchanged from the end of 2023 (Chart 39). Similarly, the share of loans with short-term, less than 90 days delinquency remained unchanged (the 3-month moving average was 3 per cent at the end of June); thus, the phase-out of the SME interest rate cap in April did not result in a rise in corporate defaults. After the phase-out, the NPL ratio for the SME segment fell by 0.3 percentage point to 3.6 per cent in 2024 Q2. In the total corporate segment, after a moderate increase, the share of loans over 90 days past due reached 1.4 per cent at the end of the six months under review, but it remains close to its historical low. By August 2024, the NPL ratio dropped to 3.6 per cent, including 1.1 per cent of the portfolio that shows a delinquency of at least 3 months.

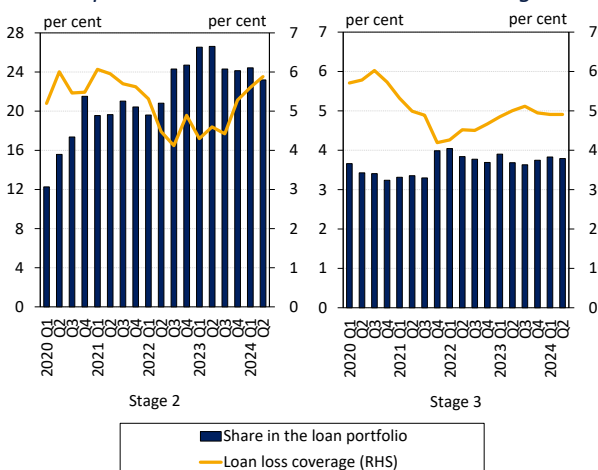
The number of liquidation proceedings increased, but the direct impact of such on the stability of the financial intermediary system is limited. The number of liquidations

Chart 40: Cumulative number of liquidation procedures within a year by sector



Note: The number of initiated liquidations without prior proceedings. Source: MNB calculation based on the data of Opten

Chart 41: Share of Stage 2 and Stage 3 loans in the corporate sector and their loan loss coverage



Note: Credit institution sector. Loans valued at amortised cost. Source: MNB

opened without prior proceedings⁴⁶ increased in mid-2024 relative to the historical post-2008 low point, which was measured in mid-2023 (Appendix, Chart 11). Between January and August, the number of cases opened rose by one third compared to the previous year. The increase mostly concerned corporations in construction, trade and repair, which is consistent with the deteriorating macroeconomic performance of these sectors (Chart 40). Although this suggests an increase in risks, the impact is moderate from a financial stability point of view, as the volume of the outstanding bank loans of the corporations concerned in these proceedings is low. According to the *MNB Bank Sentiment Survey* and the *Lending Survey*, credit institutions do not expect a significant shift in the quality of the overall corporate portfolio.

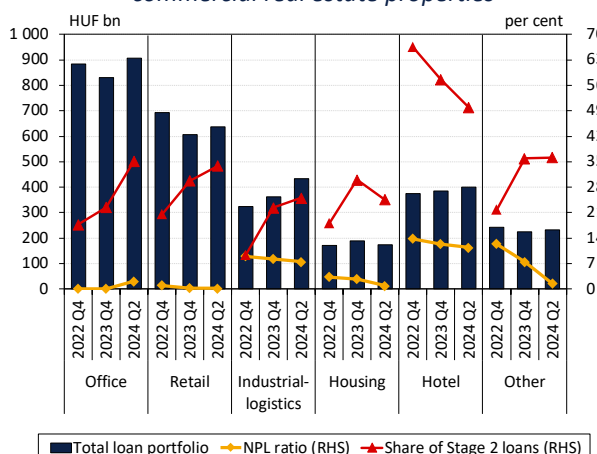
The share of loans with elevated credit risk continued to decline, and the loan loss coverage continued to increase.

From 2020 to mid-2023 (partly as a result of the payment moratorium), there was an upward trend in the share of Stage 2 loans, which indicate increased credit risk, in the corporate loan portfolio as a whole (Chart 41). Subsequently, however, it started to decline, falling from 27 per cent to 23 per cent by the end of June 2024, although it is still 11 percentage points above the pre-COVID level. On the other hand, the loan loss coverage of Stage 2 loans returned to levels close to those seen in 2020 and 2021, reaching 6 per cent in mid-2024. The share of Stage 3 loans has not changed considerably over the past two years, which is consistent with the steady NPL ratio. The loan loss coverage of these loans started to increase from 2022 and then declined somewhat from mid-2023 to reach 49 per cent at the end of June 2024. As a result, the loan loss coverage of the total corporate portfolio amounted to 3.7 per cent at mid-2024, similar to end-2023. The stable level of loan loss coverage and the shifts between the Stage categories demonstrate that the portfolio quality of individual sectors offset each other.

The portfolio quality of project loans secured by commercial real estate improved somewhat as a result of diverging developments in individual segments. The NPL ratio for the project loan portfolio, which amounts to around HUF 2,800 billion, dropped from 3.9 per cent at end-2023 to 3.7 per cent in June. This also means that, although the NPL ratio in this segment has been slightly

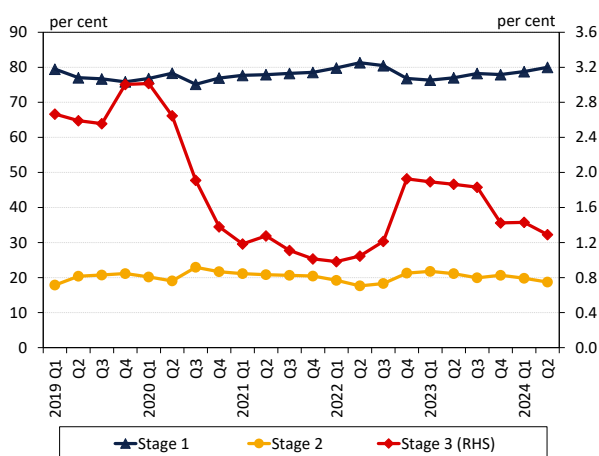
⁴⁶ Box 4 of the MNB's *May 2024 Financial Stability Report* addressed the financial stability aspects of legal actions against corporations. Based on its results, corporate solvency is most closely related to the number of liquidation proceedings that have not been preceded by any other type of legal proceedings.

Chart 42: Quality of the project loan portfolio secured by commercial real estate properties



Note: Credit institution sector. The data include loans to financial intermediaries (including, among others, investment funds) in addition to non-financial corporations. Source: MNB

Chart 43: Guarantee portfolio by Stage categories



Note: Institutional scope: Garantiqa Hitelgarancia Ltd., Rural Credit Guarantee Foundation, MFB Ltd., Start Garancia Ltd. Start Garancia Ltd. is a financial enterprise and as such, it is subject to the Hungarian Accounting Act and does not have Stage classifications under the IFRS accounting standards. Performing exposures are indicated in Stage 1 and non-performing portfolios in Stage 3. Source: MNB

higher than in the overall corporate portfolio in recent years, this difference has now disappeared. Diverging trends were observed in the segments of the commercial real estate market: while the share of Stage 2 loans (loans with elevated credit risk) decreased or remained stable for several property types, it increased somewhat for retail and industrial-logistics segments, and increased substantially for the office segment (Chart 42). The NPL ratio of project loans connected to offices rose from 0.1 per cent to 2.2 per cent. This latter development highlights the potential materialisation of office market risks.

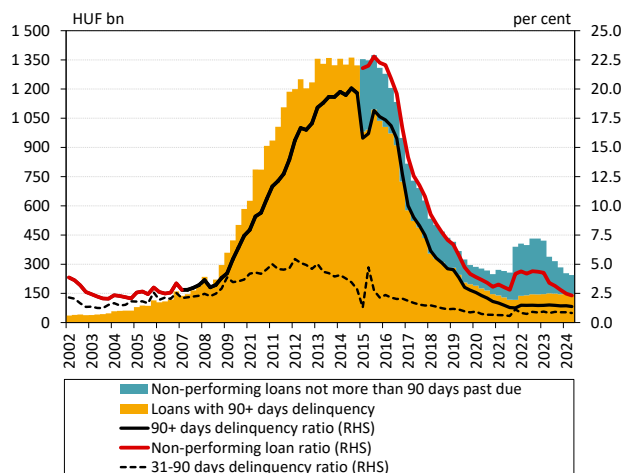
The portfolio quality of guarantee institutions is adequate and improving. In recent years, the stock of guarantees in Hungary has been growing dynamically. The value of the guarantee portfolios of the four largest institutions (Garantiqa Hitelgarancia Ltd., Rural Credit Guarantee Foundation, Start Garancia Ltd., MFB Ltd.) exceeded HUF 4,000 billion at the end of 2024 Q2. According to data from the European Association of Guarantee Institutions, the stock of domestic guarantees amounted to 4.4 per cent of GDP⁴⁷ at the end of 2023, which, owing to the surge in crisis schemes introduced during the period of the COVID-19 crisis and with the loan programmes maintained since then, is the highest value recorded in Europe for several years. The share of Stage 3 within the domestic guarantee stock decreased from a slightly elevated level of 1.9 per cent at the end of 2022 to 1.3 per cent at the end of June 2024. At the same time, the share of Stage 2 loans also declined, accounting for 19 per cent of the total stock (Chart 43). Therefore, the quality of the guaranteed corporate portfolio is better overall than that of the total corporate loan portfolio.

5.2. The quality of the household loan portfolio is improving, primarily due to portfolio cleaning

The share of non-performing loans in the household portfolio continued to decline. In 2024 H1, the NPL ratio in the household segment fell from 2.8 per cent to 2.3 per cent (Chart 44). This reduction can be attributed to a HUF 40 billion decline in the stock of non-performing loans that are not past due more than 90 days. The portfolio (around HUF 150 billion) and the share (1.4 per cent) of loans over 90 days past due remained unchanged compared to the

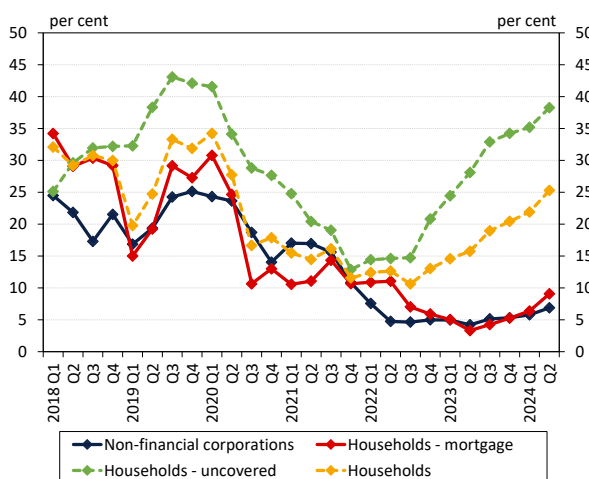
⁴⁷ The international organisation only includes the data of Garantiqa Hitelgarancia Ltd. and Rural Credit Guarantee Foundation in its calculations; consequently, as a percentage of GDP, the actual guarantee stock is higher than published by the organisation, and is estimated at 5.3 per cent of GDP.

Chart 44: Non-performing household loans of the credit institutions sector



Note: The definition of non-performing loans changed in 2015. From then on, in addition to 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

Chart 45: Development of the portfolio cleaning rate



Note: The portfolio cleaning rate is the ratio of the volume sold in the given quarter to the average NPL stock of the past one year. Source: MNB

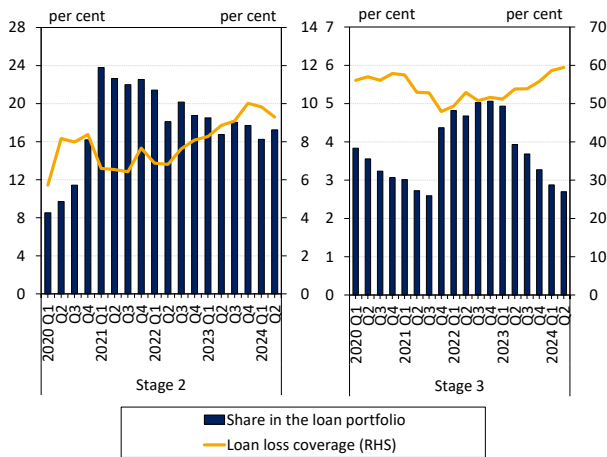
end of 2023. By August 2024, the NPL ratio and the share of loans 90 days past due dropped to 2.2 per cent and 1.3 per cent, respectively. The phase-out of the interest rate cap on mortgage loans at the end of 2024 may pose a risk to the quality of the household loan portfolio in the future. However, we estimate that with the decreasing interest rate environment, this may cause payment difficulties only for a limited group, amounting to 5 per cent, of the debtors concerned (14,000 customers). 12 per cent of the portfolio under the interest rate cap at the end of June 2024, amounting to HUF 132 billion, is considered vulnerable, which accounts for only 2 per cent of the total mortgage loan portfolio.⁴⁸

Improvement in the quality of the household loan portfolio is supported by the portfolio cleaning activity of banks. The decline in the NPL ratio in the first half of the year was driven, to a lesser extent, by the growth in total loans outstanding and, to a greater extent, by the portfolio cleaning activity of credit institutions. The portfolio cleaning rate increased slightly for mortgage loans, while it rose significantly for unsecured consumer loans (Chart 45). 38 per cent of the average stock of non-performing unsecured household loans between June 2023 and June 2024 was sold in 2024 Q2, which is consistent with pre-COVID levels. Within the unsecured portfolio, non-performing personal loans dominated the sales. Active portfolio cleaning is facilitated by the fact that debt managers take on these transactions at net book value less impairment, on average, and that framework agreements between banks and debt managers speed up and simplify portfolio sales.

In 2024 H1, the share of both Stage 2 and Stage 3 loans decreased further. Due to the reclassification of customers in moratorium for more than nine months, there was a significant increase in the share of Stage 2 loans – which indicate increased credit risk – at the beginning of 2021 (Chart 46). Subsequently, however, a downward trend materialised, and by mid-2024 the share of Stage 2 loans fell to 17 per cent. For the Stage 3 category, 2021 Q4 saw a significant change due to the phase-out of the general moratorium. Since 2023, however, even this category has been contracting, with its share amounting to 2.7 per cent at the end of June 2024. Due to the major Stage reclassifications necessitated by the phase-out of the

⁴⁸ Based on the definition of vulnerability applied in the May 2024 Financial Stability Report: the phase-out of the measure would increase monthly instalments by at least HUF 5,000; in addition, the value of the PTI would be at least 50 per cent, or the debtor may have reached retirement age since the introduction of the measure.

Chart 46: Share of Stage 2 and Stage 3 loans of the household sector and their loan loss coverage

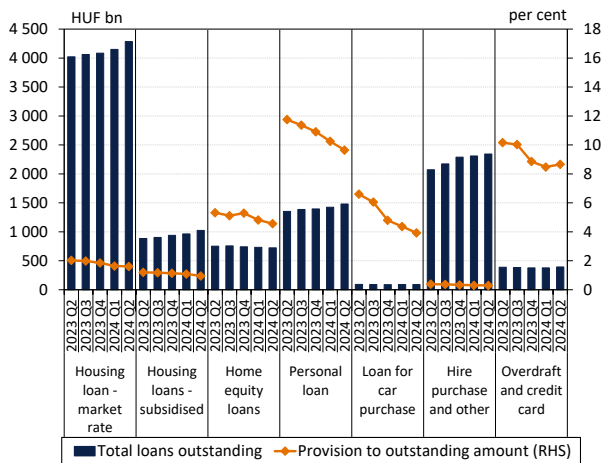


Note: Credit institution sector. Loans valued at amortised cost; thus it does not include prenatal baby support loans and HPS loans valued at fair value. Source: MNB

moratorium, the loan loss coverage decreased, but it now exceeds the pre-reclassification levels both for Stage 2 and Stage 3 loans. After a small decline in 2024 H1, the coverage of Stage 2 loans was 9 per cent at the end of June 2024, and 59 per cent for Stage 3 loans, up since 2023. As a result, the loan loss coverage of the household loan portfolio valued at amortised cost amounted to 3.9 per cent after a half-year decline of 0.5 percentage point.

The NPL ratio and loan loss coverage have both decreased for most product types. In 2024 H1, the NPL ratio decreased for all retail products, with the largest decline recorded in personal loans and overdrafts, which was also supported by the portfolio cleaning activity of banks (Appendix, Chart 34). In the same period, besides personal loans, the loan loss coverage of vehicle loans and home equity loans decreased the most (Chart 47). Unsecured personal loans and overdrafts continued to exhibit the highest loan loss coverage in mid-2024, at 10 per cent and 9 per cent of the total (performing and non-performing) loan portfolio, respectively, in line with the relatively high NPL ratios. Trade credit and other loans – including prenatal baby support loans – featured the lowest loan loss coverage (0.3 per cent); this is due to the fact that prenatal baby support loans have a very low default rate and are secured by a 100-per cent state guarantee. Given the relatively low NPL ratios of housing loans, loan loss coverage is also lower: 2 per cent for market-priced loans and 1 per cent for subsidised loans. Overall, the decline in loan loss coverage also indicates an improvement in household portfolio quality.

Chart 47: Loan loss coverage by product type



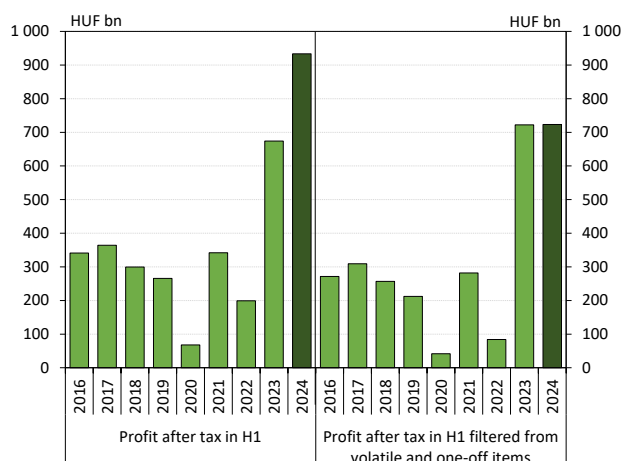
Note: Credit institution sector. Total (performing and non-performing) loans outstanding includes prenatal baby support loans and HPS loans as well. Source: MNB

6. Profitability and capital adequacy are both at historically high levels

Based on non-consolidated, stand-alone data, the credit institution sector achieved a profit after tax of HUF 934 billion in 2024 H1, HUF 259 billion higher than in 2023 H1. The increase in profit after tax was due to specific items (dividend income, bank levy changes), which, once excluded, left profit unchanged from the high level recorded in the previous year. In parallel with the substantial fall in interest income on liquidity deposited with the central bank, net interest income from other sectors increased. While interest expenses on deposits on the liabilities side decreased sharply, interest income earned on loans to clients did not decline significantly on the assets side. The sector's 12-month rolling return on equity (RoE) was 26 per cent at the end of 2024 H1. Excluding volatile and one-off items, RoE reached a historical peak at the end of 2023, and fell to 22 per cent at the end of 2024 H1.

The consolidated capital adequacy ratio of the banking sector was 19.6 per cent at end-June 2024, slightly below the historical peak of 20.1 per cent at the end of 2023. Even with the fully restored capital buffer requirements, the sector's free capital above total capital requirements amounted to nearly HUF 1,970 billion, corresponding to 4.6 per cent of the total risk exposure amount (TREA). Taking into account both the Minimum Requirement for Own Funds and Eligible Liabilities (MREL) coming into effect in early 2024 and the countercyclical capital buffer (CCyB) activated in mid-2024, the banking sector has a substantial amount of free capital and significant lending capacity.

Chart 48: Credit institution sector's profit after tax in H1 (raw and filtered from volatile and one-off items)



Note: Based on non-consolidated data. Volatile and one-off items: dividend income, bank levy. Bank levy includes the special tax on financial organisations and the windfall tax. Source: MNB

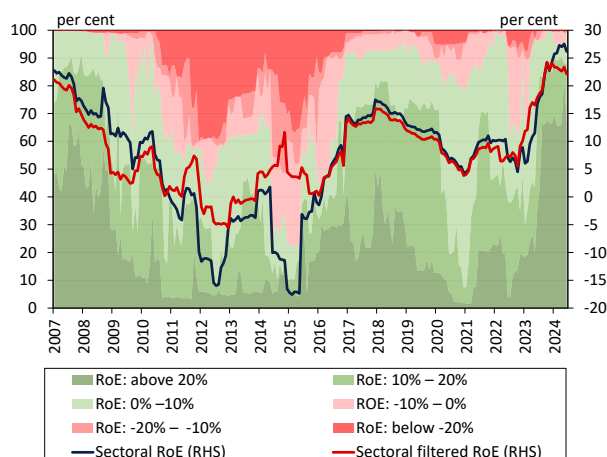
6.1. One-off items also support profitability, which continues to rise from a high level

The banking sector's outstandingly high profit was partly due to specific, one-off items. In 2024 H1, the credit institution sector achieved yet another record high profit after tax of HUF 934 billion based on non-consolidated, stand-alone data, which is HUF 259 billion higher than the profit recorded for 2023 H1 (Chart 48, Appendix chart 43). On a non-consolidated, stand-alone basis, six credit institutions, which together account for 4 per cent of total assets, realized losses. The significant profit of the banking sector was partly due to volatile and one-off items: the rise in dividend incomes and the decline in windfall tax recognised by credit institutions. Excluding the impact of dividend incomes and bank levies, the half-year profit amounted to HUF 723 billion, which is consistent with the outstanding performance in 2023 H1. Consolidated profit, including both domestic and foreign affiliates, amounted to HUF 973 billion, representing a minor year-on-year increase of HUF 38 billion.

