Macroprudential Commentary

June 2024

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Summary

- The financial cycle downswing is easing.
- The volume of new mortgage lending has remained largely unchanged for about a year and a half. As for consumer credit, its growth trend is also stable. Lending rates have decreased slightly but are still dampening loan demand.
- Growth in loans to NFCs has slowed, owing mainly to firms' reduced demand for borrowing.
- Housing prices have not moved significantly since the summer of last year. Housing affordability is gradually improving, but remains relatively low.
- Despite the new bank levy consuming part of their profits, banks in Slovakia have continued performing profitably in 2024. The banking sector's total capital ratio reached its highest level in 20 years during the first quarter of this year.

Also in this edition:

No change in the CCyB rate

The financial cycle downswing is approaching its end. Although still ongoing, the downswing was far weaker in the first quarter of this year than last year. Mortgage growth has remained steady, as reflected in the housing market, where prices have remained largely unchanged for more than a year. Consumer credit has likewise been recording stable growth. As for loans to non-financial corporations (NFCs), their growth has continued to moderate. Given the subdued demand for loans, excessive risks associated with the financial cycle are not emerging. In this context, there is no need at present to increase the countercyclical capital buffer rate.

Although the volume of non-performing loans has risen slightly in recent months, it remains low. Banks' loan loss provisioning is below the levels normal in non-crisis periods. Recent stress test results[1] have confirmed that the risks present in the commercial real estate and household sectors necessitate keeping the CCyB rate at its current level. There is therefore no reason at present to release the buffer, which would become necessary only if banks had to cover credit losses to a greater extent.

Expectations for the CCyB rate in the the next quarter

Current trends in the credit and housing markets, as well in the banking sector, are considered to be sustainable. There is no expectation of a faster accumulation or immediate materialisation of risks.

Hence, Národná banka Slovenska (NBS) does not envisage having to adjust the countercyclical capital buffer (CCyB) rate in the next quarter.

CCyB rate:
1.50%

ECB recommends no easing of macroprudential policy

In a statement[2] published on 28 June 2024, the Governing Council of the European Central Bank (ECB) called on national macroprudential authorities not to release existing capital buffers and to ensure no easing of lending standards. The ECB supports national authorities planning to increase capital buffer requirements, as several risks, although somewhat reduced, still remain.

These include in particular risks associated with higher debt servicing costs and with potential overvaluation of housing prices, as well as geopolitical risks and increased cyber risks.

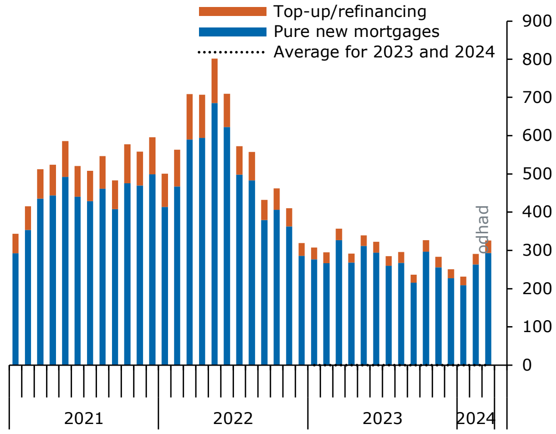
[1] The stress test results are described in more detail in NBS's May 2024 Financial Stability Report.

[2] The Governing Council's statement on macroprudential policies, available at: https://www.ecb.europa.eu/press/govcstatement/html/ecb.govcstatement202406~32c180b631.en.html.

Stable mortgage and consumer credit origination

New mortgage lending maintained a stable pace in the first months of 2024. The annual growth rate for new mortgages was no longer slowing, and its level of 2.9% in both March and April was above the EU median. The number and amount of new mortgages did not change significantly. However, interest rate fixation periods are shortening,[3] likely due to expectations of monetary policy easing. The average interest rate on new mortgages fell slightly from the peak it reached in late 2023.[4]

Chart 1 New mortgage flows are stable
Pure new mortgages and mortgage top-ups/refinancing (EUR millions)



Source: NBS.

