Financial Stability Report

November 2019

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

www.nbs.sk

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Published by

© Národná banka Slovenska

Address

Národná banka Slovenska
Imricha Karvaša 1
813 25 Bratislava
info@nbs.sk

Electronic version

https://www.nbs.sk/en/publications-issued-by-the-nbs/financial-stability-report

Reproduction for educational and non-commercial purposes is permitted provided that the source is acknowledged.

ISSN 1338-6352 (ONLINE)

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Contents

Foreword 5

Overview 6

1 Macroeconomic environment and financial markets 12
1.1 Heightened risks from the external environment 12
1.2 The Slovak economy is decelerating 20

2 Financial sector trends and risks 26
2.1 The main risk to the household sector is excessive debt growth 26
2.2 The economic slowdown has been reflected in corporate credit market trends 45
2.3 Banks' traditional business model will remain under pressure 48
2.4 The incomplete credit cycle is contributing to a decrease in risk weights at certain banks 52
2.5 Systemic liquidity risk in the banking sector has decreased but remains elevated 55
2.6 The insurance sector faces long-term risks 57
2.7 Asset credit quality in segments managing customer assets has been falling in recent years 59
2.8 Heightened sensitivity of certain investment funds to a potential wave of redemptions 61

3 Financial sector resilience 64
3.1 Solvency and financial position of the financial sector 64
3.1.1 Financial position of financial market segments 64
3.1.2 Profitability of other financial market segments 69
3.1.3 Solvency and leverage 69
3.2 NBS macroprudential policy 71

List of boxes
Box 1 Methodology for assessing the risk to new loans of a deterioration in economic conditions 38
Box 2 Financial stability and banks' customers could be adversely affected if the bank levy is increased and, more so, if it is retained for the long term 51
Box 3 The impact on domestic banks of the new two-tier (tiering) system for remunerating excess liquidity holdings 67

Abbreviations 74

List of charts 75

List of tables 77

NÁRODNÁ
BANKA
SLOVENSKA
EUROSYSTÉM

Foreword

The financial sector is deemed to be stable when it is able to smoothly fulfil its core functions, even amid substantial adverse shocks in the external or domestic economic and financial environment. At the same time, financial sector stability is perceived as a necessary condition for sound functioning of the real economy. Národná banka Slovenska (NBS) contributes to the stability of the whole financial system in Slovakia, especially through its role as the financial market supervisory authority.

Národná banka Slovenska believes that an important aspect of its contribution to financial stability is to keep the public regularly informed about financial sector stability and about any trends which could jeopardise that stability. Awareness and discussion of such issues is essential, particularly since financial stability is affected by the behaviour not only of financial sector institutions and their customers, but also of non-financial corporations. NBS therefore publishes a biannual Financial Stability Report (FSR), the main purpose of which is to examine, on the one hand, the principal threats to financial sector stability in Slovakia and, on the other hand, the sector's resilience.

The FSR is intended to provide clear and easy to follow information about the development of factors affecting financial stability in Slovakia, with particular attention paid to the most significant risks to financial sector stability and resilience. The FSR also includes a section on the implementation of macroprudential policy in Slovakia.

NÁRODNÁ BANKA SLOVENSKA EUROSYSTÉM

Overview

Global developments marked by economic cooling and rising risks

The global economic slowdown that began in 2018 continued during 2019. The International Monetary Fund forecasts that world economic growth in 2019 will be the lowest since the global financial crisis. The economic outlook is moreover affected by the escalating trade conflict between the United States and China, as well as by the threat of the adoption of further trade barriers against the European Union. There is therefore declining demand for products of a more durable nature, including motor vehicles, with the industry sector in particular bearing the brunt of this trend. Euro area GDP growth has been slowing sharply, and with the deterioration being most severe in Germany, Slovakia's principal trading partner, the slowdown is also weighing on the Slovak economy.

Monetary stimuli have mitigated the risk of an even more pronounced euro area slowdown, though they entail several additional risks

In response to unsatisfactory outlooks the ECB's Governing Council decided in September to further loosen monetary policy, including with a reduction of the deposit facility rate. Other central banks acted similarly. This new wave of stimulus helped restore calm to financial markets and also in the real economy. Both long-term and short-term interest rates have fallen significantly, and markets envisage rates remaining at all-times lows (even negative in many cases) for a long time yet. It is expected that the current environment of "low-for-long" interest rates will become further entrenched, with interest rates remaining lower for longer.

This, however, from a financial stability perspective, has several side-effects that represent gradually accumulating risks. Loose monetary policy is supporting the financing of the real economy. However, for some segments or regions, this may lead to the risk of excessive borrowing, rising asset prices and search-for-yield investment in ever riskier assets. Hence there is an increasing need for a macroprudential policy response to these developments.

The economic cycle in Slovakia has gradually started to turn

Slovakia's GDP growth remains higher than the EU average, though it, too, is decelerating amid the cooling of foreign demand. The country's growth, which stood at 2.6% in June 2019, is largely based on domestic consumption. Household consumption has been increasing, supported by low unemployment and strong wage growth. Despite its deceleration,

the domestic economy is still operating above potential, which is evident mainly in the labour market. The unemployment rate has stopped falling amid the economic slowdown, but so far it is not rising, either. Its further trend may be adversely affected by developments in Germany. The impact of economic cooling on the corporate sector is evident in the softening of sales growth and decreasing profitability.

The low interest rate environment has been a major factor affecting financial stability in Slovakia

The environment of extremely low interest rates, which has gradually become a defining feature of the domestic financial market, is giving rise to several risks to financial stability. Principal among them are excessive growth in household indebtedness, long-term downward pressure on banks' profitability and insurance companies, increasing sensitivity to the business cycle, upward pressure on property prices, and the need for fund managers to invest in riskier or less liquid assets. These risks are further exacerbated by certain specificities of the Slovak financial sector which relate mainly to the legislative environment (the bank levy, the insurance levy and tax, the statutory cap on early repayment fees for housing loans) and the fierce competition in certain segments (supported by the high share of new business arranged through financial brokers, particularly in the insurance sector and in the provision of housing loans).

Increasing household indebtedness remains one of the most significant risks to financial stability

The growth rate for total loans to households gradually moderated in late 2018 and the first half of 2019. The slowdown was particularly large in the case of consumer loans. Its main causes were NBS's tightening of regulatory lending requirements, the stagnation of interest rates, and the incipient saturation of certain market segments. Slovakia's growth rate fell from first to fourth place in the EU. In line with credit market trends, the rate of increase in household indebtedness also slowed, while nevertheless remaining among the highest in the EU.

In response to strong competition from July 2019 and to the further loosening of monetary policy, some banks began substantially cutting interest rates. The volume of new housing loans has surged, partly due to borrowers taking advantage of lower rates to refinance or top up their existing loans. In September 2019 the annual growth rate for housing loans stood at 9.5%, a pace still deemed to be excessive. The continuing high loan growth largely reflects strong demand supported by a long-running uptrend in borrowing capacity. Thanks to wage growth and falling interest rates, the

loans that borrowers can afford are one-third higher now than they were in 2016. This increase is roughly consistent with the increase in flat prices over the same period.

The measures taken by NBS to date have greatly contributed to reducing banks' exposure to losses on new loans in the event of a deterioration in economic conditions. Even so, there remain certain segments of the market that show signs of greater riskiness. It is therefore necessary, also given the recent drop in interest rates, to consider the need for a further tightening of regulatory lending requirements. An international comparison of adopted limits shows that those in Slovakia are less strict than those in other countries, particularly in the case of financial buffer requirements. The riskiest loans are those provided to households with a low financial buffer. Another important factor behind a loan's riskiness is the level of the borrower's income.

The rising indebtedness of households is a problem that has implications beyond the financial sector. In bad times, overindebted households may have difficulty in servicing their loans or may have to rein in their consumption, thereby undermining the recovery of economic growth. The consequences of rising household indebtedness therefore need to be addressed in broader terms, which include their socio-economic effects.

An excess of demand over supply continues to push up property prices

Residential property prices have increased, year on year, by 10%, and by slightly less in the case of new properties. Due to high demand property price growth has been outpacing wage growth for five years. This gap has been partly offset by falling interest rates; nevertheless, housing affordability has decreased. Moreover, prices continued to rise faster than economic fundamentals.

The economic slowdown has weighed on corporate loan growth and on sales growth

The economic slowdown has had its most noticeable impact on investment loans, as firms' diminishing interest in investment activity has reduced their need to finance such activity. While the non-financial corporate debt-to-GDP ratio is low in international comparison, the greatest risk of a structural nature is the debt-to-equity ratio, which is among the highest in the EU. At the same time, the downtrend in default rates has come to halt, though they remain at historically low levels. It is mainly among smaller loans that more defaults are occurring.

The low interest rate environment is putting the business model of domestic banks under even more pressure

In the area of housing loans in particular, fierce competition has brought interest rates down to a level that increasingly raises doubts about the sustainability of this segment's profitability, i.e. about the capacity of interest to cover any increase in losses on non-performing loans (NPLs) in the event of a crisis. Interest margin compression has been so severe that in some months in 2019 interest margins in Slovakia were the lowest in the euro area.

Banking sector stability and the flow of credit may be affected by a proposed increase in the special bank levy and in particular by the proposal to prolong it. With their profit-generating capacity reduced, banks will have less scope to increase their capital and may therefore find themselves less resilient in bad times. Given its size, the levy will significantly reduce the attractiveness of domestic banks to foreign investors (the increased rate would have cost banks 40% of their aggregate profit in 2018). This may lead to a decline in investment in the banking sector, thereby having a negative impact on lending to the domestic economy (to the corporate sector in particular), as well as on the quality of customer services. We therefore consider it important that the proposed increase in the levy should be temporary, applied only in 2020. If it is retained for longer, we can expect the banking sector to experience structural changes of a more substantial nature.

Due to ongoing interest margin compression, banks are no longer maintaining stable profitability

The banking sector's aggregate return on equity (ROE) for the first nine months of 2019 fell from 9.3% year on year, to 8.0%. The drop was caused mainly by the downward impact of interest margin compression on income from the retail[1] sector. Compared with other banking union countries, the sector's ROE remains above average, but compared with other central and eastern European (CEE) countries, it is the second lowest. Until 2016 the banking sector in Slovakia was among the most profitable in the CEE region. In the longer term, domestic banks may become less attractive from the perspective of their parent groups, whose investment in these banks may consequently decline.

---

[1] For the purposes of this report, the retail sector of the credit market is defined as consisting of households, sole traders and non-profit institutions serving households.

On the other hand, the banking sector's resilience has been strengthened by its increasing capital adequacy; the aggregate total capital ratio of domestic banks increased from 18.2% to 18.4% over the first half of 2019, mainly due to their higher retention of earnings. With risks continuing to mount, this is a positive development. Domestic banks' improving resilience is also supported by other significant features of the sector, not least that it has one of the highest NPL coverage ratios (including provisions and collateral) in the whole EU. The funding structure of banks has also improved during 2019, owing to stronger growth in deposits and to banks' issuance of covered bonds.

Profitability and capital adequacy are increasingly vulnerable to any deterioration in the economic situation

The persisting environment of domestic economic overheating to some extent results in banks' profit and capital adequacy being cyclically overestimated. Were the credit risk cost ratio to return to its 2014 level, the banking sector's net profit would fall by almost one-third. Furthermore, if the long-term average probability of default for housing loans also took into account the absence of a period of significant losses in this sector (the crisis years of 2008-09 did not cause domestic banks major losses on their retail business, mainly because the amount of their lending to households was low), banks' capital adequacy would be estimated to fall by between 1.5 and 2 percentage points. At the same time, although their rate of accumulation has eased somewhat, the risks associated with the long-running increase in maturity mismatch between assets and liabilities could materialise in the event of a crisis accompanied by declining stability of deposits.

The insurance sector is also facing several long-term risks

Given their lower than originally expected returns on assets, insurance companies are having to top up their reserves at the expense of their profitability. Non-life insurance business is under pressure from a new tax which is eroding profits and, in certain segments, also reducing customer demand and premium growth. This is further exacerbating the long-term problem of losses on motor insurance. A significant structural risk is that a large part of the insurers' capital comprises the volatile component that is *expected profits included in future premiums (EPIFP)*, which will not be ready to absorb any sudden, unexpected losses. Although the EPIFP share in the insurance sector's aggregate capital has fallen slightly, it remains the highest in the EU.

As a result of lower returns on assets, third-pillar pension funds[2] and investment funds are investing in riskier assets

To earn the same returns as a few years ago, it is now necessary to invest in substantially riskier assets. Hence there has been a long-term increase in the exposure of pension funds and investment funds to equity risk and interest rate risk. At the same time, especially among several investment funds and among third-pillar pension funds, an increasing share of portfolio investments comprise lower-rated or unrated assets.

Across investment funds there is also an uptrend in investments in less liquid assets, such as assets related to the financing of property or financial instruments not traded on an exchange. The main risk is the extent to which such assets can be realised in the event that funds face a sudden wave of redemptions. At present, this risk is mitigated by regulatory minimum requirements for the amount of liquid asset holdings, which funds are comfortably meeting, as well as by requirements for the regular stress testing of funds' liquidity.

---

[2] The third pillar of the Slovak pension system – the supplementary pension scheme – is a voluntary defined-contribution scheme operated by supplementary pension management companies (SPMCs). The second pillar – the old-age pension scheme – is a largely compulsory defined-contribution scheme operated by pension fund management companies (PFMCs).

NÁRODNÁ BANKA SLOVENSKA EUROSYSTÉM

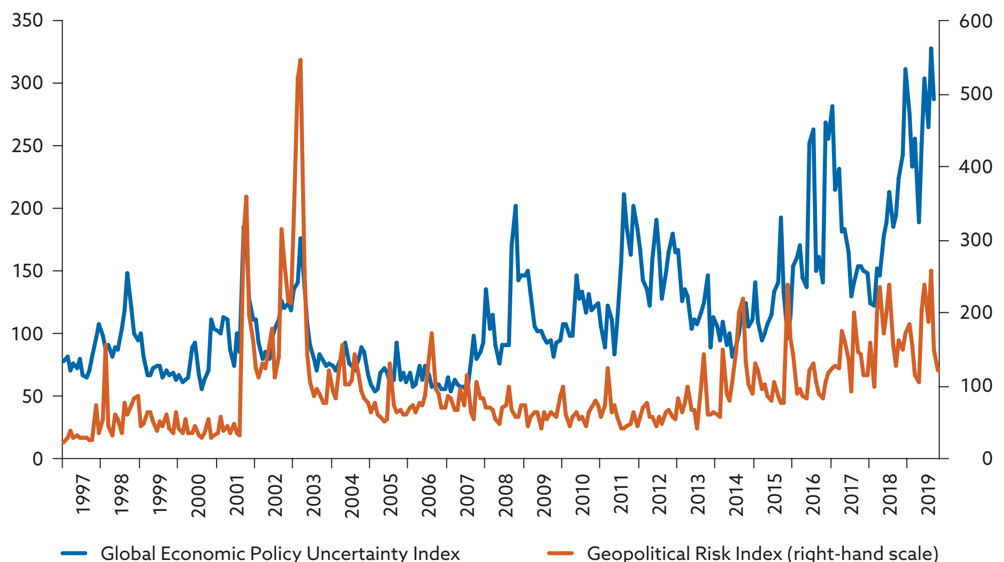
1 Macroeconomic environment and financial markets

1.1 Heightened risks from the external environment

Global economic activity growth has slowed to a multi-year low, and the risks of adverse developments becoming more severe have increased.

Global economic outlooks in the recent period have been accompanied by increasing risks. A catalyst of this negative trend has been the persisting uncertainty caused by a complexity of geopolitical developments, above all the escalating trade conflict between the world's two largest economies – the United States and China. Financial markets have experienced several episodes of elevated nervousness interspersed with periods of asset price growth and risk premium compression. Amid monetary policy loosening and expectations of further loosening, market interest rates have fallen to all-time lows, often moving into negative territory. The new wave of central bank stimuli has helped anchor sentiment in both financial markets and in the real economy, and it seems to have prevented the current economic cooling from turning into a more serious crisis. From the longer-term perspective however, the stimuli are creating conditions in which imbalances will continue to build up and thus represent an increasing risk to financial stability. There is increasing discussion of the central role that macroprudential policy instruments should play in ensuring financial sector resilience amid the continuing provision of stimuli needed for the real economy.

Chart 1
Increasing uncertainty arising from geopolitical developments



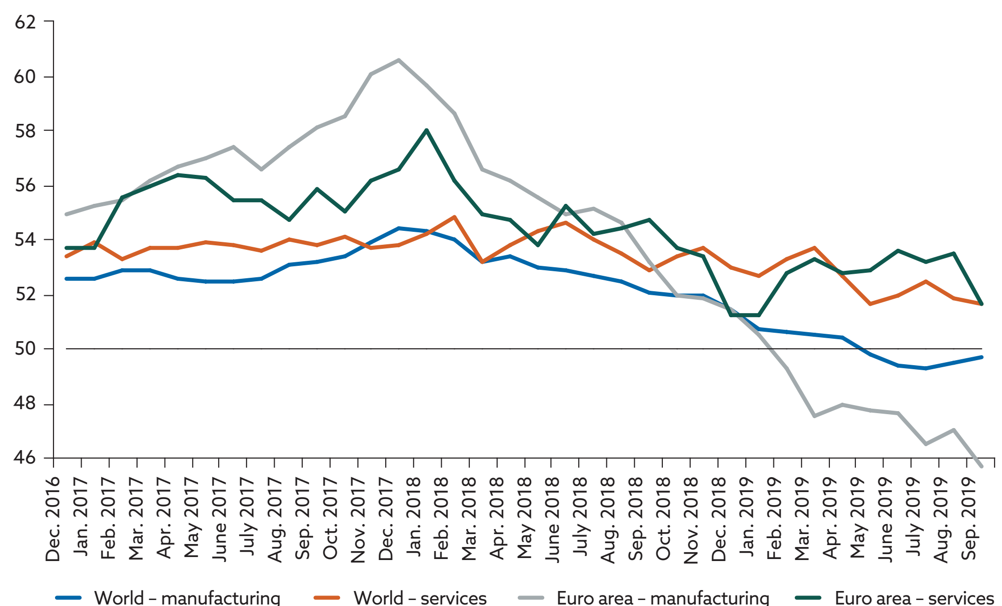
Source: www.policyuncertainty.com

After moderating significantly in the second half of 2018, global economic activity has remained subdued during 2019. Global GDP growth in 2019 is projected to be three per cent,[3] which is 0.6 percentage point lower than its level in 2018 and the worst result since the global financial crisis. The decline in output has been most pronounced in the industry sector, hard hit by reduced demand for investment-related goods. Indeed, firms' cautiousness in the area of capital expenditure has been the most apparent result of the uncertainty generated by rising trade barriers as well as by other geopolitical risks. Indices of geopolitical threats and uncertainty in trade policy have climbed to multi-year and all-time highs. This situation has also been reflected in global trade, which in volume terms was only 1% higher in the first half of 2019 than in the same period a year earlier. The IMF envisages a slight economic recovery in 2020, driven mainly by emerging market economies. Given, however, the extent of prevailing risks, the fulfilment of this forecast is far from certain. Much will depend on whether the structural slowdown of the Chinese economy remains very gradual, or morphs into a sharper decline, eventually accompanied by a crisis in China's extensive domestic financial system. As for advanced countries, their growth levels are expected to remain relatively low, even under an optimistic scenario in which there are no new shocks.

Chart 2

Economic growth across the world, and especially in the euro area, is being pushed down by industry; the resilience of the services sector has so far remained generally high

PMI indices for services and for manufacturing industry



Source: Bloomberg.
Note: A value above 50 indicates expansion, and a value below it indicates contraction.

---

[3] Forecast in the IMF World Economic Outlook. October 2019.

The softening of external demand has weighed on euro area economic growth. After euro area GDP increased by 1.9% in 2018, the European Central Bank (ECB) projects it to grow by just 1.1% in 2019 and to pick up only very slightly in the next two years. A dearth of foreign sales is hurting mainly industrial production, which since the end of 2018 has been falling continuously in year-on-year terms. Furthermore, the downtrend of soft indicators for the industry sector does not suggest that the situation will improve in the foreseeable future. Domestic demand and the services sector have so far been holding up quite well, although there are signs that this key part of the economy may be headed for a more severe slowdown.

For most of the post-crisis period, Germany was the main engine of the euro area economy, but currently it is the main cause of the economy's deceleration. German industrial output has in recent months been 5% lower than a year earlier. Even worse news for Slovakia is that Germany's production of cars and auto parts has fallen by around one-tenth year on year. Largely owing to these trends, the German economy as a whole has for several quarters been teetering on the verge of a technical recession.

The euro area stands on the threshold of a further loosening of monetary policy. In response to unfavourable economic and inflation outlooks, the ECB decided in September 2019 to introduce a new wave of monetary stimulus. The approved packages of measures comprise several elements. The ECB took the interest rate on the deposit facility even further into negative territory, reducing it by 10 basis points, to -0.5%. It was also announced that the ECB would be restarting its quantitative easing programme as from 1 November – expanding its balance sheet with bond purchases at a monthly pace of €20 billion. Another measure was to reduce the interest rate in the latest series of targeted longer-term refinancing operations (TLTRO III) and to extend the maturity of the operations from two to three years. The ECB also unveiled a completely new instrument in September: a tiered interest rate on funds held by commercial banks with the ECB. Banks' reserve holdings in excess of minimum reserve requirements that are up to six times higher than the minimum reserve requirements will be exempt from the negative deposit facility rate.

The monetary policy cycle has clearly taken an easing turn, with market interest rates responding by falling to historically low levels

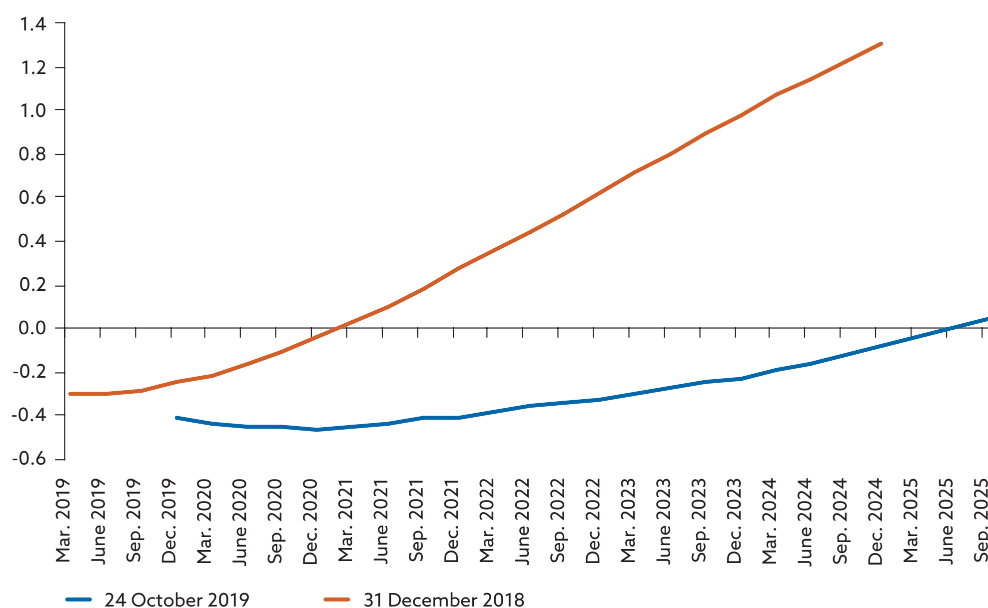
Low-for-long interest rates will very likely be a defining feature of the global economy for some time to come. The ECB is far from being the only central bank to have changed the course of its monetary policy in 2019. In the United States, the Federal Reserve has reversed course even more sharply, cutting its key interest rate by 25 basis points in both July

and September. On the whole, a trend of monetary policy accommodation has been prevailing in countries that together account for the majority of global GDP. Furthermore, expectations derived from market prices are that base rates, especially in advanced economies, will continue on their newly established downtrend. In several cases, these interest rates are now at unprecedentedly low levels, and even negative levels in the euro area, Japan, Switzerland, and northern European countries. No less important than the actual size of the expected lower amplitude of the interest rate cycle is the information contained in forward curves: that the era of low interest rate is expected to continue for much longer than had even until quite recently been expected. In the euro area, the short-term EURIBOR implied by futures prices is expected to remain negative until 2025.