Return on equity, with volatile and one-off items filtered out, peaked at the end of 2023. The banking sector's raw, 12-month rolling return on equity (RoE)⁴⁹ amounted to 26.2 per cent in June. Based on the 12-month rolling profitability, two thirds of the credit institution sector achieved

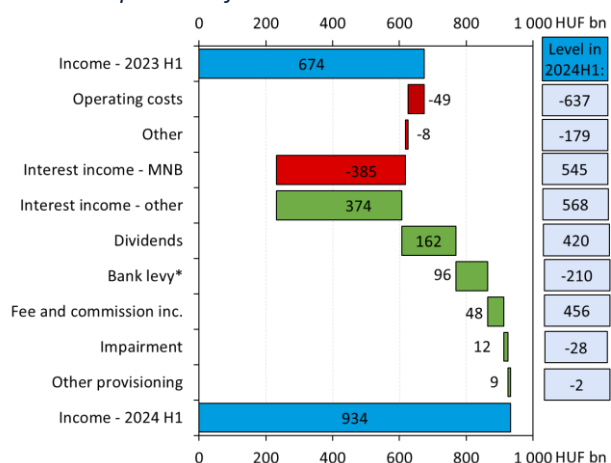
⁴⁹ Return on Equity is calculated on the basis of profit after tax, with 12-month average equity calculated without the current year's profit.

Chart 49: Distribution of credit institutions by the 12-month rolling return on equity after tax



Note: Distribution weighted by total assets, based on non-consolidated data. Return on equity is calculated on the basis of profit after tax, with 12-month average equity calculated without the current year's profit. As regards filtered sectoral RoE, the sectoral RoE excludes the following specific, one-off items: special tax on financial organisations, windfall tax, dividend income, early repayment, exchange rate cap and the impact of the settlement of consumer loan contracts in 2015. Source: MNB

Chart 50: Annual changes in the after-tax profit components of the credit institution sector



Note: Nominal values of income components for 2024 H1 are shown on the right-hand side. 'Interest income – MNB' excludes futures (swaps) between the MNB and credit institutions and amortised exchange gains/losses on HUF securities (mortgage bonds). The bank levy* line includes the combined change in the special tax on financial organisations ('normal' bank levy) and the windfall tax (extra profit tax). Source: MNB

profitability above 20 per cent (Chart 49). Excluding volatile and one-off items, i.e. the impact of dividend incomes, bank levies and government measures concerning foreign currency loans introduced between 2011 and 2015, filtered RoE peaked as early as end-2023 and after a moderate decline it reached 22.1 per cent at the end of June 2024.

An increase in net interest income from other sectors than the MNB also supported the H1 profit.

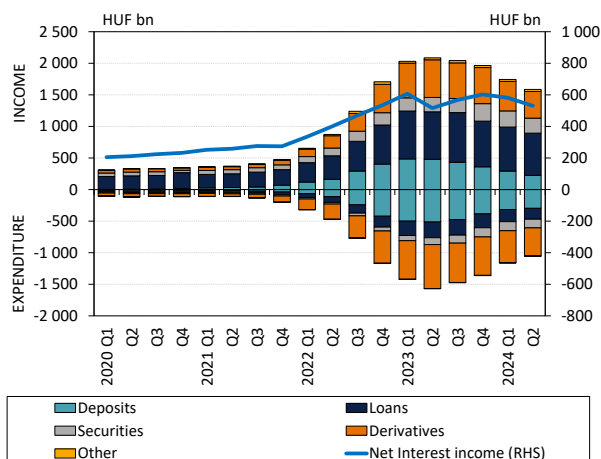
One-off items played a significant role in the increase in the credit institution sector's after-tax profit. Dividend income amounted to HUF 420 billion in 2024 H1, HUF 162 billion higher than in 2023 H1 (Chart 50). These revenues stemmed predominantly from the sector's foreign subsidiaries, which also recorded excellent results last year. Bank levies (special tax on financial organisations, windfall tax) also showed a significant decline, resulting in a HUF 96 billion year-on-year improvement in P&L, mainly related to the prior accounting of deductible benefits from the windfall tax.⁵⁰ Compared to 2023 H1, net interest income from the MNB contracted significantly by HUF 385 billion, but net interest income from the other sectors increased by HUF 374 billion. In 2024 H1, net impairment loss amounted to only HUF 28 billion, which is HUF 12 billion lower than that of the previous year, and thus this item reduced the result to a lesser extent. The increase in operating expenses was driven by higher staff-related expenses, while the rise in commission and fee income can be attributed to higher fee income, partly as a result of inflationary effects.

The interest rate sensitivity of customer loans on the assets side was lower than that of customer deposits on the liability side.

Interest income from deposits on the assets side held by banks, mainly at the central bank, was HUF 449 billion lower in 2024 H1 than in the same period of the previous year largely due to decreasing interest rates (Chart 51). In parallel, interest expenditure related to the deposits on the liabilities side decreased by HUF 401 billion. According to our estimates, interest expenses fell by HUF 25 billion on household deposits, HUF 111 billion on corporate deposits, HUF 83 billion on foreign deposits and HUF 182 billion on other – interbank and institutional – deposits. Interest income from loans on the assets side fell by HUF 144 billion in year-on-year terms. Based on the MNB's estimate, this is the net result of a HUF 10 billion increase in

⁵⁰ According to legislation promulgated on 31 May 2023 [Government Decree No. 206/2023 (V. 31.)], if the average daily stock of Hungarian government securities maturing after 1 January 2027 during the period between 1 January and 30 November 2024 increases compared to the average daily stock during the period between 1 January and 30 April 2023, 10 per cent of the increase, up to 50 per cent of the 2024 windfall tax, can be deducted from the amount of the taxes payable.

Chart 51: Components of quarterly interest income



Note: Based on non-consolidated data. Source: MNB

Table 3: Impact of specific government measures on profitability

HUF bn	Interest rate cap	Bank levy		(Transaction fee)
		Out of which: special tax on financial organisations	Out of which: windfall tax	
2020 H1	0	53	0	102
H2	0	2	0	110
2021 H1	0	57	0	108
H2	0	2	0	122
2022 H1	19	77	157	128
H2	67	4	56	161
2023 H1	116	80	226	154
H2	97	3	12	162
2024 H1	51	100	110	161
H2	34	0	18	248

Note: Until 2024 H1, the financial transaction fee had no impact on banks' profitability, as banks usually pass this charge on to their customers one-for-one. In the case of the interest rate cap, the loss impact of the interest rate cap for the given year is shown, which does not necessarily correspond to the exact date at which banks recognised the loss, as numerous banks account for the estimated impact on profit or loss at the time of the announcement or extension of the programmes. The loss impact of the interest rate cap for 2024 H2 is calculated on the basis of the forward interest rate path as at 26 September 2024. Source: MNB

interest income earned on customer loans (interest income on loans to households rose by HUF 40 billion, while interest income on corporate loans decreased by HUF 30 billion) and a HUF 154 billion decline in other interest income mainly from the interbank and institutional sectors. In the household segment, the stability of interest income reflected low interest rate sensitivity due to typically long interest repricing periods and rising loan disbursement. In the corporate sector, interest income did not contract significantly due to the refinancing, at higher interest rates, of large volumes of loans disbursed at lower rates under the former subsidised credit schemes. As regards loans on the liabilities side (e.g. interbank loans, borrowing from abroad), interest expenditure decreased by HUF 111 billion versus 2023 H1.

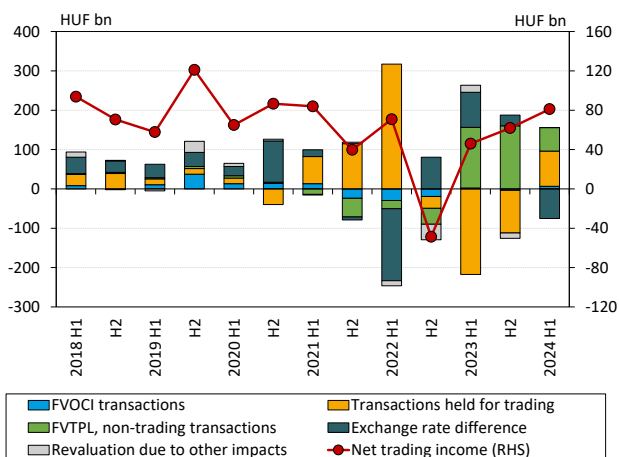
The cost of bank levies is expected to increase compared to 2024 H1. In 2024, several government measures affecting bank profitability were modified or extended. According to our calculations, the extension of the interest rate cap on mortgage loans in 2024 H2 may lead to a loss of HUF 34 billion in interest income⁵¹ (Table 3). In the case of the windfall tax, the conditions for tax relief were changed substantially during the year. The amendment requires banks to increase their total holdings of government securities, not only their long-term holdings, in order to have their windfall tax reduced.⁵² As a result, the reduction of their windfall tax expenditure is presumed to be smaller than expected previously. In order to increase tax revenues, the government also increased the rate of the financial transaction fee⁵³ for payment transactions and cash transactions during the year, and extended this tax category to currency exchange transactions. The new tax rates will be applied by banks from August and October 2024; their impact, therefore, was not yet perceived in 2024 H1. At the sector level, the gross loss impact of the increase in the financial transaction fee may amount to HUF 92 billion in 2024. However, the net effect of the financial transaction

⁵¹ However, its recognition and loss impact will be split between 2024 H1 and H2. In addition to mortgages, an interest rate cap also applied to SME loans, but the latter was phased out on 1 April 2024.

⁵² According to legislation promulgated on 8 July 2024 [Government Decree No. 183/2024 (VII. 8.)], if the average daily stock of Hungarian government securities maturing after 1 January 2027 during the period between 1 January and 30 November 2024 increases compared to the average daily stock during the period between 1 January and 30 April 2023, provided that the *total* stock of government securities held by the bank also increases at least to the same degree, 10 per cent of the increase, up to 50 per cent of the 2024 windfall tax, can be deducted from the amount of the taxes payable.

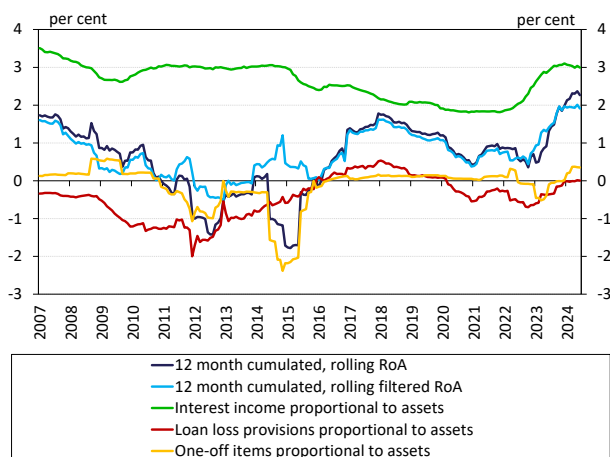
⁵³ According to the legislation promulgated on 8 July 2024 [Government Decree No. 183/2024 (VII. 8.)], the rate of the financial transaction fee is to increase from 0.3 to 0.45 per cent, but it can amount to a maximum of HUF 20,000 per transaction. The measure includes the introduction – from 1 October 2024 – of an additional fee on top of the current financial transaction fees, which will be 0.45 per cent on top of the standard fee for transactions involving foreign currency conversion. The tax-free limit for the additional fee is HUF 20,000 per transaction.

Chart 52: Result of revaluations and its components



Note: Non-consolidated data, based on portfolio revaluation under IFRS. Source: MNB

Chart 53: Raw and filtered RoA for the credit institution sector and its items relative to total assets



Note: P&L-based chart; items reducing profitability are shown with a negative sign. Based on non-consolidated data. For the sectoral filtered RoA, the sectoral RoA is adjusted for the following one-off items: special tax on financial organisations, windfall tax, dividend income, early repayment, exchange rate cap and settlement. Source: MNB

fee on P&L is expected to be lower: banks will be able to pass on the fee on corporate transactions as early as 2024 H2,⁵⁴ while in the household segment, banks are not permitted to do so this year under the relevant legislation.⁵⁵ However, household banking charges are expected to rise from early 2025.

The result of revaluations made a positive contribution to net P&L once again in 2024 H1. The P&L impact of revaluations in 2024 H1 amounted to HUF 81 billion, HUF 35 billion higher than one year earlier.⁵⁶ The positive net revaluation impact of non-trading transactions at fair value through profit or loss (FVTPL) (the bulk of which are prenatal baby support loans and HPS loans) supported profits by HUF 60 billion in 2024 H1, compared to HUF 154 billion in 2023 H1 (Chart 52). The net effect of the exchange rate difference reduced profit by HUF 75 billion, while the revaluation of transactions for trading purposes boosted profit by HUF 90 billion in 2024 H1. It should be noted that the revaluation of transactions for trading purposes includes, in part, the revaluation effect of hedging transactions (for interest rate risk and exchange rate risk) and should therefore be assessed together with the rest of the income items.

Contrary to the years following the 2008 crisis, high interest income has been associated with low loan loss provisions. At the end of 2024 H1, the 12-month rolling return on assets (RoA) rose to a historic high of 2.3 per cent (Chart 53). Once volatile and one-off items are excluded from profitability, the 12-month RoA amounted to 1.9 per cent. The high RoA level was mainly attributable to an outstanding 3-per cent ratio of net interest income to assets and near-zero loan loss provisions to assets.⁵⁷ Net interest income to assets is at post-2008 crisis levels, despite the significant balance sheet expansion in recent years and the decreasing interest rates. However, the level of loan loss provisions at the time substantially exceeded the credit losses recognised in 2024 H1. It can be concluded overall that the high net interest income in 2024 was not associated with a significant deterioration in the quality of loans and other assets – that were typical of similar, high interest

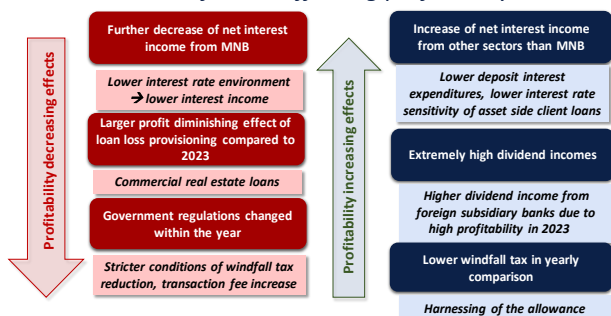
⁵⁴ For more on the inflationary effect of the measure, see Box 1-2 of the MNB's [Inflation Report \(September 2024\)](#).

⁵⁵ On 1 August 2024, the 'Charge Stop Decree' (Government Decree No. 187/2024) entered into effect, which prohibited unilateral modifications to the detriment of the consumer in respect of consumers' payment accounts until 31 December 2024.

⁵⁶ While the impact of the revaluation of the government securities portfolio at fair value through other comprehensive income (FVOCI) is not directly recognised in profit or loss, it may reduce/increase the capital of the banking system. At the end of 2024 H1, the revaluation of the bonds mentioned increased banks' equity by HUF 62 billion, while the change in the hedging reserve added another HUF 37 billion to banks' equity.

⁵⁷ In a European comparison, on a consolidated basis the 12-month rolling risk cost in Hungary stood at the EU average at the end of 2024 Q1, marking the lowest level of risk costs since 2022.

Chart 54: Main factors affecting profitability in 2024

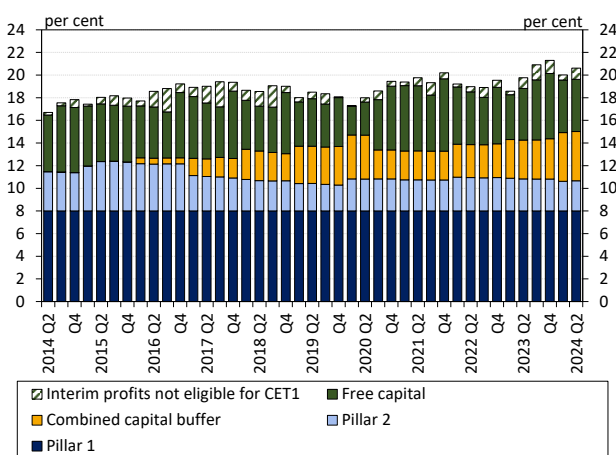


Source: MNB

income periods in the past – and the resulting accumulation of risk costs.

Filtered profitability is expected to decline, but likely to remain high in 2024. In 2024 H2, the falling interest rate environment will further reduce banks' interest income from the MNB (Chart 54). At the same time, the impact of net interest income from other sectors, which significantly boosted P&L in the first half of the year, is expected to diminish in the second half of the year. On the assets side, the profit-increasing impact of corporate credit growth may remain modest due to the high stock of companies' liquid assets and the tighter supply of subsidised schemes. As regards deposits on the liabilities side, the deceleration in the pace of interest rate decreases and the zero lower bound on deposit rates may restrain the decline in expenses. Although there were no significant net impairment losses in 2024 H1, certain credit risk-sensitive items (such as risks related to commercial real estate loans) may lead to a larger negative impact on P&L for the year as a whole compared to 2023. As a result, excluding volatile and one-off items, we expect profitability for 2024 as a whole to be high again, albeit lower than in 2023. The raw profitability of the credit institution sector is also affected by government measures (tightening of the windfall tax relief, increase in financial transaction levy), which were revised mid-year, as well as dividend income. The former may undermine P&L for the second half of the year, but the reduced windfall tax will impose a lower burden on banks this year, overall. However, we do not expect any further dividend income in the second half of the year, compared to the first half.

Chart 55: Composition of the consolidated capital adequacy ratio of the banking sector

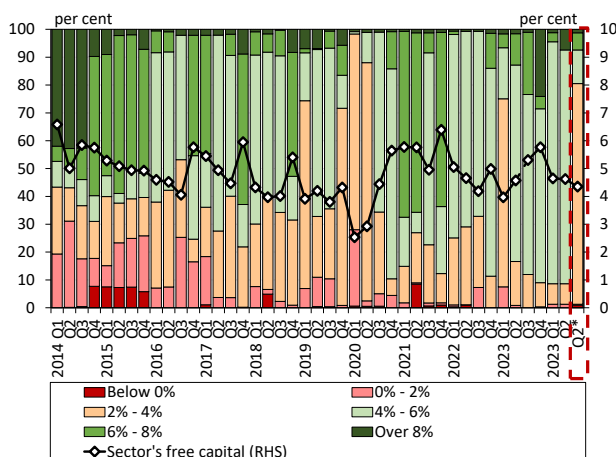


Note: The combined capital buffer includes the capital conservation buffer (CCoB), the other systemically important institution buffer (O-SII), the systemic risk capital buffer (SyRB) and the institution-specific countercyclical capital buffer (CCyB) together. Source: MNB

6.2. Even with rising capital requirements, the level of free capital is still high

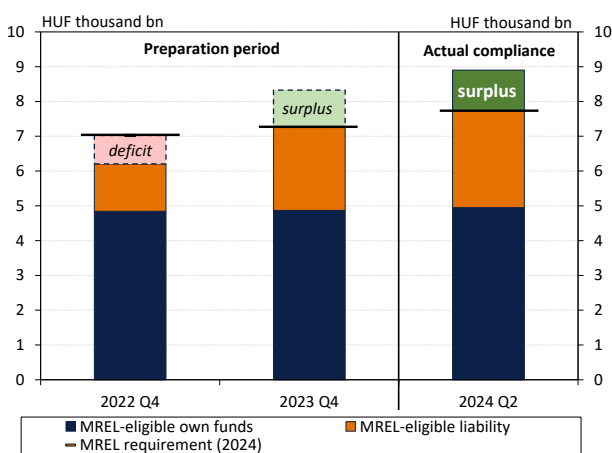
The outstanding profitability in 2023 further strengthened the capital position of the banking system. The banking sector's consolidated capital adequacy ratio (CAR) of above 20 per cent at the end of 2023, a historic high, was largely supported by banks' record high after-tax profit and conservative dividend payment policy last year. The CAR dropped to 19.6 per cent in 2024 Q1 and stagnated at this level in Q2 (Chart 55). The part of the interim profit that cannot be taken into account may improve the CAR value by an additional 1 percentage point, but its capitalisation may be affected by banks' dividend plans. The Common Equity Tier 1 ratio (CET1 ratio) remained stable during the first half of the year, amounting to 17.5 per cent at the end of June. In 2024 H1, own funds increased by 3.3 per cent and the total risk exposure amount (TREA) by 6 per cent.

Chart 56: Distribution of banks by the level of free capital above the overall capital requirement



Note: Weighted by the total risk exposure amount. Free capital does not include the unaudited part of interim profit. 2024 Q2* free capital calculated with the level of the combined capital buffer requirement applicable from July 2024 and TREA at end-June 2024. Source: MNB

Chart 57: MREL compliance of the banking sector



Note: MREL-eligible own funds are own funds in the resolution sense, less capital buffer requirements. Institutions had to comply with this requirement from January 2024; therefore, any deficit/surplus before then is not effective. Source: MNB

The increase in TREA was largely due to the expansion in credit risk exposure, while the increase in own funds mainly reflected growth in retained earnings. The leverage ratio (LR) of the credit institution sector remained unchanged during the half-year under review: it stood at 8.9 per cent at the end of June, well above the regulatory minimum requirement of 3 per cent (Appendix, Chart 47).

