



Macprudential Commentary

March 2023



NÁRODNÁ
BANKA
SLOVENSKA
EUROSYSTEM

Summary

- The financial cycle is turning. The expansionary trends of the past year are gradually starting to ease, especially in the mortgage and real estate markets.
- Rising lending rates, persisting uncertainty and increasing living costs are dampening loan demand, especially from households. Mortgage lending in particular has slowed. An increasing share of mortgages have a debt service-to-income ratio at the regulatory limit.
- Growth in loans to non-financial corporations (NFCs) remains in double-digits, mainly because rising costs are pushing up firms' financing needs for working capital. Demand for long-term loans for fixed investment is weakening.
- After strongly overheating in recent years, the housing market has cooled. Housing prices declined on average in the last quarter of 2022. The number of residential properties listed for sale is the highest it has been in recent years.
- Slovakia is one of the few EU countries where, despite heightened economic uncertainty and risks, banks have not yet started tightening mortgage credit standards.

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No change in the CCyB rate

Financial sector sentiment and developments are changing. Rising interest rates, uncertainty, and persisting high inflation are reducing the incentive to borrow. This is reflected in slower growth in lending, in particular mortgage lending. A changing situation is also seen in the housing market, where prices declined in the last quarter of 2022 after a number of years of strong growth. In the corporate sector, working capital financing remains in demand because of rising costs; on the other hand, demand for long-term financing for fixed investment has declined. Although fears of recession have moderated, there are increasing signs that the financial cycle is starting to turn. This does not necessarily imply an easing of risk. An increasing number of loans have a DSTI ratio at the regulatory limit and a short interest rate fixation period, which are risky attributes in an environment of rising interest rates. At the same time, Slovakia is one of the few European countries where banks have not yet started tightening mortgage credit standards. Domestic banks are sufficiently capitalised and retain their profit-generating capacity, so they are able to cover potential risk losses. For now, therefore, the countercyclical capital buffer (CCyB) rate does not need to be adjusted.



Expectations for the CCyB rate in the next quarter

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

With the financial cycle moderating, there is less incentive to borrow heavily. This creates an assumption that cycle-related risks could build up more slowly in the period ahead. On the other hand, banks' loan books still feature risks accumulated in previous periods, while a proportion of new loans are more high risk.

CCyB rate:

1.50%

as from
1 August 2023



Winter months bring weaker demand for mortgages

Growth in new mortgage lending slowed appreciably in late 2022 and early 2023. Already in autumn there had been some weakening of activity, following strong growth in 2021 and a notable surge in the spring of 2022. New lending had long been slightly higher than the 2019–2020 average, but it slowed further in December and even more so in January of this year.

Annual growth in mortgage loans will moderate significantly in the coming period. In January 2023 the growth rate was still in double figures (10.5%, the fourth-highest rate in the EU¹), but only owing to the base effect of last spring's surge in lending, not to the current market situation. If the demand for mortgages remains soft in the months ahead, the period of double-digit mortgage growth will soon be over. In other words, if current trends continue, mortgage growth is likely to be below 4% by the end of 2023.²

The slowdown in mortgage lending is largely due to the downward impact of interest rate increases on loan demand, as well as the changing evolution of housing price and of related expectations.

The median mortgage rate increased over the course of 2022 from 1.0% to 3.8%. Nor do data from the end of 2022 indicate any moderation of this uptrend. The steep rise in mortgage rates has caused a marked increase in mortgage repayments. Repayments on mortgages originated at the end of 2022 were almost one-half higher than those on mortgages originated at the start of the year. Hence borrowers were having to spend as much as 8% more of their income on repayments. Mortgage repayments increased by up to 4.5 times,³ discouraging many from taking out a mortgage.

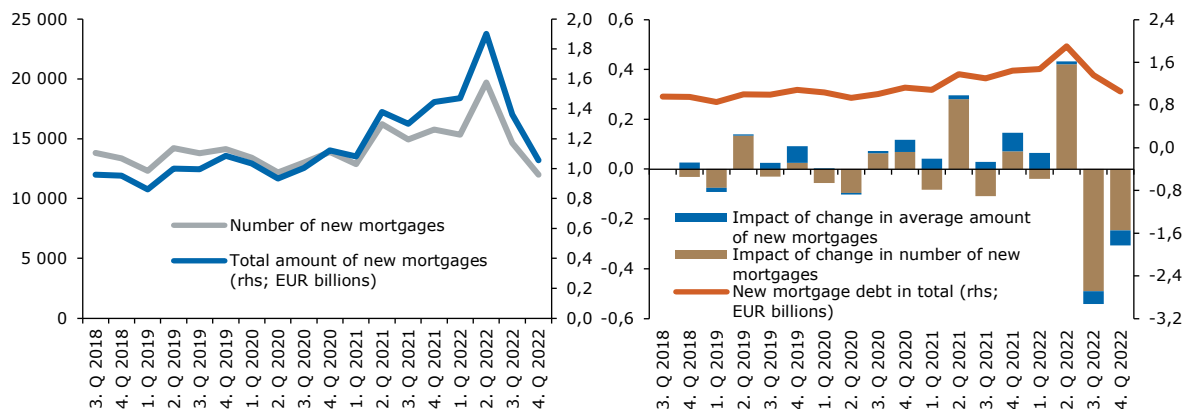
The main factors behind the slowdown are on the demand side. There was less of an impact from bank-imposed restrictions and from the regulatory cap on the DSTI ratio. This is confirmed by the following facts:

