Financial Stability Report

November 2023

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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Foreword

Our life in a world of uncertainties continues. Alongside economic and financial questions are ongoing geopolitical clouds. The good news, however, is that uncertainty does not automatically lead to instability. The latest Financial Stability Report bears this out with a number of favourable findings. But despite the positives, the coming period will not be the easiest of times.

One particularly important sign of encouragement is the successful fight against high inflation. The combination of a tight monetary policy stance and our resolve to keep key interest rates at record high levels has started to have the desired effect, while not causing loan repayment problems.

The fact is that many firms and households have already felt the impact of higher interest rates, yet loan repayment levels remain at an all-time high. So, on this front, as long as the economy continues to do well and the labour market remains stable, I have no fears for the year ahead. It is not high interest rates that cause me concern, but rather the possibility of a further slowdown in the global economy. If that happened, not only would family and corporate budgets come under greater strain, but so would fiscal policy and the necessary consolidation of public finances.

At the same time, we are facing new challenges that need to be openly discussed. This edition of the Financial Stability Report therefore also focuses on the financial stability ramifications of crypto-assets and the digital euro project.

I am glad that the Slovak banking sector has sufficient capital and liquidity to face these challenges as well as the mounting uncertainty. This is important and crucial both for the economy and for the people of Slovakia. Banks' good condition, health, profitability and capital adequacy play a key role in the provision of loans to our firms and households, which also lays a strong basis for coping with more demanding situations in the period ahead.

Peter Kažimír
Governor

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Overview

Elevated interest rates and weak economic growth are having the most significant impact on financial stability

Compared with the previous report,[1] the list of risk factors to financial stability is largely the same, but their nature has changed. Inflation is gradually declining in importance, and the recent period of high inflation has evidently not had a significant adverse effect on the financial sector. High interest rates remain an important factor and are necessary to bring inflation back on target. Yet here, too, the nature of the risk is gradually changing, from the rise in interest rates per se to uncertainty about how long they will remain elevated.

What will be particularly important for financial stability in the period ahead is how the economy evolves. The euro area economy has been stagnating since the end of 2022, nor does its outlook appear promising. For its part, the Slovak economy has maintained at least moderate growth. The labour market is crucial for households' financial situation and has remained stable. At the same time, geopolitical risks have become more pronounced and could exacerbate the aforementioned risk factors. On the domestic front, public finance sustainability risks have increased over the past five years owing to fiscal policy efforts to mitigate the adverse effects of crises now behind us.

As a result of higher interest rates, the flow of mortgages and corporate loans is slower than in the past

The sharpest drop in lending activity has been in the mortgage market. Its slowdown was most marked in the second half of 2022. The volume of new mortgages has fallen by more than a third compared with the longer-term average. The mortgage lending market stabilised at new lower levels later in 2023. Young mortgage applicants in particular have felt the financial effect of the increase in payments on new mortgages. Even so, their market share has fallen only slightly. The increase in payments has, however, resulted in a rise in the share of mortgages with high repayment burdens. At the same time, the share of loan applicants who apply for a loan as co-borrowers has increased.

The lower number of mortgages provided has had an impact on the housing market. Owing mainly to rises in interest rates, prices of flats have dropped by around one-tenth year-on-year, and by 14% compared with the

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1 Financial Stability Report – May 2023.

summer of 2022. Nevertheless, housing affordability remains at its worst level in a decade. As a result of the rise in interest rates, mortgage payments now significantly exceed rental prices, and this partly explains the weaker demand for housing. From a financial stability perspective, however, we do not take a negative view of the current decline in housing prices. Rather, it is a natural price correction resulting from the higher level of interest rates as well as from the persisting disparity between household incomes and housing prices.

Consumer credit has evolved differently. After a prolonged period of decline, consumer credit resumed growth from early 2023. One of the main drivers of this growth has been the increased need for financing due to higher inflation.

The corporate loan market experienced a significant downturn at the end of 2022 before stabilising. The quarterly flows of loans to non-financial corporations in the second and third quarters of 2023 actually exceeded their long-term average. However, developments were heterogeneous across sectors, with lending to the industrial sector and the CRE sector recording a more pronounced slowdown.

The slower growth in lending to households and firms was due mainly to falling demand for credit. Unlike in several other countries, it is not credit tightening by banks that is dampening the flow of loans. The banking sector has sufficient capital and liquidity to continue its current pace of lending.

Most borrowers should be able to continue repaying their loans even at higher interest rates

Although interest rates have risen quite sharply, households and firms should be able to continue servicing their loans without significant issues. Non-performing loan ratios remain at historically low levels, even for loans whose payments have already been pushed up by rising interest rates. A key factor going forward will be how the economy evolves, especially in respect of the labour market. For the most indebted in particular, loss of employment or a significant decline in income would cause financial distress.

Most households should cope with mortgage payments even after interest rate resetting. So long as the labour market situation remains positive, loan payment increases should be manageable. A greater degree of risk is associated only with the small group of households carrying higher debt. That risk should, however, be mitigated by real household incomes, which are expected to start rising again next year. From a financial stability per-

spective, any possible measures to support mortgage borrowers should therefore be targeted at the most vulnerable groups of borrowers.

Even before interest rates started rising, firms were facing an upsurge in operating costs. Since many firms managed to pass cost increases on to customers, their financial situation did not deteriorate. For those firms, however, which experienced the highest cost increases, the situation was more challenging, and it is they that borrow most heavily from banks. The corporate sector is generally less sensitive than the household sector to rising interest rates, as interest costs account for only a small part of firms' total costs.

Commercial real estate has been the sector hardest hit by the upturn in interest rates

This is mainly because the CRE sector has a higher debt burden than other sectors. The projected increase in interest costs over the next two years is estimated to reduce the average revenues of CRE firms by 16%, though for some of them the drop could be more than double that.

Higher interest costs should not themselves result in any significant increase in non-performing loans in this sector. The risk to these firms is mitigated to a large extent by their high gross margins. They will feel the adverse effect more in terms of weakening profitability and, in some cases, through the impact on their equity.

It is mainly the combination of higher rates and deteriorating revenues that poses a risk to the CRE sector. The scope for passing the full increase in costs on to rental prices may be complicated by rising vacancy rates in the office segment, coupled with growth in remote working and concerns about weaker economic growth in the future. This applies mainly to the office and retail segments, where the properties exposed to greater risk will be mainly those that are older and of lower quality.

The banking sector in Slovakia remains resilient with sufficient capital buffers and robust profitability

The sector's total capital ratio has continued to rise and reached 19.7% as at June 2023. Its resilience was supported by an increase in the countercyclical capital buffer, from 1% to 1.5%, with effect from August 2023. Banks have also seen their liquidity positions stabilised.

An important prerequisite for bank stability is a sufficient level of profitability. This year has seen banks' profitability increase by more than a half in year-on-year terms. The main driver of profit growth has been rising net interest income, especially from the corporate sector. Banks' interest mar-

gins have returned to far healthier levels compared with the past decade, but they are not expected to increase significantly further. Future profit growth will be predicated largely on steady growth in interest income, especially from mortgage lending.

The cost of time deposits has so far been increasing at around the same pace as returns on loans. The principal source of uncertainty about the future evolution of profitability is therefore mainly the rate of increase in the share of time deposits. Potential government intervention, especially the introduction of a bank tax, could also be an important factor weighing on banks' profitability in the period head.

The performance of assets in second-pillar pension funds has returned to a growth trend

Asset portfolio structures have also changed. The share of equity investments has started growing again in both the second and third pillars of the pension system. In addition, following a recent amendment to the Old-Age Pension Scheme Act (No 43/2004), the gradual transfer of a proportion of second-pillar pension savings from bond funds to index funds has commenced in accordance with the so-called default investment policy. Likewise in the third pillar of the pension system, savers have been gravitating towards index pension funds. In both pillars, managers have been rebalancing the asset structure of pension funds by reducing the share of bank deposits and increasing the shares of equities and bonds. A similar trend has been observed in the investment fund sector, where interest in equity funds and real estate funds has remained strong while demand for mixed funds has ebbed.

Insurers' financial results in the wake of accounting changes

With the implementation of the new accounting standard IFRS 17, the insurance sector has had to face a major change in the accounting of insurance contracts. Both premiums and expenses are now recognised over the life of the contract. This has resulted in an accounting decrease in the balance sheet value, an increase in profit, and an increase in equity. Irrespective of this change, the sector has seen an increase in premiums. This has been particularly apparent in non-life insurance business, where premium growth has partly offset the impact of rising prices due to inflation.

NÁRODNÁ BANKA SLOVENSKA EUROSYSTÉM

1 Macroeconomic environment and financial markets

1.1 The European economic outlook is deteriorating

The economic situation in Europe in the first half of 2023 was far from ideal, but given the circumstances and pessimistic expectations, the mere avoidance of recession was seen as something of an upside surprise. On the flip side, there is the greater inertia of excessive inflation and the resulting need for further aggressive tightening of monetary policy. It is precisely because of the mounting cumulative impact of higher interest rates, as well as the presence of other factors, that economic conditions are increasingly likely to deteriorate towards the end of the year.

Europe only just managed to weather last winter's energy crisis without falling into recession, but recent developments suggest that this scenario remains a threat

In terms of GDP growth, the euro area has been virtually stagnating since the fourth quarter of 2022. It has avoided negative territory mainly thanks to the release of pent-up demand for contact-intensive services, to households drawing on savings built up during the pandemic, and to the positive contribution of net exports. There are, however, increasing signs that this potential has been exhausted and that demand for services, as well as foreign demand, is softening. For example, the PMI for services fell sharply in August, to a level indicating contraction in services activity, and the September print showed only a further decline. As for the manufacturing PMI, it remains deep in contraction territory, especially so its new orders sub-index. Another important monthly indicator, the European Commission's Economic Sentiment Indicator (ESI), is also on a downward trend. Another indication that the euro area economy is at risk of even greater cooling in the near future is the situation among consumers, as their sentiment is below average, their incomes have less purchasing power and their savings buffers are becoming depleted. Nor, from the perspective of external demand and the euro area economy's potential recovery, does the slowdown in the Chinese economy represent good news.

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Owing to the slower-than-expected decline in inflationary pressures, central banks have remained in tightening mode

The disinflationary process has progressed not only in the euro area, but also globally, yet a sustainable return of price growth to target levels is far from sealed. Annual headline inflation in the euro area stood at 4.3% in September, less than half of its recent peak and its lowest rate in two years. The main driver of both the upward and downward pressure on headline inflation has been wholesale energy prices, which have fallen significantly since their peaks last year. In recent months, prices of food and non-energy goods have also curbed the increase in the price of the consumption basket. Even so, the presence of still elevated inflationary pressures is evident in core inflation, which has remained above 5% since the beginning of 2023. It was only in September that the core inflation print showed a relatively sharp decline, but it would be premature to draw any longer-term conclusions from this. How inflation evolves from here will be determined largely by endogenous factors, i.e. whether the incidence of higher wage demands and increased business margins will soon subside or will become established as a longer-term phenomenon that sustains an inflationary spiral. Another cause of some concern is that oil prices have risen significantly since the summer and, notwithstanding their slight correction in October, could again cause a faster rise in the general price level. The latest upside risk to oil prices is the potential for escalation of the current conflict in the Middle East.

In response to the above economic and inflationary developments, central banks have further tightened monetary conditions in an effort to fulfil their price stability mandates. In both the euro area and the United States, key interest rates have been repeatedly hiked within a relatively short time, in each case up to two-decade highs. In the euro area, this crucial macroeconomic variable has risen to 4.5%, and in the United States, to 5.5%. Although both the ECB and the Federal Reserve have kept stressing that their decision-making is based on incoming statistical data, they have also signalled that the tightening cycle should be at or very close to its peak. At the same time, however, the US central bank in particular has warned that achieving the inflation target is likely to require leaving interest rates at elevated levels for an extended period.

The spring optimism in financial markets was replaced in late summer by concerns about the prolongation of restrictive monetary policy

Financial market developments over the past six months or so can be divided into two periods according to the prevailing mood. The first period was marked by gradual stabilisation after the shock caused by the several

failures of medium-sized banks in the United States and their partial spillover effects in the European banking sector. Importantly, and thanks in part to steps taken by public authorities, the contagion did not become systemic. The improvement in sentiment at that time was also based on investors' growing hope of a 'soft landing' for economies and a subsequent relatively rapid transition to monetary policy easing. This stimulated demand for riskier assets and pushed up their prices. By late July/early August, both statistical data and the market's outlook for the economy began to take on a gloomier character. The second half of September in particular saw financial market participants swing suddenly towards the expectation of higher-for-longer policy rates. In the case of US and euro area sovereign bonds, especially those with longer maturities, their yields to maturity moved significantly higher and their valuations fell. Other types of bonds and equity investments also experienced a negative price correction, in line with the shift in risk-free discount rates. In equity and bond markets there was rising nervousness and uncertainty, accompanied by an increase in the respective implied volatilities, albeit to a lesser extent than during the March stress episode. Although, at the time of writing, September's negative asset price movements did not have any evident financial stability implications, they were another reminder of investors' high sensitivity to changing macroeconomic outlooks. Moreover, the risk of such turbulence spilling over into a systemic crisis is further heightened by factors such as asset-liability mismatches in investment funds, the widespread use of leverage and derivatives in the non- bank sector, and generally lower market liquidity, all of which has the potential to amplify the initial shock and spread it from the initial focal point to other parts of the financial sector.

The focus of risks is shifting from the immediate impact of interest rate rises on financial markets to the longer-term cumulative impact of higher rates

With interest rates remaining at higher levels for longer, their impact on the financial position of borrowers will also increase, which in turn will affect their creditors in the financial sector. The ability of firms and households to pay their liabilities in a due and timely manner will also face constraints stemming from the projected slowdown in economic activity. Cheap financing obtained while interest rates were low will gradually transition into contracts with a significantly higher interest burden, and some borrowers may, in worse cases, find it difficult to secure refinancing. The cumulative effect of worsening macro-financial conditions is already starting to permeate statistics on debt servicing capacity. While a wide range of credit risk indicators were still at very low levels at the end of 2022, many started to show a slight upward trend during 2023. Global default rates among firms issuing marketable bonds are currently around

historical averages, and credit rating agencies foresee an increase in these rates, albeit, in their baseline scenarios, only a gradual increase with a peak lower than during the pandemic crisis. Among banks' customers, debt servicing problems are also starting to emerge. In the case of the euro area, the default rate on bank loans has climbed from low levels, and the share of past due loans is also rising; it therefore appears that still historically low non-performing loan ratios will soon start deteriorating.

From the perspective of its vulnerability in the context of current economic conditions and its overall importance and nature, the commercial real estate (CRE) sector poses one of the biggest threats to financial stability. CRE property prices have been falling since the second half of last year, and the number of transactions in this business in on a steep downward trend. Looking at the performance of exchange-traded and highly liquid shares in real estate investment trusts (REITs), it cannot be ruled out that CRE prices could be down by as much as tens of per cent at the bottom of the cycle. Vacancy rates are rising, although this problem is more acute in the United States than in Europe. Since property developers have high levels of debt financing in the new environment of higher interest rates and, in some segments, face an expected decline in rents, they are at risk of not having sufficient cash flow to service their debts. Given the generally negative sentiment towards the sector, low investor demand may result in some CRE firms being simply unable to roll over their debt. Attempted deleveraging of individual balance sheets may result in market prices being pushed even lower. The possible occurrence of defaults, especially in some European countries, may have a considerable upward impact on losses, further compounded by high average LTV ratios. The elevated level of systemic risk in the CRE sector stems also from the potential for contagion via the financial system, whether owing to significant cross-border exposures or to the extensive activity of open-ended real estate investment funds, which, given the liquid transformation they undertake, may at some point become a catalyst for a negative price spiral.

Europe's residential real estate (RRE) sector has also entered a period of correction, albeit somewhat lagged compared with the CRE sector. Moreover, the decline it experienced in the last quarter of 2022 and the first quarter of 2023 was more gradual, not exceeding 3% in total. The second quarter actually saw a slight recovery in prices, although in some countries, for example Germany, the RRE market is going through a deeper crisis. Given the rise in interest rates, low housing affordability, a slowdown in loan financing and an overall deterioration in the macroeconomic outlook, the possibility of a further wave of decline in residential property prices, and associated risks to financial stability, remains present also in the broader EU context.

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The European banking sector is in good shape this year and is therefore well placed to cope with what is expected to be a less favourable situation next year

The euro area banking sector passed another test of its resilience in the spring of 2023, but the period ahead will bring further challenges related to the contractionary phase of the financial cycle. The turbulence in the US and later Swiss banking sectors had no more than a relatively marginal effect on euro area banks, thanks in no small measure to the solid capital and liquidity positions they had built up in previous years. Moreover, euro area banks have managed to deliver record profits this year. The main driver of banks' increasing profitability is net interest income, as repricing is proceeding faster on the asset side of the balance sheet than on the liability side. With their profits rising, banks are increasing their capital adequacy ratios. However, these positive trends may soon become a thing of the past. In view of the circumstances discussed above, the credit quality of banks' portfolios may change for the worse and generate significant costs associated with impaired exposures. At the same time, the ongoing shift of funds from demand deposits to time deposits, the competition for funds, and the need to replace expiring low-interest sources of market funding are likely to gradually reverse the positive trend in net interest income, and weak lending activity is likely to exacerbate this turnaround. Despite these anticipated changes, market analysts expect the banking sector's profitability to fall only slightly next year, provided there are no new shocks. But even under alternative adverse scenarios, the banking sector should remain stable, as documented by the results of the 2023 EU-wide stress test conducted by the EBA and ECB.

Box 1
Crypto-assets and financial stability[2]

Crypto-assets are no longer a fringe issue, and regulation is responding to their evolution

Crypto-assets[3] represent a new way of conducting financial activities. The popularity of investing in crypto-assets is related to the benefits they are claimed to bring, including lower transaction costs, faster payments, no intermediation, anonymity and potentially high returns

[2] This box is based in part on a BIS paper entitled "Financial stability risks from cryptoassets in emerging market economies" (BIS Papers, No 138, August 2023), and on a speech by Claudia Buch, Vice-President of the Deutsche Bundesbank, entitled "Are crypto-assets a threat to financial stability?", given at the University of Hohenheim on 20 May 2023.

[3] Crypto-assets are financial assets in digital form, usually issued by the private non-bank sector on the basis of cryptography and distributed ledger technology (DLT) – a 'blockchain'.

on investment. Their share of the financial asset market has risen sharply, and their volume reached a peak of USD 3 trillion in November 2021, representing more than 0.4% of global financial assets.

Given its size, the crypto-asset market does not currently pose a significant risk to financial stability. However, the dynamic evolution and increasing popularity of these assets means they will, over time, represent a rising risk. This is because crypto-asset markets are interconnected with the traditional financial system. A systemic risk is that funds may increasingly flow out of bank deposits and into crypto-assets, adversely affecting banks' liquidity and intermediation activities. This may also exacerbate uncontrolled cross-border capital movements. Another risk to financial stability stems from the lack of transparency in crypto-asset markets, where information on the ownership, legal structure, governance and management of the key operating entities, including crypto exchange operators, is currently sparse. On the other hand, thanks to blockchain technology, the information available on crypto-asset transactions is beyond what is common in other sectors of the financial market.

Crypto-assets may pose a risk to households with higher exposure to this asset segment. The fact is that crypto-asset investments are subject to significant market risk, as crypto-asset markets are highly volatile. It is necessary to distinguish between 'stablecoins', whose value is pegged to an underlying asset (typically a fiat currency like the US dollar or a commodity like gold or silver) and crypto-assets, whose value is not pegged to any reserve underlying asset and is primarily created by a software algorithm that regulates the supply of the given crypto-asset. These assets, unlike traditional forms of investment, have no intrinsic value, nor is there a backing authority that regulates them; hence their prices change sharply and their holders risk incurring losses.[4] These fluctuations in crypto-asset markets can also cause volatility in traditional financial markets, as a result of efforts to shift invested assets suddenly and speedily.

The risk of investing in crypto-assets stems also from the high concentration in crypto-asset markets. Trading in these assets takes place on only a few large crypto exchanges. More than 70% of the market capitalisation of crypto-assets is accounted for by the six largest crypto-assets. As regards issuers of stablecoins, 90% of market capitalisation is concentrated within the three largest entities. There is also significant concentration in terms of market participants. In 2020 fewer than 100 participants controlled over 51% of the market value in Dogecoin, ZCash and Ethereum Classic.[5] A small number of trades can thus trigger large

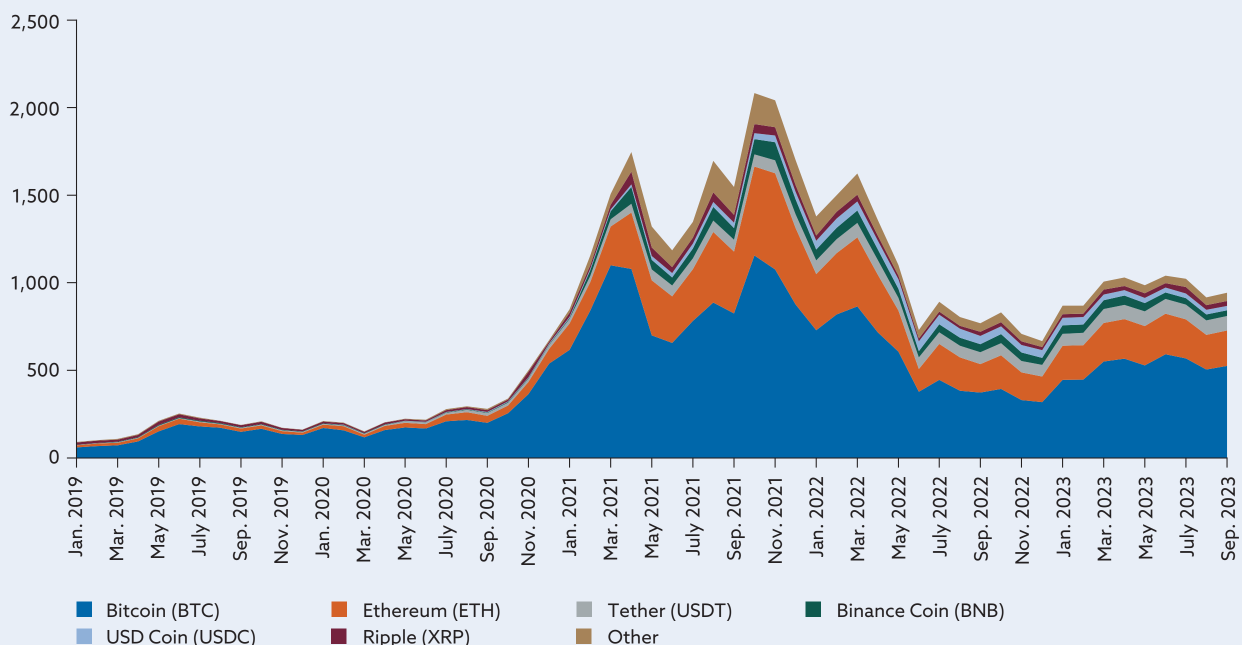
[4] An example is the major correction in crypto-asset prices in May 2022, triggered by the collapse of one of the largest stablecoins, TerraUSD, which contributed to the overall value of crypto-assets plummeting to one-third of the peak levels reached in November 2021 (to around 0.15% of global financial assets).

[5] Sai, A., Buckley, J. and Le Gear, A., "Characterizing wealth inequality in cryptocurrencies", *Frontiers in Blockchain*, Blockchain Economics, Vol. 4.

changes in demand and significant movements in the price of these assets. In the past, too, significant movements in crypto-asset prices were sparked by information about the buying and selling of crypto-assets by large investors.[6]

Another risk associated with crypto-assets is that crypto-asset traders and platforms with this type of asset are highly indebted and excessively leveraged, with the result that investors are exposed to liquidity and credit risk.[7] The digital nature of these currencies and the concluding of online contracts for these investments in turn makes the system highly susceptible to cyber attacks.[8]

Chart 1
The crypto-asset market has been highly volatile in recent years
Market capitalisation of crypto-assets (USD billions)



Sources: https://coinmarketcap.com/, Bundesbank, and NBS.
Note: The item 'Other' includes cryptocurrencies that at the beginning of October 2023 had a total capitalisation of more than USD 5 billion.

6 An example was seen in 2021 and when changes in the Bitcoin price followed information about the purchase and next steps of a major Bitcoin investor.

7 For example, transactions between related parties can create an opaque web of interconnections between entities, which represents credit risk that, however, may not be apparent to investors. One example in 2022 was the fall of Alameda Research, a crypto-asset trading firm, and FTX, then the second largest crypto exchange. Both companies had the same owner (Sam Bankman-Fried). When the news broke that the majority of Alameda's balance sheet consisted of FTT tokens issued by FTX, confidence in the token faltered and its price crashed. FTX investors were thus exposed to Alameda's credit risk.

8 The US Federal Trade Commission reported that, in 2021, scammers had stolen over USD 1 billion in crypto-assets from 46,000 people.

Crypto-assets are no longer a marginal issue in Slovakia. According to survey data, approximately 9% of the country's adult population has had some experience of using crypto-assets.[9] This share is similar to that found in other EU countries.[10] Moreover, this type of asset is growing in popularity. Among the respondents in Slovakia who had at least basic knowledge of crypto-assets, 13.7% intended to buy some in the future and almost a third more[11] were contemplating doing so. The respondents who have held crypto-assets are mostly younger people,[12] which points to the future growth potential of these assets. Most respondents in Slovakia[13] had less than €1,000 worth of crypto-asset holdings, and they purchased them mainly to become familiar with this type of investment and to engage in financial speculation. However, around 12% of respondents had more than half of their investments in crypto-assets. The same share of respondents reported holding crypto-assets worth more than €5,000. This implies that some households have a greater exposure to the crypto-asset markets.

In order to cover the risks to the banking sector posed by the interconnection of the crypto-assets market with the financial sector, the Basel Committee on Banking Supervision (BCBS) adopted a supplement to the Basel Framework in 2022[14] **and it will take effect from 1 January 2025.**[15] The new rules distinguish between two groups of crypto-assets: Group 1, comprising tokenised traditional assets and stablecoins; and Group 2, comprising all other crypto-assets, including unbacked crypto-assets. Group 1 assets are subject to capital requirements based on the risk weights of underlying exposures as in the existing Basel Framework, while Group 2 assets are subject to more conservative capital requirements. A bank's total exposure to these types of assets must not exceed 2%, and should ideally be lower than 1%, of its Tier 1 capital. If exposures exceed 2% of the bank's Tier 1 capital, then the full exposure to assets in Group 2 must be backed by own funds.