Even with the capital buffers being rebuilt, the banking system still has nearly HUF 1,970 billion free capital. As a final step in the re-building of the capital buffer requirements that were released due to the COVID-19 pandemic, the other systemically important institutions buffer (O-SII) was fully reintroduced in January 2024. In total, O-SII required additional capital of HUF 340 billion for the seven banks concerned in the first half of the year. The banking sector's free capital (excluding the interim profit unaudited part amounting to HUF 422 billion) remained high even with the rebuilding capital requirement: it stood close to HUF 1,970 billion or 4.6 per cent of TREA at the end of June (Chart 56). In July 2024, the countercyclical capital buffer (CCyB) was activated at 0.5 per cent for domestic exposures, implying an additional capital requirement of HUF 116 billion at the sector level.⁵⁸ In addition, the Systemic Risk Buffer (SyRB) was activated at mid-year on a preventive basis, but it did not impose any additional capital requirement on any bank on 1 July 2024. In analysing the capital requirements effective from July 2024 relative to the TREA of June 2024, the banking system still has free capital of HUF 1,852 billion. From January 2025, the amendment to the capital requirements regulation (CRR3) will come into force, which, according to our estimate, will require additional capital of approximately HUF 150 billion from the banking system (see Box 5 for details). In addition to the latter, the CCyB will rise to 1 per cent from mid-2025. If the changes in 2025 are taken into account, the sector would still have free capital exceeding HUF 1,500 billion.

All the banks complied with the MREL requirement, which is being phased in from January 2024. From January 2024, banks also have to fully comply with the Minimum Requirement for Own Funds and Eligible Liabilities (MREL). Institutions can meet the MREL requirement with own funds in the resolution sense reduced by capital buffer requirements and with MREL-eligible liabilities. In 2024, all

⁵⁸ The MNB decided to apply the so-called positive neutral CCyB framework, which is increasingly used by EEA countries, in view of the still high geopolitical and macroeconomic uncertainty, the outstanding profitability of banks, the adequate capital position and the recommendations of international institutions. In this context, MNB set the rate at 1 per cent from July 2025. ([The current level of the countercyclical capital buffer rate for Hungarian exposures and its justification](#))

of the institutions concerned complied with the requirement in the range of 18.9 and 28.6 per cent of TREA for a total of HUF 7,733 billion (Chart 57). Even if MREL requirements are taken into account when calculating free capital, the banking sector still has free capital in excess of HUF 1,500 billion, corresponding to 3.6 per cent of TREA. The current high level of free capital indicates that there is significant lending capacity available at the sector level; consequently, increasing capital requirements do not impede banks' lending activity.

BOX 5: IMPACT OF THE AMENDMENT TO THE CAPITAL REQUIREMENTS REGULATION ON BANKS' CAPITAL ADEQUACY

The regulatory environment for banks' capital position will change from 2025. At the end of 2017, the Basel Committee on Banking Supervision adopted the finalisation of the Basel III Recommendation, which is being implemented in the EU through amendments to the Capital Requirements Regulation (CRR) and the Capital Requirements Directive (CRD). Most of the legislative amendments in CRR3⁵⁹ will enter into force from 2025, while a period of 18 months has been set for the implementation of CRD6.

In September 2024, the MNB conducted a questionnaire survey among banks to assess the preparedness of domestic credit institutions for CRR3 and the expected ex-ante impact on their capital adequacy. Based on the results of the survey, all institutions have started to prepare and launch their CRR3 implementation projects, usually with the assistance of external partners. However, the status of the projects varies: while in most cases smaller institutions are still in the process of assessing data needs, larger institutions are already working to complete the system development phase in many cases. The central projects typical of banks with foreign parent companies have already been launched, but the extraction of new data requirements and their availability in a data warehouse system is a local task in this case as well. The majority of the necessary IT system enhancements are expected to be completed by the end of 2025 Q1, after which the preliminary impact assessments on the capital position can be clarified.

Based on preliminary expert estimates, the change in the total risk exposure amount (TREA) for credit risk, which is the most important factor affecting banks' capital position, is not expected to be significant even after expiry of the transitional arrangements provided by CRR3.⁶⁰ The transitional provisions significantly prolong the effects of the tightening of capital requirements. Typically, a small increase (not exceeding 10 per cent) is likely for banks applying the standard methodology. This may be generated primarily by changes in exposures secured by real estate collateral,

but the introduction of new exposure classes may also give rise to an increase in capital requirements. According to preliminary estimates, institutions using the internal ratings based (IRB) approach are expected to see a 5–10 per cent decline in credit risk TREA on average mostly due to favourable changes in regulatory parameters (for example, lower LGD values) and other methodological effects (such as the removal of the 1.06 multiplier in the capital function), which will have a positive impact, overall, on the capital position of these institutions.

Main regulatory changes affecting credit risk exposure

Standardised Approach	Internal ratings based approach (IRB)
New definition of off-balance sheet items, changes in credit conversion factors (CCF)	IRB methodology in the case of shares is taken out
Introduction of new exposure classes (e.g.: special lending exposures, subordinated exposures)	Developed IRB methodology is taken out for institutions, large corporate and other financial sector's clients
Standardised credit rating of institutional exposures	Transition to CCF weights used in standardised methodology
Retail exposures: higher risk weights due to currency mismatch, discounted weight for transaction customers	Change of modelling exercises (e.g.: CCF estimation)
Exposures secured by real estate: introduction of a new definition of real estate value, new risk weights based on coverage (ETV)	Modification of capital function (eliminate multiplier of 1.06)
Stricter handling of shares (introduction of 250%, 400% weights)	Introduction input floors: use of minimum PD, LGD, CCF* values
Changes in the discount factors used when collateral taking into account	Introduction of the output floor: restriction of IRB banks' capital requirement by standardised methods

Note: Output floor: capital threshold. *Risk parameters applied in the internal credit rating methodology: PD: probability of default, LGD: loss given default, CCF: credit conversion factor. Source: MNB

In the case of market risk capital requirements and CVA⁶¹ capital requirements, market participants generally expect an increase due to the changes introduced by CRR3. This may be significant (above 10 per cent) for several banks within the specific risk category. However, domestic institutions do not have significant positions (securities positions in the trading book, non-exempted OTC derivative positions); consequently, the nominal impact of the changes will not

⁵⁹ Amending Regulation (EU) No 575/2013 as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor: <https://eur-lex.europa.eu/eli/reg/2024/1623/oj>.

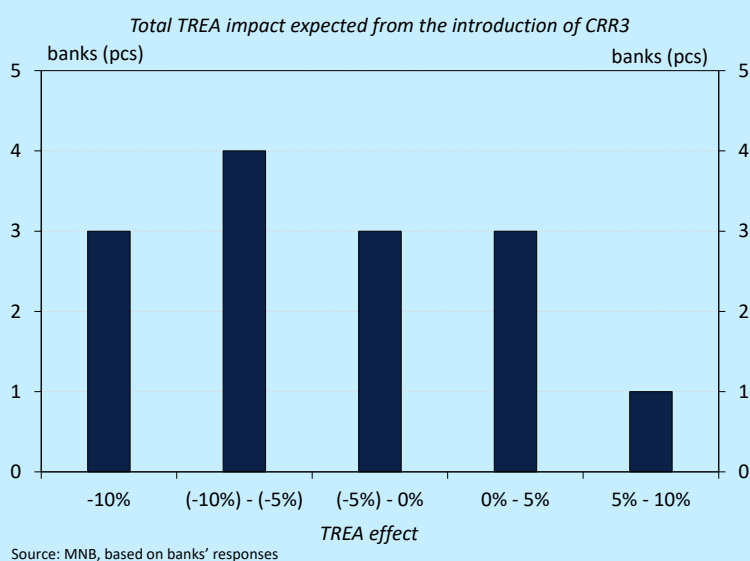
⁶⁰ These include transitional provisions on equity exposures, specialised lending exposures, unconditionally cancellable commitments, property valuation requirements and the output floor.

⁶¹ Credit Valuation Adjustment (CVA): credit valuation adjustment, counterparty risk in derivative transactions.

be significant due to the low shares in total TREA and therefore, the changes will not have a material impact on the capital position of the institutions.

In the case of capital requirements for operational risk, the previous methodologies⁶² will be replaced by a new standardised measurement approach (SMA), based on which the main directions of the changes can be clearly identified. A more significant increase in operational risk (above 10 per cent) is typically expected for banks that apply the Advanced Measurement Approach (AMA) based on an internal model. Institutions that previously applied the Basic Indicator Approach (BIA) are generally expected to see a larger decline, which can be attributed to the introduction of an asset cap for interest income (2.25 per cent) and a lower risk weight for the lowest income category (12 per cent).

The overall TREA impact at the sector level, which covers all risks, is expected to remain moderate as most institutions expect a decline. For those banks that expect an increase in TREA with a negative impact on the capital position, the impact is expected to be less than 10 per cent of TREA at the individual institution level. The basic principle set out by the regulation in the case of standardised approaches (to develop a more risk-sensitive methodologies without significantly increasing the capital requirement) is therefore expected to be fulfilled in the case of domestic institutions. At the same time, the increased data requirements associated with increased risk sensitivity represent a significant IT development resource that IRB banks will also need to meet, in order to determine their (output floor) requirements.⁶³ For European banks, the introduction of the output floor is likely to be a major constraint, but this is not expected to give rise to an increase in TREA, based on the preliminary expectations of domestic institutions. This is also confirmed by the fact that the weights for average credit risk at domestic banks applying the IRB methodology do not show significant deviations compared to the standardised methodologies.



Preparations at domestic institutions are on track overall. The transition to the new CRR3 rules is not expected to have a significant negative impact on the capital position of the institutions; however, the direction of the impact will largely depend on the business model of each institution and the methodologies currently applied. Accordingly, the entry into force of CCR3 in early 2025 will generate additional need for capital of HUF 150 billion at sector level, based on our estimates. The application of the new capital rules will not have a material impact on banks' lending capacity at the systemic level due to the high level of free capital (almost HUF 1,970 billion).

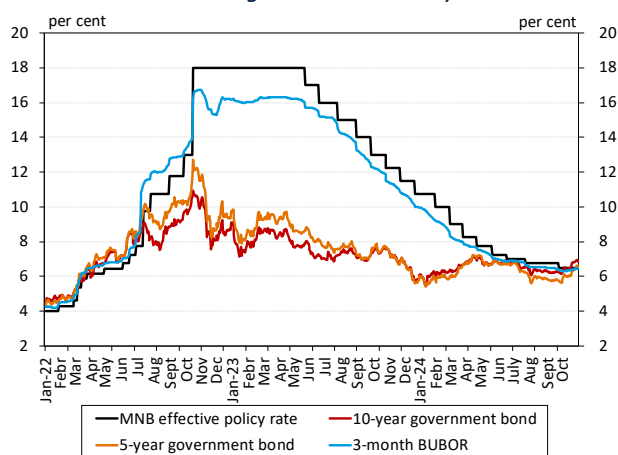
⁶² Methods for calculating the operational risk capital requirement: BIA – Basic Indicator Approach, STA – Standardised Approach, AMA – Advanced Measurement Approach.

⁶³ The capital requirement for IRB banks cannot be less than 72.5 per cent of the capital requirement calculated using the standardised approach. Achieving this will be mandatory after a 5-year transitional rule, the first step of which is that in 2025 the capital requirement for IRB banks cannot be less than 50 per cent of the capital requirement calculated using the standardised approach.

7. Banks' liquidity is stable at a high level, with minor fluctuations

Short-term yields fell in line with the monetary policy decisions of the MNB, while the decline in long-term yields was primarily driven by rising expectations of interest rate cuts by central banks in developed countries. The removal of the government's interest rate cap on deposits increased HUF yields on the swap market, thereby strengthening the stability of the foreign exchange market. Deposits provide a stable source of funding for the banking system even amid the decline in deposit rates. The operational liquidity buffer of the banking system fluctuates somewhat, reflecting the impact of autonomous factors affecting liquidity, but its level is abundant throughout. The liquidity and funding position of the banking system remains robust with the liquidity buffer exceeding HUF 20,000 billion, equivalent to 68 per cent of private sector deposits.

Chart 58: The MNB's effective policy rate, the 3-month BUBOR and government bond yields



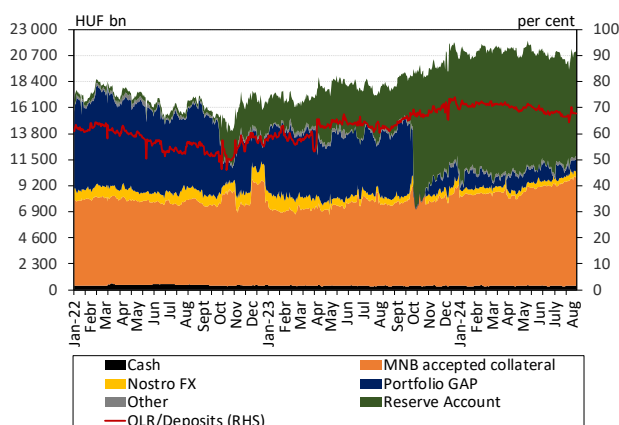
Note: Based on HUF-denominated government bond yields. The policy instrument was the one-week deposit tender from April 2020 and the overnight deposit tender from October 2022. From 1 October 2023, the MNB pays the base rate on the balance of the reserve account in excess of the required reserve (excess reserves); consequently, this instrument has taken over the role of the policy instrument. Source: Bloomberg

7.1. Banking system liquidity is stagnating at a high level

Short-term and long-term yields have both declined. As a result of the MNB's gradual interest rate cuts, short-term yields fell significantly: the 3-month BUBOR was at 6.5 per cent at end-October 2024, showing a decline of almost 1 percentage point since the beginning of May 2024. In 2024 H1, the downward trend observed in long-term government bond yields in 2023 was broken and yields rose temporarily, reflecting delays in interest rate cut expectations in relation to the major global central banks, uncertainty over geopolitical conflicts and unfavourable expectations for domestic fiscal developments. However, the decline continued from mid-2024, mainly on the back of stronger expectations of interest rate cuts by central banks in developed countries. In October, however, expectations of interest rate cuts related to globally leading central banks in developed markets weakened slightly, as a result of which domestic long-term yields began to rise again. Despite the latter, between the beginning of May and the end of October 2024, the 5-year Hungarian government bond yield fell by 54 basis points to 6.6 per cent, while the 10-year yield dropped by 16 basis points to 6.9 per cent (Chart 58).

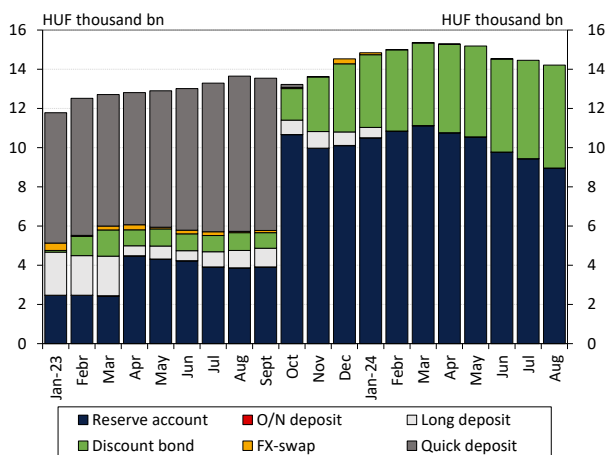
The nominal level of liquidity in the banking system is stagnating at a high level, with minor fluctuations. The level of the Operational Liquidity Reserve (OLR) decreased slowly between 2024 Q1 and 2024 Q3, and then in October it expanded again to nearly its historical peak. The change was driven by autonomous factors affecting banking system liquidity: both the State Treasury Account (STA) balance and the stock of cash in circulation affect the level of banking system liquidity. Consequently, OLR fell slightly from its peak in March to an average of around HUF 20.5 billion in July 2024 and then expanded to HUF 21.4 billion in October,

Chart 59: Decomposition of banks' operative liquidity reserves



Note: The portfolio gap denotes the contractual net flows of treasury operations within 30 days from the date of data reporting with the following content: interbank loans and deposits, MNB deposits, repos, securities other than own issued, deposits over HUF 5 billion, derivatives. Classified into the 'other' category: ECB eligible collateral, cash flows from own securities. The reserve requirement is considered by the central bank as a liquid asset. Source: MNB

Chart 60: Breakdown of the liquidity of the banking system at the central bank



Source: MNB

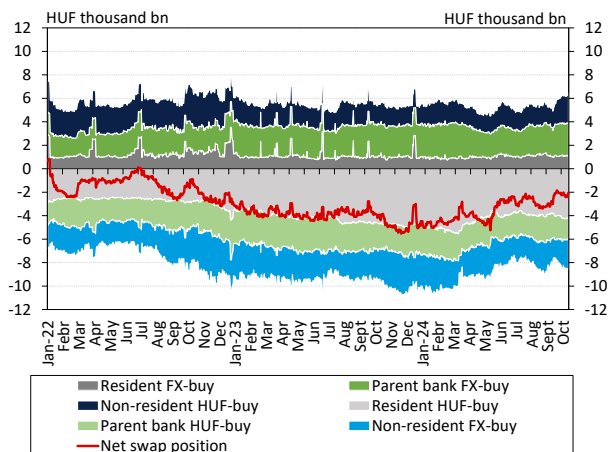
equivalent to 70 per cent of private sector deposits⁶⁴ (Chart 59). The effect of factors reducing bank liquidity was offset by an increase in the stock of eligible collateral, reflecting the impact of the rising market value of securities due to falling yields and the higher exposure of the banking system to government securities (this is discussed in more detail in Box 6). In 2024 Q2, the deposits of non-financial corporations decreased by HUF 472 billion, while the growth in the deposits of non-financial corporations was HUF 276 billion below the growth in their loans. In the household sector, in contrast to the previous strong deposit outflows, there was a moderate, almost corresponding increase in loans and deposits. The combined effect of these factors was a rise in the banking system's loan-to-deposit ratio from 73 per cent to 75 per cent (Appendix Chart 41).

The use of central bank instruments decreased. The liquidity held by the banking system in central bank instruments decreased by HUF 1,150 billion between March and August 2024, averaging HUF 14,200 billion in August (Chart 60). Deposits held in the reserve account comprised the largest part of the banking system's liquidity. Average utilisation was close to HUF 9,000 billion in August, with a reserve requirement of around HUF 4,000 billion. In parallel with the decline in the balance of the unrestricted reserve account, the stock of central bank discount bonds of the banking system increased to around HUF 5,000 billion, on average, accounting for more than one third of the liquidity deposited with the MNB. The increase in the amount of discount bonds was driven by the possibility of more frequent interest payments compared to the reserve account and a reduction in liabilities side items subject to reserve requirements. In line with banks' active purchases of discount bonds, the short-term external debt of the banking system fell from 4.6 per cent in 2023 Q4 to 4.2 per cent in 2024 Q2, on a quarterly average. The reason for the latter is that approximately one third of the purchased discount bond stock is transferred to foreign investors, so that the stock is removed from the banks' balance sheets, thus reducing the short-term external debt of the banking system.

The banking sector's swap market activity and the end-quarter volatility of FX-buy positions also decreased. In 2024 Q3, the average net swap position of credit institutions against the forint was HUF 2,800 billion, down by around HUF 1,700 billion compared to the average recorded in 2024 Q1 (Chart 61). The significant decline in the net swap

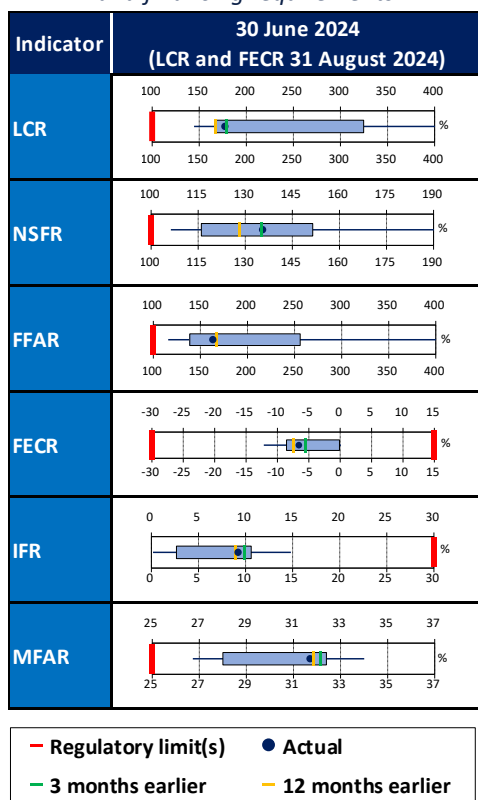
⁶⁴ Private sector deposits in this chapter refer to deposits held by the household sector and by non-financial corporations.

Chart 61: Decomposition of the banking system's gross swap portfolios and net swap position



Source: MNB

Chart 62: Compliance of the banking sector with liquidity and financing requirements

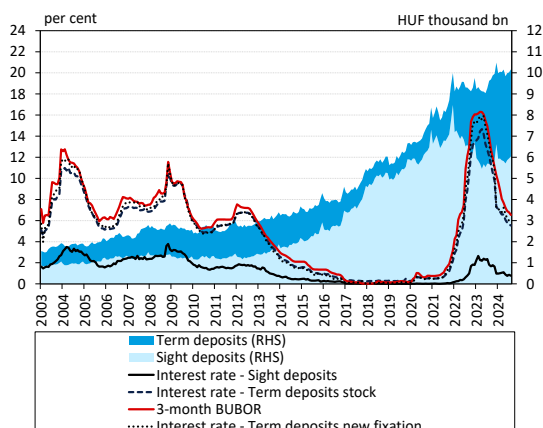


Note: The edges of the blue rectangles indicate the lower and upper quartiles of the distribution, and the ends of the dark blue lines indicate the 1st and 9th deciles of the distribution. For LCR, excluding mortgage banks and building societies, and for NSFR, including mortgage banks and housing saving bank, based on solo compliance data in both cases. Source: MNB

position was driven by an almost corresponding fall in domestic HUF borrowing. On 1 April 2024, the interest rate cap on deposits was removed, after which domestic forint swaps were scaled back because, during the period of the measure, several market participants were able to achieve higher, close to the interbank rate forint yields only through the swap market. As a result of the declining HUF-buy positions, the remaining foreign currency liquidity in the banking system relieves the burden on the central bank's foreign currency liquidity swap facility and also reduces the volatility of swap market flows and increases the HUF yields on the swap market, thus strengthening the stability of the foreign exchange market.

