Financial Stability Report

November 2022

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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EUROSYSTÉM

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Foreword

We find ourselves in a complicated period, and the coming year will not be easy either.

Recession risk in the euro area is mounting. We face double-digit inflation and, in Slovakia, a decline in real wages. Uncertainty and volatility in financial markets persist and, despite an unfavourable economic situation, interest rates will continue to rise amid the need to tame inflation. On a positive note, the labour market remains resilient for the time being.

Not surprisingly, such developments are posing challenges for Slovakia's financial sector. Today's risks relate mainly to uncertainty about the financial situation of firms and households and their debt servicing capacity going forward. This concerns not just the effects of a possible recession against the backdrop of the war in Ukraine and rising interest rates, but in particular rising prices. One of the pressing problems of inflation is its uneven impact. Among firms and households there will be winners and losers. It is important to examine this issue as closely as possible and prepare targeted assistance for those who need it. Blanket solutions are not the answer and pose significant risks to inflation developments in coming years.

Our banks are now also confronted with quite new issues, including their liquidity position. One issue, for example, is the surge in interest rates and their impact on the credit market.

This year has been the first ever to see a decline in the bank deposits of Slovak households. The deteriorating environment for bond issuances is having a significant impact on banks' funding structure. There is renewed discussion about the risks associated with the debt levels of euro area countries, to the detriment of both investor confidence and market funding conditions for governments.

There is, however, good news too. The Slovak banking sector in cooperation with Národná banka Slovenska has over recent years increased its resilience to potential shocks. Today, it is in a position to cope not only with possible scenarios of a more serious nature, but also to maintain its financing of firms and households.

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Overview

The risks to financial stability in Slovakia are mainly in the form of inflation, the war in Ukraine, and increased economic uncertainty

Developments so far in 2022 have brought new challenges on the financial stability front. The pandemic crisis that for two years posed the main risk to the economy and financial sector appears to be behind us, at least from an economic perspective. It has, however, been replaced by new challenges: high inflation and rising interest rates; war in a neighbouring country; and deteriorating economic prospects. These factors are also having a significant impact on financial stability in Slovakia through a number of channels. Although some of these factors may be somewhat beneficial for financial stability, the overall impact is adverse and risks have increased, especially in the medium term.

The impact on financial stability is expected to be in mainly three areas:

- The financial situation of some firms and, to a lesser extent, some households will deteriorate. As a result, credit default risk will increase.
- At the same time, the issue of liquidity is coming to the fore, owing mainly to a significant slowdown in household deposit growth. The banking sector has sufficient stable funds for the time being, but ongoing trends are worsening this situation.
- On the positive side, the risks associated with the long-lasting increase in indebtedness will be mitigated. Rising interest rates and economic uncertainty will act as a drag on demand for new loans. A decline in new borrowing is already becoming more apparent – particularly in mortgage portfolios, where the decline is also closely linked to cooling of the property market.

There is increasing risk of a deterioration in the financial situation, especially in certain parts of the corporate sector

The main risk is that sharp and uneven price increases may adversely affect some firms and disrupt the structure of the business environment. This does not concern only energy prices. Before the price uptrend, energy accounted for a relatively small share of firms' total costs. Of greater concern are the second-round inflation pressures on an increasing range of goods and services, which stem from the impact of rising energy prices and are affecting a swathe of costs.

The impact of inflation on firms is, however, heterogeneous. The ability to pass on higher costs to customers is a crucial factor in this respect and varies widely across the corporate sector. Even during periods of economic

growth, it is normal that some firms do better and others worse. Now, however, these differences are becoming far more pronounced, and some firms may face a severe deterioration in their situation. Many firms may have to take radical steps, even at the cost of their own progress. There may also be an increase in acquisitions, a decline in the competitiveness of certain sectors, and an increase in pressure on the labour market – which has so far been resilient to deterioration. Nor will the worsening financial situation bypass firms that are customers of domestic banks. These firms' financial difficulties may translate into higher non-performing loan ratios.

In an environment of rising interest rates, the profitability of indebted firms will also come under pressure from increasing interest expenses. This concerns mainly the commercial real estate (CRE) and energy supply sectors. In other sectors, rising debt servicing costs would weigh mainly on struggling and indebted firms that up to now have benefited from access to cheap credit (i.e. zombie firms).

Risks in the household sector are lower than in the corporate sector for the time being

Households are less exposed to the risks associated with current developments, but a key factor in this area will be how the labour market situation evolves. In 2022 and 2023 households' expenditure is expected to increase faster than their income. Rising costs have, however, had a more gradual and even impact on households than on firms, thus giving households some scope to adjust and possibly respond to the situation.

It may nevertheless be expected that that the downtrend in non-performing loan (NPL) ratios will end. They will actually increase under the downside scenario, particularly in consumer credit portfolios. The risk is somewhat lower in the mortgage segment, in respect not only of the NPL ratio, but also of losses given default. The recent growth in residential real estate prices in Slovakia has been among the sharpest in the European Union, giving banks something of a cushion against potential mortgage defaults.

Banks are resilient and are positioned to cope with potential credit losses

Although credit risk is projected to increase, banks in Slovakia are expected to remain resilient. Their resilience has also been supported by NBS macroprudential policy, including the raising of capital buffers over the past decade. As a result, domestic banks are sufficiently capitalised and are positioned to absorb even high potential losses. Banks' profits so far this year have been virtually the same year-on-year, but in international com-

parison, they are underperforming to some extent. What is more, rising interest rates are easing the pressure on interest margins that banks have been exposed to in recent years, but the further evolution of margins will also depend greatly on the evolution of deposit rates.

The uptrend in interest rates may also benefit the solvency of insurers, which has increased moderately year-on-year. The aggregate profit of domestic insurers has risen slightly, though largely owing to extraordinary effects.

Banks' capital headroom remains relatively large (3.5% of risk-weighted assets). Although the sector's total capital ratio has decreased slightly – as has happened in most EU countries – its capital buffers are sufficient. If necessary, banks are well poised to absorb potential losses and to maintain lending to the economy. Moreover, in June 2022 Národná banka Slovenska increased the countercyclical capital buffer (CCyB) rate from 1.0% to 1.5% with effect from 1 August 2023. The Bank also adjusted the regulatory debt-to-income limit on loans extending into retirement, so as to mitigate the risk of borrowers facing an excessive debt burden in their retirement.

The impact of rising interest rates has so far been greater on the mortgage market, but it is gradually starting to be seen in other areas of the credit market

Interest rates in general and mortgage rates in particular have risen sharply. Together with an uptrend in household expenditure and heightened uncertainty about the economic situation, this has resulted in a weakening of activity in the mortgage market. The spring of 2022 saw an upsurge in lending activity, as borrowers were locking in favourable rates for longer, which is good news from a financial stability perspective. Demand for new loans subsequently began to subside strongly, even to below the level of the previous year.

The credit market's cooling is also in line with developments in the residential real estate market. The recent upsurge in property prices has all but come to an end. This reflects, among other factors, a sharp deterioration in housing affordability, which has fallen to its lowest level since 2008.

From a financial stability perspective, the calming of the situation in the credit and property markets may curb what has been a rapid build-up of cyclical risks. On the other hand, with rising interest rates putting upward pressure on loan repayments, a larger share of the income from new loans will comprise repayments. Some customers will therefore become more restricted in the amount they can borrow, and thus rising interest rates will translate into a reduction in loan production.

Interest rates on corporate loans have started to rise significantly, although growth in these loans has so far remained relatively strong. This growth has been driven mainly by CRE loans and by short-term loans in certain segments of the corporate sector. In the context of current risks, however, the sector remains affected by considerable uncertainty about future developments.

The long-dormant issue of liquidity and funding costs is coming back to the fore

The banking sector has recently experienced a number of trends that have reduced its ability to fund credit growth through stable deposits. The most significant factor has been a marked slowdown in retail deposit growth. This stems mainly from a decrease in savings (partly built up during the pandemic crisis), rising inflation, and the impact of increasing expenditure. The slowdown in deposit growth has been even more pronounced in Slovakia than in most other EU countries.

Liquidity is scarcer now than it was in the past. The cost of long-term market funding, including covered bonds, is increasing and reflects, in addition to rising interest rates, an increase in risk premia for central and eastern European countries. At the same time, banks face considerable uncertainty about the impact that a rising interest rate environment will have on depositor behaviour and on the future evolution of deposits.

The domestic banking sector as a whole currently has sufficient stable funds. If, however, the current trends of credit growth and deposit stagnation are maintained, the sector will be gradually constrained on several sides.

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1 Macroeconomic environment and financial markets

1.1 The war in Ukraine, inflation, and tightening financial conditions are affecting financial stability

The global economy is heading into a downturn, and the euro area also faces potential recession

The global economy faces a conjunction of extremely serious threats. The repercussions of the pandemic crisis have been compounded by the war in Ukraine, rapid increases in commodity prices, accelerating headline inflation, rising interest rates and, in Europe, an energy crisis triggered by a reduction in natural gas supplies from Russia. The coaction of these mutually reinforcing shocks has resulted in decelerating economic activity and a steadily deteriorating economic outlook for 2023. Amid such a constellation of macroeconomic developments, together with financial system imbalances that have built up over more than a decade and with a prevailing climate of high uncertainty, the risks of a possible significant disruption of financial stability are evidently increasing. This is also the message conveyed by the ESRB in a warning on EU financial system vulnerabilities issued in late September 2022.

Because of its immediate proximity to the war in Ukraine and the reduction in gas supplies from Russia, Europe is the region with the least bright prospects. The first half of the year was still marked by the momentum of the post-pandemic recovery, driven by the possibility of a return to higher consumption in the area of contact-intensive services and by the release of excess savings. With the onset of summer, however, the adverse effects of the above-mentioned shocks started to be felt, and the European economy began cooling. Elevated inflation turned real incomes negative and consumer confidence declined – even to below where it stood at the height of the pandemic crisis – resulting in a decrease in household expenditure that has been evidenced in recent months by repeated declines in retail sales figures. The production side of the economy is also suffering, owing to rising costs (or in some cases outright shortages) of inputs, to falling demand and, last but not least, to huge uncertainty about future developments. The deteriorating situation in the corporate sector is summed up by the downtrend of the PMI indicator, which has recently been at levels corresponding to activity contraction in both services and industry.

For both the European and broader global economy, the most difficult times in the current cycle appear to still lie ahead in the near future. Rampant inflation, rising interest rates, and the limited availability of natural gas in coming years are likely to be a further drag on euro area economic performance. Nor can negative quarter-on-quarter GDP growth, or a technical recession, be completely ruled out. In a recent forecast, the IMF projects that Germany and Italy, two countries highly reliant on Russian gas, will experience moderate contraction for 2023 as a whole. Amid the currently high geopolitical uncertainty and multitude of risk factors, it should be noted that the actual parameters of economic performance may ultimately be materially worse than today's central estimates indicate. An example of such an adverse scenario, currently under much discussion, is the cut-off of natural gas supplies from Russia, which are already at around one-fifth of their usual volumes.

The strongest inflation wave in four decades has triggered a major tightening of monetary policy

Inflationary pressures remain on the rise virtually the world over. Not only the euro area, but also most other regions and countries were already experiencing elevated inflation going into 2022, with the pandemic crisis having induced a mismatch between supply and demand for certain significant components in manufacturing industry. The already diminishing hopes that this was a benign transitory phenomenon were subsequently dashed by spikes in prices of gas, electricity and other commodities following the outbreak of the war in Ukraine. In the ten months to October 2022, the annual rate of consumer price inflation in the euro area doubled to 10.7%. Although the primary driver of the current inflation upswing has been rising energy and food prices, core inflation, which excludes these typically more volatile components, is also increasing (up to 5.0% in October). Other indicators, too, confirm that inflationary pressures are permeating an increasingly broader swathe of the economy, hence exacerbating the risk that inflation will remain high over the longer term. Even assuming a relatively favourable evolution of developments, the consensus view is that while inflation could start falling in early 2023, it is unlikely to return to the ECB's target of around 2% before 2024. The ECB's most recent inflation forecast, part of its September 2022 macroeconomic projections, also follows this line.

Central banks around the world are responding to inflation developments with sharp tightening of monetary policy. After more than a decade in which low, at times even negative, nominal interest rates were the norm in advanced economies, 2022 has brought a major turnaround. The pace at which key interest rates are being raised and their projected ulti-

mate changes make the current cycle of monetary policy tightening the most aggressive since the reining-in of the inflationary upsurge at the end of the 1970s. The tightening of market financial conditions has been further supported by major central banks through their unwinding of quantitative easing and, in the case of the Federal Reserve, even through the divestment of bond holdings.

Adverse economic forecasts and high uncertainty have driven down prices of most financial assets

Gloomy projections for the real economy, coupled with monetary policy tightening and rising risk aversion, have also shaped developments in financial markets. Almost all types of market-traded assets have this year experienced significant synchronised declines in their valuations. The leading equity indices in Europe and the United States had shed around 20% of their value by the end of the third quarter. Investors also suffered appreciable losses on bonds, including the relatively least risky ones. In addition to resulting cumulative declines, other recent features of pricing in financial markets, in particular commodity and debt markets, have been above-average volatility due to prevailing uncertainty on the geopolitical and monetary fronts and a deterioration in liquidity parameters of individual market segments.

Although, following these corrections, financial asset prices are no longer above long-term averages, the risk of further, at least temporary, adverse fluctuations remain present. Financial markets could respond sensitively to an escalation of the war in Ukraine, to interest rate increases that are faster or larger than expected, or to any new shocks in respect of energy prices or a slowdown in economic activity. Rising costs related to inputs and to the coverage of increasing interest payments, together with, as the case may be, lower revenues amid depressed demand, are undermining the financial position of firms. Assets issued by the corporates so affected are consequently subject to higher risk premia and their market value declines. The firms primarily at risk are those operating in energy-intensive sectors or those with a less sustainable capital structure. In the scenarios that currently appear most likely, the global bankruptcy rate for speculative-grade firms could increase from its present historically low level to somewhere around its long-term average. A mitigating factor is that firms have largely maintained a high liquidity-to-debt ratio in the aftermath of the pandemic crisis. Under alternative unfavourable economic assumptions, however, the incidence of corporate failures could rise to the highest level since the global financial crisis.

The current situation poses a threat mainly in terms of the materialisation of risks accumulated in the non-bank financial sector

Increased sensitivity to adverse market scenarios has in recent years developed mainly in non-bank financial institutions. Over a decade of low interest rates, investment funds, insurers, pension funds and other participants in what is known as the shadow banking sector were investing more heavily in riskier and less liquid securities or employed leverage to generate attractive returns. Now, with the monetary policy cycle entering a sharp tightening phase after a long period of accommodation, these positions are in turn becoming a source of losses. The risk that these entities pose to financial stability is not so much in their current unfavourable performance per se, but in the potential to spread and amplify the initial price shock throughout the financial system. The main risk is that asset fire sales are undertaken in order to secure sufficient liquidity at short notice for situations such as a surge in investor redemptions or an increase in margin calls in derivative transactions. A fresh illustration of how such a destabilising mechanism may operate is provided by the United Kingdom, where the pension fund sector, largely following one specific investment strategy, has caused unprecedented dislocation in the market for long-term domestic government bonds, with some spillover to other countries.

Thanks to its robust position going into the pandemic crisis and to the effectiveness of government relief measures, the euro area banking sector came through the crisis without too many difficulties, and it is now well poised to face the challenging economic times ahead. The new trend of monetary policy tightening offers banks an opportunity to increase their net interest income. This is not to say, of course, that banks would be immune from the risks on the horizon. Although non-performing loan ratio at the sectoral level have continued on their steady moderate downtrend, other indicators – such as increasing inflows into Stage 2 loans, or the situation in certain corporate sectors most at risk from rising costs – imply that banks' credit costs can be expected to increase going forward. In contrast to previous business cycles, households that become unable to service their debts will do so more because of rising living costs than unemployment, which is expected to increase only slightly. Closely connected with the health of the banking sector will be the fate of the residential real estate (RRE) market, which in several countries is now characterised by major imbalances and signs of a price bubble. Some banks heavily reliant on market funding may, amid rising market rates and the maturing of their TLTROs funds, come under stress on the liability side.

Government assistance requirements and elevated interest expenditure are putting pressure on public finances. Dramatic increases in spot prices of natural gas and other energy resources are posing a de facto existential threat to vulnerable groups of households and corporates. Such a situation would not have been manageable without government intervention, which is intended to shift part of the financial burden from households and firms to the state. From the perspective of the private sector's financial stability, this action is helping to mitigate risks. The price for this assistance is a deterioration in the financial position of the general government, which in many EU countries, in the wake of the pandemic crisis, is not on a sound footing. Moreover, discretionary spending to soften the impact of higher energy prices is not the only new burden on national budgets. Fiscal deficit levels will also be affected by increased debt servicing costs. In less than one year, the yields to maturity on sovereign debt of southern euro area countries have increased by three percentage points or more. For some of these countries they are already close to 5%. On the positive side, the credit spreads on these bonds have not yet widened further after their increase in the spring of this year, hence they are not creating price pressure above the level of interest rates' rising risk-free component.

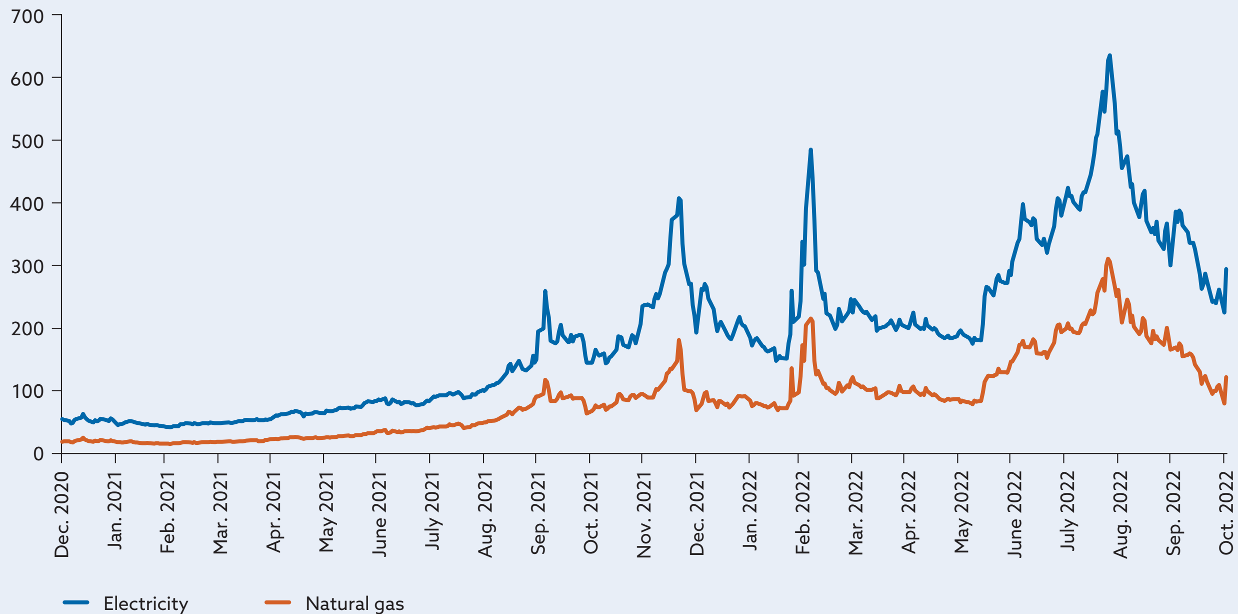
Box 1
Risks associated with the volatile evolution of energy commodity prices in the European market

Wholesale natural gas and electricity prices have increased multiple times over the last year and a half or so and have been extremely volatile. In the middle of last year, the price of gas on Europe's main trading venue (TTF) was still trading below 50 EUR/MWh, while at the end of August 2022, following the suspension of Russian gas supplies via Nord Stream 1, it rose to more than 300 EUR/MWh. The price subsequently took a downward path and in recent weeks it has been around the 100 EUR/MWh level. Electricity prices, which are closely linked to natural gas prices, have undergone a similar evolution in terms of fluctuations.

Chart 1

Energy prices and their volatility have risen dramatically

(EUR/MWh)



Source: Refinitiv Eikon.
Note: The electricity futures price in Germany and the Dutch TTF natural gas futures price.

High prices in energy markets and their sharp movements have triggered a wave of increased margin calls from central counterparties (CCPs) that intermediate a large part of the futures contracts for energy underlyings. In principle, the margining mechanism serves to protect CCPs, and thus also other participants in derivatives markets, from credit risk arising from open positions. However, some European electricity producers and traders who enter into futures contracts to lock in the future price of the commodity have been put in a difficult position by the extent of the additional margin calls. This is because these non-financial corporations typically do not have as large a liquidity cushion as do financial corporations.

In order to prevent the financial collapse of energy firms and, in particular, the emergence of systemic risk through the jeopardising of a central counterparty's solvency, several countries had to come up with a liquidity injection for these companies in early autumn. In the Nordic countries in particular, significant problems have emerged. But besides Finland and Sweden, other countries such as Germany and the United Kingdom have also allocated aid packages amounting to tens of billions of euro. In addition to the transfer of risk via central counterparties, the inability of energy firms to provide liquid funds to cover centrally cleared derivative positions could lead to a shift of trading to the non-transparent over-the-counter (OTC) market, as has happened in the Nordic countries mentioned above. Alternatively, energy producers and traders could reduce their hedging activities, thereby risking their ability to offer stable prices to end customers.

At the supranational level, the European Commission has called on the European Securities and Markets Authority (ESMA) to consider the urgent introduction of extraordinary measures to alleviate the emerging strains in energy derivatives markets. ESMA has promptly drawn up a legislative proposal that should temporarily relax to some extent the criteria for the collateral eligible to cover margin requirements from central counterparties in the EU. The list of eligible collateral should be expanded to include unsecured bank guarantees and public guarantees from any counterparty, not just central banks.

The Slovak banking sector is exposed to hardly any risk in connection with its involvement in the central clearing of commodity derivatives. First of all, no domestic bank is a direct clearing member of any central counterparty. Indirect participation through the exposure of Slovak banks to large foreign banks acting as clearing members is not zero, but it is negligible from a systemic perspective. The notional value of commodity derivatives entered into by domestic banks with clearing members was less than €25 million as at September 2022, with only a small number of banks involved in these trades. Moreover, from a market risk perspective, all of these positions were almost perfectly closed with mirror transactions for non-financial customers, to which banks could also transfer any increased margin requirements emanating from clearing members.

1.2 Slowdown in domestic economic growth

The war in Ukraine and rising energy prices are undermining economic growth

Still barely back to its pre-pandemic output levels, the Slovak economy is now confronted with new realities that have the potential to plunge it into recession. The domestic economy's promising pace of recovery from the pandemic crisis – with growth rebounding briskly towards near pre-crisis levels – was disrupted by the news of Russia's invasion of Ukraine in late February 2022. Although the invasion did not have an immediate downward impact on Slovakia's economic growth, its adverse effects can be seen in many areas. First of all, uncertainty about future developments has increased significantly. At the same time, the imposition of sanctions on Russia, as well as the weakening of growth in global demand (mainly due to developments in the United States and China), will weigh on the growth of Slovakia's export-oriented economy, which in the second quarter of 2022 recorded annual growth of 1.7%.[1]

[1] Annual growth in GDP at constant prices, non-seasonally adjusted.

Economic growth in the first half of this year was driven by household consumption. The unwinding of pandemic containment measures encouraged households to increase consumption, especially of services they had been forced to forgo during the pandemic. At the same time, accelerating prices were incentivising households to increase their spending, even at the expense of savings built up during the pandemic. Furthermore, the saving ratio is now approaching historical lows. A combination of uncertainty about future developments and rising prices is discouraging firms from stepping up investment activity, hence investment growth has been subdued. In addition to the above-mentioned difficulties related to rising costs, firms are still struggling with component supply shortages. This situation has weighed on net exports, which contributed negatively to GDP growth in the first half of 2022.

Rising prices, in particular energy prices, are putting a strong brake on economic growth. The annual inflation rate climbed to 13.6% in September 2022, a level not seen since 2000. The inflationary surge has been largely driven by strong energy price growth fuelled by supply constraints owing to the war in Ukraine. Automotive fuel prices have increased most sharply, rising by more than one-third over the past year,[2] while prices of gas, electricity and heat have also recorded double-digit annual growth, as have food and services prices. Net inflation excluding automotive fuel has therefore risen above 8%. It seems that inflation will remain elevated for some time, given that increased spot prices of energy commodities have not yet fully passed through to most end-user prices owing to existing regulation and the varying length of contracts.

Despite the difficulties facing the economy, the labour market situation remains favourable. The number of people in employment in Slovakia rose by more than thirty thousand between the end of December 2021 and the end of June 2022, to more than 2.4 million. The unemployment rate continued to decline over the same period, down to 6.1%,[3] just around one percentage point above its pre-pandemic level. Recruitment has been strongest in the sectors of industry, trade, and services. Labour market tightness has been further eased by the employment of refugees from Ukraine, with almost ten thousand of them joining the Slovak labour market in the first half of 2022. Wage growth has remained robust, with its year-on-year rate standing at 7.4%[4] at the end of the second quarter. There is, however, heterogeneity in wage growth across sectors, with double-digit rates being

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[2] The year-on-year increase in automotive fuel prices as at the end of the second quarter of 2022.

[3] Registered unemployment rate (source: ÚPSVaR SR).

[4] Average wage growth in the economy, adjusted for seasonal effects.

recorded mainly in services and trade on the back of high demand for labour over the past year. But despite strong nominal wage growth, real wages have declined year-on-year, by an average 4.6%, as a result of rising inflation. The only previous such drop in real wages in Slovakia occurred during the pandemic's first wave in the second quarter of 2020.

Slovak government debt has increased significantly in recent years

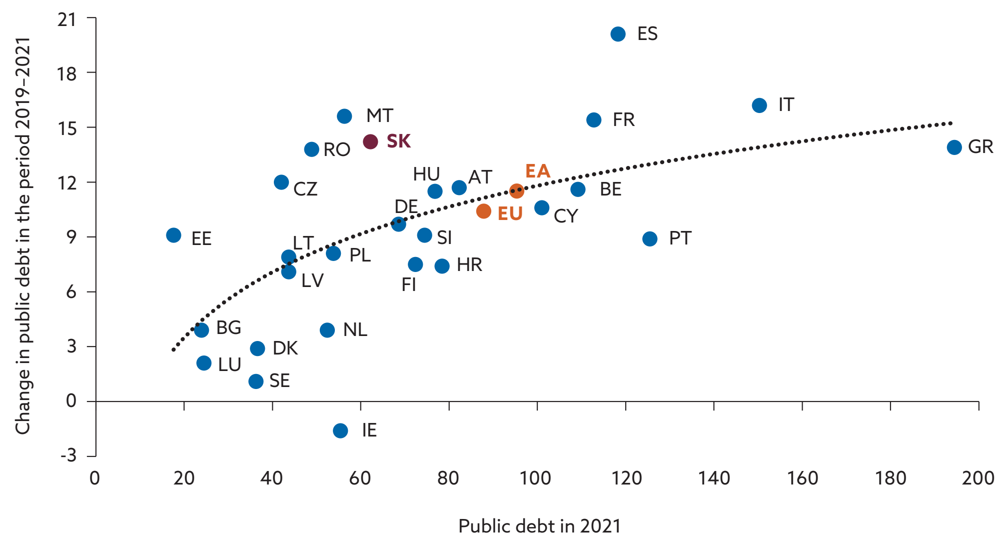
Higher indebtedness generally restricts the capacity for a fiscal response in times of emergency. In 2008 Slovakia was among the nine least indebted EU countries, but now it is midway in that ranking. Its general government gross debt has doubled since 2008.[5] Slovakia's public debt is still below the EU average, but last year it rose to 62.2% of GDP and so for the first time exceeded the debt limit set in the EU's Growth and Stability Pact.[6] The public debt growth has been particularly strong in the past two years, with one of the highest rates in the EU. This is because the government had to initiate compensation mechanisms during the pandemic in order to mitigate the financial impact of pandemic containment measures. These measures, together with subdued economic growth, have contributed to a marked increase in the public debt-to-GDP ratio. Nor has there been time for public debt consolidation following the fading of the pandemic, with the economy now already facing the adverse effects of a new crisis brought on by the war in Ukraine and the sharp rise in energy prices.