Chart 3

According to market expectations, short-term interest rates in the euro area will remain negative until the middle of the next decade

(percentages)



Source: Bloomberg.
Note: The chart shows the expected path of the three-month EURIBOR derived from futures prices.

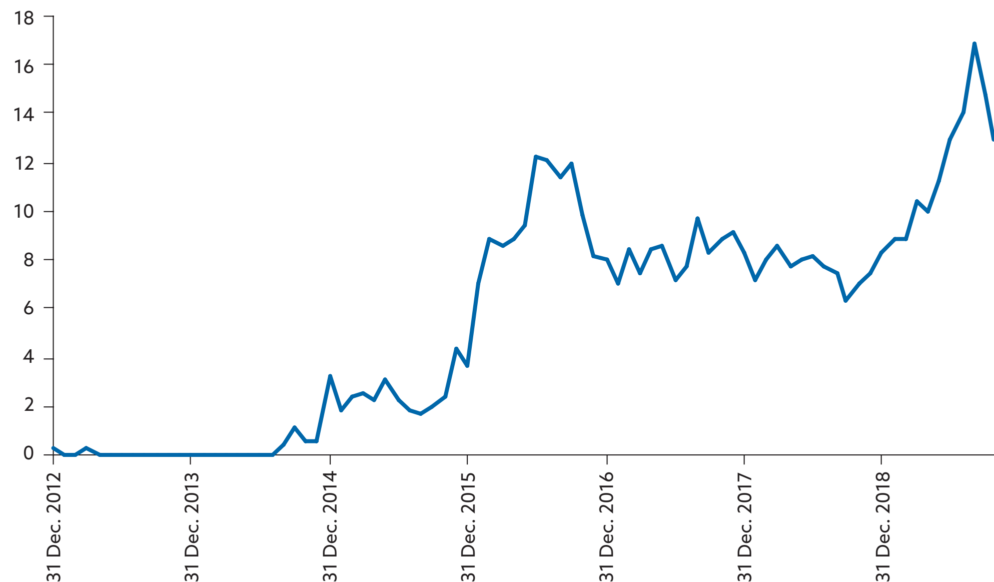
The assumed path of the monetary policy stance and of the economic situation has also put downward pressure on interest rates on longer-term maturities. Bond yields to maturity have fallen across the spectrum of maturities. The most marked declines have been in rates on longer maturities, to the point that risk-free yield curves, or parts thereof, have even inverted. Within a short period of time, approximately since the last quarter of 2018, the global volume of debt securities traded at a negative yield has almost trebled. When this phenomenon was at its peak, in August 2019, the total amount of such securities stood at USD 17 trillion, almost one-third of the

total volume of bonds in the world, but by the end of October that amount had fallen by around USD 3 trillion. Among euro-denominated securities, the share traded at a negative yield exceeded 40%. For some time, the entire yield curve of German government bonds, including the 30-year maturity, was below zero. It is worth noting that the shorter-maturities of Italian government debt have also been trading at a negative yield. In terms of absolute volumes, government bonds constitute the bulk of negative-yielding bonds; nevertheless, corporate bonds account for a not inconsiderable amount, and in Denmark there are now also negative rate mortgages. An even broader testament of the extent to which low interest rates have become the norm across the world in recent years is the fact that only 10% of all bonds currently offer yields of more than three per cent. The decline in yields to maturity over a period of less than a year has been a function not only of lower expectations for future interest rates, but also of further compression of already extremely low time risk premia. This, however, is increasing the propensity for a sudden drop in prices of bonds and other assets if there is a shift in financial market sentiment accompanied by an increase in risk aversion.

Chart 4

The volume of bonds trading at a negative yield has increased to a record level

(EUR trillions)



Source: Bloomberg.

The continuance of interest rates at low, often historically low, levels is one of the main sources of risk to financial stability. This is because such conditions create in both the real economy and financial markets incentives that lead to a build-up of imbalances and increasing vulnerabilities. At times of economic stress, these factors amplify and accelerate adverse trends and compound the crisis situation. The ECB is aware of the nega-

tive side effects of accommodative monetary policy. In September its then President, Mario Draghi, explicitly highlighted the need for close monitoring of such risks.[4] In its analyses, too, the IMF has placed great emphasis on the impact of low interest rates on financial stability.

The low cost of money is also resulting in excessive leverage in certain segments of the corporate sector. As a ratio of GDP, the debt of non-financial corporations (NFCs) has increased in several major economies in recent years. The global issuance of corporate debt even reached a historical high in September 2019. Nevertheless, such microeconomic indicators as firms' leverage ratios and interest expense coverage have, on average, largely improved. Risk, however, is concentrated among firms at the lower end of the creditworthiness spectrum, where both these parameters have deteriorated. A serious risk inherent in the current credit cycle, especially in the United States, is that the historically quite large proportion of funds obtained through debt financing are being allocated to financial transactions (dividend payments and share buy-backs) aimed at achieving a short-term improvement in returns for shareholders, and not to productive investment. The heightened riskiness posed by NFC sector leverage has also been shown by stress testing carried out by the IMF. According to the test results, a GDP shock half as large as that recorded during the global financial crisis would result in the share of firms in debt distress being similar to, or even higher than, that observed ten years ago.

Price growth of certain asset classes has been closely related to inflows of cheap funds. This concerns not just the above-mentioned debt securities; there has been significant growth in prices of a wide range of financial and non-financial assets. In some cases, models indicate that assets are overvalued vis-à-vis their theoretical fundamental value. Looking at stock markets, signs of deviation from equilibrium prices are present in US, Japanese, and, to a lesser extent, euro area equities. Rapidly rising property prices in the euro area are likewise raising suspicions of a housing bubble.

Prolonged low interest rates are driving investors' search for yield. In an environment of low market returns, institutional investors in particular are under pressure to purchase ever riskier assets, so as to meet their guaranteed return commitments. The portfolios of investment funds, pension funds, and insurers have had elevated risk parameters for a long time, and this trend has become still more pronounced in recent months. These entities are trying to achieve higher returns, whether by increasing portfolio durations, purchasing lower-rated assets, or investing in illiquid assets.

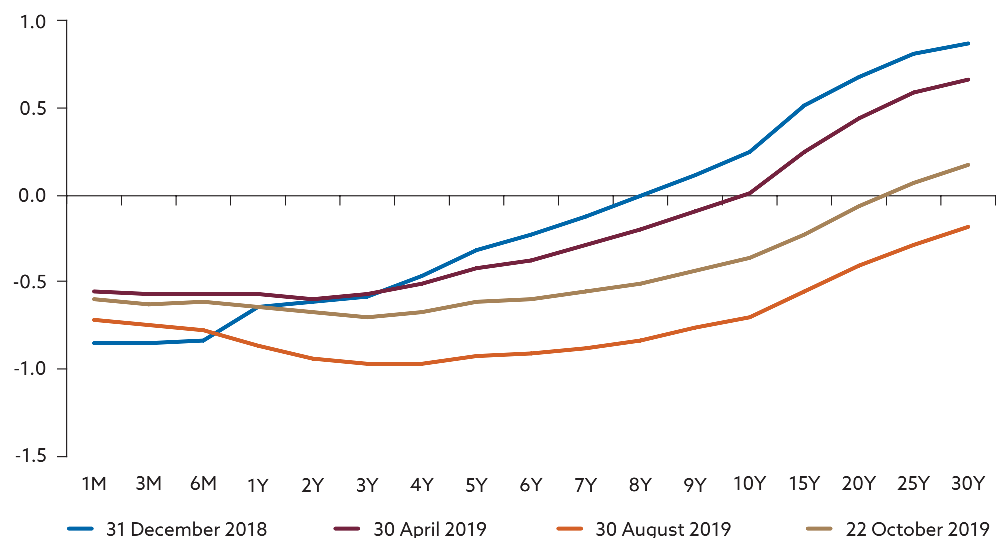
---

4 https://www.ecb.europa.eu/press/pressconf/2019/html/ecb.is190912~658eb51d68.en.html

Such activity, however, is increasing the riskiness of their balance sheets in several dimensions – in terms of interest-rate risk, credit risk, and liquidity risk.

The euro area banking sector continues to be marked by low profitability. Banks are struggling with many structural problems – weak operational efficiency and the previous crisis's legacy of elevated non-performing loan (NPL) ratios. The relatively unfavourable outlooks for the state of European banks have this year been reflected in banks' share prices, which have performed far worse than the region's general equity indices.

Chart 5
The risk-free yield curve has flattened and has shifted further into negative territory
(percentages)



Source: Bloomberg.
Note: The chart shows the yield curve of German government bonds.

Besides the mechanisms described above, there may be further side effects from low interest rates and non-standard monetary operations. One particular topic of increasing discussion is the role that quantitative easing is playing in exacerbating income and wealth inequalities by increasing the prices of assets concentrated within the wealthiest strata of the population. Another potential unintended consequence of low interest rates could be that households will set aside more of their assets to provide for their retirement, i.e. to compensate for the weak performance of pension funds. On the other hand, in regard to the development of the economy's long-term potential, it is not efficient to have low interest rates helping non-viable firms survive and therefore impeding the process known as creative destruction.

Geopolitical risks posed by the wave of protectionism and other issues represent a significant threat to the world's economic and financial stability

The trade conflict between the United States and China has continued to escalate. The arrival of 2019 was accompanied by expectations for an easing of the countries' dispute. However, their negotiations in spring eventually broke down and brought precisely the opposite result: a further significant escalation of the conflict. There was an intensification of rhetoric from both sides and a series of tit-for-tat protectionist measures (or announcements of such). These primarily consisted of increasing import tariffs or extending their application to a broader group of imports. If all the measures announced were implemented, almost all the goods traded between the two countries would be subject to increased tariffs. According to OECD calculations, the bilateral trade restrictions between the United States and China could over the next two to three years reduce global economic growth by around 0.6%. The recent chill in relations between the two countries has also had further repercussions: for example, the US decision to label China as a currency manipulator, or the measures to reduce cooperation in the technical area. Although recent weeks have brought some easing of tensions and commitments to re-enter constructive talks, the previous experience shows that optimism may be premature. Measures to protect US domestic producers from foreign competition are not, however, directed only at China. The US Administration has also been considering imposing tariffs on imports of cars and auto parts, including ones from Europe. The trade war's indirect impact is already non-negligible, but such a move would have a direct impact on one of the most important sectors of the European economy. Germany would be hardest hit, as the impact of US auto tariffs on its car industry exports would represent 0.8% of GDP.

A significantly adverse geopolitical factor, for Europe in particular, has been the still unresolved withdrawal of the United Kingdom from the European Union. Despite dealing intensively with the issue, the UK Parliament did not approve the EU withdrawal legislation by 31 October, the extended deadline for Brexit. In these circumstances, the UK Government had to ask the EU for a second extension to the Brexit deadline, which, after agreement between the sides, is now set for the end of January 2020. The result of these developments is that the uncertainty surrounding Brexit will continue for the immediate months ahead. At the same time, the most serious risk from an economic perspective – the possibility of the UK exiting the EU at the end of October without a deal – did not materialise. Even so, the risk of a no-deal Brexit has not disappeared, but remains a possibility at a later date. In general, the implications of a no-deal scenario for economic conditions and financial stability in the rest of Europe would repre-

sent a manageable shock. Quantitative estimates of its impact on the euro area typically show that euro area GDP growth over a three-year period would be around half of a percentage point lower under a no-deal scenario than under the baseline scenario. For this calculation, however, any hard Brexit is treated as an isolated event. In fact, the greatest danger under that scenario lies in its potential to amplify some of the many other risk factors described above. Such combination of stress factors could cause serious harm to the currently weakened European economy.

Other significant sources of geopolitical tensions in the recent period have been the Middle East and Argentina. The increasing instability in the Middle East is closely related to oil prices, as was shown, for example, by the recent attack on oil facilities in Saudi Arabia. The disruption to a major part of the country's oil-processing capacity caused a sharp rise in global oil prices, though the increase was short term. Given the many other trouble spots in the region – including Iran and Syria – the possibility of a similar situation occurring cannot be ruled out. Any supply shock in the form of increasing prices of oil and related commodities would represent a serious threat to the global economy in its current weakened condition. A shift in Argentina's political climate raised fears in financial markets of the collapse of the IMF's largest ever country support programme. Were that to occur, investor nervousness and the associated volatility of financial assets could spill over to other emerging market economies and trigger capital flight from them.

1.2 The Slovak economy is decelerating

The cooling of global demand has also affected the Slovak economy, whose growth is now largely reliant on domestic consumption

Like most EU countries, Slovakia saw its economic growth reach a peak in the first half of 2019 and then moderate considerably. The cooling of global demand has gradually ended the phase of economic expansion that in recent years was present in the majority of European countries.

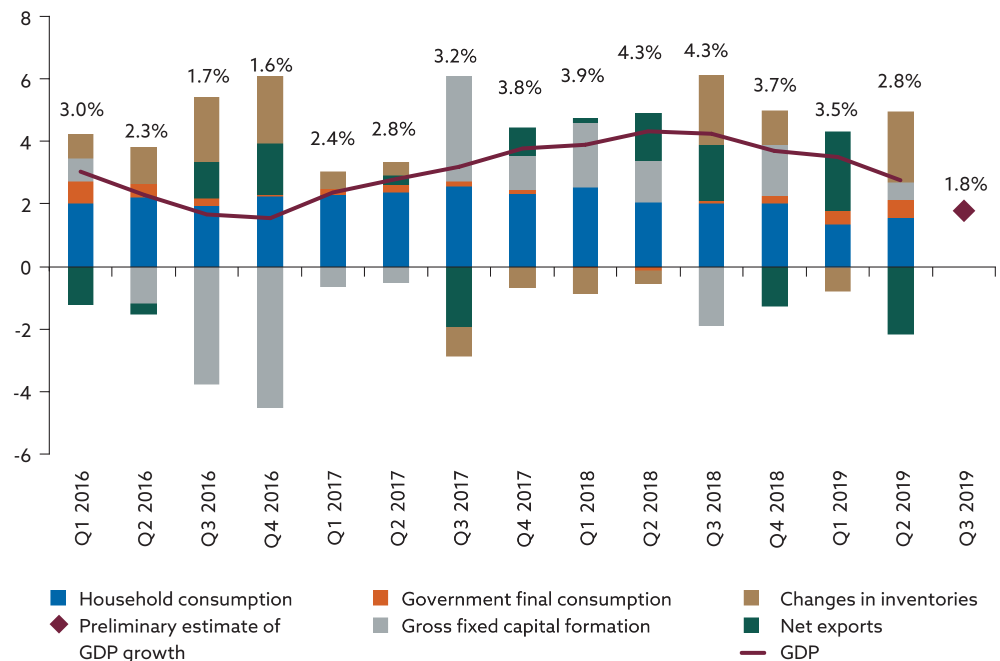
The Slovak economy grew, year on year, by 1.8%[5] in the third quarter of 2019, so returning to a pace previously seen in the second half of 2016. Although Slovakia's GDP growth over the last four quarters was higher than the EU average,[6] it was not unusual in that respect: there were nine EU countries whose growth outpaced Slovakia's. The gradual turning of the business cycle[7] that economic sentiment indicators in Slovakia had been

5 Flash estimate for GDP (seasonally adjusted) in the third quarter of 2019 (source: SO SR).
6 For EU countries, average annual GDP growth in the first half of 2019 was 1.6%, and for euro area countries it was 1.3%.
7 Represented by a gradual slowdown in economic growth and a closing of the positive output gap.

presaging for around one year thus became a reality. The main factor behind the slowdown in Slovakia was net exports, which in the second quarter of 2019 made a negative contribution to GDP growth. The softening of global demand due to mounting uncertainty in world trade, the impact of protectionist measures, and the problems surrounding Brexit weighed on the economies on which Slovak exports are most dependent (Germany in particular). Uncertainty about the future situation and a deterioration in economic sentiment have been reflected in investment demand, which also had a negative impact on GDP growth in the second quarter of 2019. Domestic consumption remained a stable component of Slovakia's economic growth in the first half of 2019. Amid a still favourable labour market situation and strong average wage growth, Slovakia's household consumption continued to increase. Nevertheless, its contribution to GDP growth was not so high as in previous years, which in the context of a gradually increasing saving ratio may indicate increasing caution among households in regard to their expenditure decisions. Public sector consumption expenditure also contributed positively to GDP growth, mainly via increases in employee compensation in the public sector and in healthcare expenditure. Another GDP component that had a positive impact on economic growth in the first half of 2019, especially in the second quarter, was changes in inventories.

Chart 6

Year-on-year growth in Slovakia's GDP at constant prices (adjusted for seasonal effects) and contributions of components of that GDP growth
(percentages)



Sources: SO SR and NBS.

The Slovak economy continues to operate above potential. While its growth is expected to moderate in coming quarters, the economy is still expected to grow. The extent of economic overheating is expected to ease gradually; nevertheless, economic outcome is projected to remain slightly above potential through 2020. Macroeconomic developments should therefore continue stimulating loan demand, but to a lesser extent than they were doing in previous years. At the same time, the build-up of financial market risks related to cyclical developments is expected to diminish.

The labour market is still overheating, though the job-filling rate is slowing

The slowdown in economic growth has not as yet had any significant impact on the labour market. The number of people in employment increased slightly in the first half of 2019, to 2.45 million, but the unemployment rate has already stopped falling and has stabilised at 5.8%.[8]

The number of people finding work in Slovakia was around 35,000 higher in June 2019 than in the same period of the previous year.[9] At the same time, however, there was a drop in the number of newly recruited foreign workers. Even in late 2018, one-half of the people who were filling job vacancies were foreign, but in the first half of 2019 that share fell to just one-quarter. The most significant increases in job vacancies were in the services and construction sectors, which between them accounted for almost two-thirds of the vacancies created within the last four quarters. The slowdown in economic growth has not yet been reflected in an easing of labour market tightness. Although the market's overheating is no longer increasing, it remains elevated. This situation therefore represents a cyclical risk to the financial sector. Among the job vacancies created during the period of overheating, some are not expected to be sustainable in the long term. When the business cycle turns, a number of jobs will be made redundant and this will have an impact on people's debt servicing capacity.

---

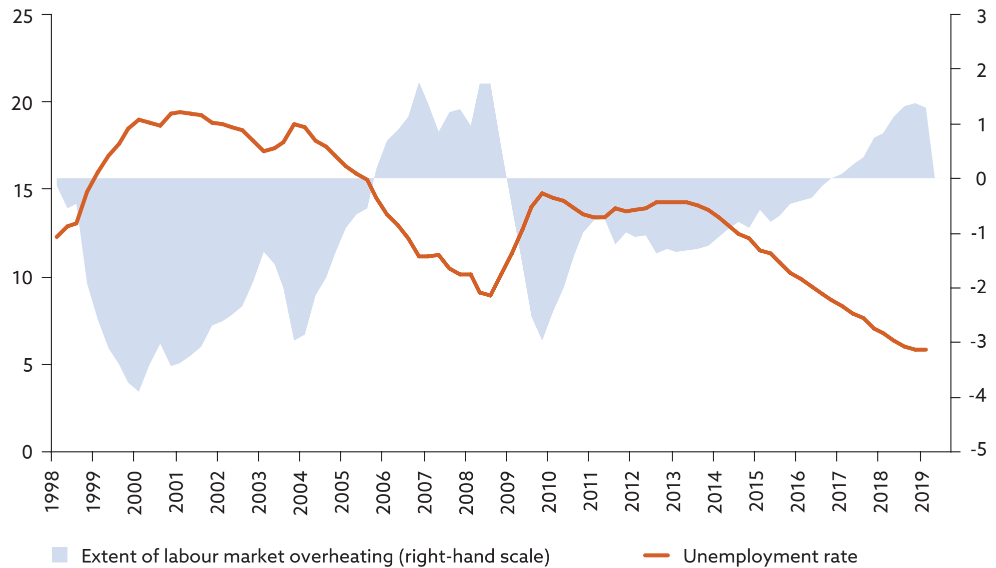
8 Calculated using the Labour Force Survey methodology (source: SO SR).

9 Year-on-year increase in the number of people in employment in June.

Chart 7

The extent of labour market overheating remains substantial

(percentages)



Sources: SO SR and NBS.

Notes: The extent of labour market overheating is defined as the difference between the non-accelerating inflation rate of unemployment (NAIRU), i.e. the unemployment rate that does not cause inflation to increase, and the current unemployment rate (according to the Labour Force Survey). Positive values denote overheating of the labour market, and negative values denote cooling, with the unemployment rate being higher than structural unemployment (NAIRU).

The high tightness in the labour market has been reflected in the average wage, whose growth remained elevated in the first half of 2019, albeit slightly lower than in the same period of 2018. Its growth rate of 6.1% was more than three percentage points higher than the average annual inflation rate for the same period. The increase in real wages has been stimulating household consumption, although a certain degree of caution has recently started to appear in this area. Going forward, in the context of the economic activity slowdown, the overheating of the labour market can be expected to moderate gradually in terms of both employment growth and wage growth. The deterioration in global demand, particularly in Germany, is putting downward pressure on production in Slovakia and will consequently be reflected in the domestic labour market. The unemployment rate has apparently already reached its local minimum and is rather expected to increase in the period ahead. The labour market is projected to remain in a state of overheating in coming quarters, though with the overheating becoming gradually less pronounced. In other words, the labour market situation will continue to support the build-up of risks to the financial sector which are cyclical in nature.

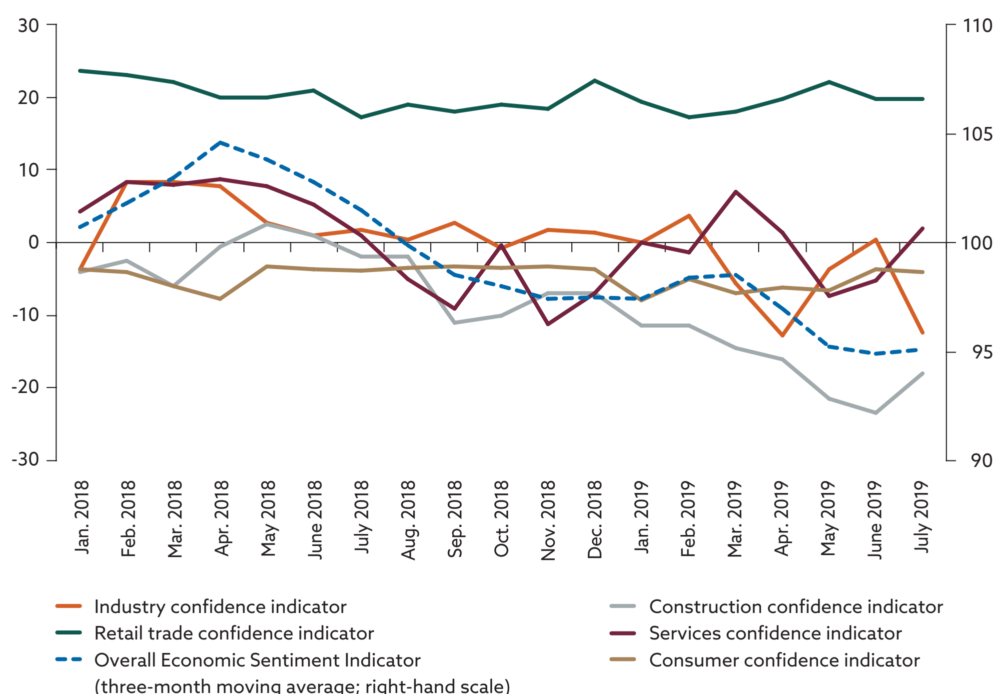
Slowdown in corporate sales

The economic cooling has also begun to affect corporate sales. The annual growth rate for NFC sales was 3.6% in the first half of 2019, lower than the rate for the same period in 2019. NFC sales growth slowed in all the major sectors apart from services, where it has remained in double digits in year-on-year terms. The gradual deterioration in corporate sector expectations, reflected in business sentiment falling to below its summer 2018 level, has begun having an impact on corporate sales. At the same time, firms' financial results have deteriorated, with firms in the industry sector recording the largest drop in profitability.