- The decline in new lending is caused primarily by a decline in the number of new loans (which has fallen across all DSTI categories), and to a far less extent by a decline in the average amount of loans originated.⁴
- According to the bank lending survey, virtually all banks attribute the slowdown in lending to weaker demand, and not one large bank reports either a tightening of credit standards or an increase in the share of rejected mortgage applications.
- The significant drop in demand appears to be related not only to rising interest rates, but also to households' higher expenditures and consequent impact on their financial situation, to the decreasing pressure on buyers as a result of lower market turnover, and to the postponement of property purchases in response to falling prices.
- Other countries have also seen a slowdown in mortgage lending, irrespective of their regulatory limits on DSTI ratios. Mortgage growth in Slovakia for the November–January period (1.3%) remained well above the euro area average (0.3%), which also slowed significantly.

Chart 2 Slowdown in new mortgage lending due largely to a decline in the number of loans

Left-hand panel: New mortgages by number (lhs) and total amount (rhs; EUR billions)

Right-hand panel: New mortgage debt (rhs; EUR billions) and contributions of individual factors to the change in amount of new mortgages (lhs; EUR billions)



Source: NBS.

¹ Despite the slowdown, the quarter-on-quarter rate increase was the fifth highest in the EU.

² If new mortgage growth continued at December's rate, the year-on-year increase in mortgage lending would decline during 2023 to approximately 3.5%; if it continued at January's rate, the year-on-year growth would fall even further, to around 1.2%.

³ For a 30-year mortgage with an interest rate of 1.0%, the monthly repayment exceeds its principal portion by 16%; if the rate is 3.8%, the difference is 72%.

⁴ The decline in the number of new mortgages/refinancing mortgages accounted for 82% of the total decline in new mortgage lending in the fourth quarter of 2022.

The slowdown in mortgage growth is positive from a financial stability perspective. The build-up of cyclical risks associated with household indebtedness will moderate. The slowdown follows a period of rapid growth (in 2021 and, even more so, in the first half of 2022), when risks were accumulating at an elevated pace. The second half of 2022 saw not only a decline in the household debt-to-disposable income ratio (the first in Slovakia's history), but also a drop in the indebtedness of individual households (the debt-to-income ratio started to fall).

On the other hand, newly originated loans are carrying higher risk. An increasing share of new mortgages have a DSTI ratio near the regulatory limit (with most of the loans also featuring a 30-year maturity), although the growth in this share eased somewhat in the fourth quarter of 2022. With high repayment burdens, however, the risk of repayment difficulties increases. Moreover, high-DSTI loans are increasingly taken out by lower-income and less educated borrowers. At the same time, such borrowers are more likely to fix their interest rate for only one year, as interest rates are lowest under these fixation periods and therefore so are the repayments.

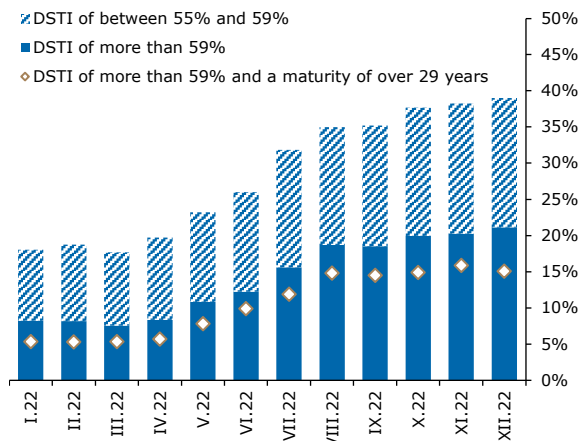
Older loans may, also, however be subject to increasing risk, with many households coming under financial stress as increases in other costs weigh on their budgets. The average real wage fell for the first time in ten years and by the largest margin since at least 1998. According to survey results, the share of households whose current income is sufficient to cover their expenditure is falling. This decline is on a par with that seen during the 2008–10 economic crisis. Savings expectations are the lowest they have been in a decade. Repayments may also become more burdensome as a result of interest rate resetting. This will be a particular issue in 2024 and 2025, with interest rates on around 20% of the overall mortgage portfolio due to be reset in each of these two years. For now, though, repayment stress is not a pressing issue. Indeed, non-performing loan ratios for both mortgage and consumer credit portfolios are at historical lows.

Slovakia is one of the few EU countries where banks have not started to tighten mortgage credit standards, despite the economy facing a number of uncertainties. Mortgage markets across Europe are experiencing a drop in demand. In most countries, banks tightened credit standards in the fourth quarter of 2022 and expected to tighten them further in the first half of 2023, mainly owing to heightened economic uncertainty and to their own risk appetite. Slovakia, however, is one of three EU countries (Greece and Poland are the others) where banks have not tightened credit standards, nor plan to do so during the first quarter of 2023.