Chart 2

Public debt growth after 2019 was the fifth highest in the EU

X-axis: public debt (percentages of GDP)

Y-axis: change in gross public debt in the period 2019–2021 (percentage points of GDP)



Sources: Eurostat, and NBS.

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5 In 2008 Slovakia's gross public debt at 28.6% of GDP, while in 2021 it was 62.2% of GDP.

6 The limit is set at 60% of GDP.

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The indebtedness of Slovakia's public sector will therefore remain close to historical highs this year. In an environment of rising interest rates, this will put increasing pressure on the government's debt servicing. Although some of the public financing needs will be covered from the stock of liquid assets accumulated during previous years, the fiscal deficit will prevent any significant reduction in debt costs. What is more, yields on ten-year Slovak government bonds were already approaching 3.8% in October 2022, a level last seen during the debt crisis in 2011. At the same time, the spread on Slovakia's ten-year paper over German bunds was more than eight times higher than its level a year earlier, owing to increased uncertainty and the war in Ukraine. Since these factors will likely be present for some time, Slovak government bond yields may be expected to rise further. If they do, and with nominal public debt also rising, the government will face increasing debt servicing costs.

Rising interest rates will have a gradual upward impact on debt funding costs. How quickly new funding conditions pass through to budgetary costs will depend in part on the debt structure and the maturity profile of existing debt that will need be rolled over. Slovak government debt is 85% funded by bond issuances, with one-fifth of those bonds due to mature before the end of 2024 and another fifth due to mature over the next two years. Rising required yields will thus gradually make existing debt more expensive. The funding of Slovak public debt in the period ahead will also be greatly affected by developments in the euro area, especially if the ECB continues tightening monetary policy also in respect of debt asset purchases (i.e. quantitative tightening).

Difficult times await the domestic economy

Rising prices of energy and inputs will weigh heavily on economic growth. It is rising prices that distinguish current developments from the crisis that Slovakia went through between 2008 and 2010. Despite the slowdown in economic growth and the possibility of real GDP declining in the period ahead,[7] the economy is expected to continue growing in nominal terms. In an environment of rising prices, nominal GDP can maintain positive growth even if real GDP is falling. Nominal wage growth and labour market stability can also be expected. The situation may be complicated if energy supplies from Russia are completely cut off or if it is difficult to replace them, in which case market prices of energy commodities would rise again. Because these prices remain sensitive to unfavourable information, they could further stoke costs for Slovak firms. Fiscal compensation measures will have a key role in this respect – according to what extent and

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7 Národná banka Slovenska's autumn 2022 medium-term forecast.

in which form they are implemented. The targeting and timeliness of their implementation will determine the extent to which they manage to mitigate the current exceptional upsurge in firms' costs.

Box 2

Macroeconomic scenarios for modelling adverse impacts of current risks

Current economic developments are accompanied by significant risks that may adversely affect economic growth in the period ahead. The war in Ukraine and associated increase in prices, especially energy prices, could plunge the Slovak economy into recession. Differences in the extent to which current risks may materialise are reflected in the economic scenarios used to model impacts on the financial sector. The baseline scenario already assumes a recession. The downside scenario envisages a more pronounced materialisation of risks, including, in addition to the risks in baseline scenario, a shortage of energy commodities and a consequent suspension of production in parts of manufacturing industry.

Table 1 Macroeconomic scenarios

	Actual data	Baseline scenario			Downside scenario		
	2021	2022	2023	2024	2022	2023	2024
GDP (constant prices)	3.0	1.8	-1.0	3.5	0.9	-4.3	3.0
Unemployment rate (percentage)	6.8	6.2	6.7	6.8	6.3	8.1	8.5
Nominal wages	5.9	8.2	11.6	9.0	8.2	11.5	11.8
Inflation	2.8	11.7	18.3	5.0	11.9	22.0	9.2

Source: NBS.

The baseline scenario[8] assumes the implementation of government measures, currently being floated in the media, concerning administered prices of gas and electricity. In this scenario, annual inflation exceeds 10% this year and approaches 20% in 2023. As a result, household consumption falls significantly, by around 5% year-on-year in 2023, since not even double-digit wage growth is able to offset the downward impact of inflation on household disposable income. In this context, firms are compelled to cut job positions, causing unemployment to rise again, albeit not sharply. The situation is assumed to calm in 2024, resulting in a resumption of economic growth and greater moderation of prices.

The downside scenario[9] assumes that oil and gas supplies from Russia to Europe are completely cut off during a hard winter. With the lost gas not being replaced in the first quarters

[8] The baseline scenario is identical to that in NBS's autumn 2022 medium-term forecast.

[9] This scenario is based on the assumptions of the downside scenario set out in Box 6 of NBS's autumn 2022 medium-term forecast.

of 2023 and the oil being only partly replaced,[10] the impacts on the Slovak economy will be far worse compared with the baseline scenario. In this situation, extensive reductions in production are required. This is reflected in economic stagnation already this year, with GDP growth not even reaching 1%, and in an economic contraction of more than 4% next year. Inflation is envisaged to almost double in 2023 from this year's level. In this scenario, households rein in their consumption even more tightly and corporate investment is also curbed. In this context, the labour market situation worsens significantly, with the unemployment rate rising to near 9%. This has a negative feedback effect on household disposable income. Under the assumptions of this scenario, the economic recovery is slower, with the annual inflation rate still close to double digits in 2024.

[10] It is assumed that gas shortfalls start to be replaced only gradually from the third quarter of 2023 and that 20% of Russian oil supplies will not be replaced.

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2 Financing of the economy

2.1 Firms are affected by the economy's slowdown, but loan growth has so far remained strong

Uncertainty about future developments remains high in the non-financial corporation (NFC) sector

Weakening global demand and rising production costs are the main factors weighing on the corporate sector. Firms were already facing a number of risks during the pandemic crisis. Now, however, the war in Ukraine and increasing geopolitical risks in other parts of the world have significantly increased uncertainty about future economic developments. This uncertainty has translated into a surge in firms' input costs, especially in prices of energy commodities. Growth in electricity and gas prices has been further accentuated by rising inflation, which has been reflected in an accelerating pace of monetary policy tightening across the world.

As a result, there is a good deal of pessimism in the corporate sector. A number of global indicators of economic sentiment[11] are close to or at levels seen during the global financial crisis or at levels indicating a contraction of economic activity.[12]

The situation is similarly perceived by actors in the domestic economy. The most marked deterioration in confidence has been among consumers[13] and in retail trade, and there have also been declines in the industry and construction confidence indicators. Moreover, domestic demand was until recently a major driver of Slovakia's economic growth. At the same time, with demand weakening across the world, foreign demand for Slovakia's goods and services can also be expected to sag.

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[11] The *Economic Sentiment Indicator* produced by the European Commission, and the indicators produced by the Institute for Economic Research (Ifo) and the Centre for European Economic Research (ZEW), both based in Germany.

[12] The Purchasing Managers' Indices (PMIs) of selected countries.

[13] The consumer confidence indicator has deteriorated across all components, i.e. households' assessments of their financial situation, savings, the general economic situation and unemployment.

Although firms have on average been able to pass on rising costs to customers, there remains considerable heterogeneity in their ability to do so

Corporate revenues have continued to grow by more than 20% in the second half of 2022. Their annual growth rate in August was 27%. The volume of revenues expressed in constant prices has also been increasing.[14] The main engine of revenue growth has been the industry sector, with a recovery of automotive production and an upturn in revenues across other segments, too. Other sectors experiencing strong revenue growth include information and communication, energy supply, and transportation and storage. On the other hand, revenues at constant prices have declined in the sectors of services, trade, and construction.

The pick-up in corporate revenues is relatively broad-based, according to firm-level data.[15] The share of firms reporting a year-on-year decline in quarterly revenues at current prices has fallen to 25%, which is far below the levels recorded in previous years.[16] The rising price level is therefore having an upward impact on the overall distribution of year-on-year changes in revenues. On this metric, too, the construction and services sectors report worse results.

The uptrend in input prices came to a halt in August 2022. Prices of several commodities and goods have been rising sharply throughout the year, with this growth passing through to an increasing range of other goods. Prices of energy commodities have surged the most, and uncertainty about their future evolution remains high. According to August data, however, wholesale prices have stabilised or undergone a slight correction,[17] the only exception being energy prices, which continued to rise in August.

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[14] The year-on-year increase in revenues at constant prices was almost 6% in August 2022.

[15] From the SO SR's quarterly survey of around 5,000 firms. The survey contains information on revenues, costs, and main balance sheet items.

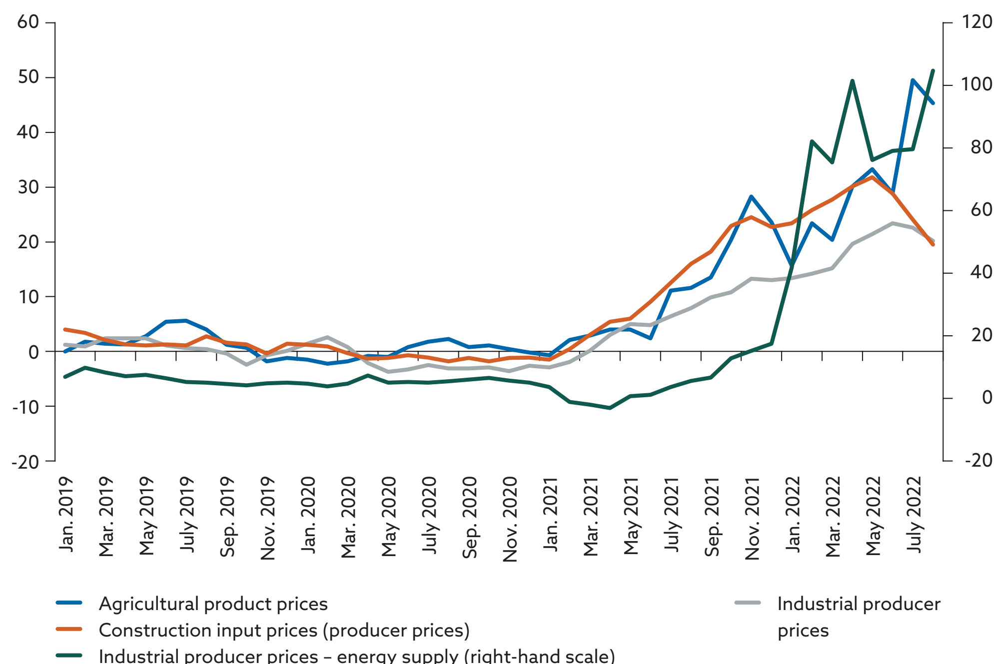
[16] In 2021 the figure was 36%; in 2020, owing to the pandemic crisis, 60%; and in 2019, the pre-crisis year, 45%.

[17] The annual growth rate of wholesale prices slowed in most industries, and there were also lower rates of increase in agricultural product prices and in prices of construction work and materials.

Chart 3

Signs of stabilising growth in wholesale prices in most sectors of production

Producer prices (annual percentage changes; annual percentage changes)



Source: SO SR.
Note: The chart shows the annual rate of change in producer prices in the domestic economy.

In the second quarter, firms were on average still able to offset the impact of rising costs by increasing revenues.[18] Net profit margins[19] in the corporate sector have remained stable in the recent period, even rising slightly compared with the pre-pandemic period (from 2.7% to 3.2%). The corporate sector as a whole is therefore in relatively sound financial shape before a looming period of increased uncertainty. Across the sector, however, there is a widening of disparities, partly exacerbated by the pandemic crisis. Firms with negative margins have seen their losses increase, while the situation among firms with positive margins has further improved.[20] Moreover, the upward pressure of rising input pressures is also indicated by a moderate decline in gross margins.[21]

Corporate liquidity[22] is slowly diminishing, while indebtedness is increasing. Even so, firms' liquidity levels are higher now they were before

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[18] All data given are taken from a quarterly statistical survey of around five thousand firms, mainly large and medium-sized, conducted by the SO SR.

[19] The net profit margin is calculated as the ratio of pre-tax profit to total revenues.

[20] For loss-making firms, the average net profit margin fell from -4.5% to -5.7%, while for profitable firms it increased from 4.4% to 5.4%.

[21] The gross margin is calculated as the ratio of value added (i.e. income from sales of goods and services less the direct costs of producing the goods and services) to total revenues.

[22] Information on the breakdown of balance sheet items into short-term and long-term is not available in the SO SR survey. Therefore, cash liquidity is approximated by the ratio of cash to total liabilities.

the pandemic crisis. The current decline can be attributed to an uptrend in working capital financing costs, despite a significant increase in short-term credit. The higher rate of borrowing has put upward pressure on corporate indebtedness.[23]

Annual growth in NFC loans has remained strong

Lending activity in the corporate sector accelerated in the third quarter of 2022. Annual growth in total NFC loans reached 12.4% in September,[24] which was at the median compared with other EU countries.[25]

High inflation in the economy is the main factor behind the current strong growth in corporate loans. Against a backdrop of rising input prices, firms' financing needs for working capital are also increasing. Short-term loans have accounted for a significant part of the recent increase[26] in total NFC loans.[27] The growth in short-term financing has been highest in the trade and industry sectors, as well as, in August and September, the energy sector. Banks are also reporting strong demand for working capital financing,[28] according to regular surveys.

A second driver of corporate credit growth has been lending to the commercial real estate (CRE) sector. Annual growth in total CRE loans accelerated significantly between May and August 2022[29] and stood at 18% in September. In this case, credit growth may have reflected the impact of rising prices of construction work and materials. Most of the new lending was for existing property development projects, possibly implying an increasing need for additional financing to complete projects or to manage completed buildings.

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[23] Debt to equity.

[24] Annual growth in total NFC loans increased by 4% in the first quarter, by 9.4% in the second quarter, and by 10.6% in the third quarter.

[25] Among central and eastern European countries, Slovakia ranked near bottom, with only Hungary and Latvia recording slower NFC loan growth.

[26] Short-term financing started accelerating sharply in the second quarter of 2022.

[27] Short-term credit accounted for more than one-third of the total increase in the third quarter and for almost one-half in September.

[28] Growth in demand peaked in the first half of the year, before moderating slightly in the third quarter. Besides the increasing demand for working capital financing, financing needs for mergers/acquisitions and for debt refinancing have also risen. Banks do not envisage any significant change over the next three months.

[29] Annual growth in loans to firms in the CRE sector accelerated from 10% in May to 20.7% in August 2022.

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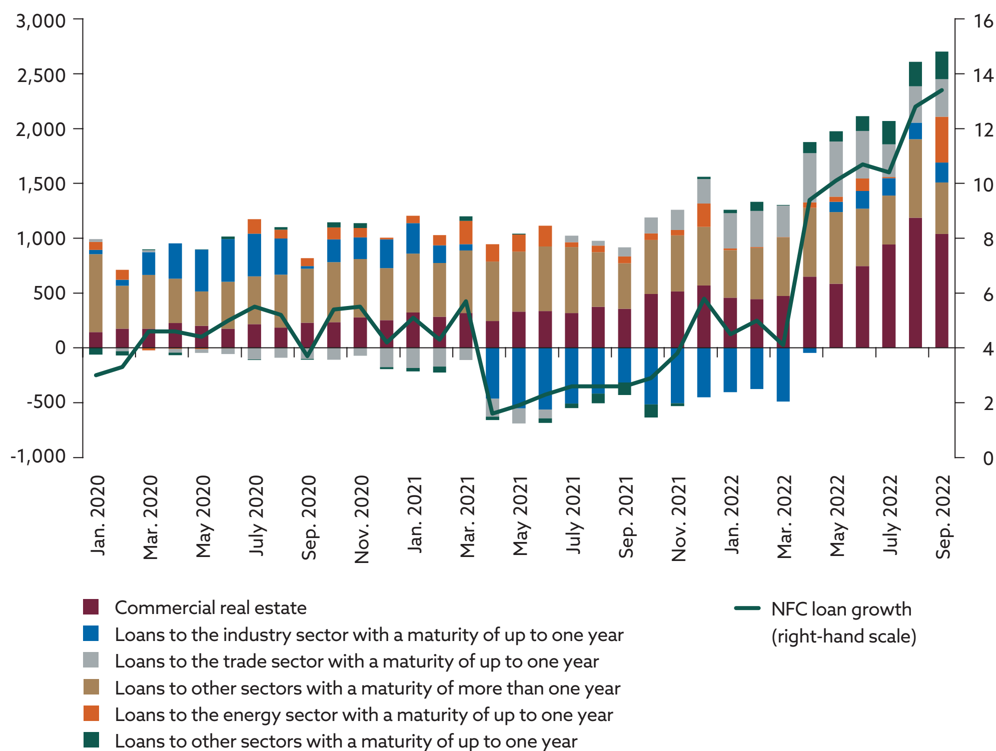
Chart 4
NFC loan growth driven mainly by CRE loans and short-term loans in certain sectors
Contributions to annual growth and annual growth (EUR millions; percentages)



Sources: NBS, and RBUZ.

The contribution to annual growth in long-term loans with a maturity of more than five years has decreased. The year-on-year growth rate of such loans has thus moderated slightly, while remaining above 8% as at September 2022. The slowdown has been broad-based, with loan portfolios for most sectors experiencing a decline in loans with a maturity of more than one year.

Despite its strong uptrend, year-on-year corporate credit growth showed signs of stabilising in September. As well as slower annual growth in long-term loans, there was some stabilisation of growth in short-term loans. A moderate month-on-month change in the annual growth rate was seen in lending to all sectors apart from energy supply, with most of the overall growth being concentrated in that portfolio.

At the same time, there is considerable uncertainty about the continuation of current lending trends. In the context of an uncertain economic situation, banks may partly tighten the supply of credit.[30] On the other

[30] On the supply side, the approach to credit assessment was more cautious, especially in the second quarter of 2022. Banks responded to the increasing uncertainty and deteriorating

hand, the positive contribution to annual growth in NFC loans will also be reduced by the progressive redemption of government-guaranteed loans, which are not expected to be fully replaced with new loans. Moreover, the stagnation of contributions to annual loan growth will itself contribute to a slowdown in annual growth. Rather, however, a decline in loan demand amid a cooling global economy can be expected.

Lending rates for firms have started to rise significantly

After experiencing a slow downward trend for several years, interest rates on the stock of NFC loans[31] surged by almost half a percentage point over the course of a month.[32] This can be attributed to two main factors. The first is the fact that almost 60% of corporate loans are provided at variable interest rates, most of which are linked to the EURIBOR.[33] The increase in that rate immediately passes through to the final lending rate for firms. Such loans saw the largest increase in interest rates. At the same time, banks' interest margins[34] remained largely unchanged. The second factor is the relatively short residual maturities of fixed-rate loans.[35] The repayment of corporate loans is far faster than that of household loans, so rising rates are passing through to such loans relatively quickly. Based on the evolution of the EURIBOR, as well as the outlook for its further rate of increase, interest rates can be expected to continue rising significantly in the period ahead.

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economic outlook resulting from the war in Ukraine. There was, however, no widespread tightening of credit standards. In the main, banks undertook close monitoring of corporate credit portfolios and identified groups of vulnerable borrowers. Among credit standards, interest margins were tightened the most. Banks also do not expect credit standards to be tightened significantly over the next three months.

[31] The average weighted by loan volume.

[32] Interest rates increased from 2.3% in August to almost 2.8% in September.

[33] Three-quarters of such loans are linked to the one- or three-month EURIBOR.

[34] Interest margins are added to the underlying rate and together form the resulting interest rate.

[35] The volume-weighted residual maturity is more than three years.

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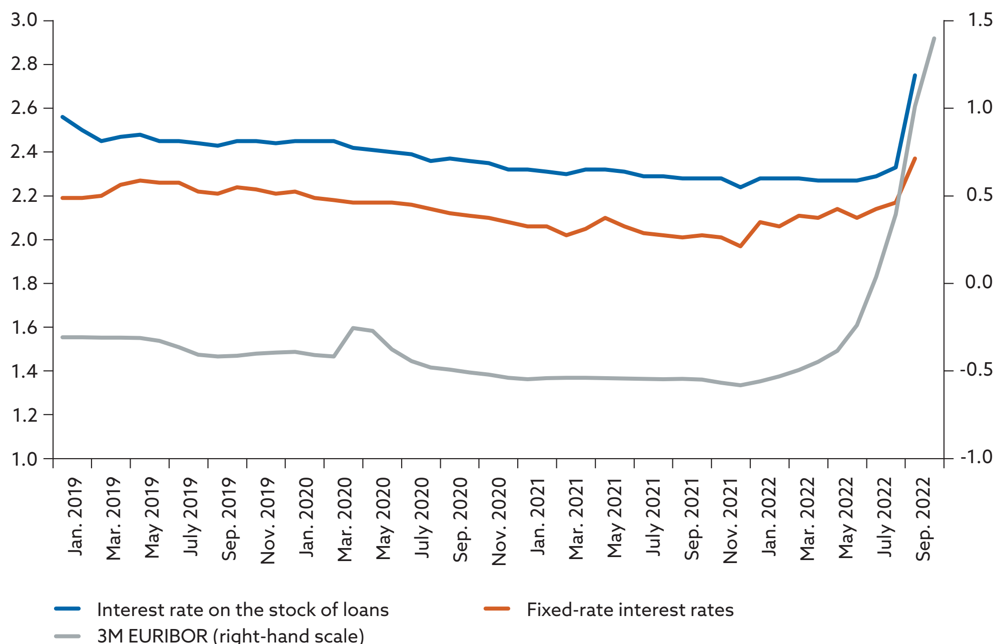
Chart 5

Rising rates have been reflected in NFC loans

The volume-weighted interest rate on total NFC loans and the three-month EURIBOR – average for the month (percentages; percentages)



Sources: NBS, and RBUZ.

The deteriorating economic situation and outlook has so far not translated into an increase in non-performing loan ratios

The non-performing loan ratio for NFC loans has continued to fall and is now below 3%. The amount of non-performing loans (NPLs) has also decreased slightly, even though the drop in the NPL ratio has been largely due to strong growth in the volume of NFC loans. The NPL ratio downtrend has been relatively broad-based. A worsening of the NPL ratio has been seen in loans to the sectors hardest hit by the pandemic crisis, namely accommodation and food service activities, and in loans to the construction sector.

A deterioration in credit quality has been seen in loans that were subject to pandemic-related statutory moratoria on repayments. The difference between the NPL ratio for corporate loans that were under moratoria and the ratio for the overall corporate portfolio increased quite significantly in the third quarter of 2022.[36] During the pandemic, the take-up of moratoria was greater among firms that were in a worse financial shape by the average standards of the sector. The subsequent negative shock of current events has further impaired the credit quality of these firms. The impact on the NPL ratio for the overall corporate loan portfolio has not

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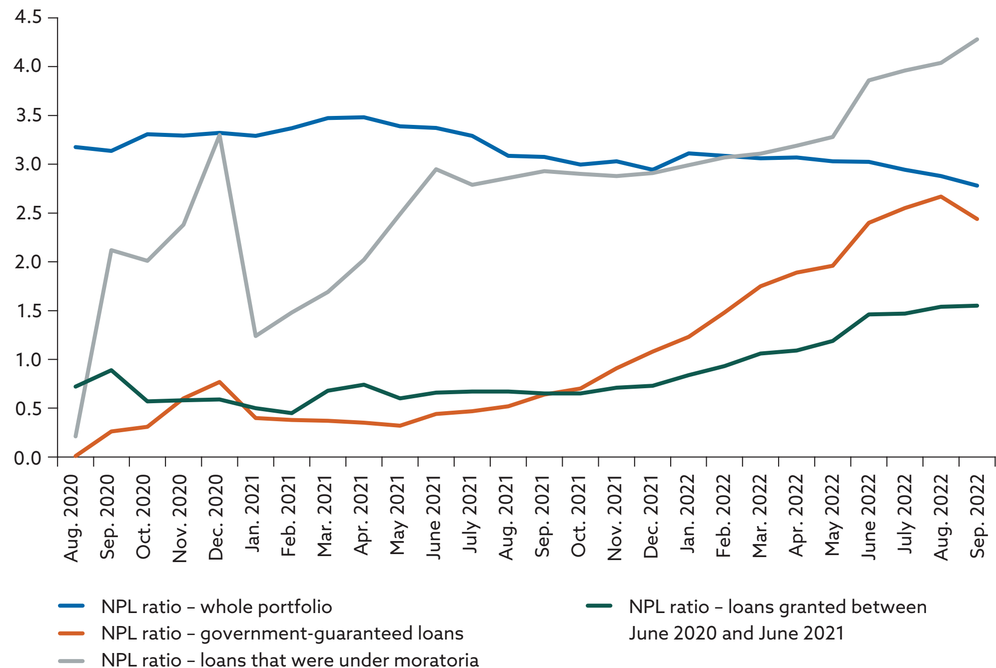
[36] From 2.8% to 4.3%.

been significant, since loans that were under moratoria make up around one-tenth of the portfolio. The credit quality of government-guaranteed loans has also deteriorated, despite recording an improvement in September 2022.[37]

Chart 6

Rising NPL ratio for loans that were under pandemic-related moratoria

NPL ratio for selected loan categories (percentages)



Source: RBUZ.
Note: The period from June 2020 to June 2021 was selected as the comparison base for government-guaranteed loans, most of which were granted during this period.

Different segments of the CRE market are variously exposed to current developments

The commercial real estate market is exposed to a number of structural and cyclical effects, while the capacity to face them will be weakened by cooling of the economy. The structural changes are the increasing extent of remote working, the rising share of online sales, and a preference for energy-efficient buildings in the light of climate change and rising energy costs. The most important cyclical factors are high inflation and decelerating economic growth, which are weighing heavily on consumer sentiment. At the same time, increasing construction prices are causing delays in the delivery of projects under construction and postponements of planned projects. Rising interest rates are increasing financing costs[38] and, together

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37 Compared with loans granted in the same timeframe.

38 Compared with other economic sectors, the CRE sector is marked by a higher ratio of debt servicing costs to revenues and is therefore more sensitive to interest rate increases. On

with climbing bond yields, are putting upward pressure on the returns required by property investors. In western Europe, property markets are already cooling and required returns are rising. In Slovakia, required returns have increased moderately only in respect of riskier investments; those on investments in the best located buildings that are fully occupied with a good tenant mix have so far remained stable. Investment demand has held up for now and is reflected in investment activity, which is higher compared with the previous year. Going forward, required returns are expected to increase in all segments.

In the industrial and logistics segment, the trend has been positive. Demand has been driven primarily by the private sector's need for distribution and manufacturing capacity, mainly in the e-commerce and automotive sectors. The vacancy rate has fallen gradually since March of this year, from 8.5% to 3.15 %. Against a backdrop of strong demand and uptrends in energy prices and construction costs, rental prices have increased. The favourable situation on the demand side has been reflected in strong year-on-year growth in supply.[39] Up to 54% of the space under construction is pre-leased,[40] indicating that developers are moving away from speculative projects and are increasingly inclined to build bespoke projects. Industrial and logistics space remains the most liquid segment of the CRE market.