Chart 8

Economic sentiment in most of the major sectors has deteriorated since mid-2018

Three-month moving average of the index



Source: SO SR.

The corporate sector's worsening expectations are also weighing on loan demand. Growth in total loans to the NFC sector has for the past few quarters been lower than the growth in the sector's fundamentals.[10]

Annual goods and services inflation accelerated further in the first half of 2019, reaching 2.6% in June and being driven mainly by supply-side factors. Energy prices were the main cost factor pushing up inflation, as they increased by 4.7% year on year. Food prices, too, increased sharply, and ser-

[10] Nominal GDP growth and corporate sales growth.

vices inflation was also above 2%. Non-energy inflation was slightly higher than the ECB's long-term inflation target. With interest rates continuing to decline in an environment of accelerating inflation, it remains the case that many new loans are being provided at a nominal interest rate below the inflation rate.

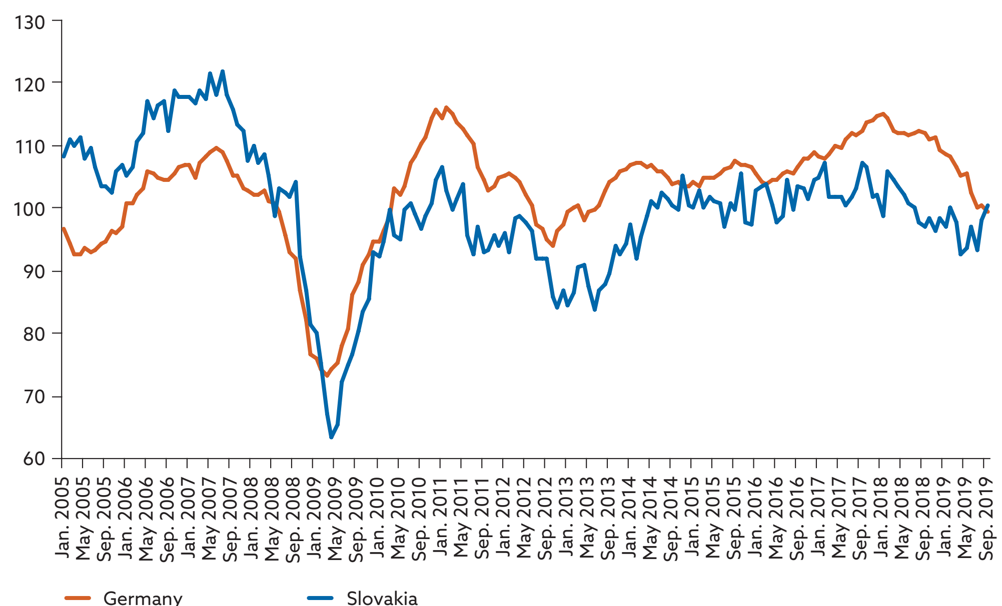
Risks to economic growth tilt to the downside

The downside risks to economic growth have become more pronounced in the recent period. These risks, cyclical in nature, relate mainly to the possibility of the global economic slowdown being more severe than expected, with the consequent cooling of global demand likely to have an adverse impact on the Slovak economy. Hence there is a risk that domestic economic growth will decelerate sooner, and possibly more sharply, than expected. A particularly crucial factor in this regard will be the economic situation in Germany, which imports more than 20% of total Slovak exports (a share that accounts for more than 22% of Slovak GDP). Sentiment in Germany started to deteriorate significantly back in 2018, and the downtrends there are not yet showing signs of reversing. Representing another structural risk in the medium term are impending changes in the car industry related to the gradual transition to electric car manufacture and the uncertainty about how these changes will affect production capacity in Slovakia.

Chart 9

The Economic Sentiment Index (ESI) for Germany and the ESI for Slovakia show highly correlated trends

(index)



Sources: European Commission and NBS.

2 Financial sector trends and risks

2.1 The main risk to the household sector is excessive debt growth

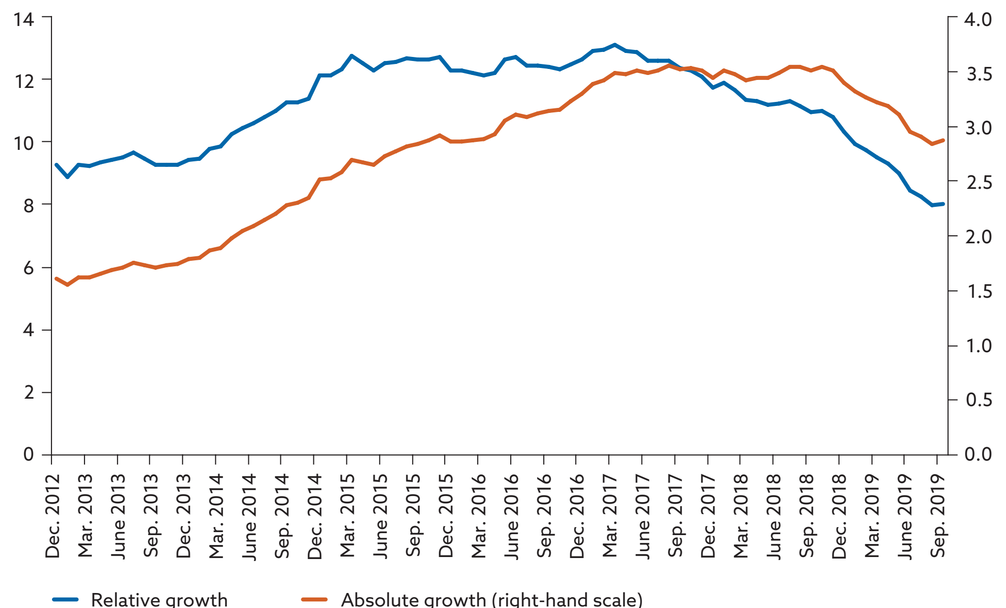
Loan growth has stopped decelerating and remains excessive

After almost a decade as the highest in the EU, Slovakia's annual growth in loans to households was down to fourth highest by August, with a historically low rate of 8%. In September, however, the rate was no longer decelerating. During the latter part of 2018 and first half of 2019, the growth rate for total loans to households slowed significantly. This period was marked by a combination of several factors, in particular by tighter NBS requirements for credit standards, a plateauing of interest rates (albeit at existing lows), and signs of gradual saturation of household borrowing capacity. In the case of consumer loans, an additional factor was high portfolio turnover: a quick process of borrowing and loan and repayment. In other words, even a relatively modest drop in new loan business had a major downward impact on consumer loan growth.

Chart 10

Growth in loans to households has slowed in 2019

Total household loans growth (annual percentage changes; EUR billions)



Source: NBS.

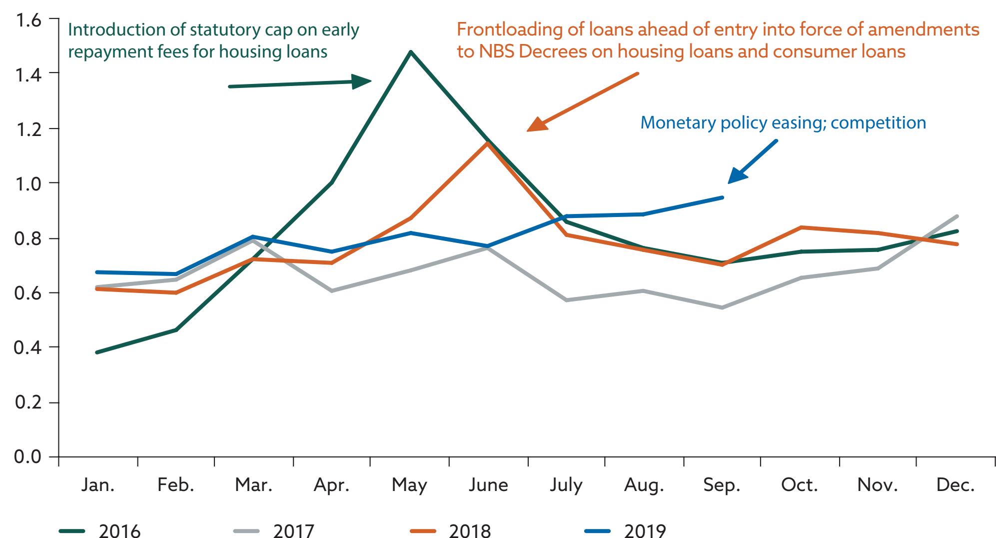
But since July 2019, despite its general moderating trend, annual loan growth has been showing increasing signs of upward inclinations. In

the context of the ECB's return to monetary policy easing and given the prolonged period of low interest rates, banks' pricing policies have been undergoing relatively significant changes. Under strong competitive pressure, the average interest rate on housing loans fell over the period July–August from 1.5% to 1.3%, even though only a small number of banks adjusted their interest rates during this period. The adjustments immediately resulted in an increase in business not only for the banks concerned, but also across the market as a whole. There were increases both in net new loans and in refinancing loans. The largest increase was in the category of refinancing loans that involve a significant increase in the outstanding amount, as their share of new loan business increased in the third quarter to its highest level in two years (30%, which is five percentage points higher than average). In September 2019 the amount of new housing loans, including refinancing loans, was higher than in any previous month, other than in periods marked by legislative changes (Chart 11). As a result, the annual growth rate in housing loans stopped decelerating in August, when it stood at 9.5%, and it did not moderate in September.

Chart 11

The amount of new housing loans was increasing, particularly in the summer months

Amount of new housing loans, including refinancing loans (EUR billions)



Source: NBS.

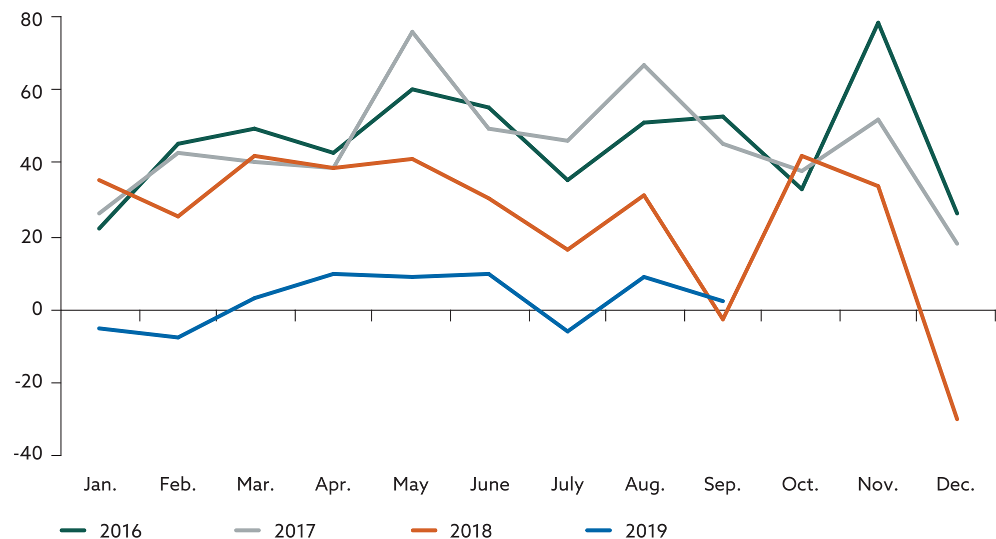
Annual growth in consumer loans has also stopped decelerating. The rate continued its downtrend into August, when it eased to 1.2%, almost nine percentage points below its level of mid-2018. In September, however, consumer loan growth remained unchanged at 1.2%. In contrast to housing loans, where the end of the slowing trend was caused by an actual increase in the amount of the loans, the end of the slowdown in consumer loan growth was almost entirely related to the mathematical properties of the formula. Until

August 2018 the absolute monthly increase in consumer loans was in the tens of millions, but in September of that year it fell suddenly, to single-digit millions (and in several subsequent months it was even in negative territory). The base effect of this trend shift was seen a year later (in September 2019), when consumer loan growth stopped decelerating and remained stable. The causes of the new lower monthly increases in the amount of consumer loans can be found both in the restriction of the borrowing capacity of the riskiest, least creditworthy, borrowers, as well as in the decline in the amount of financing supplementary to housing loans.

Chart 12

Consumer loan growth has almost stalled

Absolute month-on-month change in the amount of consumer loans (EUR millions)



Source: NBS.

The overall growth rate for loans to households remains excessive. First of all, it is being supported by the supply strategy. In Slovakia, the banking sector's business model is centred on lending and makes little provision for activity diversification. The same situation is faced by almost all banks active in retail lending. This is stoking competition between them and compressing interest margins, which are now among the lowest in the euro area and even ranked lowest in certain months in 2019. The expectations of parent undertakings for profitability and market share do not, however, adequately reflect this situation and, with the unit price falling, are inevitably resulting in upward pressure on lending activity.

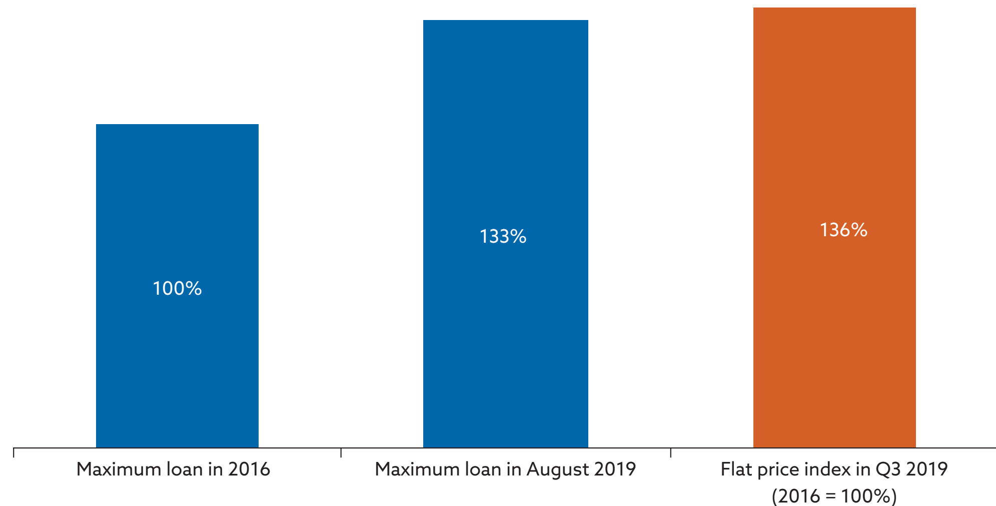
On the demand side, the availability of credit has continued to increase, buoyed by wage growth, a stable and low unemployment rate, and a low interest rate environment. Owing to the latest loosening of monetary policy, interest rates have decreased from levels that were already historically low. This, in conjunction with wage growth, is increasing household's bor-

rowing capacity, which is now, on average, a third higher than it was in 2016 (assuming the continuance of the financial buffer requirement of 20% of disposable income). This increase is roughly consistent with the increase in flat prices over the same period.

Chart 13

Income growth and falling interest rates have substantially increased the availability of loan, and the increase in the available amount of loan has roughly matched the increase in flat prices

Maximum amount of a housing loan vis-à-vis the flat price index (index: 2006 = 100%)



Source: NBS.
Notes: The maximum housing loan amount in 2016 and 2019 was calculated as the average for four model household compositions (one adult with no children; two adults with no children; two adults with one child; two adults with two children). It assumes the highest possible repayment instalment, coupled with the continuance of the NBS financial buffer requirement of 20%. For 2016, an average interest rate of 2.0% was used, and for August 2019, one of 1.3%. Wage growth corresponds to average increase of 16.4% in wages across the whole economy.

Residential property prices have for five years been rising faster than wages, and housing affordability has continued to decrease

Property prices have maintained their uptrend in 2019, with their annual growth rate fluctuating close to 10%. As in the previous period, property price growth has been supported by relatively strong demand and limited supply.

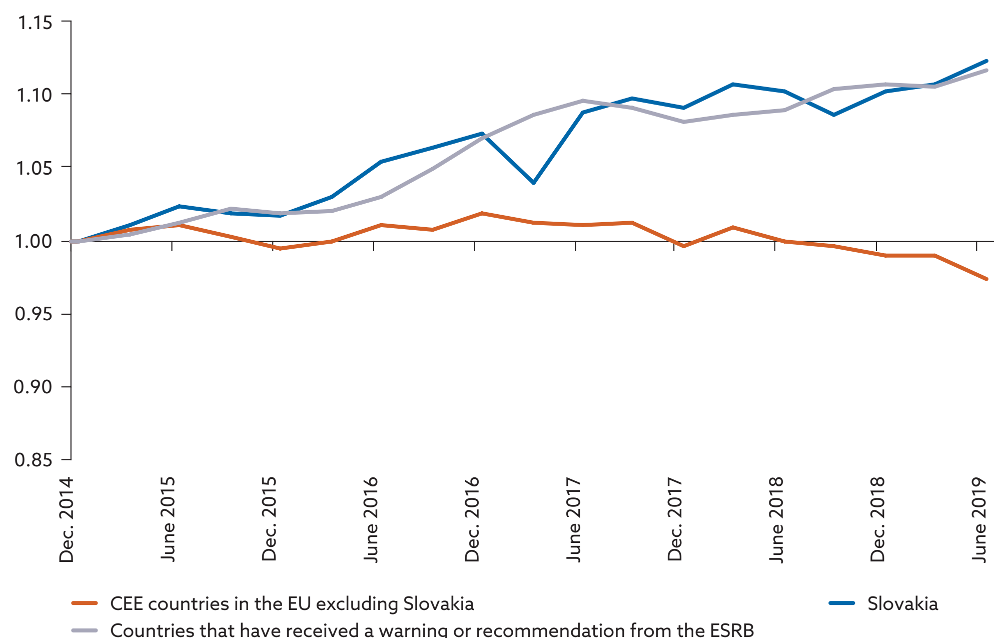
Although average wage growth has been at its highest level in the post-crisis period, the growth in average prices of flats has been even higher. This gap has existed since 2015. In that year and in 2016, housing affordability was still being supported by falling interest rates. In other words, the increase in loan repayments for an average flat were not outpacing average wage growth. Interest rates on housing loans continued to fall sharply after 2016; however, they were no longer restraining growth in the average loan repayment for a flat, which was increasing due to rising flat prices.

The relationship between property price growth and wage growth in Slovakia is similar to that in the EU countries which, in regard to their residential real estate sector, have been issued a warning or recommendation by the ESRB.[11] Residential property prices are on a strong uptrend in most EU countries. The European Systemic Risk Board has therefore been addressing this issue, and, in regard to systemic risk related to residential real estate, it has issued recommendations or warnings to 11 EU countries. The fact that Slovakia was not among them was due to NBS's proactive policymaking in this area. The LTV limit in particular has helped mitigate risks associated with the property market. It remains the case, however, that the outpacing of wage growth by property prices in Slovakia has been similar to the median of the corresponding gaps in higher-risk countries and far higher than the median for CEE countries in the EU.

Chart 14

The ratio of the average residential property price to the average wage has been increasing in Slovakia to a similar extent as in countries where there is higher risk in the residential real estate (RRE) market

(index: December 2014 = 100)



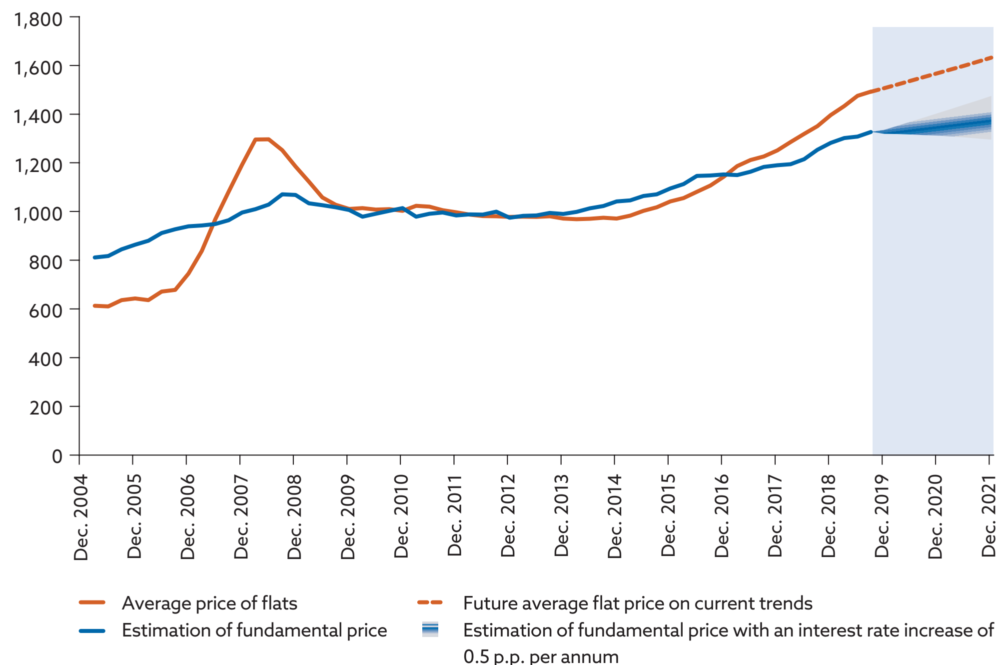
Source: Eurostat.

Average flat prices in 2019 have continued to rise faster than fundamentals. The financial strength of household demand for housing is determined mainly by the number of people in employment who do not at present have a housing loan, the wages of these people, and interest rates. In

11 https://www.esrb.europa.eu/news/pr/date/2019/html/esrb.pr190923~75f4b1856d.en.html

the context of rising wages, falling interest rates, and the increasing number of people in employment, the theoretical fundamental price is still rising. Its growth rate, however, is being slowed by increasing household indebtedness and by the decline in the number of employed people aged up to 34 years, who are also the most important age cohort for the period ahead. The path of actual flat prices has, however, been much affected by the number of flats for sale, which is not part of the calculation.

Chart 15
The average flat price has been rising faster than fundamentals
(EUR/m²)



Sources: CMN, NBS, and SO SR.

Loan growth is also being supported by current borrowers increasing their outstanding loan amounts

Another factor behind loan growth is the trend among borrowers to significantly increase their outstanding loan amounts through refinancing or top-up loans.[12] This trend has been greatly supported by a law change enabling loans to be refinanced/topped up at any time for a minimal fee. The outstanding loan amount payable by a borrower may be increased by topping up the existing loan or by having it refinanced with the same or another bank. The share of housing loans with a significant increase in the out-

[12] Under the NBS's Housing Loan Decree and Consumer Loan Decree, a significant increase in the outstanding loan amount means an increase of more than the lower of the following two amounts: €2,000, or 5% of the outstanding amount of the loan that is to be refinanced or topped up (or, where more than one loan is to be refinanced into a single loan, the sum of those loans' outstanding amounts).

standing loan amount has been increasing, largely at the expense of loan refinancings that do not involve a significant increase in the outstanding loan amount. In the case of consumer loans, by contrast, the share of new loans has decreased the most.

Refinancing or topping-up takes different forms, which contribute to varying extents to loan growth. In cases of loan refinancing or consolidation without a significant increase in the outstanding loan amount, there is no contribution to loan growth. There is some contribution to loan growth from loan refinancings or top-ups with a significant increase in the outstanding amount, i.e. where borrowers take advantage of an improvement in their economic conditions to increase their debt. The largest increase results from the consolidation of consumer loans, or in some cases of partly repaid housing loans, for the purchase of a property. Young borrowers, for example, use this option to reduce their existing consumer loan repayments when purchasing their first home. A similar situation arises with borrowers who have already repaid part of their first housing loan and want financing for a second property – whether to rent or for their own use. In such cases, the significant increase in the outstanding loan amount constitutes most of the new housing loan.