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9 The survey was conducted for NBS in 2021 by the Focus agency; the results are published here: https://nbs.sk/dokument/e7c683b5-f817-4abf-bd4d-34d19081f707/stiahnut/?force=false

10 In Slovakia, according to the survey, 5.8% of the adult population owned crypto-assets at the end of the year, while in France the figure was 8% and in the United Kingdom, 4.4%. In Slovakia, 84.1% of respondents had heard of crypto-assets, while in France the figure was 77% and in the United Kingdom, 78%.

11 29% of respondents.

12 As many as 44.4% of crypto-asset investors were in the 25-34 age bracket.

13 61% of respondents.

14 *Prudential treatment of cryptoasset exposures*, BCBS, December 2022.

15 At the EU level, representatives of the European Parliament, Council and Commission reached an agreement in the summer of 2023 on necessary amendments to the Capital Requirements Regulation and Directive, which should include the agreed Basel standards for banks' exposures to crypto-assets. Until these changes enter into force, transitional arrangements – to be drafted by the European Commission – will be in place to ensure prudential treatment of these exposures.

The EU has started the process of implementing a comprehensive regulatory regime for crypto-assets and markets, by adopting the Regulation on Markets in Crypto-Assets (MiCA).[16] It aims to balance incentives for innovation related to crypto-assets against risks to the financial system and investors through the following: i) requirements regarding the issuance of crypto-assets and crypto-asset services; ii) the authorisation and supervision of issuers of stablecoins and crypto-asset service providers; iii) capital requirements and governance rules; and iv) reserve requirements for stablecoin issuers.

There are, however, still areas that require regulatory action. One example is concentration risk, where MiCA imposes requirements for activities within the same entity but not for activities across a group. As regards tokenised instruments, it is necessary to clarify whether they would fall under crypto-specific regulation or traditional banking regulation. Furthermore, it is necessary to limit the scope for regulatory arbitrage, where services are provided from regions that do not implement minimum regulatory requirements.[17] Additionally, reporting and disclosure standards will have to be extended to non-bank institutions. The biggest challenge, however, remains how to ensure regulatory consistency at the international level so as to prevent the circumvention of regulatory regimes. This is because crypto-assets are traded in the digital space, and hence cryptocurrencies can be bought from traders and issuers in jurisdictions not subject to the regulatory regime.

1.2 The domestic economy has maintained moderate growth

Although rising prices have reduced household purchasing power, the labour market remains stable

Domestic economic developments this year have been shaped by monetary policy tightening, persisting price growth and subdued global demand. Concerns about a potential decline in Slovak economic output have not as yet been borne out. The Slovak economy has managed to maintain growth, albeit at a more moderate rate than was normal before the pandemic crisis. In the first half of 2023, GDP grew by 1.2% year-on-year.[18] After several years when household consumption was an important source of economic growth, the situation has changed. In response to rising living costs and

[16] Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937.

[17] MiCA explicitly prohibits the placing of crypto-assets issued by entities established in non-EU countries which are not authorised pursuant to MiCA.

[18] The Slovak economy's average annual growth over the period 2015–19 was 2.9%.

falling real incomes, households have cut back their spending. But despite being more modest in their consumption, households have not managed to increase their savings and the saving ratio has remained at a lower level. Economic growth in the first half of 2023 was driven by car manufacturers, whose output offset the impact of the decline in domestic consumption. Other sectors, however, felt the effect of weakening external demand more strongly. Despite higher prices and interest rates, firms were able to maintain their levels of investment activity, which contributed positively to economic growth. By contrast, government consumption did not have an upward impact on GDP growth. The outlook going forward suggests that fragile economic growth will be maintained.[19] The impact in most of Slovakia's trading partners of softening global demand and the need to maintain tight monetary conditions for a longer period of time will prevent the Slovak economy from picking up more strongly.

Corporate revenues have slowed considerably. After two years of strong year-on-year growth, corporate revenue growth slowed in the second quarter of 2023. Although revenues recorded a nominal increase year-on-year, when adjusted for inflation they declined in the second quarter.[20] The real drop in revenues became more pronounced during the summer, when even nominal revenues remained flat in year-on-year terms.[21] Weakened domestic and global demand was therefore also reflected in firms' revenues. Revenue growth slowed in all sectors apart from telecommunication services and the manufacture of transport equipment.

The tightening of monetary policy is already starting to be reflected in price developments. Annual inflation has slowed by 6 pp from its peak at the beginning of the year, while in August it stood at 9.6%.[22] Although the pace of price growth is now moderating, it is still well above the inflation target. Higher inflation in the summer months was due to rises in fuel prices, which stemmed largely from reduced oil output and the consequent increase in oil prices on world markets. According to the current outlook, Slovakia's headline inflation should still average double digits this year, before gradually moderating in subsequent years.

Despite the economic slowdown, the labour market remains stable. Even with employment no longer growing, the unemployment rate has contin-

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[19] NBS autumn 2023 medium-term forecast (MTF-2023Q3).

[20] In nominal terms, firms' revenues in the second quarter increased by almost 4% year-on-year, but in real terms they fell by more than 6%.

[21] In July, firm's revenues decreased by 0.7% year-on-year, seasonally adjusted, while in August they edged up by 0.8%.

[22] In February 2023, the cost of the consumption basket increased by 15.4% year-on-year.

ued falling. It reached a historical low of 5.1% [23] in May 2023, when labour offices reported the lowest number of unemployed. Since then, the number of unemployed has risen slightly,[24] but with the number of job vacancies still relatively high, there is as yet no sign of a trend shift. Recruitment in the first half of 2023 was highest in the sectors of industry, construction, and telecommunication and IT services. Rapid price growth has had an upward impact on the average wage in the economy, which by the end of the first half of 2023 had surged by one-tenth year-on-year.[25] But despite this remarkable increase, real wages, after adjusting for inflation, were lower year-on-year.[26] The past year has therefore seen a decline in household purchasing power. Since wage growth will remain elevated for still some time, real wages are expected to start rising again as inflation moderates. The labour market is likely to remain tight, but any further decline in the unemployment rate should occur only very gradually.

Rising prices and interest costs are increasing pressure on the economy and thus on the sustainability of public finances. Public debt sustainability in Slovakia is now among the worst in Europe.[27] Although Slovakia's gross public debt is, at 57.8% of GDP, below the EU average,[28] in 2022 more than half of EU countries already had a lower public debt than Slovakia. Slovakia's unfavourable fiscal sustainability outlook is related to the expected evolution of costs associated with an ageing population,[29] as well as to the currently difficult budgetary situation, which, in the absence of fiscal consolidation, would keep public debt on an upward trend. Although fiscal sustainability risk is not new, it has been greatly exacerbated over the past five years by two major crises[30] and the fiscal response needed to overcome them, as well as by permanent, unfunded redistributive measures.

The servicing of public debt will gradually become tougher owing to an increase in required market interest rates. Their impact will gradually be reflected in public debt servicing costs, as individual government bond issues mature. Approximately €12.4 billion worth of Slovak sovereign debt – around one-fifth of the total – is due to mature over the next two years,[31]

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23 The registered unemployment rate according to ÚPSVaR SR.

24 The number of registered unemployed increased between May and August 2023 by almost 2,400 people.

25 At the end of June 2023, the average wage in the economy was 9.6% higher year-on-year.

26 At the end of June 2023, real wages were 2% lower year-on-year.

27 "2022 Debt Sustainability Monitor", *Institutional Papers*, No 199, European Commission, Brussels, April 2023.

28 In 2022 the EU average was 84% of GDP and the euro area average was 91.5% of GDP.

29 Spending on pensions, health care and long-term care.

30 The coronavirus (COVID-19) pandemic and the energy crisis.

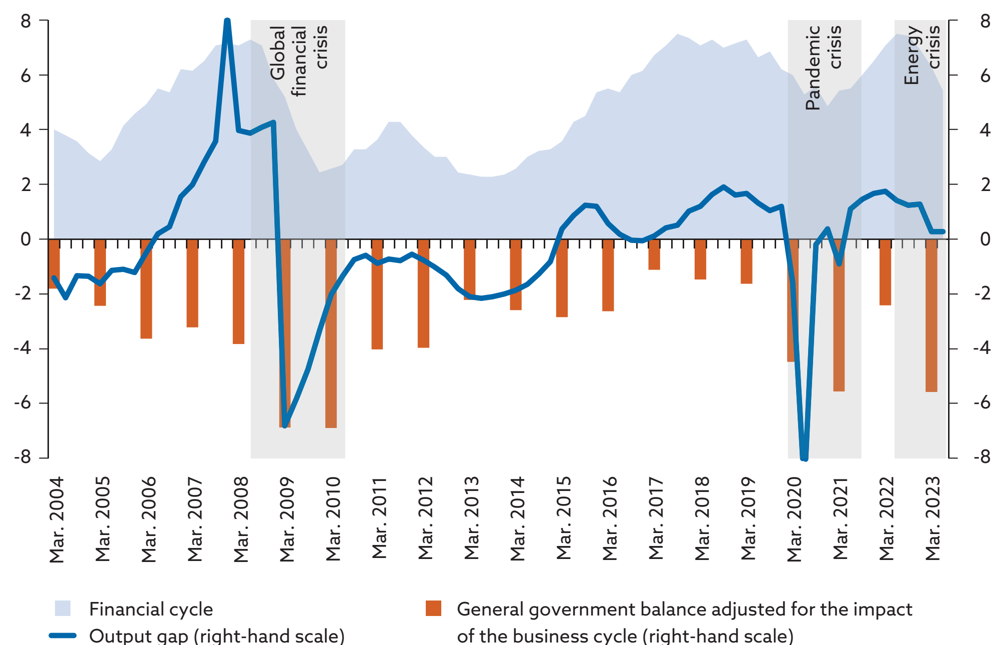
31 By the end of 2025.

and most of that debt has an interest rate below the current rate for Slovak bonds. If these maturing bonds were replaced by bonds with a similar maturity structure, the cost of servicing this portion of the debt would, at current market rates, more than double from today's levels.[32] The problem would be compounded if markets started requiring a higher risk premium owing to concerns about the sustainability of public finances. Slovakia is today among the six euro area countries whose government debt has the highest premium over German Bunds.[33] Any worsening of the situation in public finance sustainability would in future narrow the scope for fiscal policy responses to potential shocks to the economy and the financial sector.[34]

Chart 2

In times of shocks, fiscal policy tends to be countercyclical, but future fiscal sustainability problems could limit its capacity to respond

(composite index; percentages of GDP (with the output gap as a percentage of potential GDP))



Source: NBS.

Notes: The financial cycle is modelled using the Cyclogram, NBS's composite indicator of the financial cycle. Higher values imply a strong build-up of imbalances. The 2023 figure for the cyclically adjusted general government balance is an NBS projection (NBS's autumn medium-term forecast (MTF-2023Q3)). The output gap in 2023 is the average for the whole of 2023 (NBS's autumn medium-term forecast (MTF-2023Q3)). GDP – gross domestic product.

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[32] The cost of servicing this part of the debt would rise by €290 million per year. The growth in public debt should be slowed to some extent by partial coverage of the budget deficit from the state's cash reserve, which is part of the general government liquid financial assets and in 2022 amounted to 10% of GDP. If the deficit was co-financed from this reserve, the country would be compelled to borrow to a lesser extent until the reserve was depleted.

[33] In September 2023, the ten-year sovereign bonds of Malta, Italy, Greece, Cyprus, Croatia and Slovakia had the highest spreads over German Bunds.

[34] For example, the adoption of support measures similar to those adopted during the pandemic and energy crises.

2 Financing of the economy

2.1 Corporate lending is stabilising after strong growth in 2022

Corporate loan flows have returned to gradual growth in 2023

It can tentatively be said that lending to non-financial corporations (NFCs) has somewhat stabilised after its excessive growth in 2022. Although quarterly flows of NFC loans were almost half as high in the second and third quarters of 2023 as in the same period of 2022, they were still greater than the corresponding levels in 2019, 2020 and 2021, even after adjusting for the price level growth since 2021. The current level of credit flow is in line with an annual growth rate of around 5%.

Annual growth in NFC loans has slowed because of a base effect and the normalisation of credit flows. The outstanding amount of NFC loans as at September 2023 was 4.6% higher year-on-year. Compared to the peak annual growth rate recorded in September 2022, that represents a significant decline of 7.6 pp, which is due largely to the normalisation of credit flows and to the base effect of last year's high figure.

Lending is growing faster in Slovakia than in most EU countries. On this metric, Slovakia is moving above the median[35] for CEE countries and into the first quartile of EU countries. This divergent trend reflects the fact that, unlike Slovakia, most euro area countries have experienced a more pronounced decline in credit demand.[36]

Some slowdown in lending activity has occurred in key segments of the corporate sector. In the sectors of industry and commercial real estate, the pace of credit growth has dropped more markedly. The slowdown in quarterly credit flows in these sectors has had a notable downward impact on annual credit growth,[37] which in industry stood at 1.7% in September. In both sectors, the outstanding amount of loans has been falling slightly in both month-on-month and quarter-on-quarter terms.

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35 Annual growth in loans to NFCs.

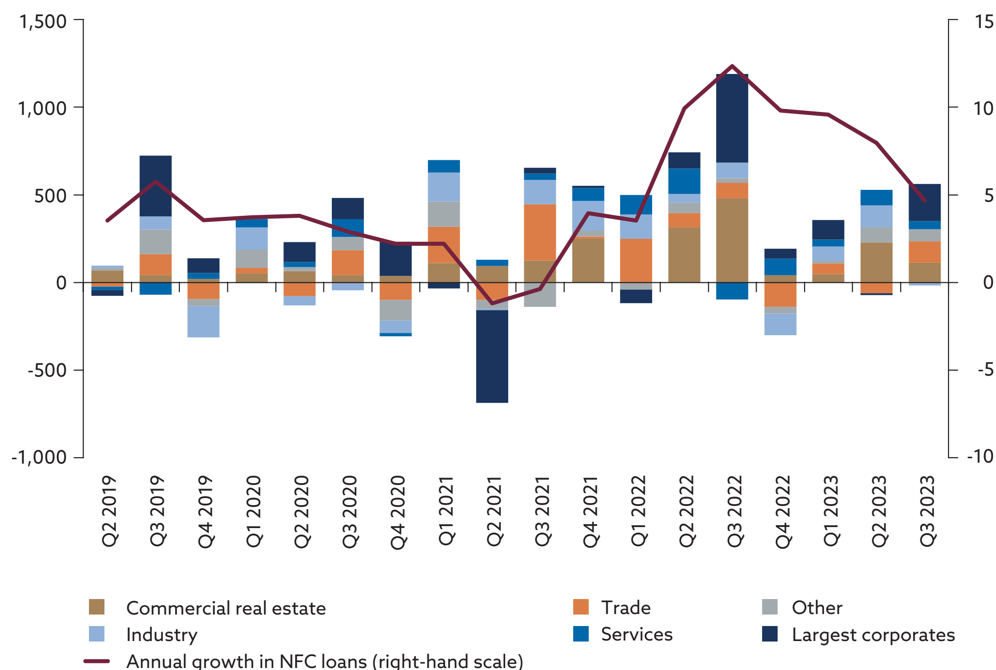
36 The average decline in demand at the EU level is comparable only to the slump that occurred during the global financial crisis. Demand at the EU level is expected to continue falling for the rest of this year.

37 For CRE loans, the annual growth rate loans has dropped by 12.5 pp during 2023, to 6.5%, while for loans to industry, it has fallen by 7.7 pp.

Chart 3

Total lending to NFCs continues to grow

Quarter-on-quarter changes in the amount of NFC loans by economic sector, and annual growth in NFC loans (EUR millions; percentages)



Sources: NBS, and Register of Bank Loans and Guarantees (RBUZ).
Note: NFC – non-financial corporation.

Lending developments are also heterogeneous across firm size categories. Only loans to micro enterprises have maintained strong growth, on a par with the pace seen in previous years. As for lending to small firms, it has picked up after slowing in the first half of the year. In the portfolio of loans to large firms, the largest corporates[38] shape lending activity to a significant extent, especially so in the recent period.[39]

The monetary policy tightening cycle has already had a major impact on corporate lending rates

The most important supply-side factor[40] is for now the level of interest rates. Corporate lending rates have risen sharply in response to the ECB's key interest rate hiking cycle. They have climbed by 2.9 pp since last summer,[41] basically mirroring the trend in interbank market rates. This rapid pass-through of the base rate to corporate lending rates can be explained by the

[38] The ten largest corporates.
[39] Annual growth in loans to large corporates not including the ten largest has been declining since the end of 2022.
[40] In the bank lending survey for the third quarter of 2023, banks did not report tightening of their credit standards.
[41] This refers to the average interest rate weighted by loan size. The median interest rate recorded a more modest increase of 1.9 pp.

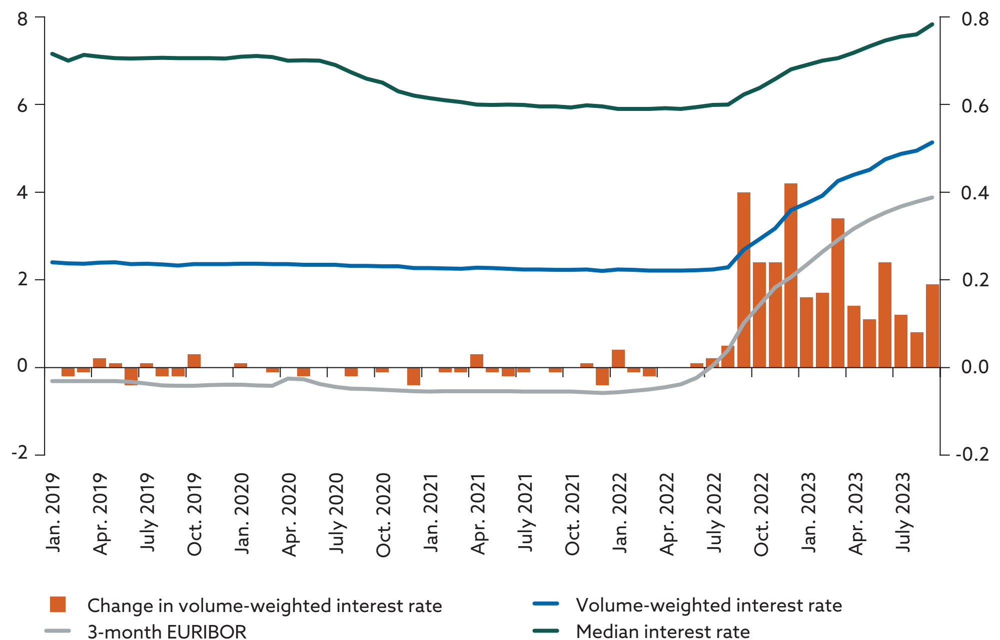
structure of corporate rates. In volume terms, three-quarters of the corporate loan portfolio has a contractual variable interest rate, which in most cases is linked to the EURIBOR.[42] The other loans, accounting for around a quarter of the portfolio, have a fixed interest rate, although many of them are short-term loans with a residual maturity of up to one year.[43]

The pace of interest rate increases is gradually slowing.[44] While maintaining banks' current levels of interest margins, corporate lending interest rates could continue rising until early 2024.[45]

Chart 4

Monetary policy tightening has had a rapid impact on corporate lending rates

Interest rate level and interest rate movement (percentages; percentages)



Sources: NBS, and Register of Bank Loans and Guarantees (RBUZ).
Note: EURIBOR – euro interbank offered rate.

[42] In terms of their number, 60% of corporates have a variable-rate loan, with variable rates more common among large firms. At the individual firm level, the impact of a surge in lending rates can be partially mitigated by interest rate hedging, though this option, involving the deferring of rate increases over time, is primarily used by larger corporates. Moreover, hedging itself entails some additional costs.

[43] 40% of fixed-rate loans will have to be refinanced within one year.

[44] Average corporate lending rates rose by 19 basis points in September 2023, and their increase over the whole of the third quarter was 38 basis points. Interest rates are changing in quarterly cycles, given that quarterly repricing of interest rates is the norm for variable-rate loans.

[45] The three-month EURIBOR is expected to peak at the end of 2023, and that level should, on average, pass through to corporate loans by the end of the first quarter of 2024. Thereafter, average corporate lending rates will be affected mainly by the refinancing of fixed-rate loans with a longer maturity, though this impact may be offset by a decline in variable-rate loans.

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The average interest margin[46] on NFC loans rose slightly in the third quarter. The increase was not broad-based across the portfolio, but rather driven by an increase in interest margins for large corporates. Interest margins for micro and small firms declined.

Credit quality indicators remain favourable, although some have deteriorated slightly

The amount of non-performing loans has increased in the last two months. Compared with June 2023, when the NPL ratio for corporate loans was at its lowest, the amount of NPLs has increased by 8.5%. This rise has had a slight upward impact on the NPL ratio, which at 2.5% is nevertheless close to its historical low. The increase in the amount of NPLs was largely accounted for by the industry and construction portfolios. At the same time, most of the significant banks active in corporate financing report an increase in this indicator. In the context of previous years, the increase in NPLs is still at a normal level. The share of loans past due by up to 90 days has also risen, reaching its pre-pandemic level. In this case, the increase has been fairly widespread across sectors.

2.2 Mortgage origination has remained at a lower level

After slowing down in the second half of 2022, mortgage origination has stabilised this year

The number of mortgages originated during 2023 has been around one-third lower compared with 2021. The mortgage market has settled at a new equilibrium and did not show any significant changes between January and August 2023.[47] The upturn in mortgage rates has eased considerably, and after rising by less than 0.02 percentage point in August and September, the average rate stood at 4.5% at the end of September.[48]

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[46] On variable-rate loans. Average weighted by loan size.

[47] The share of pure new loans in average mortgage origination in the first half of 2023 was 62% of the average for 2021. The average monthly increase in the mortgage portfolio was around €150 million in the first six months of this year, before recording a seasonal decline in the summer, down to €110 million per month.

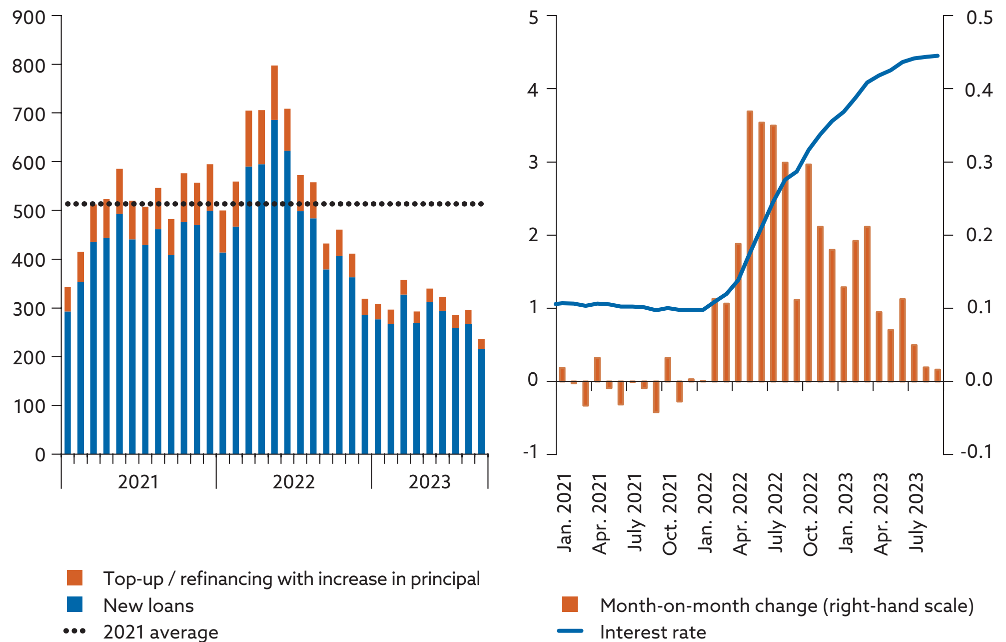
[48] Interest rates on pure new mortgages were approximately at the level of the EU's upper quartile.

Chart 5

Mortgage rates are almost unchanged

Left-hand panel: Mortgage origination (EUR millions)

Right-hand panel: Mortgage rates and month-on-month changes in interest rates on pure new mortgages (percentages; percentage points)



Source: NBS.

Data for September indicated a further deceleration, but it will take more months to confirm the presence of a trend. Mortgage origination growth fell in early September, down to around half of its 2021 average. This slowdown was broadly reported across banks.[49]

The mortgage portfolio's annual growth rate in September 2023 was 4.8%.[50] As year-on-year growth in the portfolio responds with some lag to the slowdown in origination, the trend in mortgage lending activity since early 2023 will continue having an impact in the months ahead. We expect that annual growth in mortgage loans could drop to around 3% by the end of this year. Mortgage lending activity has been slowing across the EU.

[49] This slowdown reflects lower lending activity as well as weaker uptake of new mortgages. Despite something of a decline in mortgage origination, banks, in their responses to the bank lending survey (BLS) at the end of third quarter, reported hardly any changes in their credit standards or in demand for loans. The last time they confirmed notable changes in these indicators was in the second quarter of 2023.

[50] Home savings loans are an exception to this trend. When interest rates were low, mortgages were being provided at rates as low as 1.0%, while home savings loans carried rates of between 3.0% and 3.5%. However, as the interest rate environment has changed, rates on home savings loans and mortgages have almost equalised. Thus, home savings loans have increased in attractiveness and their portfolio has started growing again.

Among EU countries, Slovakia still ranks above the median for mortgage portfolio growth.[51]

The decline in the amount of mortgages originated is largely due to a decline in the number of mortgages, not to any significant drop in the average amount of new mortgages. The number of new mortgages has fallen by more than a third, while the average amount of a mortgage has dropped by only around 3%.

New mortgage borrowers are increasingly opting for longer initial rate fixation periods, even though the rates are higher than those offered for shorter fixation periods. In the second quarter of 2023, four out of five new mortgages had an initial rate fixation period of at least four years, whereas in the 2018–21 period, fewer than three in five did so.

Young borrowers have been most affected by the rise in mortgage rates, while their share in new loans has fallen only slightly

Because of their higher debt-to-income ratio, younger borrowers will be hardest hit by the increase in new mortgage payments. Compared with mortgages granted two years ago, new mortgages have noticeably higher payments. This is particularly evident among new mortgage borrowers of a younger age, who, on average, have the highest DTI ratios. In the case, for example, of borrowers with a DTI ratio of eight, the DSTI ratio could be 17% higher on mortgages granted today than on mortgages granted in late 2021.