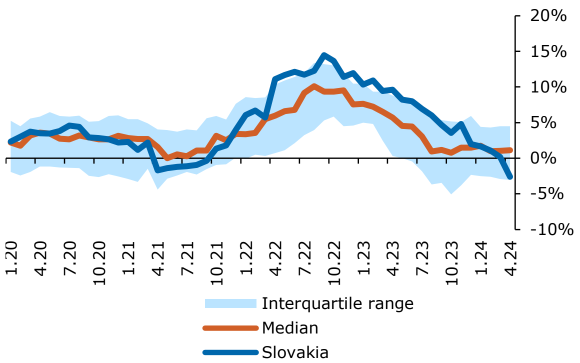
Consumer credit origination has also stabilised. The flow of new consumer credit in the first four months of 2024 was only slightly higher compared with the same period of the previous year.[5] The annual growth rate of consumer credit is hovering close to 7.9%. As with mortgage growth, Slovakia is reporting one of the highest consumer credit growth rates in the EU. Interest rates on new consumer credit have decreased slightly.[6]

Default indicators continue to indicate exceptionally favourable levels of loan servicing. In both the mortgage and consumer credit portfolios, the non-performing loan (NPL) ratio is close to historically low levels.[7]

Decline in firms' demand for bank loans

The downtrend in corporate revenues continued in the first quarter of 2024.[8] The revenue decline was due mainly to slowdowns in the industry and construction sectors. Domestic demand, on the other hand, had an upward impact on revenues, with both the retail trade and services sectors reporting revenue growth.

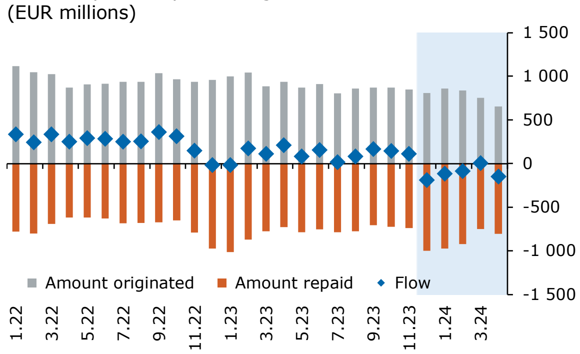
Chart 2 Decline in total NFC loans
Annual growth in loans to NFCs in Slovakia and across the EU (percentages).



Sources: NBS, and ECB SDW.

Annual growth in loans to NFCs has fallen into negative territory. The total volume of NFC loans was 2.6% lower in April 2024 than in the same month of the previous year. Annual growth in loans to firms has been on a downward trend for more than a year. The banking sector's total NFC loan portfolio ended April more than one billion euro lower than its historical high of September 2023 (representing a decline of 4.8%). In the months up to that point, however, the rate of decline was intensifying. In the first three quarters of 2023, the slower growth was due mainly to the normalisation of strong lending activity, and the flow of new loans into the portfolio was positive; however, from the fourth quarter, there were an increasing number of months in which the volume of loans repaid exceeded the volume originated. The slowdown in corporate lending is greater than the EU average.

Chart 3 NFC loans recorded negative month-on-month flows
Absolute year-on-year change in total NFC loans (EUR millions)



Sources: NBS, and Register of Bank Loans and Guarantees (RBUZ).
Notes: The chart shows the three-month moving average of each indicator.

The decline in firms' demand for bank financing has been reflected in negative loan flows to NFCs in 2024. The drop in demand has been most apparent in regard to working capital financing. Financing needs for fixed investment have also declined. The negative flows result from a decline in new corporate borrowing as well as from an increase in the repayment rate for existing NFC loans, as firms are not only making their regular loan payments, but also prepaying excess borrowings. The volume of NFC loans originated in the period from February to April 2024 was almost one-third lower compared with the same periods in 2023 and 2022.

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[3] The share of new mortgages with an interest rate fixation period of up to four years increased from 30% in 2023 to 57% in the first quarter of 2024. Conversely, there was a decline in the previously dominant share of new mortgages with a fixation period of more than five years.

[4] The interest rate on new mortgages peaked in January and February 2024 (at 4.7%), and by April it had fallen slightly (to 4.6%).

[5] While the first two months of the year indicated an acceleration of lending growth, March and April saw growth rates below those recorded in the same period of the previous year.

[6] The average interest rate on new consumer credit fell from 10.2% in December 2023 to 9.6% in April 2024.

[7] The NPL ratio for mortgages has long been at 1.1%, while the NPL ratio for consumer credit stood at 7.0% in April 2024. Forward-looking indicators do not point to any change in the near future.

[8] In real terms, overall revenues for the first three months were 2.8% lower year-on-year, while in nominal terms they were down by 4.7%.