Chart 16
Increasing share of loan refinancing with significant top-up
Different types of loan provided to natural persons in the given quarter as a share of the total housing loans or consumer loans provided in that quarter (percentages)

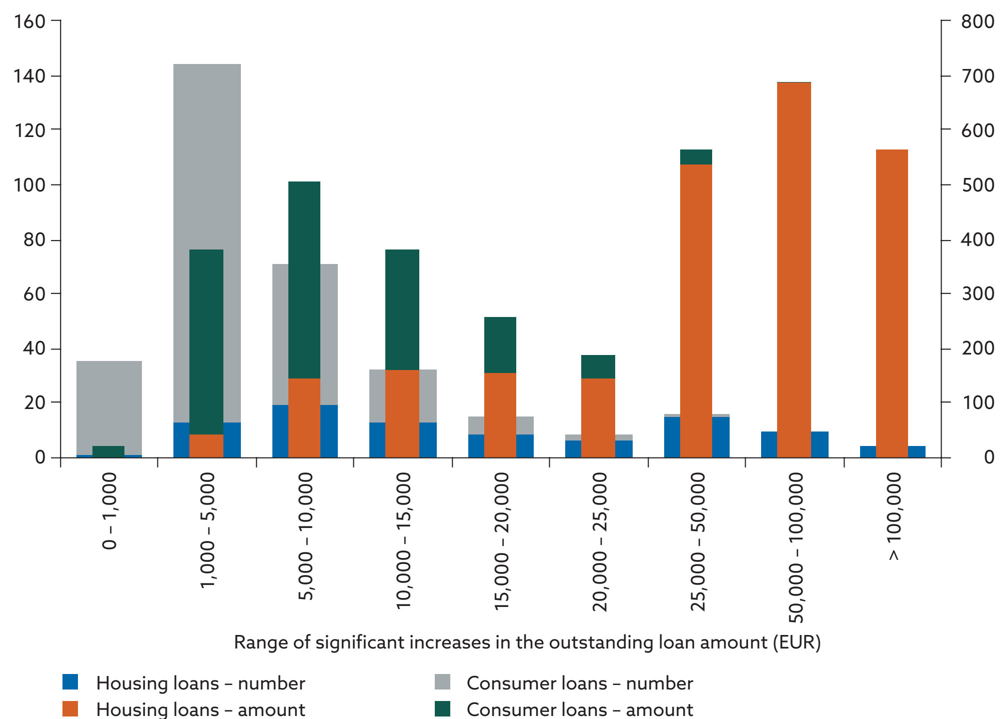
Source: NBS.

Significant increases in outstanding loan amounts are contributing around 12% to the absolute increase in housing loans and 25% to the absolute increase in consumer loans. Where there is a significant increase in the outstanding loan amount when refinancing or topping-up a housing loan, the increase constitutes, on average, around 40% of the new loan. Around 30% of these borrowers increase their outstanding amount by more than €25,000 and account for some 75% of the aggregate increase in the outstanding amount of housing loans. A significant proportion of that 30% comprise borrowers who are consolidating consumer loans in order to take out a loan for their first residential property. In the case of consumer loans, the increase in the outstanding loan amount is usually lower, because consumer loans are lower than housing loans and also because it is a widespread practice to consolidate consumer loans into a housing loan. As many as 70% of borrowers who significantly increase the outstanding amount of their consumer loan(s) do so by less than €5,000, but they account for only one-third of the total increase in the outstanding loan amount.

Chart 17

Number and amount of significant increases in the outstanding loan amount

Situation as at 30 June 2019 (thousands of credit agreements; EUR millions)



Source: NBS.

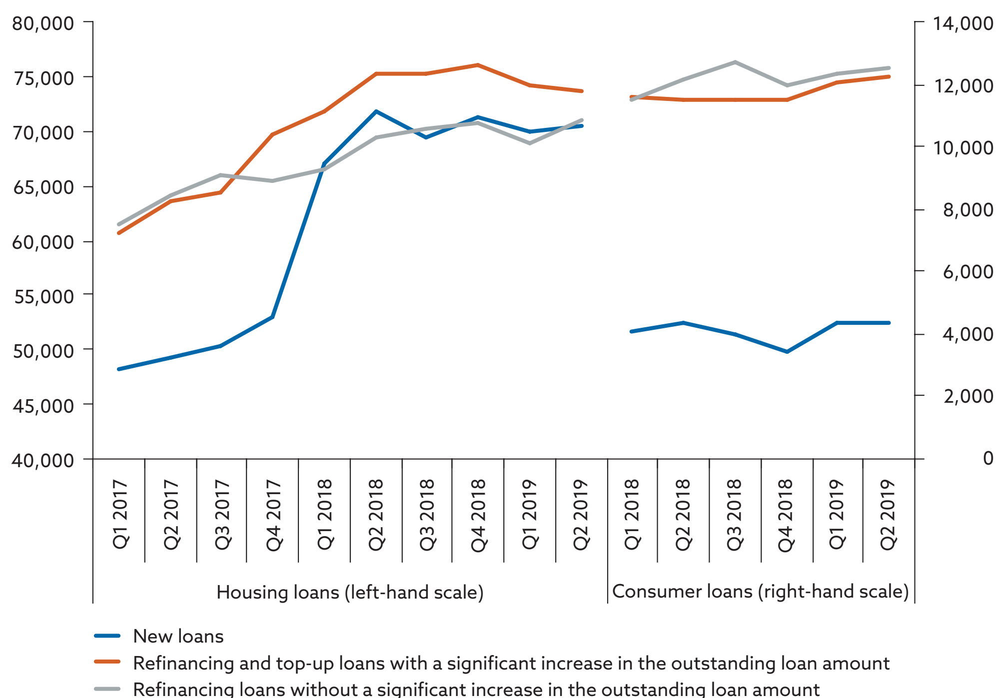
The average amount of refinancing or top-up housing loans with a significant increase in the outstanding loan amount rose from €60,000 at the beginning of 2017 to €76,000 at the end of 2018, since when it has fallen slightly. The first quarter of 2018 saw the average amount of new housing

loans rise sharply, by almost €14,000 and match the average amount of loan refinancings without a significant increase in the outstanding loan amount. Among consumer loans, the gap between the average amount of loan refinancings or top-ups and the average amount of new loans is greater.

Chart 18

The average amount of refinancing loans exceeds the amount of new loans

Average loan amount by loan type (EUR)



Source: NBS.

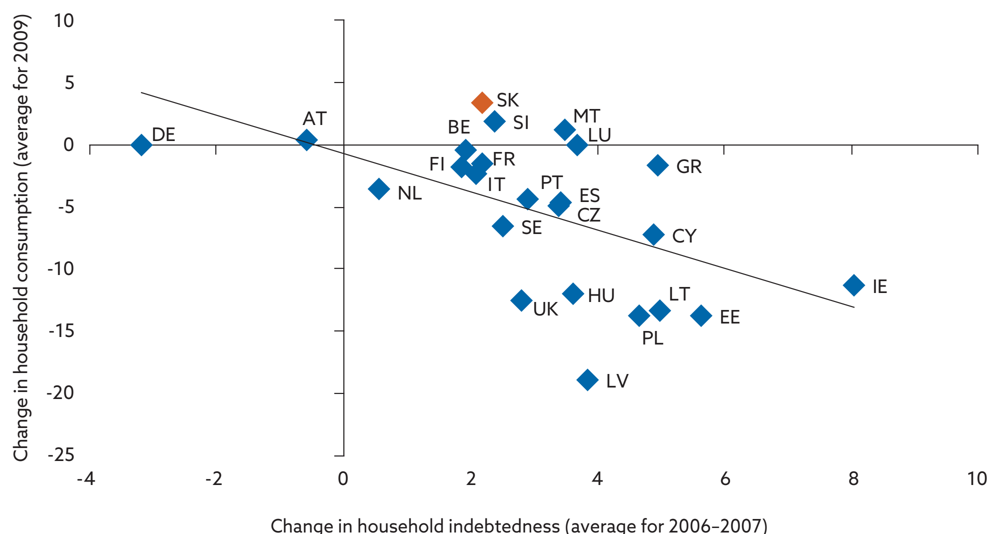
The growth in borrowing through loan refinancings and top-ups has been enabled by rising property prices, falling interest rates, and growth in disposable income. By significantly increasing their outstanding loan amounts through refinancing/topping-up, borrowers are depleting the financial buffer which naturally arises as a loan is being repaid and which ought to be used mainly in crisis periods. The debt parameters of borrowers who take this step return to higher levels. This is particularly noticeable in debt-to-income (DTI) ratios, debt-service-to-income (DSTI) ratios, and loan terms.

Household indebtedness remains among the most significant risks to financial stability

The rapid growth in household indebtedness may have implications that go beyond just the financial sector. In general, high or rapidly rising indebtedness results in banks making greater losses during crisis periods. The experience from the last crisis suggests a connection between the pre-crisis debt growth and the slump in household consumption during the crisis. Simply put, the greater the increases in the household-debt-to-GDP ratio

during good times, the steeper the decline in household consumption during bad times and thus the lower its contribution to GDP (Chart 19).

Chart 19
The drop in households' consumption during the crisis may be related to the increase in their indebtedness in the pre-crisis period
Household indebtedness and household consumption at current prices (annual percentage changes)



Source: Eurostat.

In this respect, it should be noted that Slovakia was among the countries that reported a relatively low rise in indebtedness in the pre-crisis period of 2007–2008, but it also experienced a relatively moderate year-on-year decline in household consumption in 2009. The situation today is different: household indebtedness has for several years been rising faster in Slovakia than in any other EU country. It may therefore be expected that the impact of the next turn in the business cycle on Slovak household consumption will be greater than were past turns. Another point to stress is that the recent increases in indebtedness in Slovakia are far lower than those observed in distressed sovereigns in 2007–2008. In the past two years, moreover, amid the tightening of regulatory lending requirements for the retail sector and the gradual saturation of the credit market, the absolute increases in household indebtedness have moderated. In other words, although indebtedness in Slovakia is still increasing at one of the fastest rates in Europe, the rate has decelerated (Chart 20).

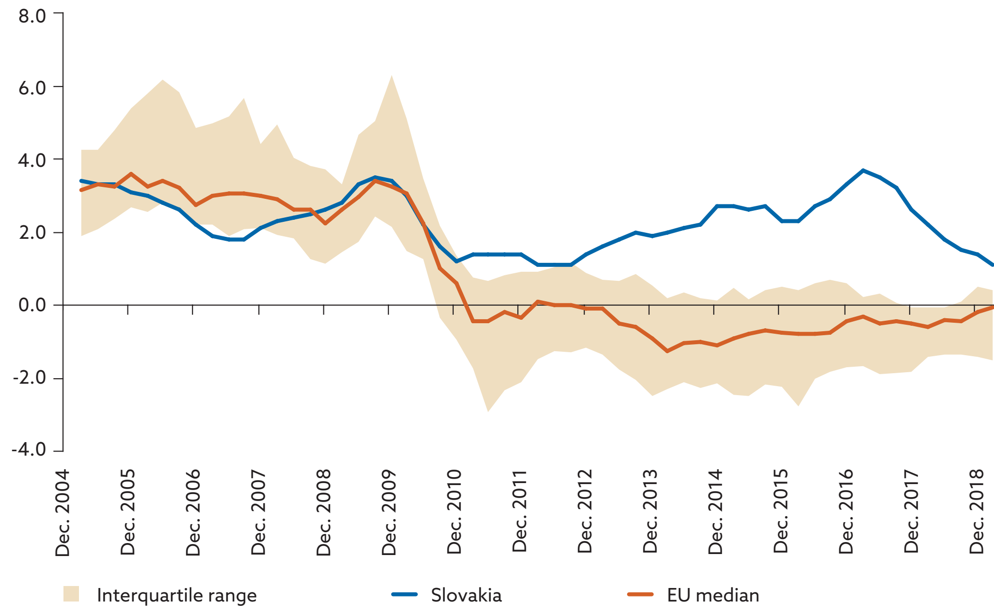
Besides the fact that their indebtedness is still rising rapidly and is the highest in the CEE region of the EU, Slovak households also have a relatively low amount of financial assets. The ratio to GDP of households' net financial assets, the difference between their savings and outstanding loan amounts is lower in Slovakia than in any other EU country. In other words, in the event of employment loss, Slovak households have less capacity to use savings to cover loan repayments than do households in other EU countries.

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Chart 20

Although the rate of increase in household indebtedness in Slovakia is decelerating, it is still the highest in the EU

(percentage points)

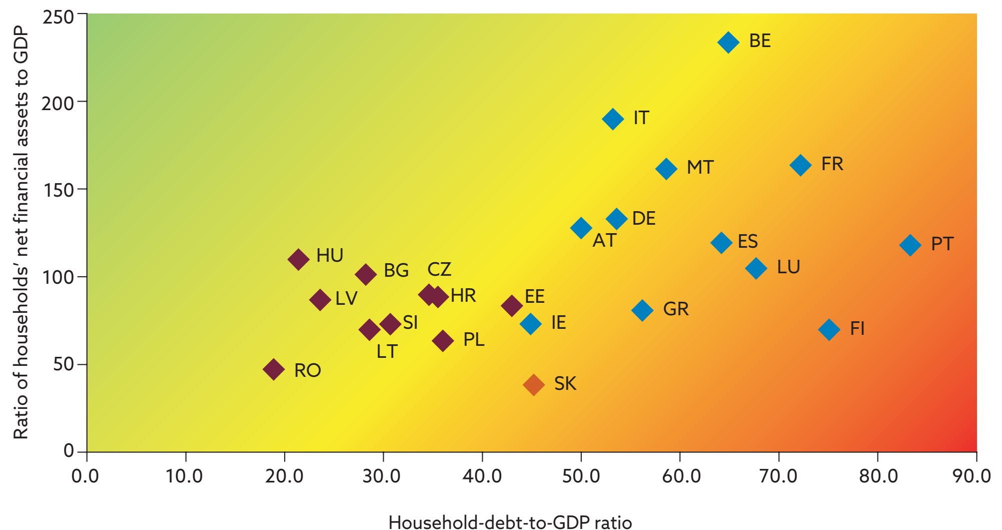


Source: Eurostat.

Chart 21

Slovak households' low saving ratio carries added risk due to their rising indebtedness

(percentages)



Source: Eurostat.

The underlying importance of savings to the repayment of loans by particular Slovak households has been demonstrated inter alia by a simulation of a deterioration in economic conditions (Box 1). Households with ample savings are significantly more resilient under the simulated economic crisis than are those without such savings. Even where the simulation in-

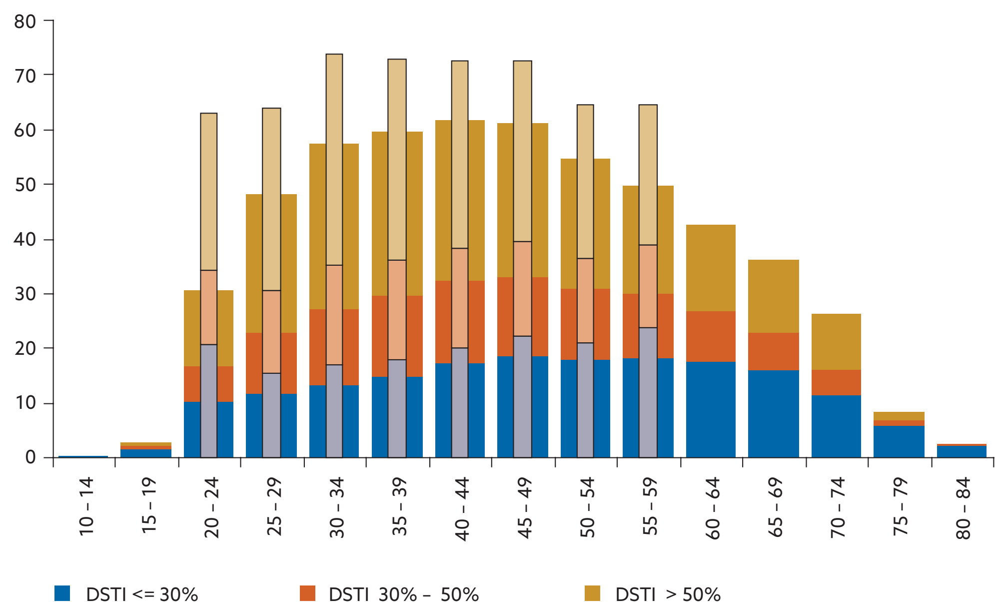
cludes only savings held by households in the same bank with which they have their loan, the non-performing loan ratio is halved.

The household loan market is slowly becoming saturated. Strong loan growth in recent years has led to an increase in the proportion of indebted people. In the most important age cohorts, more than 70% of people in employment have a loan. In several of these cohorts, a majority of borrowers have a debt-service-to-income (DSTI) ratio of more than 50%, meaning they have very little capacity to take out a further loan.

Chart 22

Individual borrowers as a share of the working population and as a share of the total population

(percentages)



Source: NBS.
Notes: The horizontal axis shows age cohorts. The thicker bars denote share in the total population, and narrower bars denote share in the working population.

Slovak households' rising indebtedness is also related to their long-standing proclivity to own their own homes. The residential owner-occupancy rate in Slovakia is one of the highest in the EU. In previous reports, NBS has shown that if the ownership sentiment persists, it could have a significant upward impact on household indebtedness. The high home ownership rate in Slovakia also reflects the relatively low availability of other relevant alternatives for housing. In particular, young, lower-income families do not have many alternatives for housing and their first choice is often to borrow by taking out a housing loan.

Over-indebted households may have difficulty in servicing their loans during bad times. Národná banka Slovenska has a mandate to influence the credit market, and thus also borrowing, only to the extent that ensures the

stability of the banking sector as a whole. The increasing indebtedness of households in Slovakia is, however, a problem for the whole society, one that could affect economic growth and households' social position. The problem of rising household indebtedness therefore needs to be addressed at several levels.

The measures taken to date by NBS in the area of lending have worked mainly towards reducing banks' potential losses in the event of a crisis. There remains the risk of a more pronounced increase in non-performing loans

The measures taken to date have helped reduce the losses which, in the event of a deterioration in economic conditions, would arise on loans provided after the measures had been fully phased in. Risk mitigation in this area was analysed in detail in the Special Feature section of NBS's May 2019 Financial Stability Report. The analysis showed that, as a result of the measures, the overall losses on housing loans during a crisis could be up to 40% lower. The key measure in this regard has been the phasing-in of a substantial tightening of LTV ratio limits, which has markedly reduced loss given default. On the other hand, the impact on the potential increase in the non-performing loan (NPL) ratio during a crisis has been very slight.

Under the simulated adverse scenario, the probability of default on new loans granted in 2018 and 2019 falls slightly. Loan riskiness in a period of stress was analysed using the methodology described in Box 1. On this basis, we estimated the "stressed probability of default", i.e. the probability of default on loans in the event of a deterioration in the economic situation (including a five-percentage-point increase in the unemployment rate). Although the stressed PD on new loans has recently been falling, it still remains elevated on a proportion of new loans. Under the adverse scenario, the default probabilities for housing loans and consumer loans are 3% and 6.3% respectively, while the NPL ratios for housing loans and consumer loan increase by 2.6 and 6.7 percentage points respectively.

Box 1
Methodology for assessing the risk to new loans of a deterioration in economic conditions

The risk to new loans of a potential deterioration in economic conditions was assessed in terms of the probability of default and the recovery rate on these loans during a period of stress. The methodology used was similar to that used in the analysis that appeared in the Special Feature of the May 2019 Financial Stability Report.

The main assumption is a general increase of five percentage points in the unemployment rate. For individual borrowers, the probability of employment loss depends on their socio-demograph-

ic characteristics, in particular their level of education. We assume that the income of borrowers who do not lose their job falls by up to 10% (depending on the nature of the sector of employment). The PD on a loan depends on the probability of the borrower or co-borrowers becoming unemployed and on whether the financial assets and remaining income of the borrower or co-borrower(s) (after factoring in temporary unemployment benefit) will be sufficient to cover the loan repayments and living expenses (at 1.5 times the minimum subsistence amount for each member of the borrower's household) for a period of at least one and a half years. For borrowers whose income is not sufficient, it is assumed that they will default on consumer loans before housing loans. If they do so and are still unable to service their housing loans, they will default on those loans, too. Other adverse-scenario assumptions are that property prices fall by 20%, that the loss given default (LGD) on consumer loans is 80%, and that the LGD on housing loans is 10% of the outstanding loan amount plus the positive difference between the LTV ratio and 80%.

From a financial stability perspective, however, it is necessary to reduce the impact of a potential crisis not only on banks' losses but also on their aggregate NPL ratio. The reduction of banks' losses (i.e. credit risk costs) is important in terms of mitigating the direct effects of a crisis on the banking sector. From the view of indebted households, however, what is more important is the impact of the measures on reducing the number of non-performing loans. Moreover, fewer NPLs means less pressure to reduce consumption during crisis periods, thereby enabling the economy to recover more quickly. This subsequently has an indirect impact on the economy as a whole, including the banking sector.

Since risks related to rising household indebtedness remain present, it is necessary to analyse the need for further tightening of regulatory lending requirements. The measures taken to date have been largely focused on reducing the risk to new loans of a deterioration in economic conditions, as well as on reducing the rate of loan growth to a level consistent with sustainable growth in the household-debt-to-GDP ratio. The measures have contributed to the gradual attainment of these goals; nevertheless, the risks in certain loan categories remain elevated. At the same time, there has been further easing of monetary policy, which, in an environment of stiff competition, has led to a further relatively sharp drop in interest rates. This has accentuated the ongoing build-up of risks from household borrowing.

The risk-mitigation impact of the NBS measures has been seen mainly in the decrease in the size of losses given default (via LTV ratio limits). Compared with measures adopted in other countries, a key feature of the NBS measures has been their broad scope; the limits set by NBS cover a comprehensive range of lending parameters, including the LTV ratio, financial

buffer, maximum indebtedness, maximum loan term, and regularity of repayments. The most substantial tightening over the past five years has been the tightening of LTV ratio limits. As a result, the loss given default on new loans has fallen sharply. On the other hand, the measures' impact on the actual probability of default has been only slight. Therefore, in the following analysis, we focus mainly on the limit concerning borrowers' financial buffer in terms of income after deductions of loan instalments. This limit is the one most closely related to reducing the probability that borrowers in financial difficulty will default. First, we look at the current limit in international comparison, and then we identify groups of borrowers whose risk of defaulting in the event of a crisis is still relatively high.

The debt-service-to-income (DSTI) ratio limit in Slovakia is relatively loose by international comparison

An international comparison of DSTI ratio limits shows that the limit applied in Slovakia is relatively loose. The probability of default is affected mainly by the DSTI ratio limit, which is set at 80 %. A direct comparison is complicated by the fact that the DSTI ratio is calculated in different ways in different countries. In Slovakia, the DSTI ratio is calculated as the ratio of the borrower's total loan repayment obligations (subject to a stressed interest rate) to the borrower's income less the minimum subsistence amount. Unlike in most other countries, the DSTI ratio in Slovakia factors in an increase in repayments due to an interest rate shock. In other EU countries (apart from Cyprus), the minimum subsistence amount is not deducted from the income component of the DSTI ratio. The implementation of the DSTI ratio in Slovakia is stricter for lower-income groups (representing the highest credit risk) and, conversely, looser for higher-income households. For comparison with limits on a country-by-country basis, we recalculated the Slovak DSTI ratio as a ratio of repayments to income according to a uniform methodology. We then calculated the share of loans whose recalculated DSTI ratio exceeds the DSTI limits typical in other countries, usually within a range of between 40% and 50%.[13]

[13] In some countries where it is higher (50%), the limit is applied after taking into account a relatively high interest rate shock on the level of repayments (Lithuania and Estonia).

Table 1 International comparison of DSTI and DTI limits

Country	DSTI				DTI		Binding limit
	Main limit	Exemption (percentage of new loans)	Additional limit	Interest rate shock	Main limit	Exemption	
Slovakia	80%*				8	20%	√
Cyprus	80%*		65% for FX loans				√
Slovenia	50%		67% for higher-income borrowers				x
Portugal	50%	20% up to a DSTI of 60% 5% without limit**					x
Lithuania	50%	5% up to a DSTI 60%		yes – 5%			√
Estonia	50%	15% (applies jointly to all ratios)		yes – 6%			√
Czechia	45%	5%**			9	5%	x
Poland	40%		50% for higher-income borrowers				x
Romania	40%	15%**	45% for first-time homebuyers 20% for FX loans				√
Austria	30% to 40%						x
Hungary	25%		30% for higher-income borrowers; looser limits (up to 60%) if interest rate fixation is longer				√
Netherlands	10.5% to 29.5% (according to income and interest rate)			yes – 5%			√
Ireland					3.5 (gross income)	10% / 20%	√
United Kingdom					4.5 (gross income)	15%	√
Norway					5 (gross income)	10% / 8%	√

Source: ESRB.
Notes: * In Slovakia and Cyprus, the DSTI ratio is calculated as the ratio of the borrower's loan repayment obligation to the borrower's net income less the minimum subsistence amount, while in other countries it is calculated as the ratio of loan repayment obligations to net income not reduced by the minimum subsistence amount.
** The exemption is not subject to an upper DSTI limit; nevertheless, the lender must demonstrate that, the application of the exemption notwithstanding, there is a high probability of the loan being repaid.