Higher loan payments have not deterred younger people from taking out new mortgages, although the number of new mortgages granted to younger customers has fallen slightly more than the number granted to older customers. In the distribution of new mortgages by borrower age group, the number of loans has fallen in all categories. The decline compared with 2021 has been slightly more pronounced among young customers (-39%) than in the portfolio as a whole (-32%).

Meanwhile, the average amount of a new mortgage has fallen roughly in line with the movement of property prices, although among young borrowers it has actually increased slightly.

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[51] For EU countries, the median annual growth rate of mortgage loans was 1.5% as at August 2023, while for Slovakia the growth rate was 2.9%. In a quarter of EU countries, the annual growth rate was negative.

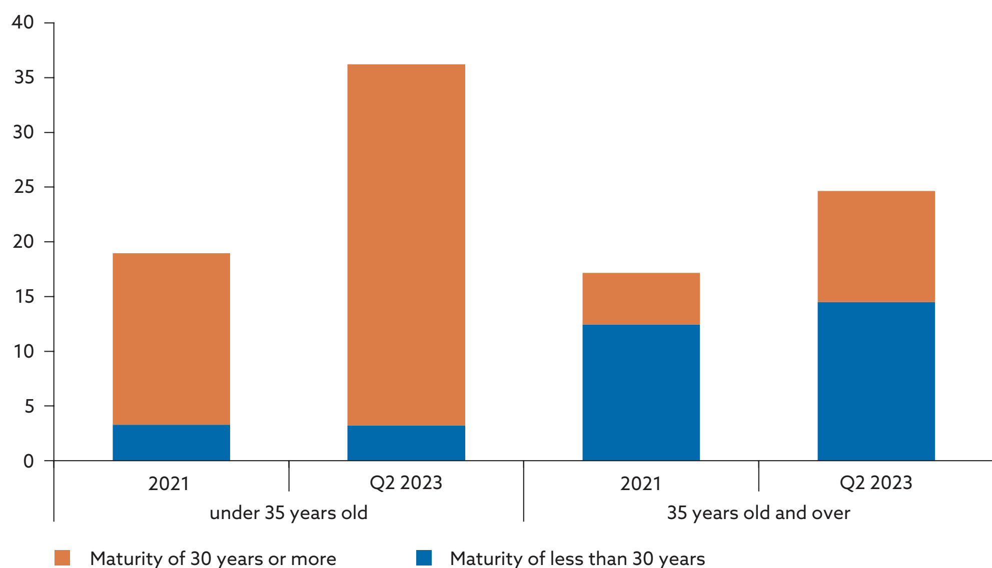
Mortgage uptake among young customers has held steady even as risk has increased, and an increasing share of young mortgage borrowers are co-borrowers

In all age groups of new mortgage borrowers, the share of single borrowers has dropped and the share of co-borrowers has therefore increased. While the rise in co-borrowers has been a long-term trend, it has accelerated with the change in the interest rate environment. In 2021 the share stood at 49%, and by the end of June 2023 it had risen to 56%. While the share of co-borrowers is lower among younger customers, its increase has been highest in this age group, surging from 36% to 50%.

Chart 6

The share of mortgages with a high DSTI ratio has risen the most among young borrowers, whose loans usually have a long maturity

Share of loans with a DSTI ratio of more than 55% in 2021 and in Q2 2023 (percentages)



Source: NBS.
Note: DSTI – debt service-to-income (ratio).

The resilient demand for mortgages has, however, been accompanied by a rising share of loans with a high DSTI ratio. The share of mortgages with a DSTI ratio close to the regulatory limit[52] has increased across all groups of borrowers, regardless of age, income, or education. However, the magnitude of the increase has varied, being most pronounced among young borrowers, who have the highest debt-to-income ratios. The share of young borrowers whose DSTI ratio is close to the regulatory limit rose from just 19% in 2021 to more than 38% by the end of June 2023.

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[52] A DSTI ratio of over 55% is deemed to be close to the regulatory limit.

Moreover, mortgages with near-maximum DSTI ratios are being provided with long maturities. Almost all young borrowers[53] with a DSTI ratio close to the limit are taking out 30-year mortgages. Naturally, the share of mortgages with long maturities declines as the borrower age group rises.

Consumer credit has picked up

Consumer credit has been rising steadily since early 2023.[54] Its year-on-year growth has also risen gradually, reaching 6.0% as at September 2023. In August and September, consumer credit growth even outpaced mortgage growth. Nevertheless, the portfolio's outstanding amount has still not rebounded to its pre-pandemic level.[55] If consumer credit flows maintain their current pace, the annual growth could accelerate to around 10%.

Consumer credit is accelerating faster in Slovakia than in most other EU countries. Slovakia's consumer credit growth in August 2023 was above the EU median.

Non-bank consumer credit has also been picking up. After a period of decline, the portfolio returned to growth in mid-2022, and its annual growth rate rose to 4.5% in June 2023.

The acceleration in nominal consumer credit growth has been due in large part to inflation and to a lesser extent to the lower uptake of debt consolidation mortgages. Consumer credit lending is closely linked to prices of consumption goods and services. Without the inflationary impact, consumer credit growth would have been virtually zero.[56]

Another factor behind nominal consumer credit growth has been lower uptake of debt consolidation mortgages. With mortgage rates having risen sharply, such consolidation is now less attractive. If debt consolidation had remained at previous levels, consumer credit flows would have been around half.

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[53] 92% of new mortgage borrowers under 30 with a DSTI ratio of more than 55% have opted for a 30-year maturity.

[54] The average monthly increase in the portfolio between January and September 2023 was €36 million.

[55] As at September 2023 the portfolio amounted to €5.4 billion, 94% of its historical high in November 2019.

[56] Inflation is adjusted by the deflation of gross increases.

Interest rates on consumer credit have been slowly rising and reached 9.6% as at September 2023. Compared with mortgage rates, however, they have risen by less than half as much over the past 18 months.[57]

Non-performing loan ratios are at extremely favourable levels

For both mortgages and consumer credit, NPL ratios are at historical lows. For the mortgage portfolio, the NPL ratio has been at 1.1% for almost a full year, and for consumer credit it is around 6.9%. The amount of loan defaults is roughly stable and shows no sign of a change in trend.

[57] Over 18 months they increased by 1.9 pp, while mortgage rates rose by 4.4 pp. Consumer credit in Slovakia is still among the most expensive in the EU.

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3 Residential real estate (RRE) market

3.1 The current decline in housing prices is not a threat to financial stability

Housing prices have continued falling in most segments of the market

The downtrend in residential housing prices which began around mid-2022 was still continuing in September 2023. Prices have been falling in all regions of Slovakia, and the trend is observed in most types of residential property. In Bratislava, one- and two-room older flats have seen the largest drop in price. As at September 2023, prices of flats in Slovakia were, on average, 10% lower year-on-year and 14% cheaper compared with the summer of 2022.

Bratislava's new-build market has also been affected by negative sentiment. Asking prices for new flats – whether new-build in residential development projects or relatively new existing flats – have not so far fallen as much as prices of older existing flats. Prices of new flats have either decreased slightly or remained unchanged. The number of units sold dropped significantly in the summer of 2023 and was below 250 for a fourth successive quarter; by contrast, the number sold per quarter in 2016 and 2017 averaged 1,200. The supply of available flats has therefore increased substantially. The price uptrend in recent years and its current modest correction have led to a situation in which the most expensive flats, i.e. 3- and 4-room, are selling the least, while demand for 1-room flats has seen the most moderate drop.

The decline in housing prices stems mainly from households' decreasing financial capacity and from price expectations

The rise in euro area mortgage rates since 2022 has altered the evolution of housing prices in most euro area countries. Higher interest rates have reduced households' capacity to buy a home, while at same reducing their incentive to do so during this period.

The mortgage market slowdown has had a downward impact on housing prices. While the size of mortgages granted since the summer of 2022 has fallen only slightly, the number of new mortgages has dropped by almost 50%. In line with this trend, both the number of transactions in the market and housing prices have fallen. Meanwhile, the average period of time for which flats are listed for sale before being sold has increased.

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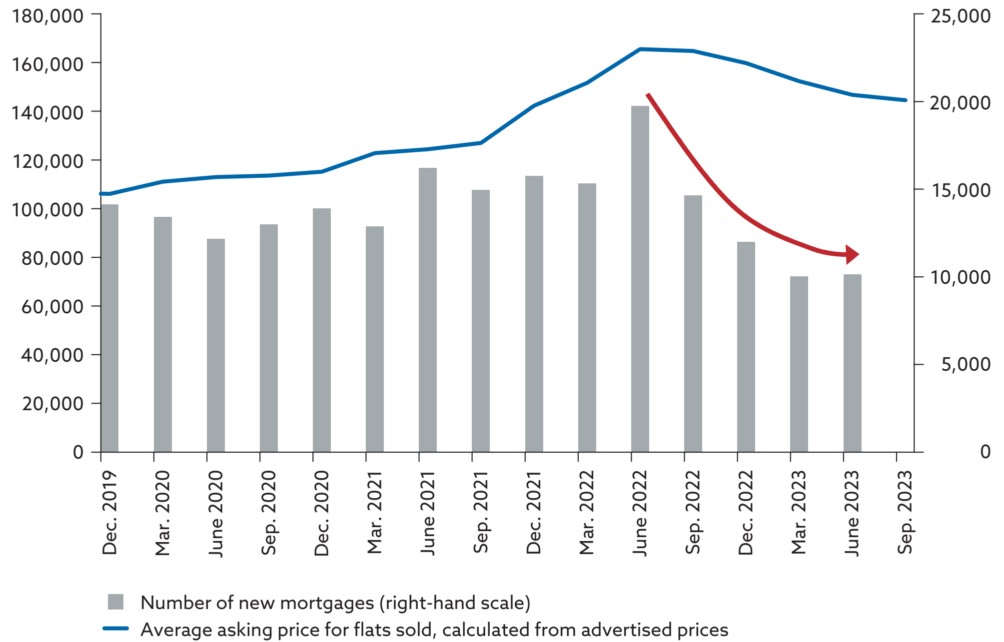
Chart 7
Prices of flats have fallen in conjunction with a declining number of new mortgages
(EUR; number)



Sources: NBS, and United Classifieds.

How the RRE market evolves will be affected by several factors

The relationship between household incomes and housing prices will play an important role. Even after taking into account the recent decline in average housing prices, the relationship between incomes and housing prices remains unfavourable. With mortgage rates at high levels, the negative relationship between household incomes and housing prices may exert pressure for further corrections in the RRE market.

At the same time, a continuing trend is that new mortgage payments are substantially higher than rental payments for a comparable flat. Moreover, the currently high level of mortgage rates means that the interest component of mortgage payments is far larger than it was in the past. Today, for an average flat in Bratislava, rents are even lower than mortgage interest payments alone.

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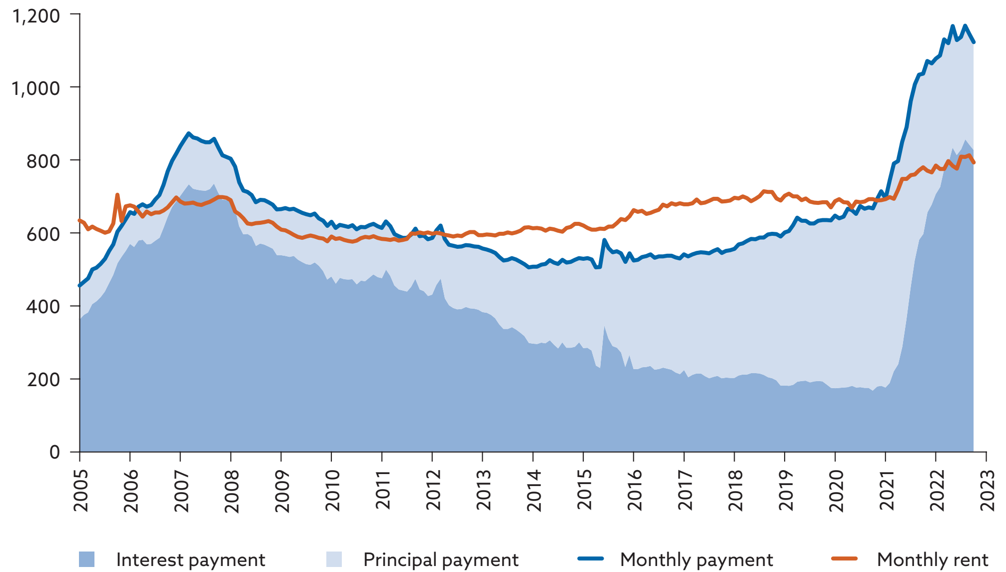
Chart 8

For an average flat in Bratislava, the interest component of the average mortgage payment is itself higher than the average monthly rent

(EUR)



Sources: NBS, and United Classifieds.

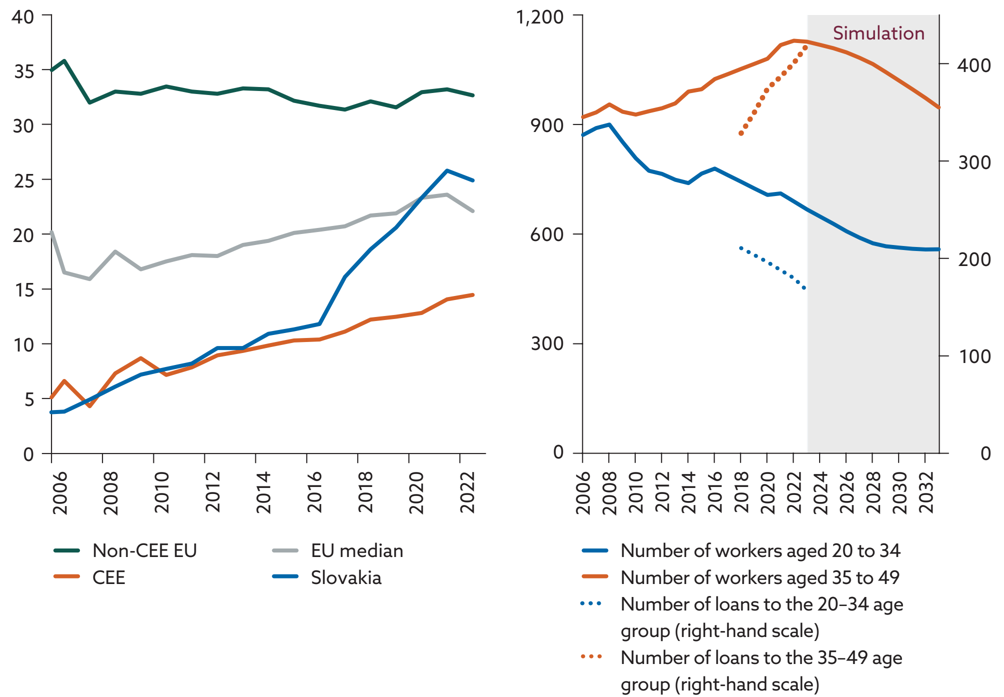
Notes: The comparison of buying and renting does not take into account savings or other costs such as property tax, energy costs, and building management costs (including the building-up of a repair fund). The mortgage payment is calculated for a mortgage with a 30-year maturity, an LTV ratio of 90%, and an interest rate at the average level for a new mortgage.

The RRE and mortgage markets have for a long time been structurally affected by the share of indebted households and by the debt-to-income ratios of individual households and the number of these households. Housing price growth may be dampened by a demographic decline in the number of workers in younger age groups and its negative impact on, in particular, the number of new mortgages. At the same time, the share of households with a mortgage now exceeds the EU median, which may indicate greater saturation of the mortgage market. Going forward, the mortgage and RRE markets may also be affected by a forthcoming regulation addressing the energy efficiency of real estate.

Chart 9

Some structural factors affecting mortgage market potential are gradually weakening

Left-hand panel: Share of households with a mortgage (percentages)
Right-hand panel: Numbers of workers and numbers of mortgages (thousands; thousands)



Sources: Eurostat, and NBS.
Notes: The simulation of the number of employed is based on a standard demographic projection to which is applied the relationship between the number of people and the number of workers in the respective age groups observed during 2023. CEE – central and eastern Europe.

The main factor affecting housing affordability is interest rates

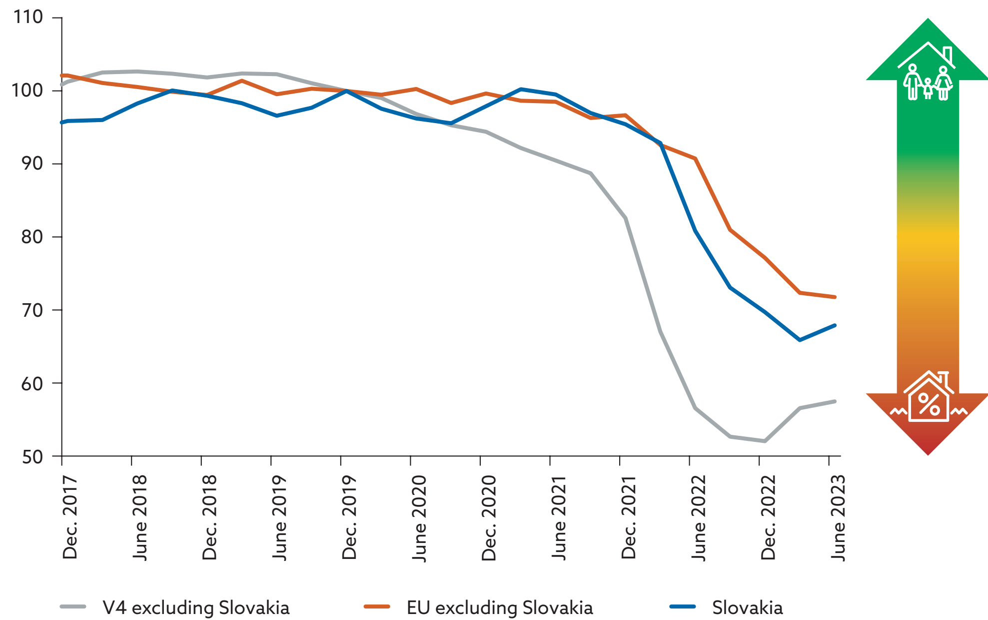
In Slovakia, as in most EU countries, the recent sharp deterioration in housing affordability has come to a halt. The change reflects mainly the slower rate of increase in new mortgage rates, which may have allowed the impact of falling housing prices to come to the fore. These lower prices are the reason why the RRE market has improved for buyers. On the other hand, housing affordability has been adversely affected by rising living costs over the past year. As matters stand, housing affordability remains at its worst level in a decade, with its most notable deterioration occurring during the 2020–22 period. Despite signs of improvement in housing affordability in 2023, flats affordable for the average household are one-third smaller[58] now than they were five years ago.

[58] Or in a cheaper location.

Chart 10

Housing affordability has been affected mainly by the raising of interest rates

Housing price-to-income ratio for Q1 2015 – Q2 2023 (index: Q4 2019 = 100)



Sources: OECD, and NBS.
Notes: V4 excluding Slovakia – median for the Czech Republic, Hungary and Poland. EU excluding Slovakia – median for EU countries excluding Slovakia. For the purposes of international comparison, housing affordability is calculated as the ratio of the average gross nominal wage to the mortgage payment for an average property.

4 Commercial real estate (CRE)

4.1 Rising interest rates are putting pressure on firms in the commercial real estate sector

Risks in the CRE sector are growing

Commercial real estate has been one of the sectors hardest hit by the current uptrend in interest rates. Moreover, firms in this sector faced a relatively sharp rise in operating costs in 2022 and partly also in 2023.

The situation in the CRE sector is deteriorating not only in Slovakia, but globally. CRE prices and the number of transactions in the sector have fallen sharply across countries. Investors have responded to rising interest rates by demanding higher returns, but many firms are unable to deliver them. Nor have a number of leading foreign firms avoided financial difficulties. In January 2023 the European Systemic Risk Board (ESRB) issued a broad Recommendation, applicable to all EU countries, in which it urges greater focus on risks stemming from the CRE sector.[59]

Any adverse developments in the CRE sector may, given its importance, be detrimental to financial stability

Commercial real estate is a systemically important sector for the Slovak financial sector. The systemic nature of this risk stems mainly from banks' high exposure to the CRE sector,[60] the sector's importance to the overall economy,[61] the high concentration of the CRE market,[62] CRE firms' substantial indebtedness, and negative historical experience regarding high volatility and sensitivity to any economic slowdown.[63]

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[59] The ESRB calls for improved monitoring and, where necessary, the implementation of macroprudential measures targeting the CRE sector.

[60] In Slovakia, banks' lending to the CRE sector makes up some 24% of their total corporate portfolio. The ratio of banks' CRE exposures to their CET1 capital is 74%, slightly below the EU average (81%).

[61] In terms of gross value added in the construction and real estate sector as a ratio to GDP, Slovakia ranks above all other EU countries.

[62] There is high concentration among several key entities, including property developers, financing banks, investors, and project appraisal companies.

[63] As a result of the global economic and financial crisis, the non-performing loan ratio for the CRE portfolio has climbed from 4% to 11%. On the one hand, in times of crisis, the CRE sector faces a significant shock, since, in the deteriorating situation, firms adopting austerity measures and rein in expansion plans (with an adverse impact on the CRE office and logistics segments) and households' purchasing power declines (retail segment); on the other hand, during economic upswings, the sector may be exposed to speculative demand.

The CRE sector is not only financed by banks, but also quite significantly by real estate investment funds. While bank loans to the CRE sector total around €5 billion, real estate investment funds are financing it to the tune of a further €1.8 billion (some two-thirds of which is in the form of equity participations in firms operating in the CRE sector).

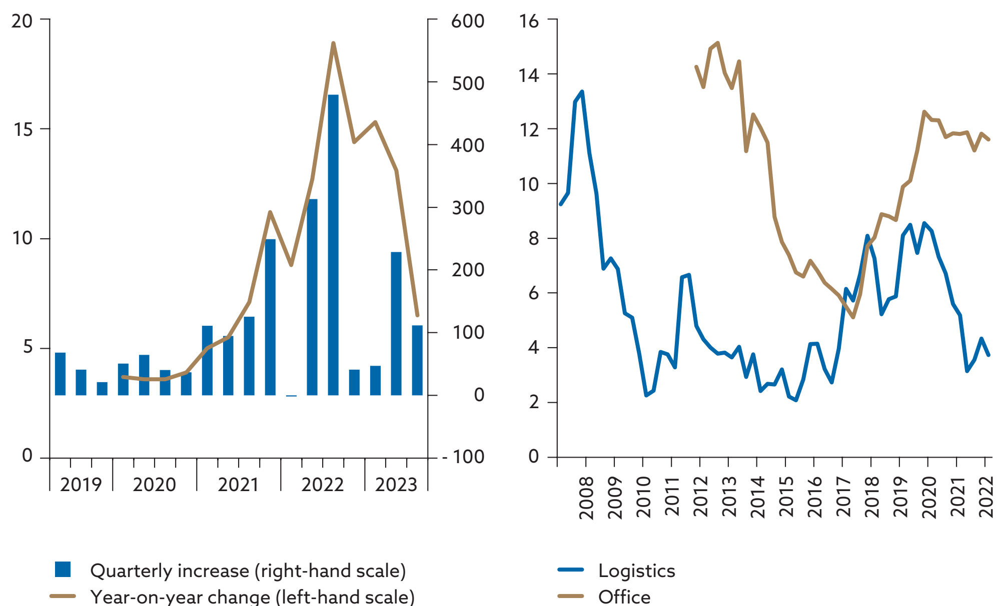
At the same time, owing to rising interest rates, the level of cyclical risks has started to increase significantly

The CRE sector's deteriorating financial situation comes in the wake of a relatively long buoyant period. During the extended period of low interest rates, the build-up of risks in the CRE sector became more pronounced. During the pandemic crisis, many countries saw their CRE sector suffer more than other sectors, only for CRE lending to rebound strongly and quickly once the crisis had receded. Since then, however, rising interest rates and uncertain economic outlooks have put the sector under considerable pressure, and lending to CRE firms has moderated. Risk has increased over the recent period amid mounting economic uncertainty, tightening of financial conditions, and a rising share of remote working.

Chart 11

CRE lending has slowed sharply, and the office vacancy rate remains elevated

Left-hand panel: Year-on-year relative change and quarterly increase in the CRE loan portfolio (percentages; EUR millions)
Right-hand panel: Vacancy rate (percentages)



Sources: NBS (left-hand panel), and Cushman & Wakefield (right-hand panel).
Note: CRE – commercial real estate.

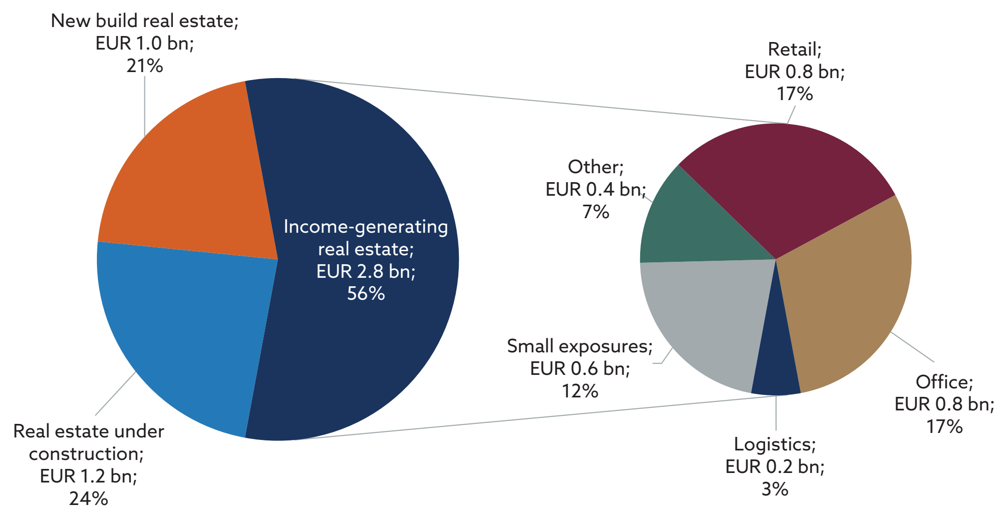
Different CRE segments face additional, specific types of risks. Weaker demand for office space[64] is reducing the bargaining power of office space owners as they seek to pass on rising costs to rental prices, particularly for older and lower quality properties. The retail segment is confronted with the problem of falling purchasing power. The scope to increase rents is constrained mainly by the gradual fading of post-pandemic growth in retail sales and household consumption.[65] For commercial real estate under construction, declining real estate prices may make it difficult to meet sales plans.[66] The CRE segment facing the lowest level of risk is logistics, where vacancy rates are low and tenant competition is high.