The contraction in lending volume has been most notable in lending to industry and lending to large enterprises. Indeed, 90% of the total decline in new lending to firms was accounted for by the large corporates segment.[9] A weakening of large firms' demand for loans was seen across several significant sectors. Growth in loans to small and medium-sized enterprises (SMEs) also slowed.[10] Lending to micro firms did not change significantly. From a sectoral perspective, more than half of the decline occurred in industry,[11] followed by the sectors of energy supply and commercial real estate (CRE). In the case of the CRE sector, there has been a sharp drop in financing of new development projects.[12]

The decline in corporate lending is due to firms' lower demand, not to banks making borrowing more difficult

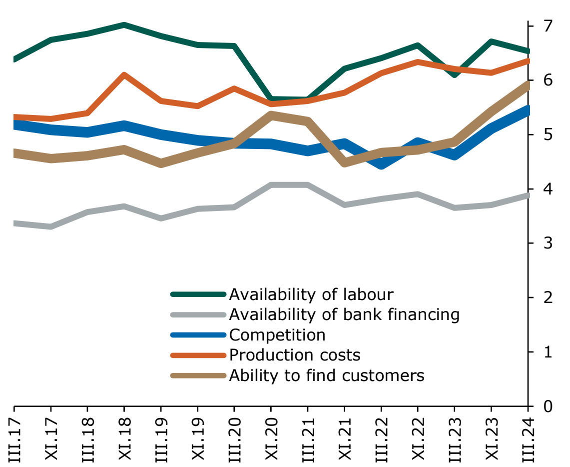
The lending slowdown stems mainly from firms themselves experiencing weakening customer demand. According to a firm-level survey,[13] finding customers is becoming a growing problem for Slovak firms, as is increasing competition to some extent. Moreover, the difficulties in finding customers are more pronounced in Slovakia than elsewhere in the EU. In this context, firms have lower financing needs, particularly in respect of fixed investment or new product development.

In addition to their sales problems, firms' appetite for loans is also being dampened by borrowing costs, which are now far higher than they were in the past. According to the survey, an increasing share of firms report higher interest rates as discouraging them from further borrowing.[14]

From a financial stability perspective, it is important that the weaker flow of credit is not due to obstacles created by banks. Most firms have no difficulty in obtaining the financing they need and in the full amount applied for. The share of firms reporting that their loan application was rejected or that the loan amount they were granted was less than applied for remains low.

Chart 4 Insufficient customers and competitive pressure are a growing problem

Firms' average rating of the severity of the problems they face (on a scale from 1 to 10)

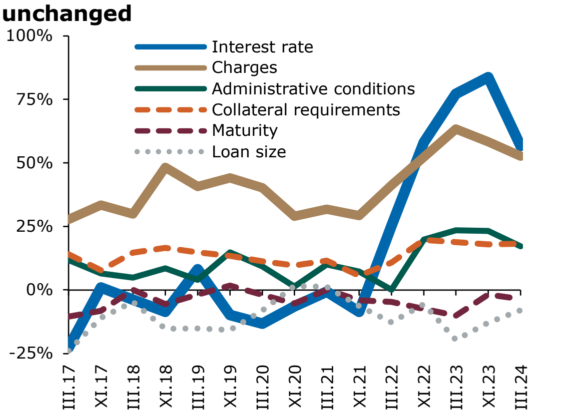


Source: ECB.

Notes: The data were collected in March and September of the respective year.

Furthermore, virtually the only significant change in financing conditions is the higher interest rate. Other financing conditions, including maturity, size of available loan, or collateral requirements have not changed notably.

Chart 5 It is mainly the cost of financing that is rising; other conditions remain largely unchanged

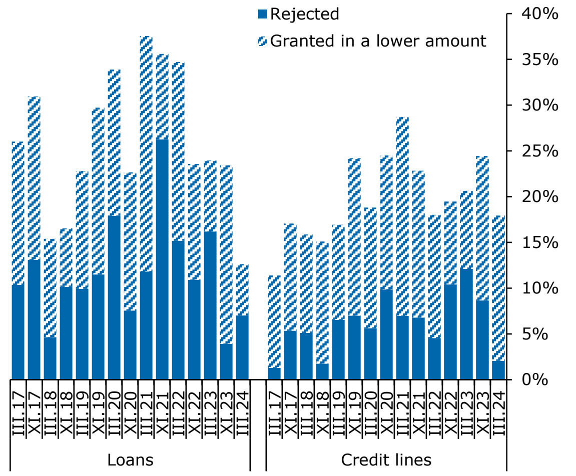


Source: ECB.