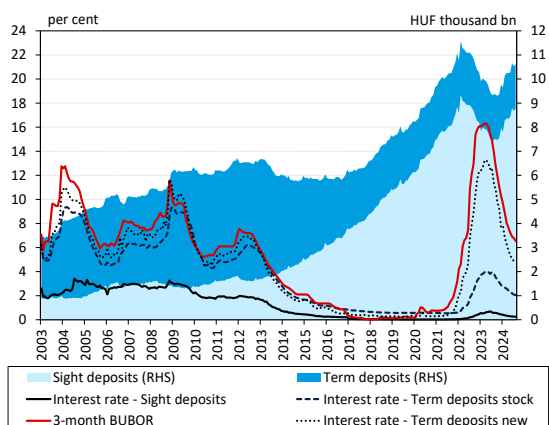
In addition to the still ample buffers, the MNB has decided on regulatory fine-tuning. Banks are meeting the LCR requirement at the expected level of 100 per cent with a considerable surplus of liquid assets; the sector-wide average calculated on individual compliance was 177 per cent in August 2024. The supervisory tightening introduced in 2023, such as the additional liquidity requirements arising from deposit concentration (Pillar 2) and the requirements for liquidity management, provide additional support to ensure an adequate level of short-term liquidity (Chart 62). The other EU-level Basel indicator requiring banks to be soundly funded over the long term, the net stable funding ratio (NSFR) – which must be 100 per cent – is being met by banks at a stable level, with a systemic average above 130 per cent and rising. Banks liability structure can still be characterised by a persistently high ratio of capital funds and private deposits. There has been no significant change in compliance with the instruments (FFAR, FECR, IFR) that are intended, among other things, to mitigate the external vulnerabilities of the banking sector: banks maintain a stable and high level of room for manoeuvre. From October 2024, the MNB fine-tuned these requirements and institutions that do not pose a systemic risk were exempted from these rules (in order to support their operations). Banks are also meeting the mortgage funding adequacy ratio (MFAR) requirement – which boosts mortgage funding and maturity consistency – with adequate buffers. At the same time, the MNB is supporting compliance with the significant mortgage bond issuance needs of 2024 and 2025 and the emergence of foreign currency-denominated mortgage bonds by fine-tuning its supervisory authority regime and postponing the former green requirement for

Chart 63: Average annualised interest rate and maturity structure of non-financial corporations sector HUF deposits and development of the 3-month BUBOR



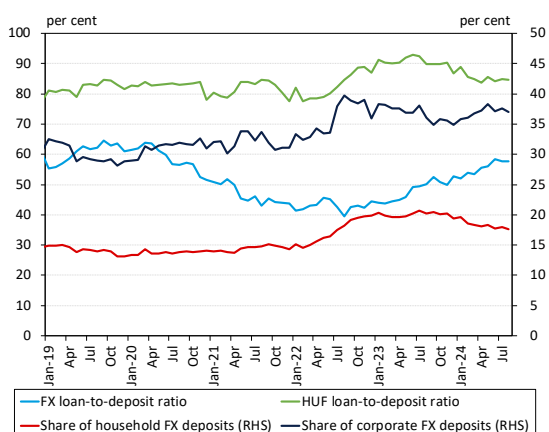
Source: MNB

Chart 64: Average annualised interest rate and maturity structure of household HUF deposits



Source: MNB

Chart 65: Share of household and corporate foreign currency deposits and the loan-to-deposit ratio by denomination



Source: MNB

newly issued foreign currency mortgage bonds.⁶⁵

7.2. Deposits remain a stable source of funding even with the decline in interest rates

In the corporate sector, the portfolio of deposits remained stable, despite the decreasing interest rates. In 2024 H1, the interbank reference rate fell by 3.8 percentage points, with the key policy rate decreasing steadily and gradually. This moderation was largely tracked by corporate deposit rates, and this effect may have been reinforced by the deposit interest cap in early 2024, which was eventually lifted on 1 April 2024. While the 3-month BUBOR fell to 6.5 per cent in August 2024, the interest rate on new corporate fixed-term deposits amounted to 5.8 per cent and the average interest rate on the total stock of corporate fixed-term deposits was 5.8 per cent (Chart 63). The decline in interest rates was accompanied by a slowdown in the structural transformation of the deposit portfolio: the downward trend in the share of demand deposits halted in 2024 H1, corresponding to 59 per cent of total corporate deposits. The fall in interest rates did not result in any deposit outflows in the corporate segment; the stock of HUF deposits was around HUF 10 billion each month in 2024 H1.

The portfolio of household deposits is growing, despite falling interest rates. The average interest rate on the stock of households' term deposits was 2 per cent in August 2024, while the average interest rate on new deposits was 4.9 per cent (Chart 64). However, targeted deposit campaigns typically reach only a narrow circle of customers, and this explains to a large extent the significant difference in the average interest rate level between new deposits and existing deposits. The limited spill-over from previous policy rate hikes is reflected in the subdued volume of term deposits; nevertheless, the HUF 10.6 billion deposit stock at end-August 2024 is still growing, despite the now decreasing deposit rates. Until August 2024, the total household deposit portfolio rose by HUF 693 billion predominantly due to the rise in HUF deposits, which was lower than the HUF 945 billion increase in government securities and the HUF 1,154 billion increase in investment fund shares.

The banking system has low financing risks. In line with the weakening of the forint, the portfolio of households' foreign currency deposits increased sharply on a transaction basis in 2022, but this process came to an end in 2023 before

⁶⁵ The MNB has indefinitely postponed the green requirement for new and foreign currency mortgage-backed liabilities that can be included in the MFAR from 2022 onwards (see Chapter 5 of the MNB's [Macprudential Report 2024](#) for more details).

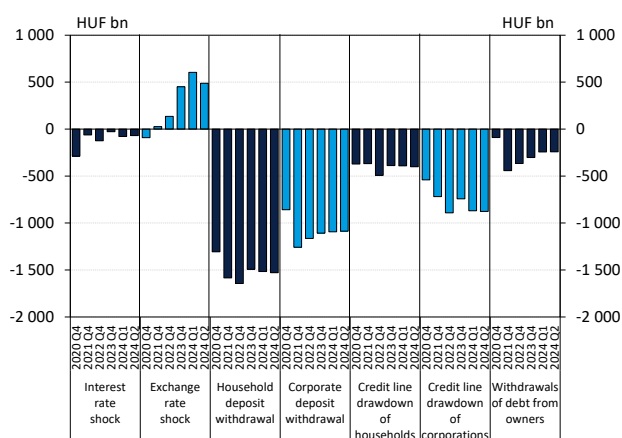
Table 4: Main parameters of the liquidity stress test

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

Liabilities		
Item	Degree	Currencies affected
Withdrawals of household deposits	10 per cent	HUF/FX
Withdrawals of corporate deposits	15 per cent	HUF/FX
Withdrawals of debt from owners	30 per cent	HUF/FX

Source: MNB

Chart 66: Aggregate systemic impact of stress components



Note: The columns show the change in the LCR's liquid assets in response to a given shock at the banking system level, adjusted for the change in net outflows. For calculating the impact of each shock, we applied the assumption that the given shock occurs individually. Therefore, the sum of the impacts of the shocks does not necessarily reflect the combined impact of the shocks. Source: MNB

turning into a gradual, steady decline. By contrast, the stock of foreign currency deposits in the corporate sector remained at the same level as in 2022. The share of foreign currency deposits in the corporate sector was 37 per cent, compared to 18 per cent for households at the end of August 2024 (Chart 65). Despite the steady, rapid expansion of corporate foreign currency loans, the overall foreign currency loan-to-deposit ratio remains low at 58 per cent, which also results in a surplus of foreign currency liabilities on the balance sheet at the level of the banking sector, and provides an additional financing buffer for corporate foreign currency lending. The forint loan-to-deposit ratio of 85 per cent also indicates a stable supply of funds to the banking system.

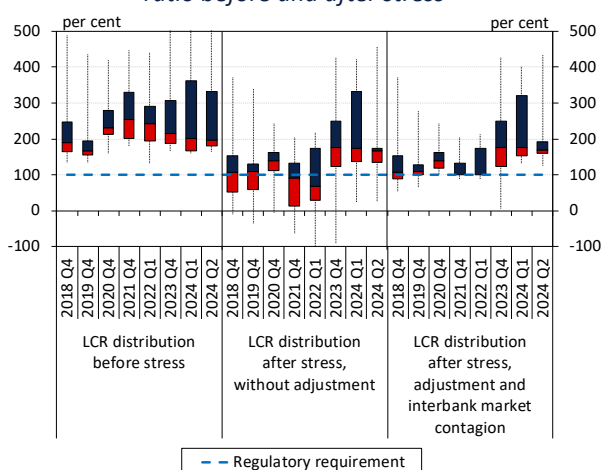
7.3. Liquidity surplus in the banking sector remains very high

The sensitivity of bank LCR indicators to deposit withdrawals remains the highest among the liquidity shocks assumed in the stress test.⁶⁶ Of the shocks examined (Table 4), the relative severity of the potential impact of deposit withdrawals remains the most significant. In the hypothetical stress scenario applied in our stress test exercise, we assume a deposit withdrawal of almost HUF 3,500 for 2024 Q1 or Q2 for the total deposits of the corporate and household sectors. Moreover, the credit line drawdown shocks assumed in the scenario equalled around HUF 1,400 billion in each quarter. While the liquidity impact of the interest rate shock and the shock caused by the withdrawal of owners' funds used in the stress test remains relatively modest compared to the other items, the liquidity-enhancing value of the exchange rate depreciation on banks' foreign currency derivative holdings was significant in an historical comparison in 2024 H1 (Chart 66).

Based on the liquidity stress test, the sector would still meet regulatory requirements even in the event of a severe shock. The high level of liquid assets in the numerator of the LCR indicator provides adequate coverage even in the event of significant financial turbulence (Chart 67). The vast majority of banks would comply with the LCR requirements without significant adjustment even in the event of a combination of the hypothetical shocks. We estimate that only one small institution would face

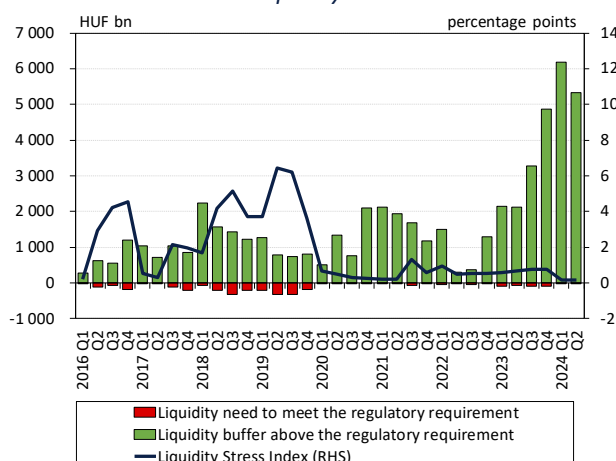
⁶⁶ The liquidity stress test examines the impact of a hypothetical, simultaneous occurrence of financial market turmoil, an exchange rate shock, deposit withdrawals, credit line drawdowns and withdrawal of owners' funds with possible interbank contagion effects. For a detailed description of the methodology, see Box 9 of the MNB's [May 2016 Financial Stability Report](#). With regard to the spring 2020 changes to the monetary policy framework, in our calculations we take into account the measures relevant during our liquidity stress test, thus including the possibility of converting the eligible unencumbered outstanding loans and bonds of large corporations (reduced by an adequate haircut) into liquid assets.

Chart 67: Distribution of banks according to the LCR ratio before and after stress



Note: Distribution by number of banks. Vertical lines show the 10th percentile at the bottom and the 90th percentile at the top. The bottom of the box indicates the 25th percentile, the top the 75th percentile; institutions above the median shown in blue, those below the median in red. Source: MNB

Chart 68: Liquidity Stress Index



Note: The indicator is the sum of the liquidity shortfalls in percentage points (but a maximum of 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. Based on data for the nine largest institutions up to 2018 Q1 and for the whole credit institution sector thereafter. Source: MNB

compliance problems, taking into account banks' options to adapt. With regard to the latter, we assume extensive recourse to the central bank's liquidity facilities. It should be noted, however, that in a hypothetical stress scenario, many banks would have to adjust by selling securities or taking recourse to interbank loans or repo transactions, in order to comply with the reserve requirements, their large liquidity buffers notwithstanding. To quantify the direct liquidity need for payment transactions, the liquidity impact of the stress components was applied to the reserve account – which qualifies as a liquid asset in the LCR – at the level of excess reserves above the expected level. In this sense, more than half of the sector in proportion to total assets would be forced to adapt and convert significant volumes of securities into central bank liquidity. This means that, assuming that the stress components materialise simultaneously and that the required reserve ratio remains constant at 10 per cent, the reserve requirement would be more effective than the 100 per cent LCR requirement.

The Liquidity Stress Index⁶⁷ continues to indicate a low level of risk. The sector-level liquidity surplus remains close to its historical peak; banks facing liquidity shortages as a result of the stress have negligible liquidity needs. Banks' initial liquidity surplus above the LCR requirement was more than HUF 8,000 billion in 2024 H1, and in the stress scenario, it is above HUF 5,000 billion even after the shocks and consideration of banks' adjustment options. The total liquidity needs of banks facing a liquidity shortage in the stress scenario would amount to around HUF 10 billion in both quarters (Chart 68). In mid-2024, more than two thirds of the sector as a percentage of total assets would have an LCR above 140 per cent⁶⁸ in the stress scenario, also in consideration of their adjustment options. The Liquidity Stress Index remains close to its theoretical minimum and still implies a low level of risk.

⁶⁷ The Liquidity Stress Index, which was designed to capture the heterogeneity across institutions, aggregates (weighting by the size of bank) the post-stress liquidity shortfalls compared to the regulatory limit calculated at the level of the individual banks, expressed in percentage points. This enables us to draw conclusions with regard to the extent of a potential stress situation in the banking sector.

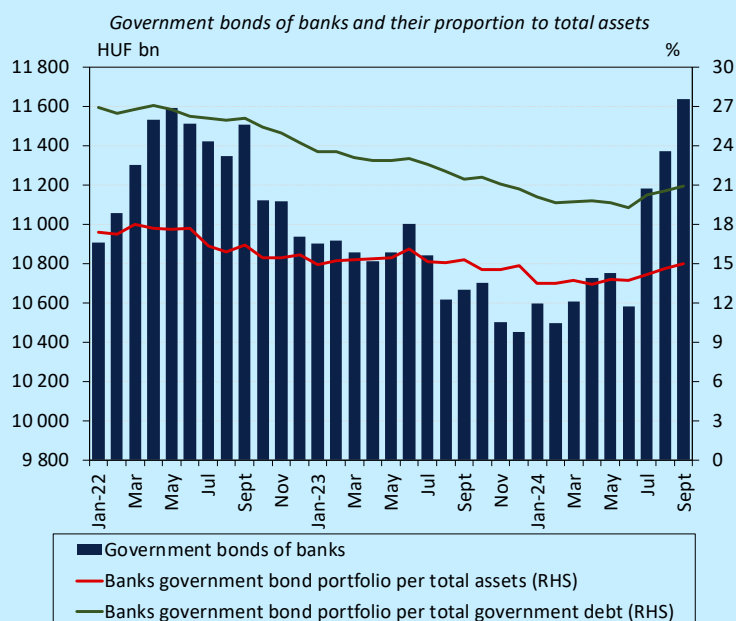
⁶⁸ See: Management Circular on the expectation for liquidity buffers for credit institutions, 1 August 2023.

BOX 6: MAIN CHANGES AFFECTING BANKS' LIQUID ASSETS IN 2024 AND 2025

To repay their liabilities, banks need liquid assets; indeed, policymakers require that they maintain such assets. The most liquid asset held by banks is the central bank money held on the central bank reserve account, which is also the instrument for interbank financial transactions. Another common form of liquid assets is eligible securities, which banks can easily convert into central bank money by means of lending transactions secured by the central bank or by selling the asset. The range of securities that can be used as collateral depends on the central bank's policy on accepting securities. Government bonds are most often used for this purpose, and in the largest volume. The composition of liquid assets varies from bank to bank and depends on the portfolio preferences of the institutions, but their decisions are also influenced by monetary policy and economic policy.

The government debt exposure of the banking system moved on a downward trend between June 2022 and June 2024, both in nominal terms and as a share of total assets.

The government bond exposure of the Hungarian banking system amounted to HUF 11500 billion at the end of June 2022, which decreased to HUF 10500 billion by the end of June 2024. The reduction amounted to 4 percentage points in terms of the total balance sheet of the credit institution sector, while it corresponded to almost 6 percentage points in terms of total government debt. In EU terms, the Hungarian banking system's government bond exposure is significant at 14.6 per cent, but in contrast to the past, it is no longer an outlier in the region. At the same time, the liquidity of the banking system deposited with the central bank has increased; consequently, the portfolio of banks' liquid assets has shifted away from central bank-eligible securities towards central bank assets.



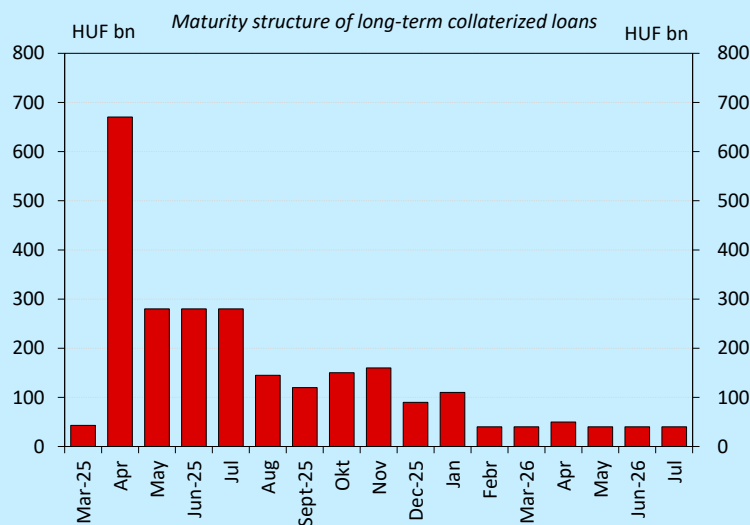
Source: MNB

Due to the change in the conditions for claiming the windfall tax credit, banks' exposure to government bonds rose sharply from July 2024. According to the original legislation⁶⁹ providing the tax relief, the amount of the windfall tax to be paid in 2024 could be reduced if the average stock of banks' long-term government bonds increases in 2024. The amount of this may be up to 10 per cent of the increment of the stock of government securities, but not more than 50 per cent of the windfall tax liability for the year. In several cases, banks met this condition by restructuring their government securities portfolios (increasing holdings of long-term securities and reducing holdings of short-term securities), rather than by increasing their overall holdings. For this reason, the possibility to benefit from the tax relief was tightened on 8 July 2024⁷⁰ and after the amendment increasing the total stock of government securities held by the bank became a required condition. As a result of the measure, the exposure of the banking system to government securities increased by around HUF 1,050 billion between June and the end of September 2024, sharply reversing the previous trend. At the same time, the expected evolution of the banking system's government securities holdings in 2025, depending on banks' liquidity management strategies, may be affected significantly by the maturities of the MNB's long-term collateralised loan and the possibility of a reduction in the windfall tax next year, which will have an opposite effect on banks' sovereign exposure.

⁶⁹ Government Decree No. 206/2023 (V. 31).

⁷⁰ Government Decree No. 183/2024 (VII. 8).

The long-term covered funds provided under the MNB’s credit scheme enhanced the effectiveness of monetary transmission during the coronavirus pandemic. Their term expires in the next two years. On 24 March 2020, the MNB introduced its long-term collateralised credit facility with a maximum maturity of 5 years. Banks were able to use the central bank funds obtained through the long-term credit facility in two ways: they could invest them in fixed-rate instruments (e.g. government bonds) with long maturities, and they could improve their funding structure with fixed-rate loans. The expiration of long-term loans does not materially affect banks’ liquidity position and regulatory compliance (LCR, NFSR), but it does result in a reduction in systemic forint liquidity. Banks may also repay maturing central bank loans from excess central bank liquidity deposited in their reserve accounts in excess of the reserve requirement, or from liquidity released by maturing government securities, depending on the maturity structure of their government bond portfolio and, if necessary, from their sale before expiry. Between March 2025 and July 2026, a total of around HUF 2,600 billion of long-term collateralised loans will mature. Based on the status recorded in mid-2024, the liquidity released by maturing bonds of around HUF 3,000 billion and the additional liquidity of HUF 5,800 billion deposited in the reserve account will provide sufficient coverage for the repayment of long-term loans, which will provide ample liquidity surplus at the sector level.