Both structural and cyclical factors[41] are affecting the office segment. Firms are to an increasing extent opting for flexible leases and moving into smaller, but more technologically advanced, premises. The office segment has seen a year-on-year decline in demand. The vacancy rate remains slightly below 12%, and the rate is lower for energy-efficient buildings.[42] Rising energy prices and strong demand for Class A+ office space have pushed up rental prices. The impact of increased energy prices has been greatest on Class B and C buildings, in respect of which there will also be stronger pressure to improve energy efficiency. The supply of office space has changed only slightly. Most of the completion dates for office space under construction have been postponed until 2023.

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the other hand, the higher share of fixed-rate loans and the longer maturity periods in the CRE portfolio are a mitigating factor.

39 New-build projects in this segment can be relatively responsive to demand-side developments owing to their shorter construction lead times.

40 The pre-lease rate in September 2021 was 42%.

41 A structural factor triggered by the pandemic crisis is an increase in the extent of remote working. Another factor to emerge in the recent period is rising operating costs, which have accentuated demand for energy-saving spaces. A cyclical factor is economic cooling, which naturally results in firms' putting expansion plans on hold or renegotiating existing conditions.

42 The vacancy rate for A+ space is 8.2%.

The situation in the retail segment has also remained complicated. A high share of online sales, rapidly rising building overhead costs, and weakening consumer sentiment are making for a difficult environment in the retail segment. The resulting impact will depend on how quickly landlords can pass on higher energy prices[43] to rents and on how tenants cope with rising rents.[44]

2.2 Lending to households has started to slow

After surging in spring, activity in the retail[45] credit market has weakened

During 2022 the credit market has experienced a strong acceleration as well as a sudden slowdown in growth. In late 2021 and early 2022 there was much discussion about possible interest rate increases. Many households were at that time accelerating their decision to apply for a new mortgage loan or for an early resetting of the rate fixation period for an older loan. The volume of approved applications reached significant historical highs. This upsurge faded in the second quarter, when lending rates were already starting to rise notably. However, the approved loans were still being drawn down to a large extent, and therefore loan portfolio volumes continued to grow. Moreover, this was all happening against a backdrop of sharply rising housing prices, which not only provided an incentive to purchase property sooner rather than later (whether for housing or as an investment to protect savings against inflation), but also contributed to the demand for increasingly larger loans. Hence both the number of mortgage loans and their average amount increased.

The wave of exceptionally strong lending faded towards the end of the first half of 2022, and the situation in the summer months resembled that in 2021. In the market, however, there were increasing signs that the uptrend in interest rates was far from over. The news coming out of the property market was also starting to herald changes, with sales velocity slowing and the number of properties on the market increasing for the first time in a long time. Last but not least, the issue of rising living costs – especially energy costs – was coming to the fore. For many households, this implies increased uncertainty about their own financial situation.

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[43] Most landlords have contracted energy prices until the end of the year.

[44] Retail sales have fallen in most retail subsectors. Sellers of non-essential goods will be most at risk.

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

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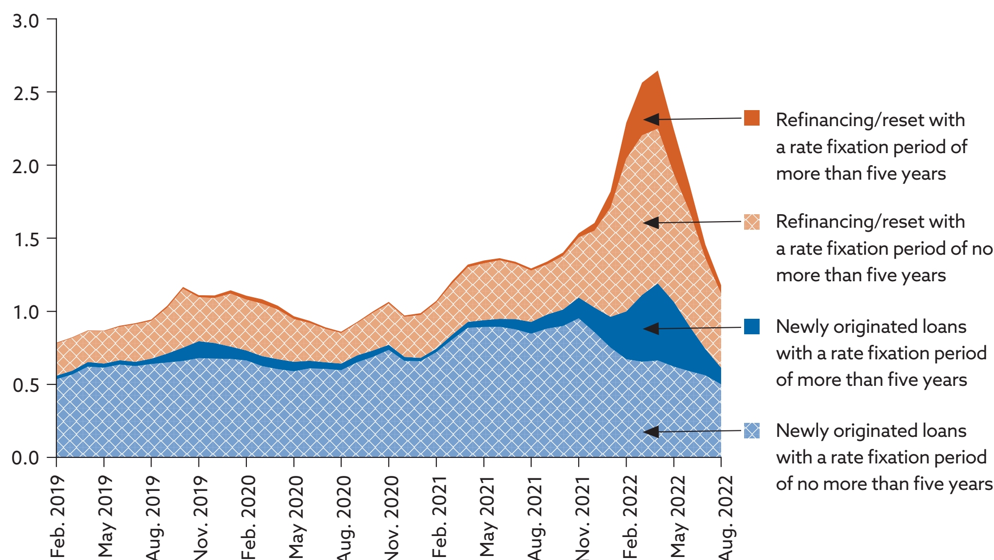
Chart 7

Loan refinancings have weakened significantly since spring 2022, while rate fixation periods of more than five years are now hardly ever used

The amount of newly originated loans and the amount of refinancing/reset loans, broken down by rate fixation period (EUR billions)



Source: NBS.

The month-on-month increase in loans to households was weaker in September 2022 than at any time since 2013. Compared with September 2021, the increase was one-third lower, owing mainly to a decline in the amount of newly originated loans (Chart 7). By contrast, the amount of refinancing loans and loans where the rate fixation period is reset remained similar to the 2021 level. That amount was, however, significantly lower compared with the first quarter of 2022. Here, too, a further decline can be expected, since refinancing outside the resetting of fixation periods has ceased to be attractive in an environment of rising interest rates. Although the annual growth rate of such loans was still in double digits (10.5%) in September, recent trends imply that it will decrease in subsequent months.[46]

The slowdown in credit growth has not been a surprise to the banking sector. In their responses to a June 2022 survey,[47] banks were already clearly indicating that they expected a weakening of demand for loans, in particular for mortgage loans. At the same time, they were not planning adjustments to credit standards.

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46 After adjusting the year-on-year increase for inflation, the growth rate would fall to 2.6%. It cannot be said, however, that lending would not have increased without inflation. The mortgage market in particular is to some extent independent of movements in the price level of other goods and services in the economy. Inflation-adjusted loan growth can be interpreted more from a long-term perspective.

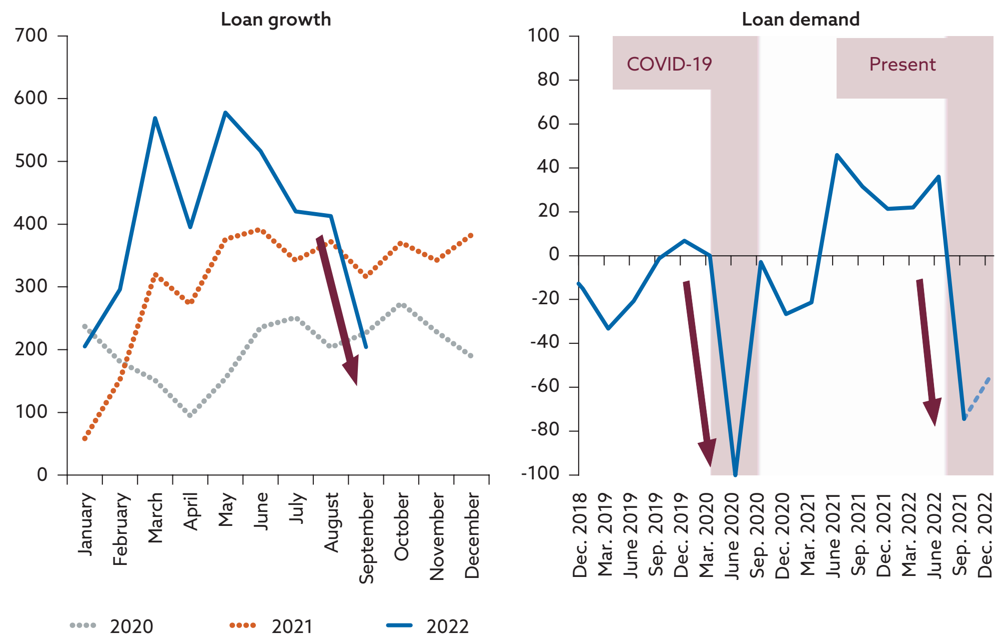
47 The bank lending survey for the second quarter of 2022.

In their responses to a September 2022 survey,[48] banks attributed the reduced demand for loans primarily to rising interest rates, and they also pointed to widening risk premia. In their view, the situation in the fourth quarter of 2022 will be similar, for both mortgage loans and consumer credit.

Chart 8

Month-on-month growth in loans to households has slowed significantly and demand for loans has cooled

Month-on-month growth in loans to households and the quarterly change in demand for mortgage loans (EUR millions; net percentage shares)



Sources: NBS, and bank lending survey.
Notes: In the panel showing demand for loans, the December 2022 figure is the expected demand for mortgage loans according to the results of the September 2022 bank lending survey. The panel expresses banks' perceptions.

Mortgage loan growth has slowed while interest rates have risen notably

Annual growth in mortgage loans slowed to 12.2% in September 2022, with the portfolio's monthly rate of increase moderating more sharply. The decelerating trend is broad-based across the banking sector, although there are still some banks where growth rates have not slackened.

Slovakia is not the only euro area country where mortgage loan growth is slowing. Signs of a downtrend in month-on-month growth rates from July to September 2022 also appeared in, for example, Finland, Luxembourg, Germany, Portugal, Austria, Spain and in the average data for the euro area as a whole.

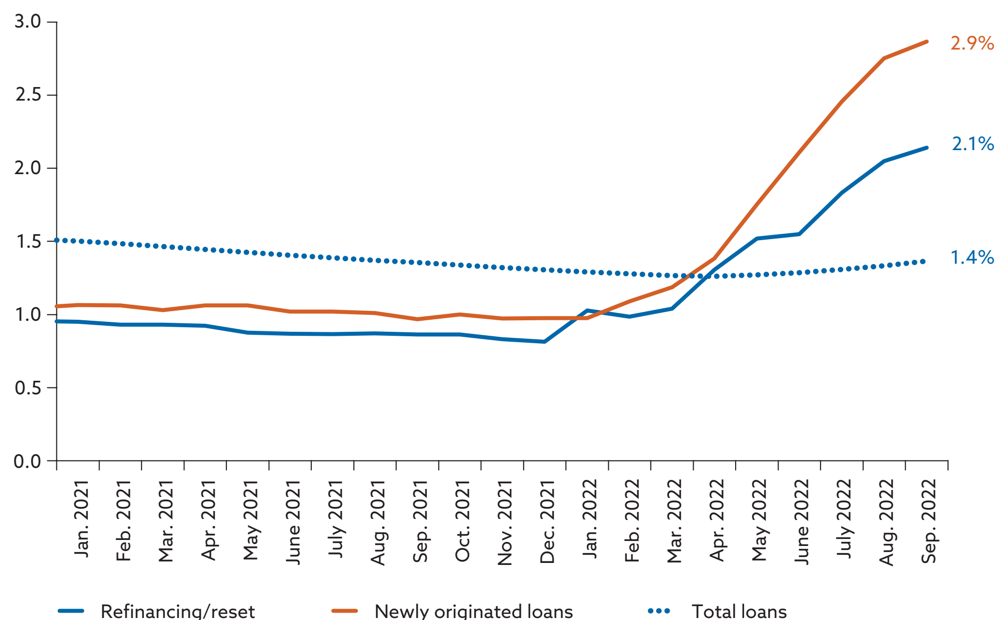
[48] The bank lending survey for the third quarter of 2022.

Average mortgage rates have increased from 0.9% (in December 2021) to 2.5%[49] (in September 2022), and banks are starting to apply significantly different rates to new loans than to existing loans. In recent years there has been hardly any difference between the average rate on newly originated loans and the average refinancing/reset rates. From February 2022, however, the gap between them gradually widened, with rates on new loans starting to significantly outpace refinancing rates. Since July 2022, however, refinancing rates have begun rising appreciably, and it was in that month when the strong wave of refinancings came to a halt.

Chart 9

Average interest rates since July 2022 have climbed higher than the average rate on total loans

Interest rates on newly originated loans, refinancing/reset loans, and total loans (percentages)



Source: NBS.

Mortgage rate growth has been significantly higher in Slovakia than in other euro area countries. From having the lowest mortgage rate growth in the euro area, Slovakia moved up to the average level within five months. Among euro area countries in central and eastern Europe (CEE), however, Slovakia continues to the report the lowest mortgage rates.

The uptick in mortgage rates is mainly related to a sharp increase in long-term interest rates in financial markets. The cost of five-year funding as expressed by, for example, yields on five-year AAA-rated euro area sovereign debt, increased by 25 basis points from November 2021 to October 2022.

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[49] Average rates on granted loans may increase more slowly than banks' offer rates, reflecting changes in fixation period preferences or changes in the structure of borrower.

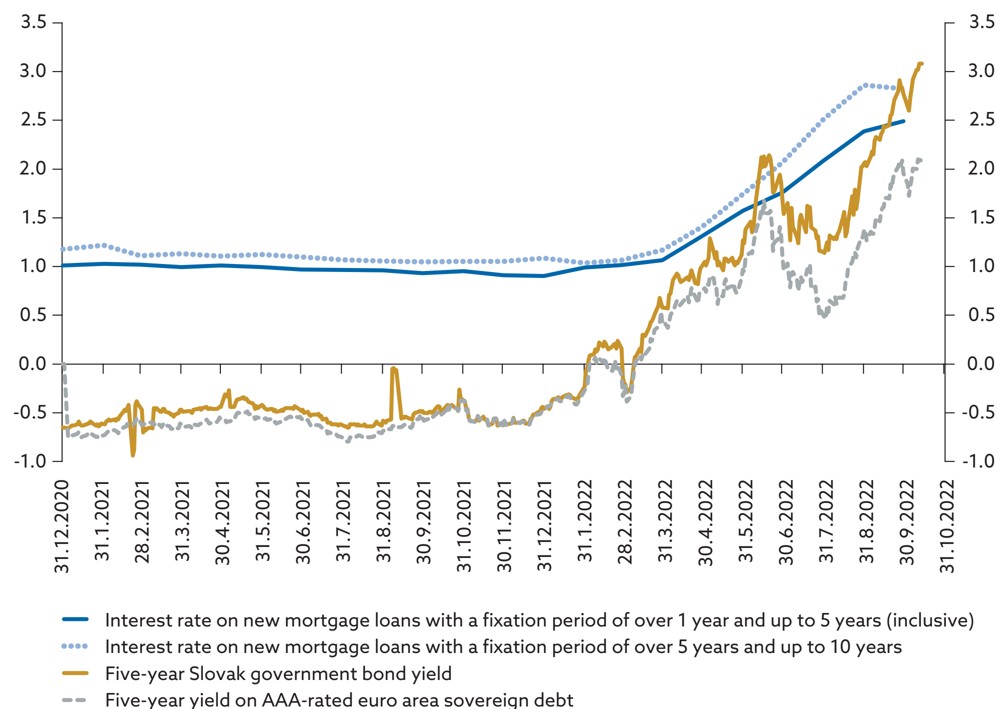
This increase largely reflects the recent and expected movement of ECB interest rates in response to elevated inflation. In the case of Slovak government bonds, however, the yield increase has been even more marked, up to more than 3% in mid-October 2022. The purchase of such bonds may be seen by banks as a direct alternative to mortgage lending, and so the bond yields are usually lower than mortgage rates. A situation in which the yield is higher is not sustainable in the long term. The widening of spreads over AAA-rated bonds concerns a number of CEE euro area countries. From an investor perspective, this is also due to the geographic proximity to the war in Ukraine. This is probably why mortgage rates across CEE euro area countries have risen faster than the euro area average.

Another important factor affecting the future evolution of mortgage rates will be prices of covered bonds, which are currently funding around one-fifth of the domestic mortgage portfolio. Their prices have risen sharply too, reflecting the impact of higher risk premia.

Chart 10

Sharply rising government bond yields are the main driver of mortgage rate growth

Average interest rates and average government bond yields (percentages; percentages)



Sources: NBS, and ECB.

Rising interest rates on newly originated loans are adversely affecting new lending, but that impact is small compared with the impact of uptrends in wages and housing prices. Increasing incomes and rapidly rising housing prices had a significant impact on lending from July 2021

to June 2022. Absent these factors, mortgage origination during that period would have been around 15% lower. The impact of these factors was greater even in comparison with the previous period. On the other hand, the upturn in interest rates in first half of 2022 was already starting to have a downward impact on loan origination.[50]

Rising interest rates may be expected to have a still greater impact on the mortgage market in the period ahead. As rates are rising, so too are loan repayments, and so the regulatory DSTI ratio limit may be exceeded. It may therefore be that some loans are granted in lower amounts. If, for example, the interest rate on newly originated mortgage loans reached 5.0% in March 2023 with no change in the borrower mix,[51] more than one-half of the new loans would hit the DSTI limit. As a result, the amount of new loans would be reduced by around one-tenth, and the amount of principal increases under loan refinancings, by as much as one-quarter.

Assuming stable demand, this negative impact of rising interest rates on loan origination would be offset by the even greater impact of average wage growth. As rates increase, however, household demand for loans decreases and its composition changes. The combined effect of these factors is expected to reduce loan origination.

The upward impact of the DSTI ratio limit will gradually moderate. The 20-basis-point rate stress used in the DSTI limit calculation was more appropriate in a low interest rate environment. The applicable legislation reckons on this and requires the rate stress only up to the level of 6%.

Table 2 Estimation of the impact of rising interest rates

	September 2022	December 2022	March 2023
Rates on new loans (assumption)	2.9%	4%	5%
Increase in average wage compared with December 2021	6%	9%	13%
Share of new loans concerned	30%	44%	52%
Share of principal-increasing refinancing loans concerned	36%	51%	60%
Impact of rate increases on the reduction in the amount of loan origination	-3%	-6%	-9%
Impact of rate increases on the reduction in the increase in principal with refinancing loans	-8%	-15%	-23%

Source: NBS.
Notes: The estimations are based on the hypothetical assumption that demand for new loans and the composition of that demand would remain the same as they were in the fourth quarter of 2021. The simulation takes into account an increase in the minimum subsistence amount from 1 July 2022, as well as the projected growth in incomes.

[50] The loan growth decomposition methodology is based on a forthcoming NBS working paper: Cesnak, M. “Decomposition of retail loan growth”.

[51] Compared with the fourth quarter of 2021.

Many borrowers have locked in more favourable rates for a longer period of time, which is good news from a financial stability perspective

Many borrowers concerned about rising interest rates have sought to lock in their borrowing rate for as long as possible. Present in both new and existing loans, this trend can be seen as favourable from a financial stability perspective, since households thus delay the point at which their mortgage repayments rise alongside other expenditures. Although banks are taking on interest risk in this situation, they are better placed than households to mitigate it. The trend towards prolonging fixation periods was, however, only temporary.[52]

Of the new mortgage loans granted during the spring months, one in three had a fixation period of more than five years. Over the long term, such fixation periods are unusual and account for only around 7% of all fixation periods.

Existing loans were affected to an even greater extent by the extension of fixation periods. During the first half of this year, 26% of the aggregate mortgage portfolio was subject to a fixation period extension.[53] More than one-third of these rate fixation extensions were for over five years, often for as long as ten years.[54] In the large majority of cases, the fixation period was reset before the existing fixation period was due to expire.

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[52] Amid rapidly rising interest rates, borrowers have lost interest in locking in rates for longer. At the same time, banks have tightened credit supply; otherwise, they would run the risk that the prepayment fee cap would not allow them to fully cover interest rate hedging costs where a borrower switches to another bank for a longer rate fixation period.

[53] For 4% of mortgage loans, the fixation period was reset as at the scheduled resetting date; for 10%, it was reset earlier with the same bank; and for 12%, it was reset through a loan refinancing with another bank.

[54] 22% of reset fixation periods were reset to ten years.

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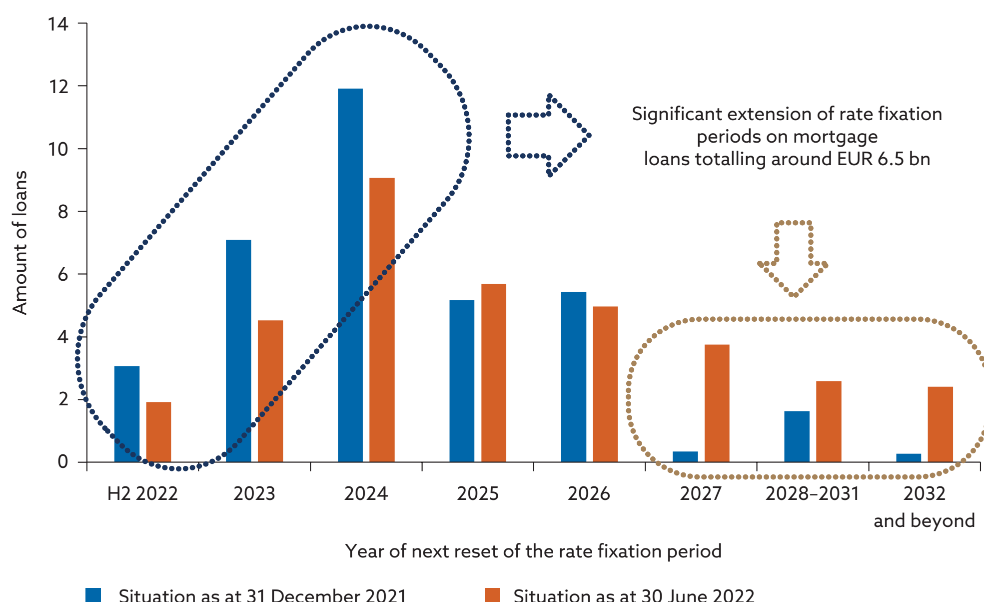
Chart 11

Owing to extraordinary resets of rate fixation periods during the first half of 2022, a significant share of mortgage loans have seen their fixation periods extended significantly

Amount of mortgage loans with the next fixation period reset dates broken down by year (EUR billions)



Source: NBS.
Note: Since the chart shows only the change in fixation periods resulting from extraordinary resets of rate fixation periods, it does not include new loans granted during the first half of 2022, nor loans whose fixation period was scheduled to be reset in that period.

The borrowers who sought fixation period extensions were mainly those with higher income and higher educational attainment, i.e. less risky customers. In the case, for example, of loans with an original rate fixation period of less than three years, university graduates were a third more active in terms of seeking an early resetting of the fixation period. At the same time, the higher borrowers' household income, the greater their uptake of early resetting of fixation periods.

Borrowers with a lower debt servicing burden (DSTI ratio) were more likely to opt for longer fixation periods. Demand for early resetting of fixation period was the same among borrowers with a high debt burden as for those with a low debt burden. However, highly indebted borrowers, i.e. those with a DSTI ratio close to the regulatory limit, sought shorter new fixation periods compared with other borrowers.[55]

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[55] Among loans with a DSTI ratio of up to 55% which had their fixation period reset, around 42% had it reset to more than five years, while for those with a DSTI ratio of more than 55%, the figure was 33%.
This topic is examined more closely in the following NBS Discussion Note (in Slovak only): "(Ne)využitá príležitosť: Ako sa domácnosti chopili šance zafixovať si nízky úrok na dlhšie obdobie?"(Opportunity taken or not: To what extent have households taken the chance to lock in a low interest rate for a longer term?).

Consumer credit flows have in 2022 reached their highest level in recent years, supported partly by inflation

After becoming gradually less negative, the annual rate of change in consumer credit turned slightly positive (0.1%) in September 2022 for the first time since February 2020. The month-on-month changes have been positive in almost every month of this year. However, one of the factors behind the moderation of the previous negative trends may be elevated inflation.[56]

Unlike mortgage loans, consumer credit in the euro area is not yet showing any shift in trend. Consumer credit growth faster than in Slovakia is reported by around two-thirds of both euro area and EU countries. Compared with 2021, this represents and improvement for Slovakia, which in May 2021 actually had the second lowest consumer credit growth in both the euro area and the EU.

The average interest rate on consumer credit in Slovakia is still not rising and remains around 8.2%. It has maintained that level since the end of 2018, except during a short period in late 2021 and early 2022, when it was affected by certain banks' marketing campaigns.

Rising interest rates and concerns about inflation eroding savings are affecting the riskiness of lending

Rising interest rates have increased repayment burdens. Although overall debt-to-income (DTI) growth has slowed significantly, the median debt service-to-income (DSTI) ratio recorded its first increase for some time in the second quarter of this year. Credit growth has therefore become more in line with income growth,[57] while repayment burdens have increased. The share of loans with a DSTI ratio at the regulatory limit has also increased.[58]

[56] Adjusted for inflation, however, the annual rate of change became more negative, falling to a near record low of -12.2%. In contrast to mortgage loans, consumer credit has a far more direct link with the price level of goods and services. In other words, in the absence of inflation, the consumer credit portfolio would probably have shrunk even further.

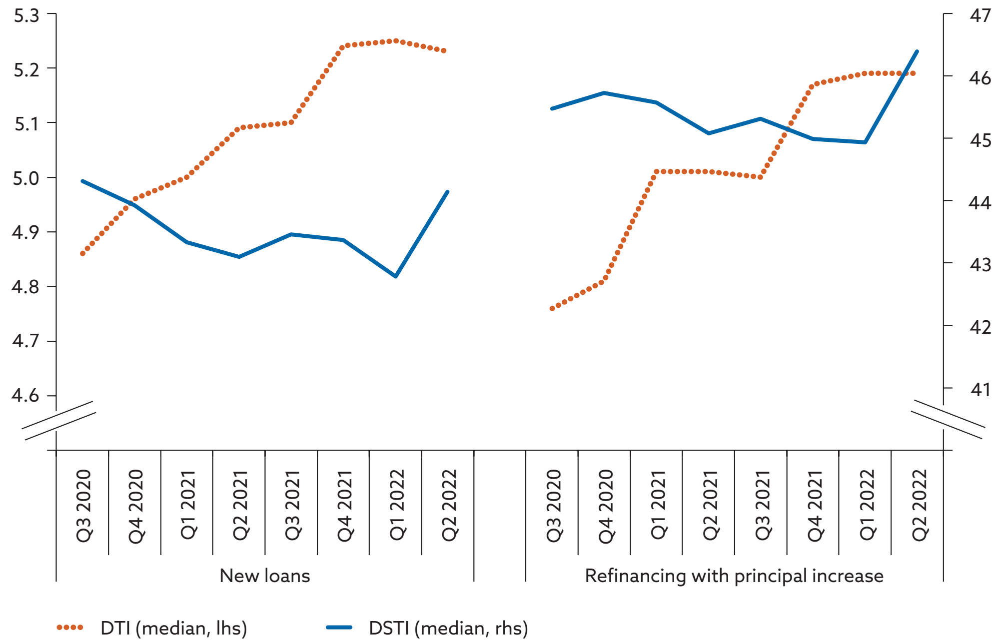
[57] One of the factors behind this development may be the favourable evolution of annual wage growth, which in the first half of 2022 accelerated from 6.7% to 7.5%.

[58] The share of loans with a DSTI ratio of more than 55% increased from 18% in the first quarter of 2022 to 24% in the second quarter.

Chart 12

Change in the characteristics of loans to households

Median values of the DTI and DSTI ratios for new loans and refinancing involving an increase in principal (dimensionless; percentages)



Source: NBS.
Note: DTI – borrower's debt-to-income ratio; DSTI – borrower's debt service-to-income ratio.

This may imply an increase in the probability of financial stress. In loan refinancings involving a principal increase, the share of 30-year mortgage loans has also increased.[59] In respect of the share of new mortgages loans with a maturity of more than 25 years, Slovakia now has one of the highest levels in the euro area, which may mean less leeway to address household financial stress through temporary reductions of loan repayments.