Notes: The chart shows the difference between the percentage of firms reporting a tightening of a given condition and the percentage reporting an easing.

The data were collected in March and September of the respective year.

Chart 6 Share of firms whose loan application was rejected or granted in a lower amount



Source: ECB.

Notes: The data were collected in March and September of the respective year.

[9] Annual growth in loans to large firms slumped to -10%.

[10] Annual growth in loans to SMEs increased by 2.4 pp year-on-year, while compared with March 2024 their growth rate slowed by 2.7 pp.

[11] Lending to industry declined across all firm size categories.

[12] In terms of both their volume and number, approved investment frameworks in 2023 were only half the level of those in 2021 and 2022. The signs from the first part of 2024 are that they will be even lower this year.

[13] The Survey on the Access to Finance of Enterprises in the euro area is conducted by the ECB, with the data for Slovakia drawn from a sample of more than 500 firms. From 2024 the survey is conducted on a quarterly basis, after previously being conducted on a half-yearly basis.

[14] This share has increased over the past two years, from 8% to 16%.

The housing market has not changed significantly for almost a year

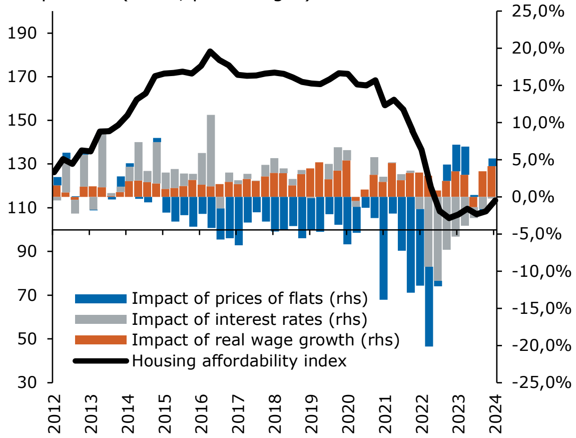
Housing market developments have been stable since the summer of 2023. Prices of flats at the end of the first quarter of 2024 were still almost 4% lower than a year earlier and around 10% lower compared with the summer of 2022. Most of the decline in housing prices occurred, however, in the first half of 2023, and prices have been generally stable since the summer of that year. These trends stem from weakened demand, which is also reflected in the credit market.

Housing market stability has been seen across Slovakia regions and market segments. In five regions, prices of flats were slightly lower in May 2024 than a year earlier, while in the other three regions,[15] they showed a moderate increase. Price stagnation was seen across different size categories of flats (according to number of rooms), with prices remaining unchanged or falling slightly year-on-year. The only exception was in the prices of larger flats (with five or more rooms), as these recorded a sharper annual decline. The market's stagnation is associated largely with a lower number of transactions. The number of flats on the market was stable in the first five months of 2024, but it was lower in year-on-year terms. Because of ongoing elevated interest rates, monthly interest payments on mortgage-financed flats are, on average, higher than rental payments.

A stable trend has also been observed in the new-build market, with asking and selling prices of flats in Bratislava in the first quarter of 2024 being 1% lower than a year earlier. At the same time, however, the supply of new-build flats increased by around one-fifth year-on-year. There are signs of recovery, as the number of sales of new flats was significantly higher compared with previous quarters.[16] On the other hand, residential construction remains subdued. The number of building permit issuances for apartment buildings was lower in the first quarter than in any quarter for the previous six years.[17]

Real wage growth and stagnating housing prices have translated into a slow improvement in housing affordability. Even so, housing affordability has increased only slightly and remains at low levels compared with previous years. The decline in housing prices and growth in household income have not reached the point where they can offset the increase in borrowing costs and the impact of the housing price surge of recent years.