Unlike mortgage growth, consumer credit growth accelerated in the last quarter of 2022. The rate increased moderately, to 2.2%. The main difference compared with mortgages has been in the movement of interest rates on consumer credit, which were unchanged for a long time and did not start to rise notably until October 2022. By January 2023 they had risen by just under 1 percentage point. In this portfolio, we do not see any increase in risk in the form of higher DSTI ratios or longer maturities.

Chart 3 The share of high-DSTI mortgages continues to rise moderately

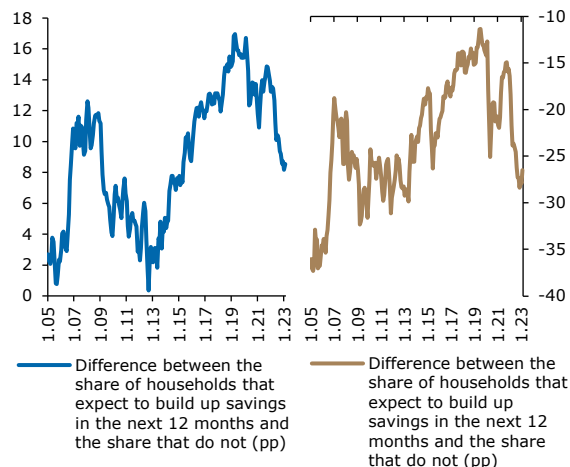
The share of high-DSTI mortgages, and the share of them that have a maturity of more than 29 years (percentages)



Source: NBS.

Chart 4 Deterioration in households' financial situation

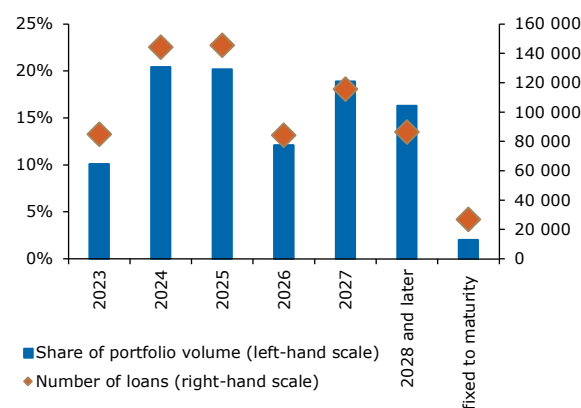
(Index; three-month moving average (pp; pp))



Source: Eurostat.

Chart 5 Interest rates on most mortgages will be reset in 2024 or 2025

Distribution of loans by date of next interest rate resetting (percentages; number of loans)

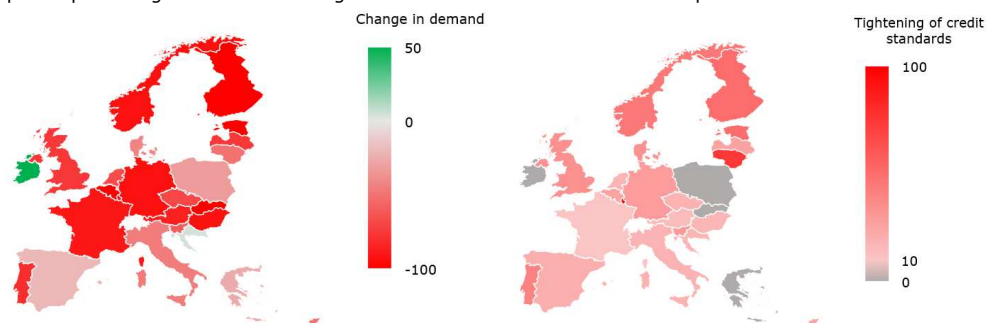


Source: NBS.

Chart 6 In Slovakia, the decline in mortgages is due to lower demand; in most other EU countries, banks have also been tightening credit standards

Left-hand panel: Net percentage of banks reporting a decline in demand (negative value) or an increase in demand (positive value) in the fourth quarter of 2022

Right-hand panel: percentage of banks which tightened credit standards in the fourth quarter of 2022



Sources: European Central Bank, Česká národní banka, Narodowy Bank Polski, Magyar Nemzeti Bank, Norges Bank, Bank of England, Danmarks Nationalbank, and Hrvatska narodna banka.

Note: Ireland and Croatia were the only two countries in which an increase in demand was reported. In Ireland and Malta, banks did not tighten credit standards in the fourth quarter of 2022, but expected to tighten them in the first quarter of 2023.



The NBS Bank Board has assessed the need to apply a systemic risk buffer (SyRB) to retail exposures

A 2020 EU law amendment brought changes to the way systemic risk buffer (SyRBs) are applied. Accordingly, macroprudential authorities are to review the reasons for the application of SyRBs at least every second year. At the same time, they must have regard to European Banking Authority guidelines which define the different types of exposures to which SyRBs may be applied.