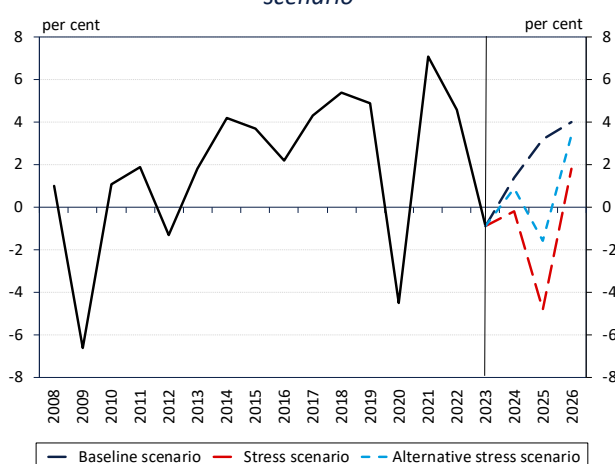
Source: MNB

8. Solvency stress tests show adequate resilience of the banking system to shocks even in the face of increased risks

The current macroeconomic environment is exposed to numerous internal and external risks. The operation of the domestic banking sector would be adversely affected if these risks were to materialise. We examine the resilience of the domestic banking sector to shocks in a scenario in which the main sources of vulnerability are the intensification of geopolitical risks, the weakening of the European economy and a protracted recovery of domestic investment. In this stress scenario, the higher domestic inflation and interest rate environment returns, partly due to disruptions in supply chains and partly due to financial and commodity market volatility, and the Hungarian labour market environment deteriorates significantly. In addition, an alternative stress scenario of a different nature has been prepared, which is explicitly demand-focused and has an impact on the Hungarian economy via a deterioration in foreign trade, due to the unfavourable performance of German industry.

In the baseline scenario, we assume a material increase in credit risks, which implies a higher loan loss provision compared to the baseline scenario in the spring 2024 stress test. In the stress scenario, we also expect the non-performing loan portfolio to accelerate faster – by around 8 per cent – compared to the baseline. In the baseline scenario, sector-level profitability already deteriorates substantially, mainly due to the reduction of net interest income. In comparison, the positive interest rate shock of the stress scenario increases net interest income somewhat, but net trading income deteriorates significantly due to the loss on assets carried at fair value. As a result of lower activity in the real economy, the stress reduces fee and commission income sharply. The sector-wide capital adequacy ratio of 20.6 per cent recorded in June 2024 – including unaudited interim profits – remains around 20 per cent at the end of the two-year stress test period, both in the baseline and the stress scenario. In the stress scenario, banks' ability to accumulate capital is reduced significantly compared to the baseline scenario, but if banks' dividend payments are adjusted accordingly, there would only be a manageable capital shortfall in the stress scenario, affecting just a few institutions.

Chart 69: Annual growth rate of real GDP in each scenario

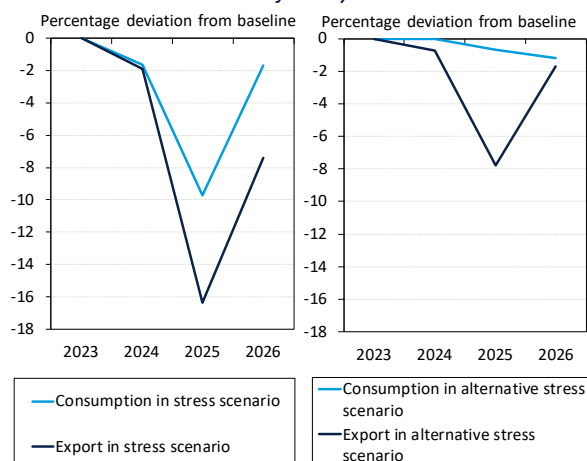


Note: The baseline scenario of the stress test is derived from the forecast range of MNB's September 2024 Inflation Report, while our calculation results reflect the evolution of the mid-point of the forecast range. Source: MNB

8.1. Future risks are significant and thus considerable credit losses may materialise

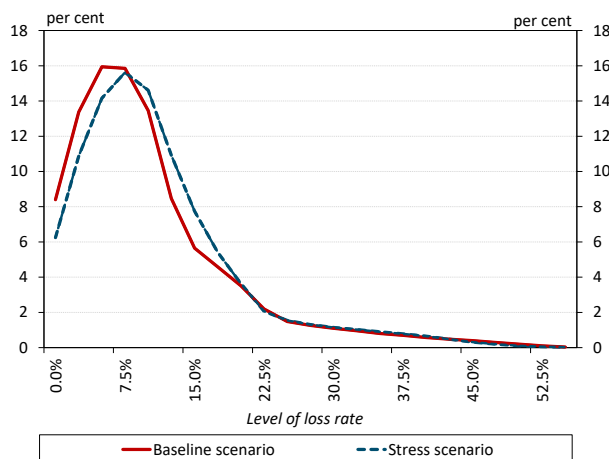
The risk narrative of the stress test is mainly driven by the uncertainty and weakness of the global economy. A key element of the stress scenario is prolonged and escalating geopolitical tensions in the international macroeconomic environment, which create significant uncertainty and thus increase volatility in financial and commodity markets. The intensification of geopolitical risks is coupled with global supply problems and a protracted war environment. Accordingly, commodity prices rise in the stress scenario, and the realisation of risks to commodity market turmoil and persistently higher prices put upward pressure on global inflation. Thus, the external inflation environment is higher than expected, which passes through to domestic prices. The subdued performance of the relevant export markets causes a sharp fall in exports; consequently, the prolonged recovery of industry delays the upswing in corporate sector investment. In the unfavourable cyclical

Chart 70: Deviation of the consumption and export paths of each stress scenario from the baseline trajectory



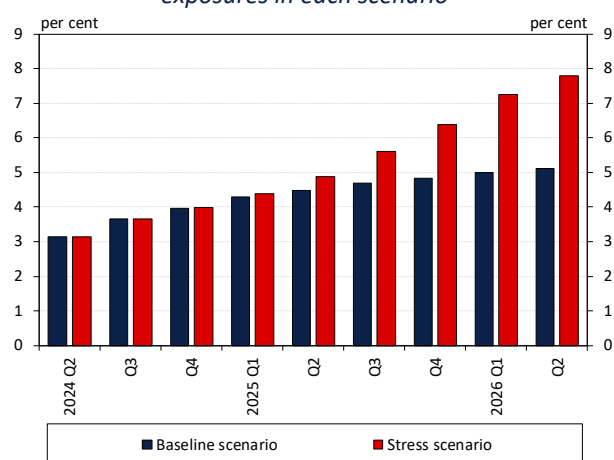
Source: MNB

Chart 71: Distribution of the household loss rate in the baseline scenario and the stress scenario



Note: Distribution of transaction-level values at the end (second year) of the stress test horizon. Source: MNB

Chart 72: Ratio of cumulative non-performing exposures in each scenario



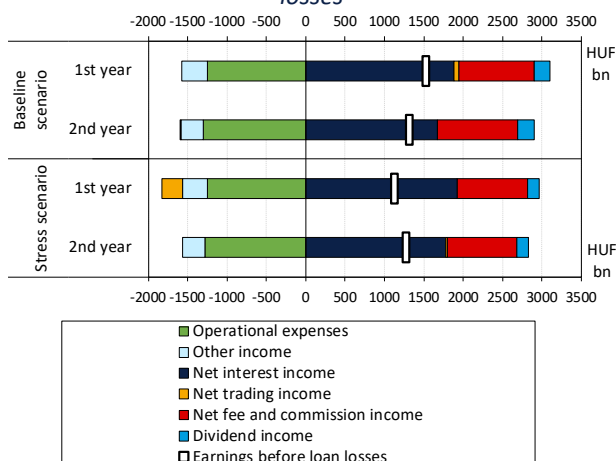
Note: The combined NPL projection of household and corporate exposures in the assumptions of the stress test scenarios. Source: MNB

situation, companies are forced to reduce their labour demand, leading to a sharp rise in unemployment and slower wage growth, as well as an overall decline in disposable income. Higher inflation and unfavourable labour market developments intensify households' precautionary motives, which entails an increase in the saving rate and a significant contraction in consumption. As a result, the overall GDP level in the stress scenario is reduced by nearly 12 per cent in the span of two years and the number of employed persons drops by nearly 178,000 over the two years of the stress scenario (Chart 69). In addition, in line with financial and real economy shocks, we expect a significant weakening of the forint exchange rate and a higher interest rate environment in the stress scenario.

In this round, an additional stress scenario of a different nature was also prepared. The alternative stress scenario (see Box 7 for details) has a different structure, as the shock is mainly transmitted through Hungary's external trade, with exports suffering the most pronounced decline on the demand side of GDP. As the shock in this scenario is entirely demand-driven, the falling GDP and lower inflation dynamics result in a lower interest rate environment compared to the baseline scenario. As a result, the contraction in consumption in this scenario is much more moderate than in our original stress scenario (Chart 70).

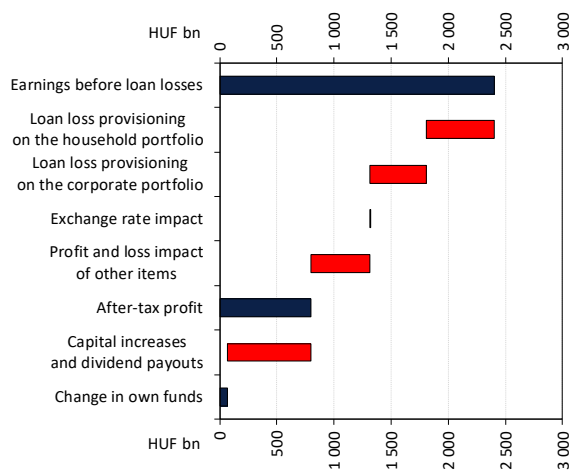
In the stress scenario, non-performing portfolios grow faster, and loan loss provisions are substantially higher. The risk assumptions in the stress scenario remained elevated in this round as well, both for the corporate and household segments; therefore, the nominal level of banks' credit losses in the stress scenario is similar to the results reported in spring. In addition to the assumptions related to the macroeconomic environment, the evolution of losses in the household segment continues to be driven by the phasing out of the interest rate cap: higher loan loss provisions are recognised for a specific group of customers due to their vulnerability stemming from increased debt servicing, which is applied after 2025 Q2. In addition, owing to the possible overvaluation of commercial real estate collateral (as described in Chapter 2), higher LGD parameters were applied to the affected bank portfolio. Thus, the overall stress scenario shows a substantial deterioration in the riskiness of both corporate and household loans (Chart 71), which, looking ahead, leads to significantly faster NPL accumulation compared to the baseline, and a rate of around 8 per cent in bank portfolios (Chart 72). By the end of the second year of the stress scenario, the additional loan loss provisioning for the

Chart 73: Developments in earnings items before loan losses



Note: Earnings before loan losses do not include loan loss provisioning and the impact of bank levy and windfall tax. Source: MNB

Chart 74: Changes in certain profit and loss items and own funds of the banking sector in the stress scenario



Note: Cumulative values over the two-year scenario. The profit and loss impact of other items consists of the following elements: NDIF, IPF and Resolution Fund fees, bank levy, windfall tax, capital needs of foreign subsidiaries and the tax liabilities of banking groups. The level of dividend payments is also influenced by profit and capital adequacy. Source: MNB

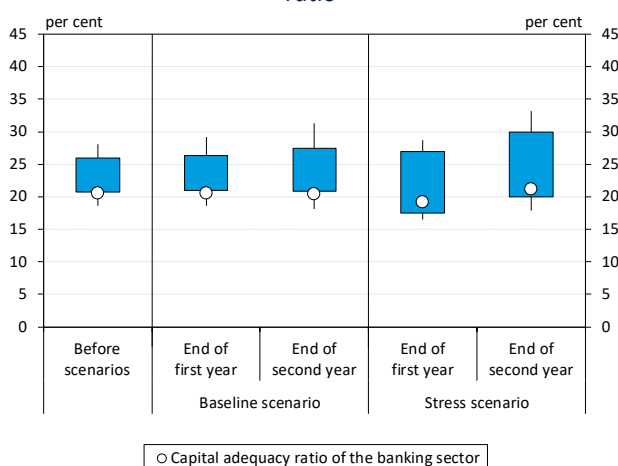
corporate portfolio is 3.6 per cent and 3.8 per cent for the household portfolio, as a percentage of each portfolio.

8.2. Shock resilience remains high in the falling interest rate environment of the baseline scenario

The considered stress events reduce the cumulative two-year sector-wide profit excluding credit losses by around HUF 450 billion. In the baseline scenario, we expect a continued but slower decline in the interest rate environment, which causes a gradual contraction in interest income (Chart 73). The reviving economic activity raises fee and commission income somewhat, while other earning items remain stable over time. The interest rate path applied in the stress scenario is significantly higher over the entire two-year period, but the net interest income of the stress scenario is only moderately higher (by approximately HUF 150 billion) than assumed in the baseline scenario. The reason for this is that higher interest rates raise the interest expenses on client deposits to such an extent that it is largely able to offset the increase in interest revenues on retail and corporate loans and the significant increase in the interest income from the central bank. The cumulative net trading income for the two-year period as a whole is more than HUF 300 billion lower in the stress scenario, a significant part of which can be attributed to the loss incurred – owing to higher interest rates – on assets carried at fair value. The stress reduces fee and commission income by nearly HUF 200 billion mainly due to subdued activity in the real economy. In the stress scenario, dividend income also differs significantly from the baseline: it could be more than HUF 100 billion lower due to the less favourable conditions.

In the stress scenario, significantly lower level of capital accumulation can be realised relative to the baseline scenario. The sector-level financial result in the two-year period of the stress scenario is reduced by a total of almost HUF 1,600 billion in credit losses and other items, also including the corporate income tax, the regular solidarity tax on financial institutions and the windfall tax. Accordingly, the cumulative after-tax result for the two years is around HUF 800 billion, which means that in the stress scenario the banking sector would lose about two thirds of its after-tax result compared to the baseline scenario. Shocks prevail at the beginning of the horizon, and the initial losses are only partially offset by slowly improving earnings items. In consideration of the forced dividend payment adjustment, banks can only accumulate

Chart 75: Distribution of banks by capital adequacy ratio



Note: Vertical line: 10–90 per cent range, rectangle: 25–75 per cent range. The sector-level average weighted by total risk exposure amount. Source: MNB

Table 5: Stress test results for various capital requirements

	Overall CET1 capital requirement*		Overall capital requirement*	
	Baseline scenario 2026 Q2	Stress scenario 2026 Q2	Baseline scenario 2026 Q2	Stress scenario 2026 Q2
Capital need of banks (HUF bn)	0.0	0.0	0.0	57.0
Average capital need of banks** (percentage points)	0.0	0.0	0.0	1.1
Capital buffer of banks above requirement (HUF bn)	2 250	2 138	1 297	1 404
Average capital buffer of banks** (percentage points)	7.3	7.8	4.2	6.3

Note: *Transitional capital requirements for each quarter. **TREA-weighted averages. Source: MNB

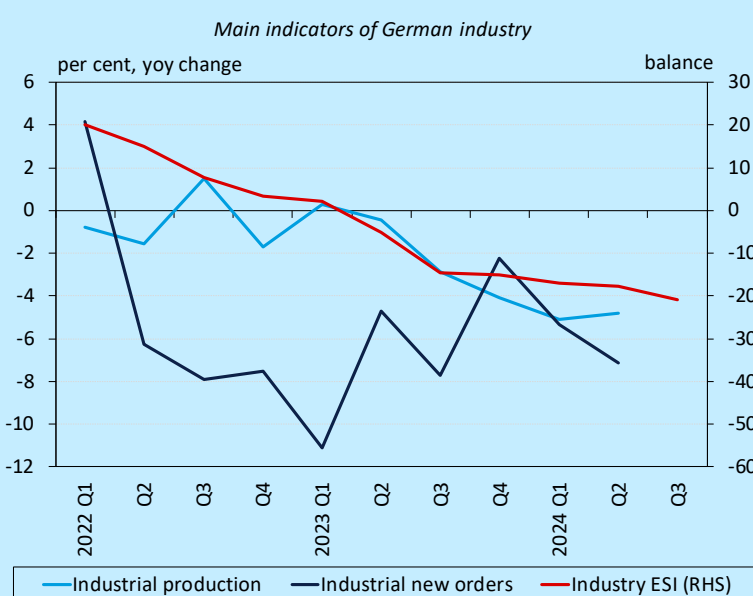
around one tenth of the capital of the baseline scenario over the two years of the stress scenario (Chart 74).

The lending capacity of the banking sector would not be impaired in the event of the postulated severe stress. The sector-level capital adequacy ratio of 20.6 per cent at the end of June 2024, including the interim unaudited profit, would remain at around 20 per cent both on the baseline and the stress scenario by the end of the two-year horizon of the stress test (Chart 75). Although the result drops slightly below 20 per cent by the end of the first year in the stress scenario, by the end of the second year we can see a more positive result compared to the baseline scenario. This reflects the more subdued credit growth of the dynamic balance sheet assumption, which implies a smaller total risk exposure amount (TREA). Maintaining the capital adequacy of the stress scenario at the sector level requires the halving of the dividend payment plans. Over the horizon of the stress test, all institutions meet the overall capital requirement (OCR) in the baseline scenario, but two institutions would experience capital shortfalls both in the first and second years of the stress scenario. However, the extent of the emerging capital shortages remains low (Table 5); therefore it can be concluded that the stress would result in a manageable level of capital shortfalls in the banking sector at most.

BOX 7: PRESENTATION OF THE ALTERNATIVE STRESS SCENARIO

The lessons of recent years indicate that the operating environment of the banking sector is simultaneously exposed to various risks. Consequently, testing the sector’s loss-absorption capacity in a range of stress scenarios may facilitate a comprehensive assessment of shock resilience. This is intended to enable us to examine the effects of potentially different macroeconomic shocks to the banking system from a macroprudential perspective, as these shocks may affect the earnings items of banks and other players of the sector in various ways. With multi-scenario analysis, our objective is to cover as many relevant risks as possible.

Global economic growth is still exposed to numerous risks, which may have a mixed impact on the earnings of the banking sector. The risks that are most relevant to the largest research firms⁷¹ and central banks around the world include the conflict in the Middle East, the war between Russia and Ukraine, and the resulting uncertainty about oil and commodity prices, which also undermine the overall global growth outlook. As this is the stress that is most likely to materialise, even our previously applied risk scenario included this global narrative, accompanied by a sharp increase in the risk premium as a supply shock in the domestic macro-financial environment. However, in addition to the most likely shock, shocks of a different nature may also be relevant, such as a demand-focused macroeconomic shock, and banks’ resilience to such shocks should also be tested.



The main focus of the alternative stress scenario presented in this box relates to the recent weakness in the economic performance of the euro area, and Germany in particular. Germany’s industrial output has deteriorated significantly recently, and according to data for August 2024, it is now 6.6 per cent below the average output recorded for 2021. In September, the manufacturing Purchasing Managers’ Index fell below the threshold in Germany, while the German industrial ESI sentiment indices and new industrial orders also declined steadily. The data point to problems in German industry, which, given its important role in the European economy, may be a major contributor to continuing weaknesses in euro area industrial output.

The structural problems of the German industry, which relies on cheap energy imports, are demonstrated by the fact that industrial output was falling even before the Russia–Ukraine war. The time-consuming transition to green energy and the rise of Chinese vehicle production also pose a risk to German exports in the medium term. Higher energy prices have undermined the competitiveness of the German economy, triggering a sharp fall in the output of energy-intensive German industries, while the deceleration observed in European economic activity and international trade has led to a contraction in external demand.⁷² In the context of European industrial output, yet another related risk has emerged: the performance of industries linked to electric car manufacturing has recently been subdued. Compared to last year’s average, the market share of electric cars within new car registrations decreased in 2024 Q2 in the European Union. Demand for batteries for electric cars influences Hungary’s export performance significantly as increasingly substantial

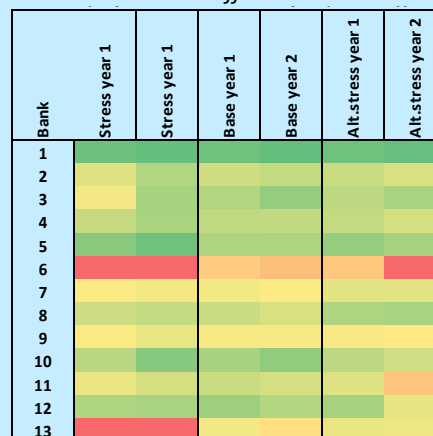
⁷¹ BofA Global Fund Manager Survey.

⁷² This alternative macroeconomic risk scenario is reflected in the MNB’s September 2024 Inflation Report; however, the scenario reviewed here differs in terms of the magnitude of the external shock. In addition, it also includes global financial risks. Moreover, the main focus here is on the implications for the banking sector.

capacity is being built to serve it. Demand for Hungarian-produced batteries in Germany, Hungary’s most important trading partner, fell by nearly 40 per cent in the first four months of the year compared to the same period last year. According to some analyses,⁷³ there is significant global excess capacity in the sector: by 2030, four times as many investment projects have been announced in the battery industry worldwide as is needed to meet expected market demand.