Chart 7 Housing affordability remains at low levels despite improvement
Evolution of the housing affordability index and its components (index; percentages)

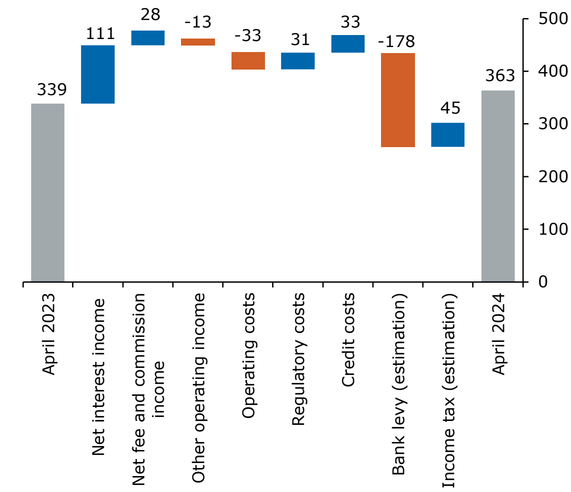


Sources: NBS, SO SR, and United Classifieds.

Banks' profitability still at record levels

The Slovak banking sector's profitability for the first four months of 2024 was slightly above its level for the previous year. The sector's net profit for the first four months amounted to €363 million, representing a year-on-year increase of 7%. However, the factor having the main impact on the sector's profit so far this year has been the introduction of the bank levy, which together with the corporate income tax, equated to around 40% of banks' pre-tax profit for the first four months.[18] Banks payments to the state budget for that period were therefore €133 million higher year-on-year.

Chart 8 Net interest income still driving the banking sector's profit growth
The banking sector's net after-tax profit and contributions to the profit's year-on-year change (EUR millions)



Source: NBS.

The profit growth was due entirely to foreign bank branches, whose aggregate profit almost doubled. For banks established in Slovakia, the aggregate profit remained unchanged.[19] The branches managed to translate an increase in customer deposits in late 2023/early2024 into profits exceeding those of banks.[20] While their strategy of increasing the return on excess liquidity is more successful in the short term, it comes at the price of making branches more sensitive to the expected decline in interest rates. Overall, branches also outperformed traditional banks in the area of costs, as

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15 Bratislava, Košice, and Trnava regions.
16 The number of sales doubled, year-on-year, in the first quarter of 2024.
17 Source: Statistical Office of the Slovak Republic (SO SR).
18 For banks whose annual pre-tax profit reaches the minimum threshold for liability to the bank levy (€3 million), the effective rate of the bank levy and regular corporate taxation for 2024 is expected to be 44.7%.
19 The aggregate profit of foreign bank branches increased, year-on-year, from €29 million to €54 million (by 87%), while banks established in Slovakia saw their overall profit decline by €1 million, to €309 million.
20 Given subdued credit growth and increases in customer deposits and securities issued, branches were able to increase returns on excess liquidity to a greater extent through short-term interbank deposits, while banks invested more heavily in long-term securities.

their aggregate costs declined to greater extent; however, this was not a systemic trend and rather stemmed from one-off events at individual branches.[21]

As regards the credit quality of banks' loan portfolio, no significant change has occurred since the end of 2023. From mid-2023 there was a trend decline in the volume of Stage 2 loans, while the volume of non-performing loans (NPLs) rose moderately. In April this trend corrected slightly, but whether that result marks a trend shift or is simply a blip will only be revealed in the months ahead.

Banks continued to increase their resilience, and the sector's total capital ratio rose to 20.4% by the end of March 2024. The improvement in their capital adequacy in the first quarter of 2024 was driven by risk weight reductions at individual banks.[22] Capital growth was no more than catching up with developments from previous quarters. The overall retention rate for 2023 earnings stood at 46%, similar to the retention rates of previous years. But despite the increase in capital adequacy, the banking sector's capital headroom after taking into account all parallel capital ratios decreased, quarter-on-quarter, from 3.2% to 2.9%.[23]

The near historical highs of domestic banks' capital adequacy implies they are well prepared for successful implementation of the new Basel III capital rules. This bank regulation package is to be gradually phased into effect from the start of 2025, with its purpose being to strengthen banks' resilience against future crises. Its most discussed component is the introduction of the 'output floor', which is a measure that sets a lower limit (floor) on the risk-weighted assets (RWAs) calculated by banks using their internal models. This ensures that the RWAs do not fall below a set percentage of the RWAs calculated using the standardised approach.