As well as having the largest shares in banks' CRE loan portfolio, office and retail are the CRE segments most sensitive to the current adverse developments. The breakdown of the banking sector's CRE loan portfolio by CRE segment is shown in Chart 12.

Chart 12

Composition of banks' lending to the CRE sector

Banks' CRE loans by outstanding amount and share of their total corporate loans (EUR billions; percentages)



Source: NBS.
Notes: The chart shows only balance sheet exposures; it does not include undrawn credit lines and credit facilities. Data are as at August 2023. Real estate under construction comprises mainly residential properties intended for sale. Small exposures are considered to be exposures of up to €5 million. New build developments are properties whose occupancy permit was issued within the past two years and which may not yet be able to fully generate rental income. CRE – commercial real estate.

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[64] In the office segment, vacancy rates have remained relatively high in the post-pandemic period, one reason for which is an increase in the share of employees working remotely.
[65] Moreover, shopping centre saturation levels are relatively high in some locations.
[66] Projects under construction face the biggest risk, since, on the one hand, they have to meet contractual sales plans, while, on the other hand, prices may be falling too low to support debt servicing.

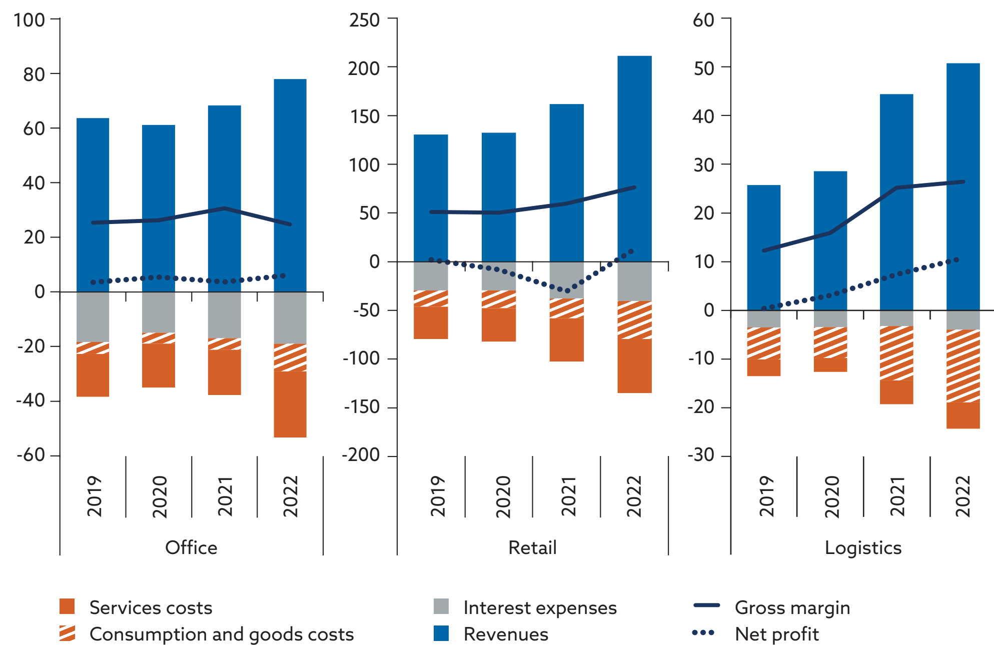
A risk-mitigating factor has been firms' relatively high margins in 2022, which, however, did not yet reflect the increase in interest expenses

It was seen in 2022 that firms had partially limited capacity to pass on rising costs to customers. In 2022 CRE firms were faced with a quite considerable rise in operating costs. In the retail segment, the gross margin including interest expenses[67] remained approximately the same between 2021 and 2022 (36%), but in other segments it declined. The better result in the retail segment may be to some extent due to the one-off impact of the post-pandemic recovery in household consumption; hence there is a question mark over how long it can be sustained. The office segment saw a more pronounced decline in gross margins (from 45% to 32%), which, moreover, was relatively broad-based across projects. In the logistics segment, the decline was more moderate (from 57% to 52%), though compared with the other two segments it still remained relatively high. This reflects the lower riskiness of the logistics segment compared with those two segments.

Chart 13

Firms' financial situation in 2022 was affected by rising operating costs

Evolution of firms' financial situation in the most important CRE segments (EUR millions)



Sources: NBS, and FinStat.
Notes: To ensure the sample's temporal consistency, data are shown only for projects completed no later than 2017. CRE – commercial real estate.

The maintenance of a positive gross margin is considered the key factor for a project's financial sustainability. A negative margin implies that the

67 For the purpose of this analysis, the gross margin is calculated as follows: gross margin = (rental revenue – (operating costs + interest expenses)) / rental revenue.

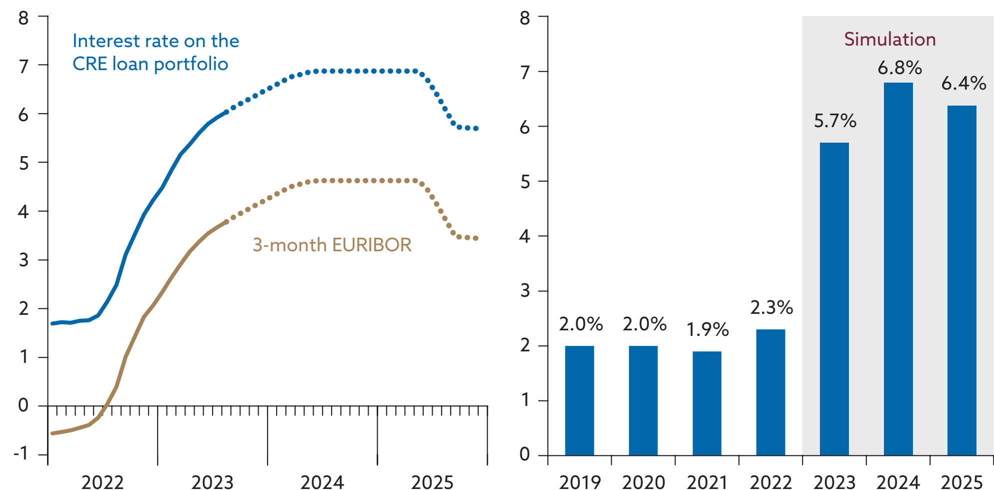
rental income is not covering both current operating costs and debt servicing costs. It therefore matters that average gross margins in different segments have remained relatively high even after the 2022 increase in operating costs.

On the other hand, the evolution of firms' financial situation in 2022 includes an increase in interest expenses that is only a fraction of that expected in the coming years. Market interest rates started to rise sharply from the summer of 2022. Their upturn had an almost immediate impact on interest rates on existing CRE loans, a large volume of which have a variable interest rate. From a firm-level perspective, however, the average cost of borrowing was only slightly higher in 2022 than in 2021 (rising from 1.9% to 2.3%), since interest rates were still low for much of 2022. A significant rise in borrowing costs occurred only in 2023 and is expected to a lesser extent also in 2024. Given the projected movement of market interest rates, the cost of borrowing is expected to rise cumulatively by another 4 pp over this period. The total amount of interest expenses may therefore be more than three times higher compared with 2022.[68] Borrowing costs are not expected to start easing until 2026 and beyond.

Chart 14

The impact of interest rate increases will be greater in the financial statements for 2023 and beyond

Left-hand panel: Average interest rate on the CRE loan portfolio (percentages)
Right-hand panel: Cost of borrowing for firms in CRE sector (percentages)



Sources: NBS, and FinStat.
Notes: In both panels, the figures for the period from September 2023 to December 2025 are estimated on the basis of the assumed evolution of the 3-month EURIBOR and the average interest margin on the CRE portfolio (225 bp). The dashed-line 3-month EURIBOR is only a technical assumption for the purposes of this analysis, not a projection of the indicator's future evolution. CRE – commercial real estate, EURIBOR – euro interbank offered rate, bp – basis point(s).

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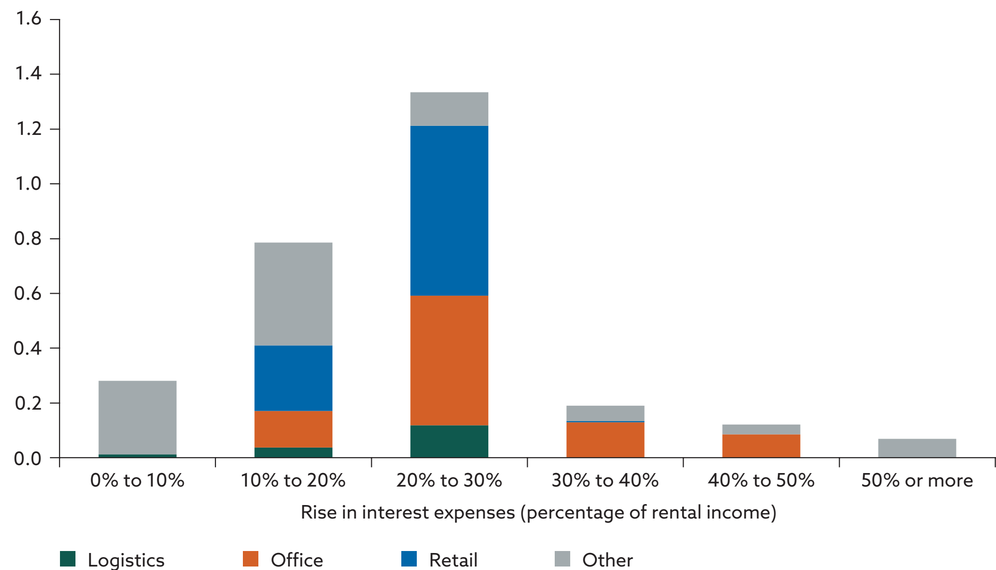
[68] What may partially mitigate this risk is that some firms have partly hedged against a significant rise in interest costs using interest rate derivatives. There is, however, no available information on the extent or terms of these hedges.

The projected increase in interest expenses implies a 16% reduction in firms' revenues. If firms could not pass that increase on to customers, they would therefore face a large drop in their gross margins. Passing on that increase may be difficult, especially if the economy faces not only rising interest rates, but also a more pronounced slowdown. Moreover, although standard inflation clauses in rental contracts allow for increases in operating costs to be passed on directly to rents, they do not do the same for interest expenses (at least not over the rental term, typically three to five years).

Chart 15

Sensitivity to interest rate increases is particularly high in the office and retail segments

Distribution of banks' CRE exposures by sensitivity to interest rate increases (EUR billions)



Sources: NBS, and FinStat.
Notes: The chart shows only data for established firms financed by Slovak banks. CRE – commercial real estate.

Sensitivity to interest rate increases is the highest in the office and retail segments. In terms of the rise in interest expenses as a ratio to revenues, firms in these sectors are more than five times more sensitive than are firms in other corporate sectors, and they are around three times more sensitive than are households to mortgage rate increases. Whereas, for example, rising mortgage payments reduce the income of indebted households by between 5% and 7% on average, the impact of higher interest expenses on CRE firms in the office and retail segments can be as much as between 20% to 30% of their rental income. This is due to these firms' higher debt-to-income ratios, as well as to another factor: for households the key is increase in mortgage payments, while for firms it is increase in interest expenses. With the same rate increase, firms' interest expenses will rise more than households' mortgage payments.

4.2 Expected losses will increase but will not have a systemic impact on the banking sector

The ability to cope with rising costs will depend mainly on the economic environment

In order to make a broad assessment of the financial outlook for CRE firms while taking into account their ongoing revenue growth, two scenarios were estimated. In the baseline scenario, the main source of shock is a gradual rise in interest rates by 4 pp. At the same time, operating costs continue to go up (by 20%), albeit more moderately compared with 2022. Their rise is, however, fully offset by revenue growth. The adverse scenario assumes the same rate of increase in both interest and operating costs, while the extent to which revenue growth offsets these rises depends on the quality of the project. For higher quality projects, the offset is the same as in the baseline scenario, but for lower quality projects, a decline in revenues is assumed.[69] Although growth in unit rental prices does not itself change, vacancy rates for lower quality projects are assumed to increase.

Table 1 Assumptions for the simulation of loans at risk (percentages)

	Baseline scenario		Adverse scenario	
	2023	2024	2023	2024
Rental income growth				
... higher quality projects	10%	10%	10%	10%
... lower quality projects	10%	10%	-5%	-5%
Rise in operating costs	20%	0%	20%	0%
Rise in borrowing costs	+3.3 pp	+4.0 pp	+3.3 pp	+4.0 pp

Source: NBS.
Notes: Lower quality projects are considered to be those that already had a lower gross margin (below 35%) in 2022. pp – percentage point(s).

The conclusions of the analysis confirm that, in the baseline scenario, the CRE sector should not be a source of significant risk to financial stability. Although gross margins are estimated to fall by around a third, most projects remain financially sustainable. Firms operating in the sector see a considerable worsening of their financial situation and also become more sensitive to any additional shocks. Financing banks do not, however, suffer losses that could put them in serious jeopardy. The share of CRE loans to firms at risk of an unsustainable financial situation (i.e. with a negative gross margin) is estimated to rise from 8% in 2022 to 14% in 2024. However, the increase in non-performing loans is estimated to be significantly lower.[70] Banks seek

[69] Projects are considered lower quality where their gross margin was already at a lower level (below 35%) in 2022.

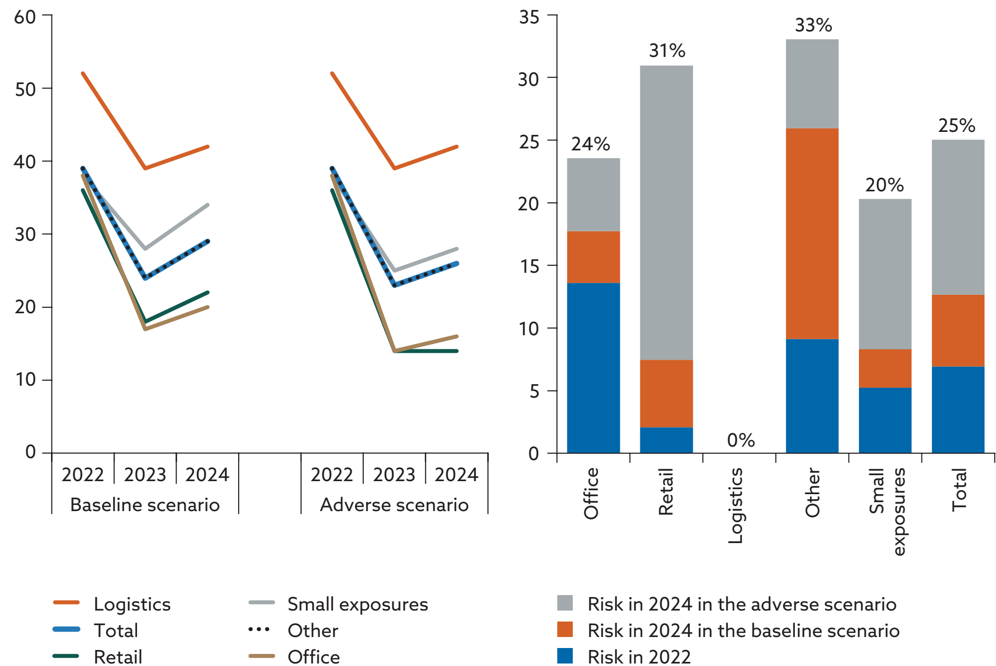
[70] However, the level of default risk will depend on a number of other factors, such as the share of own funds and the financial strength of firms' owners, who may seek to prevent project failure in order to avoid reputational risk.

to address the situation by restructuring debt (i.e. by extending loan maturities) or by terminating the financing of risky projects (i.e. by not renewing the financing when the loan matures). In addition, expected losses in the baseline scenario are fully covered by existing macroprudential buffers.

Chart 16

Evolution of the gross margin and of the share of loans at risk in the different scenarios

Left-hand panel: Estimated evolution of the gross margin development by segment (percentages)
Right-hand panel: Share of loans at risk as at the end of 2024 (percentages)



Sources: NBS, and FinStat.
Notes: In the right-hand panel, the percentages above the bars denote the share of total CRE loans to firms at risk from a financially unsustainable project. CRE – commercial real estate.

In the adverse scenario, where the sector faces a more severe economic slowdown in addition to higher costs, the impact is far greater. Gross margins decline, and a number of firms may find themselves at risk of an unsustainable financial situation. Compared with the baseline scenario, an additional 12% of CRE loans are estimated to become at risk (with the total share of loans at risk rising to 26%). Although, even in this case, the losses for CRE-financing banks do not significantly threaten the financial stability of the banking sector, they greatly exacerbate the impact of the adverse scenario, which has negative ramifications for other areas.

The elevated riskiness of the CRE sector is also evident in banks' prudential approach to accounting in this area. In terms of the share of CRE loans with elevated credit risk (Stage 2), Slovakia ranked second highest among euro area countries in June 2023.

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5 Financial situation of households and firms

5.1 Most households can cope with the impact of higher interest rates on loan payments

An important factor that could weigh on loan repayment will be labour market developments

For many households today, the biggest challenge is the rapid growth in their expenditures, often coupled with an increase in mortgage payments due to rising interest rates. In 2022 household expenditure growth exceeded household income growth, and a similar situation is expected in 2023. According to a detailed analysis, however, most households are able to keep up their loan payments despite their more difficult financial situation. This, though, may be related to a certain cutting back on non-essential expenditures. Households have been supported in this situation by a relatively strong uptrend in nominal income, which is expected to continue in the period ahead. Labour market developments will be a key factor. If unemployment rises, households' ability to repay their loans can be expected to worsen significantly.

The level of households' financial distress risk was estimated in two scenarios, differentiated by unemployment rate developments

The evolution of households' financial situation, including the share of households that may become at risk of financial distress[71] over the next three years[72] was estimated under two alternative economic scenarios. The scenarios differ mainly in the assumed evolution of the unemployment rate. The baseline scenario follows NBS's autumn 2023 medium-term forecast (MTF-2023Q3). This scenario assumes that inflation moderates gradually, that wage growth outpaces household expenditure growth, that the labour market remains in good shape and that unemployment falls further. In the adverse scenario, by contrast, economic growth is assumed to weaken,[73] resulting in a deterioration in the labour market, coupled with

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71 Households at risk of financial distress are here defined as households whose loan payments and necessary living expenses exceed their income and recourse to savings.

72 The simulation period is from July 2023 to June 2026.

73 This scenario is consistent with the risks to the forecast described in Section 3.4 of NBS's Autumn 2023 Economic and Monetary Developments report. The risk of lower economic growth stems mainly from developments in global demand. Weak global trade growth may drag Europe's fragile economy into recession and result in a greater drop in foreign demand for Slovak products.

a relatively large increase in unemployment and, despite notably slower inflation, stagnation in real wages. Both scenarios also assume a further modest increase in mortgage rates in line with their current trend.[74]

Table 2 Assumptions for the simulation of loans that may become at risk

	June 2023 (year-on-year growth or level)	Baseline scenario (cumulative growth over July 2023–June 2026, or level as at June 2026)	Adverse scenario (cumulative growth over July 2023–June 2026, or level as at June 2026)
Inflation (change in price level)	11.3%	12.6%	10.6%
Average nominal wage (change)	8.7%	21.8%	16.8%
Unemployment rate (level)	5.8%	4.9%	10.0%
Mortgage rate (level)	4.4%	5.4%	5.4%

Source: NBS.
Notes: The baseline scenario assumptions are based on NBS's **autumn 2023 medium-term forecast (MTF-2023Q3)**. Inflation is measured by the Harmonised Index of Consumer Prices. For inflation and wages, a linear change is assumed over the stress test horizon (July 2023–June 2026); for unemployment and interest rates, growth is faster. The mortgage rate figure is not based on the forecast; it is a technical assumption made for the purposes of this analysis and based on current trends.

As long as the labour market remains in good shape, non-performing loan ratios should not rise far above their current level

In the baseline scenario, the share of indebted households that may become at risk of financial distress over the next three years is estimated to be relatively low. Among mortgage-paying households, the estimated share is around 4.6%, while among households repaying consumer credit, it is 7.4%. It should also be noted that risk of financial distress does not mean default.[75] Among mortgage-paying households, the estimated share that may become at risk of default is 2.5%, while among households repaying consumer credit, it is 5.4%. In the baseline scenario, the main cause of households' financial difficulties is not inflation or mortgage payment increases, but rather the normal fluctuations in household income.[76] This is

[74] The simulation methodology is described in detail in NBS's May 2022 Financial Stability Report. The analysis includes only indebted households.

[75] It is further assumed that the default risk for loans to households at risk of financial distress depends primarily on the household's ratio of basic living expenses and loan payments to income. For mortgages, the default rate is assumed to be 10% where the borrowing household has an expenditure-to-income ratio of between 100% and 110%, 40% where the ratio is between 110% and 120%, and 70% where it is over 120%. For consumer credit, the default rate is assumed to be 50% where the borrowing household has an expenditure-to-income ratio of between 100% and 110%, 75% where the ratio is between 110% and 120% and 100% where the ratio is over 120%. It is further assumed that a household in financial distress will default first on its consumer credit and only then, if expenditure still exceeds income, on its mortgage.

[76] Modelling of the impact of income changes at the borrower level was based on the actual distribution of income changes in the years from 2019 to 2022 in the respective borrower category corresponding to the borrower's income, age group and economic status. For

typical even in good times. By comparison, in the three-year pre-pandemic period (2017–19), 3.4% of retail loans became at risk of default.

Households are expected to cope with mortgage payment increases

As long as the labour market situation does not worsen, households whose mortgage rates are due to be reset in the coming period are expected to cope quite well with their consequently higher loan payments. This issue is explored in more detail in an NBS Analytical Commentary (only in Slovak). Its main conclusion is that mortgage payment increases will usually not exceed €100 and the affected households' income should fall by between 5% and 7%. Only 1% of the households whose mortgage payments are due to rise should see their mortgage payments increase significantly (by more than 20% of income).

These conclusions are fully borne out by the estimation of the share of households that may become at risk. Excluding other factors, it is estimated that 1.0% of the households whose mortgage rates are due to be reset between mid-2023 and the end of 2025 may become at risk of financial distress purely because of the increase in their mortgage payments. That share represents around 2,600 households, or around 0.4% of all mortgage-paying households. The relatively low level of risk in this regard is also evident from the credit quality of the mortgages that have already undergone an interest rate reset.[77]

Moreover, the risk of financial distress due to an increase in mortgage payments will be mitigated by expected growth in nominal incomes in the coming period. Their growth is expected to be outpacing expenditure growth from 2024 onwards. There will not, however, be a total offset, since growth in real incomes[78] will not fully cover the reduction in income resulting from rising mortgage payments. One reason for this is a reduction in the tax credit available to borrowers with dependent children, which is due to take effect in January 2025.

These results are fully consistent with the conclusion that the situation does not require blanket measures to mitigate default risk for households facing a mortgage rate reset. It is sufficient to address the issue on a case-

mortgage borrowers, it was further assumed that their income does not fall by more than 30% over the next three-year period; in other words, if they were at risk of a more significant drop in income, they would find another source of income.

[77] Among mortgages that underwent an interest rate reset in the fourth quarter of 2022, the share of past due loans has increased by 0.1 pp (from 2.4% to 2.5%), while among those whose rate was reset in first quarter of 2023, the share has gone up by 0.4 pp (from 3.3% to 3.7%).

[78] Including dependent child benefit and child tax credit.

by-case basis, according to the financial situation and capacities of the specific households in financial distress.

The main risk factor is excessive indebtedness combined with inadequate buffers against an increase in expenditure or decrease in income. Households for whom a rise in mortgage payments implies risk of financial distress have DTI and DSTI ratio more than twice as high as those of other households. They are often highly indebted individuals.

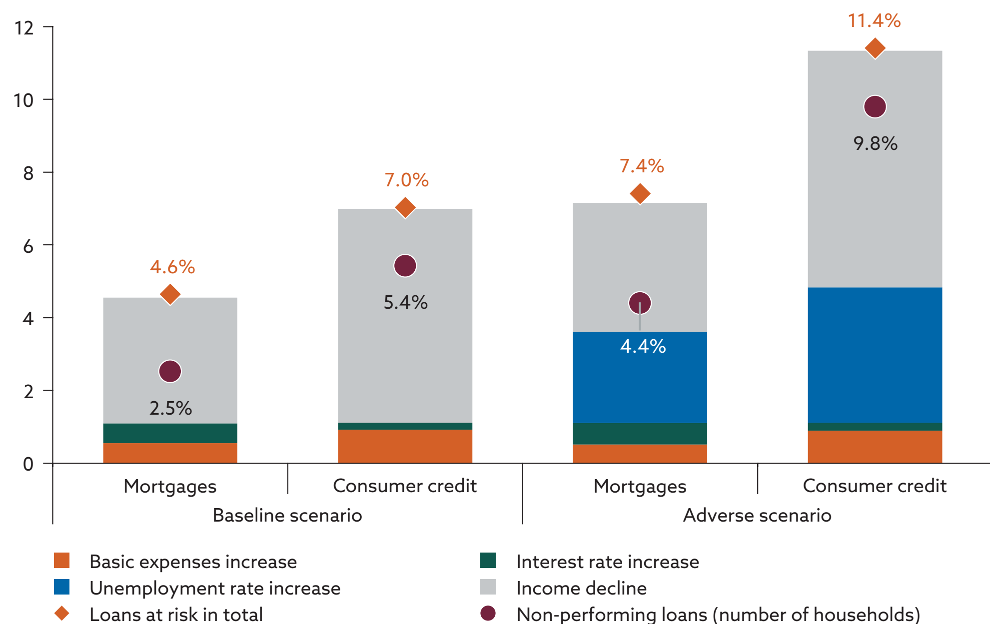
An increase in unemployment would result in more households becoming at risk of financial distress

The share of households estimated to become at risk of financial distress is almost two-thirds higher in the adverse scenario than in the baseline scenario. Among mortgage-paying households, the estimated share is 7.4%, while among households with consumer credit, it is 11.4%. This increase is almost entirely due to an increase in the unemployment rate. As for the share of households that may become at risk of default over the three-year scenario period, it is estimated to be 4.4% among mortgage-paying households and 9.8% among households with consumer credit.

Chart 17

Impacts of different shocks on loans at risk

Share of household loans that may become at risk, by type of shock (percentages)



Source: NBS.
Notes: The increase in at-risk loans in the period from June 2023 to June 2026 is simulated using the scenarios described in Table 2. Households at risk are here defined as households whose loan payments and basic expenses exceed their income and accumulated savings. Income decline refers to the standard fluctuation in household incomes, which, even in periods of rising average nominal incomes, may rise for some households and fall for others.