[59] Among principal-increasing refinancing loans, the share of mortgage loans with a maturity of 30 years or longer increased from 51% in the first quarter of 2022 to 56% in the second quarter.

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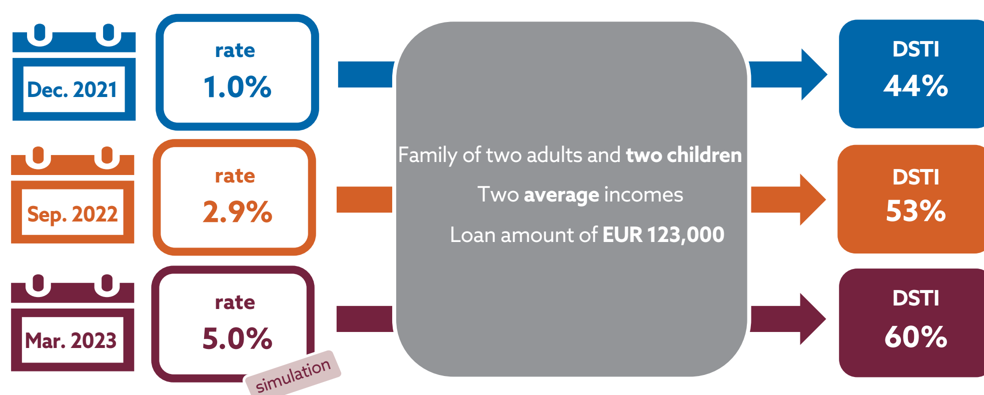
Figure 1
With interest rates increasing, credit risk is also rising
Changes in the impact of interest rates on the DSTI ratio of an average-income household



Sources: NBS, and SO SR.
Notes: The monthly wage in September 2022 and March 2023 is based on Národná banka Slovenska's autumn 2022 medium-term forecast. Average net incomes are expressed as 70% of the gross monthly wage. The DSTI calculation (the ratio of the borrower's total monthly repayments to monthly income) includes the minimum subsistence amount applicable for the given month. The interest rates represent the average rate on loans originated in the given month. The rate as at March 2023 is based on the baseline scenario described in Table 3.
Alternatively, it may be assumed that the household's debt-to-income (DTI) ratio, not the loan amount (EUR 123,000), remains at the December 2021 level (8.8). In that case, the loan drawn in March 2023 would be EUR 139,000 and the DSTI ratio would be 68%.

Increasing concerns about the depreciation of savings have been reflected in slightly lower loan-to-value (LTV) ratios, as people have been using more of their savings in the financing of property purchases. A slight decrease in the share of mortgage loans with an LTV ratio of more than 80%, together with the ongoing rapid growth in housing prices, is having a downward impact on losses given default. More details about this impact are provided in Box 3.

In the period ahead, however, the adverse impact of increasing repayments burdens in a rising interest rate environment will become even more pronounced, while the favourable trend in the loss rate on defaulted loan will gradually fade as the housing market cools.

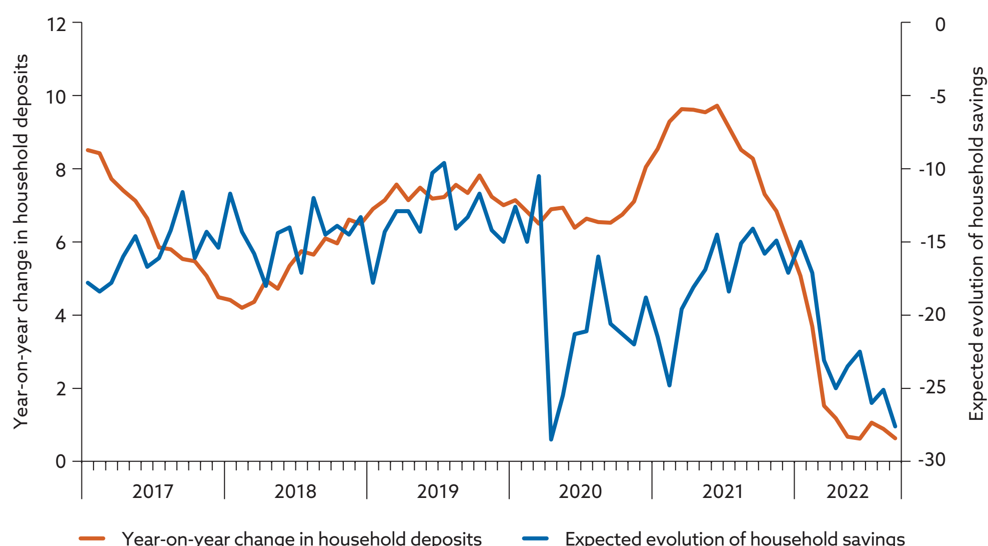
Moreover, rising inflation is reducing the incentive to maintain financial buffers, thus having a possible upward impact on credit risk. After rising strongly up until mid-2021, household deposits have remained relatively stable since then. The saving ratio, which stood at around 10% before the pandemic crisis and climbed as high as 13% during it, has fallen steadily to under 6%, well below its long-term average. Household expectations about how their savings are likely to evolve over the next 12 months have since June 2022 remained as low as they were immediately after the outbreak of the pandemic. With a smaller financial buffer, however, households have less scope to cover a potential deterioration in their financial situation.

The impact of inflation on financial buffers can be expected to be greater on households with larger savings. The larger the savings, the more households perceive their value to be falling and consider ways in which to protect them from depreciation. These savings are therefore more likely to be invested in various ways.

Chart 13

Households have gradually less incentive to maintain financial buffers

Annual rate of change in household deposits and the expected evolution of household savings over the next 12 months (percentages; dimensionless)



Source: NBS.
Notes: The expected evolution of household savings over the next 12 months is part of the consumer confidence indicator. The data are seasonally adjusted.

The credit quality of loans to households is so far not deteriorating

The credit quality of loans to households has remained stable so far. For mortgage loans, the net default rate has been virtually zero for seven years. For consumer credit, the rate has fluctuated to a greater extent, rising gradually from mid-2021 to March 2022, before stabilising at 1.8%.

The non-performing loan ratios for both portfolios show a slightly decreasing trend. As at September 2022, the NPL ratio for mortgage loans was 1.1%, and for consumer credit, 7.5%.

3 Housing market and housing affordability

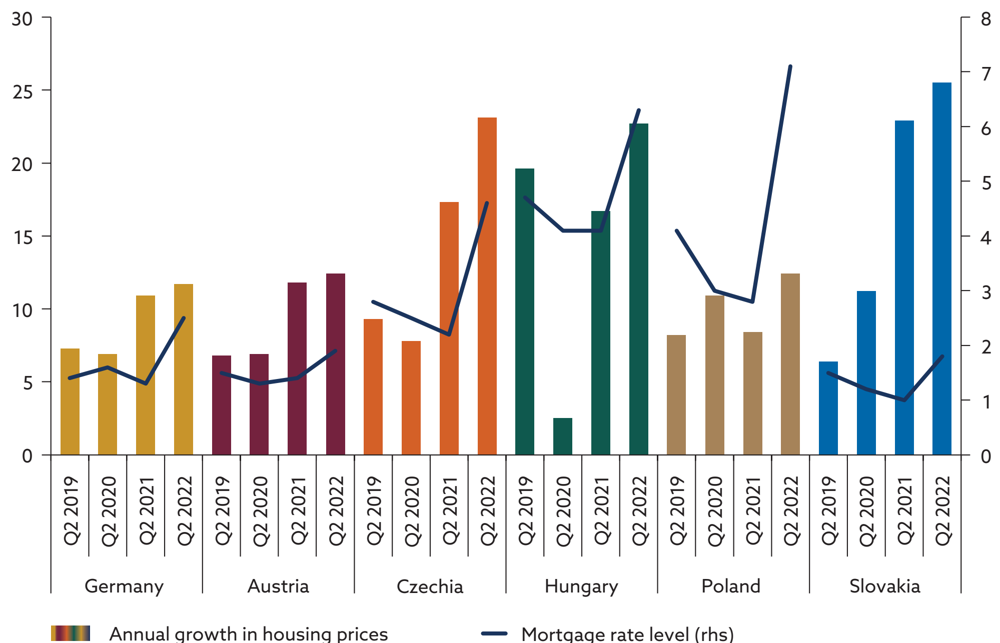
3.1 The housing market saw changes in the summer months

After accelerating sharply in the second quarter of 2021, prices of flats maintained exceptionally strong growth until the summer of 2022, when their annual growth rate stood at almost 30 %. The uptrend was driven mainly by robust demand for housing, stemming largely from significant growth in household income, savings accumulated during the pandemic, the assumption that mortgage rates will increase from their current low levels, and expectations of a further increase in housing prices. Another significant impetus to housing price growth has come from elevated inflation, which has accelerated still further since the outbreak of the war in Ukraine. Some households may have been incentivised to buy one or more additional properties by a combination of their concerns about excess savings being eroded by inflation and their expectations about interest rate increases.

Chart 14

Housing price growth and mortgage rate movements in the European Union

Annual growth in housing prices and mortgage rate movements in the period 2019–2022 (percentages; percentages)



Sources: OECD, ECB, NBS, and United Classifieds.
Note: Both indicators show year-on-year changes as at the second quarter of each year.

Housing price growth in the first half of 2022 was not only exceptionally strong, but also broad-based. Robust growth in housing prices was observed in all regions of Slovakia, including in both regional capitals and rural areas and across all types and sizes of flats and houses. At the same time, housing prices increased in most other EU Member States, many of which have been reporting double-digit housing price growth for the last two years.

The housing market situation started to change in summer 2022

Household purchasing power for housing has gradually deteriorated and sentiment in this respect has started to change. Uptrends in prices of flats and mortgage rates have for several quarters been gradually reducing households' maximum borrowing capacity. These changes, however, have had only a gradual impact on the actual flow of mortgages and therefore on demand for flats. Change of a more fundamental and rapid nature usually appears in sentiment and expectations. These have started to shift more appreciably, not only under the effect of current rate increases, but also in response to mounting uncertainty.

Figure 2
Simplified summary of changes in the housing market

First quarter of 2022	Second quarter of 2022	Third quarter of 2002
Sharply rising housing prices	**Sharply rising housing prices**	**Stagnating housing prices**
Low mortgage rates	**Mortgage rate growth**	**Mortgage rate growth**
Declining housing affordability (growth in housing prices)	**Declining housing affordability** (growth in both housing prices and mortgage rates)	**Declining housing affordability** (mainly growth in mortgage rates)
Strong demand (low mortgage rates; expectations of increases in housing prices; inflation)	**Strong demand** (expectations of increases in mortgage rates and housing prices; inflation)	**Cooling of demand**

Source: NBS.

Along with falling demand for new mortgage loans, demand for flats has also ebbed. The total number of transactions related to the purchase of residential real estate has started to decline in recent months. A shift in economic conditions, together with media reports about potential stretching of property valuations, has altered the atmosphere among prospective buyers, which in turn has been reflected in slower property sales.

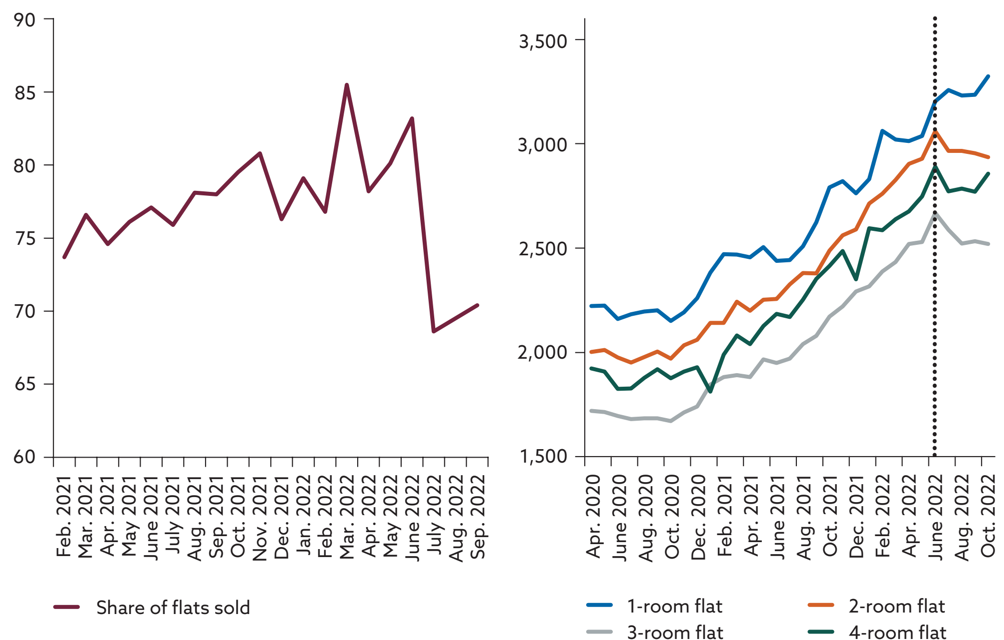
Annual growth in housing prices in the third quarter of 2022 stood at 21.9%; however, the quarter-on-quarter change in average prices was already

pointing more to stagnation. Before the summer, housing price growth was robust across segments and regions, but since then prices have either risen only slightly, stagnated or declined, depending on the segment. Prices of flats in Slovakia's regional capitals have responded more quickly to the overall economic deterioration. Prices of flats outside the capitals have tended to remain flat. For smaller flats, prices have also remained largely unchanged, while for larger flats they have declined slightly.

Chart 15

Decline in sales of existing flats in Slovakia and trend changes in prices of flats

Sales of existing flats as a share of the total number of flats listed on the market in the given month and the average asking price for flats by number of rooms (percentages; EUR/m²)



Sources: NBS, and United Classifieds.
Note: Flats are classified as sold if they are no longer listed for sale in the following month.

Changes in the market for flats have started to appear to a greater extent in the Slovak capital Bratislava. During the pandemic, housing market growth was more moderate in Bratislava than in Slovakia's regional towns and cities, but in the first half of 2022 the growth in prices of existing flats in the capital climbed above 20%. In the third quarter, however, the number of flats on the market started to increase, and from June to October the average price of an existing flat in the capital dropped by 3%. While new-build flats in Bratislava experienced substantial price growth in the first half of 2022, this segment was also affected by cooling of the property market in the third quarter, with the number of new flat sales dropping by more than 60% year-on-year.

3.2 Housing affordability[60] has deteriorated for all population groups

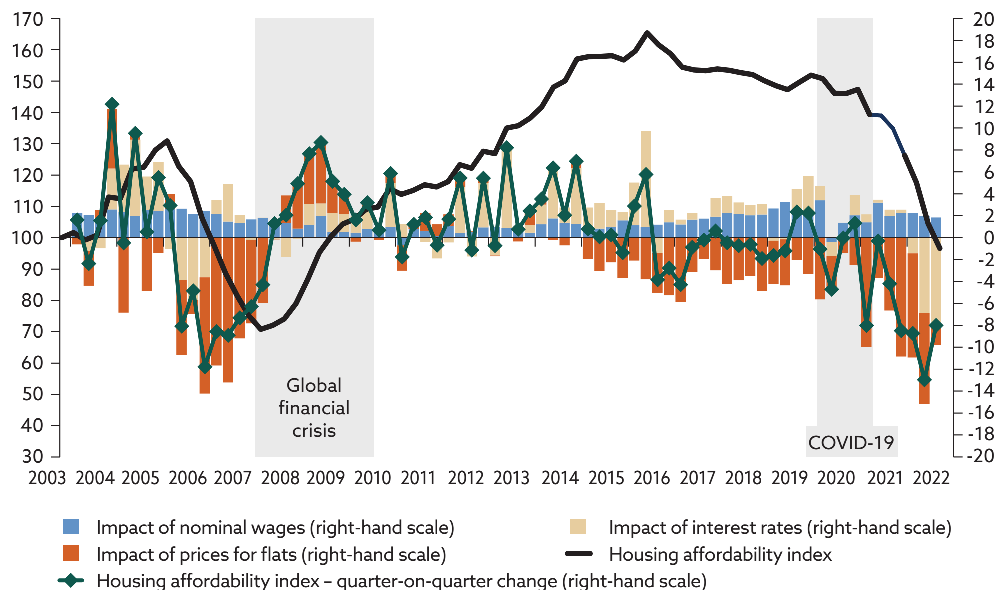
The current decline in housing affordability has been accelerated by rising interest rates on new mortgage loans

In the pre-pandemic period, housing affordability was close to historical highs and deteriorated very slightly, as housing price growth was largely offset by rising incomes and declining mortgage rates. In 2021, however, housing price growth accelerated so much that not even income growth and low interest rates could prevent a sharp deterioration of housing affordability. This adverse trend was further exacerbated by rate increases in the second quarter of 2022.

Chart 16

Rising interest rates have started having a greater impact on housing affordability

Evolution of the housing affordability index and quarter-on-quarter changes in the index (index; percentages)



Sources: NBS, SO SR, and United Classifieds.

Owner-occupancy has over the past year become less affordable for all income and age groups in all regions of Slovakia. The notable decline in the housing affordability index is reflected in the sizes of flats that individuals can afford to buy under current market conditions. Over the past year alone, the affordable metreage of flats has fallen substantially across all income groups. In June 2021 a person earning the median income could afford to buy a 78 m^2 flat, but in June 2022, only a 56 m^2 flat.

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60 Housing affordability is here defined as the inverse of the share of the median net wage that is required to repay a notional loan for the purchase of a flat.

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While housing affordability has deteriorated across Slovakia, it shows considerable heterogeneity across the country's self-governing regions. Not only do wage levels differ between regions, so too do housing prices and therefore the level of mortgage repayments. For median wage earners in Trenčín and Nitra regions, mortgage repayments are still at an acceptable level of around 30% of the net wage, while for those in Bratislava, Košice and Prešov regions, the repayment-to-income ratio is highest. Over the past ten years, however, the largest deterioration in housing affordability has been in Žilina and Prešov regions.

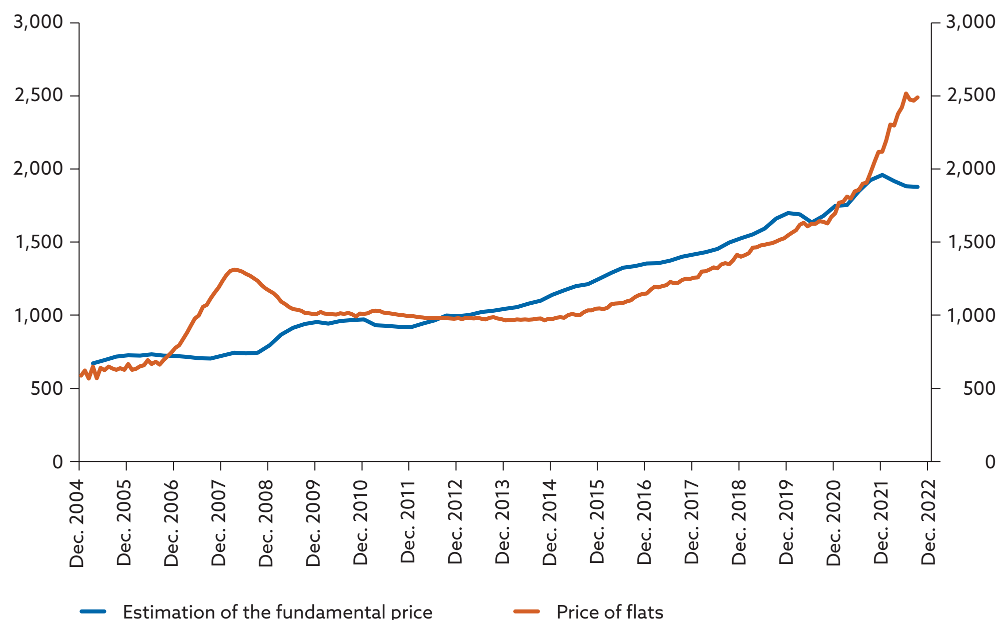
Fundamentals are not sufficiently explaining housing prices

The emerging imbalances in the housing market have for some time now been indicated by model estimations of prices for flats. Housing price growth in recent years has been underpinned in particular by significant growth in household income as well as an increasing number of people in employment. The downtrend in interest rates has also played a major role, allowing households to reduce their housing costs through lower mortgage repayments. On the other hand, housing price growth in late 2021 and, even more so, the first half of 2021 diverged markedly from growth in fundamentals. Both the number of employed persons and their incomes have grown more slowly than the housing market.

Chart 17

Housing price growth outpacing fundamentals

Average observed and estimated price of flats (EUR/m²; EUR/m²)



Sources: NBS, United Classifieds, CMN, and the SO SR.
Notes: The fundamental price is estimated from the long-run linear relationship between prices of flats and potential demand. Potential demand is calculated as the product of the number of workers and the average wage in the given age cohort, less living costs and debt servicing expenditure.

4 Inflation and credit risk

4.1 Inflation is impacting financial stability through various channels

Inflation has a significant impact on financial stability and on broader developments in the financial sector. These effects have both negative and positive aspects. They are highly heterogeneous and may vary both across different groups of households and firms, and in timeframe terms. The aim of this section is therefore to outline the various channels through which inflation can affect financial stability in Slovakia. They are briefly summarised in Figure 3 and are described in more detail in the following text.

Inflation and its effects need, however, to be seen in a broader context. The current inflation rate is attributable to external supply shocks, and its initial impact was largely related to prices of energy and other inputs. Gradually, however, it has affected a broad range of goods and services. In addition, inflation has been coupled with a tightening of financial conditions, as well as with interest rate increases, rising uncertainty, deteriorating economic prospects, and risks associated with the war in Ukraine.

Figure 3
Overview of inflation's most significant impacts on financial stability in Slovakia

Negative impacts and risks	Positive impacts
• Materialisation of accumulated cyclical risks • Decline in real incomes • Riskier loans (higher DSTI ratios) • Less savings – lower buffer • Risks related to public debt • Costlier long-term funding for banks • Uncertainty in interest rate risk management • Increased volatility in financial markets • Lower corporate investment activity	• Slowdown in the build-up of cyclical risks • Lower upward pressure on indebtedness • Decrease in the real debt burden of both the private and public sectors • Less pressure on banks' interest margins • Positive impact on insurers' solvency • Temporary increase in household demand for longer rate fixation periods

Source: NBS.

Impact on cyclical risks and lending

Inflation and the related tightening of financial conditions are affecting the financial cycle and the degree of cyclical risks in two directions.

Rising interest rates are contributing to a decline in demand for credit. This in turn is mitigating the build-up of cyclical risk that was still quite pronounced in the first half of 2022. Upward pressure on indebtedness is also diminishing. This is particularly so in the household sector, where DTI ratios have stabilised after a prolonged uptrend. Inflation's impact on the

credit market may, however, be heterogeneous; for example, rising prices are increasing firms' financing needs for working capital. On the other hand, higher uncertainty and rising interest rates may be curbing business investment as well as activity in both the residential and commercial real estate markets. CRE investment may be adversely affected by higher interest rates, rising construction costs, and a climate of greater uncertainty.

At the same time, the sharp upturn in interest rates may be triggering a materialisation of risks that were building up during the previous period. The European Systemic Risk Board (ESRB) has also warned about these risks.[61] The main risks are related to developments in the financial and real estate markets and to the excessive indebtedness of some households and firms. The degree of these risks depends mainly on the extent of monetary policy tightening that will be needed to bring inflation back down, including any launch of so-called quantitative tightening to replace the recent quantitative easing.

Impact on the financial situation of borrowers and on credit risk

Inflation is adversely affecting the financial situation of a number of households and firms. This concerns mainly those whose expenditure growth is at risk of outpacing their income growth (i.e. resulting in a drop in real income). For firms, a key factor is their capacity to pass on increased costs to output prices without causing any significant drop in demand. The worsening financial situation of borrowers will eventually lead to an increase in loans at risk of default, with the corporate sector being more exposed to this risk.

The household sector should be less adversely affected, given that the labour market is not expected to face any major problems for the time being. Moreover, the risk of credit losses for banks has recently been mitigated by rapid growth in housing prices, though the current cooling of the property market may dampen this impact. On the negative side, however, there is a decreasing incentive to hold larger amounts of savings, especially while deposit rates remain low. This is also confirmed by the saving ratio, which has now fallen to a near historical low. Thus, households' propensity to save is falling, and therefore so too are the financial buffers that could see them through financial difficulties. (Chart 13).

At the same time, the rapid increase in mortgage rates is putting upward pressure on the riskiness of new mortgage loans and on mortgages whose rate fixation period is due to be reset. As Figure 1 shows, these loans will carry a higher repayment burden (higher DSTI ratio). While there is also upward

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61 Warning of the European Systemic Risk Board of 22 September 2022 on vulnerabilities in the Union financial system (ESRB/2022/7).

pressure on lending at longer maturities, this trend is reducing the scope for any temporary reduction in repayments in the event of financial stress.

Inflation's impact is, however, heterogeneous and may even lead to an improvement in the financial situation of some groups of households and firms. If in addition to raising costs, inflation translates into notable income growth, it may reduce borrowers' debt servicing burden (i.e. their real debt burden will fall). Also on the positive side, during the first half of 2022, concerns about rising mortgage rates temporarily increased demand for mortgage loans with longer rate fixation periods (Chart 7).

However, the very heterogeneity of the impacts on different groups of firms and households has adverse consequences, since it means that the situation of some firms is deteriorating and therefore that the structure of the business environment may come to be disrupted.

Impact on the banking sector

The rising interest rate environment is easing pressure on banks' interest margins, thus helping to improve their profitability. Lending rates (in particular mortgage rates) have started rising relatively quickly, while deposit rates have remained low.

On the other hand, steeper yield curves and higher risk premia are increasing the cost of long-term funding for banks. Those wanting to ensure an adequate level of stable funding are facing increased interest expenses. This is most clearly illustrated by the situation in the covered bond market, where yields including credit premia have surged.

The main unknown, however, is how retail deposit rates will evolve. In an environment of rising long-term funding costs and widening interest margins, competitive pressure may result in some banks moving to boost deposit volumes by increasing deposit rates. The banking sector therefore faces increased uncertainty, since banks have virtually no experience in recent years with depositors' response or degree of sensitivity to potential interest rate increases. This is also stoking uncertainty in the management of interest rate risk.

Impact of risks associated with general government debt

Risks associated with public debt are being accentuated by inflation, decelerating economic growth, and the tightening of financial conditions. At a time of rising inflation, the ratio of public debt to nominal GDP is expected to decrease, since nominal GDP growth is projected to be, for example, in double digits in 2023. On the other hand, there is an increasing probability of higher expenditure (especially expenditure on offsetting the potential ef-

fects of elevated inflation and higher interest expenses) that may increase public debt itself. Sovereign debt risks primarily concern highly indebted EU countries; however, investors' potential concerns about public debt sustainability may translate into a relatively broad increase in credit premia, which in a rising interest rate environment could further exacerbate debt servicing costs.[62] This would not only reduce the space for any measures to partially offset increased costs, but would also hit the credit market. This is because government bond yields including credit premia affect the borrowing rates for firms and households. The risk is accentuated by the fact that many countries saw their debt levels rise significantly during the pandemic crisis. Slovakia's public debt ratio is near historical highs and Slovak government bond yields are at their highest level in a decade. The public debt situation in Slovakia is described in more detail in Section 1.2.

Impact on financial markets and other parts of the financial sector

The risks of greater financial market turbulence remain present owing to heightened uncertainty. Recent developments in prices of energy and commodities are a case in point. In addition, increased volatility is leading to an uptick in margin requirements in financial market trading. This is putting pressure on the liquidity of some market participants.