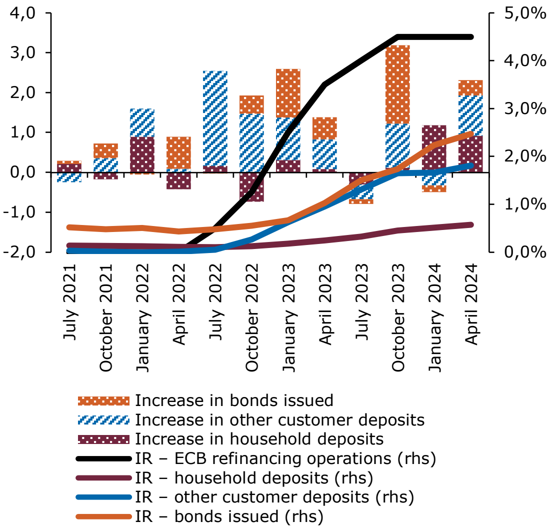
Total household deposits have been rebounding since late 2023. Following an extended period of stagnation, they grew by 5.5% between the end of November 2023 and the end of April 2024. For most of that period, deposit growth was largely accounted for by time deposits, but April also saw significant growth in the volume of funds held in current accounts and savings accounts. This may be related to households' improving financial situation, as real incomes have started rising in several sectors of the economy. The increasing share of current accounts and savings accounts in the structure of total deposits also reflects a shift in banks' interest rate policy in response to the turning monetary policy cycle. Interest rates on new time deposits peaked in January 2024 (at 3.5%), and by April had edged down to 3.4%.

With growth in household deposits and a slowdown in lending, banks in Slovakia have maintained their strong liquidity position.[24] Nor has this position been affected by a reduction in banks' bond-issuing activity. Banks' motivation to issue bonds has been curbed not only by their reduced need to obtain new funding, but also by the completion of the phasing-in of the minimum requirement for own funds and eligible liabilities (MREL). Banks are therefore now focused only on refinancing maturing bonds, and the outstanding amount of their issued bonds has remained virtually unchanged since November 2023. As regards liquid assets, since interest rates reached their expected peak, banks have clearly been seeking to lock in higher yields for longer.

Banks are investing more heavily in bonds at the expense of deposits placed with the central bank, albeit it often at a lower current yield but stable over time. While Slovak government bonds continue to predominate in banks' portfolios, their share in the volume of new investments has declined to some extent.[25] Banks investments have become more diversified across economic sectors and regions over the past year and a half.[26]

Chart 9 Renewed growth in household deposits

Quarter-on-quarter increase in different types of funding and the interest rates on them (EUR billions; percentages)



Source: NBS.

Notes: IR – interest rate.

[21] Branches' overall operating costs for the first four months of 2024 were the same year-on-year, though this result reflected the impact of one-off higher costs at particular branches in 2023. For banks established in Slovakia, their aggregate operating costs increased by 8% compared with the same period in 2023. Both branches and banks saw a decline in loan loss provisioning. As regards the sum of operating costs and provision costs, foreign bank branches reduced their sum of operating costs by 20%, while banks established in Slovakia reduced theirs by 3%.

[22] Of the overall 0.3 pp quarter-on-quarter increase in the total capital ratio, almost three-quarters can be attributed to a decline in risk-weighted assets; the rest was due to capital growth. The impact of the change in the amount of exposures was negligible.

[23] This decline was due to individual banks' reducing their eligible liabilities by a total of €510 million quarter-on-quarter, after these liabilities had ceased to be MREL-compliant. This decline was partly offset by an increase in capital and a reduction in risk-weighted assets. Overall, capital headroom declined by more than €150 million, to €1.27 billion.

[24] The banking sector's net stable funding ratio (NSFR) was 132% as at March 2024, and its liquidity coverage ratio (LCR) was 201% as at April 2024. Each indicator improved by 1 pp compared with the start of the year, while still standing below their historical highs reached in the first half of 2021: 135% and 211%, respectively. The loan-to-deposit ratio was 103.2% as at April 2024, standing 5.5 pp below its peak of August 2023. It should also be noted that the ratio of loans to deposits and issued bonds stood at 88.6% in April 2024, its lowest level since June 2017.

[25] The share of domestic government bond in banks' aggregate portfolio of bond holdings decreased only slightly between the end of 2022 and April 2024 (from 73% to 72%), but their share in banks' new bond investments stands at just above 60%.

[26] An increasing share of the banking sector's bond portfolio comprises bonds issued by European institutions, central and eastern European governments, and other financial institutions in the EU (including Slovak covered bonds). As a share of the portfolio, bonds issued by issuers from Spain, Italy and the United Kingdom have decreased.