If the DSTI limit in Slovakia was set similarly as in other countries, it would affect a relatively large proportion of new loans. If the limits applied in the Czech Republic were applied in Slovakia, around one-quarter of new loans would fall outside them.[14] If they did meet the limits, the growth rate

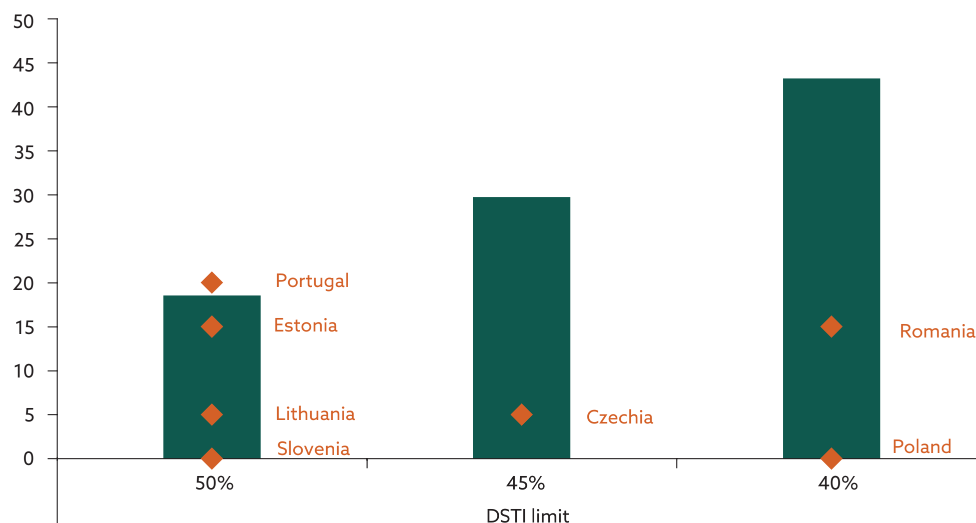
[14] The comparison with Czechia is analysed in more detail mainly because the limits applied in that country are roughly in the middle of the limits applied in the countries under comparison.

for housing loans would be lower by around 1.3 percentage points. If the limits used in Poland were applied in Slovakia, the impact could be even greater.

Chart 23

If DSTI limits applied in certain other countries were applied in Slovakia, they would affect a proportion of new loans

The share of new bank loans in Slovakia that would exceed DSTI limits applied elsewhere, and a comparison of that share with exemptions applied in specific countries (percentages)



Source: NBS.
Notes: The chart shows the DSTI ratios of new housing loans provided in the second quarter of 2019. The DSTI is calculated as the ratio of loan repayment obligations (subject to a stressed interest rate) to income, without deducting the minimum subsistence amount from income. The horizontal axis shows DSTI limits. The vertical axis shows the share of loans that exceed the limit. The diamonds denote the exemptions permitted in particular countries. The gap between the top of the bars and the diamonds shows the share of loans in Slovakia that would exceed the limit applied in the given country after taking the exemption into account.

The main factor determining the risk to loans of a financial crisis is borrowers' low financial buffers in terms of income after deductions of loan instalments, particularly among loans to medium-income and low-income borrowers[15]

Risky loans comprise mainly loans for which repayments constitute a large part of the borrower's income. This is the case with both housing loans and consumer loans. As Chart 15 shows, loans with a high DSTI ratio have a higher probability of default. This is true during the current period of economic growth, as evidenced by the rising NPL ratio of the banking sector's aggregate loan book, as well as during crisis periods, when the estimated PD increases along with the increase in DSTI ratios. The increase in loan riskiness is most pronounced for loans with DSTI ratios of between 50% and 60%.

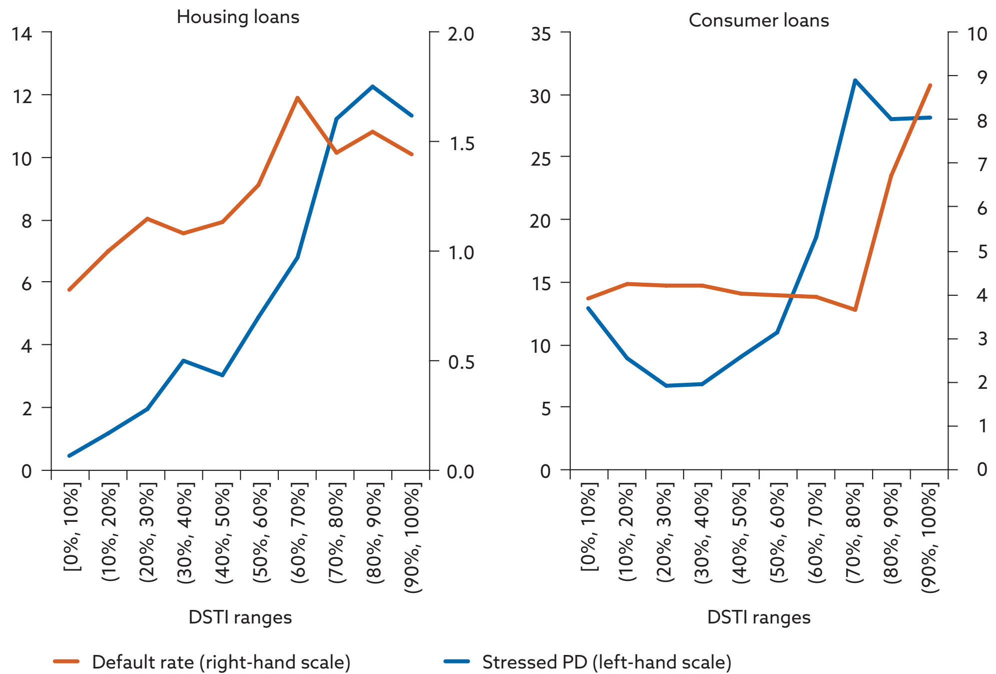
---

15 The methodology used to identify groups of loans most at risk to a deterioration in economic conditions was again that described in Box 1.

Chart 24

Probability of default rises sharply for loans with a high DSTI ratio

(percentages)



Source: NBS.

Notes: The default rate is the non-performing loan (NPL) ratio as at 30 June 2019. The stressed probability of default (PD) denotes the estimated PD of loans in the event of a deterioration in economic conditions.

Loan riskiness also increases significantly where loans are provided to lower-income borrowers. Higher-risk loans comprise mainly loans provided to borrowers whose net income is less than €1,400 per month. The probability of default on loans in the event of a crisis is far higher for loans to lower-income borrowers. On the positive side, the amount of new loans provided to low-income households (with an income of up to €800) is relatively low. There is greater risk, however, with loans to households with an income of between €800 and €1,500, since these households are relatively high risk and, at the same time, receive a large share of total new loans.

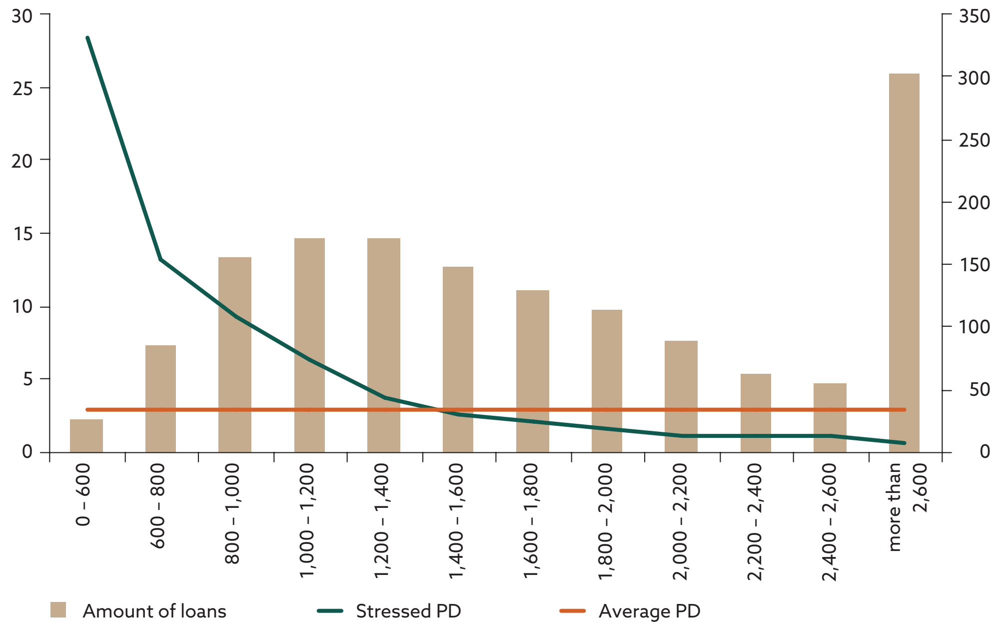
Furthermore, high DSTI ratios are largely associated with borrowers in the lower-income and middle-income groups. Loans to these households account for a significantly higher share of loans with higher DSTI ratios.

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Chart 25

The loans that would be most at risk in a crisis are those provided to lower-income borrowers

(percentages; EUR millions)

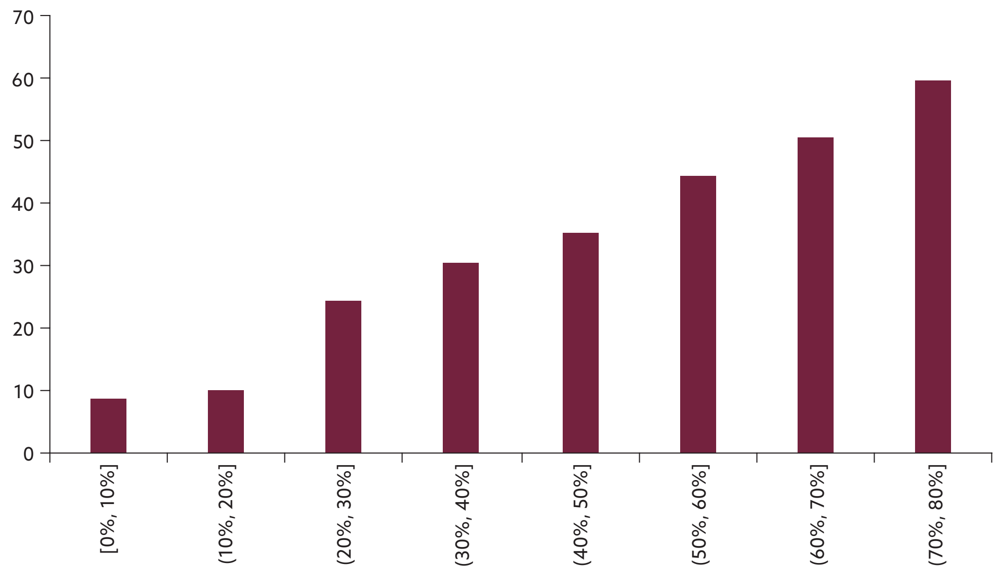


Source: NBS.
Notes: The chart shows the volume of new housing loans provided in the second quarter of 2019 and their riskiness. The stressed PD indicates the estimated PD on loans in the event of a deterioration in economic conditions. The PD is weighted by the amount of loans. The horizontal axis shows net monthly income ranges for the households to which the housing loans were provided.

Chart 26

Loans to lower-income and middle income households account for a significantly higher share of loans with higher DSTI ratios

Loans to households with a net monthly income of less than EUR 1,400 as a share of loans within the given DSTI ranges (percentages)



Source: NBS.
Note: The chart shows data for new housing loans provided in the second quarter of 2019.

2.2 The economic slowdown has been reflected in corporate credit market trends

Growth in loans to non-financial corporations (NFCs) has moderated in the context of the economic slowdown

The Slovak economy's recent slowdown has had an impact on the corporate credit market. After sentiment began deteriorating in the latter part of 2018, the economy has been cooling in 2019, resulting in declines in foreign trade and corporate sales. The situation in the corporate sector has therefore worsened significantly, causing a gradual decrease in the growth rate for loans to NFCs.

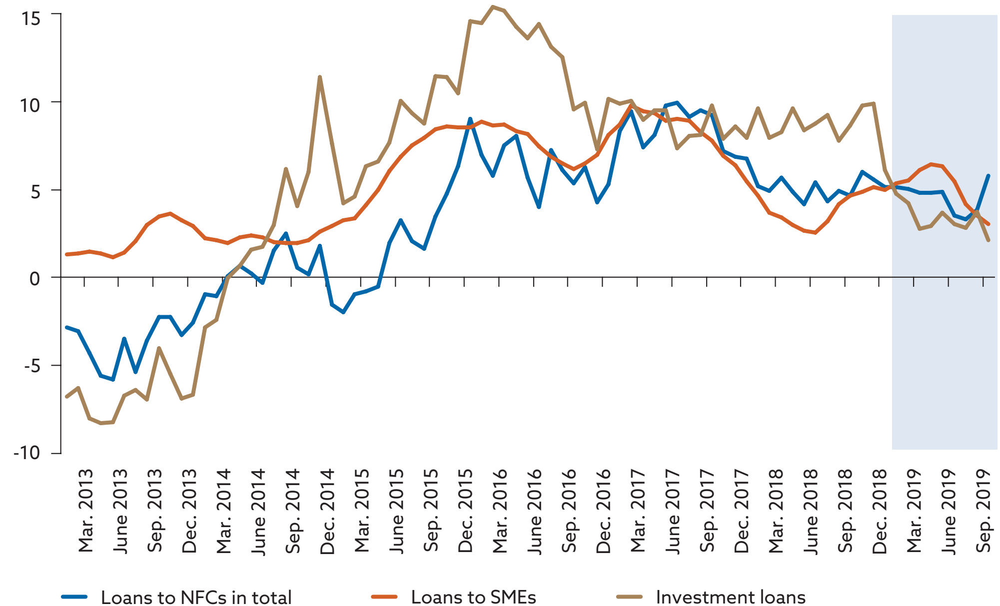
The year-on-year increase in total loans to domestic NFCs slowed gradually, down to 3.85% in August 2019. In September, however, it jumped back up to 5.76%. This increase, though, was driven by growth in short-term loans to industrial firms provided by a relatively small group of banks. Growth in NFC loans with terms longer than one year continued to decelerate until the end of the third quarter of 2019. The largest slowdown was recorded by investment loans, whose growth fell from almost 9% at the start of the year to 2.15%. There was slower growth also in loans to small and medium-sized enterprises as well as in loans to large enterprises, though the latter did record a marked acceleration in September. In their breakdown by economic sector, lending trends corresponded quite closely to sales trends. The growth rate for loans to firms in the real estate sector and selected market services accelerated, and the same sectors saw a relatively sharp rise in sales. Most other sectors experienced lower loan growth accompanied by a correction in sales.

Despite improving slightly in 2019, lending to the commercial real estate (CRE) sector has remained below the corporate portfolio average. Banks' lending to the CRE sector slowed in the third quarter of 2019, but its average growth was higher over the first nine months of the year (at 3.5%) than in the previous year (2.9%). The moderation of loan growth over the past two years has resulted in a gradual downtrend in the ratio of loans to the CRE sector to total NFC loans. Even so, the CRE sector still accounts for the largest share in the corporate loan book. Among smaller banks, this concentration is higher.

A correction on the demand side was observed in 2019, with the key factor behind it being a decline in firms' need to finance their investment activity and operations. At the same time, banks have for the past two quarters been expecting a drop in demand in the period ahead. The situation on the supply side is less clear, as the slowdown in supply has not yet been reflect-

ed in significant tightening of credit standards. Nevertheless, banks have for the past few quarters been presenting expectations about the economic situation and outlook for sectors or firms, including firms' creditworthiness, as factors having a negative impact on credit standards.

Chart 27
Slowdown in NFC loan growth in 2019
(percentages)



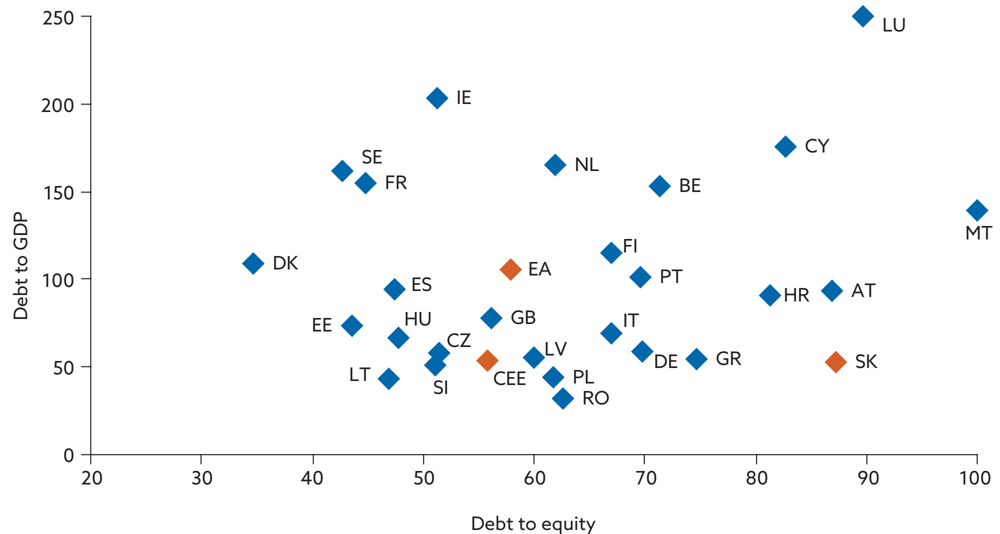
Source: NBS.

The NFC debt-to-equity ratio remains among the highest in the EU, despite corporate indebtedness falling

Corporate indebtedness in Slovakia was falling during the first half of 2019. The NFC debt-to-GDP ratio fell by 1.6 percentage points, to 52.4% as at June 2019, which ranked the domestic corporate sector among the least indebted in the EU and below the median for CEE EU countries. The fall in indebtedness reflected the impact of both GDP growth and the stagnation of corporate debt. Despite decelerating, growth in domestic bank lending to NFCs was virtually the only source of upward pressure on corporate debt, while firms' external borrowing remained flat and their issuance of securities declined year on year.

Despite decreasing, the debt-to-equity ratio in Slovakia is one of the highest in the EU. The debt-to-equity ratio has also been falling in 2019, with the amount of corporate debt stagnating and firms' aggregate equity increasing. Between the end of 2018 and the end of September, the ratio fell by four percentage points, to 87.3%, which is still among the highest figures in the EU.

Chart 28
The debt-to-equity ratio is one of the highest in the EU
(percentages)



Source: NBS, and Eurostat.
Note: To make the chart clearer, the debt-to-equity ratio for Malta was adjusted from 149% to 100%, and the debt-to-GDP ratio for Luxembourg was adjusted from 339% to 250%.

The downtrend in the non-performing loan ratio has slowed significantly in 2019

The NPL ratio has continued to decrease gradually in 2019. At the same time, there have been changes in some of the trends that were underpinning the NPL ratio's decline in previous years. The NPL ratio has continued decreasing in 2019, and in September it stood at a post- crisis low of 3.41%. Nevertheless, a change has been seen in the factors that were putting downward pressure on the ratio in previous years. This year's fall in the NPL ratio has been caused largely by growth in the NFC loan portfolio and by relatively substantial loan write-downs/offs and sell-offs. On the other hand, the decrease in the amount of NPLs, which in previous quarters contributed significantly to the fall in the NPL ratio, has almost come to a halt in recent months. In year-on-year terms, however, the amount of NPLs has continued to fall quite sharply owing to a base effect. In some banks, the amount of NPLs increased in the third quarter of 2019.

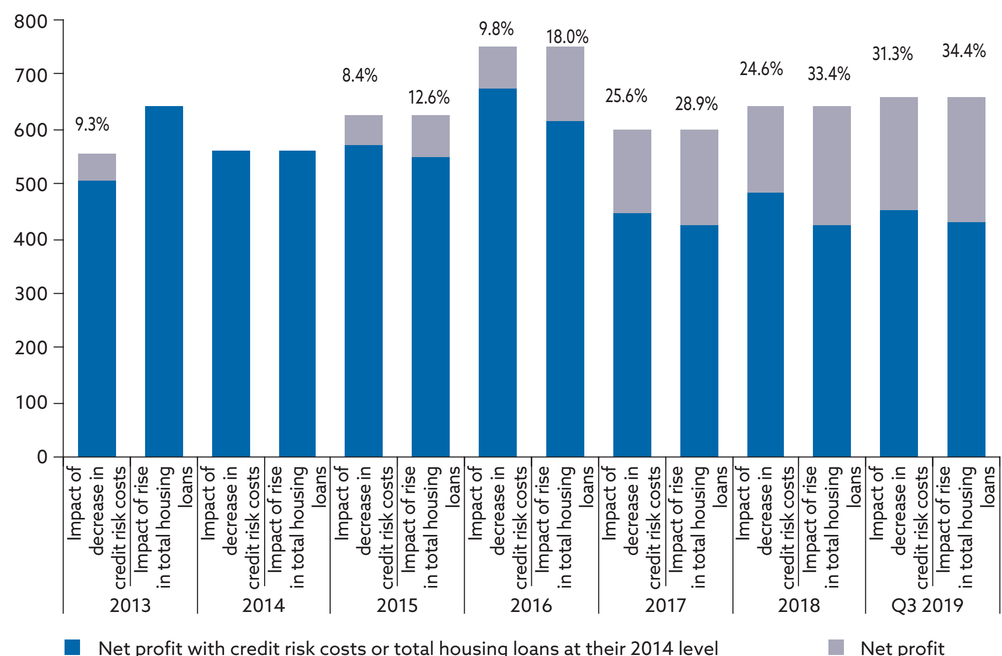
The trend shift in the amount of NPLs has had two principal causes. The first is a decline in the amount of loans reclassified from non-performing to performing, which in 2019 has fallen to a multi-year low. The second is that the default rate has stopped falling, although it still remains at historically low levels. In the last three years, moreover, there has been a widening gap between the default rate calculated on the basis of the number of loans and the default rate calculated on the basis of the amount of loans. There is a higher default rate for smaller loans (up to €10,000) provided

to small enterprises and that rate has remained largely unchanged since 2013. By contrast, the default rate for large loans has been falling in recent years with stabilisation in 2019.

2.3 Banks' traditional business model will remain under pressure

The protracted period of low interest rates will continue to put pressure on the business model of Slovak banks. Following the ECB's most recent bout of monetary policy easing in September 2019, it appears that the period of low interest rates will continue at least for the medium term. For a banking sector that has a traditional business model and a high ratio of net interest income to total profit, this will mean further downward pressure on income. Although the Slovak banking sector has so far managed to maintain its profit levels, these have been supported to a large extent by historically low credit risk costs and banks' ability to provide relatively large volumes of loans. In the event, in particular, of adverse developments in the real economy, it may be expected that credit risk costs will rise and that lending demand and supply will decline, with the banking sector's profit falling as a result.

Chart 29
Low credit risk costs and a rising volume of housing loans have helped the banking sector maintain profit levels
(EUR millions)



Source: NBS.
Notes: The percentage above each bar denotes how much lower the net profit would be if credit risk costs or total housing loans were the same as in 2014. The data for Q3 2019 are annualised.

Competition in the credit market is expected to remain strong and also to have an impact on banks' risk aversion. Interest rates on housing loans remain below the levels implied by fundamentals. Towards the end of the third quarter of 2019, interest rates on new loans began falling again. This situation is probably reflective of banks' efforts to expand their loan books, since scope for rate cuts is being created both by monetary policy decisions and by the possibility of certain banks issuing covered bonds at a favourable yield.