On the other hand, the current situation may have beneficial effects on some parts of the financial sector. The upward shift and steepening of the yield curve is resulting in insurers' reducing the valuation of technical provisions, with a positive impact on their solvency. This impact, however, may be partly reduced if credit premia were to increase at the same time, which would have an adverse impact on the valuation of insurers' assets. The inflationary environment is also putting upward pressure on insurance premiums, especially in the non-life segment.

Impact on the economic and financial system as a whole

Both inflation and the increase in uncertainty represent an external shock to the Slovak economy and financial system. As mentioned above, this shock entails significant economic costs, impairs the financial situation of some firms and households, and has an adverse impact on public finance.

Moreover, problems in one part of the system have the potential to adversely affect, and even accentuate problems in, other parts. For example, a deterioration in the financial situation of some firms may weigh on the labour

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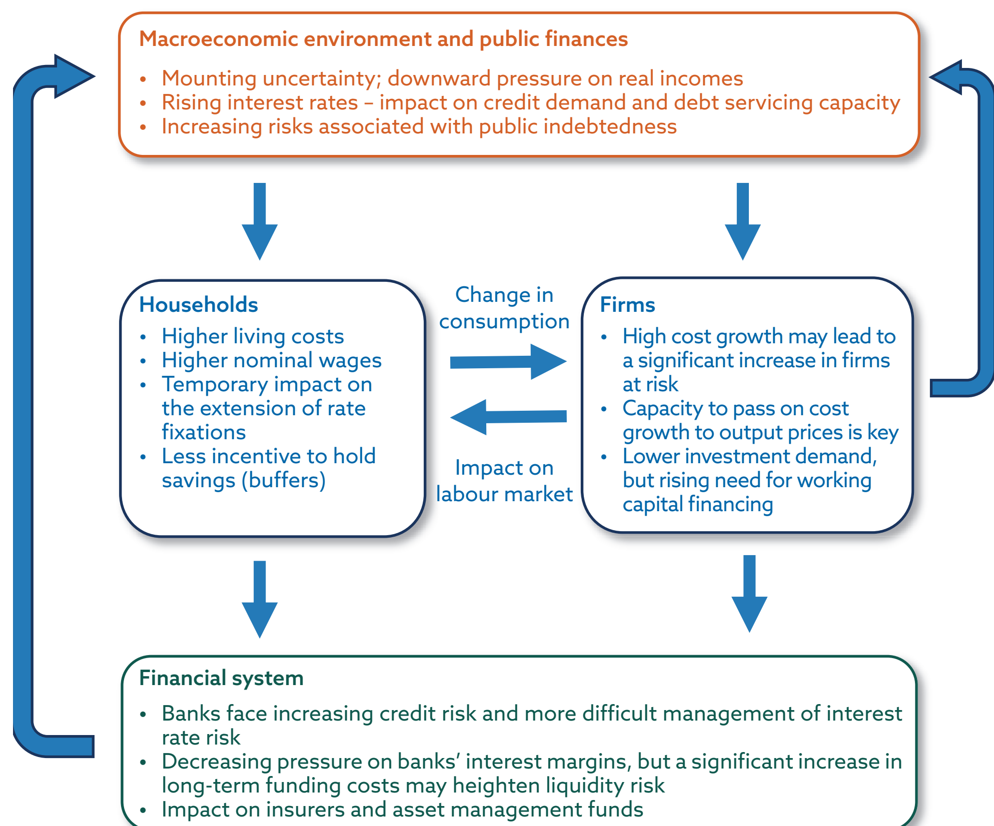
[62] In a discussion note entitled "Pripravte sa na horšie časy, varujú finančné trhy" (Prepare for worse times, financial markets warn) of 26 October 2022, the Slovak Finance Ministry's Institute for Financial Policy warns that interest expenses will almost triple by the end of the current decade unless there is deficit reduction.

market and therefore also on households. Conversely, a weakening in the financial position of some households affects their consumption and demand, especially in respect of non-essential goods and services. Negative trends on the public finances front are impairing the availability of compensation schemes and may raise the cost of borrowing for households and firms.

A key factor will be the allocation of inflation-related costs within the system as a whole. In order to maintain the stability of the economic and financial system, it is therefore essential to design compensation schemes that allow the allocation of costs to those entities that will be able to bear them without their activity being significantly disrupted. At the same time, compensation should be bespoke and be targeted mainly at those most in need of it.

Figure 4
Impact of inflation on the economic and financial system



Source: NBS.

4.2 Inflation is impairing the financial situation of some households and increasing their credit risk

Inflation is having a major impact on the financial situation of households, while also affecting their debt servicing capacity. As mentioned in the previous part, this impact may show considerable heterogeneity across

the household sector. Some households may see their situation improve, while for others it may worsen. The disparity is largely due to diverging trends in household income, with some households even experiencing a drop in income, including at normal times. High inflation may, however, further accentuate these differences and increase the likelihood of adverse developments. The worsening of some households' financial situation is also increasing the risk of a rise in non-performing loans, thereby adversely affecting banks too.

In this part we take a closer look at the estimation of these impacts. We estimate the impact of current trends on household cash flows. We then also estimate the share of households at risk of financial stress, i.e. the share of households whose loan repayments and necessary living expenses exceed their income and possibility to draw on savings. In order to best capture the possibility of diverging trends between individual households, our analysis is based on microdata on households' debts, income and expenditure. The scenarios used are based on Národná banka Slovenska's autumn 2022 medium-term forecast and are described in more detail in Box 2. They include high inflation and a relatively large upturn in mortgage rates, with the downside scenario also incorporating a deterioration in the labour market situation and a housing price correction.[63]

Table 3 Assumptions for the simulation of loans at risk

	June 2022 (year-on-year growth, or level)	Baseline scenario (cumulative growth from Jun. 2022 to Dec. 2024, or level as at Dec. 2024)	Downside scenario (cumulative growth from Jun. 2022 to Dec. 2024, or level as at Dec. 2024)
Inflation (HICP)	11.8%	25.7%	35.5%
... food	13.6%	17.8%	26.3%
... energy	20.3%	82.7%	108.5%
... other	8.4%	14.6%	20.0%
Housing prices		-5%	-30%
Wage growth	7.5%	23.9%	27.4%
Unemployment growth	6.2%	6.8%	8.5%
Mortgage rate level	1.8% [1)]	5%	7%

Source: NBS.
Notes: The baseline and downside scenario assumptions are based on NBS's autumn 2022 medium-term forecast. The values for these scenarios denote the cumulative change for the period from June 2022 to December 2024. For inflation, wages and unemployment, linear growth over this period is assumed. Mortgage rates are assumed to increase until March 2023 and then remain stable until December 2024.
1) For comparison, the rate as at September 2022 was 2.5%.

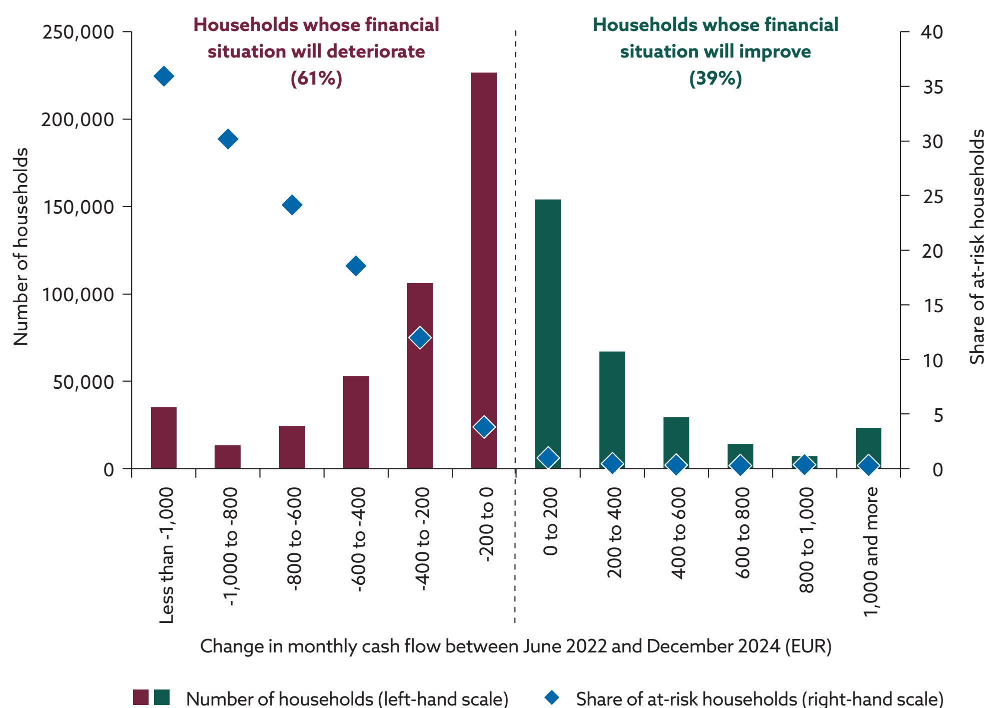
[63] The simulation methodology is described in detail in NBS's May 2022 Financial Stability Report. The analysis covers only indebted households.

If the economy were to evolve according to the baseline scenario, it is estimated that 39% of households would see an improvement in their cash flow[64] and 61%, a deterioration. As Chart 18 shows, the change in monthly cash flow between June 2022 and December 2024 is relatively small for many households, and the risk of these households experiencing financial stress is low. On the other hand, some households will face a more pronounced deterioration in their family finances. The analysis confirms that the worse the deterioration, the greater the risk of the household falling into financial difficulties.

Chart 18

Inflation's impact on households is highly heterogeneous

Number of households and share of at-risk households according to the estimated change in cash flow between June 2022 and December 2024 under the baseline scenario (number; percentages)



Source: NBS.
Note: Households are defined as at risk where their loan repayments and necessary expenditure exceed their income and accumulated savings.

Under the baseline scenario, an estimated 3.8% of mortgage loans and 5.7% of consumer credit become at risk as a result of the assumed evolution of inflation, interest rates and unemployment.[65] In the downside scenario, these percentages are more than twice as high. The main driver is the inflation-induced rise in necessary expenditure.

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[64] Cash flow is defined as the difference between net income and the sum of repayments and expenditure on necessities in the given month.

[65] Loans to households are defined as at risk where the household is at risk of financial stress.

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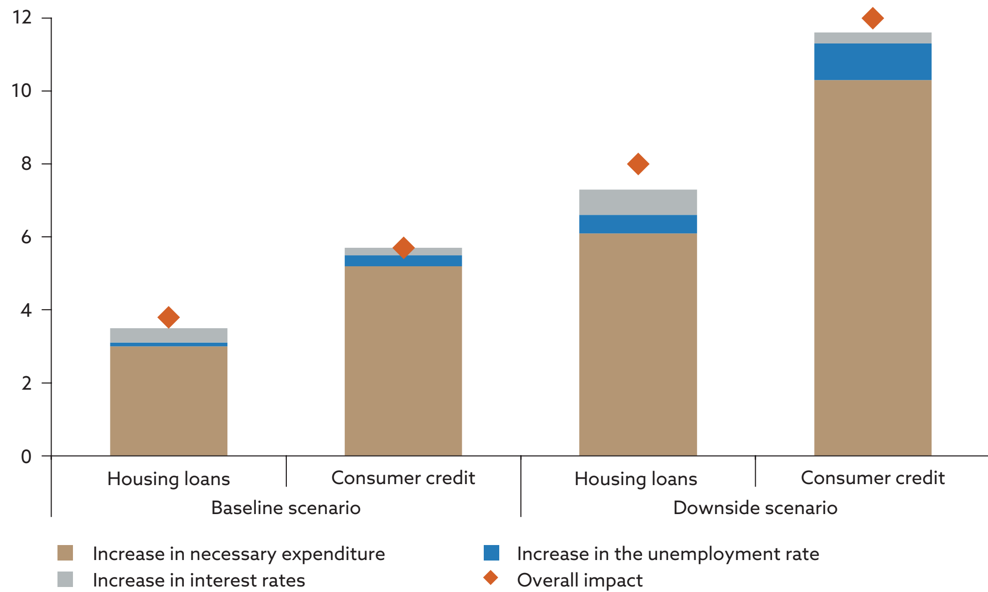
Chart 19

Impacts of different shocks on loans at risk

Share of growth in at-risk household loans by type of shock (percentages)



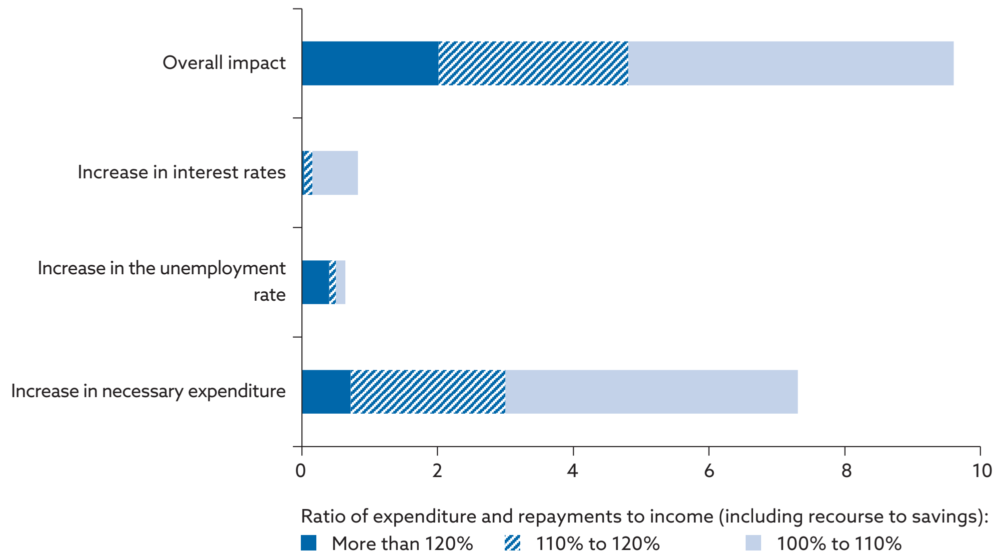
Source: NBS.
Notes: The increase in at-risk loans over the period 2022–2024 is simulated using the scenarios described in Table 3. Households are deemed to be at risk where their loan repayments and necessary expenditure exceed their income and accumulated savings. The overall impact slightly exceeds the sum of the impacts of individual factors, since the simultaneous interaction of multiple shocks can put at risk even households that would be resilient to those shocks in isolation.

The impact of rising expenditure on at-risk loans is markedly different from what the situation would be if they rose primarily due to an increase in unemployment. Many households that become financially stressed because of rising expenditure will be in a situation where their expenditure only moderately exceeds their income. Moreover, the deterioration in their financial situation following the loss of employment will be only gradual. Households therefore have scope to respond to this situation, for example, by reducing and changing the structure of expenditure, especially on mortgage loans. This assumes, however, that households regularly monitor their financial situation. The risk of the situation deteriorating is more pronounced in 2022 and 2023, when real wage growth is expected to decline.

Chart 20

Extent and intensity of impacts on the financial situation of households in the downside scenario

(percentages)



Source: NBS.

Notes: The horizontal axis shows the share of total loans to households that become at risk in the downside scenario as a result of the given factor. The different portions of the bars show the intensity of the impact by denoting the post-shock ratio of expenditure and repayments to income (including recourse to savings).

Given the increased risks, it is expected that the current downtrend in NPL ratios may come to an end. In the baseline scenario, the increase in NPL ratios is estimated to be moderate, indeed insignificant compared with their recent evolution. The main mitigating factor is the relatively stable labour market situation, with the baseline scenario not assuming a pronounced increase in unemployment and assuming only a slight decline in real wages.

In the downside scenario, however, there is a risk that that NPL ratios could increase more sharply, especially in the consumer credit segment. In this segment, NPL rates are estimated to increase to the level they were at during the 2009–10 global economic and financial crisis. In the case of mortgage loans, however, it may be expected that NPL ratios will increase more moderately. Moreover, losses on this part of the portfolio are mitigated by the previous rapid increase in property prices (Box 3).

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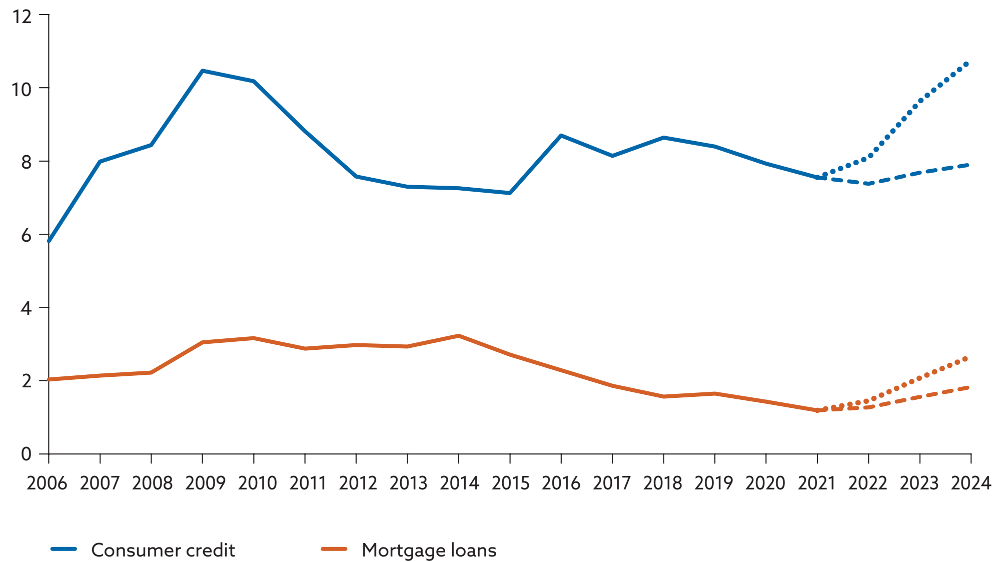
Chart 21
Actual and simulated evolution of NPL ratios
(percentages)



Source: NBS.
Notes: The NPL ratio's evolution from 2022 to 2024 is simulated using scenarios described in Table 3. The dashed line denotes the baseline scenario; the dotted line, the downside scenario. The simulation takes into account the rate of NPL write-offs and sell-offs, as well as the cure rate for NPLs (the rate of their reversion to the standard loan category) observed in the period 2019–2021.

Box 3
Factors affecting banks' losses given default on mortgage loans

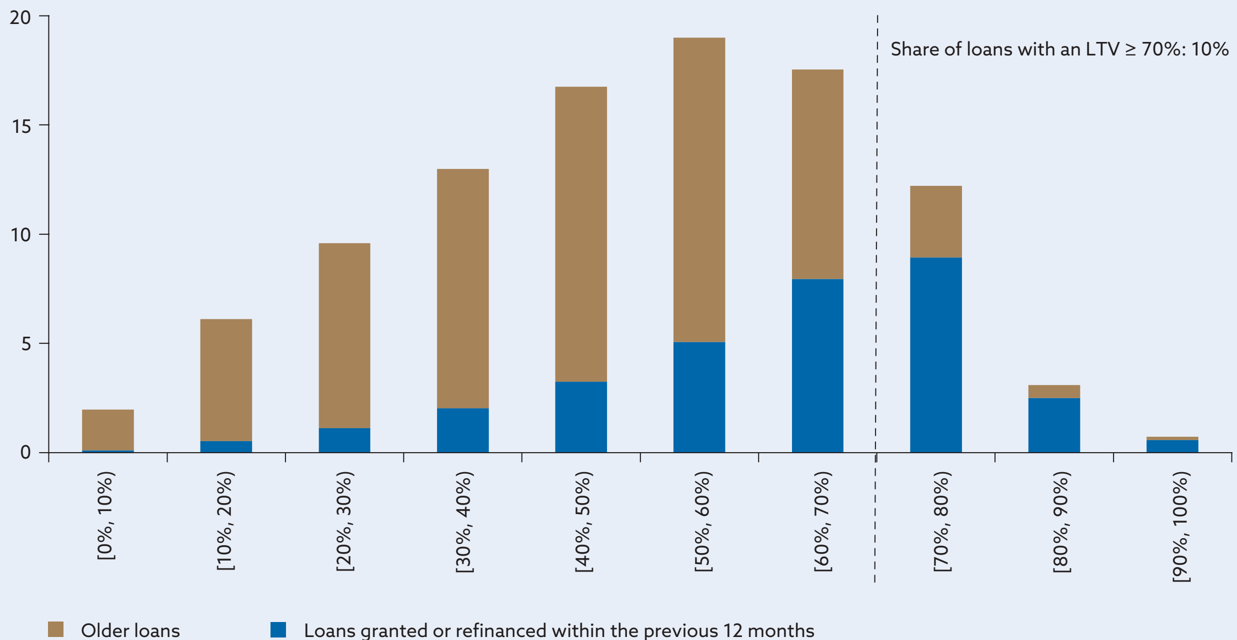
The main factor mitigating banks' losses given default (LGDs) on mortgage loans is the recent sharp growth in housing prices. In part because of that uptrend, 90% of the banking sector's mortgage portfolio has a current loan-to-value (LTV) ratio[66] not exceeding 70%. The remaining 10% of the portfolio comprises mostly loans granted within the past 12 months, hence the LTV ratios of these loans were less affected by the property price growth.

[66] The current LTV ratio is calculated as the ratio of the current outstanding amount of the loan to the current value of the property collateral.

Chart 22

The recent period of housing price growth contributed to a large reduction in the current LTV ratios in the mortgage loan portfolio

Distribution of mortgage loans by estimated LTV ratio as at 30 June 2022 (percentages)



Source: NBS.
Note: LTV – loan-to-value ratio.

This should also have a positive impact on the level of losses that banks could face in the downside scenario. If housing price growth during the previous 12 months had been 15 pp lower than it actually was, the banking sector's estimated losses on non-performing mortgage loans would have been 5% higher.

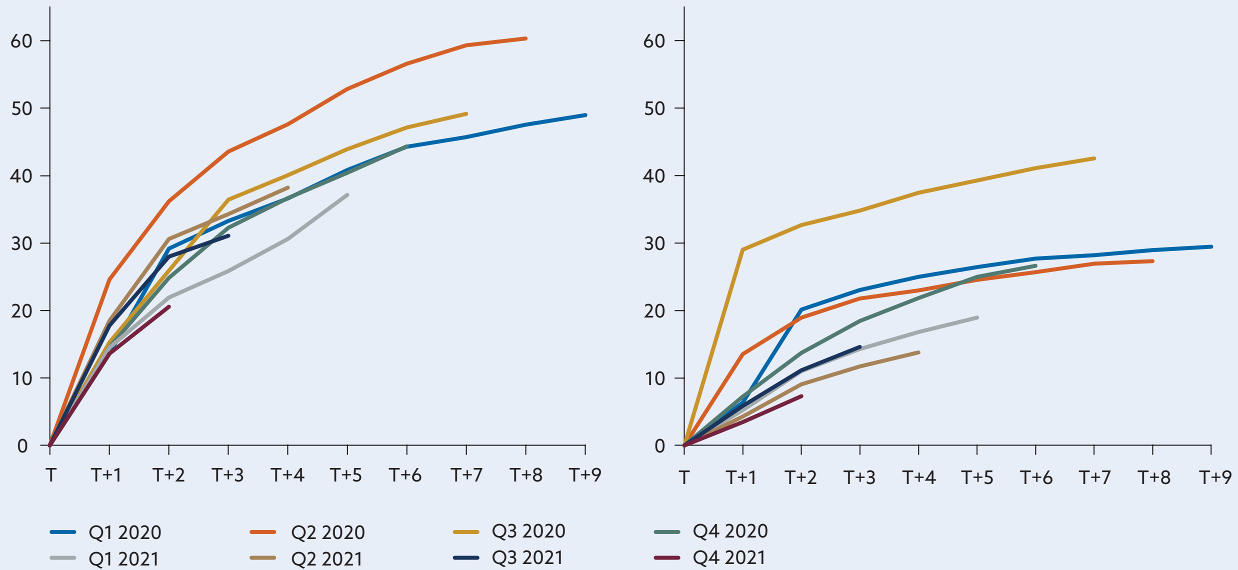
On the other hand, the downward pressure on LGDs appears to be weakening. This is due to a decline in excess savings, which will have an upward impact on LTV ratios for new loans, as well as to cooling of the property market. LGDs may even increase where property collateral valuations are now showing signs of being stretched and face correction risk.

LGDs may also, however, be pushed up by a deterioration in the cure rate for non-performing loans. The experience of recent years indicates that repayments on a proportion of non-performing loans will start to resume within around two years. For mortgage loans, around one-half of the NPLs will start performing again, and for consumer credit, around one-quarter. If, however, there is a worsening of the economic situation, it may have an adverse impact on the cure rate, leading to an increase in losses given default.

Chart 23

Evolution of the share of NPLs that have started performing again

Left-hand panel: mortgage loans (percentages)
Right-hand panel: consumer credit (percentages)



Source: NBS.
Notes: The x-axis shows the quarters following the date of default. The y-axis shows the share of non-performing loans that have started performing again from the default date to the given quarter. The lines denote the individual quarters when loan default occurred.

4.3 Firms are more exposed to a deterioration in their financial situation

The corporate sector's exposure to the impact of inflation is greater than that of the household sector. Compared with households, firms have been facing a steeper increase in input prices. Consumer prices were 13% higher year-on-year in September 2022, whereas producer prices were one-fifth higher in industry and construction, one-half higher in agriculture, and up to twice as high in the energy sector (Chart 3).

Such sharp and also uneven price growth may cause substantial disruption to the structure of the corporate sector and the economy as a whole. Prices of some inputs, in particular energy, are extremely volatile and have an immediate impact on the firms affected; nor can their further evolution be projected, despite signs of positive developments in early autumn. This is greatly complicating firms' financial management and planning. Moreover, price growth is having an increasing impact on a broader range of goods and services, and there is mounting risk of second-round inflation

effects. Such an environment is putting firms under pressure to take drastic action in the area of pricing policy, thus, however, shifting the burden onto customers. Moreover, customers are readier to accept output price increases in this situation than they were in the previous long-term period of virtual price stability. This in turn is further exacerbating inflation pressures. Firms' capacity to pass on rising input prices to output prices is nevertheless highly heterogeneous and depends on many factors, such as the impact of the economy's expected cooling on demand for particular types of products, on the firm's sector of activity, market power and financial health, on the intensity of competition, etc. Durable or luxury goods will be more affected, as will energy-intensive goods. By contrast, demand for essential goods is expected to decline more moderately. Many firms are therefore having to seek additional efficiency savings on operations. In their drive to cut costs quickly, however, firms may harm their prospects for long-term sustainability and development.

The aim of this part to analyse the potential evolution of firms' financial situation and their ability to repay loans in an environment of elevated inflation and economic uncertainty. Our analysis is based on firm-level data and uses two scenarios set out in Table 4.[67] The downside scenario differs from the baseline scenario in assuming a stronger economic contraction in 2023 and a sharper increase in cost prices, resulting in a situation where revenue growth lags notably behind cost growth.[68] The simulation begins by simulating the increase in costs, taking into account cross-firm differences in cost structure, the varying evolution of unit prices across cost categories, as well as the differing capacity of firms to offset rising costs by increasing revenue.[69] Next we simulated the decline in demand resulting from increasing output prices.[70] It is assumed that the corporate sector's total revenues are in line with the overall macroeconomic scenario.

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[67] The simulation methodology is described in detail in NBS's May 2022 Financial Stability Report. The analyses covers all firms, not only indebted ones.