NBS's assessment of the need to apply an SyRB to a subset of exposures began with a look at systemic risk in the retail sector, in particular loans secured by residential property. The Bank focused on the retail sector because of the long-running build-up of risks there and the increasing exposure of domestic banks, as well as because of its ongoing communication on this issue with the ESRB, ECB and MMF. For this purpose, the Bank has developed a new methodology which compares the stress losses on retail exposures with the regulatory capital requirement allocated to these exposures (i.e. the allocated capital). Based on data as at 31 December 2022, quantification showed that the capital allocated to retail exposures is sufficient for the time being and does not need to be increased through the application of an SyRB.

The comparison of stress losses with allocated capital will be regularly updated. Whether the capital is sufficient depends not only on the scenario and the state of the portfolios that determine the size of the stress losses, but also on the level of other capital buffers and average risk weights that define the capital allocated. Since all these factors change over time, the quantification needs to be updated regularly. Moreover, other facts that may be a source of systemic risk will also be gradually analysed.

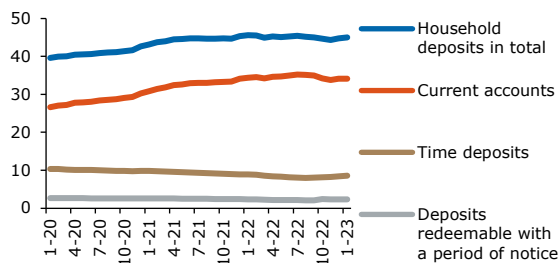


The structure of bank deposits is starting to change

Recent months have seen significant changes on the deposit front. Since deposits have long been the major source of funding for Slovak banks, the changes are important in regard to the structure and stability of banks' funding sources.⁵ At the same time, the environment of rising interest rates is putting upward pressure on banks' interest expenses, potentially increasing pressure to move deposits between different products or groups of banks. We are therefore taking a close look at the issue of deposits in this commentary.

Chart 7 Household deposits are stagnating

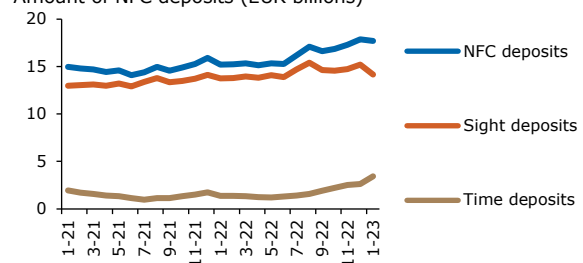
Amount of household deposits (EUR billions)



Source: NBS.

Chart 8 Stagnation in household deposits offset by corporate deposits

Amount of NFC deposits (EUR billions)



Source: NBS.

Household deposits fell in January 2023 by 1.3% year-on-year, with Slovakia being the only euro area country to record a decline in this metric.⁶ The main factor is the decline in the amount of current account deposits between July and November 2022.⁷ Although time deposits were, after a long downtrend, increasing at around the same time, their growth was still relatively moderate and did not manage to fully offset the drop in current account deposits. This indicates that the unfavourable deposit trend may be driven by households' need to cover rising expenditure on current consumption or an overall deterioration in their financial situation.

⁵ This risk was analysed in greater detail in NBS's [November 2022 Financial Stability Report](#) (Section 5).

⁶ The average annual growth in household deposits in the euro area for the same period was 2.7%.

⁷ The amount of households' current account deposits fell in this by 4.3%.

The negative trends on the household side are to a large extent being offset by corporate deposits. Firms' time deposits in particular have started to increase notably. Their growth is based not only on new deposits, but, especially in January 2023, on deposits moved from current accounts.⁸ The deposit growth is driven mainly by the relatively sharp rise in interest rates on corporate time deposits.⁹ Developments suggest that interbank competition is currently stronger in the corporate segment than in the household segment.

Using corporate deposits to compensate for household deposit stagnation reduces the risk of greater dependence on the interbank market or on central bank funding. This can be seen in positive terms, since Slovak banks have not historically experienced a significant share of this type of funding. On the other hand, corporate deposits are less stable and also slightly more expensive than household deposits. The adverse trends in banks' stable funding in 2022 were, however, mitigated by banks' increased activity in issuing covered bonds and by a significant slowdown in retail loan growth.



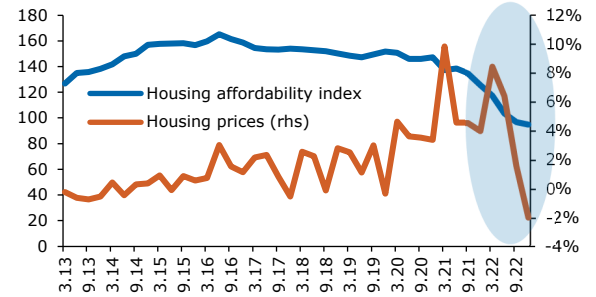
Housing prices fell in late 2022

Autumn saw strong signs of easing demand in the housing market—as both the number of flats listed for sale and the length of time they are on the market gradually increased—and the changed situation gradually translated into housing prices. In the fourth quarter of 2022 housing prices declined compared with the previous quarter.¹⁰ It was the first time since 2013 that asking prices for flats had decreased, and they continued to drop in the first months of this year. Given that a proportion of households are seeing a decline in real income, that interest rates are rising and that living costs are going up, there is increasing caution about buying property. The velocity of sales has slowed, and prospective buyers are no longer under pressure to make a quick purchasing decision. At the same time, persisting uncertainty could lead some households to put off buying residential property.