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The important role of savings accumulation and income growth for borrowers with children

The level of financial distress risk is largely related to whether households can use good times to build up a sufficient financial buffer for bad times. The above-mentioned shares of households that may become at risk of financial distress are based on the assumption that a quarter of households set aside part of their income for use in bad times.[79] The analysis shows that if all households behaved in this way, the share that may become at risk of financial distress in the adverse scenario would be lower by one-fifth.[80]

Households in Slovakia also have an advantage compared with households in several other European countries in that they have longer interest rate fixation periods. This means that loan payments increase only some time after rates start rising; the change is predictable and can be prepared for.[81]

Another factor reducing financial distress risk for households is the recent increase in income for borrowers with dependent children. These include increases in child benefit and tax credit. Although these measures are not targeted at households in financial distress,[82] their introduction means that around one-tenth fewer mortgage-paying households may become at risk of that situation.[83]

Box 2
The Slovak banking sector should cope with rising interest rates better than banking sectors in several other EU countries

For banks, the upturn in interest rates that began around mid-2022 means changes in several key areas. Some changes are positive, others negative, and their timing varies. Banking sectors in many countries are experiencing relatively strong growth in profitability. Moreover, the build-up of cyclical risks has eased, particularly in respect of the residential real es-

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[79] In 2022 the household saving ratio dropped to its lowest level since the end of the global economic and financial crisis (2008–10).

[80] Among mortgage-paying households, the share estimated to become at risk of distress declines from 7.4% to 6.0%; among households with consumer credit, it falls from 11.4% to 9.1%.

[81] In most euro area countries, the large majority of mortgages are variable rate and are therefore affected almost immediately by any increase in interest rates. This situation is most pronounced in Finland and the Baltic States. In some countries, such as France, Belgium and Germany, the majority of mortgages have relatively long fixed rates.

[82] For borrowers whose income is significantly reduced (e.g. because of employment loss or for other reasons), their tax credit may also decline to some extent, as it can only be claimed up to a certain level of income (depending on the number of children).

[83] If child benefit were not raised and no child tax credit were introduced, the share of mortgage-paying households that may become at risk of financial distress under the baseline and adverse scenarios would increase in both cases, respectively by 0.5 pp and 0.9 pp.

tate market and household indebtedness. At the same time, however, higher rates are gradually bringing new risks, many of which may take some time to materialise. Lending activity is slowing and banks' sources of funding are more expensive. If borrowers are unable to service their debts at higher interest rates, default risk could increase. In addition, any major outflow of deposits from current accounts to time deposits could significantly raise interest expenses. The nature of these risks is more or less the same across countries, but their intensity varies according to the specificities of the business model followed by the country's banks.

One of the main advantages in the current situation is the length of the fixation period for mortgage rates, which in Slovakia is normally 3 to 5 years. In many EU countries, mortgage rates are variable, so any rate increase results in an almost immediate hiking of loan payments. Households thus have no time to prepare for the higher payments. Moreover, they face that shock alongside other inflation-induced increases in expenditure. In some other countries, however, mortgage rates are normally fixed for 10 years or more. While such a fixation largely negates the adverse impact of rate increases on borrowers, it means banks are unable to cover rising interest expenses with interest income. In other words, short fixation periods are a risk for households, while long ones are a risk for banks. Although no length of fixation period entirely avoids the risks associated with rising interest rates, a period of between three and five years can be considered a balanced approach, distributing the risks equally between banks and their customers. This precludes the risk of a significant drop in interest income, as well as the risk of marked rise in credit risk costs. In addition, the downward impact of higher interest rates on inflation mitigates the risk of a significant rise in household spending, which has a greater impact on default risk than do loan payment increases per se.

The gradual resetting of mortgage rates also mitigates the risk stemming from uncertainty about the future pace of growth in the share of time deposits in total bank deposits. During the long period of low interest rates, their share gradually declined to very low levels, as time deposit rates reached levels not far above current account rates. In the past, however, their share was far higher, so there is potential for it to increase in the wake of rising interest rates. The share of time deposits is still rising relatively slowly, especially in respect of household deposits. If, however, there is any major flight to time deposits, net interest income could start falling again. Even here, however, the Slovak banking sector is well placed, as rate resetting in the mortgage portfolio will take place gradually over around five years, thus ensuring that the increase in interest expenses will be offset by gradual growth in returns on the mortgage portfolio.

From a longer-term perspective, the cooling of the credit and housing markets can also be seen in a positive light. For the first time in Slovakia, the household debt-to-income ratio has started to decline. Previously, banks were compelled to compensate for excessively low in-

terest margins by stepping up lending activity. Before interest rates started rising, mortgage rates in Slovakia were among the lowest in the EU, and mortgage growth was for a long time the highest in the bloc. NBS repeatedly warned that such a business model was heightening risks to financial stability. The current business model, based on slightly higher interest margins and slower credit flows can be considered healthier from a financial stability perspective. Where banks have a higher interest margin, they are also better able to compensate for any increase in non-performing loan ratios due to a deteriorating economic situation.

When interest rates rise, the real value of bonds falls. In the case of Slovak banks, however, most of their bonds are carried at amortised cost, so the banks are not affected by the change in fair value. The only way in which Slovak banks could be financially affected by a decline in bond prices is if they sold the bonds before maturity. There is virtually no reason for such a scenario to arise, as banks can, if necessary, use bonds as collateral in their recourse to central bank funding.

In summary, therefore, the overall impact of higher interest rates on the Slovak banking sector appears to be positive. Although the initial favourable effects on profitability may be replaced by downward pressures on it, the Slovak banking sector is better prepared than foreign banking centres to cope with these pressures.

5.2 Firms could be weakened by a potential economic downturn

The sharp rise in costs that firms experienced in 2022 has not significantly worsened their financial situation

Slovak firms' operating costs rose sharply in 2022.[84] The most significant increase was in the cost of materials and energy consumption;[85] nevertheless, firms were, on average, able to offset rising costs by increasing revenue. Median values of most financial indicators improved slightly. For firms financed by Slovak banks, the ability to compensate for rising costs slightly worsened in 2022, given that these firms faced more significant cost increases. In the group of firms financed by the domestic banking sector, the average profit margin and cash liquidity has deteriorated slightly.

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[84] Operating costs increased, on average, by 16% compared with the previous year. This is the average of the medians for each firm size category.

[85] Followed by costs related to services and to the purchase of goods for sale. Staffing costs increased the least.

Table 3 Evolution of firms' financial situation

	Without a loan		With a loan	
	2021	2022	2021	2022
ROE (median)	13.0%	13.2%	10.1%	11.0%
Gross margin (median)	33.0%	33.4%	25.0%	24.4%
Profit margin (median)	2.5%	2.6%	2.1%	2.1%
Share of loss-making firms	25%	24%	20%	20%
Share of firms with negative equity	12%	11%	7%	7%
Cash liquidity (median)	47%	47%	20%	18%

Sources: NBS, and FinStat.
Notes: The figures represent the average of the medians or values for each firm size category. Firms without a loan are firms without a loan from a Slovak bank. Gross margin is calculated as the ratio of value added (i.e. income from the sale of goods and services less direct costs related to goods and services output) to total revenues. ROE – return on equity.

Price indices indicate, however, that price growth in several categories was already peaking in 2022. Further evidence that firms' costs have risen more slowly in 2023 is provided by data from a sample of firms.[86] The majority of operating cost components were still rising in the first quarter of 2023. In the second quarter, services and staffing costs showed some inertia, while costs for purchasing goods, materials and energy stopped rising. Corporate revenue growth across the sample shows a more pronounced slowdown. Revenue growth in the first half of the year was notably lower than cost growth. The revenue slowdown is also seen in macroeconomic data, with cumulative revenues at current prices for the first eight months of the year standing only 5% higher in year-on-year terms.

Firms have additionally been facing rising interest expenses in 2023

Year-end data for 2023 are expected to show a significant increase in interest expenses. Interest rates began rising in September 2022, so they only had a minimal impact on firms financial results for 2022. In 2023, however, interest costs have risen significantly, while the full impact of interest rate increases on firms' financial situation is expected in 2024. From a firm size perspective, the increase in interest costs is more pronounced for larger firms. For micro firms, the increase in the median lending rate between June 2022 and September 2023 was 23%, while for large enterprises it was more than threefold.

Nevertheless, interest cost increases should not themselves pose a significant risk to firms. Despite their increase, interest costs will, on average, remain below 1% as a ratio to total operating costs.[87]

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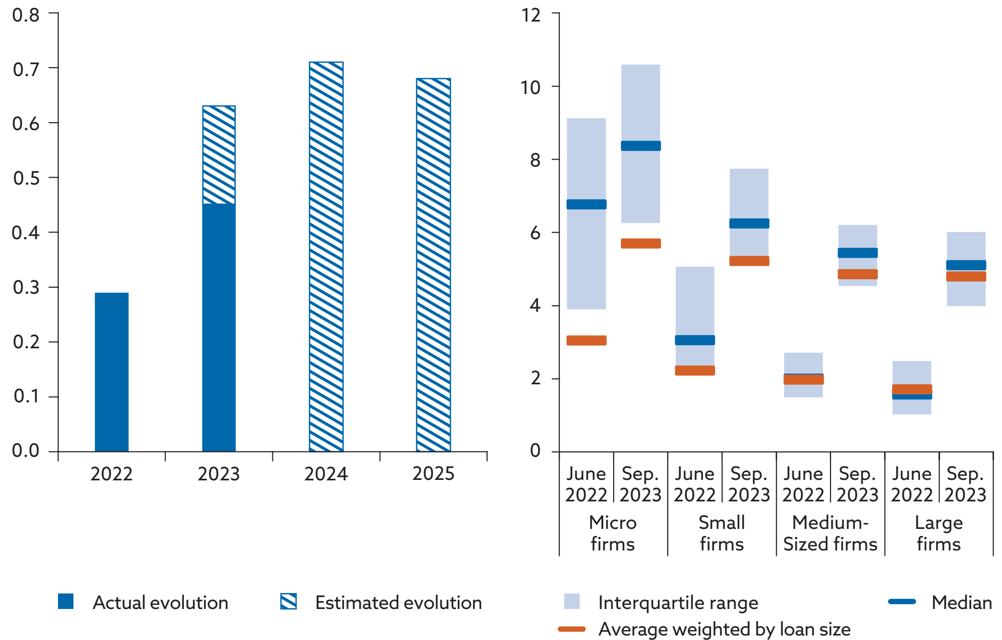
[86] Quarterly survey conducted by Statistical Office of the Slovak Republic on a sample of 5,000 firms.
[87] In this ratio, interest costs include only interest on loans to Slovak banks.

Chart 18

The impact of rising interest rates on firms is already far more pronounced in 2023

Left-hand panel: Actual and estimated evolution of interest costs as a ratio to total operating costs (percentages)

Right-hand panel: Corporate lending rates by firm size category (percentages)



Sources: NBS, and Register of Bank Loans and Guarantees (RBUZ).
Note: The left-hand panel refers only to interest costs on loans from Slovak banks. Total interest costs are approximately three times higher.

Firms' financial situation will be particularly sensitive to any deterioration in the economy[88]

Our estimation of firms or loans at risk was carried out using two scenarios.[89] In the baseline scenario, we assume that cost growth slows gradually and significantly and that real GDP growth maintains its level. In this context, most firms should be able to pass on rising costs to customers. The adverse scenario, by contrast, assumes a significant deterioration in the economic situation, with its most notable effect being a decline in demand.[90] In both scenarios, the increase in interest rates is assumed to be the same.

88 The estimates presented in this part do not, however, include data for the commercial real estate sector. The CRE sector was subjected to a separate test that better takes account of its specificities. The estimates for this sector are presented in Section 4.

89 The analysis is based on firm-level financial statement data as at the end of 2022. The simulation methodology is described in detail in NBS's Financial Stability Report – May 2022.

90 Where revenues decline, we also reduce variable costs by an amount equivalent to 70% of the decline in revenues. Fixed costs remain at the same level despite the fall in demand.

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Table 4 Assumptions for the simulation of firms at risk (percentages)

	Baseline scenario				Adverse scenario			
	2023	2024	2025	Total	2023	2024	2025	Total
Revenue growth	8.5	6.6	6.2	22.8	4	-10	-6	-12
Unit costs	5.4	2.5	1.3	9.5	4.5	-2	-0.7	1.7
... inputs and goods	5	1	0	6.1	5	-3	-1	0.8
...services	7	3	1.5	11.9	4.8	1	-1	4.8
...employees	9.4	8.4	6.3	26.1	7.2	3	1	11.5
Rise in interest costs	122	12	-5	136	122	12	-5	136

Source: NBS.
Notes: The change in costs denotes the change in unit costs in each category. The assumed evolution of revenues and wages is based on NBS's autumn medium-term forecast (MTF-2023Q3). The evolution of prices of services, inputs and goods follows an expert estimate based on developments in wholesale prices and in costs, according to a quarterly survey conducted by the SO SR. SO SR – Statistical Office of the Slovak Republic.

In the baseline scenario, the corporate sector's profitability increases; in the scenario of a recession, however, firms accounting for a fifth of the corporate loan portfolio are estimated to become at risk of serious financial distress

In the baseline scenario, approximately 6% of NFC loans are estimated to become at risk[91] over the three-year scenario horizon, while in the adverse scenario, that share almost trebles.[92] In the baseline scenario, revenue growth offsets rising costs, but in the adverse scenario, revenue developments impair firms' financial situation. The impact of higher interest costs is more pronounced in the adverse scenario. In a recession, firms are in a more vulnerable position and are therefore more affected by rising interest rates.

How their situations develop will depend to a large extent on the ability of individual firms to respond to rising costs, especially if there is a recession.[93] Those firms which in 2022 faced the highest increase in costs or which are highly leveraged, may already be in a partially weakened position.

[91] We consider loans at risk to be loans to firms that are at risk of severe financial distress (i.e. negative equity) at the end of the three-year horizon.

[92] In the adverse scenario, the share of newly defaulted loans in the NFC portfolio is estimated to be up to 4.7%.

[93] Their responses may include, for example, cutting costs more aggressively, increasing operational efficiency or, if necessary, increasing capital. At the same time, we assume that large firms have a greater capacity to react to a worsening of their financial situation than do smaller firms; hence the probability of default is lower for large firms than for small firms, including in the event of financial distress.

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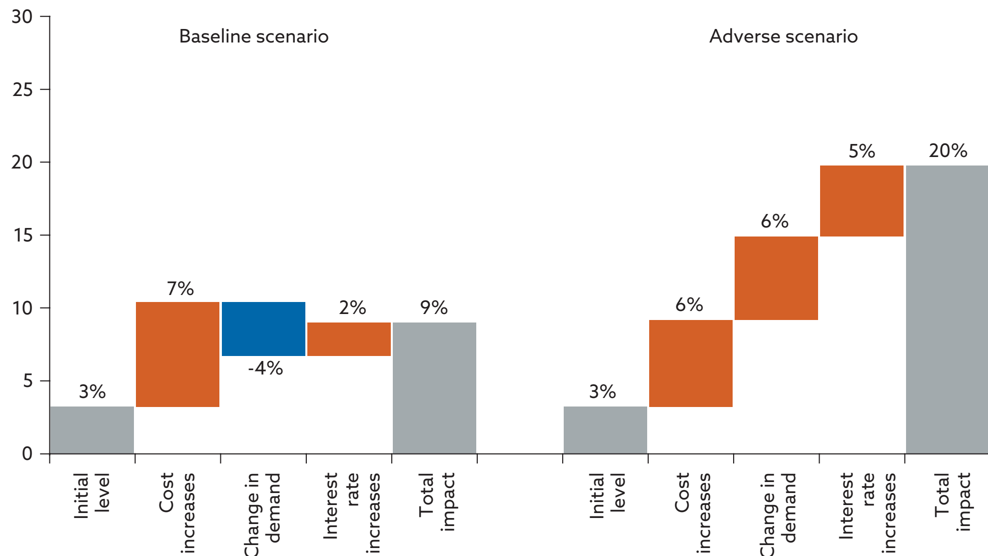
Chart 19

Loans at risk

Share of loans at risk in the total NFC loan portfolio and factors affecting this share (percentages)



Sources: NBS, SO SR, and FinStat.
Notes: The chart shows the share of loans or firms at risk at the end of the three-year horizon. The chart does not include data for the CRE sector, which is analysed separately. SO SR – Statistical Office of the Slovak Republic, CRE – commercial real estate.

The simulation also shows heterogeneity across profit margins. In the baseline scenario, firms largely improve their performance, and the median profit margin increases. In the adverse scenario, profit margins fall significantly. Many firms, especially larger ones, come to have negative profit margins.[94] The impact of the adverse scenario increases with the size of the firm, mainly because larger firms face a larger relative increase in interest costs.

[94] The median profit margin for the corporate sector as a whole is estimated to fall from 2.5% to -0.2%. For large companies, the decline is even more pronounced, from 2.3% to -8.1%.

6 Banking sector profitability and resilience

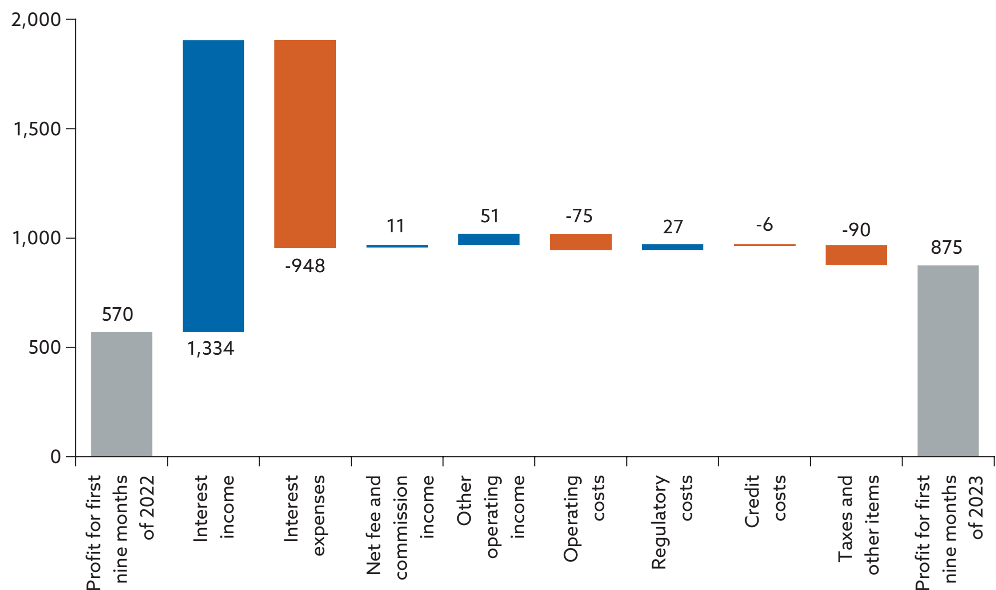
6.1 Significant growth in bank profitability

Higher profit driven largely by interest income from the corporate segment

Chart 20

Net interest income as the sole contributor to profit growth

Net profit and the most significant contributors to its year-on-year change (EUR millions)



Source: NBS.
Note: Other operating income includes dividends received, repricing of financial instruments, and other operating income.

The Slovak banking sector made a net profit of €875 million for the first nine months of 2023, almost €50 million more than its profit for the whole of 2022. The year-on-year increase was accounted for entirely by net interest income (which rose by €386 million or 31%), with the net interest margin increasing from 1.5% to 1.8%. This strong growth was mainly driven by the corporate segment, whose contribution was almost fourfold higher than that of the retail[95] segment.[96] The contribution of other components was overshadowed by changes in interest aggregates and did not have a notable impact on the sector's overall performance.

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[95] For the purpose of this report, the retail sector comprises households, sole traders and non-profit institutions serving mostly households.

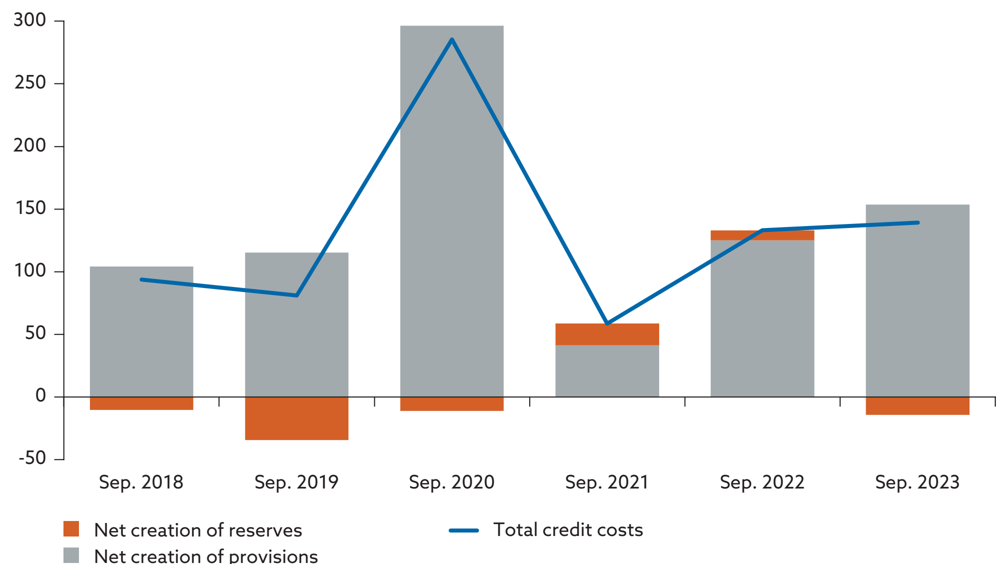
[96] Of the total annual increase of €386 million in net interest income, the corporate segment accounted for €336 million and the retail segment for €93 million. Other segments made an aggregate negative contribution of €43 million.

The credit quality of Slovak banks' portfolios remains stable. The amount of loans of lower credit quality[97] has been rising moderately since the end of 2022, and their growth rate is slightly higher than that of the entire loan portfolio. However, with loan growth decelerating, this does not indicate a significant increase in risk. The share of Stage 2 loans in the total portfolio remains below the levels witnessed during the pandemic crisis, though its subsequent gradual decline has stabilised above 12%. As regards Stage 3 loans, the situation is similar. The long-term decline in both the share and amount of these loans in the total loan portfolio stopped at the end of 2022, and their share has actually shown a slight increase since the beginning of 2023, reaching a level just above 2%. Reduced loan origination and the stabilisation of the share of lower-quality loans have also stemmed the previous decline in the provisioning ratio for the portfolio, at 2.2%.[98]

Chart 21

Credit costs remained at last year's level

Net provisioning (EUR millions)



Source: NBS.

Notes: The creation of provisions and reserves (with a negative impact on profitability) is expressed as a positive value. Their reversal (with a positive impact on profitability) is expressed as a negative value.

As for the impact of provisioning on the banking sector's total profit, the amount of provisions increased by around one-fifth year-on-year to almost €140 million. However, the overall balance of credit costs was reduced by the reversal of provisioning. The bulk of loan-loss provisioning is for retail loans,

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97 Loans classified as 'Stage 2' under IFRS 9 (i.e. exposures that have shown a significant increase in credit risk since initial recognition) and Stage 3 (non-performing loans).

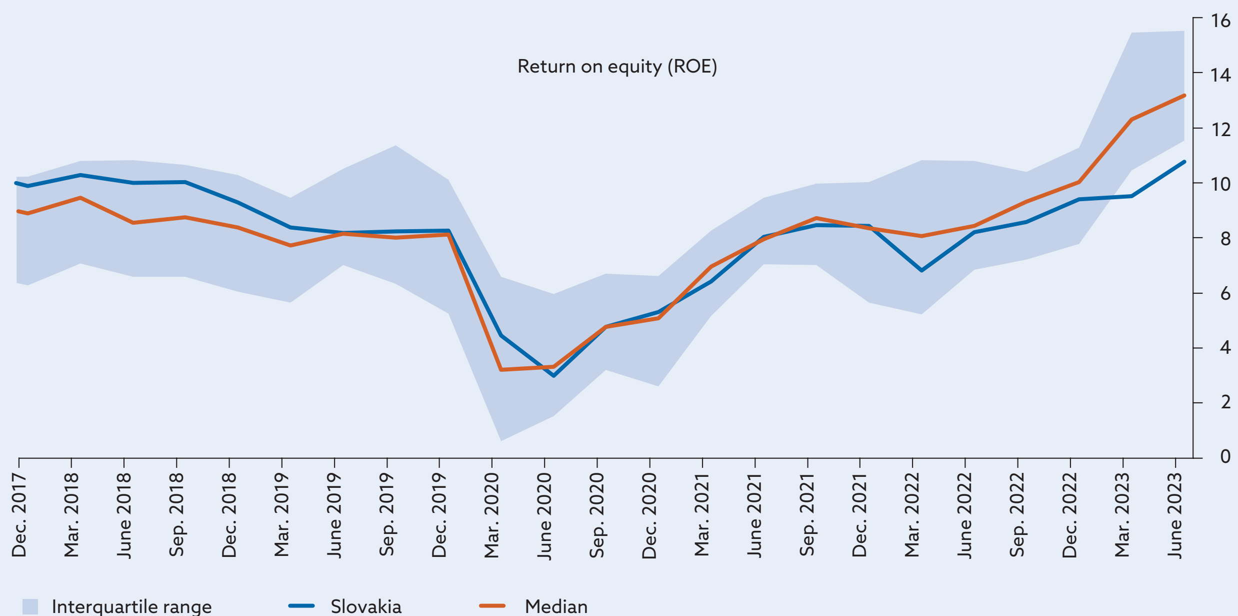
98 There was, however, a difference at the level of the different stages of impairment, with the Stage 2 coverage ratio increasing year-on-year (from 4.4% to 4.8%) and the Stage 3 coverage ratio decreasing (from 67% to 60%).

and the share of provisioning allocated to this portfolio increased still further year-on-year at the expense of the share allocated to the NFC portfolio.[99] Looking back over a longer period, net provisioning over the past two years has been around half again as high as it was before the pandemic crisis.