The financial cycle has stabilised

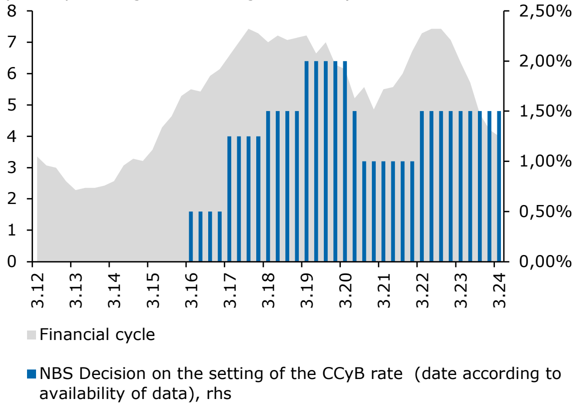
Although the financial cycle downswing continued in the first quarter of 2024, it was already far weaker compared with its course during the previous year. Several segments of the financial cycle have stabilised, including loans to households and the housing market. Most of the components of NBS's financial cycle indicator[27] are currently below their median level. With their growth rate moderating, loans to NFCs continued to contribute to the cycle's contraction in the first quarter, as did developments in indebtedness and in non-performing loans. On the other hand, macroeconomic developments had a procyclical impact, owing to the labour market situation and an improvement in sentiment in the

economy.

Owing to these trends, the extent of private sector indebtedness, measured by the ratio of the outstanding amount of loans to GDP, decreased to just above 60% of GDP – its 2018 level. In both the households and NFC sectors, incomes increased faster than debt. Coming after a decade in which indebtedness increased sharply, the trend of falling indebtedness that is not associated with any rise in non-performing loans can be seen as a favourable development with the potential to support economic growth in the period ahead.

Although the volume of non-performing loans (NPLs) has increased from post-pandemic lows, it remains at a low level. In late 2023 and early 2024, the rate of increase in NPLs, especially in the NFC portfolio, was slightly higher than in previous years, but their overall level remained low. Moreover, their rate of increase slowed significantly in April of this year. Net provisioning is also below normal levels, so banks do not currently need to spend their capital headroom, Banks do not at present perceive heightened risk, as indicated by the decline in what are called Stage 2 loans, i.e. loans that have seen a significant increase in credit risk without yet defaulting. Hence, there is currently no need to release the countercyclical capital buffer.

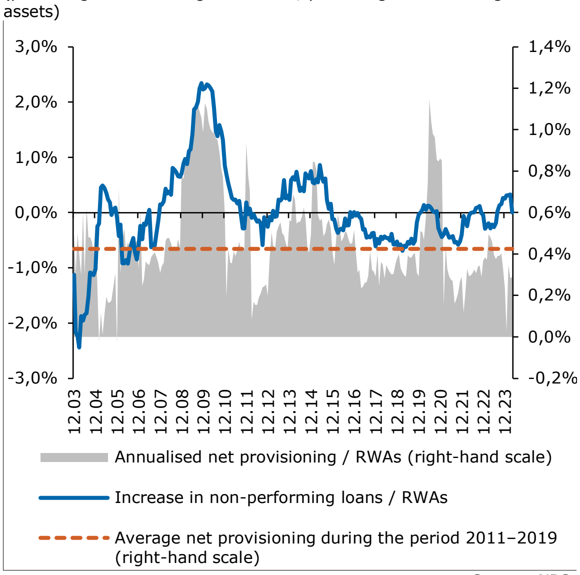
Chart 10 The financial cycle contraction has eased
(index; percentages of risk-weighted assets)



Source: NBS.

Note: Higher financial cyclical indicator values imply a strong build-up of imbalances.

Chart 11 Neither non-performing loans ratios or net provisioning are deviating from normal levels
(percentages of risk-weighted assets; percentages of risk-weighted assets)



Source: NBS.

Notes: RWA – risk-weighted assets

[27] Nine of the fourteen sub-indicators of the financial cycle indicator.

Does a competitive environment affect banks' risk-based pricing?

This question was explored in a paper published by the Bank for International Settlements (BIS).[28] By linking data on firms and corporate loans in Norway, the authors analysed the sensitivity of interest rates to borrowers' probability of default. In principle, according to their findings, banks set higher interest rates for borrowers they perceive as a higher default risk. This relationship is weakened, however, in a competitive environment. Banks achieve lower returns on loans granted in regions with a more competitive market. An increase in competition makes corporate lending rates less sensitive to banks' own assessment of borrower probability of default and this is more pronounced in market segments with a higher degree of asymmetric information. Moreover, such behaviour is characteristic of banks with lower profitability and less capital strength. Reduced risk-sensitivity is usually associated with lending under looser credit standards. This should prompt supervisory authorities to take a more prudential approach at times of heightened competition, when risks can build up to a greater extent.