The fourth-quarter downturn in prices of flats was seen across all sizes of flats and in most regions of Slovakia.¹¹ There was even price stagnation in the new-build flat.¹² At the same time, the number of flats for sale continued to increase to the highest levels in recent years. This situation buoyed rental prices, which increased by almost one-tenth year-on-year. But because of elevated interest rates, the costs associated with renting are currently lower than the monthly costs related to buying a property, which is a factor in the decline in sales. Housing affordability decreased only slightly in the fourth quarter, as the impact of sharply rising interest rates was largely offset by the drop in prices for flats.

Chart 9 The property market situation is starting to change

Evolution of the housing affordability index; annual change in housing prices (index; percentages)



Sources: NBS, SO SR, and United Classifieds.

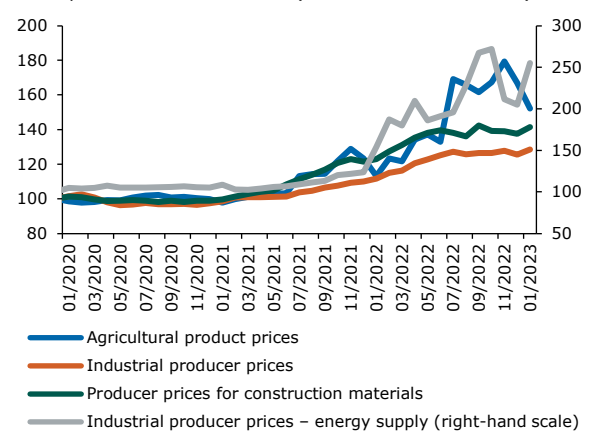
Strong NFC loan growth amid an inflationary environment

Firms' maintained nominal revenue growth in the fourth quarter of 2022.¹³ Their revenue growth was driven by the rising price level, with the real growth rate being only marginal.¹⁴ Against the backdrop of a cooling global economy, nominal revenue growth slowed in the industry sector and in the transportation and storage sector. On the other hand, domestic demand boosted revenues in the services sector and, to a lesser extent, retail trade sector.¹⁵

The stabilisation or slight decline in wholesale prices seen in the last months of 2022 did not continue into January. After stabilising or falling slightly in the fourth quarter, the majority of wholesale prices started to rise again in January 2023. Agricultural product prices were the exception, while wholesale prices in both construction and industry climbed in an environment of rising energy prices. Firms' profitability¹⁶ increased slightly in the fourth quarter of 2022. For now, firms are not on average passing on their rising costs to customers.

Chart 10 Wholesale prices increased in January 2023

Wholesale prices in absolute terms (index: 2019 level = 100)



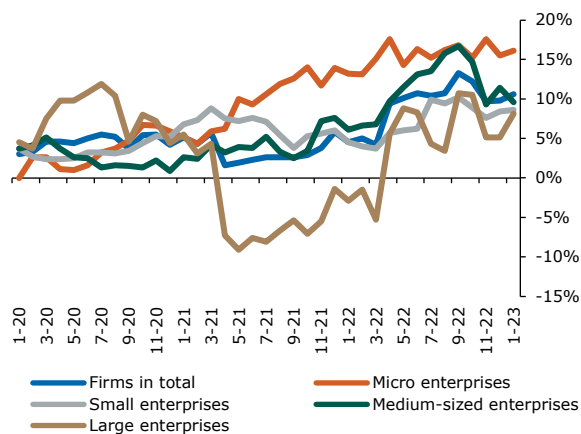
Sources: NBS, and SO SR.

⁸ We estimate that around 5% of current account deposits were moved to time accounts during January 2023.
⁹ The average interest rate on new corporate time deposits increased from 0.5% in September 2022 to 1.9% in January 2023, while the interest rate on current accounts is at 0.02%.
¹⁰ Housing prices were 1.9% lower in the fourth quarter of 2022 than in the previous quarter; prices of flats dropped by 2.6% quarter-on-quarter. In year-on-year terms, housing prices increased by 15%.
¹¹ The only exceptions were Nitra and Prešov regions, where housing prices continued to rise. Even in these regions, however, the situation changed in early 2023.
¹² The average square metre price for a new-build property in Bratislava Region was similar in the fourth quarter of 2022 to what it had been in the second and third quarters.
¹³ Annual growth in corporate revenues at current prices stood at 17% in December 2022.
¹⁴ Average annual growth in corporate revenues at constant prices was 0.6% in the fourth quarter of 2022.
¹⁵ After weak results in previous months, real revenues in the retail trade sector increased in December 2022.
¹⁶ Profitability is here understood to mean the median profit margin defined as the after-tax profit-to-revenue ratio, measured on a sample of around five thousand firms in a regular quarterly survey.