[68] In both scenarios, the risk of more pronounced energy cost growth to some extent mitigated by measures announced by the government to provide partial compensation for high energy prices in the fourth quarter of 2022 and the first quarter of 2023.

[69] The baseline scenario assumes that firms on average will able to offset cost increases by growing revenues, even in a situation of higher cost increases in line with the developments observed at the start of the period of accelerating prices (during the first two quarters of 2022). On the other hand, the downside scenario assumes that revenue growth is on average more moderate than cost growth (by around 10%). In other words, a proportion of firms will not manage to fully pass on higher input prices to output prices against a backdrop of weakening demand. This is based on developments observed in normal times (in 2019).

[70] At the same time, when revenues fall, we also reduce variable costs by an amount equivalent to 80% of the decline in revenues, based on empirical observations during the pandemic crisis.

Table 4 Assumptions for the simulation of firms at risk

	Baseline scenario				Downside scenario			
	2022	2023	2024	Total	2022	2023	2024	Total
Real GDP growth	2%	-1%	4%	1%	1%	-4%	3%	1%
Nominal GDP growth	10%	12%	7%	32%	8%	14%	8%	33%
Revenue growth	14%	19%	11%	51%	13%	19%	14%	53%
Increase in total costs	22%	15%	5%	45%	32%	18%	8%	71%
Unit costs								
... energy	180%	10%	-10%	177%	300%	50%	-10%	440%
... inputs and goods	20%	15%	6%	46%	30%	20%	10%	72%
... services	9%	10%	3%	23%	10%	15%	5%	33%
... employees	8%	12%	9%	32%	8%	12%	12%	35%

Source: NBS.
Notes: The change in costs denotes the change in unit costs in each category. Energy costs include, in addition to electricity costs, also gas, fuel and other energy costs. The assumed evolution of revenues and wages is based on Národná banka Slovenska's autumn 2022 medium-term forecast. The evolution of prices of services, inputs and goods is based on an expert estimate of wholesale prices and the evolution of prices of individual categories of imported goods. The difference between the assumptions here and those set out in Table 3 is due to the different evolution of prices for households and firms.

Although the most pronounced price shock is assumed for energy, its impact is mitigated by the fact that energy accounted on average for only a small share of total costs before the start of the uptrend in prices. The energy component of firms' total costs averaged 4% in 2020. Another fact taken into account is that a number of firms (especially larger ones) have energy prices fixed for a certain period as standard, and they will therefore not be affected by energy price growth until a later date.[71] A further mitigating fact may be the efforts by firms hardest hit by adverse cost trends to increase their operational efficiency through additional cost savings.[72]

On the other hand, although only a relatively small share of firms are energy intensive, these firms often account for a greater share of banks' corporate loans. As Chart 24 shows, firms whose energy costs in 2020 constituted more than 5% of their total costs account for around 18% to 25% of the total number of firms per firm size category, while their share of the respective corporate loan portfolio ranges between 19% and 40%. In this respect, the current situation is far different from that during the pandemic crisis. In that period, the firms adversely affected were mostly not among banks'

71 Based on partial market information, we assume that 85% of large firms and 30% of medium-sized firms have fixed energy prices. Hence, in the simulation, these firms have the same energy costs in the first two years as in 2021, before these costs surge in 2024 by the cumulative change in energy prices over the simulation horizon.

72 We assume that firms unable to sufficiently offset rising costs by increasing revenues could adopt cost optimisation measures enabling them to save 20% of the projected cost increase. For example, they could change the distribution of their electricity use during the day so as to avoid peak tariff times.

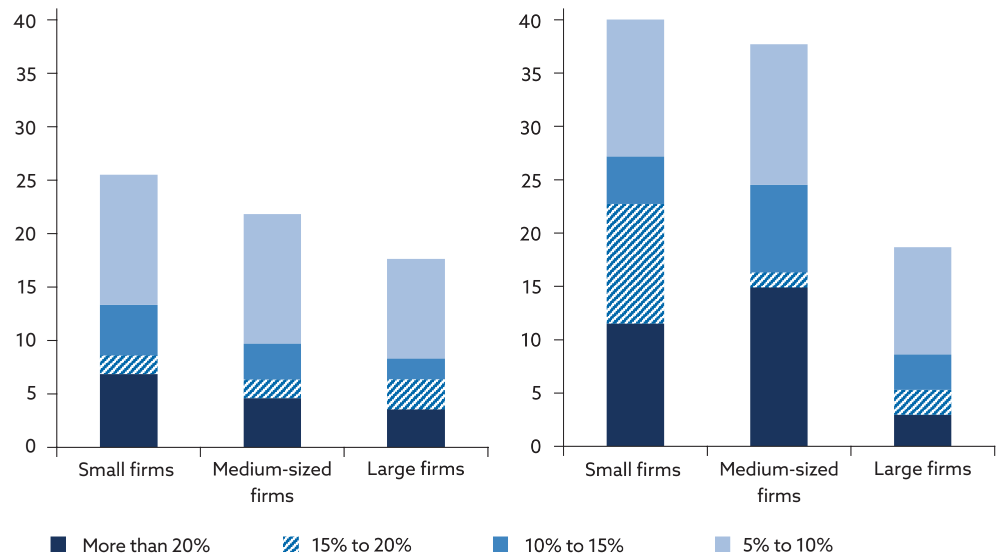
principal borrowers, whereas the current situation is weighing heavily on firms that are important players in terms of borrowing from banks. Moreover, the deterioration in the financial situation may be gradual and longer term, while the pandemic-induced decline in revenues in most sectors was sudden and confined to relatively short lockdown periods. There is therefore a risk that the banking sector will be more affected by the current situation than it was by the pandemic crisis. From a bank lending perspective, the sectoral loan portfolios with the largest share of firms whose energy costs exceed 15% of total costs are commercial real estate, transportation and storage, and electricity, gas and steam supply.

Chart 24

Although making up a relatively small share of total NFCs, energy-intensive firms are significant from a bank lending perspective

Left-hand panel: Firms whose energy costs in 2020 exceeded 5% of total costs as a share of the total number of NFCs (percentages)

Right-hand panel: Firms whose energy costs in 2020 exceeded 5% of total costs as a share of the outstanding amount of loans to NFCs (percentages)



Sources: NBS, and SO SR.
Notes: The share of energy costs in total costs is calculated from data for 2020, i.e. the period before energy prices started rising sharply. The data calculation uses a sample of around 5,000 firms.

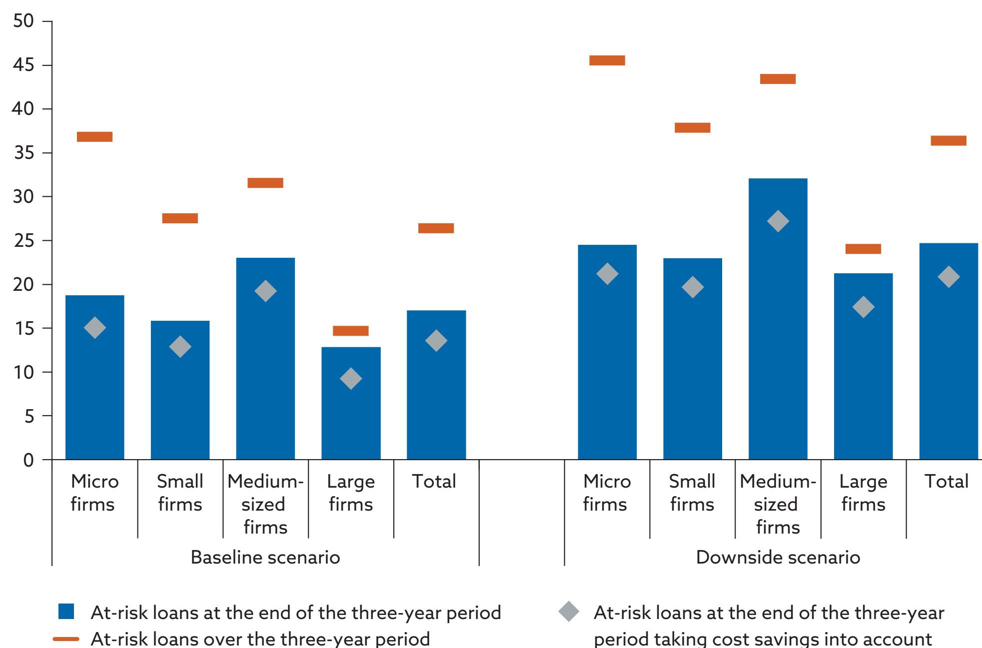
Although the above scenarios will only partially impact the average financial situation of NFCs, a relatively large number of firms will face the risk of financial distress. In the baseline scenario, the median profit margin is estimated to actually increase, and even in the downside scenario, although declining, it remains in positive territory. On this metric, however, there is considerable heterogeneity across firms, and a relatively large number of firms will be exposed to a significant deterioration in their financial situation. In the baseline simulation scenario, loans to firms that will be at risk of financial distress (i.e. at risk of being in negative equity) by the end of the three-year horizon are estimated to constitute 17% of the to-

tal NFC loans; in the downside scenario, 25%.[73] The risk exposure is highest for firms in the sectors of trade, manufacturing industry, and commercial real estate. These estimations must be viewed in the context of the situation today, when loans to firms in negative equity already account for 15% of total loans. In the simulations, newly defaulted loans are estimated to account for 8% to 11% of the portfolio.

Chart 25

Share of NFC loans at risk

At-risk loans as a share of the outstanding amount of NFC loans by firm size category (percentages)



Sources: NBS, SO SR, and Finstat.

The high share of at-risk loans indicates not only a downside risk to firms' financial situation and their debt servicing capacity, but above all a high degree of uncertainty related to future developments, the actual impact of which will depend on many factors. The shares of at-risk loans mentioned above refer to the situation at the end of 2024. If, however, we also look at the situation over the course this period, the share of loans that would be at risk at some point during it is estimated to be up to 26% under the baseline scenario and 36% under the downside scenario. For a proportion of these loans, the situation would improve later in the period. On the other hand, the estimations of at-risk loans may in practice be mitigated by additional steps that firms themselves take to improve their solvency or further increase their operational efficiency, as well as by any further compensation measures adopted by the Slovak government. If firms at risk managed to implement saving measures that reduced their cost increases by 20%, the share of loans at risk would be lower by between 3 pp and 4 pp.

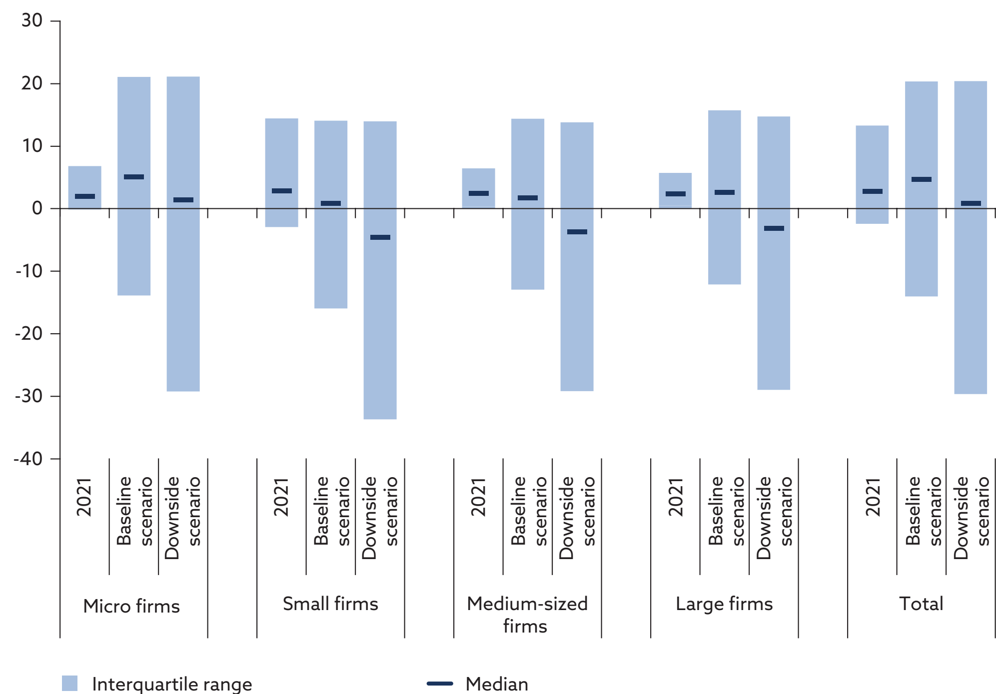
[73] The simulation is performed only on firms whose equity in 2021 was positive.

The simulation also shows that while a significant share of firms will be at risk of financial stress, the financial condition of other firms may actually improve significantly. In the inflationary environment, many firms will find it easier to raise output prices and may therefore improve their profitability. On the other hand, there may be other firms whose financial situation deteriorates quite significantly, so the cross-firm heterogeneity in profit margins will increase markedly.

Chart 26

Profit margin heterogeneity may increase sharply

The impact of the baseline and downside scenarios on firms' profit margins by firm size category (percentages)



Sources: NBS, SO SR, and Finstat.
Notes: Profit margin is defined as the ratio of profit to revenues. For the baseline and downside scenarios, the chart shows the average profit margin between 2022 and 2024.

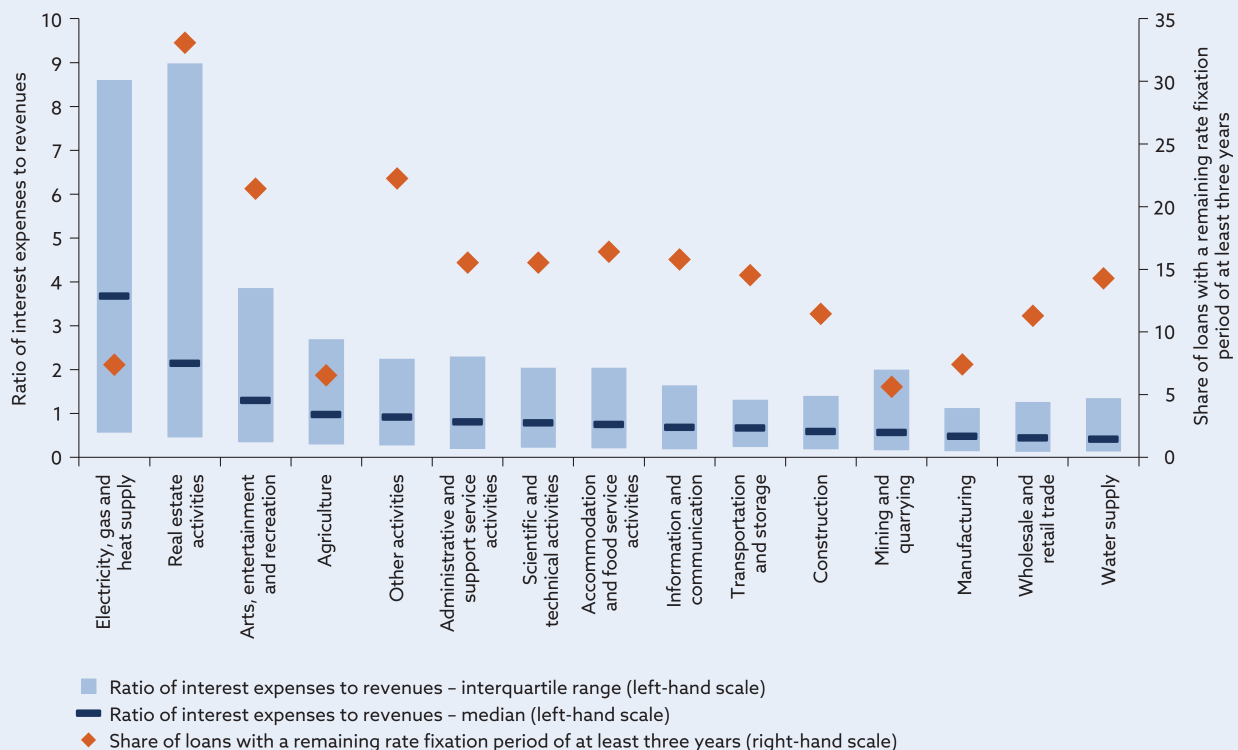
The above confirms that current developments may result not only in an increase in credit risk, but also in disruption of the business environment's overall structure. From a global perspective, there is also a decline in the competitiveness of certain sectors – such as the chemical industry, where European firms may face strong competition from Asia and the United States. Moreover, there is a risk that difficulties in the corporate sector may spill over to the labour market, which has so far been resilient to the adverse trends. This could have a negative impact on households and their debt servicing capacity. At the same time, acquisition activity by firms in a better financial situation may increase, which to some extent could mitigate the impact of struggling firms on the economy, labour market and banking sector.

Box 4
The impact of rising interest rates on firms' financial situation

Rising interest rates could potentially have a significant impact on corporate profitability.[74] Approximately 60% of active firms reported non-zero interest expenses in 2021. For these firms, the median ratio of debt servicing costs to total revenues was 1.7%. On this metric, however, there is heterogeneity depending on the size of firms[75] as well as on the economic sector in which they operate. Firms in the energy supply sector have the highest median ratio of interest expenses to revenues, followed by the commercial real estate sector. However, the negative impact in the CRE sector is mitigated to some extent by this sector having the largest share of loans with longer interest rate fixation periods. On the other hand, the energy supply sector has significantly higher profit margins.

Chart 27
The energy supply and commercial real estate sectors have the largest ratio of debt servicing costs to revenues

Ratio of interest expenses to revenues and share of loans with a remaining rate fixation period of at least three years (percentages; percentages)



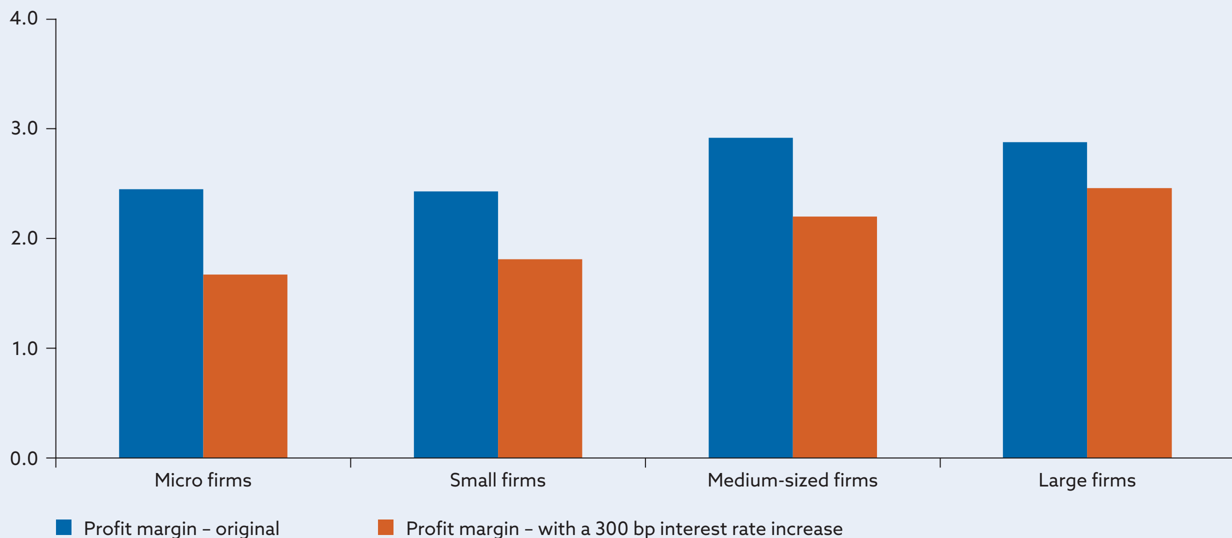
Sources: NBS, RBUZ, and BISNODE.

[74] Profit margin is used as an indicator of profitability.

[75] On average the ratio of debt servicing costs to revenues decreases as the size of the firm increases.

Our sensitivity analysis[76] showed that with an interest rate increase of 300 basis points, the corporate sector's median profit margin would fall by one-third (from 2.5% to 1.7 %).[77] In practice, however, this effect will not be immediate, since a proportion of fixed-rate loans will at a later date be refinanced at a higher interest rate. The adverse impact would be greatest for micro firms, which have the largest ratio of debt servicing costs to total revenues.

Chart 28
Rising rates may reduce profit margins by up to one-third
Median profit margin (percentages)



Sources: NBS, RBUZ, and SO SR.

In addition to weighing on profitability, an interest rate may also have an impact on unviable firms that have survived mainly because of low interest rates (so-called zombie firms). Even before the pandemic crisis, the share of such firms was estimated to be around 6%.[78] It is likely that rising interest rates will result in these firms having to reassess their business model and either increase productivity or close down.

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[76] The sensitivity analysis was conducted on the basis of firms' 2021 financial statements. We examined the impact of an increase in interest expenses on net profit before tax, assuming that other profit and loss account items were fixed. We examined only the isolated impact of the increase in debt servicing costs. The magnitude of the increase in interest expenses for each firm size category was determined on the basis of loan-level data from the Register of Bank Loans and Guarantees.

[77] The corporate sector's solvency is not significantly jeopardised by an interest rate increase, since only 1% of firms would be at risk of negative equity as a result of such an increase.

[78] Lalinský, T. and Strachotová, A., "Slovensko rastie, no zaostáva a nedobieha" (Slovakia is growing, but it is lagging behind and not catching up), *Biatec*, Vol. 26, No 6, Národná banka Slovensko, Bratislava, 2018.

5 Funding structure of the banking sector

Changes in the structure of the banking sector's balance sheet have accelerated further during 2022

The Slovak banking sector's capacity to fund lending growth through stable deposits has declined. Two interrelated trends have contributed to this. The first is rapid growth in total bank loans, which in 2022 recorded their highest ever year-on-year increases. The second trend is unprecedentedly slower annual growth in household deposits, which has almost come to a standstill, with the stock of these deposits even decreasing during the first three quarters of 2022. A key trend has been the partial substitution of household deposits with other deposits, in particular corporate deposits. Although growth in non-retail deposits in 2022 has partially offset the drop in retail deposits, stable sources of funding have increased much more slowly than long-term assets.

Chart 29

The structure of the banking sector's liabilities has changed

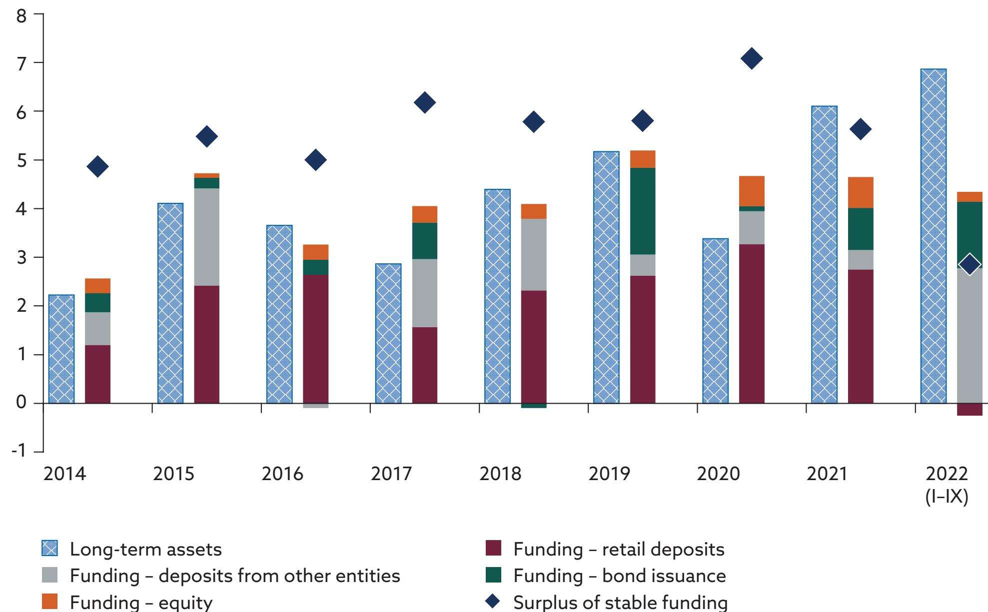
Annual rate of change in the three main items that have an impact on the structural position of banks (EUR billions)

Source: NBS.

Chart 30

The evolution of increases in long-term assets and sources of funding over the 2014–2022 period vis-à-vis the total surplus of stable funding

(EUR billions)



Source: NBS.

A combination of rapid credit growth and subdued deposit growth has pushed the banking sector's loan-to-deposit ratio up to 109%. Even so, the sector as a whole still has sufficient stable funding, since that includes also equity and bond issues. However, trends observed in recent months appear to be problematic and are gradually making this a more pressing issue. If credit growth maintains its current rate and household deposits remain flat, the situation will become difficult to sustain over the long term.

At the same time, the Slovak banking sector's relationship with market funding is changing. In the past, the sector was more a provider of liquidity, while today it has a somewhat neutral position. The sector's net position in the interbank market as a share of its total assets fell from 3.3% in September 2021 to slightly negative territory (-0.1%) in September of this year. For some banks, interbank borrowings – whether received from the central bank or their parent group – have even become a source of funding for credit growth. At the same time, the volume of bonds issued by domestic banks has increased, though their share of total assets was slightly lower in September 2022 (8.5%) than in the same month of last year (8.8%) owing to sharper growth in balance sheet size.[79]

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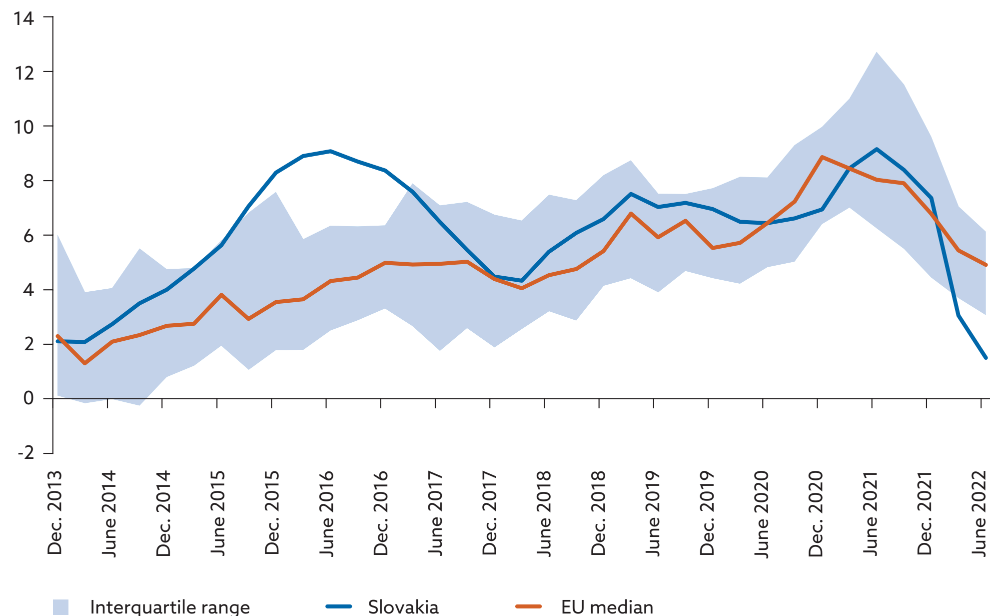
[79] For the purpose of calculating the net interbank market position as a share of total assets and the share of bonds in total assets, total assets are net of TLTRO operations.

The changes in banks' balance sheets and the weakening of their liquidity have a number of causes

The booming household and corporate credit market that triggered the upward pressure on stable funding has responded mostly to interest rate movements and price changes. In the case of the corporate portfolio, the surge in loan demand reflects mainly firms' increasing financing needs for working capital as a result of the rising price level. For households, however, demand has been stoked more by expectations of increases in interest rates as well as in housing prices. Related to this has been households' desire to protect their savings against inflation and to take out loans for property investment purposes.