Chart 30

Interest rates have remained below their fundamental level

(percentages)

Source: NBS.
Note: The fundamental value is estimated on the assumption of a long-term relationship with five-year Slovak government bond yields until the end of 2013.

A further drop in interest rates on housing loans could raise questions about the profitability of the retail portfolio. The average interest rate on the Slovak banking sector's aggregate housing loan book is 1.8%. Given such a level, the constancy of banks' fee policy, and a continuing positive trend in credit risk costs, the banking sector's net return on the retail portfolio in 2019 is estimated to be around €1.1 billion. If the average interest rate on housing loans falls to 1.0%, the net return is estimated to decrease by as much as around €280 million (to just over €800 million per year). That return would cover only around 65% of banks' operating expenses. Although the operating expense ratio for the retail portfolio differs between banks, such low coverage could, for those banks focused on the household sector and on providing housing loans, raise questions about the profitability of the retail portfolio.

If banks want to maintain their current levels of interest income from housing loans, they must substantially increase the volume of this len-

ding activity. If the average interest rate on the housing loan book fell from 1.8% to 1.0%, the total amount of these loans would have to be increased by almost €25 billion in order to achieve the current level of interest income. That would be a substantial increase, given that the aggregate outstanding amount of housing loans currently stands at less than €30 billion. And although the recently available option of issuing covered bonds at low, even negative, yields to maturity is helping banks to reduce costs, this situation will to a large extent continue to depend on developments in market factors and in the domestic and global economies.

The pressure on banks' profitability could be eased in the short term if the bank levy were discontinued. Banks in Slovakia have been paying what is known as the bank levy since 2012. At present the levy is set at 0.2% of total liabilities per year and is in force until the end of 2020. The levy is intended to cover costs related to the resolution of distressed banks and to protect the stability of the banking sector in Slovakia. The Government is proposing, however, that the levy be increased to 0.4% from 2020, a rate that would have a significantly adverse impact on the sector's profitability. This impact is analysed in more detail in Box 2.

In 2015, with the bank levy already in force, the Resolution Council was established as the national resolution authority in Slovakia. The national resolution authorities and the Brussels-based Single Resolution Board constitute the Single Resolution Mechanism (SRM) of the euro area banking union. The main objective of these institutions is to prevent crises in the financial sector and to ensure the effective resolution of any crises that do arise, with the aim of preserving financial stability. The overall resolution framework was established in the wake of the global financial crisis in order to ensure that governments and taxpayers are not left with the costs of financial system bailouts. For this purpose, Slovak banks are now required to pay contributions not only to the domestic Deposit Protection Fund, but also to the SRM's Resolution Fund. In other words, the banking sector is currently paying two types of contribution towards potential resolution-related costs.

The aggregate proceeds from the levy for 2018 amounted to more than €130 million, costing the banking sector almost 17% of its net profit. The levy, however, represents a heavier burden for smaller and medium-sized banks. In the case of banks subject to direct supervision by the ECB – known as "significant institutions" (SIs) – the levy swallowed up 19% of their overall net profit for 2018, while across other banks – comprising "less significant institutions" (LSIs) and foreign bank branches – the take was 28%. Another problem with the bank levy is its procyclicality. Because the levy is calculated on the basis of liabilities, it places a greater burden on the banking sector during periods of crisis. Had the levy been applied in

its current form in the crisis year of 2009, it would have cost the banking sector fully 64% of its net profit. Furthermore, banks are required to pay the levy even if they report a loss.

Box 2

Financial stability and banks' customers could be adversely affected if the bank levy is increased and, more so, if it is retained for the long term

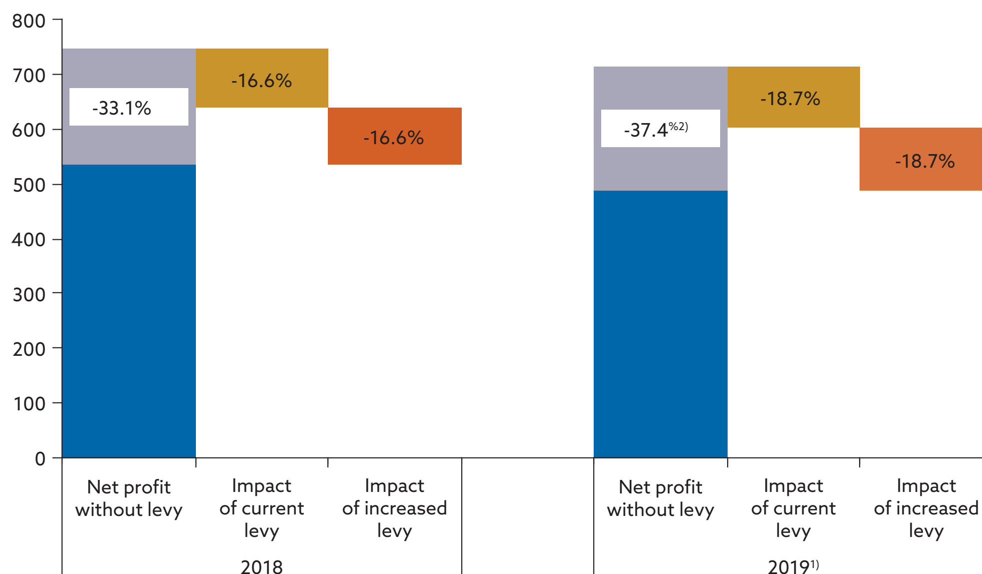
- A higher bank levy will significantly reduce the banking sector's profit.
- Since lower profits will mean banks have less capacity to prepare for a crisis period, they represent a risk to financial stability and consequently to the real economy.
- The banking sector's profit would be under pressure even without the bank levy, given the traditional nature of the sector's business model.
- Should a high bank levy be applied on a long-term basis, it may dampen investor interest in the Slovak banking sector.
- A high, long-term bank levy could have negative repercussions on banks' customers.

Under a draft law amendment recently put forward by the Slovak Government, the bank levy is to be raised from 0.2% to 0.4%. As the law stands, banks are required to pay a levy of 0.2% of their liabilities (less shareholders' equity), which will be discontinued after 2020; under the draft amendment, the levy will be doubled and also prolonged into subsequent years. This change, however, will entail risks to the banking sector's stability and, indirectly, to the domestic economy.

The bank levy cost banks almost 17% of their net profit for 2018. If the proposed doubled rate had been applied then, the cost would have been more than 33%. Banks' profits are a key pillar of financial stability, since it is firstly from their profits that banks will cover losses arising from the risks they face. Furthermore, Slovak banks also use their profits to increase their capital, which serves as a buffer against losses resulting from any sizeable economic downturn. This means that an increase in the bank levy will reduce banks' ability to be prepared for worse economic times. In the event of a crisis, the levy's procyclical nature could also cause problems. In other words, because the levy is charged on the banking sector's liabilities, its impact will be even more pronounced during periods of reduced profit-generating capacity. If a levy of 0.4% had been applied in the crisis year of 2009, the amount payable would have represented 200% of the banking sector's net profit.

Furthermore, the profit-generating capacity of Slovak banks is decreasing. The ECB's monetary policy stance, which is based on developments across the euro area, is currently accommodative, which means low interest rates and therefore pressure on banking sectors that follow a traditional business model. The aggregate return on equity (ROE) of the Slovak banking sector has remained flat in recent years. In 2018 the ROE stood at just over 9%, above the EU median; however, in most other EU countries, the corresponding ROE has been increasing in recent years and in some cases has surpassed the ROE in Slovakia. Furthermore, most other CEE EU countries are ahead of Slovakia on this metric. It may be expected that this situation will worsen even without an increase in the bank levy, given that the net profit of Slovak banks for the first nine months of 2019 declined year on year.

Chart 31
An increase in the bank levy will have a major impact on the banking sector's profit
(EUR millions)



Source: NBS.
Notes: 1) The data for 2019 are annualised on the basis of the data as at September 2019 and of the sector's average net profit ratio for the third and fourth quarters of the years 2004 to 2018.
2) The bank levy for 2019 is annualised on the basis of data as at September 2019.

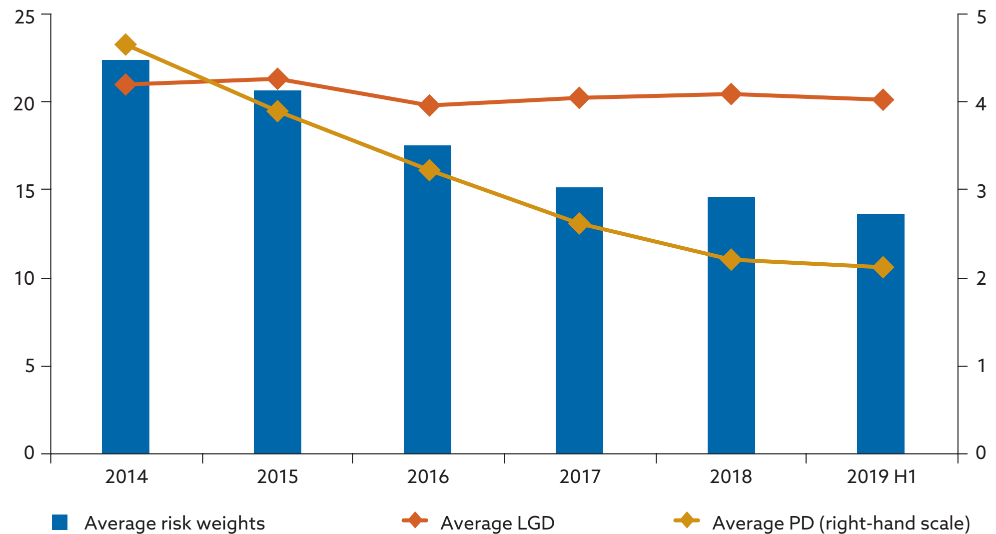
If the bank levy is increased and prolonged, investor interest in the Slovak banking sector may be expected to wane. The banking sector's still favourable situation in terms of profitability is reflected also in heightened interbank competition, one result of which is the high availability of credit for customers. At present, housing loan interest rates are among the lowest in the EU and are therefore highly beneficial for banks' customers. In the event of the bank levy being increased and prolonged, investor interest in the Slovak banking sector may be expected to wane due to declining returns on investment. This could have an impact on competition in the sector and therefore also on the availability and prices of bank products. Thus, an increased levy may adversely affect banks' customers themselves. Should banks have difficulty in meeting their capital requirements, their lending to the real economy may decline. A reduction in banks' profits resulting from a levy increase will also dent banks' investment in modernisation and new technology whose ultimate benefits are experienced by customers in particular.

2.4 The incomplete credit cycle is contributing to a decrease in risk weights at certain banks

At banks using the internal ratings-based (IRB) approach for assessing credit risk ('IRB banks'), the risk weights for the housing loan book have been decreasing due to low or falling default rates. In the current environment of low interest rates, strong growth in loans to households, and a favourable trend in the default rate for the retail loan book, there has also been a decrease in risk weights for the housing loan portfolios of IRB

banks. The banks' models assume, on the basis of positive recent history, that the favourable period will continue in the near term. Alongside the long period of low or falling default rates, the regulatory probability of default (PD) has also been decreasing. With loss given default (LGD) levels remaining almost constant, this drop has been behind the decrease in risk weights.

Chart 32
Risk weights are being reduced amid decreasing PD levels
(percentages)



Source: NBS.
Notes: PD – probability of default; LGD – loss given default. The chart shows the average for IRB banks weighted by the total amount of housing loans. IRB banks use their own model to determine the risk parameters of their loan book. Other banks, applying the standardised approach, use the risk parameters defined by regulation.

The decrease in risk weights for housing loans represents a risk mainly because of the incomplete cycle of these loans. In the event of a deterioration in the macroeconomic situation, the credit quality of the housing loan book may also be expected to decline. Any higher PD level during an economic downturn will have a major impact on risk weights, since current PD levels do not incorporate a significant past crisis. Although the economy contracted in 2009, total housing loans recorded double-digit growth in that year and default rates remained relatively low.

If the credit cycle were complete, the risk weights applied by IRB banks to housing loans could be far higher. If we assumed a complete credit cycle, i.e. a cycle including a period when the default rate is elevated, the average PD level at IRB banks would be higher. The starting point for modelling a complete credit cycle is the experience of those countries, such as Ireland, which during the last financial crisis saw increased default rates on domestic banks' housing loan books. Assuming that default rates in Slovakia would be similar to those in banking sectors which experienced

a more marked increase in credit risk during the financial crisis, the regulatory PD for the whole housing loan book could be between 3.4% and 4.6% (the current PD level is 2%). Assuming an average PD of 3.4% for the whole housing loan book and that a relative increase in the PD would be the same across individual banks, the current risk weights applied in individual banks would more than double.

Higher risk weights would also have a downward impact on capital adequacy. Higher risk weights would automatically imply a higher volume of total risk exposures, which would lead directly to declines in banks' total capital ratios, with the level of the decline ranging from 1.5 to more than 2 percentage points, depending on the bank.

In the event of risk weights being inappropriately low, the macroprudential authority can impose measures to increase them. If the macroprudential authority determines that the current level of risk weights is inappropriately low, it may increase the risk weights under powers conferred by the EU's Capital Requirements Regulation (CRR). Under Article 458(2)(d) of the CRR, the authority may adopt a measure concerning "risk weights for targeting asset bubbles in the residential and commercial property sector". Several EU countries have already adopted measures concerning risk weights for housing loans, whether in the form of a floor limit, usually set at 15%, or through a risk weight add-on for banks, at, for example, the level of five percentage points.

Any response by the macroprudential authority must also take into account the current ongoing implementation of the "IRB repair programme",[16] which will significantly affect the entire design of IRB models in the future. The changes concern firstly the actual definition of default, which, however, will apply also to banks that use the standardised approach.[17] For IRB banks, there will then be a further group of changes based on EBA guidelines concerning the IRB approach. The implementation of the new framework will begin after 2021, while the complexity of the changes makes it relatively difficult to calculate currently their precise impact on IRB banks.

---

[16] https://eba.europa.eu/eba-publishes-report-on-progress-made-on-its-roadmap-to-repair-irb-models

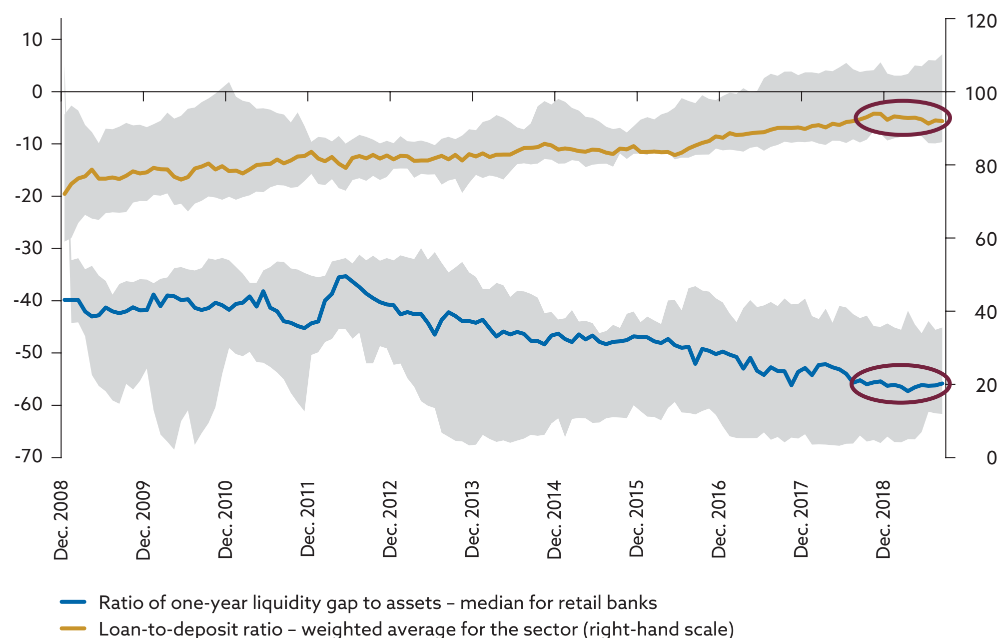
[17] http://www.nbs.sk/_img/Documents/_Legislativa/_Vestnik/ODP_1_2019.pdf

2.5 Systemic liquidity risk in the banking sector has decreased but remains elevated

Systemic liquidity is typically cyclical in nature. When times are good, banks can rely more on the stability of deposits despite the short agreed maturity of these products. They are able to sell liquid assets for a favourable price and to issue bonds under advantageous terms. During bad times, by contrast, deposits are less stable, and selling bonds can be complicated; bond issues themselves are problematic, especially when it is necessary to replace maturing bonds with a new issue. The current good times have, moreover, been enhanced by unconventionally low interest rates, thus the importance of the cyclical aspect in systemic liquidity analysis has only been heightened.

The financial cycle's stabilisation in 2019 has eased the upward pressure on the build-up of systemic liquidity risk. One of the main features of liquidity risk in the Slovak banking sector is the ongoing uptrend in the maturity mismatch between assets and liabilities, which stems mainly from growth in long-term housing loans and its steady upward impact on the average residual maturity of assets. This trend moderated during 2019, with the result that the liquidity gap in the banking sector stopped increasing. Nevertheless, the asset and liability maturity mismatch remains close to its historical high.

Chart 33
Risk related to the asset and liability maturity mismatch and to the sufficiency of stable funding has stopped increasing
(percentages)



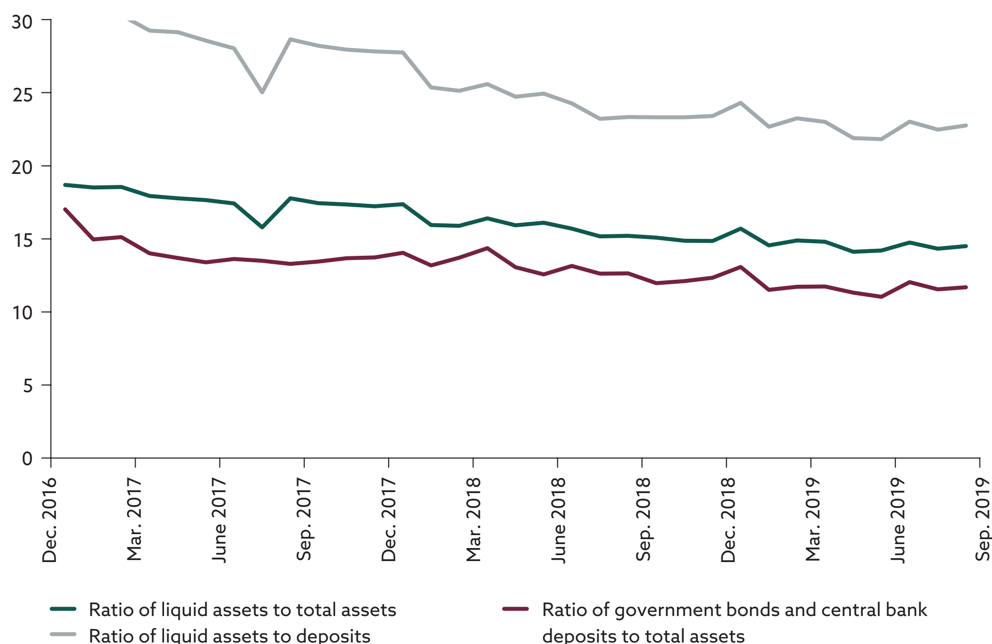
Source: NBS.

The structure of banks' funding has improved during 2019 owing to an acceleration of deposit growth and the issuance of covered bonds. The capacity of banks to fund growth in long-term illiquid loans through stable sources is crucial in regard to both systemic risk and business model sustainability. On the positive side, at the aggregate level of the banking sector, the long-standing uptrend in the ratio of loans to stable funds has stabilised in 2019; however, at the level of certain individual banks, it has not. The favourable overall trend has been underpinned by three factors. The first is the previously mentioned loan growth moderation and the resulting decrease in demand for new sources of stable funding. The second is the acceleration of year-on-year deposit growth, which has reached all-time highs in the post-crisis period. The strong deposit growth has supported a material increase in the stable funding base. The third factor to have improved the soundness of the funding structure has been the issuance of covered bonds – a step taken by four banks so far. These banks have taken advantage of a combination of new legislation and the environment of exceptionally low interest rates in order to improve their funding structure, not only through maturity extensions and diversification, but also through favourable prices. From a long-term perspective, it will be important to monitor how the exceptionally low yields on covered bond issues will affect interest rates on housing loans and to monitor under what terms banks will replace their current covered bond issues in the event of shifts in investor risk appetite.

Chart 34

The liquidity buffer's downtrend stabilised during 2019

(percentages)



Source: NBS.
Note: The definition of liquid assets corresponds to the definition of the liquidity coverage ratio (LCR).

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

An easing of adverse trends has also been observed in the liquidity buffer. After several years of gradual decline in the ratio of liquid assets to total assets and the ratio of liquid assets to deposits, this negative trend has moderated and come to a halt in 2019. The main contributor to this result has been purchases of foreign sovereign debt. The capacity of the banking sector to cope with any substantial withdrawal of deposits by selling bonds has remained largely unchanged. At the same time, the sector has demonstrated its self-sufficiency in terms of liquidity, since it is not dependent on intra-group funding or central bank funding.

2.6 The insurance sector faces long-term risks

The insurance sector has been affected by the low interest rate environment and the burden of a new tax

Life insurance business has recorded only modest changes in premiums in 2019. At the same time, however, provision costs in the segment have increased significantly. As at June 2019 most insurers in the segment reported a year-on-year decline in the amount of premiums under traditional life insurance and under unit-linked life insurance; nevertheless, on average, gross premiums written in life insurance fell by just 0.1% and those in unit-linked insurance actually increased by 2.6%. Insurers' profits were significantly affected by having to create additional provisions for life insurance while their financial result remained unchanged. This was a natural consequence of the prolonged low interest environment, as insurers must create technical provisions in excess of the level of their investment returns and on premiums written.

Annual growth in gross premiums written in non-life insurance has moderated significantly, from 11% in June 2018 to 3.4% in June 2019. The slowdown has been most pronounced in motor insurance, both in motor third party liability insurance and in comprehensive motor insurance. In property insurance, by contrast, premiums have risen slightly. A new factor in non-life insurance is the insurance premium tax in force since January 2019. Although technically this tax is a modification of the previous premium levy for non-life insurance, the insurance premium tax clearly applies to a greater number of non-life insurance contracts. The combined ratio in motor insurance, after accounting for mandatory tax payments, has remained above 100%, whereas in other insurance classes it is comfortably below that level.

The insurance sector's solvency increased moderately in the first half of 2019, though due only to reconciliation reserve. The sector's profitability declined in year-on-year terms. The creation of additional provisions in traditional life insurance had the principal negative impact on the aggregate profit. The solvency level was affected mainly by variations in the sur-

plus of assets over liabilities. The volume of shareholders' equity remained unchanged.