How public guarantees have affected green lending

This issue is addressed in a recent ECB-published paper,[29] in which the authors use a pan-European credit register dataset to combine supervisory bank data with firm-level greenhouse gas emission data and financial information. According to their findings, European banks perceive lending to green companies as riskier compared to their brown counterparts, a phenomenon the authors term as the 'green-transition risk'. This is a risk associated with green transition costs and with unfamiliarity and uncertainty of future developments in climate policy legislation. The authors also find that during the COVID-19 pandemic, European banks strategically leveraged public guaranteed loans to channel resources towards environmentally sustainable activities, thereby augmenting the proportion of green loans in their portfolios and partially shifting the inherent 'green-transition risk' to European governments. The paper also reveals that during the pandemic crisis, banks showed a preference for awarding public guaranteed loans to financially robust green firms over less profitable, highly indebted green firms. The paper articulates that green public guarantee lending structures can alleviate green-transition risk in the economy and change the market conditions towards a new equilibrium, where green lending is more competitive.

Does the introduction of a central bank digital currency affect financial stability?

Insights in this area have been mapped out in a study published by the US Federal Reserve.[30] A central bank digital currency is a form of digital money that is denominated in the national unit of account and constitutes a direct liability of the central bank. According to the authors, the introduction of a CBDC may increase the financial sector's vulnerability, since it represents a safer asset relative to other alternatives during times of stress. For example, some money market and investment funds, as well as bank products, could experience higher losses during stress periods, as depositors and investors fly to the CBDC. Regulatory limits on the quantity of CBDC holdings have the potential to mitigate such runs risks, but finding the optimal calibration of holding limits is a challenge. On the other hand, a CBDC provides a safe asset to non-banks and foreign institutions, which might use it to enhance their liquidity management and thereby contribute to financial stability. According to the paper, a CBDC's introduction reduces the ability of banks to extend credit during times of stress. In a stress scenario studied by the authors, the presence of a CBDC causes a withdrawal of deposits from banks, forcing them to use less desirable funding sources. Funding costs and, in turn, the rates charged to borrowers, may increase by 50 to 250 basis points in stress times, potentially resulting in a decrease of about 1 to 5 per cent in commercial and industrial lending.

Do mortgage borrowing limits affect housing prices?

According to the findings of a paper published by the ECB,[31] tightening of loan-to-income (LTI) requirements and tightening of loan-to-value (LTV) requirements have differential effects on mortgage borrowers depending on the borrowers' wealth. In response to a tightening borrowing constraint, borrowers can choose to purchase a cheaper house (smaller or in a worse location) or to reduce the leverage of the mortgage. The author examined how mortgage borrowers react to a tightening of mortgage limits following a policy change in Ireland in 2015. He finds that younger and poorer borrowers, who were more likely to be above the LTI threshold before the policy, responded primarily by buying cheaper houses. On the other hand, older and richer borrowers, who even before the tightening were more likely to be constrained by the LTV limit, largely responded by reducing the leverage (LTV) of their mortgage. This suggests that the LTI limit has the most constraining impact on housing prices. This conclusion was further supported by analysis of regional data, which showed that housing prices fall more sharply in regions where more households are constrained by the LTI limit relative to regions with fewer LTI-constrained households.

[28] Müller, C., Juelsrud, R.E. and Andersen, H., "Risk-based pricing in competitive lending markets", *BIS Working Papers*, No 1169, Bank for International Settlements, February 2024.

[29] Buchetti, B., Miguel-Flores, I., Perdichizzi, S. and Reghezza, A., "Greening the economy: how public-guaranteed loans influence firm-level resource allocation", *Working Paper Series*, No 2916, European Central Bank, Frankfurt am Main, March 2024.

[30] Carapella, F., Chang, J-W., Infante, S., Leistra, M., Lubis, A. and Vardoulakis, A.P., "Financial Stability Implications of CBDC", *Finance and Economics Discussion Series*, No 2024-021, Board of Governors of the Federal Reserve System, Washington DC, April 2024.

[31] Higgins, B.E., "Mortgage borrowing limits and house prices: evidence from a policy change in Ireland", *Working Paper Series*, No 2909, European Central Bank, Frankfurt am Main, February 2024.