Although year-on-year growth in retail deposits has moderated in most EU Member States, its slowdown in Slovakia has been more pronounced. Among the several factors behind this situation, two are at the fore. One is the gradual release of savings built up during the pandemic period – a trend seen in most Member States. The second, and potentially more significant, of these factors is the increase in the price level, which, supported in part by rising interest rates, is putting upward pressure on household expenditure. Increased spending on imported goods has also been reflected in a balance of payments current account deficit both in Slovakia and at the EU level.

Chart 31
Retail deposit growth has slowed across the EU
Annual growth in total deposits (percentages)



Sources: NBS, and Eurostat.

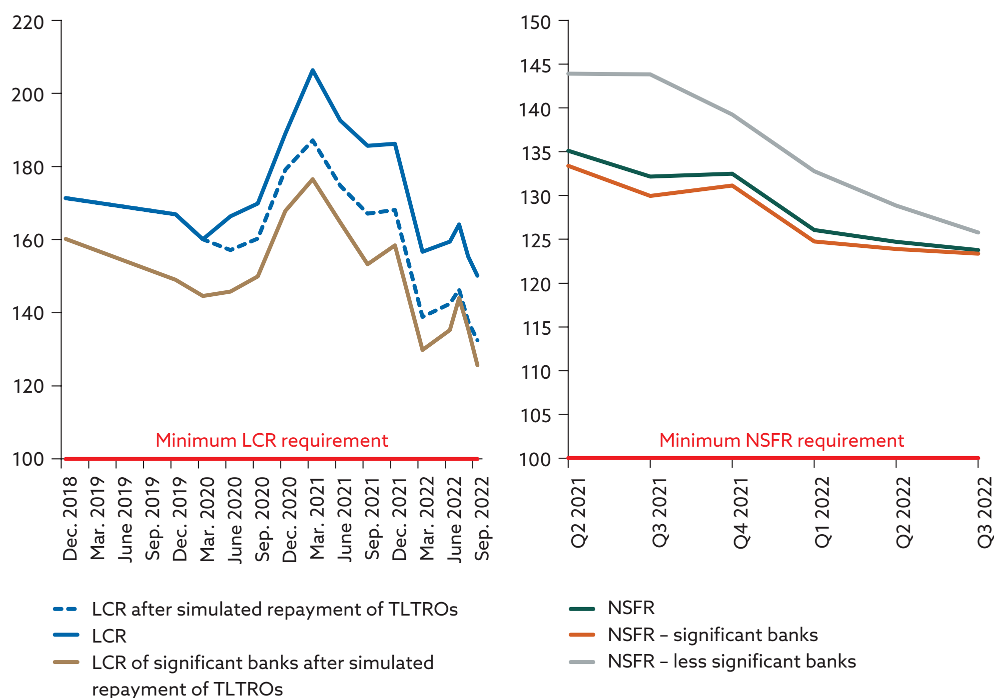
Such a change in balance sheet structure, albeit slow and gradual, poses a challenge for the banking sector in a number of areas

Change in the structure of banks' balance sheets are affecting developments in the sector's liquidity ratios. The funding of long-term assets, covered more by the use of liquid asset surpluses and short-term funds than by long-term and stable funds, is reducing the liquidity coverage ratio (LCR) and net stable funding ratio (NSFR). Although the banking sector has sufficient stable funding for the time being, the speed of decline in both ratios represents a challenge, given that banks' ability to reverse these trends depends on their currently limited capacity to obtain long-term and stable sources of funding without significantly affecting their profitability and business model.

Chart 32

LCR and NSFR ratios have decreased

Evolution of the LCR (left-hand panel) and the NSFR (right-hand panel) (percentages; percentages)



Source: NBS.
Notes: LCR – liquidity coverage ratio. NSFR – net stable funding ratio. TLTRO – targeted longer-term refinancing operations. The NSFR has been binding since June 2021. The simulated repayment of TLTROs consists of an adjustment to the liquid asset buffer where part of the repaid TLTROs was acquired by pledging illiquid assets (pursuant to the LCR methodology).

The potentially rising pressure on their balance sheet structure may adversely affect banks' profitability. The whole Slovak banking sector is now having to secure stable sources of funding. If lending growth maintains its current rapid pace, the need for stable funding may be reflected in an increase in the cost of such funding. In this scenario, banks may, depending on their business strategy and risk appetite, respond by raising retail de-

posit rates. At a time when, amid the current unfavourable market conditions, bond issuance is not the preferred way to secure stable funding, such developments could further impair the profitability of individual banks.

Another consequence of the current situation is a reduction in banks' potential to benefit from the interest rate uptrend in the short term. Nevertheless, the current structure of the banking sector's balance sheet is putting the sector as a whole into a position where its profitability will continue to increase in the short term as interest rates rise. This is not true, however, for all banks. The significant beneficiaries will be those banks which during the 2020–21 period took advantage of the pandemic-induced easing of conditions for the ECB's third series of targeted longer-term refinancing operations (TLTRO III). They were thus able to secure long-term funds on more favourable terms, depositing them as they saw fit with the central bank or within their parent group at shorter maturities (and with higher interest rate sensitivity). Until these banks make due or early repayment of the cheap TLTRO funding, they will profit by reinvesting the funds at currently rising returns. On the other hand, accelerating interest expenses await those banks which, because of the expansion of their lending, have already exhausted their liquid asset surpluses and which, amid a tight deposit market, have switched to short-term funding.

On current trends, the stability of funding sources will gradually decline. The potential increase in other funding, such as household deposits, is a matter of not only higher cost, but also higher volatility. In such a case, banks would be increasingly exposed to less stable funds. Nor does the issuance of covered bonds fundamentally address the situation. Although these are considered to be stable sources of funding and bring diversification benefits, their exposure to execution risk has become increasingly pronounced in recent months.

A separate issue is the possible adverse impact on the credit market. Banks' less comfortable situation in terms of the sufficiency of cheap and stable sources of funding will to some extent affect the supply of credit. The impact of their liquidity position on individual banks' risk appetite, credit pricing and credit standards will gradually increase. The banking sector as a whole currently has sufficient stable funds, but if the current trends of credit growth and stalled deposit growth continue, lending activity may be affected.

6 Banking sector profitability and resilience

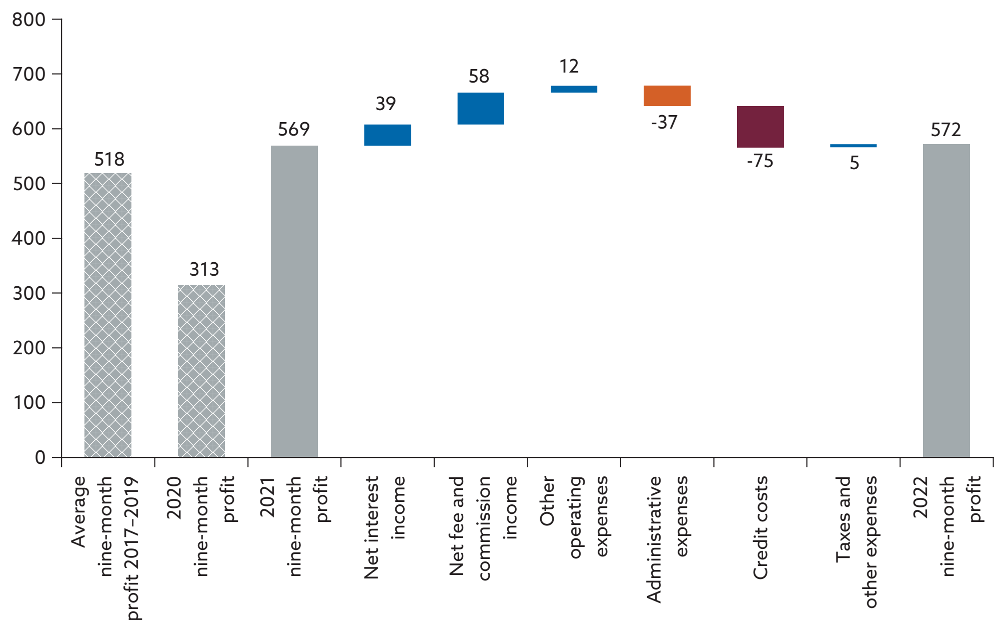
6.1 Banks' financial position remains stable

Growth in income from banking activities has been absorbed by rising costs

Chart 33

A pick-up in provisioning largely accounts for the banking sector's stagnating year-on-year profit

Net profit and the most significant components of its year-on-year change (EUR millions)



Source: NBS.

Banks in Slovakia made an aggregate net profit of €572 million for the first three quarters of 2022, representing a marginal year-on-year increase of 0.5%.[80] The significance of net fee and commission income in the sector's overall year-on-year result has been falling since the end of the first quarter of 2022. This is due partly to slower growth in this item, but mainly to stronger gains in net interest income. This is accelerating despite soaring interest expenses (up by 25% year-on-year and by almost 50% quar-

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[80] The above figures do not include the profit of one foreign bank branch that left the Slovak market as of June 2022. Including that result, the sector's aggregate profit for the first nine months of 2022 would be 0.3% higher year-on-year, at €570 million. At the same time, the situation differed between banks and foreign bank branches; banks reported a 5% year-on-year increase in profit (from €499 million to €523 million), while foreign bank branches saw their profit drop by 33% (from €70 million to €47 million).

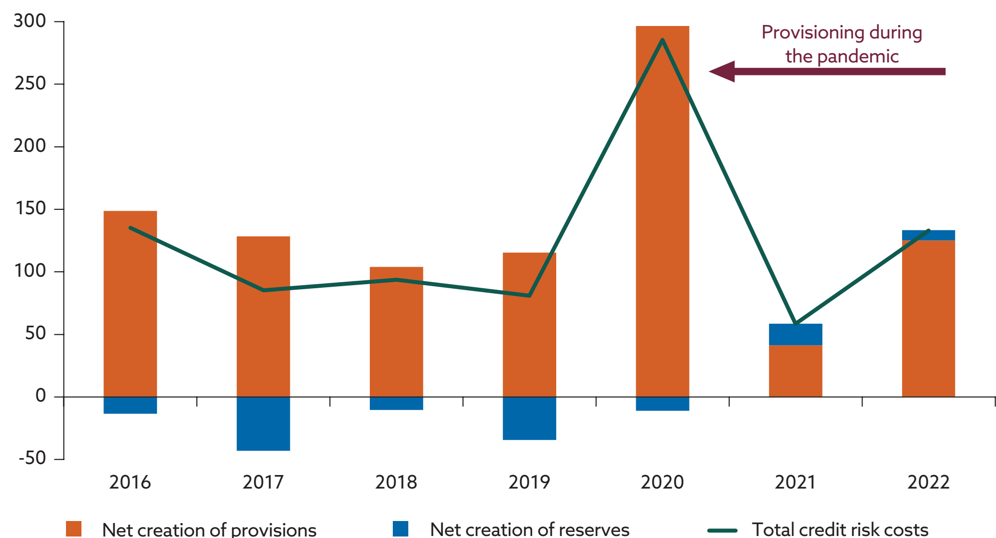
ter-on-quarter), which have reduced interest income growth by around a half. The robust annual growth in net profit from banking activities (up by 6% or €110 million) was absorbed on the expense side by the increase in net loan loss provisions and partially by the increase in administrative expenses. A closer look reveals a positive situation in the core retail and corporate segments, as their contribution to profitability, adjusted to exclude the net provisioning, has been rising steadily in recent quarters.

The climate of economic uncertainty has not so far been fully reflected in the net provisioning. Banks' credit cost allocation was more than twice as high in the first nine months of this year as in the same period of last year,[81] and it even surpassed the levels in the pre-pandemic 2017–19 period by more than half. However, the main factor behind the difference was not what happened in 2022, but the lower provisioning in 2021, as well as the different approach applied to the creation of reserves[82] in the pre-2021 period.

Chart 34

Provisioning has risen back to pre-pandemic levels

Evolution of cumulative net provisioning for the first nine months of the year (EUR millions)



Source: NBS.

A certain shift in banks' views on credit risk has, however, been observable since early in the third quarter of 2022. As in the period just after the pandemic outbreak, today, too, one of the first and often precautionary

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[81] Net provisioning amounted to €133 million, representing a year-on-year increase of 128%.

[82] A closer look at the composition of credit costs shows that net provisioning per se was similar in 2022 to its average for same period in the pre-pandemic years 2017–19, standing higher by 8% (€125 million vs €116 million). The bulk of the difference was accounted for by reserves (net creation of €8 million in the first nine months of 2022 vs an average net release of €30 million for the same period in the years 2017–19).

signs is inflows into Stage 2 loans under the IFRS 9 classification.[83] After declining in early 2021, the outstanding amount of Stage 2 loans remained steady for more than one year at €8.8 billion. From July of this year, however, their volume gradually increased, reaching €9.6 billion in September, with the Stage 2 provisioning coverage ratio also rising moderately, from 4.2% to 4.4%. This upturn was due largely to how individual banks approached their corporate loan portfolios for certain economic sectors. The amount of non-performing loans classified as Stage 3 loans has continued to decrease gradually, with the provisioning coverage ratio for these loans remaining stable.

A key factor for profitability will be how the net interest margin evolves and how banks cope with the current difficult economic situation. The structure of the banking sector's balance sheet is currently such that it should benefit from rising interest rates, given the immediately higher remuneration of excess liquidity held with the central bank and given the gradual positive impact of the provision of loans and resetting of loans' rate fixation periods at higher interest rates. The evolution of funding will, however, be an important factor, from the perspective of both its absolute increases and its cost. Banks are already under pressure from diminishing liquidity surpluses and increasing claims on stable sources of funding. The alternative of raising funding on financial markets is demanding in the current situation, with investors' required yields reflecting both the rising cost of money and higher credit spreads for local issuers,[84] as well as with the related lower absolute demand from foreign investors for issues from the CEE region. As a result, this scenario could have an adverse impact on net interest margins, which, in the context of the projected increase in credit costs, will put downward pressure on the banking sector's profitability and may, in the case of certain banks, significantly affect business model sustainability.

Its static year-on-year profit is making the banking sector in Slovakia less attractive than the banking sectors in other EU countries. In terms of the annualised return on equity of its banking sector, Slovakia has for a long time been at or slightly below the median level among EU countries. Leaving aside the profitability figures during the pandemic crisis, 2022 has been one of the least successful years in this respect, and the result in the second quarter showed only a slight improvement on the previous quarter.

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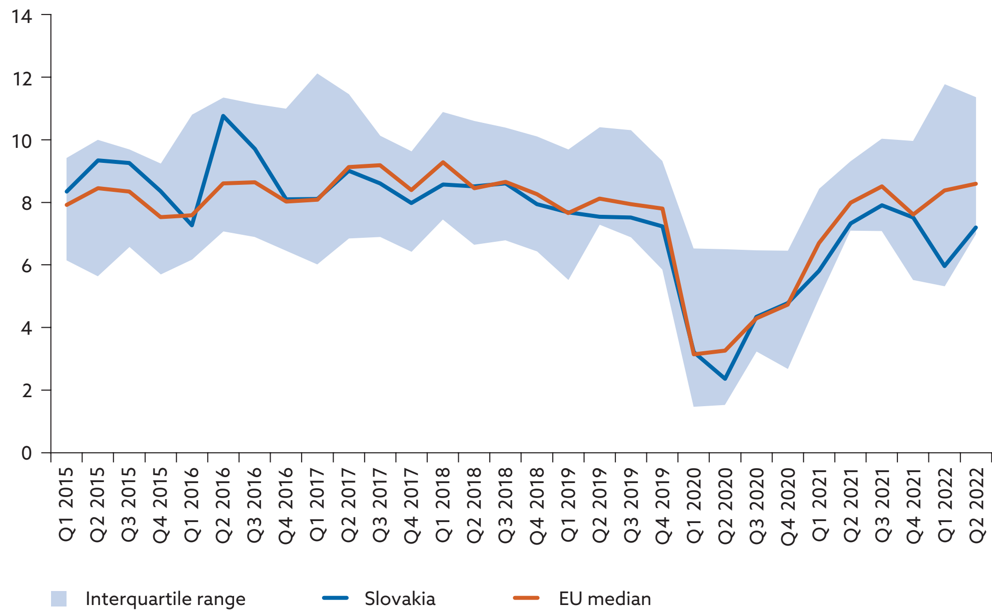
[83] Exposures that have shown a significant increase in credit risk since initial recognition.

[84] The first benchmark issue of green covered bonds in the Slovak banking market took place in October 2022 and they have an annual yield of 3.5%. By comparison, during the summer of 2021, local banks' covered bonds with a comparable maturity were trading at yields of -0.2% to -0.3%.

Chart 35
The Slovak banking sector's ROE is below the EU median
Evolution of the annualised return on equity in banking sectors of EU countries (percentages)



Source: NBS.
Note: Data are not available for Bulgaria, Germany and Hungary.

Although declining, the banking sector's solvency is stronger than before the pandemic

Despite the gradual decline in their capital adequacy ratios, banks in Slovakia remain sufficiently resilient. The banking sector's total capital ratio was 19.2% as at June 2022.[85] Neither the leverage ratio[86] nor the ongoing minimum requirement for own funds and eligible liabilities (MREL), in effect from the beginning of 2022, was a constraint on capital utilisation as at June 2022.

A major difference in this area can, however, be seen between significant banks and less significant banks. Since the end of 2021 the aggregate total capital ratio of significant banks has fallen by 1.2 pp, while that of less significant banks has increased by 0.3 pp. This divergence is due partly to less significant banks' greater accumulation of capital through more conservative dividend policies, but mainly to significant banks' stronger growth in risk-weighted exposures, especially loans.

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[85] In year-on-year terms, it fell by 1.6 pp.
[86] The leverage ratio stood at 7.2% as at end-June 2022, 0.5 pp below its end-2021 level and 0.8 pp lower than its level a year earlier.

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The banking sector's voluntary capital buffer amounts to approximately 3.5% of risk-weighted assets.[87] The sector's capital headroom has fallen by 1.8 pp primarily because of the funding of new exposures and an increase in the average riskiness of loan portfolios. The overall increase in capital over the past year has only partially curbed this negative trend. The current amount of banks' available capital is, however, only returning to pre-pandemic levels, after peaking in 2021 due in large part to recommendations on profit distribution restrictions. Banks, for their part, will face new challenges, given that, with the aim of increasing their resilience, even more of their available capital will be progressively tied up from 2023 by the scheduled raising of capital buffer requirements.[88] In the context of the impending implementation of the third Capital Requirements Regulation (CRR 3) and sixth Capital Requirements Directive (CRD 6), this may increase pressure on the efficiency of banks' capital management.

Banks' largest generator of new capital has traditionally been retained earnings from the previous year.[89] The increase in risk-weighted assets is related to the absolute increase in funded assets as well as to their riskiness itself. The increase in portfolio riskiness can be seen in the rising share of higher risk-weighted assets in banks' balance sheets (especially in that the share of corporate loans is increasing at the expense of retail loans), as well as in the growth in the average risk weight of individual portfolios.[90]

Banks continue to have sufficient capital buffers to absorb potential losses if necessary and to finance the economy. The sector's long-term stable and healthy profitability will, however, remain vital to banks' capitalisation, especially in the current environment of economic uncertainty.

In the European context, a decline in capital adequacy in the post-pandemic period is nothing exceptional. Developments in Slovakia mirror those in other countries that are seeing a return to pre-crisis levels. Compared, however, with other EU countries, Slovakia has for a long time been below the median in terms of the total capital ratio of its banking sector. At the same time, the proportion of banks' capital tied up by the combined capital requirement in order to strengthen the resilience of the local banking sec-

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[87] This indicator does not take into account the potential shortfall in capital (and eligible liabilities) for covering the fully phased-in MREL requirement.

[88] The most significant factor is a 50 bp increase in the countercyclical capital buffer rate for domestic exposures, up to 1.5% as from August 2023.

[89] As at September 2022, 55.5% or €369 million of the sector's earnings for 2021 had been retained. The earnings retention rate last year was 43.2% (amounting to €183 million).

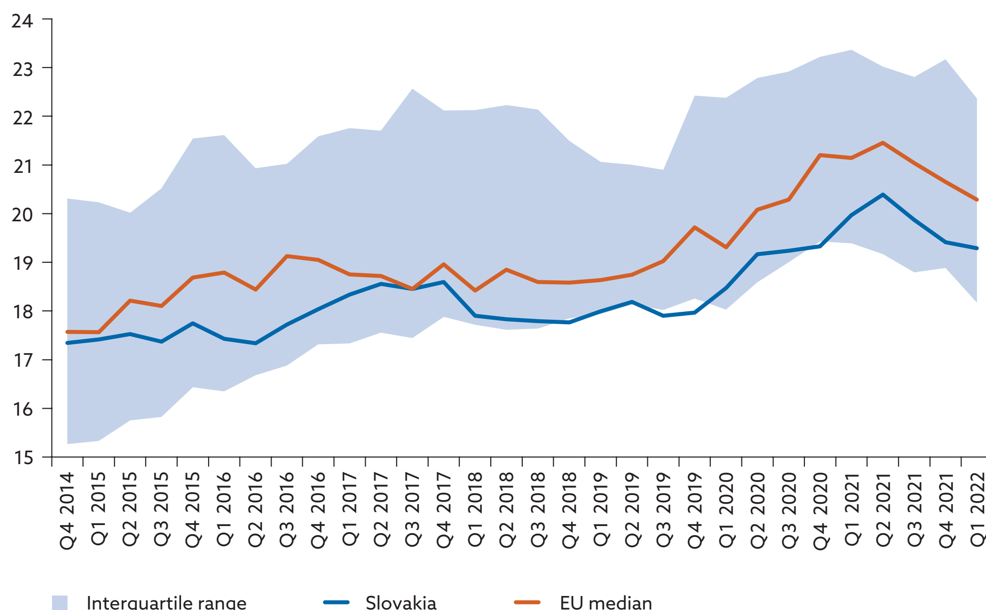
[90] For mortgage loans to which an internal ratings-based (IRB) approach is applied, the average risk weight increased gradually from 14.3% at the end of 2020 to 16.7% as at June 2022. In this area, however, there is considerable heterogeneity across banks.

tor is higher in Slovakia than in other countries.[91] As a result, compared with other countries, banks in Slovakia allocate a lower share of their capital to meeting Pillar 2 requirements, and residually as a management buffer.

Chart 36

Banks' solvency has declined in several EU countries

Evolution of the banking sector's total capital ratio in EU countries (percentages)



Source: ECB.

6.2 Increasing resilience supported by macroprudential policy

NBS decided in June to increase the countercyclical capital buffer rate

Financial sector developments over the past year necessitated an increase in the countercyclical capital buffer (CCyB) rate. Despite a large rise in uncertainty due to accelerating inflation and the war in Ukraine, strong expansionary trends have predominated in the domestic financial sector. These trends have been particularly evident in robust growth in both loans to households and loans to NFCs, as well as in significant growth in real estate prices. During the period under review, borrowing demand has received strong impetus from the favourable labour market situation, an uptrend in inflation (discouraging saving while stoking demand for consumption and borrowing), and concerns about the ongoing growth in

[91] As at March 2022 the combined capital requirement for banks in Slovakia was the third highest in the EU (data for the Baltic States, Finland, Germany, Hungary Romania and Bulgaria were not available). The only countries with a requirement higher than Slovakia (4.7%) were Sweden (5.1%) and Croatia (5.6%).

property prices and interest rates. Such developments tend to be associated with borrowers overestimating their financial performance and underestimating the risk related to debt servicing. In this context, Národná banka Slovenska decided in June 2022 to increase the CCyB rate by 50 basis points, to 1.5%, with effect from 1 August 2023, with the aim of strengthening the banking sector's resilience. Given the current climate of uncertainty, the coming quarters are not expected to see a further decision to raise the CCyB rate.

The Slovak banking sector's capital adequacy has for a long time been above regulatory capital requirements. Hence banks can absorb an increase in the CCyB rate without having to raise capital levels. At the same time, all banks are currently generating profit, which is a sound basis for maintaining their solvency in the event of more difficult times ahead. Should the sector make extraordinary losses due to the materialisation of risks, NBS stands ready to reduce the CCyB rate. The aim is to give the banking sector room to cope with potential extraordinary credit losses without affecting the financial cycle's evolution.

New rules for lending to households

Národná banka Slovensko has partially adjusted the regulatory limit on the debt-to-income (DTI) for loans extending into retirement, with the new rules taking effect from January 2023. For loans extending into retirement, i.e. maturing after the borrower reaches 65, the DTI ratio limit will be adjusted.[92] This move will have almost no impact on the market for the time being, since banks have up to now been reducing the DTI limits for borrowers as their age increases.

The aim of NBS is to prevent people being burdened with excessively large mortgage loans after their retirement. Recent years have seen an increase in the share of households that have repeatedly increased their debts and extended their debt maturities. Debt servicing has been prolonged to increasingly older ages. At present, four out of ten mortgage loans will still be being repaid after both borrowers reach retirement age. Retirement, however, brings a drop in income, and older age also increases the likelihood of health problems. Moreover, these borrowers have no scope for a maturity extension should they encounter financial difficulties.

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[92] The new rules apply only to borrowers aged over 40; young borrowers will not be affected. Moreover, it remains the case that up to 5% of new loans may be exempted from the DTI ratio limit.

Box 5
Systemic risk buffer

A recent legislative change has increased flexibility in the use of the systemic risk buffer (SyRB). This capital buffer may be applied to various defined portfolios or sectors as well as to particular subgroups of banks. The rules for using the SyRB are governed by the Banking Act, which also requires NBS to set the level of the SyRB rate at least once every two years.

As currently applied in EU countries, the SyRB is heavily focused on loans to households. Experience to date with the use of sectoral SyRBs shows an orientation on exposure to the retail sector as a whole or to its most significant subset – mortgage loans.[93] This approach is in line with the stance of several international institutions (ECB, ESRB and IMF), which in the recent period have been highlighting the increased level of risk in this area. They have recommended that Slovakia consider activating instruments focused on mortgage market–related risks, including the use of a sectoral SyRB.

In the context of mounting risks and the recommendations of international institutions, as well as statutory requirements, we need to analyse whether the sectoral capital requirement for retail exposures should be increased. The main question is whether the current regulatory capital requirement for retail exposures is commensurate with the credit risk arising from them. We have therefore developed a new methodology which compares, on the one hand, the regulatory capital allocation in a given category (in this case households) and, on the other hand, the stress losses on the loans in question in the given scenario[94] (Figure 5).

Stress losses are estimated on the basis of microdata on the financial situation of borrowers, which is simulated in worsened conditions for the purposes of this capital exercise. After estimating the amount of loans at risk, the default of individual borrowers is estimated by the extent to which their stressed DSTI ratio exceeds 100%. The overall loss on the portfolio is then the sum of the individual positions after taking into account the impact of collateral taken in the form of real estate, which is also subject to negative revaluation. The losses thus simulated over a three-year horizon are compared with the amount of capital tied up exclusively in these loans, whether as capital requirements directly linked to these exposures (Pillar 1) or as a proportionate part of the combined capital buffer and requirements under Pillar 2.

[93] SyRBs for retail exposures secured by residential property are applied in Slovenia, Germany, Lithuania and Belgium.
[94] For a more detailed description of the scenario, see Section 4.2.