Expected profits included in future premiums continue to reduce the insurance sector's resilience

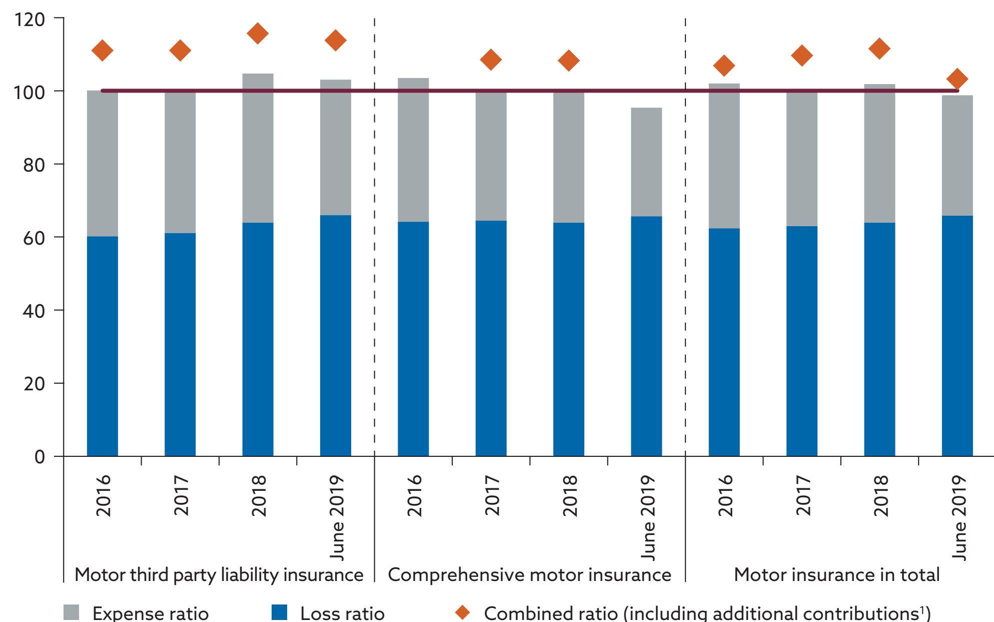
In Slovakia, the largest component of insurers' capital is *expected profits included in future premiums (EPIFP),* which cannot be used to absorb unexpected losses. After increasing to over 60% in 2018, the share of EPIFP in insurers' aggregate eligible capital has fallen back to around 50% in 2019, even while the total amount of EPIFP has risen. It is positive to note that the number of insurers whose capital not including EPIFP[18] would fail to meet the regulatory solvency capital requirement (SCR) fell from seven in mid-2018 to just three in mid-2019. Nevertheless, the share of EPIFP in insurers' capital remains higher in Slovakia than in any other EU country and poses a significant risk to the resilience of the insurance sector.

Motor insurance has been loss-making for a long time

Chart 35

Motor insurance has been loss-making for a long time, due in large part to additional contributions

The loss ratio, expense ratio and combined ratio for motor insurance, including additional contributions[1)] (percentages)



Source: NBS.
Note: 1) The additional contributions comprise transfers to the Slovak Interior Ministry, insurers' contributions to the Slovak Insurers' Bureau, and the insurance premium tax (applicable to comprehensive motor insurance, only in 2018).

---

18 Assuming that EPIFP were reassigned from Tier 1 capital to Tier 3 capital, only one-third of the EPIFP's value (capped by 15% of SCR) would count towards the eligible capital.

Motor insurance, comprising motor third party liability (MTLP) insurance and comprehensive motor insurance, has been loss-making almost continuously since 2016. In no other insurance class in the domestic market is competition so strong as in motor insurance, and this competition is severely limiting the ability of insurers to deal with new cost factors. The new costs stem primarily from legislative amendments (concerning the transfers to the Slovak Interior Ministry; insurers' contributions to the Slovak Insurers' Bureau; and the premium levy, later premium tax, on comprehensive motor insurance). Another additional cost burden for insurers has been court-awarded damages for non-material damage, with most of the claims being made under MTPL insurance. The issue here is not only the increase in costs for the insurance sector, but also insurers' high uncertainty in estimating the amount of such claims, since there is insufficient information with which to make an accurate estimate of the corresponding technical provisions. Yet another cost pressure has been wage growth, which in the sector of the sale and repair of motor vehicles stands at more than 14% for the three years from 2016 to 2018.

The insurance sector appears to be using motor insurance as a marketing channel for other insurance products. The sector's aggregate loss on motor insurance for the first half of 2019 was €8 million. This is a net figure, i.e. adjusted to exclude reinsurers' share. For comparison, the sector's pre-tax profit for the same period was €94 million.

2.7 Asset credit quality in segments managing customer assets has been falling in recent years

The recent era of low interest rates has seen the search-for-yield phenomenon spread to non-bank sectors in Slovakia. In funds managed by pension fund management companies,[19] supplementary pension management companies, investment fund management companies, and insurers, there has been a gradual increase in the share of equity holdings in their funds or balance sheets and lengthening of the duration of bond portfolios. Another trend within bond holdings has been an increase in the share of bonds of a lower investment grade credit rating, and in the case of investment funds, also in the share of speculative-grade and unrated securities. The intensity of this trend has varied significantly from segment to segment. Over time, this trend has increased balance-sheet credit risk and

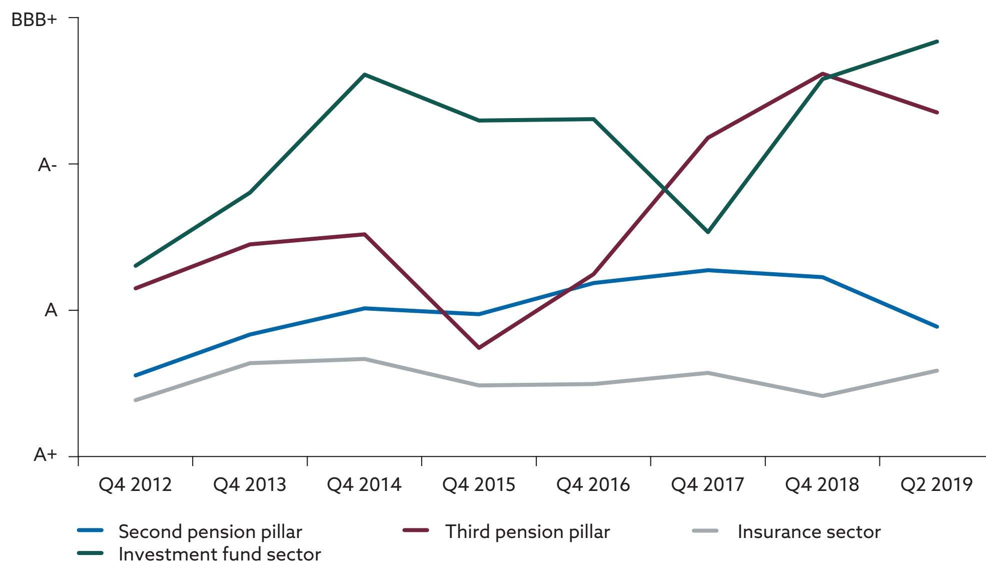
[19] The second pillar of the Slovak pension system – the old-age pension scheme – is a largely compulsory defined-contribution scheme operated by pension fund management companies (PFMCs). The third pillar – the supplementary pension scheme – is a voluntary defined-contribution scheme operated by supplementary pension management companies (SPMCs)

contributed to balance-sheet deterioration in liquidity terms, except in the case of the insurance sector and second-pillar funds. In these segments, the credit quality of the bond portfolio has for a long time been at a higher level and that situation has not changed significantly in recent years.

Chart 36

The average credit rating of the bond portfolio has declined in most segments

Average credit rating weighted by the volume of the respective positions (credit rating)



Source: NBS and Bloomberg.
Note: The calculation included only those bonds which at the given points of time were assigned a rating by at least one of the three major credit rating agencies.

The other two segments that manage customer assets have seen a broad decline in the credit quality of their debt security holdings, down to lower investment-grade ratings and, in the case of the investment fund sector, also to speculative-grade ratings and the unrated category. The decline in the credit quality of debt security holdings has been most marked in the investment fund sector. This shift has taken place at two levels. On the one hand, there has been a drop in the average credit rating assigned to the securities by at least one of the major credit rating agencies.[20] On the other hand, the share of unrated securities in the portfolio has been steadily increasing in recent years.[21] The second of these trends has featured mainly in mixed funds. Across bond investment funds, which have the largest share in the sector's debt securities portfolio, the share of bonds of lower investment grade[22] has increased threefold since 2012, as has the share of speculative-grade bonds. In the third pension pillar, the decline in the average credit rating of the debt securities portfolio during the period un-

---

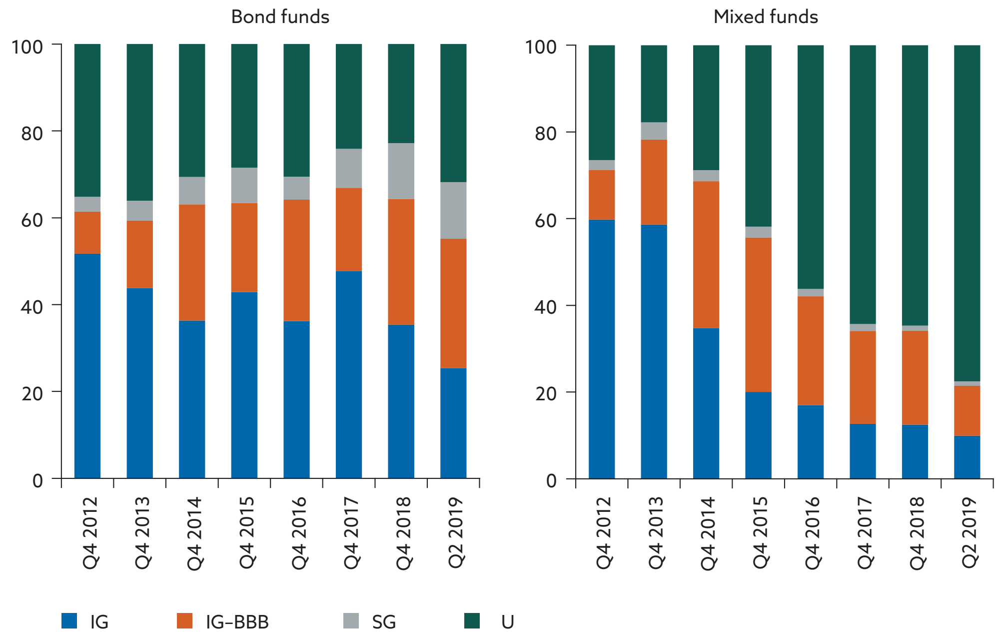
[20] S&P, Fitch, and Moody's.
[21] These are mainly debt securities and bills issued by Slovak and Czech issuers.
[22] Rating grades BBB+, BBB, and BBB-.

der review has been similar to that in the investment fund sector, with the major difference being that the share of unrated bonds in the third-pillar portfolio has decreased and is now very low.

Chart 37

Distribution of credit ratings of debt securities in selected categories of investment funds

(percentages)



Sources: NBS and Bloomberg.
Note: IG – higher investment grade; IG–BBB – lower investment grade; SG – speculative grade; U – unrated.

2.8 Heightened sensitivity of certain investment funds to a potential wave of redemptions

The net asset value (NAV) of investment funds returned to growth in the first half of 2019. After stagnating in 2018, the NAV of investment fund shares/units increased by more than €530 million in the first half of 2019, to €7.1 billion (representing an increase of 8% from its level at the end of 2018). Most of the growth was spread between mixed funds and real estate funds. The increase in the overall NAV of fund shares/units was caused not only by growth in the prices of the funds' assets in financial markets, but also by the net issuance of the funds' shares/units, which in the first half of 2019 almost matched its level for the whole of 2018.

There are increasing investor inflows to funds that include less liquid assets – assets which, in the event of an increase in redemptions, would not

be easy to realise within a short time. The funds in question are mainly real estate funds, whose share in the total NAV of funds managed by domestic management companies increased from 16% in December 2016 to 20% as at the end of June 2019.[23] Other less liquid investments may include funds' investments in bonds issued by lower-rated entities or in bonds not traded on an exchange (the situation with these investments is addressed in the previous part). The funds in question are open-end funds, whose shares/units may be redeemed at any time. Any sudden wave of redemptions of funds that invest in less liquid assets could trigger a fire sale of assets and a decline in the value of the funds' shares/units or a suspension of their redemption. This could undermine customer confidence in the financial system, since a significant proportion of investors see investing in investment funds as a full-fledged alternative to investing in bank deposits. At the European level, these risks have been a focus of analysis for a longer time.[24]

An investment fund's liquidity risk is mitigated mainly if its portfolio includes an ample volume of liquid assets. This is why the Collective Investment Act requires that at least 10% of real estate funds' portfolios consist of liquid assets.[25] The liquid asset component of real estate funds long established in the market generally ranges between 15% and 20% of the fund's assets, and in one fund it stands at almost 35%. Approximately 20–25% of a fund's assets should be realisable by the management company within 90 days. In more recently established funds, this share is lower due to the low total volume of assets under management in the funds. It may be concluded that fund management companies are maintaining the liquidity of real estate funds above the minimum requirements and should be able to cope with ordinary levels of redemptions.

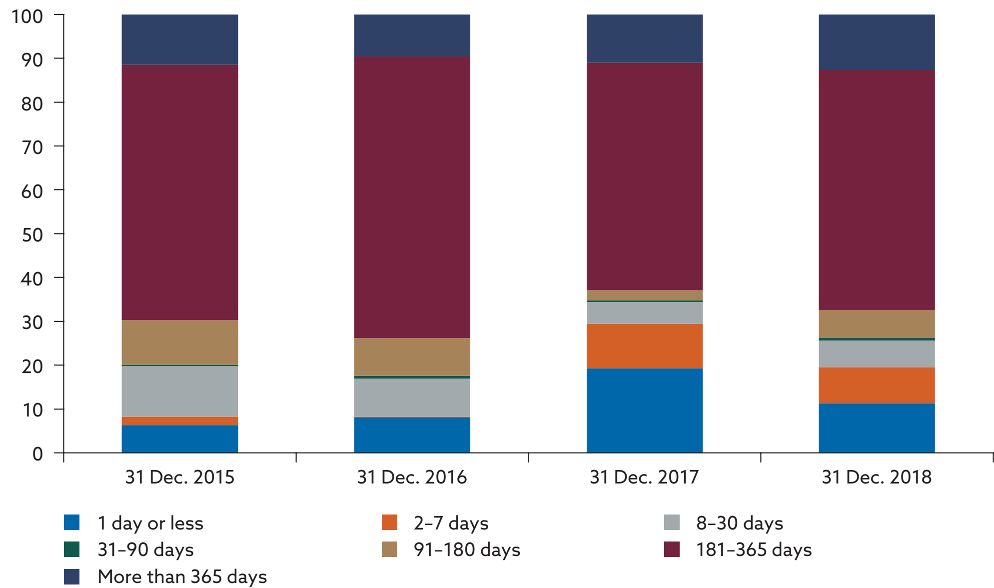
---

[23] For further details on the NAV growth of real estate funds, see the November 2018 Financial Stability Report.

[24] For example: the ESMA Report on Trends, Risks and Vulnerabilities, September 2019; or the ESRB's EU Non-bank Financial Intermediation Risk Monitor 2019.

[25] Section 125(6) of Act No 203/2011 on collective investment.

Chart 38
Portfolio liquidity profile of real estate funds



Source: NBS.
Note: The chart shows the percentage share of the portfolio which the fund management companies are able to realise within the given time periods.

Investment fund managers are recommended to conduct regular stress testing of investment fund liquidity. Asset management companies in Slovakia typically conduct stress testing of fund liquidity on an annual basis. In September 2019, on the basis of a Recommendation of the European Systemic Risk Board (ESRB),[26] the European Securities and Markets Authority (ESMA) published Guidelines[27] for asset management companies on liquidity stress testing of funds. ESMA recommends that liquidity stress testing be conducted at a quarterly frequency and be embedded in the general risk management process as well as in decision-making processes. Asset management companies may select the frequency of stress testing on the basis of the proportionality principle, taking into account the given fund's attributes. Management companies should proceed in accordance with these Guidelines from September 2020. The supervisory authority may request the results of the stress tests for review purposes.

[26] Recommendation of the European Systemic Risk Board of 7 December 2017 on liquidity and leverage risks in investment funds (ESRB/2017/6).

[27] ESMA: Final Report on the Guidelines on liquidity stress testing in UCITS and AIFs, September 2019.

3 Financial sector resilience

3.1 Solvency and financial position of the financial sector

3.1.1 Financial position of financial market segments

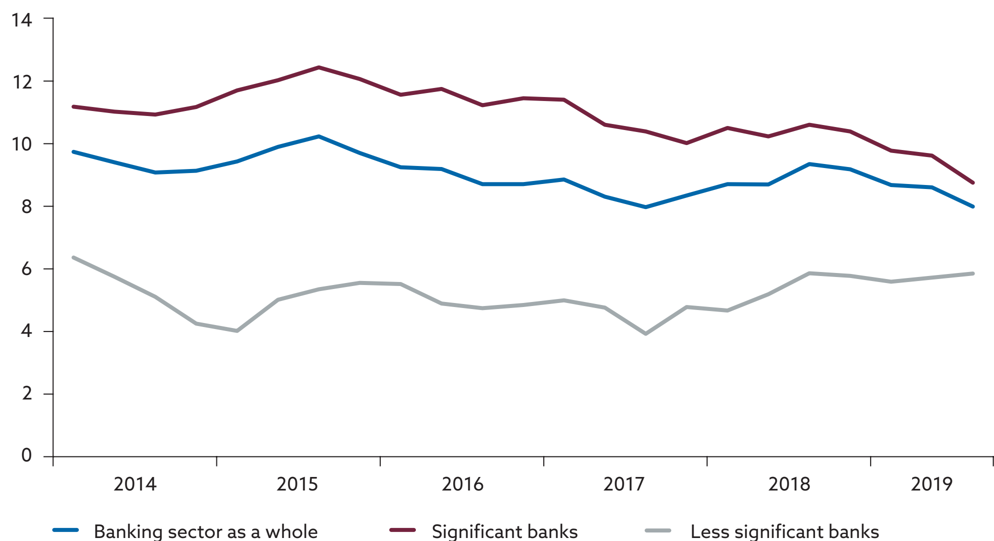
Due to interest margin compression, banks are no longer able to maintain stable profitability

The domestic banking sector's aggregate net profit for the first nine months of 2019 decreased by 5% year on year. Banks' return on equity (ROE) fell, year on year, from 9.3% to 8.0%. The ROE decline was concentrated among significant banks, whose profitability reached its lowest level since 2009–10, during the global financial crisis. By contrast, the aggregate ROE of less significant banks remained stable, though far lower than that of significant banks (at 5.9%).

Chart 39

Profitability fell year on year, in particular among significant banks

Return on equity (percentages)



Source: NBS.
Notes: The chart does not include extraordinary income from the sale of holdings in VISA company or the reversal of provisions for litigation. ROE was calculated as the ratio of the sum of quarter net profits/losses over a one-year period to shareholders' equity.

Compared with other banking union countries, the profitability of banks in Slovakia remains above average; however, that gap is gradually narrowing. In terms of the aggregate ROE of its banking sector for the first quarter of 2019, Slovakia ranked fifth highest among the 19 banking union countries. The aggregate ROE of significant banks in the banking union

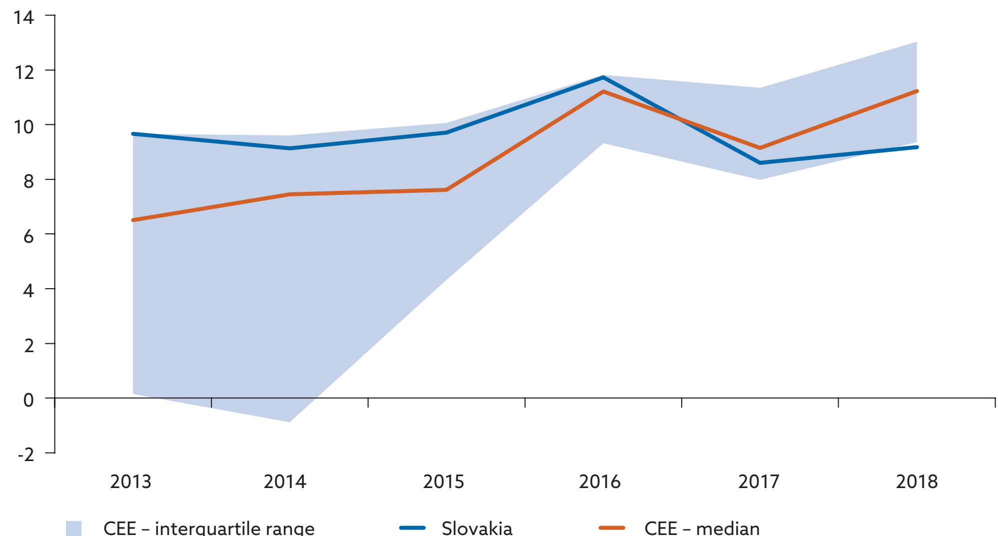
declined, though by less than did the ROE of significant banks in Slovakia. On the positive side, the Slovak banking sector's provisioning ratio for non-performing loans as at June 2019 was the highest in the banking union and the third highest in the EU. As for the sector's operational efficiency, it is slightly better than the banking union median.

Compared, however, with other central and eastern European EU countries, the profitability of the Slovak banking sector is relatively low. Among the 11 CEE EU countries, Slovakia ranked second lowest in terms of its banking sector's ROE as at June 2019. Up until 2016 its sector was among the most profitable, but recent years have seen relatively sharp increases in banks' profitability in many other CEE countries. From the perspective of foreign parent groups that own significant banks across CEE countries, the attractiveness of their Slovak subsidiaries is therefore gradually diminishing. Furthermore, the ROE of banks' in Slovakia – 8% as at September 2019 – is now at the minimum level required by most shareholders.[28] If the sector continues to experience declining profitability – which cannot be ruled out given the mounting risks to the sustainability of its business model – it may in the longer term experience banking consolidation and reduction in the scope for investment from parent undertakings.

Chart 40

In terms of profitability, the position of the Slovak banking sector within the CEE region is deteriorating

Return on equity (percentages)



Sources: ECB and NBS.
Notes: The chart is based on aggregate profit, including extraordinary income (e.g. the sale of holdings in VISA company in 2016). CEE – central and eastern Europe excluding Slovakia.

---

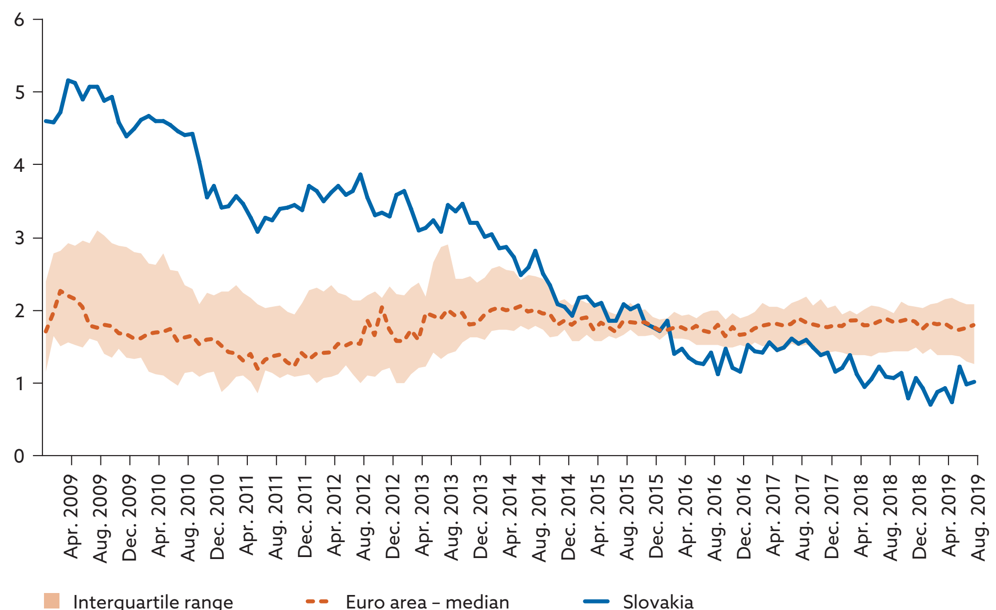
[28] The ROE required by 70% of shareholders is between 8% and 10%, and that required by a further 15% of shareholders is between 10% and 12% (source: the European Banking Authority's Risk Assessment Questionnaire – Summary of Results, December 2018).

The main cause of the decline in profit has been lower net income from the retail[29] sector. This income has been on a downtrend since 2015, interrupted only by extraordinary factors in 2016 and 2018, when certain non-bank business activities became part of the banking sector (the transformation of BNP from a non-bank to a bank company; one bank's acquisition of part of CFH, a non-bank company). Banks are less and less able to offset the ongoing substantial impact of declining returns on loans by increasing their volume of lending or reducing their cost of funds rates. In their retail business, moreover, banks are largely not raising rates of charge to compensate for interest margin compression. Fee income growth is being driven almost entirely by growth in loans and deposits.

Chart 41

The interest margins of banks in Slovakia are among the lowest in the euro area

Interest margins on housing loans in Slovakia and the euro area (percentage points)



Sources: ECB and NBS.
Notes: Interest margins are estimated as the difference between the average interest rate on new housing loans and the average weighted interest rate on new household deposits.