Box 3
Domestic banks' slower profitability growth in international comparison

In terms of its banking sector's profitability, Slovakia is starting to slightly underperform relative to other EU countries. Although domestic banks are recording all-time high profit growth on the back of rising interest rates, their performance since early 2022 has been lagging behind the banking sectors of most other EU countries (Chart 22). Since the ROE and ROA of Slovak banks show similar trends, the reason for underperformance lies primarily in profit generation itself. As regards ROE, however, it should be noted that domestic banks' equity-to-total assets ratio is above the EU average, so there is greater pressure on them to increase profitability.[100]

Chart 22
Bank profitability is growing more slowly than in most countries
(percentages)



Source: ECB.
Notes: Return on equity (ROE) is constructed exclusively for banks established in the respective EU country, i.e. not including branches of foreign banks from other countries. EU – European Union.

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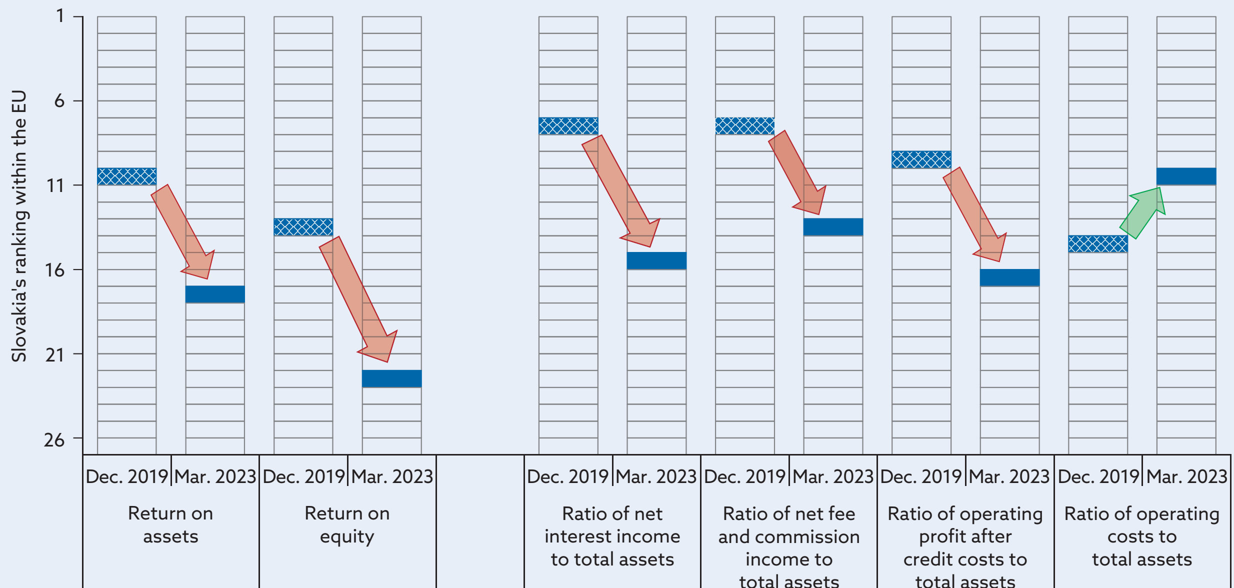
[99] Of the net provisioning in the first nine months of 2023, the share allocated to risks in the retail portfolio was 77%, almost 9 pp higher than in the same period of 2022, while the share allocated to the NFC loan portfolio was just under 19%, down by 9 pp year-on-year.

[100] Domestic banks' equity-to-total asset ratio has for a long time been around 2 pp above the median for EU countries' banking sectors. At the same time, the domestic sector's total capital ratio has long been around one percentage point below the EU median. This may be partly because Slovak banks have more capital-intensive balance sheets, i.e. the average risk weight of assets is around 3 pp higher than the EU median.

Chart 23

In terms of banking sector performance between December 2019 and March 2023, Slovakia has been doing relatively less well than other EU countries

(number of countries)



Sources: ECB, and NBS.
Notes: The start and end of the arrow represent the initial (12/2019) and current (3/2023) ranking of Slovakia among EU countries; the arrow's length indicates the intensity of the change in ranking. A red arrow denotes a deterioration in Slovakia's ranking; a green arrow, an improvement.

The profit structure of banks in Slovakia is similar to that in other EU countries. Of the domestic sector's gross operating profit for the first six months of 2023, net interest income accounted for around two-thirds and net fee and commission income for around one-quarter.

Where the domestic sector's evolution has differed from other banking sectors in recent years is in the dynamics of the main components of profitability. The growth and increase in weight of banks' net interest income in the last two years has been significantly higher in most other EU countries. Meanwhile, since 2020, the ratio of net fee and commission income to total assets has been flat for Slovak banks but gradually rising in most other EU countries.[101] Where, however, Slovak banks do rank above the EU median is in operational efficiency.

A major difference compared with other banking sectors has been in the evolution of net interest income.[102] Its change depends primarily on the interest rate sensitivity of the balance sheet, i.e. the speed with which banks' assets and liabilities, in particular loans and deposits, are able

[101] For Slovak banks, the ratio of net fee and commission income to total assets has remained at 0.7% since 2022, while the median for EU countries has risen from 0.6% to 0.7%.

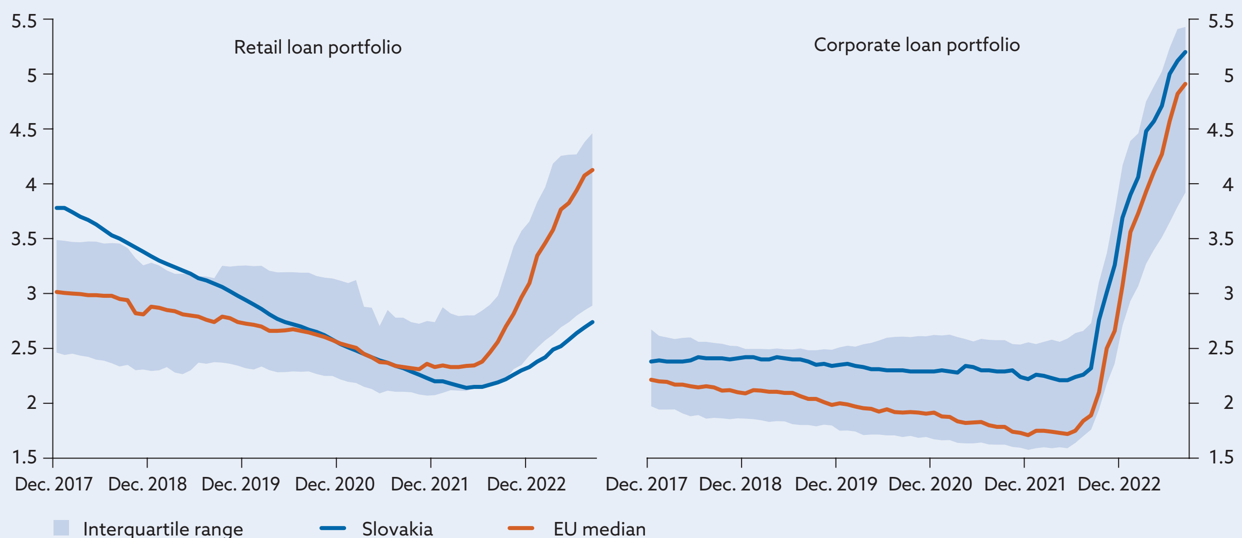
[102] In Slovakia, the ratio of net interest income to total assets increased from 1.8% at the end of 2020 to 1.9% in the first quarter of 2023, while the median for EU countries rose from 1.6% to 2.2%.

to respond to interest rate movements. From this perspective, Slovak banks' balance sheets can be considered less interest rate sensitive, i.e. slower to respond to interest rate increases. This is due to a combination of structural specificities, mainly on the asset side and largely related to mortgage lending. The first specificity is the share of mortgages in total assets, which is higher than in any other euro area country.[103] Another important factor is the domestic mortgage portfolio's lower interest rate sensitivity compared with mortgage portfolios in other EU countries. This is mainly because no mortgages in Slovakia have an interest rate directly linked to market interest rates. Across euro area countries, however, the median share of mortgages that have such an interest rate peg is more than one-third. Mortgage rate increases in Slovakia are therefore slower and spread over a longer period, hence banks in Slovakia have weaker growth in interest income. Corporate lending rates, which are the main source of interest income for banks in Slovakia and across the EU, have been rising far faster than mortgage rates (Chart 24).

Chart 24

Average interest rates on retail and corporate loan portfolios

(percentages; percentages)



Source: ECB.
Note: EU – European Union.

Interest income growth will, however, be more stable for domestic banks than for other countries' banking sectors. With mortgage rates rising since the end of the first quarter of 2022, the impact of mortgage rate resets on the domestic banking sector's aggregate profit has so far been limited, as has the impact of new mortgages. The share of the mortgage portfolio that underwent a rate reset between June 2022 and June 2023 was only around 16%. Going

[103] For Slovak banks, the share of mortgages in total assets reached almost 33% as at August 2023, while the share across other euro area countries was 13%; the countries with the next highest shares after Slovakia were Estonia (27%) and Portugal (24%).

forward, mortgages with reset interest rates will gradually increase in importance as their volume increases. Between June 2023 and June 2024, 18% of the portfolio will undergo a rate reset, and by June 2025 a further approximately 24% will do so. However, over a sufficiently long period of elevated interest rates, the overall effect will balance out, and even when rates are eventually stable or declining, banks' interest income growth will be higher in Slovakia than in other EU countries.[104]

The less dynamic growth in the net interest income of Slovak banks can be partly explained by developments in other major balance sheet aggregates. In the case of non-retail loans, which generally react faster to interest rate movements, the portfolio in Slovakia has long had one of the higher average interest rates. Since the ECB started tightening monetary policy, the evolution of these rates in Slovakia has been similar to that in the euro area as a whole; however, an important aspect of the Slovak banking sector in comparison with other countries is the smaller share of non-retail loans in its balance sheet[105] and the relatively lower increase in the cost of these loans.[106] As regards sources of funding, the domestic sector's deposit portfolio is dominated by low-interest demand deposits, whose share has for a long time been almost twice as high as in other euro area countries' banking sectors. [107] The amount of these deposits held with domestic banks was growing until mid-2021 and, through its downward impact on interest expenses, was a major factor behind the slower decline in net interest income. At times of rising interest rates, the situation is generally reversed; there is an outflow from some deposits to higher-interest products, hence upward pressure on interest expenses.

6.2 Interest income expected to remain high while its growth rate slows

The further evolution of net interest income will be shaped mainly by changes on the deposit side

As mentioned in the previous section, the main driver of this year's net interest income growth has been returns on corporate loans. Most of the NFC loan portfolio carries a variable rate of interest, and any increase in

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[104] In Slovakia, it was not until the third quarter of 2022 that any significant trend reversal in net interest income was observed, while in most EU countries such a reversal was already apparent in the first or second quarter of that year.

[105] In the euro area, non-retail loans account for around 45% of banks' balance sheets (with corporate loans making up 13 pp of that share), while in Slovakia they account for only 35% (21 pp).

[106] The average interest rate on the NFC loan portfolio in Slovakia was higher than the euro area median from 2018 to end-2022, by margins ranging from 0.3 pp to 0.6 pp. In 2023 the gap has narrowed to below 0.3 pp.

[107] In Slovakia, demand deposits accounted for 43% of the banking sector's balance sheet as at August 2023, which was the 8th highest share in the euro area.

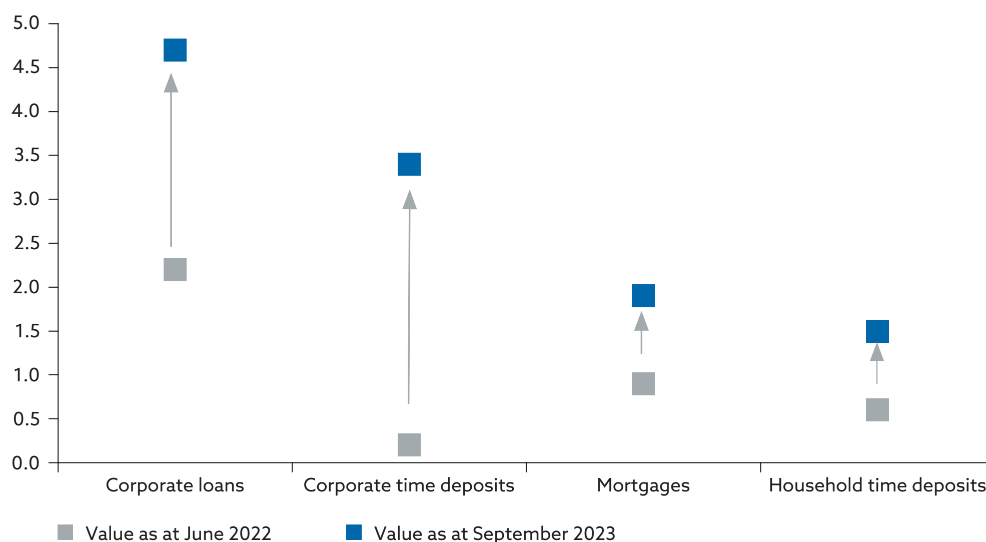
market interest rates has an almost immediate upward impact on that portfolio's interest returns. Thus, for firms, much of the expected increase in interest rates is already reflected in their borrowing costs. On the other hand, growth in returns on mortgages will be spread gradually over several years. In the period ahead, the mortgage portfolio will be the main source of continued growth in banks' interest income.

The main factor in how the situation develops will be the rate of increase in interest expenses. This will depend on the evolution of deposit rates, as well as on the share of time deposits in total deposits, since time deposit rates will rise the most. Particularly important from a profitability perspective will be the evolution of interest rates across the whole portfolio (i.e. the cost of deposits and returns on loans), not only on new deposits and new loans.

Chart 25

The pace of transmission of market rates to interest rates on outstanding loans and deposits

Comparison of lending rates and time deposit rates as they currently stand and as they stood before interest rates started rising in June 2022 (percentages)



Source: NBS.

The cost of time deposits has so far been increasing at around the same pace as returns on loans. Since June 2022, when interest rates started climbing, the increase in the average interest rate on corporate time deposits has outpaced the rise in the average interest rate on outstanding loans by 0.7 pp.[108] In the household segment, the growth in returns on the loan portfolio has been on a par with the increase in the cost of household time

108 In Slovakia, the increase in the average rates on both new time deposits and on the entire time deposit portfolio have been above the median for euro area countries. In terms of the level of interest rate on new corporate time deposits, Slovakia ranked in the upper quartile

deposits.[109] It should be noted that the parity between the increases in lending and deposit rates holds for the average rate on the entire portfolios, not for rates on new loans and new deposits. In the household segment, interest rates on new loans have been rising faster than rates on new deposits. However, the pass-through of new product rate increases to the average rate on the whole portfolio is faster for deposits than for loans, since the interest rate fixation period is, on average, longer for loans than for deposits.

Returns on loans have been evolving similarly to the cost of time deposits; nevertheless, net interest income has increased, largely because time deposits account for a low share, less than one-third, of total deposits.[110] The share of time deposits has started to increase gradually in the wake of rising interest rates, though this trend has been more pronounced in the corporate segment and only very modest, so far, in the household segment.[111] The pace of the increase in the share of time deposits and the level it eventually reaches are the most significant factors that will affect the further growth of net interest income in the banking sector. How the time deposit portfolio will evolve is a source of considerable uncertainty for banks,[112] owing to a lack of historical experience, the difficulty in managing the share of time deposits,[113] and uncertainty about the rate of growth in total deposits.

Three scenarios for the evolution of the cost of deposits

In estimating the future path of net interest income, we assume a gradual reversal of the monetary policy cycle. For the purposes of this analysis, we assume that both short-term and long-term interest rates peak in early 2024 and then decline gradually.[114]

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of euro area countries in August 2023. As for the average interest rate on outstanding time deposits, Slovakia actually reported one of the highest figures in the euro area.

109 On the other hand, the increase in households' current account rates has been markedly slower in Slovakia than in most other euro area countries.

110 The rest of the total deposit portfolio comprises mainly current accounts, on which the interest rate is almost zero or very low.

111 As a share of total household deposits, time deposits increased from 23.8% to 26.9% between June 2022 and August 2023. In the portfolio of corporate and other non-household deposits, the share of time deposits surged over the same period, from 16.9% to 32.7%, but its growth has moderated in recent months.

112 It may happen that when time deposit rates reach a certain level, or when growth in total deposits picks up, the growth rate of time deposits will accelerate significantly.

113 Despite the key importance of this parameter, banks cannot directly control it. Unlike interest rate levels themselves, the share of time deposits is not determined by banks' decisions but by the behaviour and preferences of their customers. As regards household time deposits, banks have partially mitigated this uncertainty in recent months by making the availability of time deposits conditional on the use of other products, e.g. investment funds.

114 We assume that the three-month EURIBOR gradually declines from 3.9% in March 2024 to 2.3% at the end of 2026 and that the five-year rate falls from 3.7% to 2.7% over the same

As mentioned above, the key assumption will be for developments on the deposit side.[115] Three factors in particular are in play, including the time deposit rate, the current account rate, and, above all, the share of time deposits.

Table 5 Assumptions for estimating the evolution of net interest income

		2023	2024	2025	2026
	Average annual growth from 06/23 to 12/26	Returns on loans			
Mortgages	2.0%	2.1%	2.7%	3.2%	3.6%
Consumer credit	0.3%	8.8%	9.3%	9.7%	10.0%
Corporate loans	6.0%	5.1%	5.1%	4.8%	4.5%
	Change in share from 06/23 to 12/26	Cost of deposits			
Corporate time deposits	increase from 31% to 60%	3.6%	3.7%	3.4%	3.0%
Corporate current accounts	decrease from 69% to 40%	0.5%	0.6%	0.6%	0.6%
Household time deposits	increase from 27% to 60%	2.0%	2.5%	2.5%	2.4%
Household current accounts	decrease from 73% to 40%	0.1%	0.3%	0.3%	0.3%

Source: NBS.
Notes: The table shows assumptions for annual loan growth and for the average returns on loans for the purposes of simulating interest income over the period from July 2023 to end-2026. The estimates are the result of econometric models and are based on the baseline scenario. These are only technical assumptions, not projections.

The analysis is therefore based on three possible scenarios. The baseline scenario is primarily based on historical experience and on the situation in 2008, when interest rates were also raised.[116] In the scenario with slower deposit cost growth, we assume that the share of time deposits rises more moderately and then stabilises at a lower level, and also that the increase in deposit rates is slower than in the baseline scenario. These assumptions are reversed in the scenario with faster deposit cost growth. Moreover, interest rates increase not only for time deposits but also for current accounts.

period. The projected path of interest rates cannot be considered as a projection, but only as a technical assumption for the purposes of this analysis. Their actual evolution will depend primarily on inflationary and other developments and is currently subject to considerable uncertainty.

[115] On the asset side, we assume that current trends more or less continue.

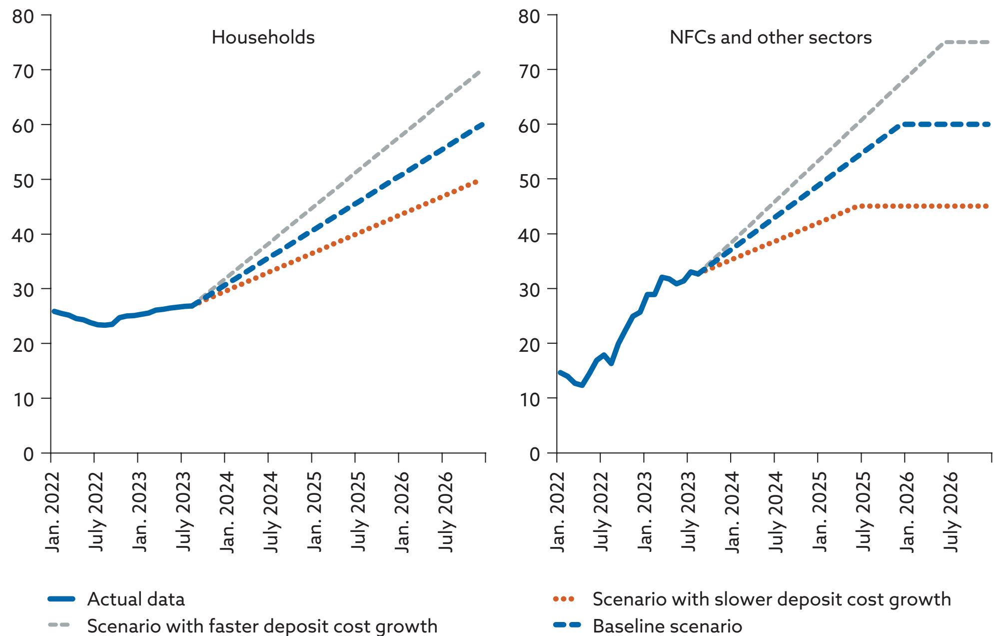
[116] However, the calibration takes into account certain specificities of that period, including that market interest rates were slightly higher then than they are now.

Chart 26

Scenarios for the share of time deposits

Left-hand panel: Actual and simulated share of time deposits in total household deposits (percentages)

Right-hand panel: Actual and simulated share of time deposits in total deposits of non-financial corporations and other sectors (percentages)



Source: NBS.

Net interest income is assumed to continue evolving positively, with a gradual moderate increase in the baseline scenario

According to the simulation, net interest income maintains the same growth in the last quarter of 2023 as it recorded in the first three quarters. Net interest income increases by 66% in the corporate segment and by 20% in the retail segment.

Over the rest of the simulation period, under the baseline scenario, net interest income grows more slowly but its growth remains in positive territory. In the scenario with faster deposit cost growth, it is estimated to fall slightly, while remaining above its 2022 level. The key source of net interest income growth over the coming period is the increase in mortgage interest income, as the mortgage portfolio is gradually repriced at higher interest rates. Mortgage interest income is estimated to increase at least until 2026, even if interest rates on new mortgages peak and then start falling moderately.

Our simulation shows banks' interest margins returning to a sustainable level, but then not rising significantly further

Banks' net interest spread at the end of 2023 is estimated to be back up to its level of five years ago. The simulation shows an increase from 2.2% at end-2022 to 2.7% at end-2023. It should be noted that net interest spread

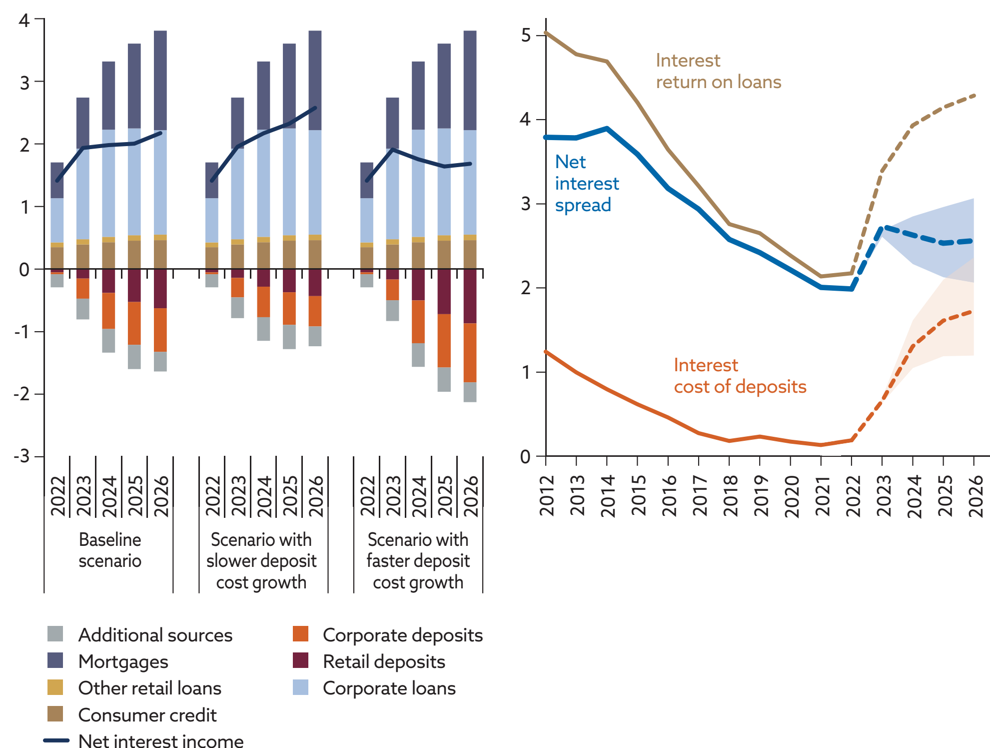
values have in previous years been considered unsustainable from a financial stability perspective. For some product types, there was a risk that interest margins would not be sufficient to cover credit losses in the event of a more pronounced economic downturn. This was because market interest rates, which had been negative for several years, could not be passed on to deposit interest rates, which had to remain positive (for households) or only very slightly negative (for firms). The return of the net interest spread to its 2018 level can therefore be considered as a return to a sustainable level. It is, however, still far below the levels that banks achieved in past times when market rates were at similar levels to what we have today.

Chart 27

Net interest income estimation is subject to considerable uncertainty

Left-hand panel: Estimation of net interest income under different scenarios on the deposit side (EUR billions)

Right-hand panel: Actual and estimated evolution of returns on loans, cost of deposits, and the net interest spread (percentages)



Source: NBS.

Notes: The assumptions for each scenario are described in Table 5. The net interest spread is the difference between the interest returns on loans and the interest cost of deposits. Interest returns on loans are calculated as the ratio of interest income from loans and the average outstanding amount of loans in the given period. The interest cost of deposits is the ratio of deposit interest expenses to the average outstanding amount of deposits.

From 2024 onwards, according to the simulation, the net interest spread remains steady or declines slightly, but there is no repeat of the increase observed in 2023. Net interest spread growth is estimated to be lower than interest income growth, since the latter is partly driven by ongoing growth in lending activity (albeit more moderate than in the past).

Box 4
Why are interest rates on household time deposits rising more slowly?

The average interest rate on household time deposits increased from 0.5% in March 2022 to 3.1% in August 2023. That pace of increase is broadly in line with the typical pace in other euro countries, while the level of these rates in Slovakia is above the euro area median. Nevertheless, their growth rate is lagging behind that of market interest rates and, to a lesser extent, interest rates on corporate time deposits.[117]

The slow transmission of market rates to time deposit rates in banks' price lists is due to a number of reasons:

1. **Delayed increase after tightening began.** When market interest rates started rising from negative levels, their increase did not pass through to time deposit rates (as these could not be at such negative levels). Hence, the first phase of interest rate increases saw only a normalisation of interest margins without any increase in deposit rates.
2. **Interest rates on retail loans are being reset more slowly than those on NFC loans.** This difference has also been reflected in the different movement of time deposit rates, since, in both segments, the interest margin between loans and time deposits has remained roughly the same as it was before.
3. **The uptrend in interest rates is expected to be only temporary.** How long interest rates remain elevated is a matter of some uncertainty. Banks are trying to limit the risk that a future decline in market rates will leave their time deposit rates at relatively higher levels.[118]
4. **The growth in the share of time deposits is subject to significant uncertainty.** Banks are therefore taking a gradual approach to raising time deposit rates, so that they can respond promptly to any surge in the flow of funds from current accounts to time deposits. Banks might find it more advantageous to obtain funds through the issuance of covered bonds, which gives them full control over the volume of funds obtained.
5. **The banking sector has sufficient liquidity.** The slowdown in lending is therefore reducing the need for additional sources of funding.