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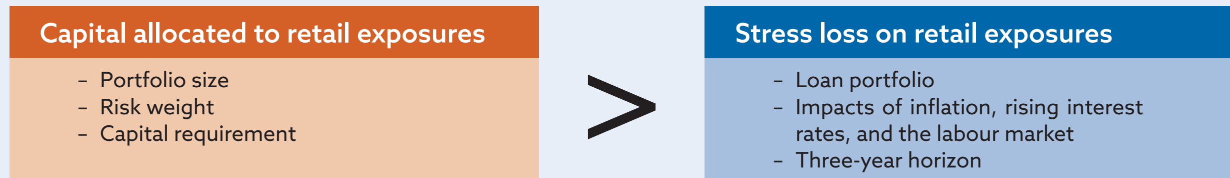
Figure 5

The regulatory capital allocation is greater than the stress scenario loss



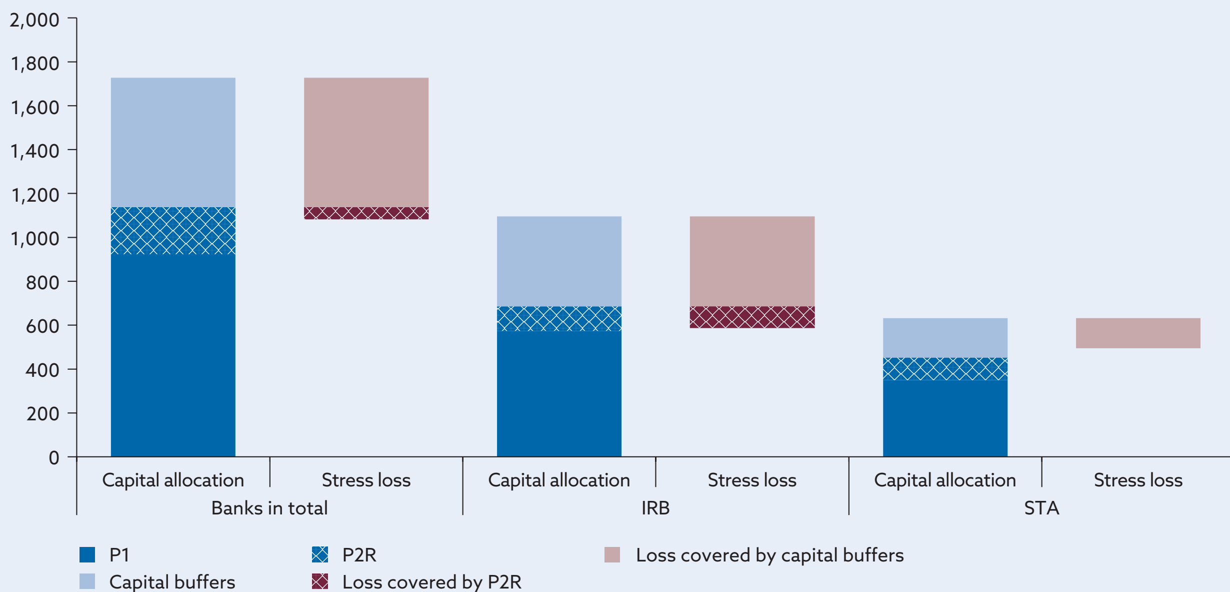
Source: NBS.

A comparison of capital allocation and the stress loss shows that the banking sector's allocation of capital to retail exposures is currently sufficient. Across the banking sector as a whole, the total stress loss only slightly exceeded the capital allocated through capital buffers. There is also a noticeable difference between groups of banks. The use of allocated capital is higher among banks that apply the internal rating-based approach than among those that apply the standardised approach. For covering the simulated losses, the banking sector also has a capital buffer in the form of the Pillar 2 guidance, which was not used by any bank in the simulation exercise. This buffer is at the level of 1.1%.

Chart 37

Capital allocation vis-à-vis stress losses

(EUR millions)



Source: NBS.

Note: P1 – Pillar 1 requirements; P2R – Pillar 2 requirements; 'capital buffers' denotes requirements for (i) the capital conservation buffer (CCoB), (ii) the countercyclical capital buffer (CCyB), and (iii) the other systemically important institution (O-SII) buffer; 'IRB' denotes banks using the internal ratings-based approach; 'STA' denotes banks using the standardised approach.

7 Other sectors

7.1 The insurance sector's financial position, trends[95]

Ambiguous trends in the insurance sector's profitability

The profitability of insurers in Slovakia in the first half of 2022 is somewhat difficult to assess. Although the sector's aggregate after-tax profit for the period increased by 14.0% year-on-year, to €105 million, it did so largely because of extraordinary effects. These included mainly higher dividends from subsidiaries, sales of buildings, and the ongoing release of provisions for travel agency insurance – a process that begin in the first half of 2021 after an upsurge in these provisions during the pandemic.[96] Absent these effects, which amounted to around €18 million, the sector's profit would have dropped by 3.6% year-on-year.

Most insurers recorded an annual drop in profit for the first six months. In some cases, insurers recorded profit growth driven by the above-mentioned one-off effects, which were not directly related to insurance business. Similar impacts were observed in 2021 and previous years.

In terms of the profitability indicators return on assets (ROA) and return on equity (ROE), the sector's performance has been sending ambiguous signals. Both ratios climbed sharply in the first half of 2022, but they did so largely because of a decline in assets and equity, not because profit increased. Over the first six month of this year, the aggregate ROA of domestic insurers increased from 2.54% to 3.50%, and the aggregate ROE rose from 13.99% to 22.35%.[97] Their increase was mainly due to rising interest rates in financial markets that reduced the value of bonds in the held-for-sale portfolio. These valuation differences are not recorded in profit or loss, but directly reduce the value of equity. For the first half of 2022 they amounted to -€361 million and had a significant impact on total assets (which fell by 9.1% or €576 million), as well as on equity (which fell by 37.5% or €416 million[98]). Both ROA and ROE profitability apparently increased substantially when in fact the change in profit was on a par with previous years.

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95 The profitability analysis covers nine insurers accounting for around two-thirds of the premiums written by all domestic insurers and branches of insurers from other Member States.

96 The travel agency insurance provisions released in the first half of 2021 amounted to more than €2 million. Various smaller one-off effects occur in all insurers, and they should be treated as part of the sector's business.

97 In the EU, by comparison, the average ROA in 2021 was 0.56% and the estimated average ROE was 5.5%, according to EIOPA's June 2022 Financial Stability Report.

98 The decrease in equity was partly due to the distribution of dividends.

Results across profit components were mostly similar to those in the first half of 2021. In non-life insurance, the technical result[99] remained around the average level for recent years, while in life business, it was notably higher than the average.[100] The financial result (excluding unit-linked insurance) was similar to recent years' results, but it would have been appreciably lower in the absence of one-off effects.[101] It should be recalled that the financial result does not include the revaluation of investment instruments held for sale. A moderate increase was also recorded in the residual category of other income and expenses.[102]

Growth in the average premium in non-life insurance and accepted reinsurance

Non-life premiums written increased by 5.9% in the first half of 2021,[103] faster than in the previous two years. The rise was due to the ongoing uptrend in the average premium; the number of active insurance policies has been declining moderately for some time.[104]

Premium growth may also reflect the impact of the fading of the post-pandemic 'return to normal'. This is particular so in motor insurance, which during the crisis recorded not only a decline in the number claims, but also a slowdown in premium growth. The total amount of claims started rising

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99 The technical result in non-life insurance for the first half of 2022 was €48 million. The average result for the years 2020 and 2021 was €91 million, or €97 million after adjustment for the creation and release of provisions for travel agency insurance. Hence the sixth-month average was between €45 million and €48 million. Another factor contributing to the technical result in the first half of 2022 was the release of travel agency insurance provisions amounting to €2 million.

100 The technical result in life insurance for the first half of 2022 was €14 million. Life technical results have never previously exceeded €20 million for the full year, or €10 million for the first six months. This is partly because of movements in the technical provision created on basis of a provision adequacy test. In the low interest rate environment, the amount of this provision increased; amid currently rising rates, the provision is being released. Information on its exact amount is not available.

101 The financial result amounted to €63 million, of which €10 million was accounted for by the increase in dividends from subsidiaries. By comparison, the result for the first half of 2021 was €61 million.

102 Whereas in the first half of 2021 their impact on gross profit was a negative €1 million, in the first half of this year it was a positive €5 million. Adjusted to exclude the impact of sales of buildings, the contribution of other income and expenses would fall close to zero.

103 The most significant acceleration of year-on-year growth in premiums written was recorded in comprehensive motor insurance (up from 3.6% in December 2021 to 7.0% in June 2022). Motor third party liability insurance also saw an uptick in annual premium growth (from 2.8% in December 2021 to 3.1% in June 2022). In property insurance, the growth rate is more volatile and was slightly positive, at 0.9%, in June 2022.

104 According to the Slovak Insurance Association data for all of its member, the number of non-life policies has declined, year-on-year, by between 0.8% to 0.9% on average since 2019. Although the number was increasing prior to 2019, it was doing so more slowly than the volume of premiums written.

again in the first half of 2022, and premium growth also accelerated. During the period under review, the combined ratio in all non-life business lines remained below the 100% mark, which in motor insurance it had long exceeded before the pandemic.

Renewed growth in life insurance

Premiums written in life insurance increased by 2.3% in the first half of 2022. Premiums rose year-on-year in the first and second quarters. The recent past has seen a somewhat negative trend in year-on-year changes. Not since the last quarter of 2018 and first of 2019 have there been two successive quarters of positive growth.

In traditional life insurance, premiums written maintained their long-term downtrend,[105] while in unit-linked life insurance they started to accelerate again after three to four years of slowing growth.[106] In health insurance, the relatively strong growth of recent years continued.[107] Benefits paid across all life insurance classes increased by 8% year-on-year.

The sector's solvency increased slightly despite market fluctuations

The insurance sectors Solvency Capital Requirement (SCR) coverage ratio for the first half of 2022 increased from 208% to 213%. Although that level indicates stability, there were in fact significant movements. Compared with December 2021, aggregate regulatory capital fell by 6% and the capital requirement decreased by 9%.

In terms of their evolution, equity (book capital) and regulatory capital show notable differences. Although both are significant, regulatory capital is more important for the sector's stability.

Equity has the same function in domestic insurers as in other joint stock companies. No specific requirements are imposed on insurers if their equity declines.

The decline in equity in the period under review was related to two important circumstances. The first is actual valuation differences, whose gradual increase during the period of low interest rates led to an increase in equity. In 2022, by contrast, the uptrend in interest rates resulted in downward revaluation and in a significant drop in equity. Approximately two-thirds

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[105] These premiums fell by 9.0% year-on-year, although partly owing to reclassifications from traditional life insurance to health insurance. Without that, the decline would have been 2.5%, more moderate compared with the previous period.

[106] Premium growth in unit-linked insurance accelerated to 9.6%.

[107] Health insurance premium growth adjusted for a reclassification from traditional life insurance increased by 17.8%.

of the first-half decline in equity was accounted for by these accumulated valuation differences.

The second circumstance is the new IFRS 17 accounting standard, which domestic insurers will start applying from January 2023. Under the current accounting standard (IFRS 4), insurers' assets are remeasured to reflect current interest rates to a far greater extent than their liabilities are.[108] IFRS 17 will strengthen the revaluation of liabilities – technical provisions. So, in today's situation, the impact on equity would be much more moderate under IFRS 17, and therefore the accounting view of insurers' balance sheet will be closer to the regulatory view.

Regulatory capital indicates the insurance sector's resilience to unforeseeable events and must be at least at the same level as the Solvency Capital Requirement (SCR). It represents the difference between the fair (discounted) value of the sector's assets and liabilities. The assets comprise largely the sector's investments, while the liabilities consist mainly of technical provisions. And although both sides of the balance sheet respond to interest rate movements, they differ in several ways in terms of their measurement.

The first difference is in the duration gap. Technical provisions have on average a longer duration, so they are more sensitive to interest rate movements. Therefore, as the risk-free interest rate increases, the value of technical provisions falls more sharply than the value of investments, with a positive impact on the amount of regulatory capital.

The second difference is in sensitivity to risk premia. These only affect the valuation of investments; they do not figure in the measurement of technical provisions. An increase in risk premia therefore reduced the value of assets and has a negative impact on regulatory capital. Moreover, domestic insurance focus their investments on government and corporate bonds,[109] the risk premia on which have been rising in recent months.

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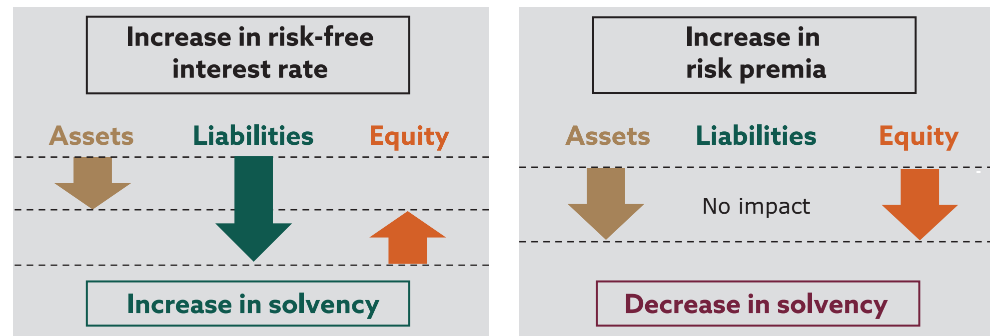
[108] Under IFRS 4, in response to interest rates movements, financial assets classified as available-for-sale are remeasured through equity, while changes in technical provisions are reported directly through profit or loss.

[109] Investments for the account of insurers comprise mainly government bonds (42%) and corporate bonds (37%). Accounting for smaller shares are investments in equities and investment funds (10%) and in other financial instruments.

Figure 6
Impact of interest rate movements on insurance sector solvency



Source: NBS.

As a share of the insurance sector's eligible capital, *expected profits included in future premiums (EPIFP)* continued to increase in the first half of 2022, reaching 59%. This is volatile form of capital that can cover only certain risks. If it were reclassified as Tier 3 capital, which by its nature it should be, the sector's SCR coverage ratio would fall to a just adequate 102%, and three insurers would fail to meet the minimum capital adequacy threshold.

Inflation can have both negative and positive impacts on insurers

Rising inflation affects the insurance sector through a number of specific channels. It increases average claims in non-life insurance, changes premium written trends in life insurance, and affects the sector's solvency. Last but not least, it raises operating expenses and wages throughout the economy, with insurers no exception.

In the first channel, non-life insurance, average claims paid are key. Rising prices of materials and services will have a gradual upward impact on the average amount of claims and therefore ultimately on insurance prices for customers. The data available as at 30 June 2022[110] were not yet indicating any substantial increase in the average amount of claims paid. This, however, will be an area of focus for the insurance sector in the near term. What is important is whether insurers manage to time the increase in claims costs with the premium growth and how policyholders respond to price increases.

In the second channel, the life segment, an elevated level of surrender risk can be assumed. This may occur because of both the deterioration of

[110] Data on the volume of claims come from the reporting of all domestic insurers to NBS and include only direct business (i.e. excluding accepted reinsurance). Data on the number of claims come from the Slovak Insurance Association's statistics for all of its members.

households' financial situation and the low interest rates guaranteed under insurance polices concluded in the low interest rate environment.[111]

The third channel is the insurance sector's capital position. In connection with rising inflation, the interest rate environment is also changing. And, as noted in the previous part, this is markedly changing the value of assets, liabilities, and, as a consequence, the sector's solvency.

The expected increase in operating expenses and wage is also affecting the level of provisions today. Future costs are reflected in the amount of technical provisions, hence expectations of their increase put upward pressure on the amount of liabilities. The available data for the first half of 2022 does not yet indicate that such an increase has already occurred in the sector.

7.2 In the pension fund and investment fund sectors, negative performance has reduced asset values

The net asset values of second and third pillar pension funds[112] has fallen since the beginning of 2022

The amount of assets under management in the second and third pillars of the Slovak pension system has this year evolved far differently from its usual relatively stable growth trend. In the second pillar, the aggregate net asset value (NAV) of pension funds fell by almost half a billion euro over the first nine months of 2022, and in the third pillar, by a quarter of a billion euro, i.e. by 4% and 8% respectively from the levels at which they started the year. These negative changes were due to the unfavourable financial market situation, which naturally weighed on the value of securities held in second and third pillar fund portfolios. The average nominal loss on funds' assets for the first nine months of 2022 was 10% in the second pillar and 14% in the third pillar. After adjusting inflation, the real purchasing power of pension savings has fallen even more sharply. The evolution of changes in the volume of pension fund savings showed greater volatility than ever before, and when the negative fluctuation peaked in around mid-June, the changes were appreciably higher than the above figures. The negative valuation effect on the overall NAV was

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[111] Surrender data for 2022 were not available at the time of writing.

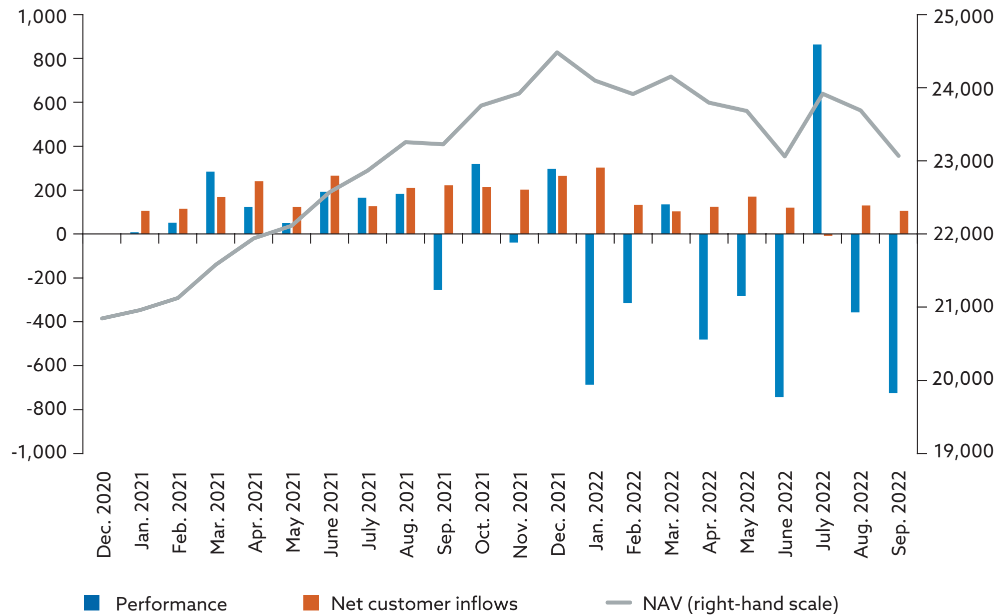
[112] The second pillar of the Slovak pension system – the old-age pension scheme – is a defined contribution scheme operated by pension fund management companies (PFMCs); enrolment is voluntary but savers may not leave the scheme after enrolment. The third pillar – the supplementary pension scheme – is a voluntary defined contribution scheme operated by supplementary pension management companies (SPMCs).

curbed by regular customer inflows, which, in both pillars, have up to now been exceeding disbursements.

Chart 38

Despite positive customer inflows, pension funds and investment funds performed negatively because of NAV decreases

NAV evolution in the second and third pension pillars and in the investment fund sector decomposed into performance and net customer inflows (EUR millions; EUR millions)



Source: NBS.
Note: NAV – net asset value.

Insofar as there have been more pronounced market-driven episodes of temporary losses in the pension fund sector, they have been largely concentrated in funds with a material equity component. The situation is different this time, given the onset of monetary policy tightening that has significantly affected the fair value of debt instruments. This has had a particularly notable impact on bond funds in the second pension pillar – still the largest type of fund in that sector – which saw an unprecedentedly large decline in pension-point value (-8 %) during the period from 31 December 2021 to 30 September 2022. At the same time, the gradual trend of savers switching from bond pension funds to other funds continued, with most savers switching to index funds, which, despite performing poorly, were the only funds whose NAV increased during the period under the review. It is worth noting in this context that the bond fund assets as a share of total pension fund assets fell below 60% for the first time in almost a decade.

Financial market turbulence has been behind some relatively significant movements in the asset structure of second and third pillar pension funds. A change common across type of funds is an increase in the share of

bank deposits in the asset portfolio. This is partly just a result of the price decline in other investment components, but there is also a clear deliberate shift that is probably related to the elevated volatility and uncertainty in financial markets. The share of bank deposits in the aggregate NAV of bond pension funds quadrupled over the first three quarters of this year, to 12%. This was initially due to a slower pace of new bond purchases for these portfolios, but from June the reduction was clearly a consequence of sell-offs of some existing holdings, a trend that showed signs of gathering pace from September. A tendency to strengthen the deposit component of their assets was also seen in second and third pillar pension funds with a mixed investment strategy and in third pillar equity-oriented pension funds. In these cases, however, the deposit component increased largely at the expense of equity position. In other types of second and third pillar pension funds, including index funds, the share of bank deposits in the total NAV increased more moderately.

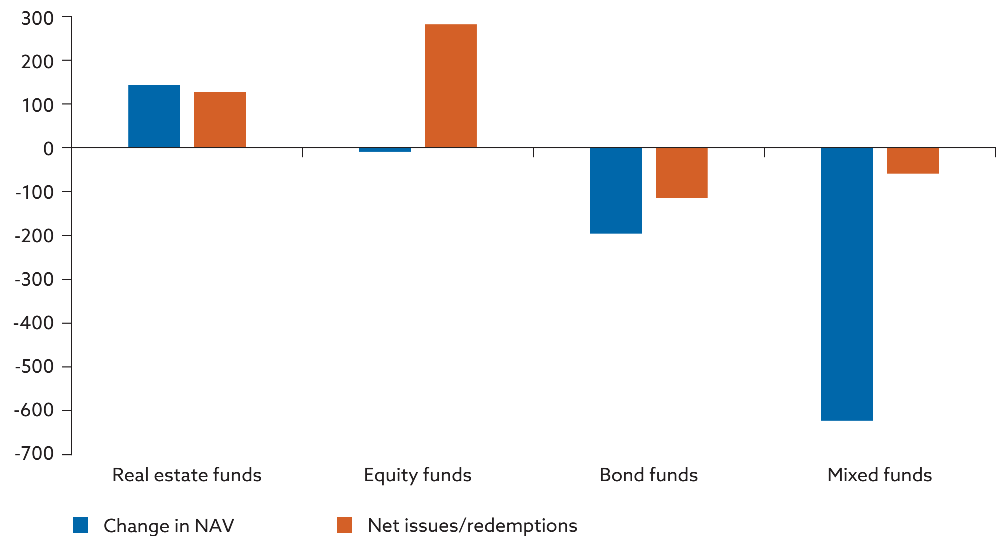
In bond pension funds, the nature of the bond portfolio has changed quite notably in terms of the economic sector of the issuers of their bond holdings. Second pillar management companies have decided to sell off or not to roll over a significant proportion of their bond holdings issued by private non-financial corporations and, to a lesser extent, financial corporations, and to replace them with general government issues, especially domestic ones. The share of government bonds in the portfolio increased from 45% to 54% in the period under review, reaching a level not seen since 2013. This shift contrasts with the evolution of portfolios of other types of second and third pillar funds, in which the share of government bonds has slightly given way to instruments issued by financial institutions. A trend observed in bond portfolios since early summer has been a moderate decrease in their average remaining maturity, which is probably a response to the new uptrend in interest rates.

Net issues of shares/units issued by domestic investment funds have slowed year-on-year, yet have remained in positive territory despite funds' negative average performance

After setting a number of new positive records last year, the Slovak investment sector has experienced a less favourable period this year. The previous trend of rapid growth in assets under management reversed during the first nine months of 2022, when the overall NAV of domestic investment funds fell by €682 million or 7%. At the aggregate result for all investment funds was solely due to funds' negative nominal performance. In the context of these accounting losses and the increase in geopolitical and economic uncertainty, the stability of the investor base, which refrained from mass redemptions, should be highlighted. Indeed, the sector recorded net

issues of €237 million for the nine-month period, albeit the inflow was concentrated in the first two months when sentiment was still less pessimistic. The rest of the period was virtually neutral in terms of net issues/redemptions, with some months of moderate net redemptions (March and July) being offset by others of gradual net issues.

Chart 39
Net issues of investment fund shares/units during the first nine months of 2022 were most pronounced among equity funds
(EUR millions)



Source: NBS.

It may seem surprising at first, given their highly negative performance this year, but equity investment funds attracted the bulk of customer inflows into the domestic investment fund sector during the first nine months of 2022. Sales of their shares/units maintained a steady pace throughout the period, even at times when the rest of the sector was experiencing outflows. One interpretation of this result is that, despite current market downturns, a proportion of households have responded to rising inflation by betting that equities will preserve the purchasing power of their savings over the long term. The only other type of fund that recorded a net inflow during the period under review was real estate funds. These followed the sectoral trend, as strong net issues in January and February were followed by a neutral result over the rest of the period. Mixed investment funds have for some time been the most popular funds in Slovakia, but although still on an uptrend going into 2022, they started to experience outflows and ultimately recorded net redemptions for the nine months, albeit only marginal relative to the size of the category. In combination, however, with the negative value effects in their portfolio, it was mixed funds that largely accounted for the decline in the aggregate NAV of the domes-

tic investment fund sector. As has become usual, bond funds recorded the heaviest net outflows.

Like pension funds, most investment funds experienced an increase in the share of bank deposits as the main change in the structure of their asset portfolio during the first nine months of 2022. This followed several years during which this liquid, but at the time low-yielding, component had a falling share in fund portfolios. The only funds in which the share of deposits declined this year were real estate funds, where it dropped to a long-term low of around 10%. The aggregate bond portfolio of domestic investment funds saw a reduction in their already relatively low average residual maturity. Given, however, the historically high volatility of this indicator, it would be premature to interpret this as an effort to reduce the sensitivity of bond investments to the ongoing rise in interest rates. As for the structure of the bond portfolio, the share of issues by non-financial corporation have increased moderately at the expense of government bonds.

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Abbreviations

bp	basis point(s)
CCoB	capital conservation buffer
CCP	central counterparty
CCyB	countercyclical capital buffer
CEE	central and eastern Europe
CMN	Property Price Map / Cenová mapa nehnuteľností
CRD	Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC
CRE	commercial real estate
CRR	Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012
DSTI	debt service-to-income (ratio)
DTI	debt-to-income (ratio)
ECB	European Central Bank
EPIFP	expected profits included in future premiums
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EURIBOR	euro interbank offered rate
GDP	gross domestic product
HICP	Harmonised Index of Consumer Prices
IFRS	International Financial Reporting Standard
IMF	International Monetary Fund
IRB	internal ratings-based approach
LCR	liquidity coverage ratio
LGD	loss given default
lhs	left-hand scale
LTV	loan-to-value (ratio)
MREL	minimum requirement for own funds and eligible liabilities
NAV	net asset value
NBS	Národná banka Slovenska
NFC	non-financial corporation
NPL	non-performing loan
NSFR	net stable funding ratio

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OECD	Organisation for Economic Co-operation and Development
O-SII	other systemically important institution
OTC	over-the-counter
P1	Pillar 1 requirements
P2R	Pillar 2 requirements
PMI	Purchasing Managers' Index
pp	percentage point(s)
RBUZ	Register of Bank Loans and Guarantees / Register bankových úverov a záruk
rhs	right-hand scale
ROA	return on assets
ROE	return on equity
RRE	residential real estate
SCR	Solvency Capital Requirement
SO SR	Statistical Office of the Slovak Republic
STA	standardised approach
SyRB	systemic risk buffer
TLTRO	targeted longer-term refinancing operation
TTF	Title Transfer Facility (trading venue)
ÚPSVaR SR	Office of Labour, Social Affairs and Family of the Slovak Republic / Úrad práce, sociálnych vecí a rodiny Slovenskej republiky