On the other hand, banks' profits for the first half of 2019 were boosted by net income from the NFC sector, dividend income, and a further decrease in credit risk costs. Net income from the NFC sector has been increasing since 2017, mainly because lending rates for NFCs, unlike those for the retail sector, have not been falling and total NFC loans have been increasing (albeit more slowly than retail loans). Dividend income increased significantly in the first half of the year, although that rise was largely accounted for by one payment of an extraordinary dividend from a subsidiary. Credit risk costs declined by 10% year on year.

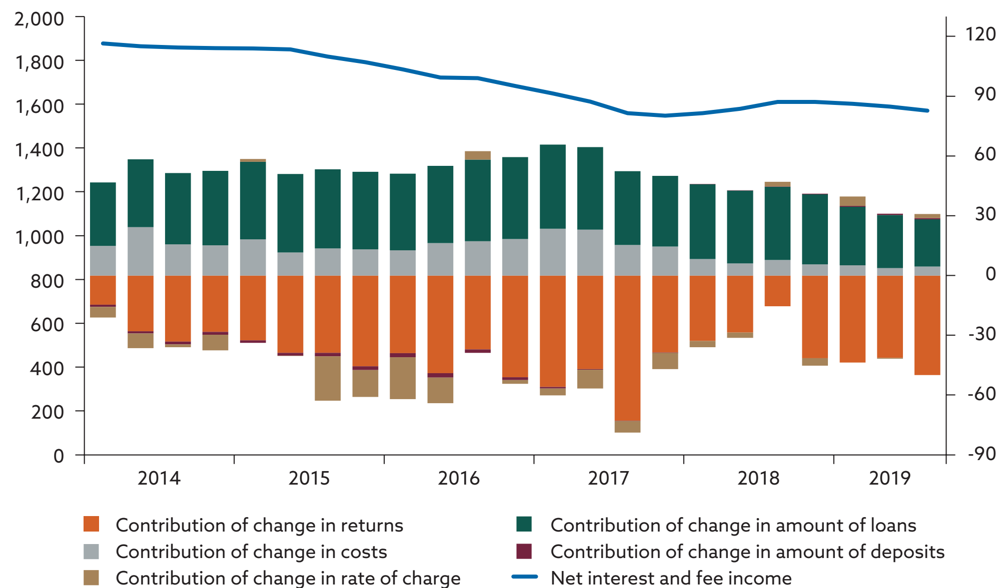
---

[29] For the purposes of this report, the retail sector of the credit market is defined as consisting of households, sole traders and non-profit institutions serving households

Chart 42

Long-term negative trend in net income from the retail sector (except for extraordinary factors)

Net interest income and fee income from the retail sector (left-hand scale) and contributions to their year-on-year change (right-hand scale) (EUR millions)



Source: NBS.
Note: The values are calculated for the previous four-quarter period.

Box 3

The impact on domestic banks of the new two-tier (tiering) system for remunerating excess liquidity holdings

In September 2019 the ECB adopted monetary policy measures concerning the remuneration of excess liquidity holdings of credit institutions subject to minimum reserve requirements (MRR), as one of the ECB's monetary policy instruments. The excess liquidity created by the ECB's accommodative monetary policy and by its non-standard monetary policy measures (e.g. the asset purchase programme) is currently subject to negative remuneration. For the euro area banking sector, given the amount of liquidity it has accumulated, such remuneration represents an additional cost that will eventually weigh on its profitability. The remuneration of excess liquidity holdings was lowered by a further 10 basis points on 18 September 2019, when the ECB reduced its deposit facility rate from -0.4% to -0.5%.

The new two-tier system for remunerating excess liquidity, which took effect on 30 October 2019, will curb the increase in costs related to the negative deposit facility rate (-0.5%) by exempting from this rate those reserve holdings in excess of the MRR which are up to six times higher than the MRR. The implementation of the two-tier remuneration system will help temper the side effects of negative rates on banks' profitability. Banks' capacity to provide customers with loans under favourable conditions will remain unaffected, as the tiering will help offset the negative rates' direct impact on banks profitability and thus maintain the effective pass-through of ECB policy rates to bank lending.

In an environment of substantial excess liquidity at the euro area level, this measure affects mainly those euro area jurisdictions and individual institutions that have such liquidity. In the Slovak banking sector, too, surplus liquidity has been accumulating, though not to such an extent that the penalisation of excess liquidity would have a significant impact on domestic banks' profitability.

The introduction of tiering will have a positive, albeit relatively small, impact on most domestic banks. These include banks whose excess liquidity holdings are still less than six times the institution's MRR. The principal beneficiaries of tiering, however, will be those banks whose excess liquidity holdings are at least up to that limit. If the tiering had been introduced from September 2019, its immediate annualised impact would have been €3.4 million, or 0.5% of the banking sector's aggregate profit for 2018. The non-exempt tier of excess liquidity holdings will be remunerated at the negative deposit facility rate, but since their absolute amount is very low, it will not have an appreciable impact on banks' profitability. Tiering will have only a marginal impact on those banks whose excess liquidity holdings are very low.

Besides the average balance in its central bank current account which exceeds its MRR, a bank's excess liquidity also includes its funds placed in the central bank's overnight deposit facility via liquidity-absorbing operations. For their part, domestic banks prefer to leave their surplus funds in current accounts; they use the deposit facility only to a small extent. Under the zero-rate remuneration applicable to the exempt tier of excess liquidity holdings, domestic banks have an opportunity to reduce the costs of the negative deposit facility, so they may make even less use of liquidity-absorbing operations. If, under the above scenario, the surplus funds were left in the current account, the positive impact on banks' aggregate profit would be €3.6 million, slightly higher than the above-mentioned €3.4 million.

Besides its impact on costs, the two-tier remuneration system may also affect excess liquidity management in the interbank market and, to some extent, the balance-sheet structure. According to the latest available data, the total amount that domestic banks hold in their central bank current accounts which is not more than six times their MRR is around €2.5 billion; hence it is not expected to have a significant impact on the balance-sheet structure, though there may be some movement.

For domestic banks whose excess liquidity holdings are less than six times their MRR, there is less and less reason to lend these funds on the interbank market at negative rates. By eschewing the market and by taking advantage of the zero-rate remuneration of excess liquidity holdings under the exempt tier, banks are also trimming their money market transaction costs. A corollary of this measure could be a decline in the trading activity of domestic banks, which usually lend excess liquidity on the interbank market. On the other hand, according to the available data, it appears that only some of the surplus funds lent by Slovak banks have a negative interest rate on the interbank market. Hence there is a question as to what extent zero-rate remuneration is being applied by those banks that are not currently accumulating a large surplus in their minimum required reserve accounts.

Besides interbank assets, other parts of the balance sheet where banks are recording negative returns could likewise be affected. This would currently apply mainly to government bonds, which banks use largely due to their need for liquid asset holdings. If their need for such assets increases, banks may be more inclined to hold excess liquidity at a zero-rate remuneration and with a more favourable position in the category of liquid assets. Apart from the substitution effect within banking assets, this may affect domestic banks' demand for negative-yielding government bonds in regard to compliance with regulatory measures.

The two-tier remuneration of excess liquidity may also have an impact on banks' intra-group exposure. What matters is the extent to which banks take advantage of tiering at the group level. Groups that have a large excess of liquidity may exploit the tiering limits through their subsidiaries or foreign bank branches, resulting in inflows to these entities' current accounts held with central banks.

3.1.2 Profitability of other financial market segments

The insurance sector's net profit continued its downtrend in the first six months of 2019, falling by 21% year on year. The aggregate ROE dropped from 15.6% to 11.4%. The decline was caused mainly by the life insurance segment, which recorded increases in provisioning costs and commission expenses. In the non-life segment, by contrast, the overall profit increased slightly. Although claims paid exceeded premium income in non-life business, insurers managed to reduce operating expenses and other technical costs. In life insurance, despite the persisting downside risk to investment returns guaranteed under life policies, investment returns as at June 2019 remained moderately higher than the guaranteed level.

In the second pension pillar and the investment fund sector, the aggregate profit of management companies increased, year on year, in the first half of 2019, while in the third pension pillar it remained flat. Especially in the case of pension fund management companies (second pillar), the profit growth was driven by fee and commission income and in particular income from fund performance fees.

3.1.3 Solvency and leverage

The banking sector's solvency increased slightly in the first six months of 2019. The aggregate total capital ratio of domestic banks rose from 18.2% to 18.4% between the start and end of the period. The capital adequacy increase was largely accounted for by banks' retention of 40% of their earnings for 2018.

The strengthening of banks' solvency is positive news, especially given the continuing build-up of cyclical risks. The principal such risks are re-

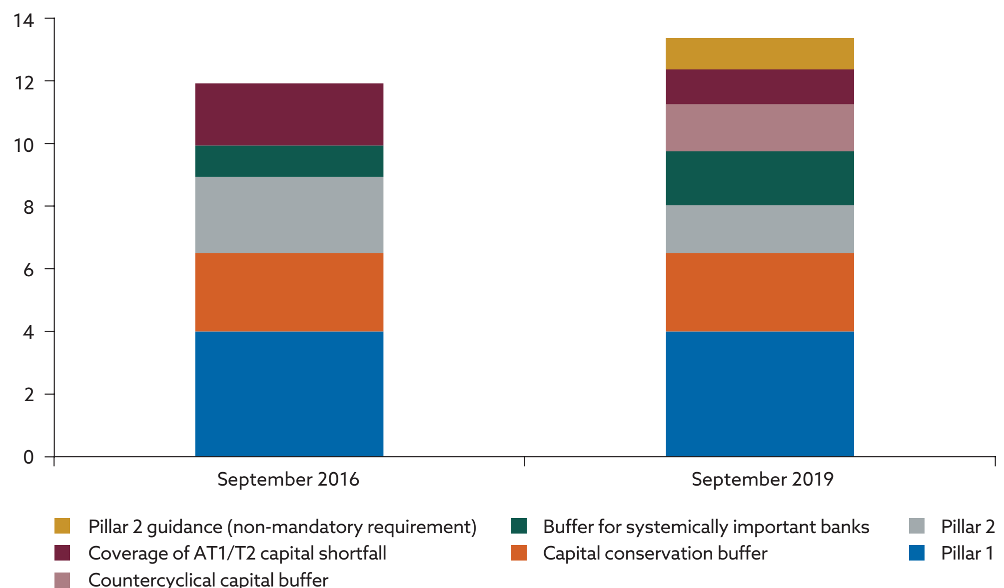
lated to the increase in household indebtedness supported by a further fall in interest rates, by rising property prices, and by the economy's continued overheating. At the same time, these risks have been behind NBS's decisions to further raise the countercyclical capital buffer (CCyB) rate, from 1.25% to 1.5% as of 1 August 2019 and from 1.5% to 2% as of 1 August 2020.

Despite the gradual upward path of capital buffers, the four largest banks in Slovakia have seen their total requirement for Common Equity Tier 1 (CET1) – the highest-quality component of capital – increase by a mere 0.5 percentage point over the past three years. This is because rising capital buffer requirements have to a large extent been offset by a reduction of Pillar 2 requirements as well as a reduction of the requirement for CET1 capital allocated to meeting the total capital requirement under Pillar 1.[30] This analysis demonstrates the importance of proactive macroprudential policy in ensuring the maintenance of sufficient levels of highest-quality capital.

Chart 43

The total CET1 capital requirement has increased only slightly since 2016, despite rising capital buffers

Ratio of CET1 capital requirements to risk-weighted assets (percentages)



Source: NBS.
Notes: The chart shows aggregate data for the four largest banks in Slovakia. Coverage of AT1/T2 capital shortfall indicates the CET1 capital which is additionally required due to the low amount of lower-quality capital. The regulatory capital requirement that should be met by capital whose quality is at least additional Tier 1 (AT1) or Tier 2 stands at 4% of risk-weighted assets. A bank that has a shortfall of such capital must make it up with CET1 capital. This represents the additional requirement.

---

[30] Part of the Pillar 1 requirements can be met by lower-quality capital components. In 2016 these components accounted for a low share of own funds, so banks met the requirements with CET1 capital. In other words, if the capital buffers had not been introduced, banks could have paid part of the CET 1 capital to shareholders given its substitution by lower-quality forms of capital.

Insurance sector solvency has increased

The average solvency capital requirement (SCR) coverage ratio for insurers in Slovakia increased during the first half of 2019, from 187% to 205%. The increase was accounted for, however, by only a few insurers; most companies in the sector reported no change in their ratio. The quality of capital also increased moderately during the first six months. The share in insurers' own funds of *expected profits included in future premiums (EPIFP)* fell to 50%. But given the lower quality of EPIFP in terms of loss-absorption capacity, NBS still considers this component to be too high even though it has decreased. This risk is addressed in more detail in 2.5.

3.2 NBS macroprudential policy

NBS has further raised the countercyclical capital buffer rate

At its meeting on 23 July 2019, the NBS Bank Board decided to increase the countercyclical capital buffer (CCyB) rate for Slovak exposures by 50 basis points, to 2% of risk-weighted assets, with effect from 1 August 2020. The main reason for the decision was that risks of a cyclical nature were continuing to build up in the banking sector's loan book, and therefore it was necessary to strengthen the sector's financial stability and resilience. The accumulation of cyclical risks has stemmed mainly from macroeconomic developments and from the economy growing above potential, with labour market overheating in particular having contributed to the domestic financial cycle's increasing amplitude. In this context, the cyclical risk lies in the fact that many of the jobs created during the period of overheating will not be sustainable in the long term. When the business cycle turns, a number of jobs will be made redundant and this will have an impact on the debt servicing capacity of the affected households.

Another significant source of cyclical risks has been the prolonged low interest rate environment and still strong interbank competition in the credit market. Amid the continuing favourable conditions for debt financing, the risk perceptions of both banks and their customers have lessened.

Despite its recent slowdown, the growth rate for loans to households can be described as excessive since it is still outpacing economic fundamentals, in particular household disposable income growth. This has been reflected in the increase in household indebtedness in Slovakia, which over the past five years has been higher than in any other EU country. Slovak households are therefore becoming more sensitive to financial cycle developments.

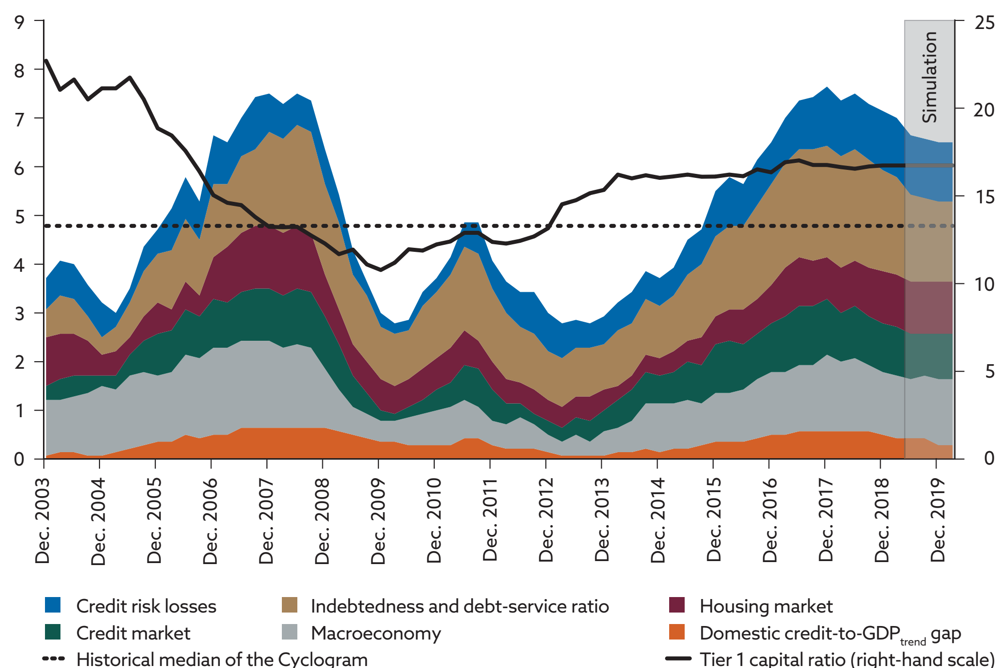
A further risk is the increasing vulnerability of banks in regard to their profitability. The Slovak banking sector has so far been able to maintain

profit levels through a combination of strong lending growth (compensating for the impact of interest margin compression) and the current exceptionally low credit risk costs. In the event of a shift in the financial cycle, the sector's profit would be significantly reduced by the resulting slowdown in loan growth and increase in credit risk costs.

The NBS has taken its decision on the CCyB rate increase at a time when the financial market conditions for banks are still relatively conducive to profit generation. With the economy overheating and with lending rates at exceptionally low levels, default rates for Slovak households and non-financial corporations are at historically low levels. In this context, banks have continued reducing their costs related to default risk. Their current profit levels may therefore be considered unsustainable if the economic situation deteriorates. It is important that dividend policy takes this fact into account, so that profits made in exceptional circumstances are largely retained by the banks in the form of capital. In the event of an economic downturn, this capital can be used to absorb future losses. Further evidence that the financial market is experiencing favourable times owing to its late expansionary phase is provided by the Cyclogram, a composite indicator of the domestic financial cycle. Despite declining over the past 18 months, this indicator has remained elevated, close to historical highs. In other words, the risks related to cyclical developments in the financial market have continued to mount, albeit more slowly than they did in previous quarters. These risks have accumulated in the banking sector's loan book.

Chart 44

The Cyclogram indicates that the financial cycle is in a late expansionary phase
(dimensionless; percentages)



Source: NBS.

The new CCyB rate of 2% will take effect on 1 August 2020. Banks have sufficient time to adjust their dividend policies to the new capital requirement level. The purpose of the rate increase is to strengthen the resilience of the banking sector.

In the event of adverse financial market developments, in particular an increase in non-performing loans in banks' credit portfolio, NBS stands ready to immediately reduce the buffer rate to the extent necessary. The indicators that NBS monitors to determine whether the CCyB rate needs to be reduced or fully released do not at present imply any need for buffer release. The still low level of net provisioning and the favourable NPL trends show that the CCyB rate should not be lowered at this stage.

Local systemically important banks still have to meet additional capital buffer requirements

Since 2016 NBS has been required to identify domestic systemically important banks for inclusion in a list of other systemically important institutions (O-SIIs) in Slovakia and to review this identification on an annual basis. The 2019 review did not result in any change in the list of O-SIIs. There was also no change in the level of buffers that these banks must meet with CET1 capital.

Table 2 Settings of additional capital buffer rates for O-SIIs

	Overall additional buffer	Structure
Všeobecná úverová banka, a. s.	2%	1% O-SII buffer + 1% SyRB
Slovenská sporiteľňa, a. s.	2%	1% O-SII buffer + 1% SyRB
Tatra banka, a. s.	1,5%	0.5% O-SII buffer + 1% SRB
Československá obchodná banka, a. s.	1%	1% O-SII buffer
Poštová banka, a. s.	1%	1% O-SII buffer

Source: NBS.
Note: O-SII – other systemically important institution; SyRB – systemic risk buffer.

NÁRODNÁ BANKA SLOVENSKA EUROSYSTÉM

Abbreviations

CEE	central and eastern Europe
CET1	Common Equity Tier 1 (capital)
CMN	Property Price Map (Cenová mapa nehnuteľností)
CRR	Capital Requirements Regulation – Regulation (EU) No 575/2013 of the European Parliament 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 System Risk Board
EU	European Union
GDP	gross domestic product
IMF	International Monetary Fund
IRB	internal ratings-based (approach)
LGD	loss given default
LTV	loan-to-value (ratio)
MRR	minimum reserve requirements
MTPL	motor third party liability (insurance)
NAV	net asset value
NBS	Národná banka Slovenska
OECD	Organisation for Economic Co-operation and Development
O-SII	other systemically important institution
PD	probability of default
PMI	Purchasing Managers' Index
ROE	return on equity
S&P	Standard & Poor's (credit rating agency)
SO SR	Statistical Office of the Slovak Republic
SyRB	systemic risk buffer
TLTRO	targeted longer-term refinancing operation

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

List of charts

Chart 1 Increasing uncertainty arising from geopolitical developments 12
Chart 2 Economic growth across the world, and especially in the euro area, is being pushed down by industry; the resilience of the services sector has so far remained generally high 13
Chart 3 According to market expectations, short-term interest rates in the euro area will remain negative until the middle of the next decade 15
Chart 4 The volume of bonds trading at a negative yield has increased to a record level 16
Chart 5 The risk-free yield curve has flattened and has shifted further into negative territory 18
Chart 6 Year-on-year growth in Slovakia's GDP at constant prices (adjusted for seasonal effects) and contributions of components of that GDP growth 21
Chart 7 The extent of labour market overheating remains substantial 23
Chart 8 Economic sentiment in most of the major sectors has deteriorated since mid-2018 24
Chart 9 The Economic Sentiment Index (ESI) for Germany and the ESI for Slovakia show highly correlated trends 25
Chart 10 Growth in loans to households has slowed in 2019 26
Chart 11 The amount of new housing loans was increasing, particularly in the summer months 27
Chart 12 Consumer loan growth has almost stalled 28
Chart 13 Income growth and falling interest rates have substantially increased the availability of loan, and the increase in the available amount of loan has roughly matched the increase in flat prices 29
Chart 14 The ratio of the average residential property price to the average wage has been increasing in Slovakia to a similar extent as in countries where there is higher risk in the residential real estate (RRE) market 30
Chart 15 The average flat price has been rising faster than fundamentals 31
Chart 16 Increasing share of loan refinancing with significant top-up 32
Chart 17 Number and amount of significant increases in the outstanding loan amount 33
Chart 18 The average amount of refinancing loans exceeds the amount of new loans 34

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Chart 19	The drop in households' consumption during the crisis may be related to the increase in their indebtedness in the pre-crisis period	35
Chart 20	Although the rate of increase in household indebtedness in Slovakia is decelerating, it is still the highest in the EU	36
Chart 21	Slovak households' low saving ratio carries added risk due to their rising indebtedness	36
Chart 22	Individual borrowers as a share of the working population and as a share of the total population	37
Chart 23	If DSTI limits applied in certain other countries were applied in Slovakia, they would affect a proportion of new loans	42
Chart 24	Probability of default rises sharply for loans with a high DSTI ratio	43
Chart 25	The loans that would be most at risk in a crisis are those provided to lower-income borrowers	44
Chart 26	Loans to lower-income and middle income households account for a significantly higher share of loans with higher DSTI ratios	44
Chart 27	Slowdown in NFC loan growth in 2019	46
Chart 28	The debt-to-equity ratio is one of the highest in the EU	47
Chart 29	Low credit risk costs and a rising volume of housing loans have helped the banking sector maintain profit levels	48
Chart 30	Interest rates have remained below their fundamental level	49
Chart 31	An increase in the bank levy will have a major impact on the banking sector's profit	52
Chart 32	Risk weights are being reduced amid decreasing PD levels	53
Chart 33	Risk related to the asset and liability maturity mismatch and to the sufficiency of stable funding has stopped increasing	55
Chart 34	The liquidity buffer's downtrend stabilised during 2019	56
Chart 35	Motor insurance has been loss-making for a long time, due in large part to additional contributions	58
Chart 36	The average credit rating of the bond portfolio has declined in most segments	60
Chart 37	Distribution of credit ratings of debt securities in selected categories of investment funds	61
Chart 38	Portfolio liquidity profile of real estate funds	63
Chart 39	Profitability fell year on year, in particular among significant banks	64
Chart 40	In terms of profitability, the position of the Slovak banking sector within the CEE region is deteriorating	65

Chart 41	The interest margins of banks in Slovakia are among the lowest in the euro area	66
Chart 42	Long-term negative trend in net income from the retail sector (except for extraordinary factors)	67
Chart 43	The total CET1 capital requirement has increased only slightly since 2016, despite rising capital buffers	70
Chart 44	The Cyclogram indicates that the financial cycle is in a late expansionary phase	72

List of tables

Table 1	International comparison of DSTI and DTI limits	41
Table 2	Settings of additional capital buffer rates for O-SIIs	73