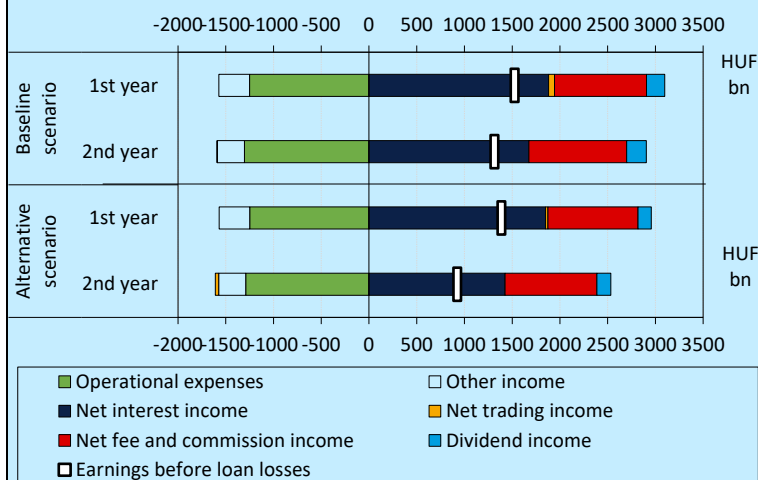
Owing to the demand-driven nature of the supplementary alternative stress scenario, both GDP and inflation may be lower than in the baseline scenario. A more severe decline in Germany’s industrial output would have a significant impact on the CEE region as a whole, as the manufacturing industries of these countries are typically linked to the German economy in numerous ways. In the event of a shock, Hungary’s industry (manufacturing, in particular) would sustain a significant setback due to spillover effects. The outlook for the industries concerned would be undermined even further by the risk associated with the electric car industry. In the first instance, the shock would significantly worsen Hungary’s export performance, to which firms would respond by postponing investment and reducing their demand for labour, ultimately leading to a surge in unemployment. In line with the adverse labour market developments, income levels would also fall, which in turn would lead to reduced consumption; consequently, we assume a sharp decline in GDP in this scenario as well, overall. A fall in aggregate demand would restrain price increases, and accordingly interest rate conditions in this stress scenario are looser than in the baseline scenario.

Heatmap of the relative size of capital buffers



Note: On the diagram, the values of the capital buffers are indicated with color codes: red for 0 or negative values, yellow for 2% values, and green for the global maximum. Source: MNB

Developments in earnings items before loan losses in the alternative stress scenario



Note: Earnings before loan losses do not include loan loss provisioning and the impact of bank levy and windfall tax. Source: MNB

The findings indicate that the differently composed stress scenarios affect banking sector participants heterogeneously. As shown in the heat map, some banks are more vulnerable to the interest rate path, while others, due to their portfolio composition, are more sensitive to macroeconomic assumptions that determine credit risk. The colouring used in the diagram allows for a quick interpretation of the state of the capital buffers: red indicates that the capital buffer of the institution would be in negative territory. A medium-sized bank, for example, would face a capital shortage in the main stress scenario, while no such problem would arise in the alternative stress scenario.

The opposite result can also be seen among participants of the sector: there is a large bank, for example, whose capital buffer is higher in the original stress scenario than in the baseline scenario, but lower than the baseline in the alternative stress scenario. At the sector level, the alternative stress scenario generates significantly lower credit losses, and in this context non-performing loans grow at a slower pace, similar to the baseline scenario. A similar trend can be seen for the after-tax result, which is over one third lower in the alternative stress scenario than in the baseline scenario, while the original stress scenario points to a decline by two thirds. That notwithstanding, by the end of the second year, the capital adequacy ratio of the banking

The opposite result can also be seen among participants of the sector: there is a large bank, for example, whose capital buffer is higher in the original stress scenario than in the baseline scenario, but lower than the baseline in the alternative stress scenario. At the sector level, the alternative stress scenario generates significantly lower credit losses, and in this context non-performing loans grow at a slower pace, similar to the baseline scenario. A similar trend can be seen for the after-tax result, which is over one third lower in the alternative stress scenario than in the baseline scenario, while the original stress scenario points to a decline by two thirds. That notwithstanding, by the end of the second year, the capital adequacy ratio of the banking

⁷³ Source: Bloomberg.

sector – ranging at around 20 per cent over the entire horizon – and the capital requirements of banks with capital shortages are similar to the original stress scenario, with no considerable improvement compared to it.

In summary, despite the uniformly applied assumptions, the individual sensitivity of the sector's players largely depends on the specific characteristics of the banks' respective balance sheets. **Consequently, we will place great emphasis in the future on multi-scenario studies and the heterogeneity of the sector's participants.**

LIST OF CHARTS

<i>Chart 1: Inflation trends by country and region</i>	8
<i>Chart 2: Expected interest rate paths for the central banks of developed countries based on market pricing</i>	9
<i>Chart 3: Real GDP growth projections of the IMF for 2024 and 2025</i>	9
<i>Chart 4: Annual change in gross fixed capital formation in EU Member States</i>	9
<i>Chart 5: Level of government debt and changes in interest burden in the EU Member States</i>	10
<i>Chart 6: Annual credit dynamics in the private sector and net interest margin trends in the European Union</i>	10
<i>Chart 7: Valuation of commercial real estate</i>	10
<i>Chart 8: NPL ratio of the EU banking system in the total loan portfolio and in selected corporate sectors</i>	11
<i>Chart 9: Volume indices of domestic investments by sector</i>	12
<i>Chart 10: Annual change in working age population and number of persons employed in the private sector</i>	12
<i>Chart 11: Annual change in nominal and real house prices</i>	15
<i>Chart 12: Deviation of house prices from the estimated level justified by fundamentals</i>	16
<i>Chart 13: Housing Affordability Index and contributing factors</i>	16
<i>Chart 14: The role of lending in housing market turnover</i>	17
<i>Chart 15: Investment volume and prime yields in the Hungarian commercial real estate market</i>	17
<i>Chart 16: Development activity and vacancy rate in the Budapest office market</i>	18
<i>Chart 17: Distribution of collaterals of project loans secured by commercial real estate by the change in collateral values</i>	19
<i>Chart 18: Annual growth rate of corporate loans in the credit institution sector</i>	22
<i>Chart 19: Evolution of the corporate loan portfolio by currency</i>	23
<i>Chart 20: Changes in the SME loan portfolio in the main sectors</i>	23
<i>Chart 21: New corporate loans in the credit institution sector</i>	24
<i>Chart 22: Interest rates on the outstanding corporate loan portfolio and on new loans</i>	24
<i>Chart 23: Distribution of corporations' bank loans outstanding by interest rate coverage</i>	25
<i>Chart 24: Developments in the FCI, MFCI and the inflationary shadow</i>	25
<i>Chart 25: Changes in corporate loan demand</i>	26
<i>Chart 26: Main factors limiting the production of domestic firms</i>	26
<i>Chart 27: Aggregate cash holdings of SMEs and large corporations</i>	27
<i>Chart 28: Forecast for corporate lending</i>	27
<i>Chart 29: Household loan transactions of credit institutions</i>	28
<i>Chart 30: New household loans in the credit institution sector</i>	29
<i>Chart 31: Number of newly concluded housing loan contracts, new housing loan customers and their average loan amounts</i>	29
<i>Chart 32: Household lending forecast</i>	30
<i>Chart 33: Distribution of the annual percentage rate of charge for newly disbursed market-based housing loans</i>	33
<i>Chart 34: Financing costs of new market-based housing loans</i>	33
<i>Chart 35: Financing costs of new personal loans</i>	34
<i>Chart 36: Newly disbursed personal loans in the credit institution sector by income and DSTI</i>	34
<i>Chart 37: Main risk indicators of new housing loan contracts and borrowers</i>	35
<i>Chart 38: Average housing loan amounts</i>	35
<i>Chart 39: Non-performing corporate loans of the credit institutions sector</i>	39
<i>Chart 40: Cumulative number of liquidation procedures within a year by sector</i>	40
<i>Chart 41: Share of Stage 2 and Stage 3 loans in the corporate sector and their loan loss coverage</i>	40
<i>Chart 42: Quality of the project loan portfolio secured by commercial real estate properties</i>	41
<i>Chart 43: Guarantee portfolio by Stage categories</i>	41
<i>Chart 44: Non-performing household loans of the credit institutions sector</i>	42
<i>Chart 45: Development of the portfolio cleaning rate</i>	42

<i>Chart 46: Share of Stage 2 and Stage 3 loans of the household sector and their loan loss coverage</i>	43
<i>Chart 47: Loan loss coverage by product type</i>	43
<i>Chart 48: Credit institution sector's profit after tax in H1 (raw and filtered from volatile and one-off items)</i>	44
<i>Chart 49: Distribution of credit institutions by the 12-month rolling return on equity after tax</i>	45
<i>Chart 50: Annual changes in the after-tax profit components of the credit institution sector</i>	45
<i>Chart 51: Components of quarterly interest income</i>	46
<i>Chart 52: Result of revaluations and its components</i>	47
<i>Chart 53: Raw and filtered RoA for the credit institution sector and its items relative to total assets</i>	47
<i>Chart 54: Main factors affecting profitability in 2024</i>	48
<i>Chart 55: Composition of the consolidated capital adequacy ratio of the banking sector</i>	48
<i>Chart 56: Distribution of banks by the level of free capital above the overall capital requirement</i>	49
<i>Chart 57: MREL compliance of the banking sector</i>	49
<i>Chart 58: The MNB's effective policy rate, the 3-month BUBOR and government bond yields</i>	53
<i>Chart 59: Decomposition of banks' operative liquidity reserves</i>	54
<i>Chart 60: Breakdown of the liquidity of the banking system at the central bank</i>	54
<i>Chart 61: Decomposition of the banking system's gross swap portfolios and net swap position</i>	55
<i>Chart 62: Compliance of the banking sector with liquidity and financing requirements</i>	55
<i>Chart 63: Average annualised interest rate and maturity structure of non-financial corporations sector HUF deposits and development of the 3-month BUBOR</i>	56
<i>Chart 64: Average annualised interest rate and maturity structure of household HUF deposits</i>	56
<i>Chart 65: Share of household and corporate foreign currency deposits and the loan-to-deposit ratio by denomination</i>	56
<i>Chart 66: Aggregate systemic impact of stress components</i>	57
<i>Chart 67: Distribution of banks according to the LCR ratio before and after stress</i>	58
<i>Chart 68: Liquidity Stress Index</i>	58
<i>Chart 69: Annual growth rate of real GDP in each scenario</i>	61
<i>Chart 70: Deviation of the consumption and export paths of each stress scenario from the baseline trajectory</i>	62
<i>Chart 71: Distribution of the household loss rate in the baseline scenario and the stress scenario</i>	62
<i>Chart 72: Ratio of cumulative non-performing exposures in each scenario</i>	62
<i>Chart 73: Developments in earnings items before loan losses</i>	63
<i>Chart 74: Changes in certain profit and loss items and own funds of the banking sector in the stress scenario</i>	63
<i>Chart 75: Distribution of banks by capital adequacy ratio</i>	64

LIST OF TABLES

<i>Table 1: Summary table of the baseline scenario from the Inflation Report (September 2024)</i>	11
<i>Table 2: Main features of the Hungarian commercial real estate market's segments</i>	18
<i>Table 3: Impact of specific government measures on profitability</i>	46
<i>Table 4: Main parameters of the liquidity stress test</i>	57
<i>Table 5: Stress test results for various capital requirements</i>	64

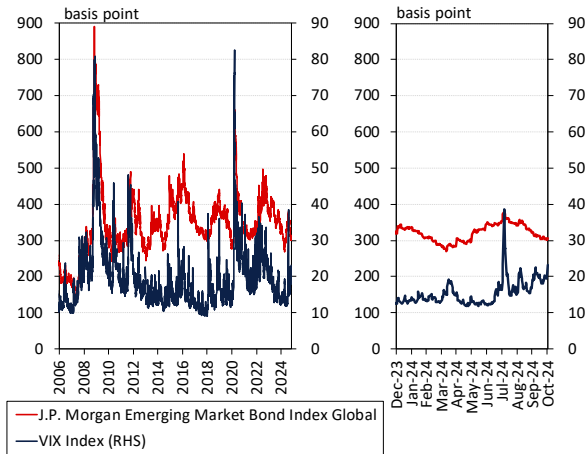
ABBREVIATIONS

AT1	Additional Tier 1 Capital	SME	Small and Medium-Sized Enterprises
AVHGA	Agricultural Business Credit Guarantee Foundation	HCSO	Hungarian Central Statistical Office
IPF	Investor Protection Fund	LCR	Liquidity Coverage Ratio
IFR	Interbank Funding Ratio	LR	Leverage Ratio
BGRLP	Baross Gábor Reindustrialisation Loan Program	MNB	Central Bank of Hungary
CCoB	Capital Conservation Buffer	MREL	Minimum Requirement for own funds and Eligible Liabilities
CCyB	Countercyclical Capital Buffer	NTCA	National Tax and Customs Administration
CET1	Common Equity Tier 1	FGS	Funding for Growth Scheme
HPS	Home Purchase Subsidy Scheme for Families	BGS	Bond Funding for Growth Scheme
FEER	Foreign Exchange Coverage Ratio	NPL	Non-performing loan
	Discount Treasury Bill	NSFR	Net Stable Funding Ratio
FFAR	Foreign exchange Funding Adequacy Ratio	O/N	Overnight
EBA	European Banking Authority	NDIF	National Deposit Insurance Fund
EEA	European Economic Area	OCR	Overall Capital Requirement
EC	European Central Bank	OECD	Organisation for Economic Co-operation and Development
ESRB	European Systemic Risk Board	OLR	Operative Liquidity Reserve
EU	European Union	O-SII	Other Systematically Important Institutions' Capital Buffer
FDI	Foreign Direct Investment	FCI	Financial Conditions Index
Fed	Federal Reserve Bank	RICS	Royal Institution of Chartered Surveyors
FVOCI	Fair Value through Other Comprehensive Income	RoA	Return on Assets
FVTPL	Fair Value through Profit and Loss	RoE	Return on Equity
GHG	Garantiqa Credit Guarantee Ltd	SyRB	Systemic Risk Buffer
G-SII	Globally Important Institutions' Capital Buffer	SCP	Széchenyi Card Programme
HAI	Housing Affordability Index	T2	Tier 2 Capital
LTV	Loan-to-Value	APR	Annual Percentage Rate of Charge
IMF	International Monetary Fund	CAR	Capital Adequacy Ratio
RHS	Right-hand scale	TREA	Total Risk Exposure Amount
MFAR	Mortgage Funding Adequacy Ratio	GHP	Green Home Programme
DSTI	Debt service to income	CRE	Commercial Real Estate
CEE	Central and Eastern Europe	RRE	Residential Real Estate

APPENDIX: MACROPRUDENTIAL INDICATORS

1. Risk appetite

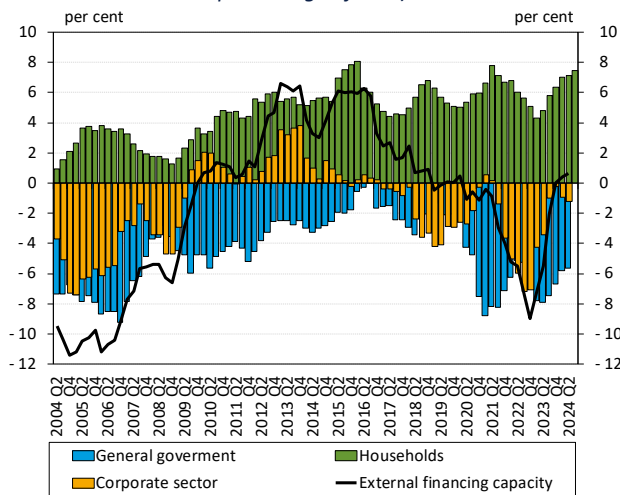
Chart 1: Primary risk indicators



Source: Bloomberg

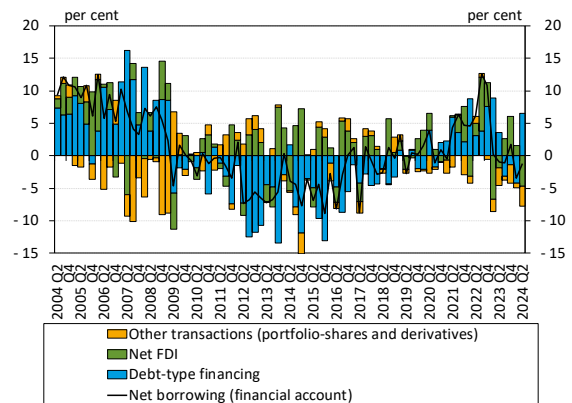
2. External balance and vulnerability

Chart 2: Net lending of the main sectors (four quarter values as a percentage of GDP)



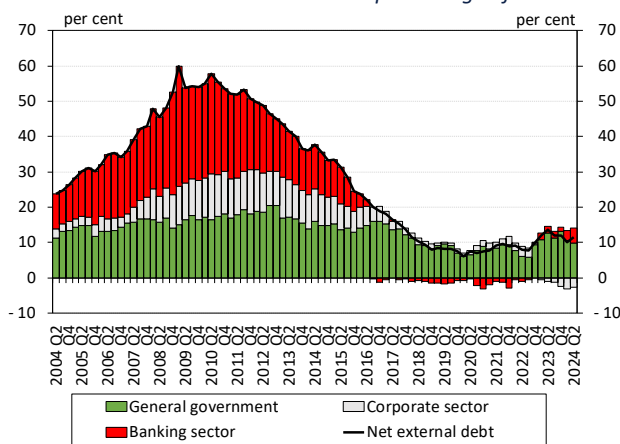
Source: MNB

Chart 3: Net borrowing and its financing as a percentage of GDP



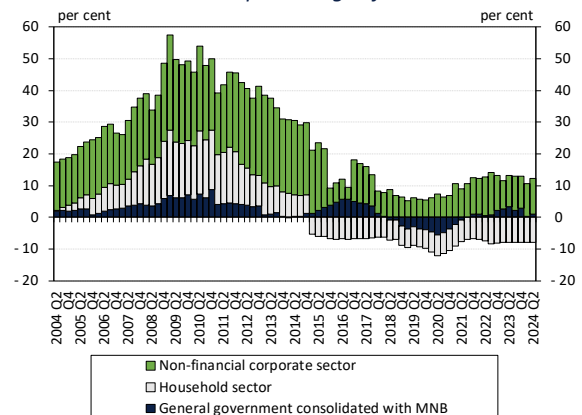
Source: MNB

Chart 4: Net external debt as a percentage of GDP



Source: MNB

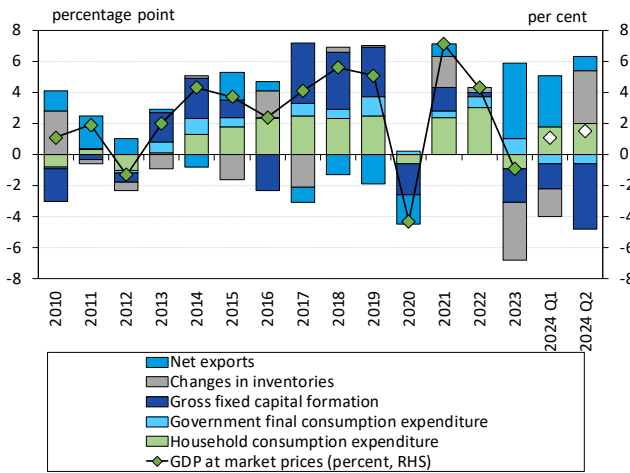
Chart 5: Open FX position of the main sectors in the balance sheet as percentage of GDP



Source: MNB

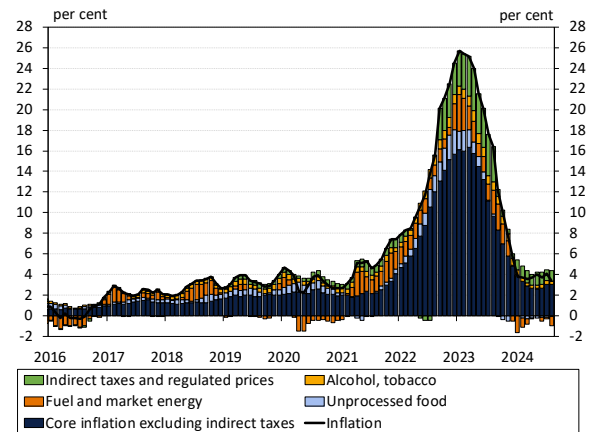
3. Macroeconomic performance

Chart 6: Annual change in decomposition of expenditure-side GDP



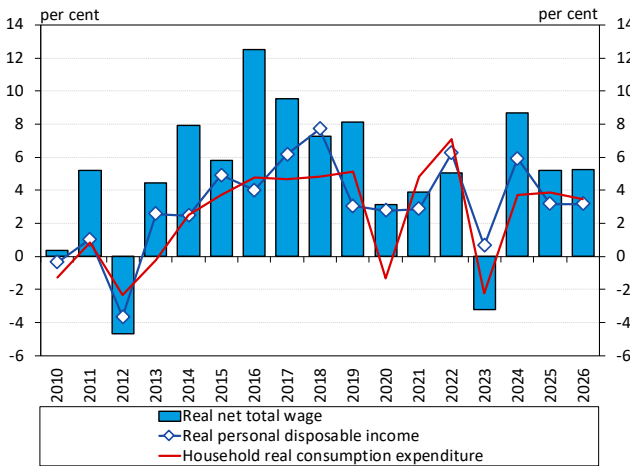
Source: HCSO, MNB

Chart 7: Decomposition of inflation



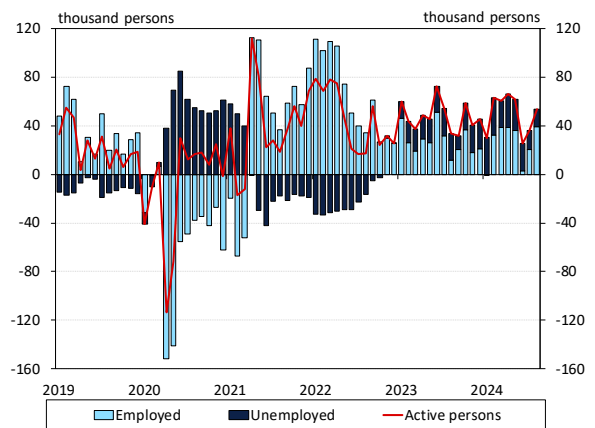
Source: MNB-calculation

Chart 8: Annual changes in net total wage, personal disposable income and household consumption expenditure in real terms