[117] The interest rate on one-year corporate time deposits rose more over the same period, from -0.5% to 3.7%, i.e. by 4.2 pp. Interest rates on new corporate and other non-household time deposits increased from -0.1% to 3.3%, by 3.4 pp.
[118] Moreover, the maturities of time deposits are longer for households than for firms.

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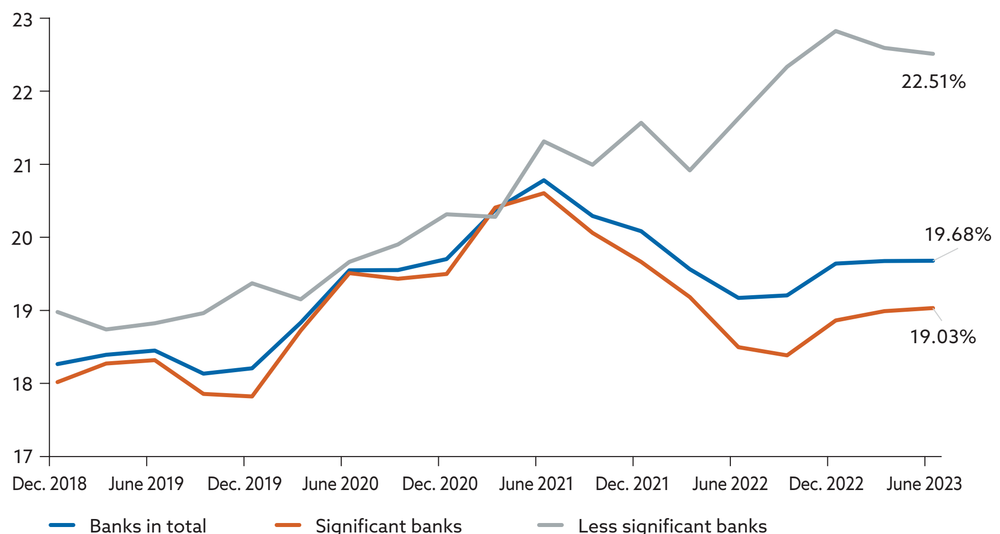
6.3 Banks have sufficient capital and liquidity

Capital growth has strengthened Slovak banks' resilience

The total capital adequacy ratio of the domestic banking sector was 19.68% as at June 2023.[119] The capital adequacy of Slovak banks has been gradually increasing for four quarters in a row. The first half of 2023 saw slightly faster growth in the sector's capital than in its risk-weighted assets. The sector's own funds were increased not only by the previous year's retained earnings, but to a significant extent by capital raising at certain banks.[120] Allocated capital was primarily targeted at risk coverage in the corporate and retail exposure classes.[121] The increase in risk-weighted assets can be attributed to both an increase in nominal exposure and an increase in riskiness.[122] Comparing the total capital ratios of the group of significant banks and group of less significant banks, the gap between them has narrowed slightly after widening markedly over the previous two years.

Chart 28
Total capital ratio evolution
(percentages)



Source: NBS.
Note: The chart shows the total capital ratio on an individual basis. On a consolidated basis it was 19.37%.

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[119] Representing a year-on-year increase of 0.5 pp.

[120] The sector's capital increased by €0.5 billion (5.5%) in the first half of the year, with as much as €210 million of that total comprising newly issued capital and €155 million accounted for by an increase in retained earnings. The remainder consisted of changes in prudential filters and in other items. The aggregate retention rate for 2022 earnings was 50% (€377 million), of which, however, €222 million had already been added to capital by the end of 2022.

[121] Risk-weighted assets grew by €2.2 billion (+5.3%) between mid-2022 and mid-2023, with 60% of that increase attributable to an increase in corporate exposures and 20% to an increase in retail exposures.

[122] As for corporate exposures, the impact of the change in nominal volume and riskiness (a 3.3 pp rise in the risk weight) is roughly the same. In the retail class, the impact of the risk-weight increase (0.6 pp) was approximately double that of the change in volume.

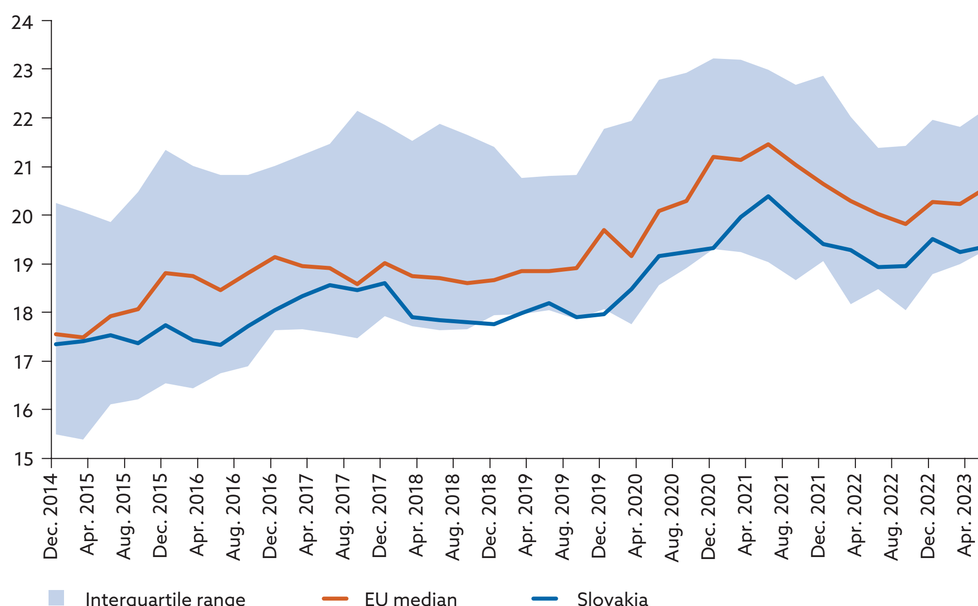
Banks' capital headroom[123] increased between the end of 2022 and June 2023. On a consolidated basis, and after taking into account fully implemented regulatory adjustments, capital headroom increased by 0.6 pp of risk-weighted assets, to 2.2% or almost €1 billion.[124] Between end-2022 and mid-2023, the leverage ratio increased to 7.5% on an individual basis and had no impact on aggregate capital headroom. The only dent in capital headroom therefore resulted from compliance with the minimum requirement for own funds and eligible liabilities (MREL).

The Slovak banking sector operates with lower capital headroom than do banking sectors of other EU countries.[125] The Slovak banking sector's total capital ratio is below average by EU standards; it has been around 1 pp below the EU median for three years running, while the average risk weight of Slovak banks has been 3 pp above the EU median.[126] Moreover, Slovak banks have more capital tied up by the combined capital buffer requirement, which as at March 2023 was 4.9%, the fifth highest in the EU.

Chart 29

Evolution of capital adequacy in Slovakia and the EU as a whole

(percentages)



Source: ECB.
Note: EU – European Union.

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[123] Capital headroom is here defined as the surplus of capital resources above minimum regulatory requirements. The minimum capital requirement also includes the countercyclical capital buffer (CCyB) – whose rate was increased to 1.5% as from August 2023 – and MREL requirements.

[124] The 0.5 pp increase in the CCyB rate from August 2023 reduced the banking sector's capital headroom by around €200 million.

[125] This does not take into account Pillar 2 requirements and guidance, nor MREL-related constraints on capital utilisation.

[126] The average risk weight of Slovak banks was 44% as at 31 March 2023, while the EU median stood at 41%.

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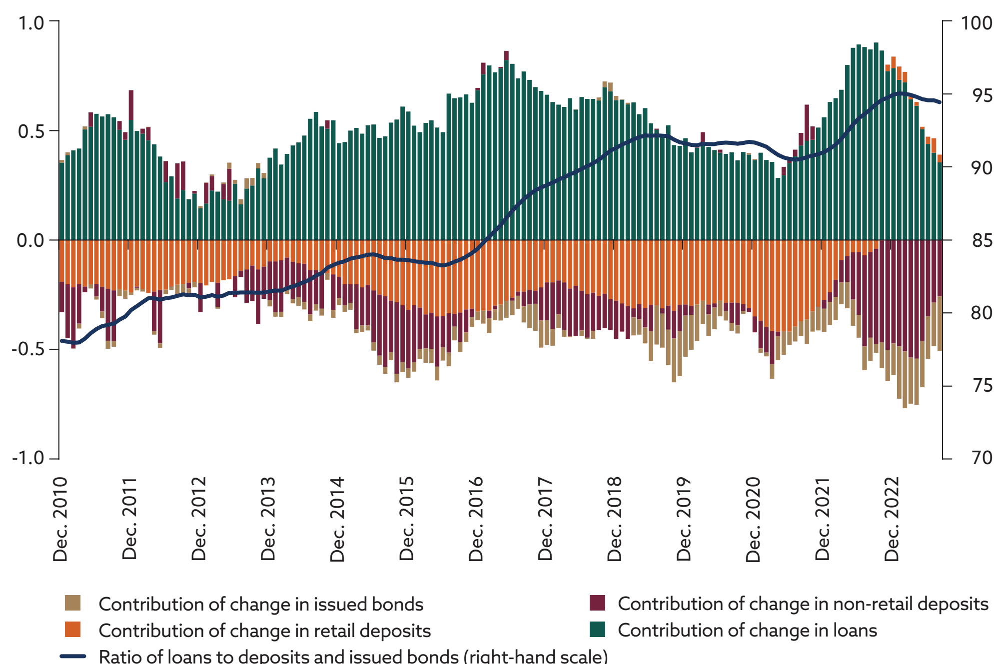
The overall liquidity position of Slovak banks has remained unchanged

Chart 30

Evolution of the ratio of loans to deposits and issued bonds and its component contributions

(percentages; percentages)



Source: NBS.
Note: The ratio calculation includes the 12-month moving averages of its components.

Although the structural liquidity position of the Slovak banking sector has not changed, it continues to have the smallest surplus of stable funds compared with other EU countries. The ratio of loans to deposits and issued bonds[127] has not changed significantly over the 15 months following its post-pandemic surge, and it remains in a narrow band of 93.5% to 95%.[128] However, the contributions of its individual components over that period differ greatly from previous trends. Some trends, mainly those related to deposits, were already starting to turn from the end of the first half of 2021.

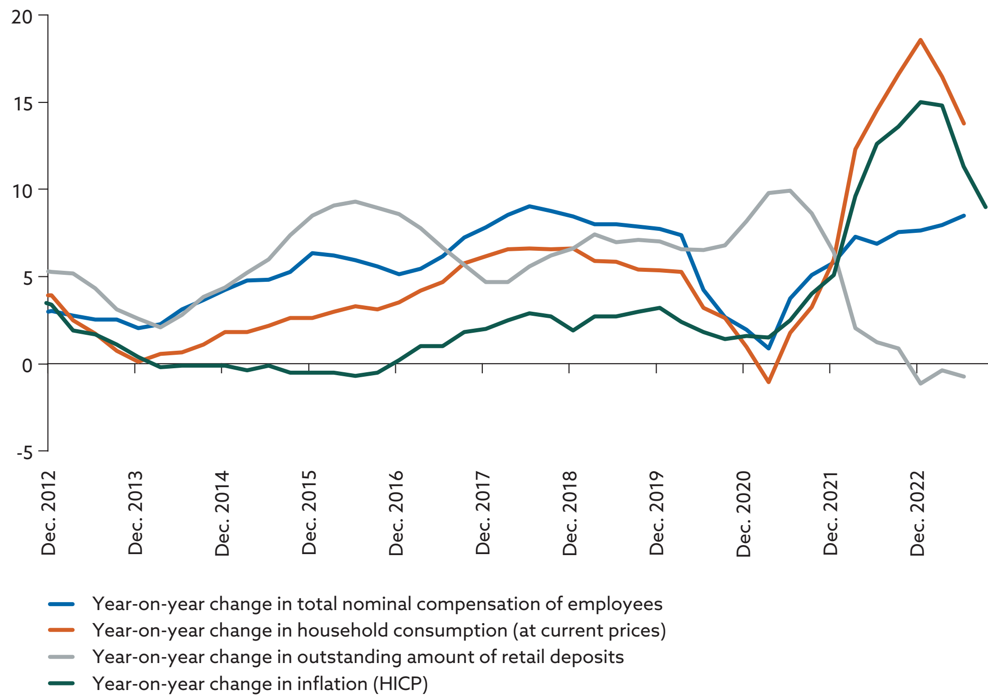
The outstanding amount of household deposits, traditionally considered the most stable source of long-term funding, has been flat for three years. The post-pandemic surge in consumer spending and subsequent period

[127] The ratio calculation includes the 12-month moving averages of the individual balance sheet items.

[128] For the euro area as a whole, the ratio of loans to deposits and bond liabilities was 67% as at August 2023 (unchanged from June 2021). The countries ranking next highest for this indicator, after Slovakia (95% in August 2023 and 90% in June 2021), were Estonia (90%; 84%) and Portugal (74%; 76%).

of high inflation have dampened the inflow of new retail funds since June 2021. This segment's contribution to total deposits has been negative since early 2022, owing to a decline in total household deposits.

Chart 31
High inflation and stagnating wages have halted growth in household deposits
(percentages)



Sources: ECB, SO SR, and NBS.
Note: SO SR – Statistical Office of the Slovak Republic, HICP – Harmonised Index of Consumer Prices.

Other factors have offset retail deposit developments in volume terms. There is a lower need for (new) funding, since although the contribution of loans has fallen significantly from where it was before interest rates started rising, it has still not dropped below pre-pandemic levels. As for sources of funding, there has been an increase in other deposits, mainly from non-financial corporations, which have benefited from rising household consumption and higher prices. Since 2023, however, the inflow of new funds in this segment has slowed.

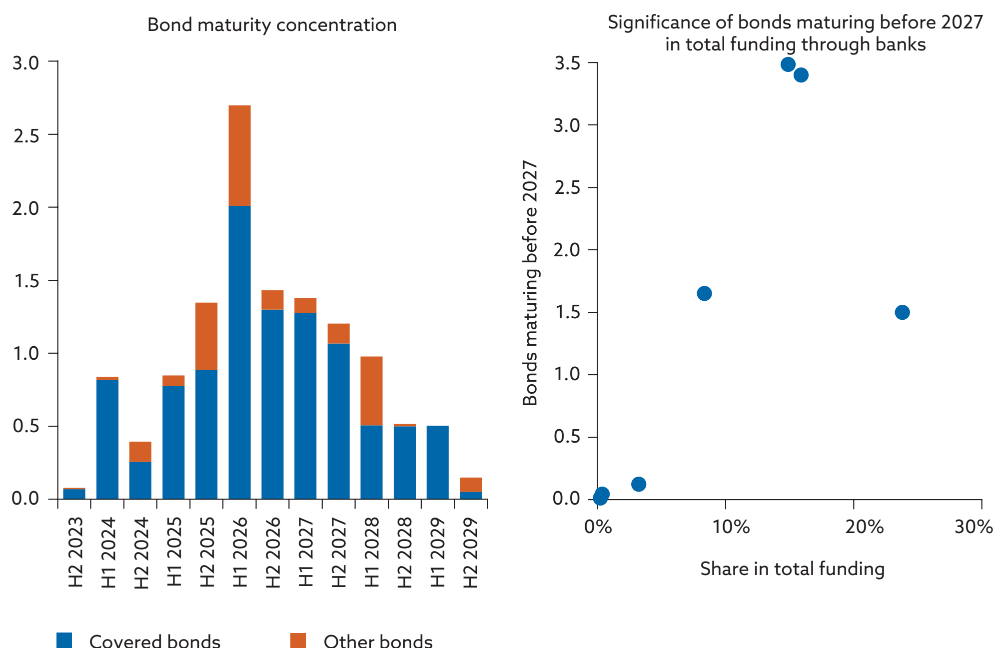
Despite deteriorating conditions in financial markets, the importance of issued debt securities, especially covered bonds, has continued increasing. A number of banks are stepping up the diversification of their funding sources, but with higher execution risk at the time of maturity and with a potential impact on their business model owing to higher refinancing costs. Given the less favourable situation in financial markets, Slovak banks have recently been issuing covered bonds whose weighted

maturity is significantly shorter than the previous norm.[129] This implies greater bunching of their maturities, in particular between 2025 and 2027, when almost €9 billion worth of issued bonds (70% of banks' portfolio) will gradually mature. This risk is, however, partly mitigated by the fact that the evolution of the cost of covered bonds has so far been in line with returns on government bond portfolios (with some margin being maintained). Any future increase in the cost of covered bonds should therefore be partly offset by growth in bond portfolio yields.

Chart 32

Significant refinancing risk for selected banks

Left-hand panel: (EUR billions)
Right-hand panel: (EUR millions; percentages)



Source: NBS.
Notes: Left-hand panel: The category 'Covered bonds' includes also mortgage bonds issued under previous legislation. Data are as at 15 October 2023.

The situation in respect of regulatory ratios has stabilised with hardly any changes seen since the end of 2022. The banking sector's liquidity coverage ratio (LCR) has in 2023 been moving in a narrow corridor of 175% to 190%, and as at September it stood at 183%. Likewise, the net stable funding ratio (NSFR) has been holding steady, with its level unchanged at 130% from December 2022 to June 2023.

Liquidity ratios may in the near term be affected by two opposing factors. From a sectoral perspective, household deposits are likely to pick up gradu-

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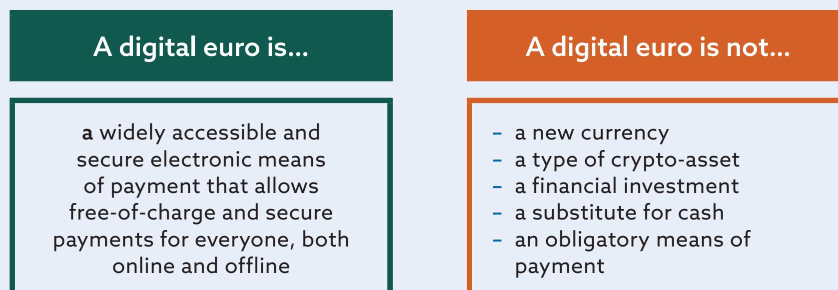
[129] From June 2021 to October 2023 domestic banks issued €5 billion worth of covered bonds with a weighted maturity of 4.2 years; from 2018 to June 2021, €4 billion worth with a weighted maturity of 7 years.

ally from their recent trend, thanks to the ongoing decline in inflation and growth in nominal wages. On the other hand, a number of banks are facing upcoming repayments of TLTRO funding.[130] Nevertheless, the aggregate liquidity position is not expected to be significantly affected, given that the Slovak banking sector is still able to repay these funds out of its deposits with the central bank or with intra-group funding.[131] TLTRO repayments will weigh on regulatory liquidity ratios only if assets used as collateral in TLTROs are treated as illiquid from an LCR perspective.

Box 5
Digital euro introduction will have financial stability implications

The debate surrounding central bank digital currencies (CBDCs) has intensified during 2023.[132] Although most of the jurisdictions that are preparing a digital currency are only in the preparatory stages of doing so, there are a number of open questions that concern also the proposal for a digital euro. They concern the very nature of a digital currency, its relationship to monetary policy objectives, its possible ramifications for the financial sector and financial stability, its effects on ordinary citizens, and how it relates to crypto-assets. It should therefore be stressed that a digital euro, as another form of the euro, would be first and foremost an electronic means of payment, not a new currency or a new kind of crypto-asset. Nor would it be a substitute for cash, but rather a complement to it.

Figure 1
What a digital euro is and is not



Source: NBS.

A digital euro would, it is assumed, support the conduct of monetary policy, but it also raises a number of other issues. Its introduction should have a positive impact on euro area monetary sovereignty, thereby facilitating the achievement of monetary stability objectives.

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130 The banking sector's outstanding TLTRO borrowings amounted to €4.2 billion as at September 2023, with €3.6 billion of that amount due to be repaid by March 2024.

131 Banks' net position vis-à-vis the central bank and their own groups was a surplus of €1.6 billion. Before the first recourse to TLTROs, this surplus stood at €0.5 billion.

132 No decision has yet been taken on the introduction of a digital euro. After the completion of a two-year investigation phase on the design and distribution of a digital euro, the Eurosystem started the preparation phase in November 2023.

Moreover, a digital euro would have the potential to strengthen financial stability, especially as regards payment services. Further anticipated benefits include improving the effectiveness of the fight against money laundering. At the same time, however, its introduction could affect the structure of financial markets, as well as the existing business models of financial institutions, in particular banks. Questions arise about the way in which it may alter the position of banks in the financial intermediation process. Some authors[133] point out that bank deposit withdrawals may likely become a run in times of stress and that deposits may be shifted to the central bank.

The overall impact of a digital euro on financial stability will depend mainly on three factors. The first is the actual structure of financial markets and banks at the time of its introduction, particularly in regard to the position and importance of banks in financial intermediation and the structure of their funding. The second factor is the regulatory calibration of the digital euro's different parameters and features, some of which are already addressed in a legislative proposal.[134] Important parameters may include, for example, a cap on the amount that individuals hold in their digital euro accounts,[135] the day-to-day operational set-up of digital euro accounts with commercial banks, and the issue of interest on digital euro holdings. For financial institutions in particular, a timetable for the digital euro introduction and a sufficient adaptation period will be essential. A third important factor will be the extent and scope of digital euro usage, which, given that it would be voluntary for households, is difficult to estimate and may vary across countries. Recent research in this area[136] suggests that the uptake of digital currency in different countries will also depend on the level of cash usage in those countries.

How a digital euro affects the domestic banking sector will be mainly related to the shift of part of household current account balances to digital euro accounts at the central bank. While such an operation would not entail significant change for customers, it would pose commercial banks a number of challenges:

- **Pressure on liquidity profile.** Household current accounts are among the most stable and cheapest sources of funding. The substitution of part of these funds with other sources (corporate deposits or interbank funding) is likely to be reflected in a shortening of the

[133] https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2018/central-bank-digital-currencies-design-principles-and-balance-sheet-implications

[134] Proposal for a Regulation of the European Parliament and of the Council on the establishment of the digital euro: https://eur-lex.europa.eu/resource.html?uri=cellar:6f2f669f-1686-11ee-806b-01aa75ed71a1.0001.02/DOC_1&format=PDF

[135] A holding limit of €3,000 is currently being proposed.

[136] https://www.imf.org/en/Publications/WP/Issues/2019/03/01/Cash-Use-Across-Countries-and-the-Demand-for-Central-Bank-Digital-Currency-46617

behavioural maturity of liabilities. Overall, therefore, banks' liquidity profile could deteriorate, thereby naturally having a downward impact on the LCR and NSFR.[137]

- **Impact on profitability through higher funding costs.** Substituting household deposits with other sources of funding generally implies an increase in costs. This holds particularly true where a bank wishes to maintain its original liquidity profile (e.g. by issuing bonds) or to avoid a decline in liquidity ratios, whether internal or regulatory. An increase in funding costs would adversely affect banks' profits and may even reduce their lending capacity.

- **Higher sensitivity to interest rate movements.** Banks do not generally adjust current account rates to any significant extent. This is because current accounts are meant to be highly flexible products for customers. Although there may be frequent movements on individual current accounts, a large part of the outstanding amount of current accounts is stable and minimally sensitive to interest rate changes. Hence, if part of this portfolio is substituted with other sources, it will not benefit banks in the long term, as the replacement source of funding will be more interest rate sensitive and will be subject to higher refinancing risk.

- **Greater reliance on other sources of funding.** As household current accounts become a less important part of banks' funding mix, banks will find themselves more exposed to trends in financial markets, which are generally more volatile than household behaviour. While operations with the central bank, may be used to replace lost funding and can, if well configured, eliminate the negative impact on liquidity, profitability and interest rate risk, they also increase banks' dependence on the central bank. The result could be a gradual change in banks' financial intermediation role.[138]

To what extent the banking sector is affected by these changes will depend mainly on the level of the holding limit per digital account and on digital euro uptake among households. The ECB is therefore considering a phased-in implementation of the digital euro, initially making it available for retail payments. Overuse of the digital euro should be curbed by the holding limit and by the non-interest bearing nature of digital euro accounts. Moreover, should it be necessary to address a worsening liquidity situation in the banking sector, the ECB could ease the conditions on, or extend, its refinancing operations, provided that the core monetary objective is not jeopardised.

[137] For now, the question is somewhat theoretical, given the excess liquidity that European banks have in their central bank accounts.

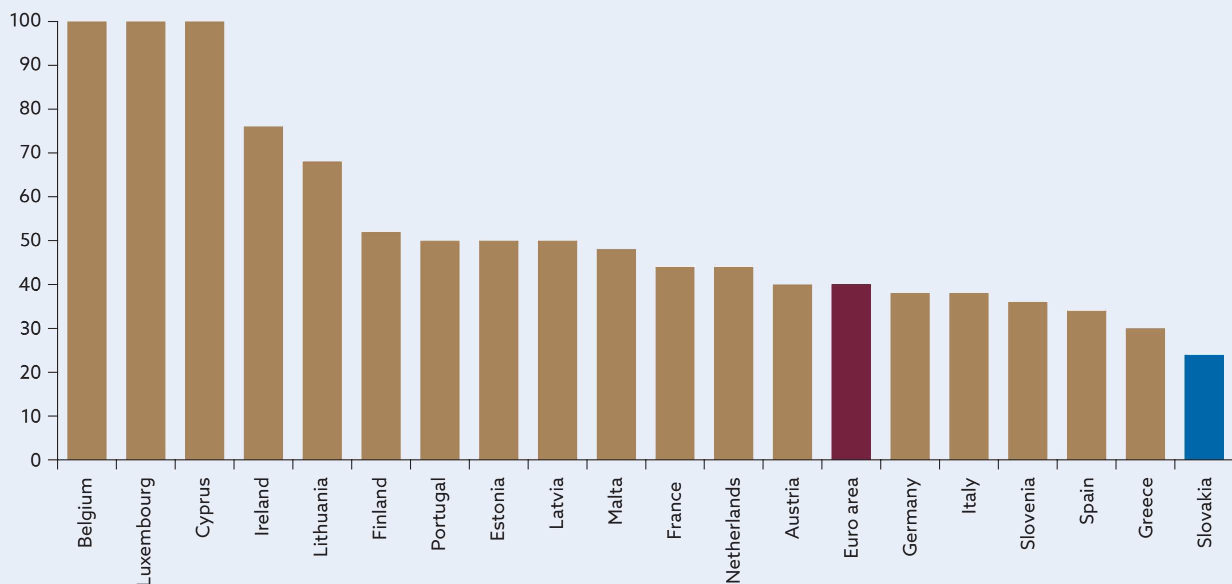
[138] https://www.bis.org/publ/othp42_fin_stab.pdf

For most banks in the euro area, an outflow of deposits within this limit would not imply a significant deterioration of their liquidity position. The banking sector impact would, however, be heterogeneous across countries. In countries where average balances of current accounts are lower and banks have a stronger focus on household deposits, the impact would be more severe. Slovakia is one such country.