Growth in loans to non-financial corporations (NFCs) remains strong. Annual growth in NFC loans edged up to 10.4% in January 2023.¹⁷ Similar growth rates are, however, widespread across EU countries.¹⁸ The acceleration of Slovakia's corporate credit growth was driven by short-term working capital financing.¹⁹ In the inflationary environment, firms increasingly need working capital financing from banks. In addition to the strong growth in short-term lending, there is also an uptick in medium-term loans,²⁰ a major part of which comprises loans to the commercial real estate (CRE) sector.²¹ This borrowing, however, largely consists of drawdowns of existing loans, so it also implies that firms are under increasing pressure to finance their rising costs, whether related to the management or construction of buildings. The acceleration in medium-term loans has also been supported by growth in loans for fixed investment²² in certain sectors.²³ On the other hand, lending activity slowed in the case of loans for fixed investment and loans with a maturity of more than five years.²⁴

Chart 11 Corporate loan growth accelerated slightly

Annual change in outstanding amount of NFC loans broken down by firm size category (percentages)



Sources: NBS, and Register of Bank Loans and Guarantees (RBUZ).

The acceleration in loan growth was largely accounted for by certain groups of firms, but in general there were no signs of a significant slowdown in lending activity. The faster growth in short-term financing was driven almost entirely by large enterprises in the energy supply sector. Without their contribution, overall growth in short-term NFC loans would have slowed. Lending to medium-sized firms recorded a relatively marked slowdown, while lending to micro enterprises and to small enterprises accelerated slightly on the back of developments in medium-term loans.

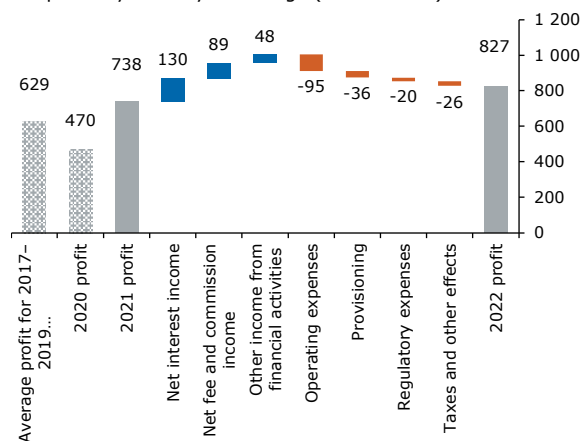


Rising interest rates boost bank's profits

Heightened uncertainty and elevated inflation have not yet hurt the Slovak banking sector's profitability. In 2022 the sector managed to increase its net after-tax profit by more than one-tenth year-on-year, to almost €827 million, with almost all domestic banks recording a profit.²⁵ Banks' profits were now exceeding pre-pandemic levels. Compared with banks across Europe, however, banks in Slovakia tend to be among the less profitable; the Slovak banking sector's profitability as measured by return on equity (ROE) has for several years been in the lower quartile for European banks. Nevertheless, last year was favourable for Slovak banks from a performance perspective. After years of interest margin compression, net interest income started in 2022 to come under significant upward pressure from rising rising interest rates. At the same time, banks managed to maintain lending growth, with the result that their gross interest income increased by almost 14% year-on-year.²⁶ Although around half of that increase was absorbed by rising interest expenses,²⁷ net interest income was the largest contributor to the growth in Slovak banks' aggregate profit last year.

Chart 12 Banks profits rose in 2022 owing mainly to higher interest income

The banking sector's net after-tax profit and contributions to the profit's year-on-year change (EUR millions)



Source: NBS.

As a result of the volume of output provided, including the intermediaiton of sales of insurance and investment products, the banking sector's fee and commission income increased last year by more than one-tenth compared with the previous year.²⁸ Although rising prices pushed up their operating expenses,²⁹ domestic banks were still managing to keep the increase in these expenses below the level of inflation. The rate of provisioning in the sector was already slightly higher than the pre-pandemic level, with the amount of provisioning in 2022 moderately exceeding the amount of provisioning in the years

¹⁷ Compared with December 2022, the annual growth rate accelerated by 55 basis points.

¹⁸ Slovakia's figure is close to the median for central and eastern European countries. Nor does Slovakia stand out in terms of the credit growth trend, with more than one-half of CEE countries recording an acceleration of credit growth.

¹⁹ The annual growth in short-term loans with a maturity of up to one year increased by 3 percentage points to more than 20%.

²⁰ Loans with a maturity of between one and five years.

²¹ Annual growth in loans to the CRE sector was 1.5 percentage points higher in January 2023 than in December 2022, at 15%.

²² Annual growth in medium-term loans for fixed investment accelerated from December to January by 1 percentage point, to 11.5%.

²³ The sectors of selected market services, wholesale and retail trade of motor vehicles, and industry.

²⁴ Annual growth in loans with a maturity of more than five years slowed from December to January by 2 percentage points, to 5%.

²⁵ Only one bank did not report a profit.

²⁶ Compared with the previous year, the banking sector's interest income increased by €250 million.

²⁷ These increased year-on-year by €120 million (55%).