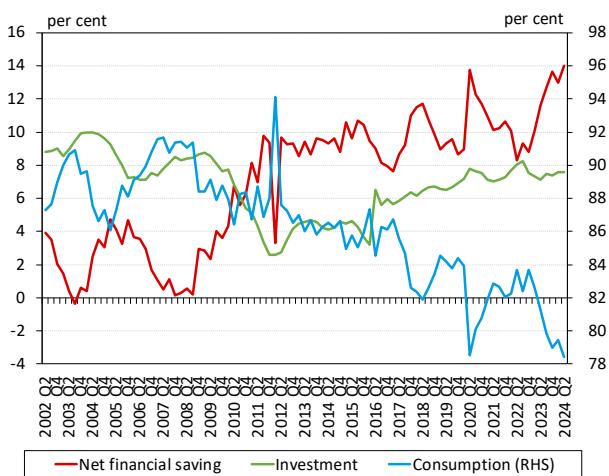
Source: HCSO, MNB

Chart 9: Decomposition of annual changes in the labour force participation



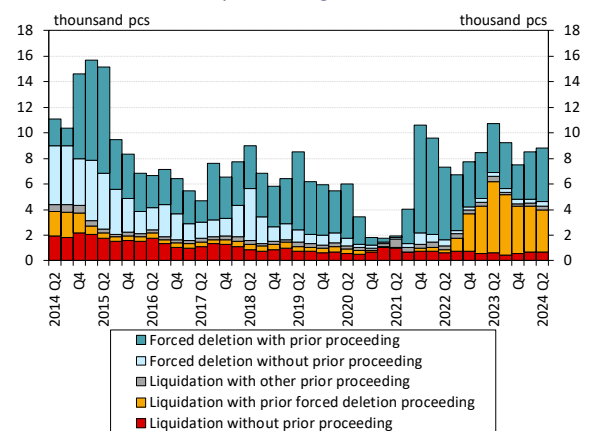
Source: HCSO

Chart 10: Distribution of the households' disposable income by use



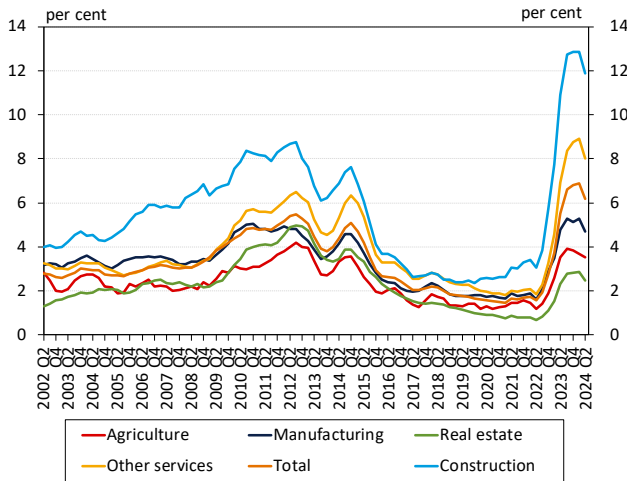
Source: HCSO, MNB

Chart 11: The number of starting liquidation and forced deletion proceedings announced



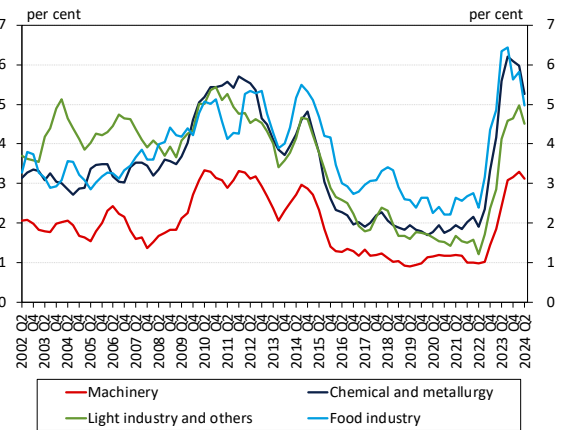
Source: Opten

Chart 12: Sectoral bankruptcy rates



Source: Opten, MNB, NTCA

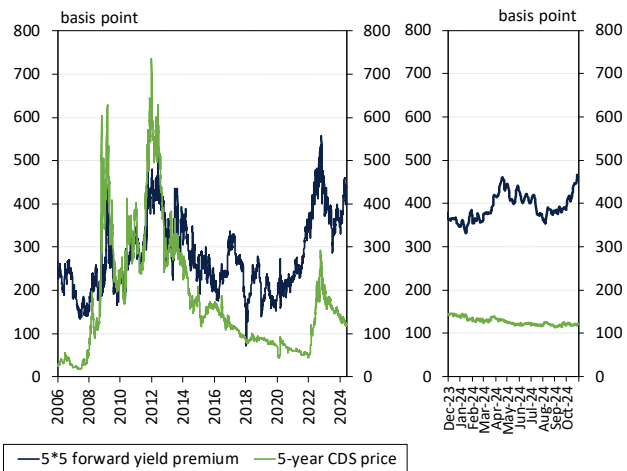
Chart 13: Bankruptcy rates for the subsets of manufacturing industry



Source: Opten, MNB, NTCA

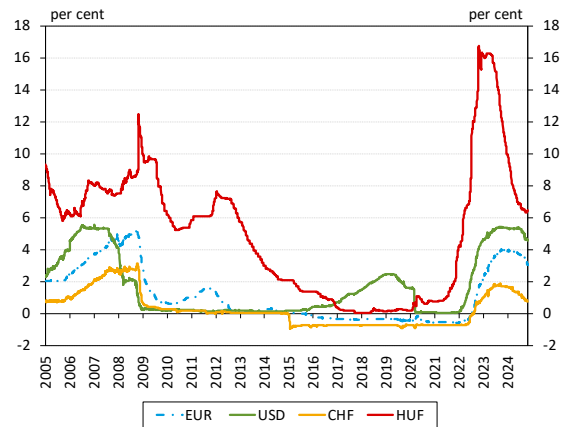
4. Monetary and financial conditions

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



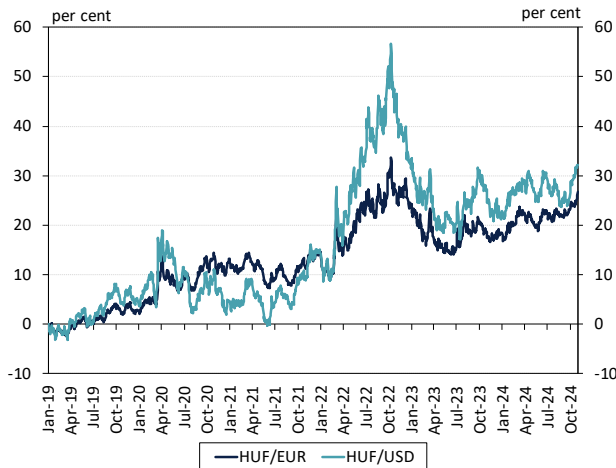
Source: Reuters, Bloomberg

Chart 15: Three-month EUR, USD, CHF and HUF money market interest rates



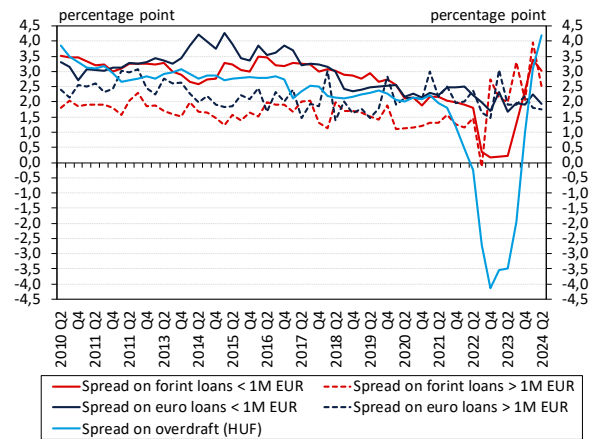
Source: Bloomberg

Chart 16: HUF/EUR and HUF/USD exchange rates changes compared to 2 January 2019



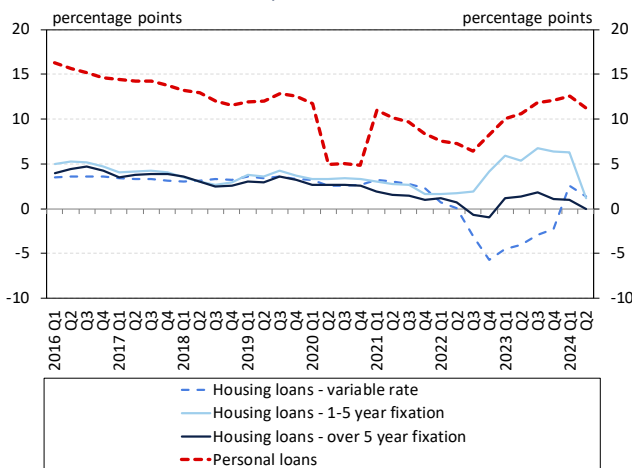
Source: Reuters

Chart 17: Interest rate spreads on new corporate loans



Source: MNB

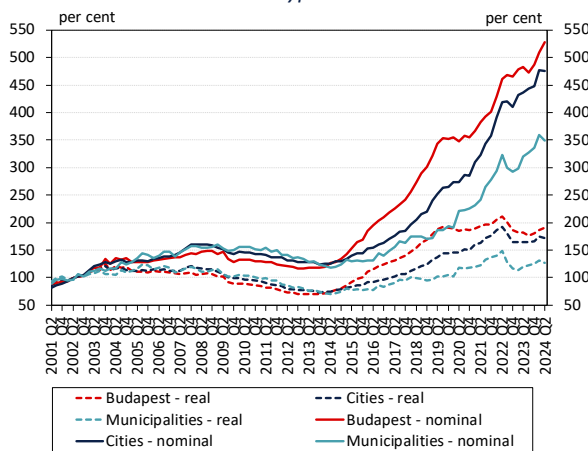
Chart 18: APR-based spreads on new household loans



Source: MNB

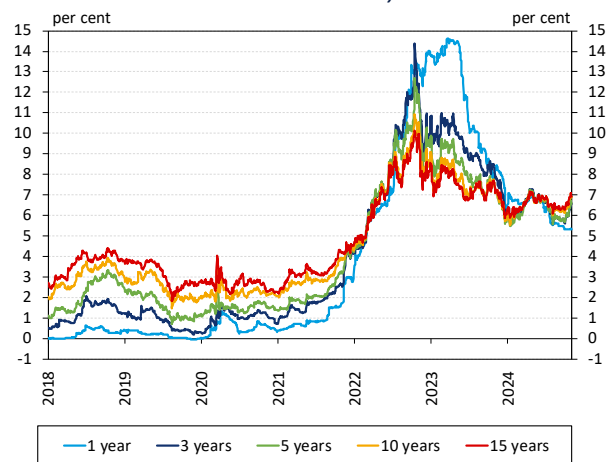
5. Asset prices

Chart 19: MNB house price index breakdown by settlement type



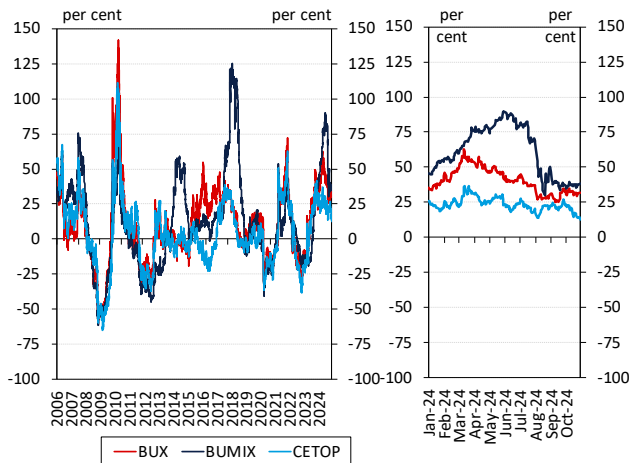
Source: MNB

Chart 20: Benchmark yields



Source: Government Debt Management Agency

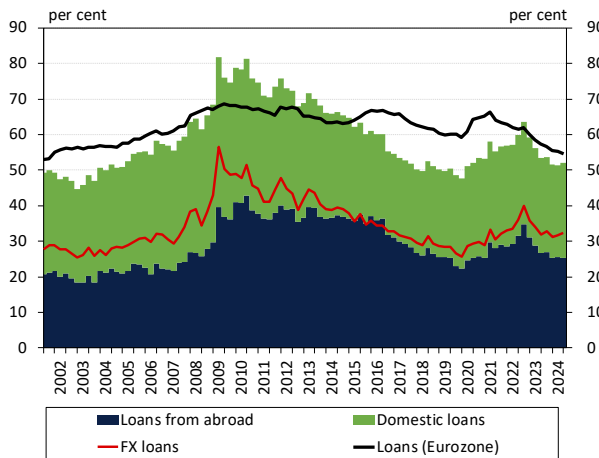
Chart 21: Annual yield of key Hungarian and Central and Eastern European stock market indices



Source: BSE

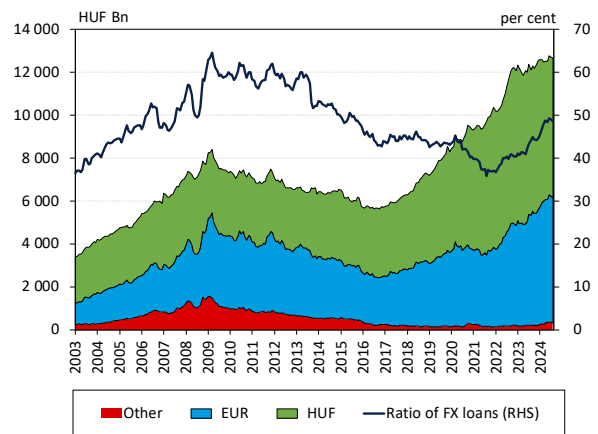
6. Risks of the financial intermediary system

Chart 22: Indebtedness of non-financial corporations as percentage of GDP



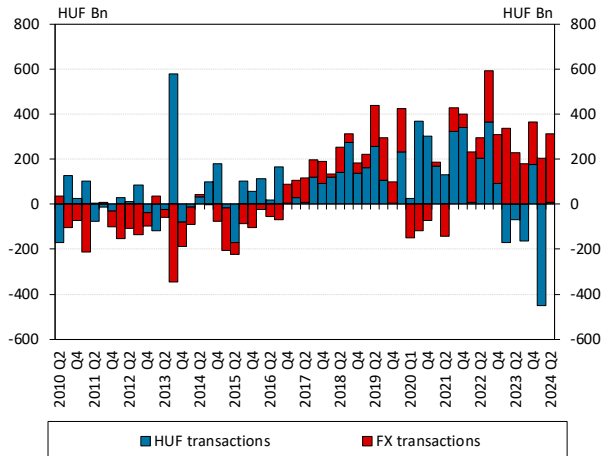
Source: MNB, ECB, Eurostat

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



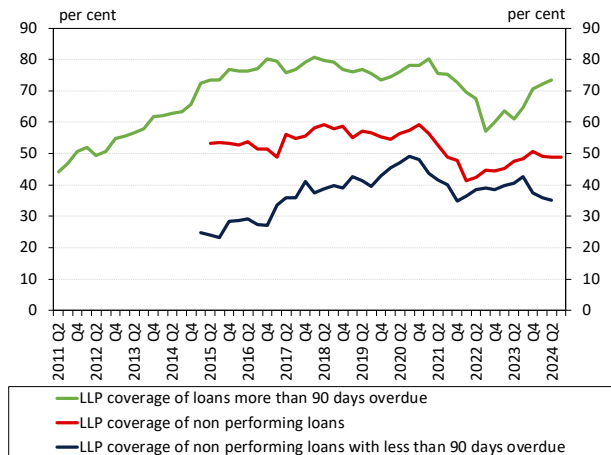
Source: MNB

Chart 24: Credit transactions to the non-financial corporate sector by denomination



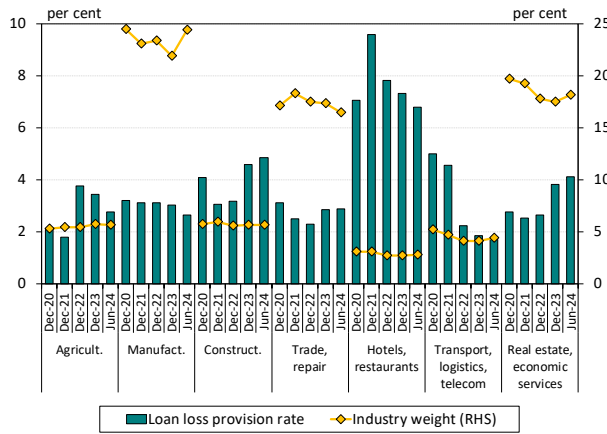
Source: MNB

Chart 25: Loan loss coverage ratio for non-performing corporate loans in the credit institutions sector