Chart 33

The ability of Slovak banks to use liquid assets to withstand a retail deposit outflow is the lowest in the euro area

Retail deposit outflow rate that a bank can absorb through its liquidity buffer (percentages)



Source: Meller, B. and Soons, O., "Know your (holding) limits: CBDC, financial stability and central bank reliance", *Occasional Paper Series*, No 326, ECB, Frankfurt am Main, August 2023.
Notes: Simulation based on data as at 30 September 2021. A 15% aggregate retail deposit outflow is assumed.

The ECB estimates that the overall digital euro demand would be around €1.15 trillion at the proposed setting. Of that total, around €650 billion would be a result of deposit outflows from commercial banks, representing around 15% of current retail deposits. The remainder would be accounted for by a natural reduction of existing cash in circulation, of which up to €120 billion is estimated to be held by euro area non-residents, including tourists.[139] Alternatively, if there were no digital euro holding limit at the individual level, the total amount of digital euro in circulation would depend on the extent to which the digital currency replaced other means of payment. In such a case, estimates for the amount of digital in euro circulation range from €0.5 trillion to €7.5 trillion.

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[139] Adalid, R., Álvarez-Blázquez, Á., Assenmacher, K., Burlon, L., Dimou, M., López-Quiles, C., Martín Fuentes, N., Meller, B., Muñoz, M.A., Radulova, P., Rodriguez d'Acri, C., Shakir, T., Šílová, G., Soons, O. and Ventula Veghazy, A., "Central bank digital currency and bank intermediation", *Occasional Paper Series*, No 293, ECB, Frankfurt am Main, May 2022.

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6.4 Macroprudential policy: The current CCyB rate is sufficient

Risks related to financial cycle developments are not currently building up. Hence, no change to the countercyclical capital buffer (CCyB) rate is required. The financial cycle has cooled significantly in recent quarters, with the credit and housing markets contributing heavily to this trend. The credit market has seen a marked slowdown in new loan origination compared with the previous year, while housing prices have already been recording year-on-year declines. The financial cycle downswing stems largely from reduced demand. Non-performing loan ratios remain at historically low levels. The financial cycle is expected to continue cooling in the coming period, albeit to a lesser extent than in the first half of this year; nevertheless, this situation does not warrant a release of the CCyB. NBS therefore sees no reason to adjust the CCyB rate in the next quarter. Grounds for releasing the CCyB would include an increase in credit losses and a need to increase loan loss provisioning beyond normal levels.

7 Other sectors

7.1 Insurers' financial results in the wake of accounting changes[140]

Insurance market indicators have been significantly affected by the implementation of the new accounting standard IFRS 17. For a number of well-established indicators, it has meant either a change in their interpretation or even discontinuation of the time series. Only to a limited extent can results for 2023 now be compared with previous results. The basic principles of the new standard and its main effects on carrying amounts are addressed in Box 6 below. IFRS 17 started to be applied in the insurance sector from 1 January 2023.

Box 6

The new accounting standard IFRS 17 fundamentally changes the accounting of insurance contracts

The main idea behind IFRS 17 is to align the accounting philosophy for insurance contracts with that applied in other economic sectors, i.e. to introduce the recording of income and expenses on an accrual basis. It is also intended to ensure a high level of transparency and cross-jurisdictional comparability of insurers' financial statements.

The accounting of life insurance contracts under the old IFRS 4 standard largely reflected cash flow from the given calendar year. In other words, premiums received represented immediate income and ongoing expenses were largely an immediate expense. This accounting method for expenses and income could lead, for example, to long-term life insurance contracts appearing to be loss-making in their early years and highly profitable in latter years.

Under IFRS 17, both premiums and expenses are now recognised over the life of the contract. Hence, the total profit from life insurance contracts is evenly distributed.[141] Naturally, during the contract term, account is taken of unavoidable factors that may affect the profit from in-

[140] The profitability analysis covers nine domestic insurance undertakings accounting for around two-thirds of the premiums written in Slovakia by domestic insurers and branches of insurers from other Member States. The analysis excludes branches of insurers from Member States for which the necessary data are not available. For the sake of consistency, the historical data are adjusted to exclude domestic insurers that later transformed into a branch of an insurer from another Member State. Also excluded are insurers which merged with another insurer that subsequently transformed into a branch of an insurer from another Member State. The sector's profitability data is sourced from accounting statements, i.e. balance sheets and profit and loss accounts. Other data are from statements submitted under Solvency II reporting.

[141] The income attributable to a particular year is determined by releasing the so-called contractual service margin (CSM).

surance contracts, such as the time value of money or ongoing changes in the interest rate environment. This approach to accounting is commonly referred as 'accrual accounting'.

For the Slovak insurance sector, IFRS 17's implementation has resulted in a decrease in balance sheet value, an increase in profit and an increase in equity. The balance sheet reduction was due to a decrease in assets, in which neither insurance and reinsurance receivables, nor deferred acquisition costs of insurance contracts, are now reported. The profit increase resulted from the different distribution of profit over time, e.g. the gradual release of costs incurred at the inception of a contract. Last but not least, under IFRS 17, liabilities have started to be measured at fair value. At a time of elevated interest rates, this results in a decline in insurers' liabilities and an increase in their equity, the amount of which has moved significantly closer to the Solvency II capital requirement.

The impact of IFRS on non-life insurance contracts has been far more marginal. IFRS 17 has also brought a number of technical changes relevant for insurance sector analysis[142].

Alongside the implementation of IFRS 17, most insurers have also implemented IFRS 9, which sets rules for the measurement of assets covering insurance contract liabilities as well as of other investments of insurers.

Profitability reflects transition to new accounting standard

The insurance sector's aggregate after-tax profit for the first half of 2023 was €113 million. While that figure represents a year-on-year increase,[143] a simple comparison of profit under the old and new accounting standards would be misleading.

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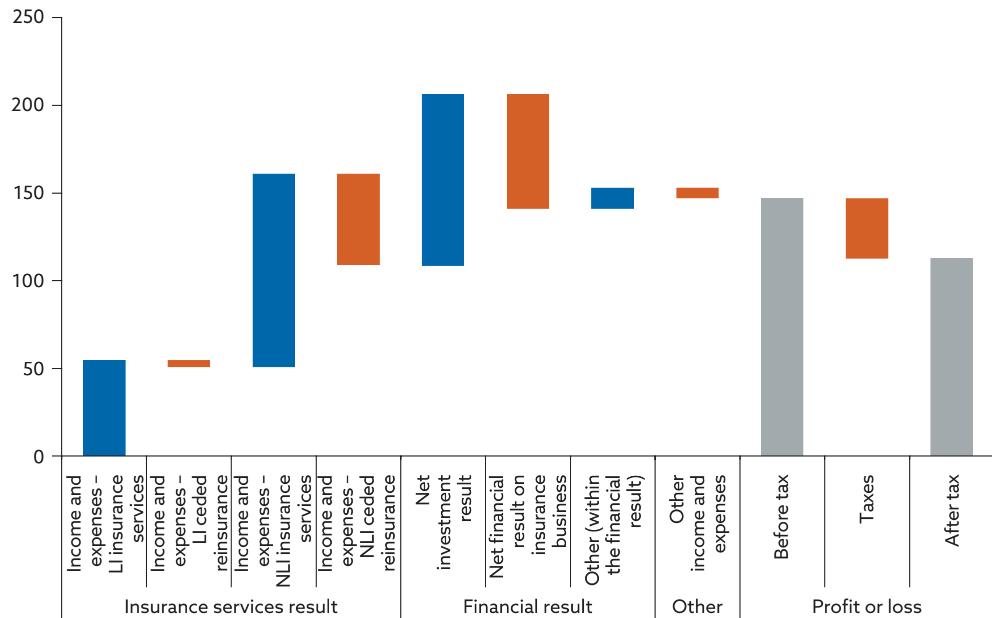
[142] There have been several breaks in the time series. A number of well-established concepts in insurance accounting have ceased to exist, including 'technical result' and 'financial result'. The metrics of 'premiums written' and 'claims costs' are no longer presented in financial statements, but they continue to be reported under the Solvency II regulatory framework.
In the IFRS transition period, insurers have taken varying approaches and there has been an increase in data errors. Significant improvement is expected mainly after the external audit for the closed financial year of 2023, as well as following the incorporation of interim reporting guidelines from NBS.

[143] Nominal profit after tax increased by 7.5% year-on-year (€8 million) and by 23.3% year-on-year (€21 million) after adjusting for one-off effects in 2022. These one-off effects include the sale of one insurer's main building, higher dividends from a subsidiary second-pillar pension management company, and the reversal of excess provisions for travel agency insurance. The pre-tax profit amounted to €147 million, representing a nominal annual growth rate of 12.9%.

Chart 34
Distribution of insurers' profit in the first half of 2023
(EUR millions)



Source: NBS.
Notes: LI – life insurance; NLI – non-life insurance. Taxes include deferred and payable income tax and a special levy on business in regulated industries.

The interpretation of the sector's profit trend is distorted by a number of factors. The most significant is the change in the accounting standard itself and the transition period for the deferral of income tax.

With the implementation of IFRS 17, ROA and ROE have undergone significant change. The decline in assets resulted in ROA increasing from 3.2% to 4.2% over the first half of 2023.[144] Because of the rise in equity, however, ROE dropped from 23.3% to 17.2%. In both cases, the impact of the denominator change is clearly preponderant.

Solvency decreased slightly

The sector's Solvency Capital Requirement (SCR) coverage ratio fell from 195% to 191% in the first half of 2023. Most individual insurers reported a drop in this metric.

The EPIFP share in insurers' capital rose one percentage point in first half of the year, to an all-time high of 64%. Its increase was primarily a direct

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[144] The increase in ROA also reflects the decline in insurers' total balance sheet value as a result of IFRS 17, since neither insurance and reinsurance receivables, nor deferred acquisition costs, are now reported in assets. Deferred acquisition costs are part of the measurement of insurance contract liabilities.

result of rising interest rates.[145] Most insurers have an EPIFP ratio of between 50% and 67%.

In the first half of the year, as in 2022, the amount of EPIFP increased slightly while the other capital components decreased. Hence, the share of EPIFP in eligible own funds recorded a relative increase.

Life insurance business maintains moderate growth

Premiums written in the life insurance segment as a whole have grown moderately this year for a second successive year. Their total as at June 2023 was 0.5% higher than a year earlier. In traditional life insurance, the downtrend in premiums written continued. It was, however, distorted by reclassifications, including the major impact of a reclassification between unit-linked and traditional business which amounted to between €12 million and €18 million. Without that, the decline in traditional life business would have between 1% and 4% year-on-year.

In unit-lined life insurance, the previous growth trend in premiums written turned into a decline this year, which was further accentuated by reclassification Excluding the reclassification, the decline would have been between 3% and 10%. In health insurance, premiums grew by 25.0%, roughly following the trend of recent years. Because of this increase, life insurance as a whole recorded a positive result. Data for claims costs are not available.[146]

Non-life insurance trends affected by inflation

Premiums in non-life insurance were 8.5%[147] higher, year-on-year, at the end of June 2023, with inflation playing a major role in that increase. It was among the fastest rates of growth in recent years. The number of insurance contracts also rose, though only by 2.0%, according to data from the Slovak Insurance Association (SLASPO).[148] This implies continuing growth in the average premium per contract,[149] probably in response to an increase in claims costs.

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[145] The drop in value of liabilities due to rising interest rates has an upward impact on equity, specifically the component of expected profits included in future premiums (EPIFP).

[146] Claims costs as at mid-2023 cannot be quantified due to the ongoing updating of reporting methodology following the implementation of IFRS 17.

[147] The data are net of a change in the reporting of the levy payable to the Slovak Interior Ministry in respect of MTPL business.

[148] The data are for those insurers and branches of insurers from another EU Member State which are SLASPO members. This group's composition is slightly different from that of the group referred to for other analyses in this text.

[149] The amount data and number data do not come from the same source, so any comparison between them is only indicative.

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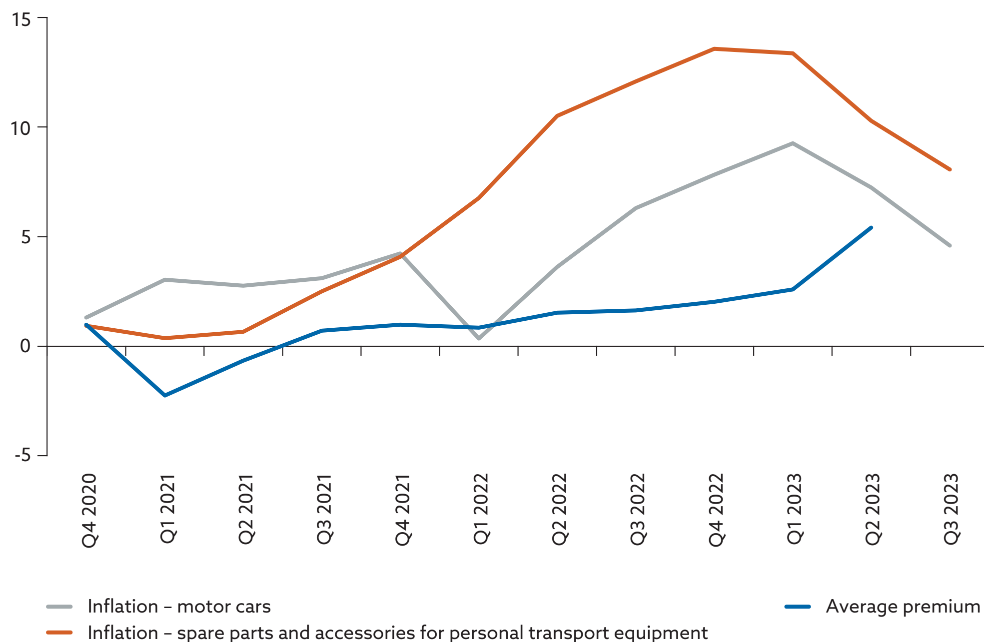
Chart 35

Growth in the average MTPL premium is lower than inflation

Year-on-year change in the average MTPL premium and in prices of motor cars and spare parts and accessories for personal transport equipment (percentages)



Sources: Eurostat, NBS, and SLASPO.
Notes: Inflation is expressed as the year-on-year change in the Harmonised Index of Consumer Prices. MTPL – motor third party liability (insurance), SLASPO – Slovak Insurance Association / Slovenská asociácia poisťovní.

In motor third party liability (MTPL) insurance, premiums written increased by 6.0%. The change in the number of contracts in the insurance portfolio was only 0.6%, i.e. the average premium per contract increased.[148] The growth in that average remains, however, lower than the increase in prices of motor cars and spare parts and the rise in contributions to the Slovak Insurers' Bureau's guarantee fund.[150] In comprehensive motor insurance, premiums grew by as much as 11.4%, more than they had done since the introduction of the Solvency II regime. In property insurance, annual growth in premiums stood at 5.4%, one of the highest levels in recent years. This reflected a higher proportion of insurance contracts with embedded indexation. Data for claims costs are not available.[151]

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[150] The sector's aggregate contribution to the Slovak Insurers' Bureau is substantially higher than corresponding contributions in neighbouring countries and it continues to rise. The result is higher premiums for those policyholders who are law-abiding in respect of MTPL insurance. The contribution for 2023 is estimated to amount to more than 3% of premiums written in MTPL business.

[151] As in life insurance, claims costs as at mid-2023 cannot be quantified due to the ongoing updating of reporting methodology following the implementation of IFRS 17.

Increase in government bond investments

Insurers' investments in government bonds increased in the first half of 2023 at the expense of holdings of investment fund shares/units. During the long period of low interest rates, the share of government bonds in investment portfolios was gradually declining, mainly in favour of corporate bonds. In the first half of this year, however, the government bond share rose from 40.3% to 42.8%, reaching a level last seen at the end of 2021. Given the economic circumstances, this can be assumed to be a trend shift rather than a blip.

This increase has, however, not been at the expense of corporate bonds (their share was virtually unchanged), but in the component of investment fund shares/units, which fell from 5.3% to 2.0%.

In unit-linked life insurance, the position of investment fund shares/units in the investment portfolio continued to increase. As at June 2023, they accounted for 93.3% of the portfolio. Most of these holdings are in unlisted funds (53.8 pp) and in funds listed in Luxembourg (31.8 pp).

7.2 Pension and investment fund sectors see return to growth

In the second pillar of the Slovak pension system, assets have started to be transferred in accordance with the default investment policy

After remaining flat in 2022, the net asset value (NAV) of second pillar pension funds has returned to growth in 2023, a situation which is more the historical norm. The total NAV of second pillar funds increased by €1.43 billion in the first three quarters of 2023, up to €13.2 billion. Just over one-third of that increase was accounted for by nominal returns on assets, which averaged 4.6%, and the rest by savers' contributions. Returns on second pillar equity and index pension funds were approximately double the overall average, while the return on bond pension funds amounted to one per cent.

Index pension fund assets have doubled in volume terms and their share of all second pillar assets has risen above 40%. The swelling of their size included the addition of €1 billion worth of assets from the reclassification of two equity pension funds as index funds, and further hundreds of millions worth since July. At that time, pension management companies started transferring the assets of some savers from bond funds to index funds, pursuant to the so-called default investment policy introduced by a recent amendment to the Old-Age Pension Scheme Act (No 43/2004).

Gradual alignment with the default investment policy will continue for about two years, during which time the net asset value of index pension funds should overtake that of bond funds, which up to now have had a dominant share.

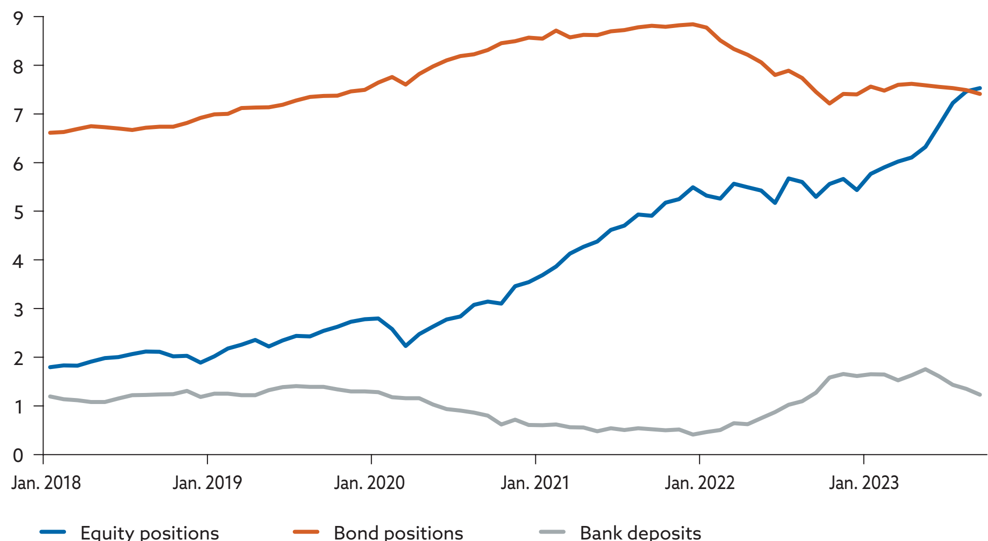
In 2022 the structuring of assets across all types of pension funds was marked by heightened caution and an inclination towards bank deposits, while the trend this year has so far been somewhat opposite. Beginning in the second quarter of 2023, the share of deposit products in equity and mixed pension fund portfolios were reduced to necessary transactional minimum levels, and the savings freed up as result were reinvested into equity instruments and debt securities. Bond pension funds also saw their deposit component decrease, to a moderate extent, as a result of the transferring of assets in compliance with the default investment policy.

In the portfolio of debt securities, the share of general government bonds rose sharply in 2022 and has this year maintained moderate growth at the expense of NFC bonds. There was increasing investment in domestic bonds, not only government bonds but also bank bonds. In bond pension funds, the previous trend continued, with the average residual maturity of the bond portfolio declining further.

Chart 36

In both second and third pillar pension funds, the share of equity investments has started growing again

Total amount of asset components in the aggregate portfolio of the second and third pension pillars (EUR billions)



Source: NBS.

In the third pension pillar, most customer inflows went to index pension funds, which also accounted for most of the overall NAV growth

The NAV of third pillar pension funds returned to growth in the first nine months of the 2023. Its level increased by over 10% (€320 million) during this period, driven up mainly by new inflows from an expanding participant base. The returns on third pillar funds for this period averaged 3.7%, with only index pension funds recording a significantly higher figure.

All types of third pillar pension funds saw an increase in NAV, though there was considerable heterogeneity in terms of growth rate. The bulk of the sector's NAV increase was accounted for by growth-oriented funds. The rise of index pension funds has been particularly strong, as they have been the funds most in demand from new savers and from savers switching from other third pillar funds. Index funds' share in aggregate NAV is now approaching the 10% mark.

The funds that this year saw the most significant adjustments in asset portfolio composition were mixed pension funds. Last year's decline in the equity component against a backdrop of heightened uncertainty and market turbulence proved to be short-lived. The share of direct and indirect equity investments in the NAV of third pillar funds increased from 27% as at 31 December 2022 to 32% by the end of September 2023, a new high for recent years.

The additions to the sector's portfolio included mainly bank bonds issued in central and eastern European countries, including Slovakia. Investments in US Treasury bonds declined significantly, causing the share of general government securities in the sector's total debt securities to drop below 50% for the first time.

In the investment fund sector, interest in equity funds and real estate funds has remained strong, while demand for mixed funds has ebbed

The net asset value of domestic investment funds increased by €386 million between January and September of 2023. Even after this increase, however, the sector's aggregate NAV was, at €9.2 billion, still below the peak reached in late 2021. Most of increase was due to asset prices rebounding to higher levels, after their significant depreciation in the previous year, which was reflected in an average nominal return of around 4%. Net issuances of investment fund shares/units were driven mainly by household demand. Customer inflows from this segment have picked up momentum in recent months after a cautious start to the year.

As was the case last year, the investment funds with the highest net issuances of shares/units were equity funds. Ranking second after them were real estate investment funds which have long been a popular fund type. They held this position even though prices of flats in Slovakia have been falling for the first time since these funds started gaining popularity; such a decline could have dented retail sentiment towards the housing market and real estate-related investments. Customer outflows have been largely concentrated in the segment of mixed investment funds. Net redemptions were, to a moderate extent, also recorded by bond investment funds cumulatively over the first nine months. However, the long-term trend of net redemptions by bond funds actually came to end during this period, and from July they gradually started to record net issuances again.

In equity investment funds, the focus this year has been on maximising the equity profile of the portfolio; hence, the bank deposit component has dropped to 5%. Moreover, these funds have been taking on a more passive nature, as the share of their indirect equity exposures through holdings of investment funds shares/units and ETF instruments has increased faster than their holdings of equities per se (almost all of which are US stocks), with the result that this share stood at around half of the funds' asset portfolio by the end of the period under review.

In the portfolio of investment fund debt securities, the share of government bonds, once the largest component, continued its downward trend. Over the past two years, their share in the portfolio's directly owned bonds has dropped from around 45% to 18%. The outflows have consisted predominantly of US and Slovak government bonds. By contrast, domestic investment funds' purchases of bonds issued by Slovak banks have been rising sharply. Largely for this reason, the average credit rating of the sector's bond portfolio has this year deteriorated by just under one notch, to close to A- as at the end of September. As much as 95% of the bond holdings were in the investment grade band. The bond portfolio's average residual maturity, which is a proxy for sensitivity to interest rate movements, has remained at a constant low level, not exceeding three years. This has held true not only for the segment as a whole, but also within individual investment fund categories.

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Abbreviations

BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
BLS	bank lending survey
bp	basis point(s)
CBDC	central bank digital currency
CCyB	countercyclical capital buffer
CEE	central and eastern Europe
CET1	Common Equity Tier 1 (capital)
CRE	commercial real estate
CSM	contractual service margin
DLT	distributed ledger technology
DSTI	debt service-to-income (ratio)
DTI	debt-to-income (ratio)
EBA	European Banking Authority
ECB	European Central Bank
EPIFP	expected profits included in future premiums
ESI	Economic Sentiment Indicator (of the European Commission)
ESRB	European Systemic Risk Board
ETF	exchange-traded fund
EU	European Union
EURIBOR	euro interbank offered rate
GDP	gross domestic product
HICP	Harmonised Index of Consumer Prices
IFRS	International Financial Reporting Standard
IT	information technology
LCR	liquidity coverage ratio
LI	life insurance
LTV	loan-to-value (ratio)
MiCA	Markets in Crypto-assets Regulation
MREL	minimum requirement for own funds and eligible liabilities
MTF	medium-term forecast
MTPL	motor third party liability (insurance)
NAV	net asset value
NBS	Národná banka Slovenska
NFC	non-financial corporation
NLI	non-life insurance
NPL	non-performing loan
NSFR	net stable funding ratio
OECD	Organisation for Economic Co-operation and Development

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pp	percentage point(s)
PMI	Purchasing Managers' Index
RBUZ	Register of Bank Loans and Guarantees / Register bankových úverov a záruk
REIT	real estate investment trust
ROA	return on assets
ROE	return on equity
RRE	residential real estate
SCR	Solvency Capital Requirement
SLASPO	Slovak Insurance Association / Slovenská asociácia poisťovní
Solvency II	Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II)
SO SR	Statistical Office of the Slovak Republic
TLTRO	targeted longer-term refinancing operation
ÚPSVaR SR	Office of Labour, Social Affairs and Family of the Slovak Republic / Úrad práce, sociálnych vecí a rodiny Slovenskej republiky
US	United States