²⁸ Annual growth in net fee and commission income in 2022 was almost €90 million (13.5%).

²⁹ The sector's operating expenses increased in 2022 by €70 million (5.5%).

immediately preceding the pandemic crisis.³⁰ Banks increased provisioning largely for higher-risk (Stage 2) loans, apparently in response to their increased risk perceptions.

Trends beneficial to banks' performance continued in the beginning of this year. The banking sector's profit for January 2023 surpassed the levels usual for the same month in recent years.³¹ The improvement in profitability is still largely due to net interest income, which in January increased by more than one-quarter year-on-year. Provisioning also recorded an annual increase, but without veering from pre-crisis levels.³² Banks' current profit-generating capacity therefore bodes well for their maintaining capital strength in the period ahead.

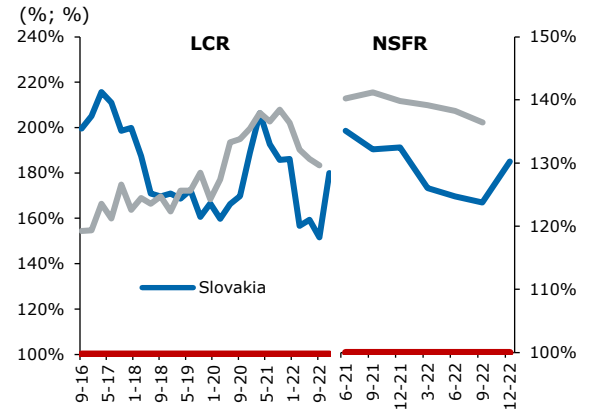
Domestic banks remain sufficiently well capitalised and are able to absorb potential losses resulting from existing risks. Although the sector's total capital ratio edged down by 0.4 percentage points in 2022, to 19.6%, it remains above pre-pandemic levels.³³ The decline in the total capital ratio was largely accounted for by larger banks and mainly by their strong credit growth. On the other hand, the aggregate total capital ratios of less significant banks improved, primarily due to capital increases, although the story across these banks was mixed and also reflected the transformation of individual banks' business models. Banks comfortably met regulatory requirements, and their capital utilisation was not constrained either by the leverage ratio or by the ongoing minimum requirement for own funds and eligible liabilities (MREL).

Pressures on liquidity and long-term funding have partially eased. In the fourth quarter of 2022 both the liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) increased significantly from their previous lows, returning to levels seen in late 2021.³⁴ The improvement stemmed from the accumulation of deposits and of funds from issued securities, which in the fourth quarter exceeded the volume of new lending by approximately €2.2 billion.

Nevertheless, the situation regarding stable funding remains uncertain. In 2022 the net increase in retail deposits was €0.5 billion, the lowest figure since this measure started to be calculated in 2004. In no year since 2010 has the net inflow of deposits been lower than just under €0.7 billion. However, retail funding has been replaced by strong inflows of less stable funding from NFCs, financial corporations, and general government. Such funding, however, is characterised by shorter maturity and by higher interest rate sensitivity and volatility, creating additional risks to banks' business models going forward.

Chart 13 The LCR and NSFR returned to 2021 levels after a temporary decline

The LCR (left-hand panel) and NSFR (right-hand panel) (percentages; percentages)



Source: NBS

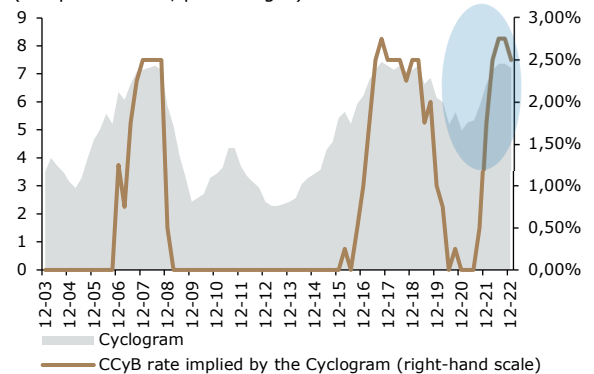


The financial cycle is turning

A gradual easing of expansionary trends is also indicated by the financial cycle indicator. The strong growth trends observed in the financial sector over the past two years are starting gradually to cool. The moderation is most evident in the residential real estate market, where property prices have on average decreased in recent months, and in the credit market, which has seen slower lending growth compared with the first half of 2022. NBS's composite indicator of the domestic financial cycle – the Cyclogram – declined in the last quarter of 2022 but nevertheless remained close to its historical highs. However, the outlook for future developments suggests that the moderating trend will become more pronounced, as in particular the credit and property markets have a dampening effect on the financial cycle owing to the tightening of financing conditions. Despite economic growth being subdued this year, macroeconomic developments are not expected to contribute significantly to the easing of the cycle, given that the labour market situation is expected to remain relatively favourable.³⁵ Risks related to the financial cycle will therefore remain present, but they will be more moderate than they were in the past period.

Chart 14 After rising for two years, the financial cycle indicator declined

(composite index; percentages)



Source: NBS.

Note: Higher index values imply an intensive build-up of imbalances.