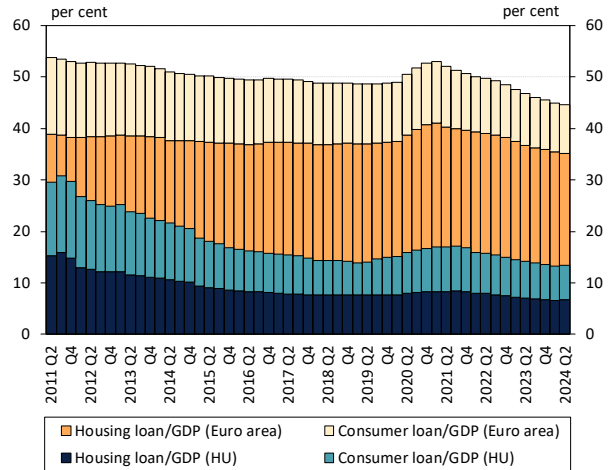
Source: MNB

Chart 26: Provisioning on loans of non-financial corporations by industry



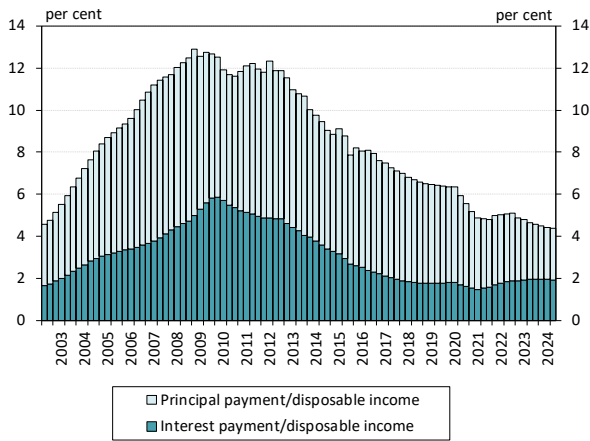
Source: MNB

Chart 27: Indebtedness of households



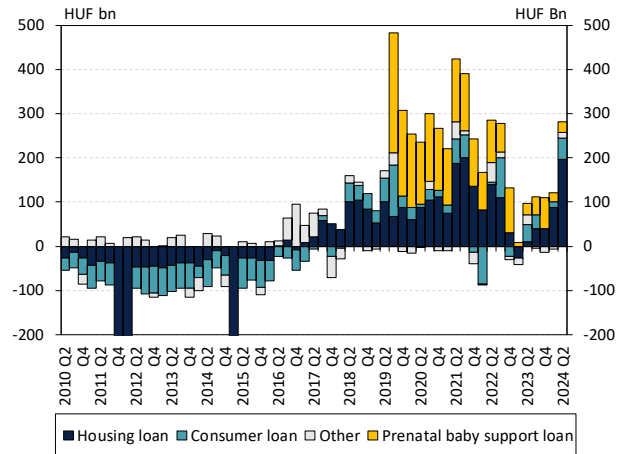
Source: MNB, ECB

Chart 28: Debt service burden of the household sector



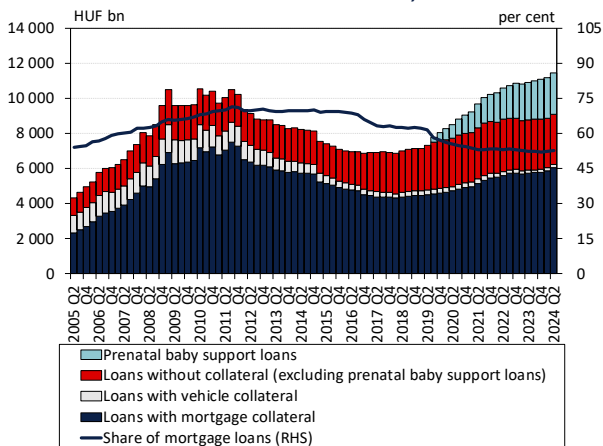
Source: MNB

Chart 29: Quarterly transactions of the household loan portfolio by loan purpose



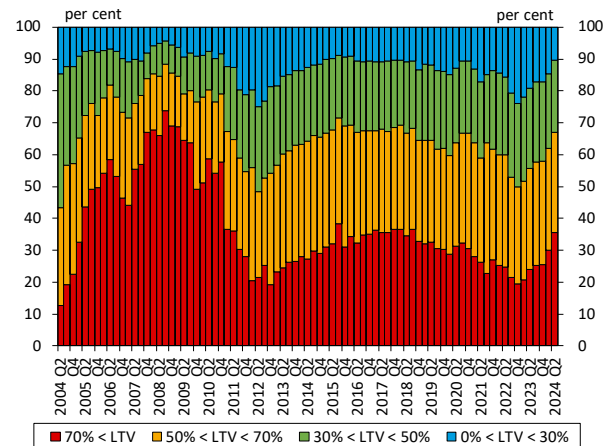
Source: MNB

Chart 30: Household loans distribution by collateralisation



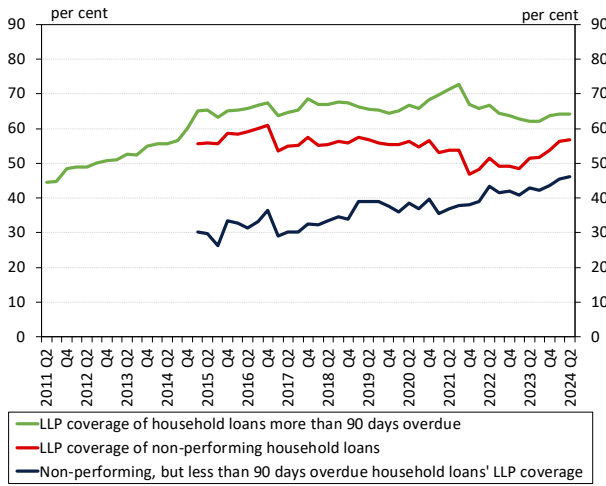
Source: MNB

Chart 31: Distribution of new housing loans by LTV



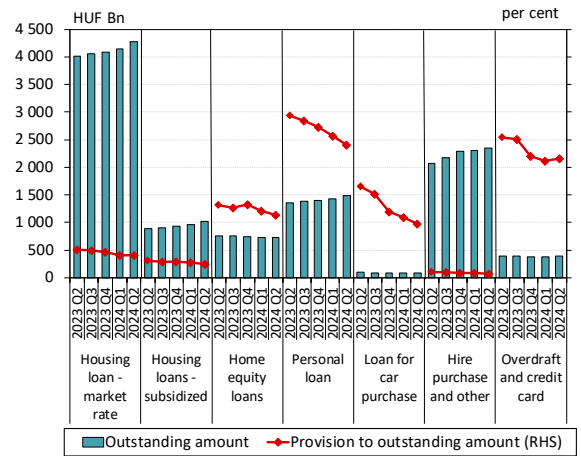
Source: MNB

Chart 32: Loan loss coverage ratio of non-performing household loans



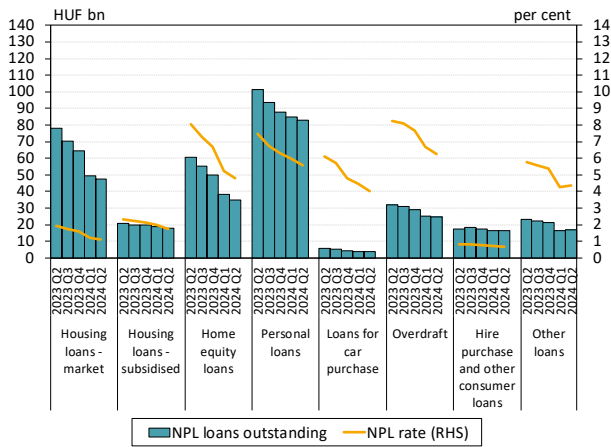
Source: MNB

Chart 33: Provisioning on household loans of financial institutions



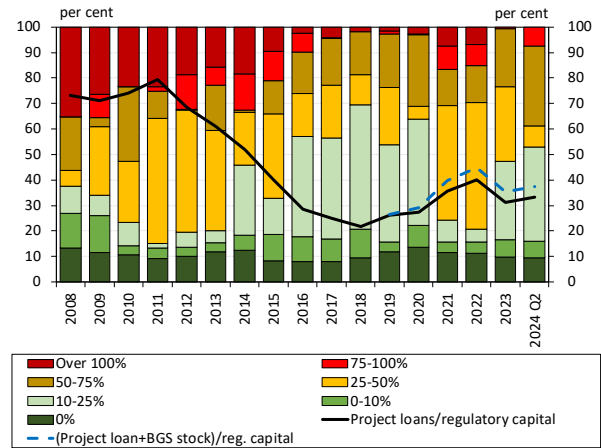
Source: MNB

Chart 34: Non-performing household loans by product type



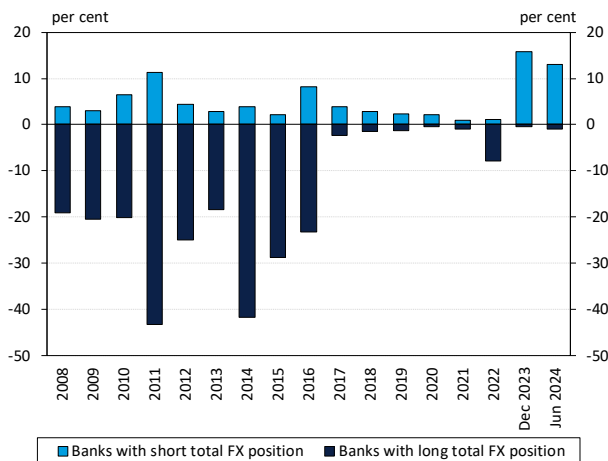
Source: MNB

Chart 35: Distribution of credit institutions by project loan stock-to-regulatory capital ratio



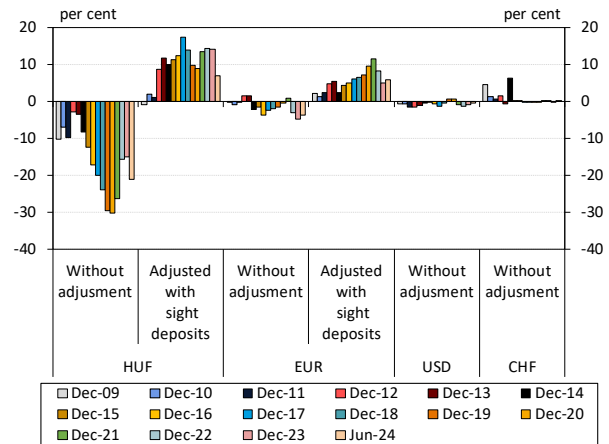
Source: MNB

Chart 36: The exchange rate exposure of the banking sector



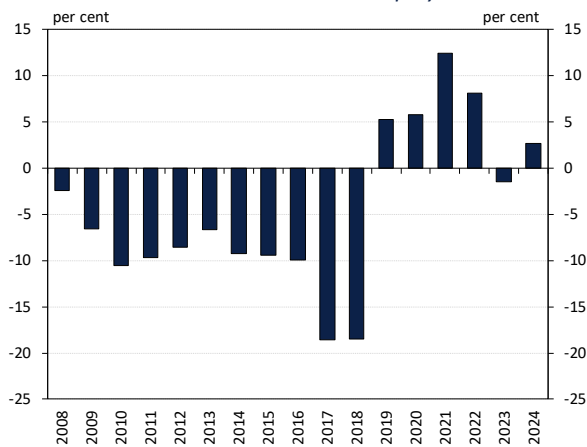
Source: MNB

Chart 37: 90-day re-pricing gap of the banking sector



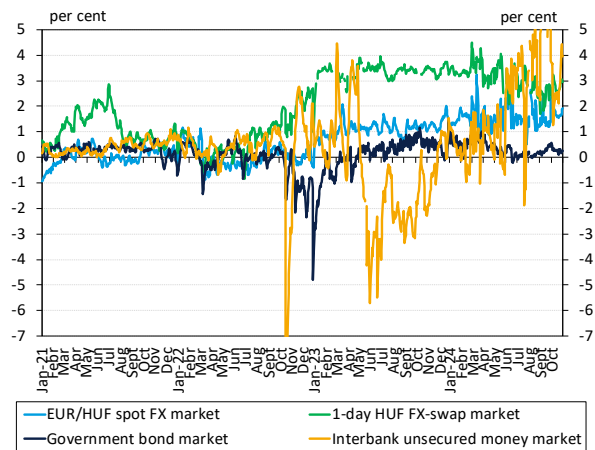
Source: MNB

Chart 38: Estimated maximum loss based on interest rate risk stress tests relative to equity



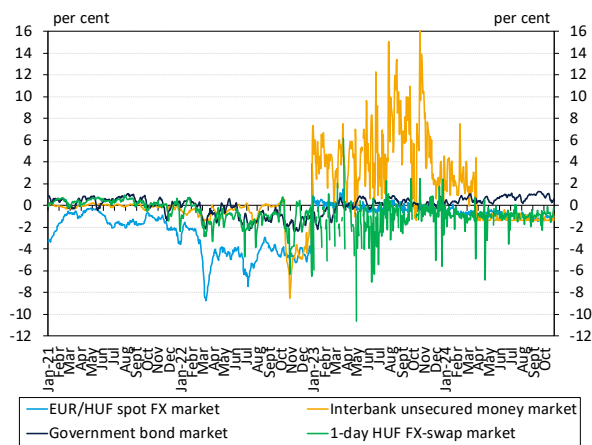
Source: MNB

Chart 39: Liquidity indices of sub-markets



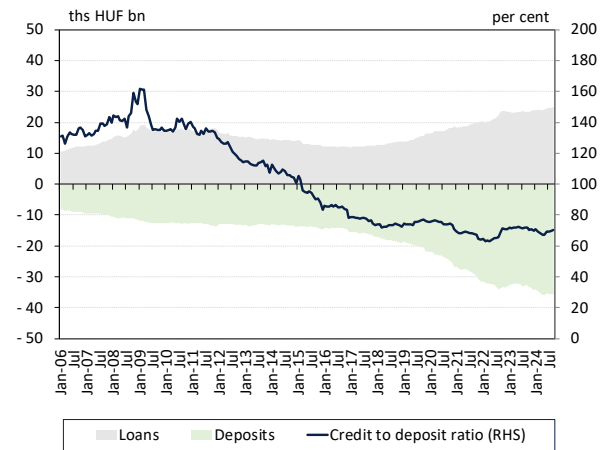
Source: MNB, KELER, Bloomberg

Chart 40: Liquidity sub-indices of bid-ask spreads of the major domestic financial markets



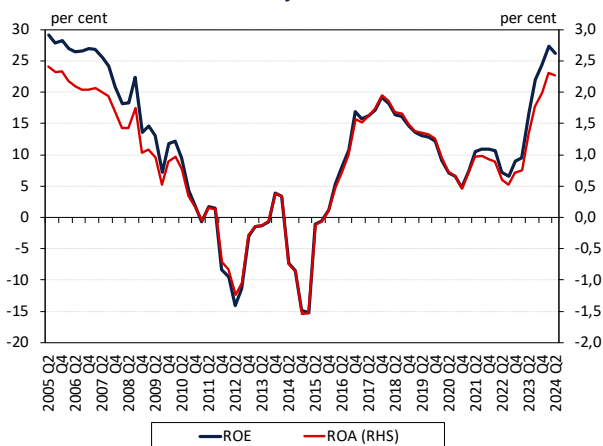
Source: MNB, KELER, Bloomberg

Chart 41: Loan-to-deposit ratio of the banking sector



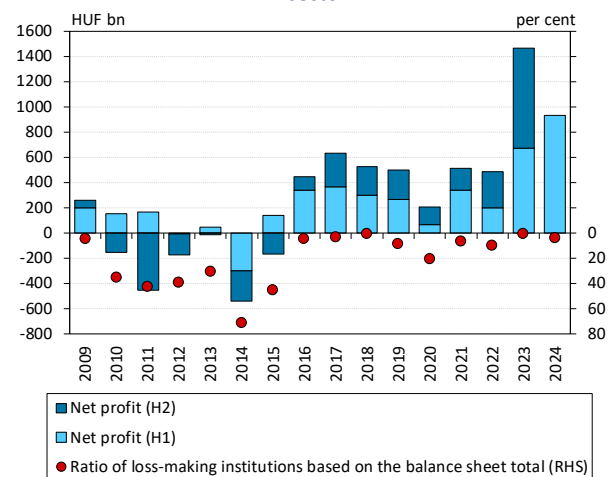
Source: MNB

Chart 42: ROA and ROE of the credit institution sector



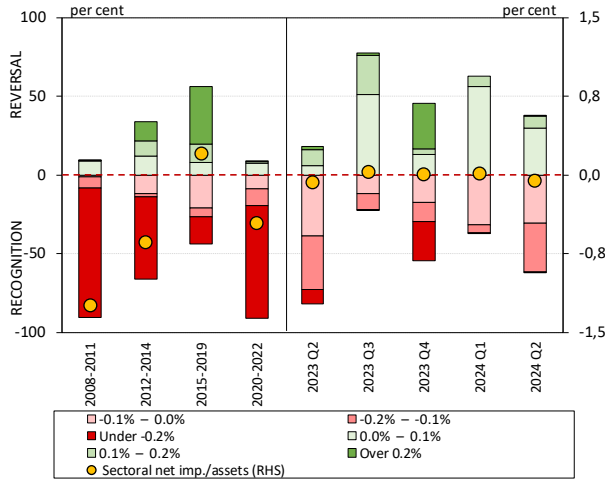
Source: MNB

Chart 43: After-tax profit and loss of the credit institutions sector



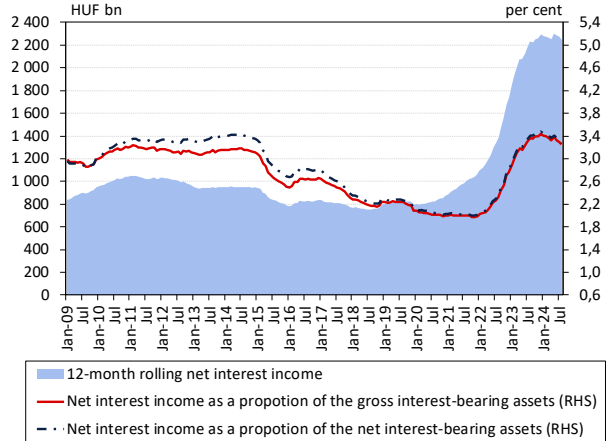
Source: MNB

Chart 44: Distribution of credit institutions based on total assets according to the quarterly net impairment recognition in proportion to assets



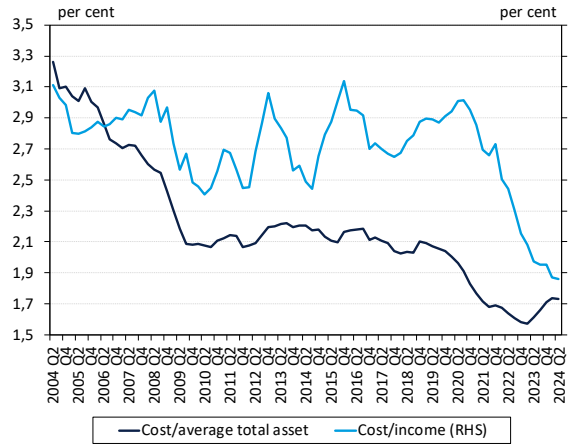
Source: MNB

Chart 45: Net interest income as a proportion of the gross and net interest bearing assets in the credit institution sector



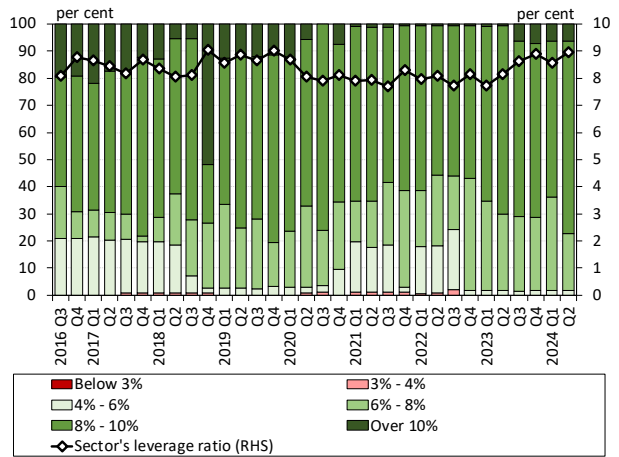
Source: MNB

Chart 46: Operating efficiency indicators of the banking sector



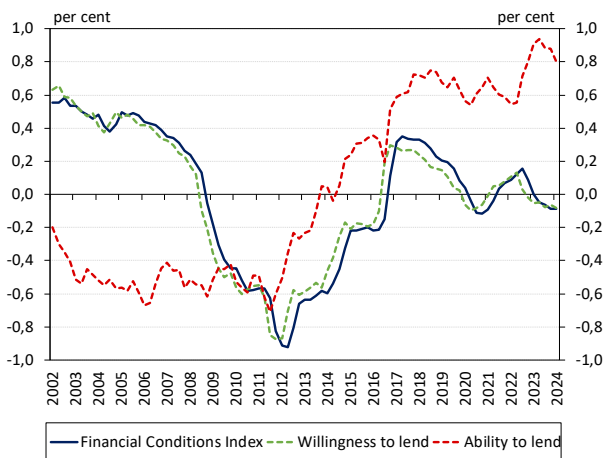
Source: MNB

Chart 47: Distribution of total exposure amount based on institutions' leverage ratio



Source: MNB

Chart 48: The Financial Conditions Index



Source: MNB

Notes to the appendix

The chart date (e.g. 2020) 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. VIX: implied volatility of S&P 500.

Chart 3:

The fundamental development of debt is not influenced by the conversion between unallocated and bullion balances, thus this effect has been excluded.

Chart 4:

Excluding intercompany loans.

Chart 5:

The open FX position of households has turned because of the FX conversion. The compensation of this is shown at banks temporarily, then it was got to the consolidated state with the MNB.

Chart 6:

Government final consumption expenditure includes final consumption expenditure of general government and nonprofit institutions. Changes in inventories includes acquisitions less disposals of valuables.

Chart 8:

Based on the forecast of the September 2024 Inflation Report.

Chart 10:

Disposable income is estimated by the MNB using household consumption, investment and financial savings data. Based on the September 2024 Inflation Report..

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. It also includes economic organizations subject to liquidation proceedings from bankruptcy, voluntary liquidation and forced deletion proceedings.

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. It also includes economic organizations subject to liquidation proceedings from bankruptcy, voluntary liquidation and forced deletion proceedings.

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:

Spread on the 3-month BUBOR and EURIBOR. Loans with variable interest rate or with up to 1-year initial rate fixation. From 2015, based on data net of money market loans exceeding EUR 1 million.

Chart 18:

In the case of variable-rate loans or ones with up to 1-year rate fixation, APR-based smoothed spread over the 3-month BUBOR, while in the case of loans fixed for a period longer than one year, the APR-based smoothed spread over the corresponding IRS.

Chart 19:

2002 average = 100 per cent.

Chart 22:

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

Chart 26:

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

Chart 29:

Seasonally unadjusted net change in outstanding amounts, with rolling exchange rate adjustment. To obtain the growth rate, we also took into consideration the repayments received by Sberbank between March and August 2022. The transactions contain the effect of the foreign currency loan settlement in 2015.

Chart 31:

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

Chart 35:

Non-consolidated data for the credit institutions sector excluding affiliates, by balance sheet total. Based on the project loan stock under the CRR definition of project loans until 2019, and based on a broader project loan definition from 2020 onwards; use of the broader definition results in a 28 per cent higher project loan stock in 2023 Q4 compared to the CRR definition. From 2019 onwards, data increased by BGS stocks include BGS bond holdings related to real estate sector in addition to project loans.

Chart 37:

From December 2019, the values for the security portfolio, the IRS portfolio, as well as for loans and liabilities were calculated on a cashflow basis instead of a contract basis. In addition, for loans and liabilities, from December 2019 onwards, we could only take into account the remaining maturities, not the time remaining until repricing.

Chart 38:

The interest rate risk stress test indicates the two-year 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 calculating the results, from December 2019 onwards, we applied the interest rate risk model detailed in Box 10 of the December 2019 Financial Stability Report. While for earlier calculations we assumed shocks of each currency's yield curve, for these new calculations we only assumed the shock-like upward shift of the HUF curve.

Chart 39:

Each aggregate liquidity index of a sub-market is the unweighted average of exponential moving averages normalized by the mean and standard deviation of the values of four sub-indices (number of transactions, average transaction size, bid-ask spread, and return to volume indices) between 2013 and 2017. An increase in the aggregate liquidity index indicates an increase in the liquidity of the given sub-market.

Chart 40:

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 41:

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 42:

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 43:

Based on non-consolidated data.

Chart 44:

Green categories indicate net impairment reversals, and red categories indicate net impairment recognition. For the periods between 2008-2011, 2012-2014, 2015-2019 and 2020-2022, institutions are counted with their average balance sheet total in the category according to their average net impairment formation in proportion to assets.

Chart 45:

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 46:

Cost: previous 12 months. Income: previous 12 months. Average total asset: mean of previous 12 months.

Chart 47:

Based on the fully phased-in definition of Tier 1 capital. The categories indicate the level of the leverage ratio, i.e. of the ratio of T1 capital to the total exposure amount used for the calculation of the indicator. For 2020 Q3, numerical data and data on an exposure basis are only available for 75 per cent and 84 per cent of banks, respectively.

Chart 48:

Positive values represent a larger contribution to economic growth compared to the cyclical position of the economy, while negative values represent a smaller contribution.

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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