³⁰ For the period 2017–2019, the banking sector's annual amount of provisioning averaged €140 million; in 2022 it stood at €186 million.

³¹ For January of the years 2017, 2018 and 2019, the banking sector's net after-tax profit averaged €52 million; for January of this year it stood at almost €65 million.

³² For January of the pre-pandemic years of 2017, 2018 and 2019, the banking sector's net provisioning averaged €13 million; for January of this year it stood at €14 million.

³³ At that time, the sector's total capital ratio was around 18%.

³⁴ The LCR increased from 152% in the third quarter to 183% in the fourth (after standing at 186% as at 31 December 2021); the NSFR increased from 124% to 130% (132% as at 31 December 2021).

³⁵ Assumptions of NBS's Winter 2022 macroeconomic forecast.



Does the non-bank sector create increased risks for the economy in times of crisis?

This question is addressed in a recent paper published by the Bank for International Settlements.³⁶ It is a fact that non-bank financial institutions now account for about half of the assets of the global financial system. This is raising concerns about detrimental implications for credit supply, financial stability, and the real economy during times of financial crisis. So how do these entities behave in turbulent times? Using global data on syndicated loans, around one-third of global syndicated lenders are provided by non-banks, the authors found that, during financial crises, non-banks reduce new syndicated lending by almost twice as much as banks do. Neither the industry specialisation of lenders, nor the geographic diversification of their loan portfolios, explain the lending gap. An uncontrolled increase in non-banks' share of lending may therefore be detrimental to financial stability and exacerbate shocks in economies, as the behaviour of non-banks is far more procyclical and is characterised by a stronger contraction of lending during crisis periods. This issue merits greater supervisory and regulatory attention.

What hinders policies from eliminating adverse effects of the financial cycle?

Globalisation has increased the availability of external funding, as financial globalisation has favoured the international diversification of portfolios. As a result, the prices of risky assets have become increasingly correlated across markets, a phenomenon known as the 'global financial cycle'. This can result, however, in external funding financing less productive sectors (like housing, for instance), which may fuel domestic bubbles and pose risks to financial stability. Policymakers have a palette of tools with which to lean against the global financial cycle, including macroprudential policy, capital controls, monetary policy, and foreign exchange intervention. According to a study published by the ECB,³⁷ for which the authors ran panel regressions on data for 22 emerging economies, institutional strength shapes the response of countercyclical policies to sudden changes in the financial cycle and makes the policies implemented more effective. In principle, countries have two options: either they may undertake ex ante costly structural reforms that reduce their dependence on the global financial cycle (for example, by restricting capital inflows, which, however, also has adverse effects on the economy), or they can respond ex post to financial shocks. Countries with a weaker institutional framework usually cannot afford to ease monetary policy, for fear of losing investors, and try to defend the exchange rate using their foreign reserves. On the other hand, countries with better institutions, can use monetary policy more freely to ease financial conditions and can intervene less in the foreign exchange market. The final outcome, however, is that countries with institutions of lower quality suffer from higher volatility and tighter financial conditions.

Are digital currencies contributing to the financing of the real economy?

In a paper published by the Banque de France,³⁸ the authors examine this question and, through an analysis of daily data, show that an increase in the amount of stablecoins causes a similar increase in the amount of USD-denominated commercial paper issued by non-financial or financial corporations (certificates of deposit in the latter's case). This relationship is only significant, however, where the stablecoin issuer backs its tokens with commercial paper. Thus, through reserve assets, cryptocurrencies affect financing of the real economy. According to the authors, regulation has the potential to displace this connection from one asset class to another by requiring greater transparency on the asset side of stablecoins or by influencing the type of reserve assets that stablecoins can hold. A recent study³⁹ of money market funds has shown that fully transparent funds that invest exclusively in government bonds have an adverse impact on bond liquidity, for example in times of stress. Requiring increased transparency for stablecoins might also result in greater competition between their issuers to hold the most liquid assets, which might have unintended consequences in terms of scarcity of safe assets. This also has implications for the issuance of central bank digital currency (CBDC). Depending on its design, CBDC could become either a substitute for stablecoins or reserve assets held by stablecoins. An open question for future research is to understand how coexisting stablecoins and CBDC could change the connection between crypto markets, financial markets, and the real economy.

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³⁶ Aldasoro, I., Doerr, S. and Zhou, H., "Non-bank lending during crises", *BIS Working Papers*, No 1074, Bank for International Settlements, February 2023.

³⁷ Ferrero, A., Maurizio, M.H., Stracca, L. and Venditti, F., "Leaning against the global financial cycle", *Working Paper Series*, No 2763, European Central Bank, Frankfurt am Main, December 2022.

³⁸ Barthélémy, J., Gardin, P. and Nguyen, B., "Stablecoins and the Financing of the Real Economy", *Working Paper Series*, No 908, Banque de France, February 2023.

³⁹ Ma, Y., Xiao, K. and Zeng, Y., "Mutual Fund Liquidity Transformation and Reverse Flight to Liquidity", *Review of Financial Studies*, Vol. 35, No 10, October 2022, pp. 4674–4711.